

The Professional **Mountaineer**

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The Association
of Mountaineering
Instructors

British Mountain
Guides

British Association
of International
Mountain Leaders

Mountain Training
Association

Nepal

**BEHIND THE
HEADLINES**

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**TRAINING
THE TRAINERS**
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The Professional Mountaineer

ASSOCIATION CONTACTS

AMI Steve Long
development@ami.org.uk

BAIML Tanya Perret
baimldevelopment@gmail.com

MTA Belinda Fear
belinda@mountain-training.org

BMG Mark Diggins
markdiggins@mac.com

EDITORIAL

Technical editor Steve Long
development.officer@ami.org.uk

Sub editor Nicola Jasieniecka
nicola@mountain-training.org

Production coordinator Belinda Fear
belinda@mountain-training.org

Production coordinator Lindsey Williams
lindsey@mountain-training.org

Design Jane Beagley, Vertebrate Graphics
www.v-graphics.co.uk

ADVERTISING

Advertising sales Caroline Davenport
T 01270 878324
caroline@media-solution.co.uk

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Our front cover

The northern lights over Ryvoan bothy at the stroke of midnight to welcome in the new year. © Alex Froid

EDITORIAL



PHOTO Teaching navigation in Jordan. © Steve Long.

At the time of writing it seems as if winter has never quite arrived! Even in Europe the spring thaw seemed to have arrived already in February: I hope that it is just a minor setback. At least association members are able to negotiate some good prices for wind and water proofs!

It has been a very busy year for collaboration between the associations. This magazine was an early fruit, and at the global level you will find a review in this issue of the UIAA Handbook that is gaining recognition worldwide. The associations have also pulled together to help mountain nations that are struggling through no fault of their own. This issue of *Professional Mountaineer* contains updates on the current situation in Nepal, and in the summer issue we will include a feature on Jordan, another country facing a disastrous reduction in tourist income. Here in the UK our qualifications continue to attract many new registrants and it is fair to say that we have a higher percentage of qualified leaders and

instructors within any other country in the world. It has been very rewarding to see copies of this magazine appearing in mountain huts worldwide and as far afield as the Antarctic - and you will find an advertisement for staff to work there near the back of this issue - an opportunity I can highly recommend!

We have a wide range of articles in this issue, and the quality of the content is quite outstanding. This magazine really has come of age; having raised the bar this feels like a big responsibility now!

Steve Long
Technical editor

OUR SPRING ISSUE CONTRIBUTORS INCLUDE



Alex Froid

Alex works year round as a freelance Mountain Leader and Winter Mountain Leader which allows him to do the things he loves as a job. He also works as an expedition leader and is trying to get more into the adventure photography market, which has grown from documenting personal and work expeditions in the past.



Sue Haysom

Sue is a professional ecologist and Mountain Leader with Greyhen Adventures.



Joby Davis

Joby is a Mountaineering Instructor Certificate holder and climbing wall specialist. He works throughout the UK as a technical adviser, provider of the Climbing Wall Award, Climbing Wall Leading Award and Single Pitch Award as well as the Coaching Scheme. He is also a Technical Expert of the NICAS schemes.



Rebecca Williams

Rebecca is a Consultant Clinical Psychologist and climbing instructor, she runs Smart Climbing, focusing on psychological performance coaching for climbers.

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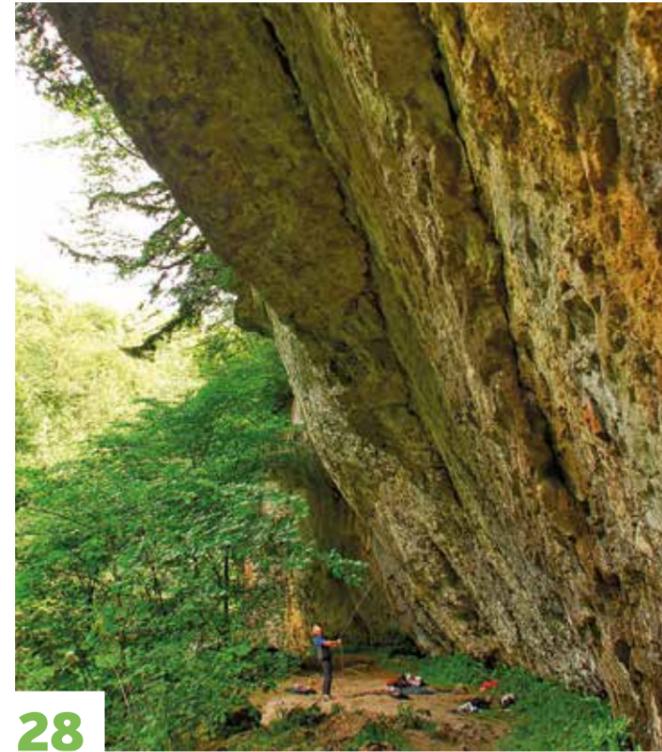
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Feeling inspired?

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

NEWS



THE ASSOCIATION OF MOUNTAINEERING INSTRUCTORS (AMI)

We had another very successful AGM, hosted by Plas y Brenin. This was Paul Platt's last AGM as chairman and the tributes included: "Paul's resourcefulness and belief in moving the association forward to a more professional standing has been outstanding." Special thanks to Nick Canon Jones and Mark Davies who officially stood down from the Committee and welcome to Rod Pashley, Jez Brown and Duncan Francis.

I am really excited and proud taking over as chair; I see the vision for the association as one where everyone training for or holding Mountaineering Instructor qualifications would naturally want to join and that AMI provide the professional support and development we all deserve. There is much that is going on throughout the committee and regional roles, however the priorities are as follows:

- Review the training that we provide; if you would like to contribute to this process please contact Duncan Francis at training@ami.org.uk
- Help bolster the regional reps for our continued professional development, build local ties and share information.
- Continue to build on the outstanding Brand Partnerships.
- Progress our charitable aims.

This is a lot to achieve and will only come to fruition with the continued help and support of all members.

Guy Buckingham (Chairman)



AMI is the representative body for professionally qualified Mountaineering Instructors in the UK and Ireland and is committed to promoting good practise in all mountaineering instruction. Full members hold the Mountaineering Instructor Award (MIA) or higher award the Mountaineering Instructor Certificate (MIC).

T 01690 720123
www.ami.org.uk



BRITISH MOUNTAIN GUIDES (BMG)

This year I was joined by Paul Warnock and new association training director Adrian Nelhams. Ade is in a transitional role taking over the Technical Director post from Bruce Goodlad who has been steering the BMG courses to ever higher standards for the past four years.

As always the trainees were of the highest calibre and an intimidating group of immense talent. It's a short time between training and test, so our aim was to make sure the team could adapt their proven skill level to operate at the highest level of safety and quality.

The team climbed up to grade V without batting an eyelid, making decisions and absorbing input as terrain, weather and conditions dictated.

The trainees Dave Rudkin, John Crook, John Orr, Dave Sharpe and Nathan Reeves have five weeks to develop these skills before their exam. Each previous year has proven the drive and mileage they each have behind them means I've no doubt we'll see them working as Aspirant Guides in the Alps this coming summer. Best of luck team!

Tim Neill



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 720272
www.bmg.org.uk



THE BRITISH ASSOCIATION OF INTERNATIONAL MOUNTAIN LEADERS (BAIML)

The BAIML AGM weekend, held at Plas y Brenin in early December, was a phenomenally successful event. A remarkable range of quality workshops were organised throughout the weekend underlining the Association's commitment to the professional development of its members throughout their careers.

This weekend also saw three elected members join the Board and approval given for the recruitment of a Marketing Director. With a new full-strength Board of six elected members in place, the Association is well placed to invest in new endeavours.

The facilitated meetings held, on the Sunday following the AGM, allowed the Board to work through some issues and make a firm pledge to uphold the highest standards of professionalism within the Board room, across the Association and in our dealings with out partners. In particular, the Board recognised the need to work together as a team and affirmed the importance of respectful, considered and supportive behaviour as a central pillar of our work together.

Encouragingly, this ethos of collaborative partnership was in evidence at the recent BAIML initiated UIMLA Working Group meetings where some excellent ground work was undertaken on technical appointments and on the strategic direction of UIMLA.

Glen Cousquer (President)



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

T 01690 720272
www.baiml.org



THE MOUNTAIN TRAINING ASSOCIATION (MTA)

As this magazine arrives on your doorstep the South West Regional Weekend should be under way at Mendip Snowsports Centre – check CMS for any last minute spaces. Huge thanks to those involved in organising what I'm sure will be a really successful event.

Thanks also to the MTA members who volunteered their time at the Telegraph Outdoor Adventure and Travel Show in London in February; it was a very busy few days and a good opportunity to promote the Association.

There's a new director on the board of Mountain Training UK, Dan Downes, who is an Association member and will support me in developing the Association's plans for the coming years. We welcome your thoughts so feel free to get in touch.

As always there's a good range of workshops on CMS for the next few months including night navigation, inclusive/para climbing and conservation as well as some regional peer-led opportunities. Get involved close to home or use them as an excuse to get away!

Have a lovely Spring wherever you are and Happy Easter.

Belinda Fear (Development Officer)



The MTA is a membership organisation providing support and development opportunities for all candidates of Mountain Training. Promoting good practise 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

NEWS

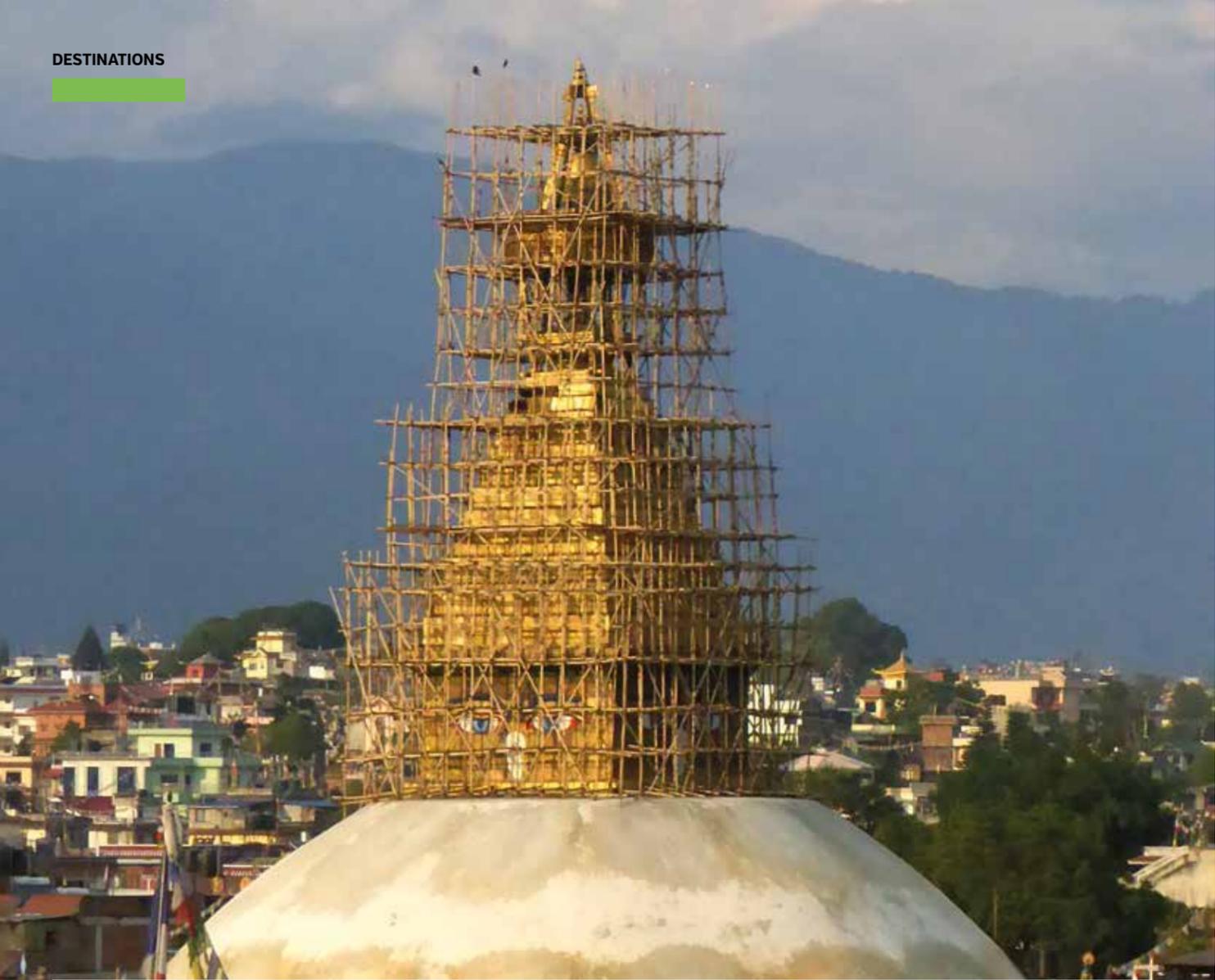


PHOTO ABOVE The intricate bamboo scaffolding being used to assess the damage, if any to the Stupa at Boudhanath.

NEPAL BEHIND THE NEWS HEADLINES

Sadly this small Himalayan country has had a run of incidents over the last few years that have hit Nepalese life hard.

WORDS AND PHOTOS BY IAN WALL

Just as every tourism season is about to begin something happens that has a major impact on its economy and the 'news' of that 'something' gets disseminated around the world in a matter of seconds. However, it is the unbalanced nature, formatting and essence of this information that actually creates a greater impact on tourism. It is estimated that the industry brings in approximately 4.5% of the GDP annually and the lack of foreign money is now making a big dent not only in the national resources, but especially in the economic situation of the hill people for whom trekking and mountaineering not only provides jobs but also short term financial security.

Nepal is vulnerable to climatic change and as the earth warms the weather patterns become affected. Cyclone Hudhud hit the news in the autumn of 2014 because of the resulting deaths of many foreign trekkers and Nepali guides on the Annapurna Circuit. However, every year the weather in and around the Bay of Bengal (Nepal's source of the monsoon rains) becomes increasingly intense and in the autumn, it eventually impacts on Nepal. This does not usually create 'news' as thankfully very few people get killed or infrastructure destroyed. Despite this not being a new pattern of weather events it was more 'news' worthy in 2014 because of the deaths it caused. This reporting



PHOTO LEFT A mother and child outside their makeshift shelter. PHOTO MIDDLE A family and the remains of their home. PHOTO RIGHT Ian leading a mountain leader course in Nepal.

had a serious impact on tourism in the region, yet very few positive events get reported, several expeditions achieved their goals during that very week and some major treks were completed, but as for the positive news coverage – nil. Being situated on the major Southern Tibetan Fault earthquakes are no new geological event in Nepal either. Each year over 20 tremors occur within the national borders, many are not even felt by the residents and very few buildings are damaged.

The April 2015 earthquake was a national disaster and a great tragedy for those directly affected – however, we should remember that there are 3 million people living in the Kathmandu valley alone while over 28 million inhabit greater Nepal (2014 figures). Thirty-nine districts across Nepal were affected by the earthquake – but 36 were unscathed. Similarly, although there were many trekking routes that were deemed unsafe (between Manaslu and Namche Bazaar) the majority were still operating as normal. This purely negative coverage of a natural disaster had a major impact on the tourism figures for the 2015 spring and autumn seasons with tourist arrivals being approximately 65% down on an already weak situation, still in recovery mode after the other reported events that occurred in Nepal in previous seasons.

Nepal is a very young democracy. For hundreds of years not only was Nepal ruled by a monarchy but it had closed borders. The borders were finally opened to foreigners in 1950 while the monarchy was removed from power in 2004 and the constitution finally passed in 2015.

Since the earthquakes in April and May 2015 the Nepalese Government realized that it did not have the legislation to enable it to pull down all the pledged foreign aid, so the constitution was rushed through to enable mechanisms to be established. India warned that Nepal should have an all-inclusive constitution, in the end it allegedly appears that this was not the case with the Terai people and particularly women being disadvantaged. Since then there have been many political issues specifically in the Terai, a predominantly non-tourist region yet the press have published articles suggesting that all of Nepal is suffering from inter-ethnic disturbances; this is simply not the case. However, on the back of the 'news' plus the economic effect of the Indian border situation, the

tourist flow has dried up. This situation is now far worse than it was as a result of the earthquake.

What this means for visitors.

Don't believe everything you read in the press, especially if it concerns Nepal – use a trekking company or individual that you trust, someone who is ideally based in Nepal and knows the real situation on the ground.

Nepal needs tourists and trekking routes are open except for the Langtang region. For those who might think the Annapurna Circuit has lost its appeal then there are several new trails, notably a Nar-Phu circuit, and although not new the Tilicho crossing is really good value for money! Treks to the Kanchenjunga region are fine and you can now consider that option using tea-houses. To the west of Manaslu all the treks are fine and again some new trails have been opened. Nepal has also opened several new peaks for climbing and offers many manageable 'holiday' time trips; again there is plenty of information available from Nepal based agents.

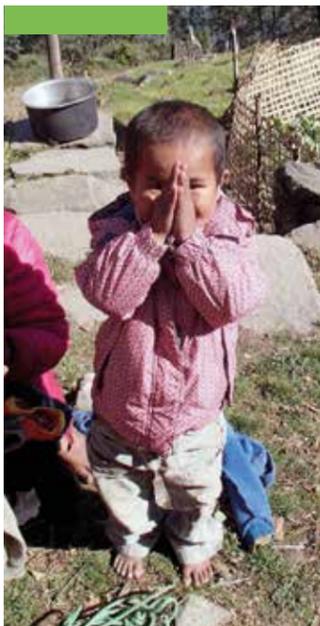
Please don't give up on Nepal! The 2016 seasons would be a good time to come. Yes we do have the on-going issues with petrol supplies and the prices are at the moment inflated which has a knock-on effect for the domestic flight costs. Nepalese citizens find it difficult to cover the cost of domestic flights, (especially to those airstrips outside the Everest and Pokhara regions). There is a tendency for the domestic carriers to 'streamline' these flights schedules as a result in the down turn of local bookings, so if you want to fly to places like Simkot, Sukitar etc., it is best to book early through an agent. However, one bonus is that as there are fewer people visiting Nepal at this time you not only have a quieter trek but you can also see the artisans using their skills to rebuild the temples and other world heritage sites.

The time for immediate relief has passed, although people still need help. The money derived in local communities from your potential visit to Nepal through employing local hill people as porters or guides would go a long way to providing a little financial security for the villagers currently rebuilding their lives. ■



Ian Wall worked at Plas y Brenin in the 60s, and admits that his friendship with 'Jacko' and leading climbers of that period shaped his future life. Since then Ian has climbed extensively throughout the UK, the Alps and in Norway.

He has led treks in Africa, Ladakh, Tibet and in Nepal where he now lives. Ian keeps busy running his own trekking company and acting as an advisor to the Kathmandu International Mountain Film Festival, Kathmandu Environmental Education Project and in developing and training on the Nepal Mountaineering Association and Indian Mountaineering Foundation Mountain Leader programs. He is also the Nepal correspondent for the Alpine Journal and contributes to several other magazines. In his spare time he's out exploring his 'back-yard' of Nepal.



With a magnitude of 7.8, on Saturday 25 April 2015 the Nepal earthquake killed over 8,000 people and injured more than 23,000. Occurring during peak trekking/expedition season it triggered a huge landslide in the Langtang valley, where 250 people were reported missing.

WORDS AND PHOTOS BY TANYA PERRET

PHOTO LEFT Namaste! The traditional sign of greeting and thanks.

PHOTO RIGHT: Tanya Perret near Ama Dablam.

On the south side of Mount Everest it triggered an avalanche, killing at least 19 and making it the deadliest day on the mountain in history. Hundreds of thousands of people were made homeless with entire villages flattened, across many districts of the country. Centuries-old buildings were destroyed at UNESCO World Heritage sites in the Kathmandu Valley, which severely challenged the already fragile infrastructure.

up to make coffee and then casually turning on the laptop to check emails before heading out the door. The first I became aware of the disaster was via Facebook, then a harrowing few hours were spent trying to discover whether my partner, who had been fixing camps on the North side of Everest was safe. It took several hours to re-establish radio contact but by midday we were able to confirm that everyone on the expedition was safe and unharmed. An intensive two

A personal journey NEPAL

Many mountain professionals have spent time in Nepal and quite a few work there on a regular basis, so the disaster directly affected our community. The immediate concerns were for people to confirm their friends and colleagues were safe, then to consider how they could help with emergency relief and medium to long term support. Some exceptional fundraising was undertaken and our mountain community rallied round to support Nepal.

I was fortunate enough to start working in Nepal from the age of 22 and with my partner being Nepalese we share our time between the French Alps and Nepal. That Easter I was skiing in the Alps when the earthquake happened: the day started for me like a normal weekend: waking

weeks followed working alongside several close colleagues: Sue Harper-Todd, Jo Chaffer, Issie Inglis plus many others to support the aftermath of the disaster and help coordinate emergency relief efforts.

So what is the picture 10 months after the Earthquake?

Last year's events saw a huge number of expeditions and trekking holidays cut short, as a result of the disaster. Alongside the Foreign Office advising against travel to Nepal, many autumn trips were cancelled as we waited for the country to settle post-earthquake and post-monsoon. The FCO advice was updated at the end of 2015, with most areas being approved for travel



1. Villagers gather to collect provisions. 2. School repairs come first. 3. Women and children in the Makalu region. 4. Carrying the clothing supplies to the villages.

(the areas which they advise against visiting are Gorkha; including the Manaslu trekking region, Rasuwa; including the Langtang Valley trekking region, Sindhupalchok and Dolakha).

Over Christmas and New Year, I returned to Nepal with the aim of checking out the trail status ahead of groups visiting in 2016 and distributing funding which we had raised post-earthquake.

I was surprised by Kathmandu and whilst there are noticeable remains of the earthquake damage, largely the city is fully functioning, and from a tourist perspective accessible. All the major hotels are open as per usual, UNESCO World Heritage sites are being rebuilt at a rapid rate, most notably the majestic Boudanath stupa which is nearly complete. Transport, although slightly more expensive as a result of fuel price increases, is readily available and restaurants are as buoyant as ever. (NB. Taxi from airport: 2015 price 700 – 1000 rupees, 2016 price 1000 – 1300 rupees). Visa entry rates remain unchanged as do permit fees.

Internal flight prices have increased e.g. Kathmandu to Tumlingtar 2015 \$140 one way, 2016 price \$170 one way but the flight schedules remain frequent – weather permitting, as we know!

The most popular region, Everest (Khumbu) was severely affected by the earthquake. However, such is the resilience of the Nepalese people and thanks to government funding for each household in the region, international NGO aid and smaller aid donations the area has virtually been rebuilt at a rapid pace with many buildings adopting safer designs, to better resist future earthquake risks.

The Makalu region, which is often a preferred choice for people wanting to get off the beaten track, has yet to receive government funding for affected households. Once again, community

resilience and cohesion have meant many people have simply fixed the damage themselves, with community buildings such as schools being mostly supported by NGOs. Schools that I saw in Seduwa and Mayum had been completely rebuilt.

Avoiding bureaucratic blocks

Our personal trek through the mountain villages of the Makalu region allowed us to assess needs directly and avoid many of the bureaucratic challenges that Westerners face when wanting to support a developing country.

Quite simply, we flew with only personal hand luggage and used our luggage allowance to take 40kg of clothes donated by Aiglon College. I sent all the money in advance via Western Union, picked it up in Thamel and put it in the bottom of my rucksack. We purchased a large supply of medical supplies and headed up into the mountains in our little team of four. This proved to be simple and effective and avoided import taxes, customs challenges and so on. Most importantly the money went directly to community projects with individual village members taking responsibility for given projects.

The expedition industry is gaining confidence, with many spring/autumn departures being planned and a significant increase in the number of enquiries being received by companies. With disasters come learning and there is increasing pressure on companies and agents to ensure the safety of Nepalese workers, and good working practices are being adopted.

In summary, the amazing cultural diversity and general warmth of the Nepalese people is as strong as ever. Nepal is getting back on its feet so don't delay with organising your next adventure! ■



Tanya Perret is an International Mountain Leader and has worked in Nepal for the past 18 years, leading in excess of 80 treks both in Nepal and the Alps. She runs private trips and expeditions in Europe and Asia, as well as leading for a North American operator. Conversant in French and Nepalese. A passionate traveler and all round adventurer.
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Nigel Williams, Head of Training, Glenmore Lodge.



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PHOTO LEFT Setting the map – needle points to top of map ignore the dial and base plate. PHOTO RIGHT A rough bearing – base plate aligned A to B, needle points to top of map, body behind the compass looking down the direction of travel arrow, ignore the dial unless you want a number or intend to take the compass off the map. It is remarkably accurate and a quick way to check the alignment of linear features on the move for instance.

TEACHING NAVIGATION

WHAT METHODOLOGY ARE WE FOLLOWING?

WORDS AND PHOTOS BY NIGEL WILLIAMS

Many people attending navigation courses admit to learning at school or through a youth organisation, yet they are often confused about the techniques and their application, particularly around the compass. Often there is an element of having to unlearn over-complicated methods.



Nigel Williams is Head of Training at Glenmore Lodge. He is a Mountaineering Instructor Certificate holder, International Mountain Leader and Level 3 Orienteering Coach. He has been running Teaching Navigation workshops for over a decade.

Navigation teaching in the UK is still largely relying on a methodology of the 1930s. The impact of this could be influencing the willingness of people to get out and explore the countryside with the additional health benefits that would bring. Statistics also suggest that about 30% of all MR call outs have navigate as a possible route cause.

The military (Ordnance Survey) produced the maps with the current grid system in 1936. The starting point to reading maps at that time was seen to be grid references and symbols, based on WW1 experiences and the need to plot and communicate positions and directions, hill walking was not in their thinking. Many teachers in the mid 1900s went through National Service and taught the way they had been taught and that process seems to have perpetuated. As far as I am aware there is no formal course within education circles for teachers to learn to teach the subject. Many have to resort to what they remember with a limited range of tools in the box to bring the subject alive. The challenge for us teaching the subject is that there is no benchmark when people come out of school, similarly 20 QMDs does not equate to a navigational benchmark.

Orienteering appeared in the UK in the 1960s; although the context is sport the skills of navigation are the same as required by anyone using a map. The sport has developed a simple progressive



PHOTO An orienteering exercise on the lawn at Glenmore Lodge.

British Orienteering believe that a first experience of orienteering should:

- Be fun, exciting and adventurous;
- Be well presented, Supportive and easy to understand;
- Be challenging with regular feedback and a chance to experience success;
- Be engaging, safe and of a suitable length for the individuals needs
- Ensure each participant has a map of their own and learns something about navigation.

teaching system which is producing the best young (and old) navigators in the world. There are a range of coaching courses for teachers and instructors. The map scale often around 1:10,000 provides plenty of detail and the symbols are intuitive so what the novice sees around them tends to be on the map which engages their curiosity and builds confidence. The sport has an inspirational philosophy for teaching the subject which could apply to teaching navigation in any context. How many of us could say that was our own experience?

Hill walkers tend to be reluctant to engage with orienteering, often due to memories of school, a belief that the maps are more complicated, you have to run, wear lycra, be a member of a club etc. None of that is the case.

The National Navigation Award Scheme (NNAS) has produced a good teaching model similar to Orienteering but aimed at walkers. Tutor competence is based on having an Orienteering coaching award or a Mountain Training award. Those awarding bodies have different approaches to teaching the subject.

The skills of navigation are easy and fun to learn if introduced in a simple and appropriate sequence, in a non threatening environment and with a map the learners can immediately relate to.

An example of simple skills development – The difference between map setting and a rough bearing with a compass, is the alignment of the base plate, all that either require is the needle to point to the top of the map. There is no need to turn the dial for either process so long as the compass stays on the map and you align your body and the map appropriately.

That is how orienteers accurately use compasses without a rotating dial or numbers on it, just coloured segments, and it provides a simple step in the learning process for using the compass.

Being a slave to magnetic variation, which probably links back to

those grid lines, is probably why the more complex accurate bearing (involving turning the dial) is the standard process for walkers. Well that is really not an issue in the UK for probably the next 25 years. However if you have an accurate bearing set on your compass which is good for really poor visibility/night navigation, you can take secondary rough bearings to check alignment of features without adjusting the dial and losing the accurate bearing.

Confidence is an important part of learning to navigate. Therefore relevance and simplicity in an outdoor non threatening environment providing repeated opportunities for quick practice and feedback are keys to success.

Access to large scale (1:10,000) orienteering maps is the game changer for teaching navigation. Many schools and town parks now have them. The scale and opportunities it presents help the novice become confident with the basics. That confidence and knowledge can be transferred to the needs of the walker progressing through the OS map scales with progressively less detailed information on them, at the same time the student becomes more confident with navigation skills in more challenging environments.

The biggest reason for deferment across all Mountain Training awards involving navigation is as one might expect navigation, and that includes MIA in some years. Climbing FUNdamentals courses and the Coaching Scheme provide a model for developing a similar (but less tiered) structure for teaching navigation. A development of this nature could lead to a target reduction in the deferral rate and provide bench marking of navigation levels at each award for candidates, trainers, assessors and Mountain Training moderating staff.

The long term benefits could go far as the new walking awards and will attract many more candidates who work with youth and teach the subject. Ultimately the adventure outdoor sports sector as a whole could consider a single framework methodology across all the disciplines from walking to biking, canoe touring etc. providing a bench mark of competence as instructors move up and across disciplines.

The Mountain Training Association is collaborating with British Orienteering to support a 'stepped approach to teaching navigation' workshop to help provide a structure, ideas and progressions for tutors teaching navigation across the awards from Lowland Leader to Mountain Leader. A couple of the workshops have been run in Scotland and more are programmed across the country. ■



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MTA SUMMER WORKSHOP WEEKEND

GLENMORE LODGE: 28th/29th MAY 2016

Glenmore Lodge is hosting the biennial MTA weekend in the Highlands at the end of May.

Workshops will support those going through the awards and refreshing those with qualifications seeking to widen their knowledge and gather CPD points.

The Mountain Environment for leaders, working with disability in the outdoors.

FUNdamentals of climbing, Foundation Coach and SPA refresher.

ML refresher days on navigation and security on steep ground. Teaching navigation for those delivering NGB awards and teaching navigation for those working with DoFE and other groups.

All workshops are one day, delivered by Glenmore Lodge staff and associate instructors.

Our instructors are kept warm and dry thanks to The North Face Summit Series Range



Glenmore Lodge & Ellis Brigham - Equipping you for the mountain



“There are old guides and there are bold guides but not many old, bold guides.”

– Anon

AVALANCHE TIPS FOR SKI TOURERS

WORDS AND PHOTOS BY ROB COLLISTER

Make of that what you will, but as I get older I am increasingly less bold, especially when it comes to avalanches. In part, this is about learning from experience; but it is also because, even as safety equipment in the form of transceivers, shovels and probes becomes more sophisticated, I have actually become less confident that I will be rescued by my clients if I am swept away. I think we still grossly underestimate the difficulty of both locating and retrieving a skier buried under a metre of dense debris and the emotional challenge of organizing a search when the recognized leader is no longer there. In an effort to preempt the latter, on day one of a tour, having checked that everyone can put their shovel and probe together and carry out a simple search for another transceiver, I ask the group to select a leader and a deputy to take over should the worst come to the worst. However, I am usually under no illusion that my rescue will be speedy or necessarily successful unless bad weather gives us more opportunity to practise. Many of my colleagues are responding to this reality by going down the airbag route, either wearing one themselves or equipping their clients with one as well. Leaving aside questions of cost, weight and the presence of mind needed to pull the cord at that sudden, unexpected, traumatic moment, I firmly believe that on a subliminal level they simply persuade us to accept a higher level of risk. In the frenetic world of off-piste skiing around the big resorts where many of us earn a living, I can see that it is hard to avoid being sucked into this situation. We live and work in a consumer society in which we are subjected to a great deal of pressure, subtle in the case

of the advertising and marketing industries and not so subtle from partners and families, to buy stuff, especially if it comes with a label attached that says ‘safety’. But away from the lifts on a multiday ski tour I, personally, would much prefer to concentrate on prevention rather than cure.

As outdoor professionals many readers of this magazine will have received some formal training in snowcraft and avalanche awareness and will be familiar with at least some of the literature available. It can all seem alarmingly complex at times and it is possible to get so immersed in the technicalities that we no longer see the wood for the trees or, rather, the slope for the crystals. The first book I ever read about avalanches, and re-read many times, was Colin Fraser’s *Avalanche Enigma*. I remember reading his cautionary tales of accidents around Davos, where he was based, and wondering if I would ever feel confident on a snow slope again. Subsequently the book was renamed something bland like ‘Avalanche and Snow Safety’, presumably because he felt the scientific study of snow ought to leave no room for enigmas. That was a shame because, although it is a much-researched subject, there is still plenty of scope for unexpected and sometimes nasty surprises. It is a truism that the history of avalanche research is littered with dead experts. Like weather forecasting, avalanche prediction is still an inexact science.

In his excellent article on decision making in the last issue of this magazine, Mark Diggins touched on this fact. He points out that while snow pits, shear tests and rutsch blocks are valuable sources of information and essential training aids for recognizing



snow types and layers within the snow pack, they cannot be relied on to make decisions about specific slopes. Results at sites within a few metres of each other have been found sometimes to vary so wildly that the traditional tests are not to be trusted implicitly. Instead, Mark emphasizes the importance of pre-trip planning and the gathering of information on the ground with eyes, ears and the feel of snow underfoot, along with an awareness of ‘heuristic traps’; the danger of allowing human factors to influence decisions.

Obviously it behooves us to learn all we can about snow and, in particular, the snow we are actually skiing on.

However, what I want to stress here is the importance of developing good habits when travelling in the mountains in winter, even if we don’t always know, or totally understand, what is going on under the surface of the snow. If you treat every slope that has the potential to avalanche with respect and behave accordingly, you are much less likely to be taken by surprise and come to grief. When driving a car, motorists who habitually use their mirrors and indicators and observe the speed limit are less likely to have an accident than drivers with a more cavalier attitude. Mountaineering is no different. Below are some suggestions, or perhaps reminders, of behaviours that ought to become habits if they are not already. They are common knowledge yet all too frequently overlooked in practice.



1. This small soft slab was not released by skier in the picture but it easily could have been, notice how the crown wall is well above any of the ski tracks in the picture. One of which must have initiated the slide. 2. Definitely worth skiing one at a time, slope approaching 40 degrees. 3. Not such a sensible place to re-group. 4. A group well spread out to cross a big slope but note how they are beginning to bunch up at the back.

- Remember that the angle of slope you are standing on is irrelevant. It is what lies above that is important. I have lost count of the number of times, after an incident, that I have heard someone say, “It was really strange, I was only on a 25 degree slope”. What they had failed to notice was that the slope steepened to 35-40 degrees immediately above them and that is where, almost every time, the fracture line occurs. It was their weight on that 25 degree slope that caused a weak layer within the snowpack to collapse, or the bond between two layers to give way, initiating movement which was instantly transmitted upslope to the break point, or crown wall. In very unstable conditions it is perfectly possible to initiate a slab avalanche from flat ground a hundred metres or more away from the slope concerned. I know because I’ve done it!
- Closely linked to that awareness is the practice of spreading out on, or beneath, steeper slopes to reduce the weight on the snowpack at any one point. Often the bond between layers, or the strength of a weak layer, can withstand the pressure of a single skier but not that of six or seven skinning along together, or even of two. I know of one case where a party had spread out only for the last two to close up, assuming the slope to be safe, whereupon it promptly released taking them with it. I like to get a group to spread out anything from ten to fifty metres apart depending on the situation, on or under any slope over 30 degrees, unless it is bombproof spring snow. This spreads the load and minimizes the risk but also reduces anxiety in the group when it matters, as it is seen as a normal precaution rather than an emergency measure. Zigzagging up a steep slope creates problems but, at the very least, bunching up at turning points must be avoided. And it goes without saying that you take a line as easy-angled as possible and choose your turning points with care.
- For exactly the same reason, it makes sense to ski down steeper slopes (over 30 degrees) one at a time, especially since skiing stresses the snowpack more than skinning. It has the added advantage that should anything happen the rest of the team is available for a rescue. It can be difficult to insist on with good skiers whose main concern is mileage but it has to be done,



in my view, anyway. It is surprising how many avalanche accidents involve several people, implying that they were all skiing together on or, crucially, under a slope steep enough to avalanche. Equally important is to regroup in a place that really is safe. If that means a much longer than normal pitch, so be it. Alternatively, in a long couloir or on a big open slope there may be no safe point to stop, so skiing together but at least twenty turns apart may be the only option.

- Always obtain a forecast if you can but give priority to your senses if they tell you things are more dangerous than expected. The closest call I have had in the last few years was on a blue sky day with a Category 2 forecast. As it turned out, an unexpected, strong local wind was blowing in our faces, shifting snow fast and creating slab before our eyes, though to no depth as yet under our skis, it seemed. Only fifty metres of slightly steeper ground separated us from safer slopes and it was sorely tempting to press on as retreat would well and truly mess up the day – a heuristic trap if ever there was one! Fortunately, I decided to turn round and as I did so the slope in front slid away to a depth of nearly a metre in a mass of giant blocks. Phew!

Finally, if the mountain is kind enough to give you a warning in avalanche terrain, be it a sluff coming down, a shooting crack in the snow, a whoomphing sound or the feel of snow settling under your feet, take the hint and turn round as carefully but as quickly as possible. Don’t be tempted to carry on in order to see if it really is dangerous, as Joe Simpson did on Les Courtes! (see *‘This Game of Ghosts’*).

I think it was Bruce Tremper who put it most memorably in the video ‘Winning the Avalanche Game’: “It’s your habits that keep you alive. If you live by the sword, you die by the sword.” ■



Rob Collister is a IFMGA Guide living in the Conwy valley, North Wales but mostly working in Switzerland. Rob also runs Alpine Ecology courses.



Transceiver, shovel and probe use at Glenmore Lodge - our learning journey



WORDS AND PHOTO BY
DEREK BAIN AND IAN SHERRINGTON

Year 1

The first year was largely dealing pragmatically with the logistics of equipping stores, maintaining stock, training staff and training clients. The first day of a course is busy. Therefore we created posters for the stores area that showed clients how to wear their transceivers, turn it on, off, battery information and how to look after it. For training clients we use a process based on that developed by Manuel Genswein. Instructors were familiarised with the process at staff training. Our process takes approximately 15 minutes, the key elements are as outlined in the accompanying *aid memoire*, Fig 1. This was used to create a laminated card that was put in all transceiver holsters.

Practically the whole process was initially performed in a single session in the Lodge grounds. In addition to our transceiver park we have plastic bottles that we use to place transceivers in and just lay them around the lawn. Often there is not sufficient snow to perform real probing or shovelling in the grounds, however we still work through the process. Quite quickly instructors started breaking down this process so that probing and or shovelling could be practiced on the hill with a snowpack. We also collected information on our TSP use each day and Matt Groves did research for his Masters Thesis: *Risk perceptions, attitudes and behaviours: perspectives on transceiver use in Scottish mountaineering*. In 2012 we started an extensive review of our avalanche education. This has been continued with development of new courses and resources formatted for the launch of the Be Avalanche Aware guidelines.

Year 2

A year one review of our TSP use and education resulted in a change of focus for year two. Last year we continued with our minimal 15 minute training process but recorded any training that was given in addition for educational purposes. We also surveyed TSP use overall and by course, locations visited, forecasted hazard for those locations and proximity to hazard etc. This information has not provided any surprises, an example is shown in Fig 2. Over the last two years staff have trained in the Swiss and American avalanche education systems to benchmark against global standards. In-house and external provision of training on transceiver technology has also supported staff development and has been a part of our inductions for the 2016 season. The broadened expertise gained in avalanche education and transceiver technology is one of the more interesting outcomes from the last two years.

Year 3

As part of the MTUK Avalanche Group we have had discussions about how we might best gather data this winter. We are already surveying our staff and students addressing outstanding questions such as; risk homeostasis; our students' ability to retain avalanche and TSP knowledge; students' perceptions as to the safety afforded them by the use of TSP. In addition, members of the MTUK Avalanche Group are undertaking work that may better inform us about the mortality statistics relating to avalanche. We are also undertaking field testing to examine skill fade in the subject of TSP companion rescue. We plan to use both our on-site Transceiver Park and real snow testing for this.

Finally looking beyond season three we will complete any analysis and produce a report on the three year trial. We will at that point also review our policy, looking at how we intend to move forward. We will do this to a timeline that allows us to share our thinking in the summer. ■

Teaching Introductory #3 Traditional Lead Climbing



In the final installment of the series, Plas y Brenin's Head of Rock Climbing, Dave Rudkin, shares good practice and top tips for teaching lead climbing.

WORDS BY DAVE RUDKIN PHOTOS BY STEVE LONG

Good practice while students are leading

- The instructor should be diligent and check the safety of the clients before they start leading, especially as the instructor will have been rigging the fixed line while the students prepared at the bottom. Remind clients to check each other as they may be distracted by the bigger challenges above them.
- Have a method available to quickly attach the client to the fixed rope should they require assistance. I have a sling and krab attached to my belay loop so that I can clip directly in to the client's harness. A few examples of when I have used it are; when my client was briefly bothered by a wasp; when other climbers threw a rope down nearby without looking; and when other climbers distracted the belayer by asking questions.
- When leaving the ground or stance an initial "bombproof" runner must be placed in order to reduce the chance of the client decking out or taking a factor two fall on to the belay. If the client cannot place this runner easily, then the instructor should consider placing one for them and pre-clipping the rope.

- Pre-placing runners and extending them to be easily clipped by the client may be preferable to help manage an awkward section of a climb. This may not be as useful to the client's learning but the instructor must prioritise safety before learning.
- The instructor must remember to keep an eye on the belayer to ensure they are maintaining focus on the leader. It may be appropriate to keep a dialogue with the belayer to maintain their learning and interest through what can be a slow process.
- The instructor should ensure every runner placed is checked, that it is appropriate to the climbing and terrain above and that it is extended and clipped correctly.
- Should a situation arise where the instructor and clients need to bail from the crag, or top out quicker, the instructor can make the leader safe and lower them off, then retrieve the fixed rope, or make the leader safe, tie the leader to the bottom of the fixed line, ascend the fixed line and then bring up the clients in series.



Dave Rudkin is the Head of Rock Climbing at the National Mountain Centre, Plas y Brenin. He first starting climbing on the sandstone quarries and outcrops of Cheshire and Merseyside in the early 90s, he then moved to North Wales at 17 to climb as much as possible and started his career as an instructor. He now enjoys all aspects of climbing and mountaineering all over the world, holds the Mountaineering Instructor Certificate and is a trainee British Mountain Guide.



1. Teaching leading, using a jumar-gri gri combination. 2. The need to use a handhold when testing runners 3. Dave Rudkin pointing out the line. 4. Dave Rudkin climbing in Borrowdale.

Top Tips

- Once the clients are leading they shouldn't require much technical input (just tweaks here and there) but what they will need is confirmation of judgments and quality. The instructor should confirm what is good and address what isn't, keeping an open mind if the client decides to do something that differs from expectations.
- Develop tactics. I teach my clients to break pitches down into chunks, to make the climb less overwhelming and more manageable. This ensures they have always thought through the next section of climbing, where the next potential protection might be and how they might climb to the next rest.
- Think ahead for your clients and share your forethought. What do you see (drawn from your personal climbing experience) that they might not? What do you do when onsighting a climb? This will help them to develop your hard earned robust habits.
- When clients are placing gear and clipping, encourage them to do it one handed with the other hand on a hold for security, practicing with both their left and right hand from the start. When the client tests gear I might hover my hand behind their back; if the gear should lift or rip out, I can help them maintain balance.

Ratios

When delivering sessions that involve teaching clients leading skills without getting on the sharp end, i.e. in the wall, or top-roped on a single pitch crag, higher ratios will be manageable without compromising safety or teaching quality. Once on multi-pitch climbs or when folk are on the sharp end a smaller ratio (normally one instructor per rope-team) will be required to manage safety and maintain a good level of quality and focus on your clients.

Progressions

- Change in rock type. Granite and Gritstone generally have more obvious gear to the novice eye than say, Rhyolitic Tuff or Limestone. Challenging your clients with more fiddly gear will make them more skillful.
- Change in atmosphere, e.g. Sea cliffs.
- Double ropes. I usually get my clients slick at leading on a single rope before introducing two half ropes.
- Smaller stances.
- Hanging belays.
- Grade.

At this point, it might be best for the instructor to go back a stage in their approach to teaching. Climbing in series once again, your clients can mock lead on harder/steeper ground, practice building belays on small or hanging stances and placing runners on steep rock. The clients can climb with double ropes between them learning which rope to clip into runners as well as refining their belaying technique and they can get used to more exposed positions, like sea cliffs or dealing with traverses before actually doing it for real.

In conclusion

I hope the series has offered some food for thought and gives you some structure to work from. This is just one example of introducing climbing and progressing to leading; the more mileage you have of teaching leading the more understanding and ideas you will gain. It is then that you can really begin to tailor your lessons and style to your clients. If the clients have previous experience you may choose to miss out some of the sections of teaching, to optimise on developing weaker areas of the clients' knowledge and get them leading sooner. With more experience you will also be able to cope with issues like dealing with poor weather, getting clients leading when time is short and providing lead climb coaching on more difficult climbs or complex crags. But that's another series! ■

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Training the Trainers and capturing the knowledge

WORDS AND PHOTOS BY MIKE RAINE

Train the Trainers is a relatively new course to Plas y Brenin. We started it a few years ago with Mountain Training and have continued to develop it ourselves since then. It is aimed at anyone working in a training capacity on hillwalking, rock climbing or mountaineering courses, particularly, but not exclusively, those that are administered by Mountain Training.



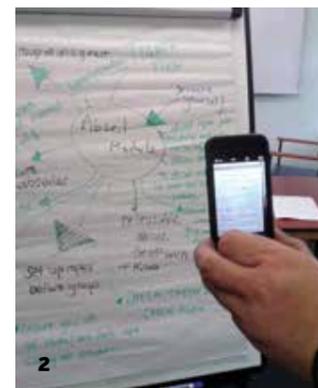
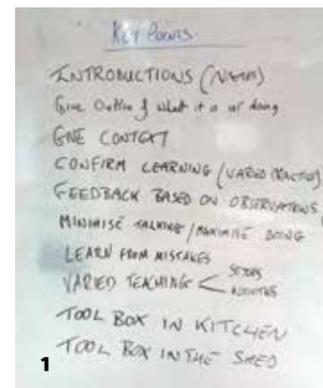
Mike Raine is a Senior Instructor at Plas y Brenin, the National Mountain Centre, he heads up the delivery of Mountain Training schemes. He is lead tutor on the Train the Trainers courses and Mountain Assessor Training Workshops. Mike has worked on over 300 Mountain Training courses at Plas y Brenin and elsewhere, previously he was a teacher and manager in secondary education.

PHOTO Learners presenting – it has been said that you only really learn something when you have to present to others. I try to use existing knowledge with supported research and get trainees, for example trainee mountain leaders, to present to the rest of the group.

A Train the Trainers course has many elements but fundamentally it is about how we, as trainers, train our clients; what works well and what doesn't work so well. I was particularly pleased with the feedback created by a group on one of our Train the Trainers courses at the end of last year, so I thought I'd share it with you. We had looked at the learning process, done some work on progressions and had been experimenting with different ways of putting information across to clients in practical sessions on the hill. We collated our thoughts on to a flip chart (fig one). This article seeks to explain the flip chart notes.

Introductions

Names + clarity = success. Simple; get to know who you are working with, find out a little about them, 'connect' with them, be personable, recognise them as individuals, learn their names, use their names. If you're not good with names, take notes or find some other way to remember; each time you say a name it will get easier to remember! Give the session context; how does it fit in with the bigger picture? Be clear about what will happen during the session, how long it will last, when it starts, when it finishes, what people will need to bring or need to wear, where it takes place, how long it will take to get there, how long will we be there?



1. **Key Points** – this is the group's summary which followed the practice teaching sessions upon which this article is based. We get the group to experiment with different ways of teaching familiar aspects of working in the outdoors practically on the hill. This follows some sessions looking at the learning process, both theoretical and practical. 2. **Photographing summary sheets** – always pull together key points at the end of a session; ideally get the course members to do it for you. I get my groups on Mountain Training courses to re-visit the previous day, often sharing experiences from different sub groups before I meet the group each day. This way they are working together, using dead time whilst I am working on logistics for the day and I can check they have captured the key points when I arrive. They can then photograph these summary sheets to take away as their special record of the course. 3. **Card sort** – a really neat way of prioritising information and moving ideas around. The example in the photograph shows a groups sifting through progressions in rock climbing. 4. **Learners doing** [experiential learning] – no substitute for this really, but we can be working in hazardous locations where it is tricky to manage so take any opportunity you can. Here is a group trying out Blizzard Bags in our back car park on a first aid course. 5. **Story telling** – we tend to be really good at this. People will remember stories better than any other type of speech, so use your experience to capture some key learning points in a story, try to get the group to pull out key lessons learnt from your epic tales. 6. **Picture card sort** – really a variation on card sort but requires the extra interaction of interpreting the picture, works really well on my first aid courses.

Confirm learning

This is really, really important. Just because you've told somebody something doesn't mean they've learnt anything. New ideas, skills or knowledge must be worked with to become embedded. It is a characteristic of many instructors that they talk too much. Don't be fooled, we love an entertaining talker, but how much of it can you remember? Use random practice to embed new skills, use storytelling to illustrate key ideas, use interactive learning to develop knowledge. Often just doing the same thing in a different place will help it stick.

Feedback

Without feedback we are nothing. Am I doing it right or am I doing it wrong? How could I do it better? Watch, watch carefully, observe what you see, not what you think you see. Make notes, take pictures and find ways to remember. Assemble a word picture of your client's deeds. Look for commonality, look for themes, look for what is good in the picture, use this and use praise, then, explain how to improve things. Explain how to go about this improvement; is it just a matter of practice or is more input required? Where might it take place?

Minimise talking/maximise activity

You know that people learn by doing not by listening. Make it happen, tell yourself and your audience at the start of each session that you will try to talk as little as possible and get them to do as much as possible. Go on be bold, commit, try it, it works.

Learn from mistakes

Whose mistakes? Your mistakes! Learners don't make mistakes, you do. Why have they got it wrong? It's not their fault, it's yours. How could you deliver your information better? (Go back to names plus clarity equals success).

Try to vary the way you teach things

This is a big topic and some people do degrees in it! I've added some ideas around this article.

Tool box in the kitchen/ tool box in the shed

You can talk for hours about rock climbing; you can talk for hours about navigation. Slow down, less is more. Think; what do they need to know now? Use the analogy of tools. Things you use a lot are in the kitchen drawer, handy things like hand railing, reading contours, things like tying on to a rope or placing nuts. Things you use less often are kept in the shed, things like aspect of slope or walking on a bearing., things like improvised rescue skills. It'll help them sift and sort the amazing amount of knowledge and skill you want to pass on. ■

If you would like to work with and develop these ideas think about joining us at Plas y Brenin on a Train the Trainers course. >> <http://pyb.co.uk/courses-detail.php?coursecode=MQA44&cirisref=400>.



LEFT Cones and Craters. TOP LEFT Observing footwork. ABOVE Coordination exercise.

SHARK ATTACK! #2

Helping people prepare to learn!

In Part two, I am focusing on getting the most from our climbers, helping them to improve and maximise skill development and retention. The warm up is a good place to start.

Some *may* be familiar with the 'skill acquisition scale', a model used in most sports coaching. The model helps to demonstrate how participants acquire skills through formal instruction and practice.

Briefly, a learner will progress through *three* stages as they acquire new skills, though some may not reach the third stage.

1. Cognitive

Performances are inconsistent and success is not guaranteed. Performing the skill requires all of the athlete's attention and so they rely on the trainer for cues. This is a process of trial and error. Correct performances must be reinforced through external feedback.

2. Associative

Performances are becoming more consistent as knowledge and skills are being formed. While the simpler parts of the performance now look fluent and are well learned, the more complex elements require most of the athlete's spare attention. The athlete is starting to get a sense of internal 'kinaesthetic' and 'cognitive' feedback when they perform or apply a skill well. They are starting to detect and correct their own errors.

3. Autonomous

Performances have become consistent, fluid and 'unconsciously competent'. The knowledge and skills involved are well learned and stored in the long-term memory. To retain the new skill at this level, it must be regularly practiced to reinforce the motor and cognitive programmes.

So to the part you really want to read... a new warm up! Well, I am afraid this may not be new to many folks, but *how* we go about it may well be!

Have you come across 'cones and craters' as a well-known climbing warm up? It's an all involving, FUNDamental movement based activity

Do you climb indoors? Do you work with groups in a climbing wall environment? Are you working towards a Mountain Training climbing award assessment? If you have answered YES to any of these questions... read on!

WORDS AND PHOTOS BY JOBY DAVIS

... and lots of fun, but we can make it far more progressive, and help our climbers enter the learning zone!

A range of sport cone markers are placed randomly in the area you choose; some the right way up (cones) and others upside down (craters). The group is split into two teams, one tries to make as many cones as possible, the other tries to make as many craters as possible, within a time limit. You can add in any number of rules, balancing on left or right leg on command, and so on. But – lets make our climbers engage the brain, solve problems, and work together!

- 1 Simple team competition, note down the score.
- 2 Round two – you cannot turn over two cones of the **same** colour in a row. Note score.
- 3 Round three – you **HAVE TO** apply rules one and two, **AND** use alternate left and right hands to turn cones. Note score.
- 4 Round four – the whole team must join hands ... but rules 1 – 3 apply! Tot the scores up!

There are many variations to this game. Try a few out and see what impact it has on their preparedness to learn and ability to develop skills during your session. Next time we will look at the theory behind these simple strategies... Enjoy.

Editor's note: If you're working your way through any of the Mountain Training schemes, use the new Skills Checklists that have been put together to help you work out where you're at with your own skill acquisition. ■



Joby Davis is a Mountaineering Instructor Certificate holder and climbing wall specialist. He works throughout the UK as a technical adviser, provider of the Climbing Wall Award, Climbing Wall Leading Award and Single Pitch Award as well as the Coaching Scheme. He is also a Technical Expert of the NICAS schemes.



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RIGHT Solarmonkey Adventurer.
MIDDLE Powermonkey Extreme.
BOTTOM RIGHT Fillup unit charging iPhone.
BOTTOM LEFT Solarmonkey Adventurer charging tablet.

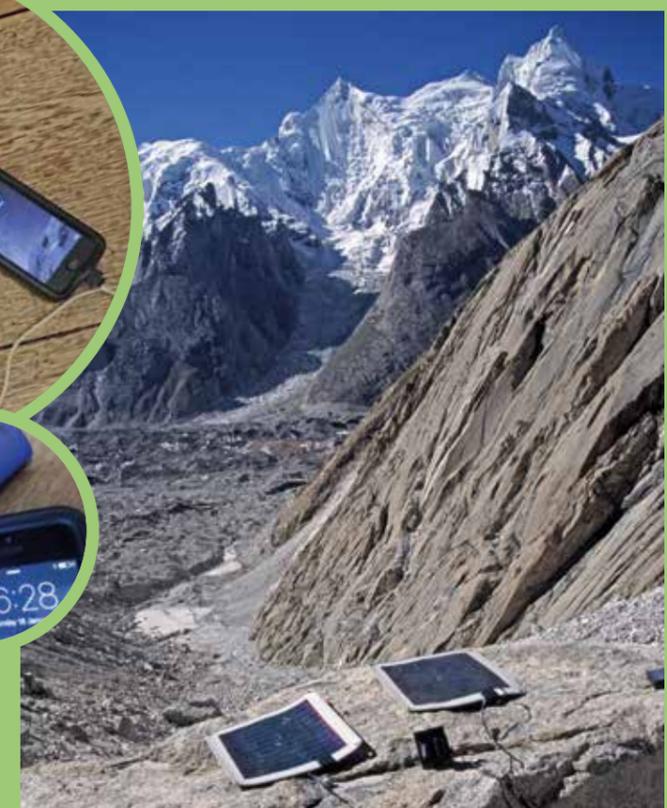


PHOTO Solar panels in Pakistan.

Solar chargers

Review by Steve Long

Most association members use gadgets with rechargeable batteries - ranging from a simple phone or camera through to more power-hungry electricals such as GPS unit, headtorch or laptop. We all know that there is a critical point when any electrical gadget becomes a dead weight - when batteries run out of juice!

I first became interested in experimenting with solar chargers on an expedition to Pakistan, where we tried to make a film about climbing the Norwegian Pillar of Great Trango. We used large roll-up panels and had more success with charging batteries than we did with tackling the headwall. The solar panels were a great success but only because we had a team of porters to help carry kit! So what options are available to backpackers?

At the lighter end of the spectrum there are plenty of battery packs that can be fitted to a phone fairly unobtrusively, however this simply postpones the problem until you are off the hill. Moving up in weight, we have a range of power-banks available. If you want to fully recharge something you need one that stores at least as much juice as your gadget - though of course a smaller battery is lighter and should allow you to at least make a call or two from an otherwise 'dead' phone. As a rule of thumb, the output voltage and current should be equal to or higher than your device's specification - most modern devices require at least 5 volts and 500mA - a lower ampage will work but can be painfully slow, often giving false (or true!) 'not charging' messages on the device. Other considerations include the ability to retain charge and the output connection - I prefer the versatility of a USB outlet; short fixed cables are lighter but easily damaged.

For travel to meetings I find the *Fillup* unit made by MobiFill perfectly

adequate for recharging my phone a couple of times or getting a few more hours out of a tablet.

For countries with power supplies that are unreliable at best and often non-existent I find the Powertraveller range of solar powered chargers invaluable. I bought a *Solarmonkey Extreme* unit a couple of years ago and can definitely recommend it. It's basically a very tough battery and solar charger combination. The battery has both 5V and 12V outputs - this latter means you can simultaneously charge through a USB cable and also anything that has a car charging cable, so (with an adapter) that includes laptops. The unit is quite heavy (650g including cable and car-type socket) but should allow you to leave an adapter or two at home, as its possible to charge two units at a time through the battery, while its connected (and recharging) from the mains. If I only need to cope with daily power cuts I just take the battery part of this combo, to save weight.

Recently Powertraveller sent me the *Solarmonkey Adventurer* (2015 model), which looks like the solar charger previously mentioned, but has an integrated 3500 mAh battery incorporated. At less than 300g including mains cable it's the obvious choice if I'm only taking USB charged gadgets. Stand-out features in this improved model are the LED light which flashes while recharging and progresses through traffic-light colours until fully charged, when a blue light is visible. I've noticed that the unit continues charging indoors near windows. On paper the specs suggest that the device shouldn't be able to charge iPads, but some clever electronics (apparently) provide sufficient power to cope.

The caveat for solar chargers is that a mains charger wins easily if you have electricity. Solar chargers can take days, even weeks to fully charge, so I only take one if I expect to be off-grid for more than a day or two.

The White Peak is a spectacular place for anyone interested in the geological forces which shape our upland areas.

Paul Gannon explores one highly counter-intuitive feature and how geological science explains its common occurrence in the Peak District.

A RIVER RUNS THROUGH IT?

WORDS AND PHOTOS BY PAUL GANNON

Some of the most popular scenic features of the Peak District are the deep gorges carved through the limestone massif that makes up the core of the White Peak, such as the Wolfscote Dale in the lower Dove valley and Chee Dale, with its overhanging crags popular with climbers, in the Wye valley.

There is, however, one very odd aspect to these and other drainage channels in the Peak District; the rivers run up to and then through the tough limestone and exit at a distant side. The obvious question is why, instead of going through it, do the rivers not go round the central limestone massif? Water, as we know very well, will always find the easiest downhill route, so how and why would it cut a channel through an upland area? Surely it would have been much easier for the rivers to find another route out from the heart of the Peaks?

It is not only the limestone that is home to this odd feature. The rivers Manifold and Dove both rise near the village of Flash in the north-western corner of the White Peak and both flow through the central part to leave the Peak District at its southern extent. Both start their lives in a long arm of comparatively soft rocks known as shale which runs from near Flash to the south-west, with tough gritty sandstone on either side. The shale area is already more thoroughly eroded than the surrounding sandstone hills and it offers an obvious drainage route to the south-west.

But, though the Manifold initially flows south-westwards in the shale valley, after about nearly a kilometre the river suddenly does a sharp 90-degree turn to the left to cut a steep-sided course through the sandstone.

Similarly, the Dove rises just a bit further north and again in the shale area. Yet, rather than flowing south-west, the tiny stream has sliced a narrow channel directly, almost 2.5 kilometres long, through the middle of the sandstone. This gorge ends when the river approaches the limestone massif and the river finds a less dramatic channel in more shale that fills in the area between the shale and the limestone.

The Dove then follows this same geologically sensible route at the foot of the steep limestone scarp slope for several kilometres until 1.5 kilometres south of the village of Harrington, the river has carved the stunning Wolfscote Dale through the limestone massif. West of the river Dove the Manifold too runs for a good 10 kilometres through a twisting limestone gorge.

Intuitively one would expect both rivers, on nearing the limestone, to be diverted westwards to lower ground and the river Hamps.

The River Wye does something similar, heading east out of Buxton through a delight of steep, dark, dank gorges. Eventually it joins the River Erwent as it flows south towards Matlock and another odd routing through a gorge in the limestone.

So why do these rivers behave in this way? The answer which geologists have come up with to explain this odd feature of the White Peak is astonishing in its audacity. It is a wonderful revelation about the power and randomness of the natural world which creates and shapes our mountain environment.

The reason why the Dove, Manifold, Wye and Derwent cut through the high ground of limestone and in some cases sandstone,

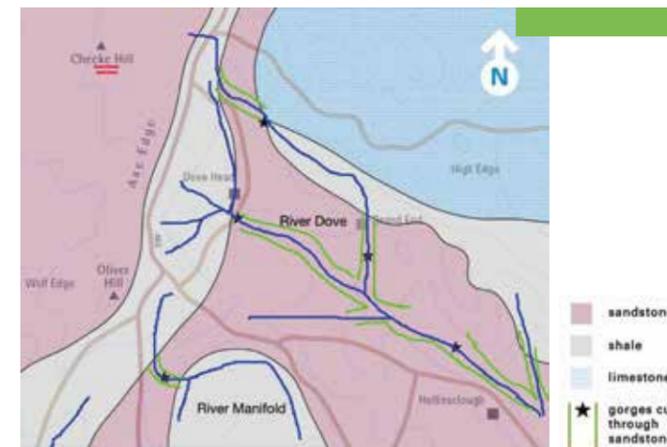


PHOTO LEFT Overhanging limestone crags in Chee Dale. DIAGRAM TOP Peaks drainage.

PHOTO ABOVE Thorpe Cloud, one of the hills in the lower Dove valley.

is because they had already established their present courses many millions of years ago, before tectonic forces compressed then low-lying limestone and sandstone. Very slowly those tectonic forces raised the core of the White Peak to form the limestone plateau and its framing sandstone edges on the western, northern and eastern flanks.

The key word here is 'slowly'. The tectonic compression of the continental plate was a long drawn out process lasting some tens of millions of years, raising the land by a millimetre or so every decade. Only after many millions of years were the limestone and sandstone pushed up to today's height.

So slow and long-drawn out was the process of raising the rocks to their present height that the existing rivers were able to maintain their ancient courses, successfully cutting down into the limestone and sandstone at a rate that matched the pace of the tectonic uplift.

The term used to describe this feature is 'superimposed drainage' and the White Peak is a classic example of how geology can explain unexpected features in the landscape. ■



Paul Gannon is the author of *Rock Trails Peak District* and other geology guidebooks for hillwalkers; he is a member of the Mountain Training Association and also runs geology workshops for the Associations.



The fifth in a series of articles on upland birds.

RAVEN

PHOTO Raven © BTO/Edmund Fellowes.

Vital Statistics

Length: 64 cm
Wing-span: 120 - 150 cm
Weight: Males 1080 - 1560g, Females 800 - 1315g
Habitat: All types of country, mainly mountains, moorland and sea cliffs.
Food: Animal and plant material, carrion, harries sick and injured animals.
Voice: Low-pitched, gruff croaking tone; short barking 'pruk' or 'krok'.



Sue Haysom is a professional ecologist and Mountain Leader with Greyhen Adventures.

Even in the very depths of winter new life stirs. Raven nests, bulky stick affairs usually on cliffs or crags, may be built in January and eggs laid as early as the first week in February but usually in March. This early nesting means that activities such as climbing and hang gliding don't generally affect these birds, although replacement eggs may be laid in April or even early May.

The pattern of decline from being common throughout Britain in the early 19th century due to persecution from some gamekeepers and shepherds is similar to that experienced by golden eagles. More recent land use changes, such as the expansion of arable and afforested land in the middle of the last century, led to reduced food availability. However, food supply increased where livestock and/or deer densities increased and large flocks can now be seen in some parts of the country.

There's something powerful, even otherworldly, about the raven. They're birds which make us stop and stare and they feature powerfully in our folklore. The Norse god Odin, the Raven God, had two ravens Hugin "Thought" and Munin "Memory". They flew across the world and reported back to him, perching one on each shoulder. Noah gave a raven a similar task. In Ireland predictions were made from their various calls.

Ravens cache food in holes, crevices or even snow, doing so most frequently during the nesting

season or other hungry times. So, if you find something unpleasant (fat and fatty meat is hidden in preference to other foods) it may not always be a fellow outdoor enthusiast to blame!

Q What can *you* do for the raven?

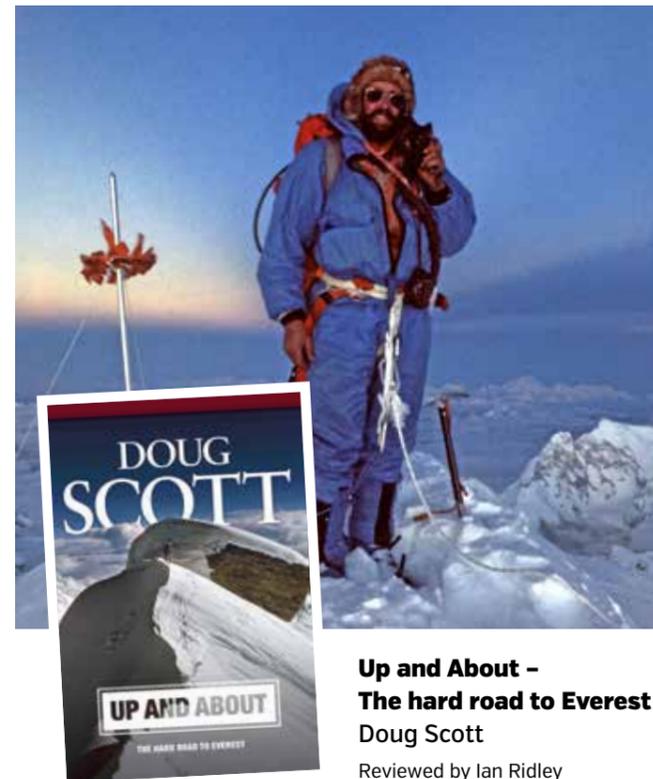
A Recognise, celebrate and record the live ones via BirdTrack or by emailing your sightings giving grid reference, site name, date and number seen to whatsup@bto.org

A If you have the misfortune to find a dead raven remember that, being carrion feeders, they're particularly vulnerable to poisoned bait. Don't touch it, if you suspect a wildlife crime may have occurred telephone the non-emergency **101** number and ask to speak to the Wildlife Crime Liaison Officer for your area. Alternatively, if you wish to remain anonymous, call Crimestoppers on **0800 555 111**.

Q What can raven do for *you*?

A Folklore can capture the imagination of your clients when facts and figures don't. Raven's acrobatic exploits, playing in the thermals and executing repeated half-barrel rolls, are breath-taking.

A The waxing and waning of their fortunes, tracking land use change can illustrate links within ecosystems. ■



Up and About – The hard road to Everest Doug Scott

Reviewed by Ian Ridley

"No matter how much we might try to convince ourselves that Everest is just another mountain, reaching its summit changes everyone who climbs it, in one way or another," so says Doug Scott towards the end of his authoritative and hugely impressive autobiography. *Up and About* is the first volume of a two part collection that chronicles his childhood and a very normal upbringing, through to summiting Mount Everest via the south-west face on 24 September 1975, aged 34.

The book has over 230 photographs and what really stood out for me was the breadth and depth of the index, which extends to 11 pages (with around 1900 entries). This is not only an autobiography but an encyclopaedia of climbing! And herein lies a clue to the mind set of this legendary man and the awe-inspiring life he has led.

Doug Scott is one of the country's, indeed world's, top climbers having led numerous first ascents across the globe and his book is a tremendously detailed account of the world of climbing during that era. It's also a testament to his staggering memory, given the clarity in which he recalls his life.

There's no doubt that climbing is in every sinew of his body and the book is very honest; I suspect that writing it was also cathartic. He writes with true passion but his humility and modesty shine through as he reflects on his experiences. There's plenty on the successes of other climbers and how without them he would never have achieved so much. He was obviously very driven to feed his climbing habit which he admits led to some selfish behaviour. Most climbers can relate to that but will also share the link between climbing in the mountains, respect for nature and the people who live there; and the difficulty of leaving loved ones at home for so long.

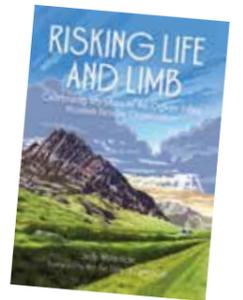
Reading the book, one encounters moments of great sadness recording the loss of friends, but there are enjoyably amusing moments too. *Up and About* is not only an excellent account of what drives Doug Scott, but also how the mountains have changed his perspective on life. It is also an excellent social commentary on the massive changes to post-war Britain in the 50s, 60s and 70s.

Would I recommend it? Most definitely; to climbers and non-climbers alike. ■

BOOK REVIEW

Risking Life and Limb – Celebrating fifty years of the Ogwen Valley Mountain Rescue Judy Whiteside

Reviewed by Mal Creasey



This book's attractive cover certainly grabbed my initial attention. George Manley's artwork identifies and clearly illustrates the Oggie team's 'backyard' and the scene of many an epic struggle for both rescuers and casualties.

The book starts with an historical section with some interesting stories of the early days when the only folk on hand to help were the local farmers, shepherds and men from the quarries. Casualty care was pretty basic and unfortunately, in many cases, all they could do was simply pick up the pieces and carry the casualties off the hill. This section also highlights a number of individuals such as Wilson Hey, a doctor and mountaineer, who first recognised that morphine could be a proven lifesaver in mountain rescue.

What is perhaps more pertinent is how the author highlights particular events that helped to move things forward as there was a realisation that with increasing numbers enjoying the hills and crags, there was a growing need for a more organised approach to mountain rescue in the UK.

Reading the book it becomes obvious that OVMRO has benefitted from several members with specialised knowledge from their day job, an inventive mind and a desire to develop; as a result significant contributions have been made to search and rescue equipment and techniques, not only throughout the UK but also in many other parts of the world. No two 'shouts' are the same, so 'devise and adapt' has often been the key.

As one would expect the book contains many real life stories and it is a stark reminder to all that the hills are to be respected; those taking liberties with a lack of equipment or knowledge, (or both) do so at their, and team members' peril. Some of the tales towards the end of the book are especially poignant but why is it that one particularly sad event is mentioned so briefly?

There is a lot of text to this book, and at almost 300 pages including over 60 filled with photographs the font is small – far too small in my opinion – and this is not helped by the background colour on the title pages or the 'From the Archive' sections which have a grey background. That said, the author has captured the essence of dedicated volunteers often working in serious conditions and foul weather, as well as the glimpses of black humour which are a necessary release when weather conditions are poor or the circumstances harrowing. The content and design has taken a lot of hard work so those involved should congratulate themselves on what must have been a massive task. ■

BOOK REVIEW *cont...*

The Alpine Handbook

Reviewed by Lucy Dunn

A new handbook has just been written and published by a collaboration of the UIAA, Alpine Club Canada and the Petzl Foundation. *Alpine Skills: Summer* is an overall reference guide for both aspirant and qualified leaders working in the mountains. Now available in French and English editions it is currently being translated into Arabic, Turkish, Chinese and Catalanian, with many other languages sure to come.

The book can either be 'dipped in and out of' or read in completion. There are four main chapters, which are colour-coded and have a list of numbered headings making the book very easy to use.

The Basic Knowledge chapter covers everything you should be thinking about before working in the mountains, including the environment and adapting to it, meteorology, navigation, group management, decision making, nutrition, hydration, first aid and evacuation.



The Hiking chapter includes information on equipment, mountain travel, hygiene, grading systems and leading a trek. The Climbing chapter covers everything from the basics of tying in to rappelling and multi-pitch climbing plus a section on tips and troubleshooting. The Alpinism chapter includes sections on roping up, moving on snow and ice and crevasse rescue.

There are evaluation checklists at the end of the main chapters, which allow you to tick off your knowledge and measure where you are at and what you need to improve on.

There are lots of pictures and diagrams and helpful illustrations. The climbing section in particular has a lot of images taken from a certain well-known French manufacturer's equipment brochures! Some

may find the amount of diagrams a bit overwhelming, as the text is often 'bullet-point' in format – though others may find this style useful for producing their own Powerpoint presentations...

Overall this little book has a wealth of information that provides you with a base of knowledge to build on and examples of practical skills to be put into practice. Although written with emphasis on the Alps the book is equally useful for working in the mountain regions of the United Kingdom. This book is not a simple replacement for the range of Mountain Training handbooks – it covers a lot of ground but in a 'broadbrush' style, as befits its intention as an *aide-memoire* for leaders who have already completed some training approved by their mountaineering federation.

The book is available exclusively to Association members, through their areas of the shop. Unfortunately delivery time may be a few weeks, as stock will be purchased from the UIAA once pre-orders have been collected. All the more reason to submit orders though, as this may well-prove to be a one-off opportunity! ■

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So how relevant is the Development Coach award to a Mountaineering Instructor or for that matter anyone who does not spend their time working in a climbing wall? I will keep it short for you... very relevant!

Development Coach

How relevant is it for people working outdoors?

WORDS BY SANDY PATERSON



However, I am guessing you might want a little more proof than that before you think about giving up your time and hard earned cash.

Background

I completed my training in November 2014 and enjoyed both the days. Did it revolutionise what I do or what I know? No, but I would have been worried if it had! I am a practicing MIC, with a background in Education and Sports Coaching. However it was a great two days spent with likeminded people chewing the cud and developing, reviewing and changing ideas and perceptions. I soon decided that I would be keen to do my assessment and that much of what we covered I could develop/practice through my work on the hill and crag. The cornerstones of the whole process are creating a progression with long-term clients, making the process client-centred and individualised as well as critically self-reviewing yourself as a coach. So I basically spent the winter of 2015 exploring ideas and theories and then putting them into practice during the summer before doing my assessment in November 2015.

The Process

I won't write a blow-by-blow account of the assessment because that is all in the handbook and my individual experience will be different from yours due to differing clients. However, below are some of the theories and topics that we covered on the training and that I explored during my preparation. I am sure you can all see links to your work whether it's teaching navigation, leading winter walkers or instructing multi-pitch climbing.

Observation

How do I observe my clients to monitor their movements and try to identify areas to improve? I explored the use of Head – Hands – Hips – Heels (HHHH), Body – Order – Shape – Speed (BOSS),

using video footage (as feedback as well but that is another topic) and the use of flags or cues. I used these on a variety of courses from winter skills to intro climbing.

Questioning

How can I use questioning to help my clients understand and develop as decision makers? I explored the use of low and high order questions to help the navigator develop strategies and scramblers develop decision-making. I also developed my own strategy to make my clients more open to questioning.

Teaching styles

What styles of teaching are there and how do they relate to different activities and levels of understanding? I used Muska Mosston's and Sara Ashworth's 'Spectrum of Teaching' as a basis for this and used different styles in all types of sessions from MIC Training courses to rock climbing taster sessions and introduction to navigation courses.

On top of the above I also looked at: giving feedback and how this links to stages of motor learning, goal setting exercises with clients, Kolb and Gardner's (along with others) theories on learning styles, athlete profiling, skill acquisition, types of practice (blocked, varied and random) and their benefits, the TTPP model, and so on.

To start with I used all of these outdoors and without a doubt they helped me develop my delivery and coaching in all aspects of my job. In fact the only time I spent indoors at the climbing wall was when working with my long term clients for assessment and that in itself was a learning experience for me as I spend so little time in that environment normally! So if some of the above sounds interesting, foreign or you can already see the link to your own work, then get yourself booked on a coaching course. Enjoy! ■



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PHOTO Building trust right from the beginning will help to engrain positive reinforcement of good habits.



PHOTO Bouldering at RAC boulders, Nant Gwryd.

PSYCHOLOGY SERIES

1 | Habits

WORDS AND PHOTOS BY REBECCA WILLIAMS

Appreciating the technical aspects of climbing is only half the battle; you need also to understand how to change from who you are now to who you want to be. Understanding our genetic predispositions, our early experiences and the positive and negative life events that have shaped us over time is the first step to change. We begin the first article in this series with changing habits.

If you've ever tried to give up smoking, you'll know how hard it is to change a habit. For those of us who don't smoke, I'll bet there have been many other behaviours we'd like to change, but found that even with the best of intentions, we soon drift back to our old ways. Why is that and what can we do about it?

You may have heard of the government's 'Nudge' unit and the impact on policies to try to improve the health of the nation by changing environmental cues to create virtuous habits, rather than destructive ones. The basic ideas come from research telling us that having the intention to change something is not enough. A useful model is the Stages of Change (Prochaska & DiClemente, 1982) show in the diagram. Often, we are only in the 'contemplation' stage, where we are *thinking* about change rather than ready to change with concrete plans. Most of our New Year's resolutions are dead in the water by the end of January, if not sooner, no matter how committed we were to being fitter, stronger, more careful with our money, diets or separating our recycling. Many interventions in the past have focused on changing attitudes, but as is found with people exiting drug rehab, if you go back to the same places, people and environment, you are likely to go back to the same behaviours. We overestimate our will power, imagining ourselves to be rational human beings, capable of acting in line with our intentions, when in fact, we often end up thinking 'why on earth did I do that?'

Psychological approaches to climbing and mountaineering are relatively new, especially in a practical, applied sense and can play great dividends in terms of your own performance and your ability to help those you instruct or coach.

Researchers now realise that habits are cued by recurring stimuli – subtle little triggers such as people, places, the sequence in which we do things – in other words, we have a number of blueprints for sets of behaviours which take the thinking out of the equation, helping us to run on autopilot. This is for good reason, it's less mentally taxing, but it helps us to understand that context is king, and if you can create a new context then you can help kill off old habits. Suddenly your behaviour is back under your intentional control, and then you are more likely to act on your intentions rather than your old ingrained habits. Witness the impact of the smoking ban in public places on many people who were already trying to quit – disrupting the context of the after dinner/during drinks puff helped people think twice about lighting up when they had to step out into the cold and rain to do so.

So let's say you want to introduce some new training habits for your climbing. The most effective things you could do include:

- Train them right from the start of your climbing career
- Go to a new wall/venue
- Get a new climbing partner



- Go at a different time of day
- Try a different form of climbing (if you normally sport climb, go bouldering or trad)
- Use another profound change in your life as leverage (e.g. starting anew when you move house, change jobs, and so on.)

All these actions will break your normal habit cycles and help you to stay with your intentions of training rather than just cruising around chatting to friends.

Of course the best way to train good habits is to train them right from the start – it's harder to break a bad habit than to start a new good habit. So for those of you just starting out, take your time to learn things correctly, it will pay dividends in the future. For example, be sure to always clip from waist height, keep your arms straight when climbing and clipping, always stretch and warm up/down, climb with good technique. In other words, start as you mean to go on.

So you have a plan, you've got the cues right but you are still struggling to get to the wall on the way home from work, or get out for a run during those dark evenings – what else can you do? There are ways to strengthen your will power if needs be. Let's say that you are slightly in two minds about whether you really want to train today. That's particularly likely to be the case if you've spent all day exercising your will power by resisting the biscuit barrel, biting your lip at work, or dealing with the consequences of a late night – your will power reserves are finite, and you have likely just used the last of it saying no to a custard cream. How can you give your will power a boost so you get going with that new habit and go training? Well apparently a small shot of glucose (for a healthy one, maybe a peanut butter sandwich?) will help you recharge that low will power reservoir and get you back on track to your virtuous habit. Similarly, making

your intentions public – nobody likes to be seen as someone who doesn't stick to their guns – can help you see them through.

Behaviourally, carrots are more effective than sticks, so rewarding yourself for seeing things through is more effective than giving yourself a ticking off. Star charts work wonders with small children and there is no reason why you can't make yourself your own kind of star chart, but perhaps with a bottle of wine at the end of the week rather than a comic.

The main message is to try to make it easy for yourself to do the right thing – choose realistic goals which fit with your life and values; make your plans to change concrete and enlist support; put your trainers by the front door and your running kit on a chair in the bedroom the night before, so you can't help be reminded to go for a run. Similarly, put those biscuits at the back of the highest cupboard (or better still, don't buy them at all). Write out the routes for your 4 x 4's training session in advance and put them in with your climbing shoes, that way you don't have to think when you get to the wall after a long taxing day at work. Think like the supermarkets do – they are great at getting us to buy what they want us to buy – how can you adapt that so you 'buy into' all those good habits that you know will make a difference to your climbing? ■



Rebecca Williams is a Consultant Clinical Psychologist and climbing instructor, she runs Smart Climbing, focusing on psychological performance coaching for climbers. Her next open workshop is in June 2016, and private coaching in person or via Skype is available throughout the year. She also runs workshops for instructors wishing to explore the psychological side of coaching climbers on demand.



AVALANCHE RESCUE

Patient care after the find

WORDS BY DR DAVID HILLEBRANDT PHOTOS BY STEVE LONG

Over the last couple of years I have been delivering three hour training sessions for skiers on avalanche rescue. These sessions started on our advanced CPD course for medical holders of the Diploma of Mountain Medicine but ski instructors and guides who have seen the scenario in action have started to ask for a session designed for non-doctors. Why?

Well, with the rapid improvement in the technology of avalanche transceivers victims are being recovered by their companions quicker than ever before. This coincides with advances in medicine especially in the care of hypothermic avalanche burial victims. Seamless care from the moment the victim is located to their arrival at an intensive care unit (ICU), where warming can be commenced using Extra Corporeal Membrane Oxygenation (ECMO) technology which is like a sophisticated but relatively simple heart lung bypass, is potentially lifesaving. In the European Alps in good weather it is not unusual for a helicopter to arrive with a fully trained mountain medicine doctor who can ventilate the patient on scene and commence heart massage by machine during the short transfer time to an ICU. What happens between finding the victim and handing over to expert care is becoming more and more important and patients with prolonged burial times and body temperatures in the low teens in centigrade are getting a good quality of long term survival.

As a professional mountaineer you are likely to be the first on the scene and, like it or not, this care is initially your responsibility.

I overheard one young ski instructor muttering “Oh God, not another avalanche course. I attend one every year.” At the end he said, “You know I had never thought what happens once I have demonstrated how to find the victim, too many people relax once they have located the transceiver bleep.”

Firstly we teach that the clock does not stop once the probe hits the victim. One old avalanche medicine cliché is that the best medical equipment to care for the airway of an avalanche victim is a shovel. The victim cannot get fresh air until their face and chest are free so a knowledge of the best shovelling techniques is essential. Dig in and up to the victim. Dig fast and furious since a life may depend on how quickly you can shift snow. There are excellent YouTube videos on how to shovel for maximum efficiency. Best with a back grip on the shovel, kneeling and working as a V-team if there are sufficient rescuers. The snow should literally flow away from the victim. Like giving CPR it is exhausting so don't be proud; swap positions regularly.

As you get close slow down and look for evidence of the vital glazed air pocket. Modern science has shown different patterns of survival based on the time of burial and the presence of a clear airway and an air pocket. Please, please, please record these times and facts and give the information to the rescue team. A knowledge of these facts can influence triage of the victims. In some cases it may mean leaving one victim to move on in the search for subsequent victims.

In terms of resuscitation the care of each victim depends on speed and method of evacuation to hospital, on duration of burial and on state of airway and possible air pocket. Obviously other traumatic injuries have to be taken into account. I feel every victim merits five initial mouth to mouth breaths, as with drowning victims, since any cardiac arrest is most likely to be primarily due to lack of oxygen or build-up of carbon dioxide. After 35 minutes burial hypothermia becomes a major complicating factor. It can kill but equally it can protect the vital organs



MAIN PHOTO Staff and students on avalanche training course at St. Gilgen, Austria.

PHOTO ABOVE Prioritise clearing the airway.

such as brain, heart, lungs, kidneys and liver. If full CPR is commenced it really should be done in a situation where it can be continued all the way to hospital, even if this may be an hour or more away.

This article is only food for thought. In many cases there are no right or wrong solutions but just some difficult and lonely choices. Every case is different but we should all be aware of the potential for survival of some avalanche victims. Formal medical teams can bring added information in terms of accurate body core temperature measurements, ECG heart recording and advanced life support at the scene. On arrival at hospital immediate measurement of serum potassium levels can help to determine those patients meriting ICU resuscitation.

Where can you get more information? The international Commission for Alpine Rescue's medical commission (ICAR Medcom) produced an excellent semi technical paper which was published in the journal *Resuscitation* in 2013 (vol 84, issue 5, pages 539-546). This is available free on the ICAR website and on the link below. This is the combined work of Herman Brugger a GP from the Tyrol with extensive rescue experience and also director of the European Mountain Medicine research unit in Bolzano, and other active mountain physicians and guides from Italy, Austria, the USA and Canada. For those wanting something a bit less technical Dr Catherine Mangham and Dr Declan Phelan published a layman's guide and flowchart in the 2014 yearbook of the Eagles Ski Club. Both are holders of the UK diploma of mountain medicine and active ski tourers and although currently in the member's area of the club website it is hoped it will soon be made available to non-members as a public service. After several years of work ICAR Medcom have also produced a flow chart for avalanche recovery to guide both the basic trained first aider and the more technical rescue teams with advanced life support skills. Initially this small chart looks complicated but remember that all you have to do is follow the white section designed to the first person reaching the victim. The red section is for the medical team but the whole card is designed to travel with the victim to hospital and gives the hospital staff the essential information. It is downloadable with an educational package and instructions for your guidance. ■

For paper on Avalanche resuscitation see

» [http://www.resuscitationjournal.com/article/S0300-9572\(15\)00124-0/pdf](http://www.resuscitationjournal.com/article/S0300-9572(15)00124-0/pdf)

For a copy of the resuscitation flow chart see

» <http://www.alpine-rescue.org/xCMS5/WebObjects/nexus5.woa/wa/icar?menuid=1066&crubricid=243&articleid=11284>



Dr David Hillebrandt has the grand title of honorary medical advisor to the BMG and he is also Chair of the UIAA's Medical Commission. He sees one part of his role as education of guides regarding health issues associated with the mountains and updates on developments in mountain medicine.

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Leading expeditions

Some guidelines...

WORDS AND PHOTOS BY MARTIN MORAN

Return from Nanda Kot, Kumaon Himalaya, Oct 1995: At 9pm I led our bedraggled porters into Khati village. Their loads were enormous. Our cook was dwarfed by the 30kg stack of pots, pans and stoves lashed to his back. They had walked over 30km. Exhausted from my climb I had managed barely more than half of their burdens and was wracked by guilt, not just for the staff but for abandoning the team at advance base and making a summit dash for my own gratification. The team were gathered round an open fire outside the rest house. They saw the dishevelled state of our caravan. David, blunt and pugnacious in temperament, rounded on me, "How could you treat them like that, letting them carry those loads for 12 hours?" Back in the UK our client feedback stung me further, "Leadership! What leadership?" scorned one member.

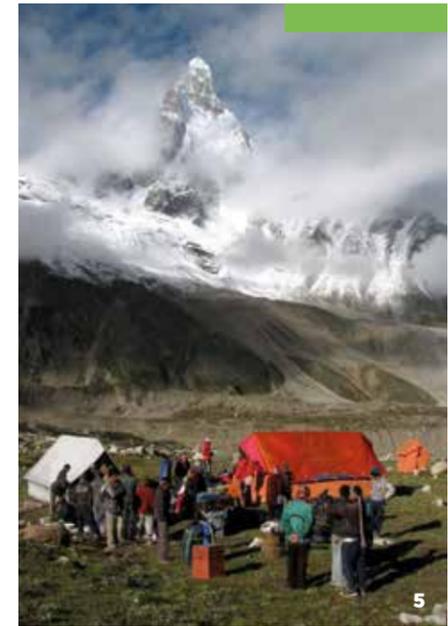
I could have rebuffed such criticism as whinging and griping, but somewhere I had lost the respect of my clients. "Why"? I asked

myself; and thinking back to the first night of the trek, I remembered deliberately parking my tent 20 metres away from the rest so as to get some quiet. That demonstration of detachment, which seemed innocuous at the time but which I repeated at base camp, had set in train a thread of antipathy which overflowed in the emotional climax of the trip. Small gestures can beget minor grumbles, which, if left untreated, can fester and then erupt. That trip, my third as leader in the Himalaya, I learnt my lesson...

Taking on leadership of expeditions beyond the secure confines of Europe brings a new sphere of responsibility, much enlarged from individual guiding and instruction. I have led 21 expeditions to the Indian Himalayas over the past 25 years and have always relished the challenge of harnessing ground logistics to the complex personal and social dynamics of a team. How does one achieve success

for the greatest number of participants without neglecting those who fail or turn back? Initially my learning curve was a little bumpy, but intuition developed with experience.

Above all else, every commercial expedition needs a 'boss'. Idle democracy doesn't work. There may be temptation for the designated leader to sit back in his or her tent, let the Sherpas do the work and allow events to unfold of their own accord, but team spirit can rapidly degenerate in the absence of proactive direction. Effective leadership requires a sense of responsibility and with that comes stress. It means lying awake at night before and during the trip, wrestling with endless permutations of schedules and strategies, taking bold, occasionally divisive decisions, making the hard yards, and engaging with each and every member throughout the journey.



MAIN PHOTO Inspiration and motivation – the leader's prime tasks (Kamet Glacier peaks). 1. Looking after staff and making sure the kitchen is clean and healthy. 2. Packing supplies at base camp – a great job to get the clients involved. 3. Resting at high camp – a chance to brief the team. 4. Base camp dinner – the social highlight of the day. 5. Packing up camp under Shivling – the leader needs to monitor and supervise operations.

All this begs the conclusion that most trip leaders are woefully underpaid by their employers. Individual guiding is a breeze by comparison, yet most expedition leaders, working in a hostile and capricious environment and charged with the welfare of up to a dozen members plus staff, could earn more running 'bog standard' instructing sessions in the familiar hills of home. Whatever the monetary payments the personal rewards of leadership are immense, and leadership experience gained in the field can lead on to great things, whether at the helm of the boardroom, classroom or in charge of an Everest base camp.

So I venture to offer some 'leadership commandments' to ensure happy, well-run and successful expeditions.

- 1 Prior planning and research:** The leader must make thorough research of objectives and strategic plans – so that all options and possibilities are assessed using the best available information. The leader should start the trip knowing more about the objectives than any of the members or other staff. This establishes authority and initial respect from the team.
- 2 Making an initial impression:** First impressions matter a lot. A pre-trip training weekend on home hills can allow the leader to meet and brief the team. With the trend towards later booking and the hectic lifestyles of most clients, it has become increasingly difficult to arrange a prior meet. In this event, a formal team welcome session is vital as soon as the team assembles in the destination country.

If the leader makes a positive enthusiastic introduction, typically at breakfast on the first morning, the team will be assured that there is professional competence and command of the tasks ahead.

- 3 Briefing the team:** Regular briefings are vital to inform the members and to get their feedback on progress. A daily briefing becomes a social event that helps bond the team and serves to sort out potential problems before they become serious issues.
- 4 Deploying resources:** Efficient and effective use of team and staff resources is essential to success. Deployment of a large team and staff can be a complex issue and requires prior thought and calculation. If team members and staff are left idle or under-valued in tasks they can quickly become discontented. Roles, tasks and responsibilities should be delegated, so that all feel involved. The leader must not become overburdened with tasks that could be delegated.
- 5 Attention to detail:** Expeditions can fail through neglect of an individual detail. The leader must be meticulous in directing the checking and packing of equipment and food. A malfunctioning stove or damaged tent zip can be crucial high on the mountain.
- 6 Planning ahead:** The team leader must always be at least one day ahead of the team in planning forward options and considering potential eventualities. A good leader will brief the team with a clear plan for the next day as soon as the current day's activities are finished.

- 7 Alternative plans:** The leader should have contingency plans in hand at all stages of a trip and a strategy for each individual member. The leader is continuously exploring or scouting for such options, and can draw on prior research. Plan B or Plan C should be implemented as soon as Plan A is no longer tenable.

Cheepaydang 1st ascent, Sept 2014: Dawn filtered into the tent through a solid veneer of hoar frost. While my companions snored I unzipped my door, squeezed into icy boots and shuffled out. The storm had cleared and the peaks were arrayed in a fresh sprinkling of snow. I shivered in thermals but for the first time I could see our objectives. I scanned every ridge and couloir, discounting each one as either too steep, too loose or objectively dangerous. Then, I spied a long diagonal couloir flanking the brute frontal face of our mountain and leading tantalisingly out of sight to re-emerge at the summit ridge. "Oh, you beauty," I murmured. "We've got our line". I crawled back indoors and fired up the stove. When the team awoke with the warming of the sun, they got a hot brew and an immediate call to arms.

- 8 Social sensibility:** The leader should be sufficiently involved in the social side of a trip to be aware of evolving social dynamics and to forestall negative attitudes or conflicts. The leader should display sensibility to the feelings of every member whether it is the quiet one who stays in their tent and doesn't engage and the loudmouth who is hiding inner fears.

- 9 Social detachment and respect:** The leader should avoid becoming over-familiar with members and should not be party to any lowering of moral tone in the team. A certain degree of detachment is essential to maintain respect. Sadly, there is still the occasional drift towards sexist banter and behaviour in all-male teams. Foul language should be met with zero tolerance. I still sometimes see Western teams treating local staff with disdain and condescension. The leader must clamp down on such social evils, leading by example, steering conversation, and quietly shaming the perpetrators without creating confrontation.
- 10 The limits of democracy:** Though round-table discussion and a canvas of opinion are to be encouraged, the leader has the ultimate authority on the trip. The leader should act to enable the interests of those members who are capable and prepared to tackle the objectives of a trip, even if they are in a minority in the group.
- 11 Crucial decisions:** The leader is ultimately 'the boss' and must make the crucial decisions without permitting unnecessary circular argument or repetitive discussion among members. No individual member should be allowed to dominate discussion or sway general opinion.
- 12 Selfless conduct:** A good leader shows a willingness to perform some mundane or unsavoury tasks on a trip. Leading by example is important to maintain respect.

Nun base camp, Sept 2013: Half-way through dinner, Brian sprinted from the mess tent. The toilet tent was 30 metres away through boulders. We heard a yell, then loud curses. He came back to report major damage to our sanitary facilities. He had pulled the pole into the cess pit and collapsed the tent. Next morning the destruction was there for all to see. The tent was torn and liberally smeared with filth. Neither Brian nor anyone else in the team showed the least inclination to go and sort out the mess. Perhaps they hoped one of our staff would do it! As the others lingered over breakfast I realised that someone had to set the example. Who better than the leader? I rolled up my sleeves, waded into the fray and within an hour the fouled tent was smouldering on a fire and a new pit had been dug.

- 13 Commitment:** A leader who dwells on reasons not to do things, who prevaricates and doubts, or turns away from commitment will not carry the day on a challenging objective. Remember the saying, "There is a tide in the affairs of men, which taken at the flood leads on to fortune." The best leaders make careful risk assessments and will explain the 'pros and cons' of alternative courses of action, but are prepared to act boldly at critical points in the trip.
- 14 Respect and safety of staff:** The leader should show consideration, friendship and respect to colleague guides and instructors and especially to support staff throughout the trip. The safety of staff is as important as that of the paying members. All too easily, overburdened or nervous porters can be left to the mercy of fate.

Nanda Devi East trek, Sept 2015: The Lwan nala was cut by innumerable side canyons. Each involved a perilous traverse in and then out of the re-entrant on baked gravel with terminal exposure. Two porters were lagging and I stayed in sight. One was drunk, the other was petrified of slipping in his floppy worn wellington boots. At the next gulch, the wellingtons guy froze completely. The drunk cajoled him and pulled at his arm to no avail. I intervened, helped him retreat, then probed another line, kicking out side steps with my stiffer shoes. He clamped his hand

like a vice on my elbow. Clearly, if he tumbled I would go too, together with his 25kg load. The prospect was decidedly messy, but what I'd do for a client I had to do for this local village lad. We edged across at the limit of his confidence, and he trusted me just enough to make the passage.

- 15 Winding up:** At the end of the trip the leader must stay alert to clear up loose ends, settle accounts, pack and list kit and ensure effective withdrawal. The scope for misunderstandings and upsets is at its greatest when a team is exhausted on the homeward journey. The leader must be sensitive to these dynamics, and should make formal acknowledgement of the role each member has played on a trip at a final meeting or celebration. The job of leader does not finish until the homeward flight takes off.

Gangsthang, Oct 2007: The climb was done and I had shepherded the weaker members down to the relative safety of Camp 1. However, my work was far from over. I pitched back into a complex social tangle. Four had made it, three had not. Frank was hurt that I'd commandeered his helmet for our high-altitude porter. David was morose and nursing a chest infection. Allan was frustrated at turning down his chance to summit and wanted a consolation route. I couldn't rest easy until each issue was resolved. Our most exhausted summitteer, John, pitched into base the next morning. He spent the next two and half days lying prostrate in his tent, unresponsive to every social or culinary invitation. I bestowed every care and attention upon him only to be met with monosyllabic grunts. I began to fear he was suffering some hidden illness or stress trauma. Or was he unhappy or angry at the way I'd marshalled him off the mountain? We walked out and bussed back to Delhi in total silence. His hollowed countenance bore all the cheer of the gallows. I was more than relieved to see him on to the homeward flight and off my charge. Then, as we picked up our bags in Heathrow airport, he turned to me, his eyes bearing into mine with a black intensity, shook my hand and said, "Martin, I want to thank you for everything you've done for me." In another instant he had turned away and was gone, but that gesture of appreciation gave me every bit as much satisfaction as the summit itself. ■



Martin Moran (BMG/IFMGA) has organised and led commercial trekking and mountaineering expeditions to the Indian Himalaya since 1992 through his company Moran Mountain. Many have been exploratory and pioneering ventures, with first ascents of many 6000m peaks and crossings of unknown passes. www.moran-mountain.co.uk

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SQUAD SCREENING #3 SPECIAL TESTS

WORDS AND PHOTOS BY DANNY BROWN

This is the last in this series looking at tools to help you screen your squad and it focusses on 'special tests' which are specific actions performed by the climber being tested or a trained practitioner to determine a specific outcome.

There are no half measures here or need for analysis if done correctly and the results can be recorded as:

- Pain – see a physio.
- Weak – specific training required.
- Normal.

In my screening clinics this is the most popular part of the course as it is interesting learning some specific skills but a word of caution. Deliberately causing pain is not a good idea especially to one of your squad kids; proper training is essential so to get round this problem I am only listing either very easy ones to perform or ones that the climber can do to themselves.

Before commencing any testing routine we need to establish the reason why we are doing it. If they are injured they should be going to see a physiotherapist. If they have unexplained pain, a doctor. As coaches we are looking for weakness and tightness. As a competition climber there will be very minor differences between the top rankings and every little modification to someone's training can be crucial. If you do not correctly establish these reasons then you are not fulfilling your primary role as a coach. Also, we need to keep our climbers safe – having a hypermobile 12-year-old girl swinging wildly through roofs might jeopardise not only their career but their health. We may also suspect that someone has an underlying weakness or imbalance that is affecting their climbing which is manifested in a variety of ways such as:

- Similar physique to another but vastly different ability in some areas.
- Sport induced deformity i.e. scapula winging, aping of the shoulders, very arched lower back.

- Gnarled hands (in a child – unusual).
- Sport induced imbalance – in climbers; little legs.
- Flared legs when dead hanging.

Your experience as a coach will really help here and spend some time reading around specific, climbing related problems. Dave McCleod's book, *Make or Break* is a good place to start or any good physiology book will give you more in-depth information. As well as this there are lots of online resources. If you don't know what you're looking for then you can't possibly know what you have found.

Test 1 Rotator cuff weakness and/or damage

You would try this test if the climber is complaining of an occasional niggle in their shoulder – or more often as not with kids you just may see them flex their shoulders after dead hanging but not complain of pain.

Have the climber sitting and they should hold an arm ahead of them and out to the side a bit with a slightly bent elbow as though holding a can of pop aloft (*Fig 1*). Fix their shoulder with one hand to stop them tipping towards you and gently press down on their forearm. Pain is positive for a rotator cuff problem. This is known as the Full Can Test.

If there is no pain have the climber turn their arm inwards as though 'emptying the can' then press down again (*Fig 2*). This is the Empty Can Test. Pain on both is definitely a problem requiring a physio, pain or weakness (compared to the other side) means you should consider keeping them off the steep stuff for a bit and do some free weights to rebalance their shoulders.

Test 2 Lats tightness

You might choose to do this test for someone who lurches from side to side as they cut loose



FIG 1 Full Can. Testing the rotator cuff.



FIG 2 Empty Can test.



FIG 3 Testing lats tightness. Just as easy to do on the floor.

and pull upwards or it is even worth doing speculatively as part of pre-season testing. It's easy to do and requires no handling. With kids it's easier to do this on the floor rather than the conventional against a wall method (which I have featured previously).

With the climber lying on their back and their hands relaxed onto their tummy, slide your hand, palm down under the small of their back. There should be a slight gap (varies depending on the size of the climber). Then ask them to put their hands above their head to rest on the floor 'above' them. Someone with tight lats may not be able to put their arms down easily and you might consider pressing gently down (*Fig 3*). If their lats are nice and loose then the gap in the small of their back should remain the same. Tight lats lift the pelvis and cause the gap to increase, sometimes considerably.

Tight lats will take a long time to resolve but encourage lots of stretching – remember, hanging from your lats does not stretch them.

Test 3 Hip Movement

The climber's position relative to the wall is crucial and we can all identify a climber whose bum sticks out. It might be a congenital issue with no real solution or it might be because your climber engages in another sport at school (they almost certainly

will do) such as rugby and football – and these are the two main culprits. Powerful, tight leg muscles are encouraged with these sports but are not much use to climbers.

With the climber on their back get them to cross an ankle across the other leg as in *Fig 4*. You will see that the knee sinks easily to the same level as the other knee. In *Fig 5* you will see a significantly higher knee – this test was not staged, Harrison, in *Fig 5* used to be a professional footballer and is still suffering.

Resolve this with a sustained programme of adductor stretching.

Test 4 Quad and hamstring tightness

Both easy to test – hamstrings by sliding the hands down the shins towards the toes and quads as in *Fig 6*. Hamstring strains are one of the commonest injuries in football but tends to be managed badly. If they're tight – stretch them *after training*.

Test 5 Core stability (or body tension)

A nice easy test but remember to watch carefully – the movement can be hard to spot. Have the patient lie supine and then, with knees bent at 90 degrees and feet on the floor push into the bridge position. Then (watch now) ask them to lift one leg off the ground (*Fig 7*). A positive test is any dipping of the hip – either side but normally they dip



Danny Brown BSc (Hons) MCSP AACP & MIA, is a Physiotherapist practicing in Bristol and a Mountaineering Instructor Award holder providing Mountain Training Coaching Scheme courses as well as Climbing Wall Award/Climbing Wall Leading Award/Single Pitch Award. He also delivers injury screening clinics and physiology courses for climbers.
www.dannybrownclimbing.com
T 0792 9834 693



FIG 4 Good Fabere's. Flat knee.



FIG 5 Fabere's test fail with a high knee.



FIG 6 Tight quads, the heel should reach the buttock.



FIG 7 Hip instability would mean a dropping of the lifted leg side.

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