Spot On
The Full Story on GPS

Head Game
The BMC helmet testing program

Kilimanjaro
Sleepwalking on the Roof of Africa

Safety on Mountains
Playing the game in winter

INTERNATIONAL MEET
HIGH PERFORMANCE
NEW WALKING GROUP LEADERS AWARDS
In a former life I worked for a summer as an outdoor pursuits instructor in the Peak District. Great days spent canoeing, caving, walking and climbing amongst the rivers, dales and moors of the Peak. Those strange and wonderful landscapes on top of Kinder and Bleaklow; navigating through mist and bogs. I remember on a particularly misty day meeting a wet but happy looking group heading south across Kinder Scout. We exchanged greetings and they said they were doing the Pennine Way. I congratulated them and said that they must be pleased to be almost finished. “Er, well no” they said “we only started today”. “Oh dear,” I said, “in which case you are walking in completely the wrong direction”. I guess even the best navigator is not always exactly certain where they are or how to get to where they want to go, and once you become disoriented in the mist it can be very difficult to work out where you are.

(always too much to do)

Organisations like the BMC also need to know where they are so that they can steer the right course. Unless you know what you actually have, then it is difficult to have a realistic view of the potential for what you might become. As a voluntary body with limited resources there is always too much to do, so tasks and objectives have to be prioritised. It is easy to say we want such and such to be better, but unless you have extra resources, to do more in one area means doing less somewhere else. Also, there is not just the question of what to aim for, but how to achieve it. It is possible to be more effective and efficient to work in mutually beneficial partnerships. You either can make do and work within an old unchanging system, or alternatively keep improving it to make the system really work as effectively as possible. Organisations should always be looking for improvements and better ways of carrying out their work, otherwise you can easily end up walking in the wrong direction in the mist en-route to join the dinosaurs.

(imagine how much could be achieved)

Since February the BMC has been running two parallel consultation exercises. Views have been gathered and discussed and a draft ‘Development Plan for 2002 – 2005’ and an ‘Organisational Structure discussion document’ have been drawn up. Both documents are available on the BMC web site and will be discussed at the next round of area meetings (see Arena page 36). Also, the membership survey in the previous issue of Summit has produced some extremely valuable information on members’ views that will feed into the Development Plan. A summary of results will appear in Summit 20, but one statistic that caught my attention is that over 50% of those who replied were willing to do voluntary work. Just imagine how much could be achieved if clubs, climbing walls, and BMC programmes could engage all that potential; now that is a challenge for the Development Plan.

Being a democratic representative forum, providing membership services and running development programmes gives the BMC three distinct aspects to its work and structure. Democratic representation needs a system of elections and accountability to members; membership services work needs a business enterprise approach to be as efficient as possible, and the specialist programmes all need a structure that enables experts to give the best advice and agreed action plans to be implemented in an effective way. Also, some of the BMC’s work (such as access and conservation) that is for wider public benefit could be better off by having a charitable dimension. So, a simple summary of how to improve the BMC might be: wherever possible keep bureaucracy to a minimum, increase accountability, a more effective business approach to services, and enable volunteers and staff to carry out work. Sounds easy, but is it?

One area where potential is set to increase in the next three years is sport. With the Government’s strategy in place ‘A Sporting Future for All’ the Department of Culture Media and Sport (DCMS) recently announced almost a doubling of funding for sport to £102m by 2003/4. In his Parliamentary address DCMS Secretary of State Chris Smith said that the aim of the increase was to widen access to sport. He said his top priorities were the provision of sport for young people, and support for elite sportsmen and women. The Government’s interest in adventure sport as part of this is already clear: this summer the Department for Education invested £1m in pilot schemes for outdoor activities for 16 year olds. So the years ahead seem set for a boom in youth sport including outdoor activities.

(make an input)

The publication and discussion about the draft 2002 – 2005 Development Plan and discussion paper on the Organisational Structure are important opportunities to discuss what the BMC will be aiming to achieve in the next 5 years, and how it will deliver its representative, service, and specialist functions. If you have an interest in the work the BMC does and how it does it, please look at the documents and make an input. As an individual or club member you are a stakeholder in the BMC, and as they say in the adverts, the value of your shares can go down as well as up.

Roger Payne
General Secretary
Welcome to issue 19 of Summit

SUMMIT

Summit is the membership magazine of the British Mountaineering Council. The BMC promotes the interests of climbers, hill walkers and mountaineers and the freedom to enjoy their activities. The primary work of the BMC is to:

Negotiate access improvements and promote cliff and mountain conservation.

Promote and advise on good practice, facilities, training and equipment.

Support events and specialist programmes including youth and excellence.

Provide services and information for members.

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EDITORIAL

Contributions for Summit should be sent to Andy Macnae at the above address or summit@thebmc.co.uk. Every care is taken of materials sent for publication, however these are submitted at the senders’ risk.

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RISK & RESPONSIBILITY

Readers of Summit are reminded that climbing, hill walking and mountaineering are activities with a danger of personal injury or death. Participants in these activities should be aware of and accept these risks and be responsible for their own actions and involvement. The BMC publishes a wide range of safety and good practice advice and provides training opportunities for members.

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Cover: Jamie Andrew on Ben Nevis. Jamie was raising funds for the Across Trust, which hopes to buy a Jumbulance, and the Red Cross for landmine victims. If you would like to support these good causes please send a cheque to Jamie Andrew, PO Box 28219, Edinburgh EH9 3WA. Photo credit: Reuters/Jeff Mitchell
**Helmets and abseiling**

Dear Summit,

I read the letter from Andy Cummings about the above in the last issue and would make the following observations:

Helmets - two of the certainties in climbing are that you are going to fall off at some point (either safely or more seriously), and that loose rock exists on most crags in some form. Add the two together and my conclusion is that it's macho idiocy not to wear a helmet (or just plain selfish if you have a family).

My experience of two accidents (cartwheeling down a slab at Baggy into the sea and decking it from 30ft in the Wye Valley) is that at the cost of damaged/smashed helmets, I avoided concussion or death. Quite why so many people seem embarrased to wear helmets I therefore cannot understand - it's not like they are being asked to wear pink frilly knickers publicly is it?

Abseiling and Prusiks - instead of going on about Prusik loops, I would suggest two simple solutions, one, do not use a figure of 8 (one mistake and you're dead) - use a taber or sticht (to get a slower descent), and secondly always carry a shunt. Whether single or double ropes a shunt clipped onto the rope(s) above your abseil device with a medium quick draw onto your belay loop is about as bombproof a safety device as you can get. I and a number of friends use it for all abseils and it provides the security needed, even when wet, in the dark or tired.

**Martyn Cattermole**

**SPA**

Dear Summit,

I am writing in reference to the SPA debate (Summit 16), and the discussion as to whether non-climbers can gain the experience, have the practical skills of climbing or assessment. When people come for assessment or assessment. When people come for assessment they must meet the requirements in experience, have the practical skills of climbing and supervision and awareness of crag use issues -otherwise they don't pass. By strictly applying the recognised standards at assessment we should be confident of each new SPA holder.

**Sergeant Slabs-Bold words**

Dear Summit,

Last Saturday I enjoyed a great day's climbing at Sergeant Crag, Slabs in Borrowdale. Some of your readers may be aware that this is a recently developed crag which is not in the current guidebook. The slabs lie on a steep hillside in Langstrath, protruding from an abundantly vegetated slope. It is difficult to descend without using an abseil chain placed around a (fairly) sound tree at the top of the crag.

In a few weeks’ time the new guidebook is due out, and I predict a huge increase in traffic on this superb crag which is covered in high quality routes in the very popular VS to E2 range.

That tree is going to get a lot more hammer and eventually it will become unsafe and may well come down. No doubt, with difficulty, an alternative route down can be found, but such is the nature of the hillside that with heavy use it would rapidly become eroded. The environmental consequences of this development will be quite serious. In the case of long-climbed popular crags the damage is already done, but in this case, with a little forethought, the climbing community could prevent the damage.

What I would like to suggest (bravely!) is that a permanent abseil station is set up using bee-oh-ell-tee-esses. Before I get howled down, I would like to point out that I am not a bolt activist, don’t like bolted climbing, and don’t want to see bolts for protection proliferating. I am quite happy to walk past routes which I am not brave enough to climb because there is no gear. This is not that issue. It is a question of minimising our impact on an as yet unspoilt crag. People are already abbing down the crag, so no change there. Would we prefer to deface a small piece of rock at the top of the crag, where only climbers will be able to see it, or are we prepared to accept the gradual, but ultimately severe devastation of the adjacent hillside, just to save our precious consciences about not allowing the bolt drill into our beloved mountains?

I would be very pleased to hear the views of anyone on this subject (e-mail address roger@greenerock.freeserve.co.uk) and in particular do any of the local activists have a view on this matter?

**Roger Wilkinson**

**LETTERS**

The Summit prize for best letter goes to Roger Wilkinson. Nice one Roger and a Nitro Rucksack is on the way to you.

Nitro has a 24 litre capacity and features a limpet compression system. It also includes a mesh helmet net. In 1998 the Nitro was awarded a Millennium Product Award for design and innovation.
Access Legislation Latest

In late June the House of Commons completed work on the Countryside Bill - which remains generally good news for climbers and walkers. Amendments tabled by opposition MPs supporting landowners’ interests could have reduced the proposed extent of access or introduced severe constraints, but these have been defeated by a substantial Government majority. The Bill is now with the House of Lords. Here, the politics are a lot less well defined. No party has an overall majority, and peers are less constrained to adopt their party’s line, making it difficult to predict what will happen next ...

The first big debate in the Lords retraced much of the ground explored in the Commons. The main areas of concern include a restriction on night access, dogs, more flexibility for landowners to close their land to the public, and criminal penalties for breach of restrictions. Through a series of 4 briefing sessions in the House of Lords, the BMC ‘Access Legislation Team’ (Iain McMorrin, Bill Renshaw and Susanna Perkins) promoted climbers’ and walkers’ interests - to audiences which were not always very sympathetic.

In the meantime, work by the countryside agencies on implementing the anticipated new laws continues apace. The Countryside Council for Wales (CCW) has set up a trial Local Access Forum for the Berwyn area, on which Dewi Evans (Wales Mountaineering Club) represents BMC interests. Through this Forum, CCW is testing its procedure for mapping open country and consulting the public on the accuracy of the maps. Similar pilot projects are expected to be set up in England during the autumn.

News and dates in brief

Shows
The Kendal Mountain Film Festival will run from 1-3 December and a cracking line up has been arranged. For full info see www.mountainfilm.co.uk.

The 5th annual Paul Nunn memorial lecture will be on 18 October at Sheffield Hallam University. Mick Fowler and Seb Grieve will be providing the entertainment. Tickets £6 from Rita Vyse, Vice Chancellors Office, Sheffield Hallam University, City Campus, Pond Street, Sheffield, S1 1WB.

Awards
The RGS has announced a new expedition award-the Neville Shulman Challenge Award -for challenging expeditions that will contribute to our exploration of the planet.

Mountain Hardware has launched a new award for climbing expeditions. The top award is £2500 worth of Mountain Hardware product. The first deadline for applications is 1 November. Forms from Mountain Hardware, 16a Mill Street, Oakham, Rutland, LE15 6EA.

Good causes
Paul Pritchard is to climb Mount Kenya’s Point Lenana. This will be Paul’s first climb since he sustained major head injury and he will be raising funds for the charity Headway. Check out www.paulpritchard.com or send CQ’s payable to Headway to 5 Goodman Street, Llanberis, LL55 4BH.

Mike Banks has again become the Oldest Man of Hoy with his recent ascent aged 77. Mike climbed with Emma Alsford to raise funds for Westcare UK, a charity helping people with ME. Any donations are being collected for local mountain rescue teams. Cheques should be made payable to B.C.Baker (with Matthew Bransby noted on the back) and sent to the funeral directors at B.C.Baker and Son, 15-17 High Street, Caterham, Surrey, CR3 5UE.

Any old iron?
The Mountain Heritage Trust, which readers will recall was set up to establish the British Exhibition of Mountaineering, is to establish a national register of heritage items.

A recent meeting of the advisory Mountain Heritage Forum, which includes experts from many bodies, identified this as a key task and suspected that many important artefacts may lie with individuals who are not aware of the items significance. Such items may include photographs, books or letters as well as clothing and hardware. The Mountain Heritage Trust will be applying to the Heritage Lottery for support and will also be looking to the climbing and mountaineering community for assistance. In the mean time the Trust is asking any individual or club that may have artefacts of heritage interest to write to the Trust describing the item(s) and their history.

Mountain Heritage Trust, 177-179 Burton Road, Manchester M20 2BB

GPS: Now spot on? - p34
Tread Lightly

Tread Lightly is the BMC’s new access and conservation publication. It describes environmental awareness and good practice and will hopefully help us all preserve the fragile upland environment. Available from the BMC Office at £2.50 (non members) or free on request to anyone who makes an Access Fund donation.

Membership Survey

Over 8100 surveys received to date so a fantastic response at 23% return rate. Many thanks to everyone who helped out. Results will appear in the next edition of Summit and will hopefully be apparent in improved BMC work and services.

Prize draw winners were (1st) Gary Walker of Bury Mountaineering Club and (2nd) Nicholas Byham of Peterborough Mountaineering Club. Five runners up received a copy of the new Safety on Mountains video and booklet.

CLUBS – Membership 2000

Judging from the feedback on M2K it has been a successful and worthwhile step forward for both the BMC and its club members. Over 90% of club members now receive Summit directly and for the first time the membership survey has been able to ask club members directly what they want from the BMC.

A further upshot of M2K is that a framework is now in place to enable those club members who are affiliated to more than one club to claim an annual refund from the BMC of £4.25 for multiple subscriptions. The BMC would like to thank those who have supported the access and other development programmes through their separate club memberships and hopes that many will continue to do so.

If you currently have multiple club memberships and would like to reclaim your additional membership subs please notify the BMC’s Membership Services Team in writing before 1st December 2000, stating to which clubs you are presently affiliated.

North Devon and Cornwall

The long-awaited successor to Iain Peters’s 1988 guide was published in early July this year by the Climbers’ Club. The new guide was written by Dave Hope and Brian Wilkinson and edited by John Willson. It has 368 pages, 42 maps and diagrams and a similar number of colour photos and illustrations. This makes it one of the most lavishly illustrated CC guidebooks ever published. The retail cost is £14.50. The next CC guidebook is the two-volume West Cornwall (covering Bosigran, Chair Ladder and the Lizard area) expected this autumn.

Recall on Peak Helmets

As Summit goes to press we have received the following from Wirral Trading Standards. The notification concerns Peak Handmade Helmets as pictured below.

Wirral and Warrington Trading Standards Authorities have grounds to suspect potential safety hazards with Peak branded Climbing Helmets. Following tests to British Standards, the “Hurricane” and “Cyclone” models have failed impact and strap retention tests. There may also be implications for users of Zephyr, Tempest, Storm and Tornado helmets that have been supplied.

Trading Standards are advising users to cease use of the helmets and contact the retailer or the manufacturer Richard Barnard on 01524 730418 or Wirral Trading Standards on 0151 666 5207.

Competition Route Setting Course

A course leading to the BMC Accredited Competition Route Setter qualification will be held in the late autumn or early winter. The course will be 3-4 days in duration and will include Health & Safety issues as well as the practical elements of competition route setting (i.e. candidates will set routes for a British Team Training session). Route setting experience and a suitable climbing standard (F7b+) are pre-requisites. Further details are available from Graeme Alderson, graeme@thebmc.co.uk

All about huts

The second Huts Seminar will be held at Plas y Brenin on Saturday 14th October 2000 at 3.30pm. The seminar will build on discussion held at the first seminar and in particular discuss hut-bookings, listings, management, policy, building regulations and community issues. Anyone involved with managing or planning a club hut is encouraged to attend.

The seminar, which includes a hot supper at 7.30pm, is free. For full details see the BMC website, for registration forms please contact Vanessa Hall at the BMC Office.

Helmet test results. Old Startech to be upgraded - p30
Harrison’s – Erosion Work gets Thumbs-up
The Sandstone Open Meeting in May debated the ground erosion work at Harrison’s Rocks in detail following criticism from a few local climbers. The recent work began three years ago on the back of strong local consensus that something had to be done about the expanses of bare sand below the most popular climbing areas. This criticism came as a timely reminder of the BMC’s commitment to local consultation. The recent work is based on a specialist report commissioned by the BMC focusing on improving drainage and controlling surface run-off, stabilizing the ground to encourage vegetation growth, redistributing foot traffic and drawing up a long-term management plan for the Rocks. After discussion, this year’s Open Meeting chaired by Bob Moulton reiterated its support for the approach being taken and the Harrison’s Rocks Management Group (HRMG) agreed to address some of the specific concerns expressed. Details of the work can be found on the car park notice board and copies of specialist reports are available from the BMC office. Please direct any comments on the work to Soft Rock or accessdt@thebmc.co.uk.

New Liverpool Bouldering Crag
A new sandstone bouldering crag has recently been developed at West Derby Cutting (N6R SJ 395 927) by Neil Davies and friends. This very accessible crag (an old railway cutting now a cycleway owned by Sustrans) has been partially cleaned but would benefit from more traffic. Sustrans has agreed that rhododendrons and saplings can be removed from the cliff top and the BMC Access Fund is supporting drainage work along the base. For a topo contact ND@hotmail.com.

Cow and Calf Quarry, Ilkley
As we go to press Bradford District Council has still not cleared up the debris at the base of Wellington Crack after the removal of several tonnes of rock from the top of the route Overhanging Blocks in June. The BMC has urged the Council to consult climbers about any future rock clearance plans so that damage to important climbs can be minimised.

Access Fund-Projects Update
Access and conservation work supported by the BMC Access Fund has gone ahead all over the country this past year. Path repair work has been undertaken at Shepherd’s Crag and at Earl Crag, Yorkshire and further work is planned at Scugdale and Trewarvas Head this autumn. At Castle Rock in the Lakes, a supply of stone for slope stabilisation has now been helicoptered into place prior to work beginning this winter. Resin rock repair work continues on southern sandstone with Mike Vetterlein putting in long hours to help preserve the routes at Stone Farm, Harrison’s and High Rocks. The Access Fund continues to support Llangattock management costs, the Stanage Forum and bus service, the Avon Gorge Wildlife Project and hopefully a further programme of rhododendron clearance on Lundy.

Cairngorm Funicular
In June, the ‘Visitor Management Plan’ for the Cairngorm Funicular was released for consultation, giving only a few weeks for campaigners to digest the massive document and respond. In the meantime, work on the railway has started. Concrete supports for the track are under construction and the old Ptarmigan Restaurant has been demolished. The threatened parking restrictions at Coire Case and elsewhere are not yet applied.

Heather Moorland on Increase
Figures recently released by the Moorland Association show that heather moorland habitat in Northern England is on the increase for the first time in 50 years. Between 1945 and 1985 nearly 200,000 acres were lost but since then over 160,000 acres of heather moorland have been created or improved by re-seeding, bracken control and reduced grazing. Over 60% of heather moorland is now designated as either SSSIs or Special Protection Areas (SPAs) and it provides a vital habitat for Grouse, Merlin, Shorteared Owl, Hen Harrier and many other rare species of ground nesting birds.
**ACCESS NEWS**

**TREES - AVON FLORA - CLEAN UP**

**Stanage Forum**

**Up and Running**

The first meeting of the Stanage Forum took place on 23 August in Hathersage and was well attended by recreation groups, conservation organisations, local residents, landowners and Peak Park officials. The next two Forum meetings are on 8 November and in late January at Hathersage Memorial Hall. Full details and a summary of the first meeting are available on www.peakdistrict.org or from Matthew Cronen on mc@peakdistrict.npa.gov.uk (Tel: 01629 816351).

**Eridge Rocks - New Access Agreement**

Following 3 years of successful operation of the access agreement at Eridge Rocks, Sussex Wildlife Trust has recently agreed to extend the agreement indefinitely. The same conditions apply and the Trust reserves the right to terminate the agreement if climbers damage ecological interests.

**Rainbow Bridge – Improved Access**

After several years of negotiation with the BMC, Berry Head Country Park has agreed that the seasonal restriction on the classic 800ft traverse ‘Rainbow Bridge’ can be lifted in the year if there are no nesting birds. This should allow access to the crag in April, May and June from now on – full details are on www.thebmc.co.uk and site notice boards.

**Craig y Longridge – Planning Threat**

Ribble Valley Borough Council has recently approved a planning permission renewal for the construction of around 30 holiday chalets in the field in front of Craig y Longridge. This permission has existed for the past 3 years but the landowner has been unable to find a buyer so far. The BMC has written to the Council stressing the importance of the crag for climbers and urging it to encourage any future developer to maintain access. There is no Public Right of Way to the crag and the Council is unable to specify continued access as a planning condition.

**Avon Gorge Wildlife Project**

The BMC Access Fund is continuing to support the Avon Gorge Wildlife Project this year and is contributing towards IRATA (rope access) training costs for two botanists. The project which was launched last autumn by David Bellamy has now developed a 5 year monitoring and survey programme for the Gorge including a survey of rare plant species. Most of the work is being carried out by Bristol climber and botanist Libby Houston, assisted by local rope access company Rolworks. Climbing in the Gorge is thought to have an overall positive effect on cliff flora as it keeps the main cliff faces clean and discourages the establishment of invasive vegetation.

**Anglezarke Cleaned-up**

North West Water staff and local climbers have been active at Anglezarke this year clearing trees and undertaking cliff top drainage work. In July a working party led by Les Ainsworth spent a day placing drains above the Golden Tower to reduce run-off from the crag. The BMC would like to thank North West Water for supporting this work which should help to improve the climbing environment at Anglezarke.

**Craig Buddon – Care Required**

Anyone visiting Craig Buddon should always descend the crag either by abseil or by walking through the woodland to the right (i.e. the reservoir side) of the crag. The slopes to the left are ecologically sensitive (Severn Trent Water is encouraging heather regeneration in this area) and should be avoided.

**Staden – Access OK**

The landowner has confirmed that he will allow continued access at Staden provided there are no further parking problems. The BMC has offered Access Fund support for fence repairs along the cliff top.

**Woodhouse Scar & Pex Hill – Tree Clearance**

Recent events at Woodhouse Scar, Halifax where climbers came under fire from the local authority for the removal of oak trees has highlighted an increasingly familiar problem - crags gradually becoming overgrown, shaded by trees and remaining green and lichenous year round. The BMC Access & Conservation Committee discussed the issue in July and concluded that pruning and tree clearance is acceptable when done in an environmentally sensitive, professional manner, in consultation with landowners. There are many examples of how this approach can work successfully at crags such as Pex Hill, Avon and Cheddar Gorge, Harrison’s Rocks, Tremadog and the Lancashire quarries. At Pex Hill in particular, extensive recent work by local climbers and North West Water staff has brought considerable improvements to the crag environment. Landowners such as National Park Authorities, the National Trust and Water Companies are normally very willing to discuss proposals for vegetation clearance and may also be able to supply experienced labour to do the work. Local climbing clubs will be working with Council forestry staff at Woodhouse Scar over the next few months to decide on a programme of vegetation clearance acceptable to climbers, ecologists and local residents. The police will be treating any further ad hoc tree cutting by climbers as criminal damage.

**Bosley Cloud – Rhododendrons**

The National Trust has agreed to a programme of rhododendron clearance around the Catstone to help improve access. The work which is subject to agreement by nearby residents will be undertaken by local climbers and volunteers.

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Many of us begin hillwalking in the pleasant warm summer months, but soon seek to move on and explore the changeable and challenging winter hills. This is hardly surprising as winter time in the hills is potentially very rewarding, but to make the most out of it, you will need to develop some new skills, and probably splash a little cash on new equipment.

This article provides some top tips for safe and comfortable travel in the winter hills. It is not intended to be comprehensive and so for a fuller overview of walkers skills and equipment see Safety on Mountains. (info at the end of this article)

First some definitions (from Safety on Mountains):

**Summer Conditions:** Anytime except when winter conditions prevail. Any experienced walker will be able to identify these conditions, but they don’t just occur during the summer months.

**Winter Conditions:** This is when the following conditions either exist or are forecast:—there is snow cover and/or the effective temperature is sub-zero, causing water to freeze.

It is very important for the walker to realise that this guiding principle should be applied to both the prevailing conditions and those forecast for the next 24 hours – illustrating the vital need to become familiar with good sources of weather information.

Remember winter conditions can prevail at any time of year.

Before discussing skills we need to consider the clothing and equipment required by the winter walker. In winter the combination of wind, rain, sleet or snow and often cloud can make conditions very testing, and the shorter days mean that the margin for error is much smaller than in the summer.

**Equipment**

Much of your summer equipment may be suitable to use in winter-time but you should be confident it will perform in more testing conditions. **Jacket and trousers** that fit well, allowing movement, but not being too baggy are crucial. Over trousers often work best if they are held up with braces and should not be too baggy below the knee as this could cause a trip if caught in crampons. Shell trousers with full-length zips will allow them to be changed rapidly and facilitate temperature regulation, as conditions change.

It is very important for the walker to realise that this guiding principle should be applied to both the prevailing conditions and those forecast for the next 24 hours – illustrating the vital need to become familiar with good sources of weather information.
In deep snow, gaiters are crucial for dry feet, and the retaining strap underneath the boot is invaluable. Gloves or mitts are another essential, but they must allow you to handle a map and compass and to hold an ice axe effectively. Wrist loops are useful so that the outer glove does not inadvertently get blown away while you are taking a compass bearing. Cold hands are bad news in winter, at best they take a long time to warm up again, often preceded by the dreaded hot aches; at worst they can become frost-bitten. Spare gloves or mitts are vital, and when buying them consider how well they will work when wet. Cheap woollen gloves, which are still warm when wet can be an inexpensive solution. Many walkers wear thin inner gloves, useful for doing fiddly jobs, beneath a warm windproof outer layer.

Other key items include a hat or balaclava, which will stay on your head in windy conditions. A neck snood or scarf will seal the gap at the neck and keep you warm and comfortable even in the worst conditions. Also important are - a head torch with a spare bulb and battery and spare warm clothing. It is also worth having a plastic bivvy bag, or a group shelter, for instant emergency shelter or, in less trying circumstances, somewhere out of the weather to have lunch.

When the sun comes out, dark glasses and sun cream are a must, however a good pair of goggles will see more use most winters. Oh and don’t forget a whistle and first aid kit, and a spare map just in case.

In the winter the body uses more energy to keep warm so carry plenty of high-energy food and something warm and rehydrating to drink.

**Boots**

Boots must be comfortable and ideally waterproof, and will often have a stiffer construction than those normally used in the summer. The stiffer boot allows you to kick into the snow effectively and makes movement easier. The rigidity of the boot is also a factor when considering use of crampons. Compatibility of boot and crampon is vital, so if possible get the boots first, and when buying crampons take your boots along.

**Crampons**

Crampons are an essential winter travel tool, and need to be correctly fitted to the boot as well as having an easy to use strap on or step in system. Get used to fitting your crampons with gloves or mitts on! The choice of crampons is vast, so do a little research and also decide how much winter walking you are going to do. Normally a 12 point articulating crampon will be the best bet, with a simple and effective attachment system. Both boot and crampon must be compatible. For more on Crampons see the **BMC Crampons booklet**.

**Ice Axe**

An ice axe is another key piece of equipment for safe travel in the winter hills, and a huge range exists. However a general-purpose axe 50-65cm long will do the job. As a rough guide, when held in hand, arm by your side the axe should touch the top of your boot, but personal preference is important. It needs to be comfortable in the hand and work for you. Generally long axes are more suitable for walking and shorter axes for climbing. An easily detachable wrist loop is also useful.

Many folks are now using ski poles to aid balance and help reduce knee problems. A pair of adjustable poles can be very useful and can help stability in windy conditions on broken terrain, reducing the likelihood of a slip. The key here is knowing when to put your poles away, and get your ice axe in your hand. The axe should be available without removing your sac, and is often best carried down the compression straps.

**Skills**

That’s enough about kit and remember - all the kit in the world is not much use without some basic skills and judgements to help decide when and how to use it. With less forgiving winter conditions route finding, conditions under foot, timing, good equipment and self-reliance all become fundamental.

**Planning the Day**

Aspiration, group fitness and experience and navigational skill, as well as weather and snow conditions, all need considering when planning a winter day. Route planning is especially important in winter and a flexible and adaptable approach to the day is crucial as conditions can change very rapidly. Sometimes it is necessary to change your route or retreat and there is nothing wrong with that. Things can get out of control much faster in the winter time so a greater margin of safety is always wise!

Start early, so you have some daylight in hand. The skills of route choice and planning take time to develop, and errors made in the pub, when it’s easy to be over ambitious, often result in an epic. So allow a realistic time - 4km per hour and 1min for 10 metres height gain is a good average to plan from. And remember you will normally be slower in deep snow or strong headwind.
Snow

In winter the hills can be transformed by a dusting of snow, however behind the beauty is a beast. Snow is a very complex structure and gives us winter walkers a great range of surfaces to negotiate, from deep soft snow to bullet hard ice. It also presents a potential for avalanches, and the danger of cornice collapse. Great care is required when choosing a route, particularly after a snowfall. Often ridges and slopes, which have been scoured of snow by the wind, are a safer option. Stay away from slopes in the lee of the wind where wind blown snow may give rise to avalanche conditions, and don’t be tempted to follow others blindly!

Weather

Weather forecasts are not infallible but in winter you cannot afford to ignore them. Watch what the weather is doing during the days before your trip. Look at wind direction and speed, and remember that snow is transported by wind and if it builds up on lee slopes it can result in wind slab and hence avalanche conditions. Wind is the big enemy; it can make movement difficult, especially on exposed ridges, and create blizzard conditions which are very challenging to navigate in accurately. Any fast changes to the weather can result in the snow pack becoming more hazardous. Walkers underestimating the effects of poor weather cause many incidents in the winter hills. So check the forecast, monitor what happens when out on the hill, and react accordingly. Always be prepared to change your plans.

First steps

For a first snowy experience try to find a low angle slope or a snowy bowl with a safe run out area. This sort of terrain allows skills to be developed in a non-threatening environment. Unfortunately statistics show that every year the most common cause of accidents in winter is the simple trip or slip. This can result in a slide and impact into rocks unless the axe is used quickly and effectively. A golden rule in the winter is to watch to the next step, and stay on your feet.

Movement on snow

Positive foot placements are the key to safe effective winter travel. Using the edge of the boot to kick / saw a horizontal platform allows efficient movement. These skills of movement both in ascent and descent must be practised and work effectively before moving on to more difficult terrain. This movement needs to be coordinated with the use of the ice axe to give a stable base from which to build further skills.

When ascending snow often a zigzag route, linking patches of soft snow or areas of easier angle, will prove best. Generally try and move methodically and rhythmically at a comfortable pace, and avoid taking long strenuous steps, which will break the rhythm and unbalance you.

Using crampons

“When do I put on my crampons?” is a question often asked. Well the simple answer is before they are needed and preferably in a place of safety and comfort. The effective use of crampons for winter travel needs to be practised in a safe non-threatening environment. This will enable you to consolidate the basic skills of movement, up down and across slope.

It’s important that you control the crampon and take positive considered steps. The ability to move over a great variety of terrain in crampons is very useful, so get experience of using them on hard and soft snow, ice, rock and grass. Allow time to develop these skills and become aware of problems and limitations.
Using the Ice Axe

The axe should be carried in the up hill hand, with the pick pointing backwards. This allows it to be used for support and is also the best position should it be needed as an emergency brake. It is very important that you have the axe in your hand before you need it. Again a safe area of snow should be found to practise axe use and self-arrest. Self arrest is what will stop a slide in the event of a slip and is a vital skill, which could save your life. It should be practised in an area with a safe runout until it becomes an automatic response. This is a difficult skill to master without some coaching, so it’s worth seeking out someone who has experience to teach you this and other basic skills. These skills then need to be practised frequently and refreshed at the start of every winter.

Where are we?

The ability to navigate effectively in poor visibility is important, and the place to start developing the necessary skills is not in a blizzard when geographically embarrassed. Navigating in winter is much more difficult and demanding than in summer and the consequences of an error far more serious, so honing navigational skills in good conditions is sensible. Make sure you have a laminated map folded small for easy handling, and if possible attach your compass to your jacket. Learn and practise walking on a bearing, pacing and timing, and develop your ability to interpret contours and slope aspect. Just as in the summer there are strategies to help find your way, however such cunning plans are not always obvious so time on the hill with more experienced folks can be very useful.

Conclusion

The winter environment can be very beautiful but it is also unforgiving if not given the respect it deserves. Preparation, planning and good equipment are important, but they are nothing without skills, judgement and experience. Safe movement and navigation are intertwined and rely on practice and judgement. These skills take time to learn, and you may get damp and cold learning them, but hey that’s winter in the hills! Try and learn the basics from someone who has plenty of experience. Check out a skills course with qualified instructors to practise these skills in a safe and structured way. This could be a great start to a whole new adventure. Don’t dream, Do it.

Winter checklist.

- Wear winter boots
- Carry axe and crampons and know how to use them
- Carry sufficient equipment to be self reliant eg torch, spare gloves, extra food, etc.
- Know how to navigate and leave details of your route with a responsible person
- Carry your axe in your hand, it’s no good on your rucsac!
- Remember — equipment is no substitute for practice and good judgement.
- Be realistic about your experience and set objectives accordingly.

Further information.

Snow and avalanche info: www.sais.gov.uk or tel/fax 0800 0960 007
Weather: www.met-office.gov.uk or tel 08700 750 075 fax 08700 750 076.
Training: Plas y Brenin www.pzb.co.uk, tel 01690 720 214 fax 01690 720 394

For a full and entertaining overview of Hill Walking Skills and Equipment get hold of a copy of the Safety on Mountains Video and Booklet. This is available direct from the BMC Office at £12.50 (£15.00 non members). The booklet is available alone at £2.50 (£4.00 non members).
Slippery Customer

Not so long ago, in May, the Equipment Investigation Panel (EIP) received a call from a retailer expressing concern about an imported harness recently taken into stock. This concern centred around the buckle and its potential to allow slippage in certain situations*. Now most harness buckles can be made to slip a little, even when properly threaded, and the EIP has investigated several such reports in the past. In some cases there has been no cause for concern but in others poor buckle design has allowed slippage with worrying ease and the EIP has worked with the manufacturer on a redesign.

In this case the harness, an Ocun Zeeper, was examined by the panel. The slippage was the worst yet seen. In these cases there are two ways things can go. The manufacturer can go into denial and things become very difficult or they can hold their hand up and say ‘Ok let’s sort this out’. The EIP is pleased to report that in this instance the manufacturers, Ocun, reacted in an extremely positive and constructive fashion. A week after the incident was first reported to them a new design was sent for inspection by the EIP. Unfortunately the Panel was able to demonstrate that the problem had not been solved but once again Ocun took this in a positive fashion and a week later came back with a further improvement that properly addressed the issue.

So full marks to Ocun and hopefully their redesigned harnesses will be on the shelves soon.

*This slippage occurs in two situations. In both cases the buckle is properly threaded:-

Catching: The buckle is angled back and the system loaded. With sufficient force and angle most buckles will slip to a certain extent. Concern is raised when this slippage occurs quickly and under a relatively low load.

Repetitive loading: With repeated loading and unloading a poorly designed buckle will slip gradually. This can be checked for crudely by hand where about 50 ‘tugging’ cycles will be enough to show any potential movement. Anyone using a harness where such repetitive loading will take place over a long period (e.g. jumaring) should make regular buckle checks.

Gripper

In June the EIP received a report of a worrying incident involving a GriGri which, although not yet fully investigated, once again highlights the importance of careful and knowledgeable use of this innovative but complex item of equipment.

In this case, which occurred at an indoor wall, both the climber and belayer were very experienced and familiar with the device. The climber fell near the top of the route but because the bolt was above his waist and the belayer had taken in any slack, the loading on the rope was gradual. Without speculating on the reasons at this point, the GriGri did not lock and the falling climber gradually accelerated and hit the ground at speed. The climber sustained multiple injuries from which he is still recovering. The belayer burnt her hand as she tried to arrest the fall. The EIP is taking this incident very seriously and is planning a series of tests to ascertain what may have gone wrong. A full report will appear at a later date.

On a more general note - the EIP has over the years looked into a number of belaying incidents involving GriGri’s and whilst these often result from some form of misuse it is clear that many users are not familiar with the device and how it works, and therefore how it might fail. It is likely that climbers also over estimate the protection the device can give. Petzl acknowledge this in their catalogue. As long ago as 1995 they were saying “The problem with making a product that tries to make climbing less risky is that climbers act like there is no risk. Don’t make that mistake. The GriGri is not a substitute for skilled, vigilant belaying”. In order to increase understanding and awareness the Technical Committee is planning to work with Petzl and other companies on a special article on the GriGri and other locking type devices. This article will appear in a later edition of Summit.
Sunday was a rare day. The hangover was familiar enough, but there were a number of other factors which just didn’t seem to fit. It was a warm and sunny day, not a cloud in the sky. This in itself was remarkable for a weekend in the Welsh mountains, but given that it was something like the tenth consecutive day of perfect weather, this was not the most surprising factor. What really shocked me was that I had absolutely no desire to go climbing. As outrageous as it may seem, the very thought of pulling down on holds just drained my body of its last remnants of energy. I was drained to the point where just maintaining a grip on the steering wheel of my car as it chugged back towards Leeds was touch and go.

The reason for this seemingly inexcusable lack of enthusiasm was that I was at the end of four weeks of climbing and mountaineering around Britain, the last week as a host on the B.M.C’s latest International meet. When the information about the meet and my role as a host landed on the door mat, I panicked. The list of co-host’s read something like a who’s who of contemporary British climbing, with my name conspicuous only by the lack of background or performance. As I ran my finger down the list of names including Ian Vickers, Patch Hammond and Nic Sellers along with several other seasoned performers, the first thought that sprang to mind was “But I only lead about Hard VS.” Fortunately my fears were unfounded and, as the week went on, I met more and more people who had had similar thoughts to me upon reading the hosts list.

As I arrived at the Brenin, I felt a little bit nervous. I had after all blagged my way onto this meet. I met Andy MacNae at the door and he instantly made me feel at home. The first evening in the bar was however a little reminiscent of freshers week at University. There was the odd clique of people who knew each other and then there was a mass collective of strangers. This did seem to provide an excuse to talk to anybody without fear of embarrassment and from all around the bar you could hear the same questions being asked time and time again. Where are you from? Have you been to Britain before? What is the climbing like in your country? The room also appeared to be bursting with enthusiasm and a keenness to make new friends; and inevitably conversations moved on. I very quickly found myself out of my depth in a conversation regarding English Literature with a girl from Latvia, wishing I had paid more attention at school when teacher had seen fit to brush the cobwebs off Shakespeare.

I have already alluded to the quality of the weather, but this was only the tip of the iceberg. The company, the accommodation, the food and the entertainment was also top notch. A standard day (if such a thing exists on any climbing trip) would start at around 7.45 with a super hot and powerful shower followed by the works for breakfast. At around 9.30 we would depart for the climbing venue with our partner for the day in tow, to return at around 7.00 p.m. in time for another shower and a quick brew before tea. The evening’s entertainment would kick off around 8.30 with a variety of slide shows and then the drinking and other selected extra-curricular activities would continue into the wee small hours. Only to be repeated next day.

As most of you will know, the climbing in North Wales is absolutely superb, with a diversity that is almost second to none. It was this quality that the guests had come for and that the hosts were keen to show off. Each day we would climb with a different guest, either assigned to us by Alex Messenger (the increasingly haggard meet organiser) or pre-arranged in the bar the night before. With Plas y Brenin buses departing to the four corners of the National Park, everybody seemed to be on a rollercoaster ride of the best Wales could offer. Positron, Capital Punishment, Right Wall, Left Wall, The Boldest, The Axe, Great Wall, Fingerlicker,
Away with new ideas or opinions. was a lot of shared information and experiences and people went out for a rest. As far as I could tell from those who attended, the weather was going to hold, the more fragile amongst us were crying the end of the week when it became apparent that, although the seminar justice. Unsurprisingly its numbers swelled towards plan in the event of bad weather, which unfortunately does not do in conjunction with the international meet, was everybody’s backup.

A High Performance Seminar, organised by the B.M.C. and run in A Dream Of White Horses for the first time shared with Lim Kim Boon, a Singaporean climber. Introducing Gavin, a guide from South Africa to the absorbing and technical nature of climbing at Tremadog. The majesty of Cloggy, which never fails to impress and perhaps most satisfying of all, the whoops of joy that drifted down to me at the belay of Plexus from Peter, a young Danish climber, upon successfully completing the most runout pitch of his life. Having experienced this, as I am sure most of us have, I knew just how great he felt at that point in time. Invitations, verging on insistence, to visit the guests’ respective home countries, so that they may return the compliment of hosting, rolled in on a daily basis. The urge to take them up on their offers was fuelled by the series of inspirational and amusing slide shows that we had each evening. From the raw beauty of the Karakoram to the lunacy of desert sandstone offwidths, ice climbing in South Africa to the Romanian answer to Ben and Jerry (not of the ice cream fame). The only downside being that all of this further emphasised the notion of “Too much climbing to do and not enough time or money to do it”. Although, as Andy Perkins pointed out, trying is money to do it”. Although, as Andy Perkins pointed out, trying is

My own achievements were a little more modest, but none the less still contained some great climbing and some wonderful shared moments with my new friends. The drama and sheer atmosphere of A Dream Of White Horses to the absorbing and technical nature of climbing at Tremadog. The majesty of Cloggy, which never fails to impress and perhaps most satisfying of all, the whoops of joy that drifted down to me at the belay of Plexus from Peter, a young Danish climber, upon successfully completing the most runout pitch of his life. Having experienced this, as I am sure most of us have, I knew just how great he felt at that point in time. Invitations, verging on insistence, to visit the guests’ respective home countries, so that they may return the compliment of hosting, rolled in on a daily basis. The urge to take them up on their offers was fuelled by the series of inspirational and amusing slide shows that we had each evening. From the raw beauty of the Karakoram to the lunacy of desert sandstone offwidths, ice climbing in South Africa to the Romanian answer to Ben and Jerry (not of the ice cream fame). The only downside being that all of this further emphasised the notion of “Too much climbing to do and not enough time or money to do it”. Although, as Andy Perkins pointed out, trying is

True to form, climbing didn’t even enter the equation on Sunday morning. Having briefly entertained the idea of some, I came to my senses, said my goodbyes and departed. Driving down the Ogwen valley towards the coast, underneath another perfect blue sky and singing along to the radio, I at last had chance to catch my breath and reflect on what had been a brilliant week. To my mind, when I really thought about it, what had made the week so special was the coming together of a variety of essential ingredients at the right time and in the right place. For a brief seven days, nothing else mattered except to go climbing and to have a great time. It is true that we were aided by the exceptional weather, but I firmly believe that the weather had been dump all week, while the grades may have taken a battering, the enthusiasm, the spirit and the energy levels would all have remained in top gear. A few days later, I bumped into one of the other hosts while bouldering at Almscliff, and she asked me what my best climb of the week had been. While I felt obliged to satisfy her with an answer, and did so, in my mind it was an impossible question. Every moment, with the possible exception of the blarey eyed struggle to find and operate the shower or the almost robot like automation of breakfast, was worth savouring and will stay with me for a long time.

From tea-tray bound descents of the Brenin Ski-slope to techno fuelled parties in Deniolen where one enormous speaker reduced by half the volume of the dance floor, every social desire was catered for. The intensity of the partying was in a state of constant flux, but without doubt reached its zenith on the last night. The party began with an exquisite buffet, courtesy of the Brenin catering staff, the likes of which is normally reserved for fairytales. Meanwhile, the U.I.A.A. Council members, who had joined us on Thursday for the annual meeting, were enjoying an even more sumptuous spread in the dining room. After a somewhat slow and faltering start, which is the norm at events such as these, the disco got into full swing. It was nice to see that (without naming names, more for my own protection, rather than for those involved) rock and alpine gods, who glide effortlessly up the most uncompromising ground, are brought down to earth with a bump on the dance floor, blessed as they are, along with the rest of us with two left feet. The party rolled on towards a distant but inevitable conclusion, with banter about the preceding weeks activities taking on more and more disproportionate grandeur the more it was repeated. The debris of the UIAA cheese course kept us going awhile but as the sun rose even the fromage fuelled few disbanded and the festivities ground to a halt.

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What makes the difference?

by Anne Arran

This year’s BMC Inter national Meet went one step further in hosting the first International High Performance Climbing Seminar. Top mountaineers, ice climbers, rock climbers, sports science experts and team coaches met at Plas y Brenin to share their knowledge in an attempt to find out “what makes the difference” on the crag and in the mountains.

The first two days of the seminar focused on mental and physical training. This included practical workshops, for instance on video analysis, and research presentations.

Dave Binney described his research into the fatigue in the forearm and his 3D analysis of climbing movement.

Guido Kostemeyer discussed his study of those climbers who had a minimum redpoint level of 8a. He found that to increase onsight level, power endurance should be trained at sub maximal intensity on longer routes, 8 times with a short rest period of 1-2 mins between routes, climbing with a slow rhythm and attempting recovery between moves. This is an alternative to attempting something close to your max, getting completely pumped and having 5-15 mins rest.

Antoine Pecher, who is involved with the French Competition Climbing Team, gave an excellent example of how it is important to cater for the individual. He felt that there is nothing physically special about the French climbers but that they were very well motivated and are encouraged to set their own goals. They also have their own training methods, partners or coaches and those who are successful are allowed to be individuals outside the system.

Marius Morstad presented “The Soul of a Sport”. He explained how the BMC could train an unrivalled world champion 10 years from now by selecting a big group of 7-12 year olds with appropriate motor skills and body shape. If such a group is driven hard, he believes the weaker ones will quit, and a world champion will arise.

Stojan Burnik, a Slovenian psychologist, highlighted the difference between climbing and conventional sports with his study of the highly successful Slovenian Alpinists. Alpinism is an activity where a mistake may be fatal. Alpinists were found to be more extrovert and sociable (i.e. they drink more beer!), less anxious when the going gets tough, inherently stubborn and determined. Most expressed less interest in training and focused more on recreational climbing.

In the evening inspirational slide shows by Neil Gresham and Tim Emmet described exciting developments around the fringes of British climbing and Stevie Haston took us through his climbing and snowboarding exploits.

Day three concentrated on health and physiology. Talks ranged from Jim Milledges on the cardio-respiratory response to high altitude; to nutrition with Nigel Mitchell and Jo Farrington; injury prevention with Gordon Turner; and psychology of performance with Tony Westbury.

Andy Perkins presented “Methods of Attack” and took us through his own progression in climbing from the age of six. He gave good practical examples showing the ways to amass experience and skill for mountaineering objectives. He focused on a detailed analysis of tactics, speaking on the importance of having an intense experience and balance. His breaking down of a planned objective from a photograph to create a sketch topo was one of a few invaluable tips to enhance the chance of success and shows clearly that there are many aspects apart from training that affect an expeditions outcome.

Day four looked at talent identification. We heard of the successful programmes in Slovenian junior schools. Also of interest was the Spanish system of selecting and training a small elite group of alpinists who will receive extra training and grants. Selection considers their individual skills in rock climbing, expedition planning, ski mountaineering, ice climbing, big wall climbing, self rescue and security techniques. Self motivation is also taken into account. Discussion showed that in Britain a less elitist attitude is preferred and we should consider giving opportunities to a broader range of young alpinists. Many of our top current practitioners are building up their skills in a calculated and well planned way with trips to Yosemite, for big wall climbing, consolidation of ice mixed climbing on Scottish winter climbs, Alpine winter trips, and sports climbing in the South of France.

The final day of the seminar saw a series of practical workshops, which covered both rock and ice technique.

So where does the future lie? Many seminar participants were interested in being involved in special events to focus on specific topics identified during the week. Youth, talent identification and injury prevention were thought of as hot topics that needed more discussion.

Seminar proceedings are available from the BMC office. Many thanks to Dave Binney and other members of the High Performance Steering Group who were involved in the week’s programme, and to Plas y Brenin for being superb hosts.
Knight moves

The battle for 24 hour access

Susanna Perkins reports on the developing saga of night access to open country, as BMC fights landowners’ call for a night-time curfew on open country.

“Oh no! not another article on the access legislation” you may cry! Summit 18 summarised the twists and turns of the access legislation campaign. But, as the Countryside and Rights of Way Bill (arguably the most important piece of legislation to affect mountaineering in England and Wales since the conception of the BMC) battles its way through Parliament, there is one issue of overwhelming importance for the BMC – to stop landowners’ demands for a night-time curfew on open country.

Author’s note: Following recent articles in Summit and High, a BMC member wrote to express concern that the BMC was becoming party political. This is not intentional. Access to open country is a highly political issue, and the following comments are reported impartially.

The question of whether the public should have a right of access to open country (mountain, moor, heath, down and registered common land) between sunset and sunrise was first raised in the House of Commons in March, and it was immediately clear that the BMC had some work to do to highlight the importance of 24-hour access for recreation. And, like a good curry, it keeps coming back to haunt us. In subsequent debates, opposition MPs have tabled amendments to limit access to “the period from one hour before sunrise to one hour after sunset”. These amendments were driven to a vote in the Commons – defeated by a clear Government majority - but this issue lives on in the House of Lords. Recent discussions with peers indicate that many are opposed or ambivalent on the question of night access.

Organisations representing landowners’ interests have argued strongly that unrestricted night access would cause insurmountable problems for land managers. Recreational organisations, led by the BMC, have made the case that a night-time curfew would place unworkable constraints on walkers and climbers. What are the competing concerns, and how can conflict be overcome?

The case for a curfew

(put forward by landowners’ representative bodies)

Important land management operations are undertaken at night - ‘lamping’ (vermin control using spotlights and high velocity rifles), for example. The uncertainty of whether members of the public are present on the land would make this extremely difficult to undertake safely. There are many other man-made and natural hazards on open country which could have severe safety implications for inexperienced users. Should the Government encourage people out onto open country after dark?

Rural crime is on the increase. With a right of access at night it would be more difficult for game keepers to challenge people on their land who they suspect of having intent to poach game or burgle remote dwellings. Peers have described unrestricted night access as “a charter for criminals”.

The management problems associated with granting night-access are great compared with the demand for it. Only a very small minority of the public seeks night access. Many that do are participants in group organised events, for which permission would need to be sought. Thus, is it not reasonable that all people who wish to use access land after dark should give prior notification to the landowner? Any case, people tend to stick to public rights of way after dusk, and therefore the right to area wide access is not necessary.

The case for 24-hour access

Access to open country at night is already freely available in many areas and along all public rights of way. For example, National Park Authorities and the National Trust manage vast tracts of open country and do not support a ban on night-time access. There is no evidence that night-time access will increase rural crime – a criminal is unlikely to heed a ban on night access when already breaking the law. Having other members of the public present on the land may actually deter crime.

Twenty-four hour access is essential for many recreational activities. Some remote objectives cannot be reached by daylight, especially in winter, and many long-distance walks begin before dawn and end after dusk. Journey times are often difficult to predict, and for climbers and walkers to have to seek permission from a landowner at short notice could often be impossible. Not every climber and walker carries a mobile ‘phone and, even if they do, how would they know who to ring?

Essential training to enable mountain leaders, and individuals, to navigate in conditions of poor visibility (fog, snow etc) is undertaken at night, including over half of the training of mountain rescue organisations. Safety advice recommends that, in the event of becoming benighted or in severe weather conditions, people should have the option of erecting a bivouac and awaiting
dawn. If night-time access was restricted, would climbers and walkers feel compelled to try to complete their journey, contrary to safety guidelines?

If you were a peer and had to vote on this in October, what would you recommend?

BMC - living in the dark ages?

The BMC’s view is that to require the public to vacate open country at a specified ‘closing time’ would demolish the principle of ‘freedom’ of responsible access, which the Bill seeks to introduce. The BMC sees no justification for a curfew on open country. Unrestricted 24-hour access should be the default position and, where problems of rural crime exist, access could be restricted to daylight hours in specific areas if the situation meets stringent criteria. Provisions to close the land to undertake management (which could include vermin control) are already contained within the Bill.

The BMC and Ramblers Association have written to all MPs and most peers, expressing the importance of night access. This letter has been supported by 23 other recreational and educational organisations, including the Mountain Leader Training Boards, Caving Association, Fell Runners, Backpackers, YHA, outdoor education bodies, Guides, Scouts and many more. The National Trust, National Park Authorities, RSPB and other conservation organisations are also supportive.

During debate, a significant number of opposition MPs and peers referred to a statement by the Association of Chief Police Officers (ACPO), that it “would support a change in the Bill to restrict access to daylight hours”. This was one of the opposition’s principal arguments for seeking a ban on night access. BMC was interested to see a copy of ACPO’s briefing on this and made some enquiries. These revealed that ACPO has never undertaken research into this issue, nor has ACPO made any official statement to this effect. DETR officials were, not surprisingly, interested in our discovery …

Parliament went into recess at the end of July with the issue unresolved. Peers are due to return in late September to debate it further. Night access is not the only bone of contention remaining in the Countryside Bill; there are several key issues, and hundreds of amendments, which may so prolong debate that the Bill runs out of parliamentary time (see the News pages and below)

STOP PRESS

Football hooligans kick new access laws offside

Work on the Countryside Bill has been delayed until after the summer recess due to the Government giving priority to debate on the Football Hooligan Bill and Section 28. BMC is not impressed! This long-awaited and hugely popular Bill now looks in danger of running out of parliamentary time, and we must keep pressure on the Government to stick by their promise to ensure it becomes law.

You can help

Please write to your MP at the House of Commons, London SW1A 0AA, expressing the massive support for this Bill and asking him to forward your letter to the Prime Minister. The text of a possible letter is on the BMC website at www.thebmc.co.uk. We’re so close to getting our right to climb and walk on open country. Please help get the Bill through this final hurdle.

The good, the bad and the ugly

The BMC has made a strong case for night access to MPs, Ministers and peers, and Environment Minister Michael Meacher reiterated our arguments in his defence of night access to the House of Commons. However, not all his fellow MPs agreed.

Some of the worst howlers in the Commons included:

“I accept that some ascents are more difficult than others and that some might take more than a day. However, even if there are such mountains, I am not certain that it is the Government’s duty to encourage people to climb them. The activities involved are extremely specialist and dangerous operations; only professional mountaineers would undertake such climbs and go bivouacking up mountains. Such people currently have their own ways of achieving access to mountains and they form a group of only half a dozen or a dozen individuals in the United Kingdom.”

James Gray MP, Wiltshire North

“Public parks are closed at night. … Why do [the Government] believe that what is right in towns is not right in the countryside?”

Damien Green MP, Ashford

“Although one or two fanatics may enjoy stumbling around in the dark on moorland, it is hard to imagine such people”

James Gray MP, Wiltshire North

And peers:

“I cannot understand how consideration could be given to allowing access to [the countryside] at night. It is absolutely crazy. It encourages felons and it is frightening for those who live in lonely cottages. I remember when I was in Malaya ….”

Earl Ferrers

“The countryside is full of hazards. It should be respected, not taken for granted and thought of as a recreational outlet for those living in the towns.”

Baroness Masham of Ilton

“Death … is an all too familiar end for those who wander off the beaten track even by day, let alone at night. The risk of fires, criminal activity and vandalism is obviously much greater at night. We have no wish … to see an increase in drug parties on the hills.”

Lord Roberts of Conwy

My prize for the worst quote goes to this one, in a debate concerning off-road drivers on open country:

“How do walkers get to [open country] if they do not go by 4x4 vehicles?”

Ann McIntosh MP, Vale of York

DETR Minister replies: “Most of the walkers that I know do not own such vehicles. The ones that I know who do own one tend to go no further than the Asda car park.”

Chris Mullin MP, Sunderland South

There were many very supportive statements from MPs and peers. Some of the more promising ones included:

“Rock climbers are a responsible bunch of people – they have to be because they are very aware of their own safety – and have a great respect for wildlife and the environment.”

Eileen Gordon MP, Romford

“Mountaineers, climbers … respect the countryside and, by and large, they want to use it in a positive way. They respect this country’s wildlife and landscape, acknowledge the legitimate needs of landowners and respect crops and livestock.”

Tom Levitt MP, High Peak
FINANCIAL PROTECTION
for Climbers, Walkers and Mountaineers

How often has your application for life cover been rejected? Have you ever struggled with badly compiled or ill-informed questionnaires only to be quoted a ridiculous price for this type of insurance protection? In our role as life assurance professionals and keen participants of outdoor sports we live with the frustration that a person who drinks copious quantities of amber nectar and who spends evenings and weekends parked on the sofa in front of the television is generally considered a better risk!

So what about the man who supposedly exposes himself to undue risk when climbing on Skye? Climbers are more physically fit and mentally alert than the average person. However, as far as I am aware, no-one has ever looked at the statistical relationship between the risk posed by an average person holidaying on Skye and a BMC member undertaking a climbing trip on Skye. In reality the perceived insurance risk is far greater than the real risk itself.

Insurance companies spend a great deal of time, money and effort analysing the risk they undertake when they write life assurance business. However, in reality, when faced with a risk they do not understand or for which they do not have adequate statistics, they either run for cover or charge disproportionately higher premiums. However, through a process of education and improved experience and the efforts of organisations like the BMC insurance companies are gradually softening their approach to sports insurances. Climbers are no longer deemed totally insane and have been overtaken by unquantifiable risk. Unfortunately, there is still a long way to go. In a recently submitted case a large national insurance company considered that E2 was Easy 2! When educated, they still held their prem - it was almost certainly be loaded.

Life Assurance
In order to protect your family and your business commitments it is wise to effect life insurance which would pay a lump sum on death. There may be a savings element attached to this policy.

Critical Illness Cover
Critical illness cover will pay a lump sum on the diagnosis of a specified illness described in the policy. This could be a serious illness such as a heart attack, cancer, stroke or kidney failure. It is possible to obtain mortgage related critical illness cover under the same underwriting terms as life insurance. An extension for total permanent disability may also apply but, normally, injuries related to climbing are excluded. However, the current BMC standard membership package does give cover of £50,000 for this risk provided the injury is caused directly from climbing or such activity specifically mentioned in their policy.

Income Protection
This type of policy would pay a regular income in the event of you being unable to work through ill health after a certain chosen period and would continue to pay until your selected retirement date. The benefit is limited to a proportion of income and should cover financial commitments such as mortgage repayments, car finances and household bills etc. Very few companies will offer this type of cover to include injuries for climbing. Cover can be obtained, but will almost certainly be loaded.

There are many factors that influence an underwriting decision, other than health. For the climber, the underwriter will require information about – where you climb, how often, to what grade, your experience and your future intentions. The location of your climbing is probably the most important.

At Summit Financial Services, we have developed relationships with insurance companies who recognise that climbers are responsible individuals enjoying a recognised sport. We are constantly seeking to obtain improved rates through persistent lobbying. Summit Financial Services is answering a need for climbers. The BMC is not attempting to become a financial services marketing operation but has encouraged us to obtain terms for protection following repeated requests for assistance in obtaining this type of insurance.

Summit Financial Services is an appointed representative of Lonsdale Financial Services who are independent financial advisers and regulated by the Personal Investment Authority. They are responsible to the BMC and Perkins Slade who are insurance scheme providers and advisers to the BMC.

Contact Summit Financial Services on 015395 64200.
The Walking Group Leader Award Scheme

Mike Rosser and Andy Newton report on a new Award for leaders of walking groups in non-mountainous terrain

The MLTB together with other mountain training boards of the UK are currently developing a new award for leaders of walking groups in upland wild terrain, known variously as moor, bog, hill, downs etc. The Boards are now finalising the terrain definitions and limits for the Walking Group Leader Scheme (WGL) before spending the autumn producing the documentation needed to implement the programme. As always, it should be emphasised that this is a training scheme for current or potential group leaders, and like the ML and SPA schemes it is not in any way intended to be a personal proficiency award.

To what regions of the UK will the Award apply?

Appropriate areas might be defined as uncultivated non-mountainous wild country, often subject to hostile weather conditions, excluding areas of steep or rocky terrain. Such areas might include the Dark Peak in the Derbyshire Peak District, the Denbigh moors, the moors of south west England, the Sperrin Mountains, the SliCee Bloom Mountains and the moors of south Wales. It will not apply to the mountain regions of the UK, including the Lake District, Mourne Mountains, Scottish Highlands and Snowdonia, where the Mountain Leader Award (ML) is appropriate.

Next steps

The Boards have developed criteria for approving Training and Assessment Providers. For the MLTB these will initially be our current Mountain Leader Providers with additional Providers being able to apply for 2001.

- The Handbook for the scheme is being prepared at the present time and will be available by mid-November.
- Publicity materials will be available in early October 2000; these will be sent to all potential user groups in the public, private and voluntary sectors.
- Candidates will be able to register from 1st January 2001.
- Potential candidates, users and Providers should contact the MLTB’s Snowdonia office (or your home nation Training Board) to register your interest, information will then be mailed out when it is ready.

Starting the Scheme

The MLTB will hold an initial workshop for Providers and user groups at Plas y Brenin on Sunday 26th November 2000, the day after the MLTB Biennial Conference. An additional workshop will be held in early spring 2001.

Structure of the WGL Scheme

Registration

To register, candidates will need at least one year’s experience of hillwalking and an interest in leading hillwalking groups. Candidates must be at least 18.

Training

In order to attend a training course candidates must be registered with the Walking Group Leader Scheme and have completed at least twenty hill walks. There can be a flexible structure to training course delivery provided it is a minimum of 30 hours

Consolidation Period

Prior to attending an assessment course candidates must have completed an absolute minimum of forty hillwalking or mountain walking days.

First aid requirements

Prior to attendance on an assessment course candidates must hold a valid First Aid qualification.

Assessment and validation

Assessment courses will have at least thirty hours of contact time between candidates and assessors and will have a flexible structure.

Exemption from WGL training

After registration for the WGL scheme, candidates who have substantial personal and leadership experience in hillwalking areas, or believe they have attended equivalent training may apply for exemption from a WGL training course. This will apply to candidates who have completed their Mountain Leader Training and who wish to take their WGL assessment as a stepping stone to their ML assessment. There is no exemption from assessment.

Progression to the Mountain Leader scheme

WGL trainees will be able to take a shortened ML training course if they decide to transfer to this scheme. They will able to register with the ML scheme at a reduced rate and when they meet the pre-requirements undertake a full ML assessment.

Any enquiries about the scheme can be directed to the MLTB on 01690 720 314 or your home nation Training Board.
The helmet is back. For alpinists and ice climbers it never went away but for nearly twenty years rock climbers have decided that the risk of being fashionably challenged out weighed that of a head plant and so went bareheaded. But times are changing; witness Bentley on Equilibrium or Gresham on Messhug, and the helmet is once again cool.

What brought about this change in mind set? Well, for one, climbing helmet technology has finally started to catch up with that of cycling and of course the hard girt revolution brought home the dangers of head injury to its leading exponents in no uncertain fashion. So where are we now? There is no doubt that lightweight helmet technology is in its infancy and in the future we will see better and better protection for the climbers vulnerable head. What also seems to be evolving is an increasing specialisation both of design and use. In a recent article in Climber magazine Andy Kirkpatrick (a member of the BMC Technical Group) referred to the current generation of lightweight helmets as Rock Helmets, both in terms of the way they are designed and the way in which they are increasingly being used. This specialisation of design and use has led to the standards process behind. Originally helmets were designed essentially to protect against rock fall in a mountain environment and the standard was written accordingly. This means we have a problem. If you want a helmet solely for rock climbing you are buying one designed to meet a standard written with the Alps in mind, whereas what you really want is something which will protect the head in the event of an impact while falling. If you are buying a helmet for the mountains you want lots of protection but minimal weight, but with so many designs about, how do you know what you are getting? Will the lightweight generation generally stand up to the rigours of the Alps? If you want an all rounder what should you be looking for?

It was to address these problems, and to gather evidence for a rethink of the standard, that the BMC’s helmet testing programme was initiated early this year. At first only the new lightweight helmets were tested but it soon became clear that for a useful comparative study as many helmets as possible should be examined and so in the end a total of 15 models were included. In part 1 of this article we looked at the test results, in part 2 we shall examine the technical attributes of the helmets in greater detail.

The tests

The tests were carried out by Mark Taylor, a researcher at Leeds University Textile Department. The Leeds facility is acknowledged as a leading authority in the field and new testing equipment has increased the reliability of the testing method still further. Manufacturers and importers were asked to support the tests by providing samples. In the majority of cases support was excellent and where it was not possible to obtain complimentary samples the BMC purchased the required helmets.

Initial tests were carried out as stipulated by EN12492 “Helmets for mountainers”, although the helmets were not temperature conditioned. Such conditioning would not greatly affect the results but would cause small differences in the force/time curves.

The helmet standard (EN12492)

As already stated the helmet standard was written with the dangers of alpine climbing in mind. When designing a helmet for use in the mountains the designer is concerned with two main factors related to protecting the wearer’s head from falling stones – the peak impact force transferred via the helmet to the climbers neck, and the penetration of the helmet (and the head) by sharp-edged stones. Additionally, the retention system (chin-strap) has to be designed to retain the helmet on the wearer’s head. Helmet performance in these areas is examined in the key parts of the helmet test. In essence seven tests are carried out on a helmet which is firmly mounted upon a wooden headform. One helmet sample is used for each test. These tests are:

1. Vertical energy absorption: A 5kg striker with a 50mm radius hemispherical end is dropped 2m onto the top of the helmet, and the peak force transmitted to the ‘neck’ measured. The CEN standard requires that the force must not exceed 10kN.
2. Penetration: A 3kg conical striker is dropped from 1m to test two points of impact. The striker may penetrate the helmet shell but must not impact the headform.
3. Front, side and rear energy absorption: Three tests are made with the headform tilted at 60º in the appropriate direction, using a 5kg flat striker but only dropped from 0.5m. Again the peak transmitted force should not exceed 10kN. In practice this is not a demanding test and all helmets pass relatively easily.
4. Retention system: Checks (1) that the chinstrap will not release under a load of 0.5kN, and (2) that the helmet is retained on the headform when an impulsive load is applied to the front edge (also rear edge) of the helmet in a direction to roll it off the headform.

There is an additional UV test stipulated in the new standard but as all helmet materials are UV stabilised, and have been for many years, this is felt by many to be an expensive and unnecessary extra test and it was not carried out during the BMC program.

The UIAA standard uses the same tests but requires that the peak transmitted force shall not exceed 8kN in the four energy absorption tests (compared with 10kN for the CEN standard).

The helmets

The following helmets were tested. This is not meant to be a comprehensive review of all available in the shops. It is as complete as possible in the lightweight category (<400g and below) with additional helmets selected to typify a given design or material.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Helmet Measured Weight(g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Givel</td>
<td>The Cap 359</td>
</tr>
<tr>
<td>Petzl</td>
<td>Meteor 253</td>
</tr>
<tr>
<td>Ecrin Roc</td>
<td>472</td>
</tr>
<tr>
<td>Black Diamond</td>
<td>ABS Half Dome 454</td>
</tr>
<tr>
<td>HB</td>
<td>Carbon/Dyneema 305</td>
</tr>
<tr>
<td></td>
<td>El Cap 534</td>
</tr>
<tr>
<td></td>
<td>El Cap (Kevlar/Carbon) 529</td>
</tr>
<tr>
<td></td>
<td>Olympus 384</td>
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<tr>
<td></td>
<td>Blue Water 402</td>
</tr>
<tr>
<td></td>
<td>JB Lightweight 573</td>
</tr>
<tr>
<td>Edelrid</td>
<td>Ultralight 405</td>
</tr>
<tr>
<td>Cassin</td>
<td>Mercury 342</td>
</tr>
<tr>
<td>Camp</td>
<td>Rock Star 386</td>
</tr>
<tr>
<td></td>
<td>High Star 421</td>
</tr>
<tr>
<td></td>
<td>New StarTech 397</td>
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</tbody>
</table>

The results

Firstly we must state that the program did not aim to verify a helmets’ performance against the CEN or UIAA standard. However where the results suggested that a helmet was unlikely to meet the standard the BMC has of course taken the matter up.
with manufacturers (see end of article). In order to avoid too great a focus on numbers the results for each impact test, are presented within a comparative chart. These results are discussed and some important conclusions reached. In part 2 of this article a range of force/time curves will show the ways in which different types of helmet react to an impact and a brief review of each helmet’s attributes will be given.

**So what do we find?**

Without beating around the bush several lightweight helmets failed to meet the requirements of the EN standard and several more failed to meet the requirements of the stricter UIAA standard. Is this a surprise? In the case of the marginal failures, no! Without going into excessive detail a recent redraft to the standard changed the shape of the weight that impacts the helmet. This new test is harder on lightweight helmets than the old version against which the helmets would have originally been certified. In addition it has already been stated that the current standard does not really test the lightweight ‘rock’ helmets against the way in which they will be used and so marginal results were always likely. But that’s marginal failures. One helmet was well outside the range of acceptability and another model gave cause for concern, these are discussed later.

**What else do we learn?**

- In general helmets of the new lightweight foam type absorb less energy during an impact from above than more ‘traditional’ designs. This is to be expected and demonstrated a difference in design emphasis.
- The order is not repeated with front, side and rear impacts. Here results seem dependent on other design factors. How helmets would perform under more severe impacts is an issue to be explored, and ideally should be something examined within an updated standard.
- Although all helmets pass the penetration test, it should be noted that this pass can be marginal in the case of soft foam helmets, where localised pressures can build up.
- Having compared the Leeds results with those from other test centres several inconsistencies were found. It is clear that the tests are not being carried out in the same way and the BMC and UIAA will be asking test centres to re-examine and harmonise their methodologies.
- After testing, some helmets show little physical evidence of having sustained damage. This may be a matter of concern for managers of equipment pools.

**Conclusion**

With increasing specialisation in climbing and mountaineering, it is good to see that helmet design is beginning to reflect specific uses. At present the design of helmets for rock climbing, where the main concern is protecting the head during a fall, is judged by a standard that does not primarily address this concern. In addition it is apparent that variations in test laboratory practice might allow sub-standard helmets on to the market. Taking these factors into account it is the

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### Top Impacts (vertical Energy Absorption)

<table>
<thead>
<tr>
<th>Impact Level</th>
<th>Helmets</th>
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</thead>
<tbody>
<tr>
<td>10kN</td>
<td>ABS Half Dome, Meteor, The Cap, New Startech, Meteor</td>
</tr>
<tr>
<td>5kN</td>
<td>Olympus, Juice, Blue Water, Ultralight, El Cap Kevlar/Carbon, Ecrin Roc</td>
</tr>
<tr>
<td>2.5kN</td>
<td>El Cap, The Cap, JB Lightweight, Ecrin Roc</td>
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</table>

### Rear Impacts

<table>
<thead>
<tr>
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<th>Helmets</th>
</tr>
</thead>
<tbody>
<tr>
<td>5kN</td>
<td>Olympus, Juice, Blue Water, Ultralight, El Cap Kevlar/Carbon, Ecrin Roc</td>
</tr>
<tr>
<td>2.5kN</td>
<td>El Cap, The Cap, JB Lightweight, Ecrin Roc</td>
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</tbody>
</table>

### Front Impacts

<table>
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<th>Impact Level</th>
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</thead>
<tbody>
<tr>
<td>3: Front Impacts</td>
<td>PTO for front impacts</td>
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</tbody>
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2: Rear Impacts

<table>
<thead>
<tr>
<th>Impact Level</th>
<th>Helmets</th>
</tr>
</thead>
<tbody>
<tr>
<td>5kN</td>
<td>Olympus, Juice, Blue Water, Ultralight, El Cap Kevlar/Carbon, Ecrin Roc</td>
</tr>
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</tbody>
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1: Top Impacts (vertical Energy Absorption)

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<tr>
<td>2.5kN</td>
<td>El Cap, The Cap, JB Lightweight, Ecrin Roc</td>
</tr>
</tbody>
</table>
opinion of the BMC Technical Committee that a major re-think and restructuring of the standard is called for. BMC representa-
tives have taken this position to the UIAA Safety Commission
which has initiated a programme of work to review and revise the
standard. It is to be hoped that in a few years we will see a more
realistic standard(s) and an increasing range of cleverly designed
helmets for rock climbing and mountaineering that we can wear
with comfort and confidence. In the meantime full marks to the
designers of the lightweight generation and we look forward to
further innovation.

Startech
Many readers will have followed the story 'Concern over Startech
Helmeis' in the press over the past few months. The Leeds test-
ing program gave top impact forces for the pre May 2000
Startech ranging between 18.6 and 20.4kN. The Technical Com-
mitee insisted that Camp must rectify this situation and as a
result Camp, via their UK agents Allcord, are now offering to
upgrade all old Startech to the standard of the new post May
2000 model. If you own an old Startech please contact Allcord
0191 264 8444 for an upgrade.

Black Diamond Half Dome
The Leeds results indicated a top impact force some 20% above
that allowed by the CEN standard, whilst the notified body CRITT
had measured a top impact force of less than 2kN during certifi-
cation testing. When notified of this anomaly BD commented as follows:

Thank you for notifying Black Diamond of discrepancies in test
results discovered at the LEEDS laboratory. Black Diamond is con-
cerned by the findings suggesting that our Halfdome helmet does not
meet the CEN standard for mountaineering helmets. The Halfdome
helmet has been tested and certified by the Notified Body, C.R.I.T.T.

The wide variation in data between two reputable organizations is
a serious concern to us. If our helmet is truly found to not meet the
requirements of the CEN standard we will take all actions necessary
to achieve conformance and, more importantly, to ensure the safety of
all our customers worldwide. Our preliminary recommendation,
which we have begun, is to establish communications between BMC/
LEEDS and CRITT to determine the root cause of the discrepancy
and to correct it. Once this is complete all organizations should
collectively evaluate if further action is required. We look forward to
working with BMC/LEEDS to resolve these issues.

The Technical Committee is in discussion with Black Dia-
mond and will undertake further tests.

A rough guide to helmets

How do helmets protect the head?

When either a rock hits your head, or your head hits the rock
the only way that you are going to escape serious injury is if the
energy of the impact is absorbed by the helmet. It must do this
in such a way that the force transmitted to the head is not
localised such as to fracture the skull, and not high enough to
fracture the neck or damage the brain. This is the helmet’s job
and several elements of its structure play a part in this.

The Cradle: Made from nylon webbing, keeps the shell away
from the head, spreads the load, allows the helmet to distort and
absorbs some energy. Foam based helmets do not have cradles
and so the helmet sits closer to the head; also the load is not
distributed so uniformly.

The Shell: Distorts and distributes the impact energy. Some
shell materials absorb energy as they delaminate.

Foam: Both soft and hard foam are found in modern light-
weight helmets. The foam absorbs energy as it is compressed.
For a given foam, energy absorbing capability is directly related
to thickness.

Which one?

There is no doubt that comfort is a crucial factor and regardless
of this technical appraisal you should try and buy a helmet that
fits well and feels good. If this is so you are more likely to wear
it and that’s what it’s all about. What you look for beyond this
depends on the end use:

Rock only: Good energy absorption all round, particularly at
the rear. Light with good ventilation. Sits close to head (but this
conflicts with energy absorbing ability). Unfortunately the cur-
rent standard tests do not give enough information to really help
make a choice between helmets just for cragging. It is to be hoped
this can be rectified in the future.

Ice/Alpine: The top impact and penetration performance is
key and should take precedence over any other factors. Ability
to take multiple impacts is important. For many, weight will also
be a key factor and so it really is a question of looking for the best
test figures and minimal weight. Among the currently available
models, some traditional shell and cradle designs give better pro-
tection for the same weight.

Centre/group use: Value for money, long life, obvious signs if
damaged.

A note on lifetime: Regardless of the material from which a
helmet is made its performance will deteriorate with age. It is
reasonable to consider a helmet to be at the end of its life when it
can no longer pass the standard. The degradation rate varies from
material to material and is dependent on conditions of use, but in
general the greater a helmet’s initial energy absorbing capacity
the longer it will be usable.

When to wear?

Every year the BMC’s Equipment Investigation Panel exam-
ines several helmets which have saved the wearers life, follow-
ing a fall or a rock strike. At the same time we hear of incidents
where a climber not wearing a helmet has suffered serious or
fatal head injuries. The message seems clear: Take a helmet to the
crag and presume you are going to wear it. Only if you can
justify why not should you do without. During use, check that
the chin-strap is tight enough to retain the helmet on your head
in the event of an impact (or series of impacts in a bad fall).
It still seems amazing that by using a constellation of satellites over 20,000 km away and a small bit of machinery in your hand, you are able to position yourself to within a few metres. Furthermore, this happens almost instantaneously, it is a free service, and it can be carried out 24 hours a day in all weather. The tool that enables this is of course the Global Positioning System (GPS). The United States Department of Defence (DoD) put the first GPS satellite into orbit in 1978 and we now enjoy world-wide coverage from the system.

Historically, there has been both confusion and suspicion about the benefits for navigation in the hills and coastal waters of using GPS. Myths have grown up and it seems that people are either 100% for or against using the system. This article aims to describe how this will now affect its use.

The basics

GPS has many thousands of applications, from in-car navigation to mapping or from monitoring earthquakes to providing accurate timing for synchronising telecommunications networks. The cost of GPS has reduced considerably over the past 10-15 years and GPS receivers (from £90) are now well within many peoples’ price-bracket. This reduction in cost has led to an increased availability that can be seen in most outdoor shops. As a result handheld GPS receivers have become increasingly popular among outdoor enthusiasts; whether they are mountaineers, hill walkers or sailors as well as those involved in search and rescue activities.

GPS has always had its drawbacks though, primarily with respect to the possible accuracy attainable with the system. The biggest error source to the general public using handheld receivers was an intentional degradation of the information broadcast from the satellites by the US military; this error is termed Selective Availability (SA). SA only allowed positioning to within 100m horizontally and 150m in height (95% of the time). This was done by broadcasting deliberately inaccurate information about each satellite’s clock and orbit. Positioning was often better than the quoted figures, but there was no guarantee as to what the accuracy would be the other 5% of the time. However, on May 2nd this year, the DoD turned off SA. The effect was immediate and now allows users a much improved positional accuracy. 95% of the horizontal positions fell within a radius of 6.3m. Another recent study in the U.S. showed that with a basic recreational receiver, logging twelve, 24-hour data sets, the maximum horizontal positional error for each day ranged from 7m to 10m. Quite impressive! To sum up, the official figures show that with SA the accuracy was 7m to 10m; without SA it is now 6.3m, which is a significant improvement.

How good is it?

The question is, now that the intentional SA error has disappeared, how good is GPS? Perhaps more to the point, how reliably will it give us a position that we can actually relate to a map? Like any other measuring device, GPS isn’t perfect. Some of the errors arise in the transmission of the signal from the satellites to the ground; others from the arrangement of satellites that can actually be “seen” at any instant. Still more problems may occur when we try to compare the GPS position with features on a map (also imperfect!).

GPS works by timing a microwave radio signal as it travels from a satellite to the receiver, and turning this time into a distance by knowing that the signal travels at the speed of light. Because the receiver is also told where the satellites are, four such distances can be used to work out the three coordinates of the receiver’s position by the process of trilateration (similar to triangulating a position using compass bearings to known points, but using distances instead of angles).

Clock, orbital and atmospheric errors mean that the measured range may well be wrong by around 15m. This may not be much in comparison with the distance to the satellites (roughly 20,000km), but it does map directly into the receiver coordinates. Another factor is the distribution of satellites around the sky - just as when triangulating a position by compass it is better to take several bearings on widely-spaced features, GPS works better when there are more than the minimum four satellites visible and they are well spread out. Because the receiver can only “see” satellites above the horizon, the geometry can never be ideal and will always cause larger vertical inaccuracies (usually about twice as bad). For a given arrangement of satellites, the dilution of precision or DOP is the name given to the factor by which we should multiply the range error to get the receiver position error. Most receivers will display the DOP (sometimes separated into horizontal HDOP and vertical VDOP) or the resulting confidence in position; the DOP shouldn’t get much above 2-3 for normal situations. The bottom line is that we can now expect the GPS to give us a horizontal position better than 20m, 95% of the time, and to tell us if the DOP gets too large.

The images above compare the accuracy of GPS with and without SA. Each plot shows the positional scatter of 24 hours of data, taken from a continuously operating receiver (http://www.igeb.gov/sa/diagram.shtml). In this example, 95% of the horizontal positions were within 45m of the truth with SA. Without SA, 95% of the points fall within a radius of 6.3m. Another recent study in the U.S. showed that with a basic recreational receiver, logging twelve, 24-hour data sets, the maximum horizontal positional error for each day ranged from 7m to 10m. Quite impressive! To sum up, the official line is that positioning with 95% confidence will be accurate to better than 20m (2D), but in effect it will often be much better than that. Height will normally be twice as bad.

What about the map?

If we were just using GPS, that would be the end of the story.
However, we are usually trying to relate our position to features on the map and this causes additional problems and errors. This is especially the case with height as the model that relates the global coordinate system that GPS uses, WGS-84, to map height above sea level is very poor. WGS-84 is a modern coordinate system but maps in Britain are based on the National Grid, which uses an older system known as OSGB36. Although it was surveyed very well for its day, OSGB36 is distorted and just doesn’t measure up to WGS-84. GPS receivers can correct for the large main offset between the two systems, and it’s vitally important to set the receiver’s “datum” so that it does so (most receivers can cope with a variety of datums for different countries). What current handheld receivers can’t do is to remove the complex pattern of local distortions, which can be as large as 20m in Britain. Remote regions in other countries may have even bigger distortions in their map datums. On top of the nationwide errors in OSGB36, individual features on the map may only have been surveyed to a local accuracy of 7m (for 1:25,000 scale maps) and some features such as boulders may only be shown schematically. Of course this last problem affects anyone trying to position themselves on the map, not just GPS users.

When all of these factors are taken into account, GPS should in theory give us a position that typically matches the map to around 25m, although errors of up to 50m are possible. In practice it often does rather better than that. For example, on a recent day hike in the Yorkshire Dales, the GPS position at a selection of well-defined features matched the map position to within 14m horizontally and 19m vertically, 95% of the time. Even the largest observed discrepancies, 30m horizontally and 6m vertically, were not much worse than the precision to which 1:25,000 scale maps can be read on the hill. With this kind of performance, what’s to stop anyone from just using a GPS receiver next time they want to navigate precisely?

Perhaps the most worrying issue is that of reliability. Although today’s handheld receivers are nowhere near as power-hungry as their predecessors, batteries can still run flat at an awkward moment. Even in normal usage, there are still times when GPS can give a bad position without warning. Because the satellite paths don’t go over the North Pole, users in high northern latitudes will see most satellites at relatively low elevations to the south, and these may be obscured by steep ground (the converse problem occurs in high southern latitudes). This can increase the DOP to high values, just when an accurate position might be needed most. Another signal error that may occur is if the receiver is close to large reflective objects such as boulders or cliffs. This is similar to the “ghosting” effect with poor TV reception. A reflected or multipathed signal arriving at the receiver may be confused with the true signal, or in extreme cases prevent the true signal from being recognized. Certainly it would be foolish to rely utterly on GPS when these kinds of things can happen, but that doesn’t make the system useless if we apply some common sense.

Useful GPS?

So what can the GPS do for you? It seems ideal for use in relatively featureless terrain where traditional map-and-compass navigation is tricky and the consequences of a slightly wrong position are mild. There is also no danger in using it as an aid in harder terrain provided that one keeps a careful eye on all the other sources of information. Modern GPS receivers can be as accurate as the best maps. Different types of modern receivers can also make them a useful tool when learning navigation. For example, a handheld receiver can track positions all day and store them for later comparison with the map, or it could be used as an independent source of “truth” in a navigation exercise. In general wayfinding situations, GPS can be used not only to give the current position, but also to show bearing and distance to the next objective. Most receivers can also display this as a compass-type directional display relative to the current heading, for ease of following a route. In general you need to be moving for the receiver to work out your heading, rendering this technique rather limited when leaving a rest spot, although some models incorporate an electronic compass which will work when stationary. Once you’re moving, the big advantage of the GPS is that it will automatically adjust the desired heading to account for drift from the direct route - no more pacing out dog-legs around obstacles. Finally, the capacity of GPS receivers to store a pre-entered list of waypoints (and enter new ones out on the hill) can provide a useful aide-memoir.

Which shall I buy?

Advice on which GPS receiver to choose deserves an article in itself. There is now a very wide range of products available. Probably the best advice to give (as with most things) is to decide what features you want in a receiver, the application and your budget, and then go to a reputable dealer or information source to choose the right one for you. “Recreational” receivers can be split into three basic groups:

- **Basic**  Low priced, easy to learn, ability to store 100 to 500 waypoints, basic navigation screens, sometimes limited choice of datums.
- **Advanced** Storage of 500 to 1000 waypoints, more navigation screens, 20+ routes can be saved, extensive datum lists, PC-connectable and DGPS-enabled. Possibility of having a compass and altimeter built in.
- **Map-enabled** Receivers allow map viewing on the screen. At present this utility is mainly for “in-car navigation” applications, but it may soon be possible to download large-scale maps of the region of interest.

It should be noted that accuracy would approximately be the same in stand-alone mode whichever receiver is chosen within this group. Some important considerations may be:

- OSGB36 to WGS-84: How good is the transformation model between the two coordinate systems?
- Physical format
- Handheld or triangular for dashboard mounting.
- DGPS-enabled
- Allows for radio signal corrections from a third party correction service to improve accuracy to the 1-5m level.
- External aerial
- Useful in a boat or car for example.
- PC-connectable
- Positions can be downloaded to a PC for use with tracking or navigation software.
- Battery life, weight, water resistance

Although basically a sales site, http://www.gps4fun.com has excellent equipment information, definitions of technical terms, and comparison tables.

Life with GPS?

GPS is never going to replace the traditional map and compass entirely, or remove the need to understand how symbols on the map relate to actual objectives and hazards on the hill. Now that SA has gone, horizontal accuracy is very impressive but the vertical accuracy still isn’t as good as an altimeter. Sometimes one of these tools may be appropriate, sometimes the other, and sometimes neither. The balance between the challenge of self-reliant traditional navigation and the convenience of modern technology is an individual matter. What this article has tried to do is to remove some of the myths concerning GPS and show that with some common sense, it can be a useful addition to the standard repertoire of navigational tools.
2002-2005 Development Plan

Many thanks to all those who made comments on and contributed to the draft development plan which is now going for consideration by UK Sport, Sport England, and the Sports Council for Wales. The plan will form the basis of the objectives and targets for the next 4 year cycle and is subject to annual review. A copy of the plan is on the BMC web site for reference; comments are welcome and will contribute to the planning and review process.

Organizational Review

Thanks also to all those who put forward views on the organizational structure of the BMC. A Working Group has been discussing issues in detail and a discussion paper has been sent to all clubs and area and specialist committee members. A copy of the paper is available on the BMC web site and comments and opinions are very welcome. Discussions will be taking place during the next two rounds of Area meetings (see calendar) and members with an interest are encouraged to attend these meetings. Some of the issues being discussed are of a fundamental nature and will therefore also be discussed at the AGM and National Open Forum in Cardiff on 7 April 2001. The simple questions is: can the BMC improve the way it works to achieve its aims and deliver services? The next rounds of Area meetings are your opportunity to discuss how to improve support for volunteers, local programmes and the structure of the BMC.

AMI takes a step forward!

The professional body for mountaineering instructors in the UK, the Association of Mountaineering Instructors has appointed a part-time paid executive officer. Andy Brown is the new development officer and will assist the voluntary committee in taking the Association forward in its development. He will be working from home at The Old School, Grizebeck, Kirkby in Furness, Cumbria LA17 7XH from where he also runs his own business. Andy can be contacted on 01229-889761, mobile 07974 390977 or email andrewbrown@hotmail.com or ami@mltb.org.uk.

South West area considers the future

In response to falling attendances and difficulties in getting key posts filled, the SW area is to hold an Extraordinary General Meeting on Saturday 11th November at the Tiverton Hotel, Tiverton at 7pm. Members from the SW are urged to attend and support the area team as they try and ensure that the SW maintains a strong local representation and regional voice.

Climbing Wall Committee re-structuring

The BMC Climbing Wall Committee is undergoing a re-structuring to reflect the changes in climbing wall issues over recent years. The Committee was established in 1986 to respond to the new challenges appearing in the climbing wall world. The challenges have changed and so must the response of the BMC. The current committee structure is based around the invaluable work of the Area Climbing Wall Reps, and the expertise and enthusiasm of these volunteers is essential to the BMC’s Facilities programme. The restructured Committee would have two heads, the Area Reps and the newly constituted Climbing Wall Advisory Group (CW AG), a focussed group of volunteer experts and representatives of other bodies with communication links to other BMC specialist committees.

The new group would have the remit of supporting the volunteer Area Climbing Wall Network, maintaining a strategic plan for climbing wall development, advising on proposed climbing wall projects and funding sources, advising on the management and use of climbing walls, monitoring information on wall use and accident rates and promoting equal access to facilities.

The BMC is currently looking to appoint the members of CW AG and would welcome approaches from Summit readers with relevant experience and specialist knowledge in areas such as planning, safety, engineering or leisure management. The overall Committee (Reps and CW AG) would meet at an annual Climbing Wall Seminar and Forum, with CW AG also meeting as and when necessary. Please contact Graeme Alderson, BMC Climbing Walls Officer at the BMC Office or via email graeme@thebmc.co.uk.
BMC Winter Lectures
in partnership with

A series of interactive lectures illustrating skills and techniques involved in winter mountaineering to help you make the most of your plans for this winter. Get a head start by discussing objectives, new venues and equipment with top Mountain Guide and climber Louise Thomas and take advantage of the vast adventurous experience of Andy Perkins. Most venues have a bar so be prepared to make an evening of it. Lectures start at 6.45pm so see you there? Block bookings from Clubs welcome through the BMC office. One free ticket per 10 ordered. A Lowe Alpine representative will be in attendance with information on the best deals on equipment on a store near you.

13 Nov - University College London, Edward Lewis Theatre, Windeyer Building, 46 Cleveland Street, London
14 Nov - University of Cardiff, Wallace Lecture Theatre, Main College Building
15 Nov - University of Warwick, The Rampal Building, Gibbet Hill Road, Coventry
20 Nov - University of Bangor, Main Arts Lecture Theatre, Art Building, College Road
21 Nov - University of Nottingham, Room A48, Social Sciences Building, University Park, Nottingham
22 Nov - University of Northumbria, Main Lecture Theatre B001, Ellison Building, Newcastle-upon-Tyne

Price: £3.00 BMC members; £5.00 non-BMC members
Tickets available from the BMC office from the end of September and on the door.

Equal Opportunities Summit
18 October, Birmingham

Following on from the series of BMC Equity Seminars for instructors, Facility Managers and BMC Clubs, the BMC has identified a variety of needs to be explored and actions to be undertaken for each of the key groups. The Facility Managers seminar was particularly well received and action plans are currently underway to achieve short-term goals that are to be presented as progress at the Equity Summit by this and other Seminar groups.

The Equity Summit will incorporate mixture of thought provoking presentations from outdoor centres, LEA’s and clubs who will give ideas on how they have responded to the needs of a wide diversity of groups interested in our sport. Workshops follow where representatives from key groups will be consulted on the Seminar outcomes and help formulate strategy. The consultation will mainly focus on disability, gender issues and racial equality strategy.

Summit programme and registration form available on the BMC web site and from the BMC Office.

BICC

Provisional dates for the Troll BICC ’01 are February 3, February 17, March 3, March 17, March 31. Venues to be confirmed. The British Bouldering Championships 2001 will be held at Rock City, Hull on 24 March.

On a similar subject BMC Competitions Officer Graeme Alderson has asked that any competition organisers let him know the details of their events so that he can add to the BMC website events diary.
“The most interesting thing about Newtonian mechanics is...”
What is it about men and physics? We’d already covered Athenian politics, a conundrum involving filling a swimming pool with an array of hoses and various discharge rates and the hidden charms of quantum mechanics were still to come. It was still only day one of our trek up Kilimanjaro but it did make mildly distracting background listening as we followed step by step through the mountains’ boggy clay foothills.

What had seemed a fanciful pipe dream, to raise money for East Lancashire Hospice, imagined in the wine bar through numerous chilled Chardonnays had somehow transpired into reality. It was July 2000 and we were here, nurses, friends and a couple of attendant blokes, at the bottom of Kilimanjaro, with its glorious gleaming glaciers and its wreathing veils of clouds. The comforts of the pub seemed a million light years away and the blokes were sounding suspiciously like science geeks.

Kilimanjaro is Africa’s highest mountain, 5,895 metres (19,340 ft) above sea level, and one of the world’s highest free standing peaks. It is an awesome and colossal mountain standing solidly and majestically amidst vast open plains. In 1977 it was designated a National Park by the Tanzanian government and forms part of the Great Rift Valley system, called by many the cradle of civilization, the birthplace of man.

“It often rains in a rain forest” was the smug reply of a male group member as I desperately tried not to appear too concerned about my clay-clad trousers.

The ground transformed without announcement as we entered our moorland gorse campsite. Two things struck me. First, the vast number of porters we had, twenty one for eight of us! The girls had a snigger as we recollected our mischievious thoughts of sneaking in a supply of Chardonnay to see us through. Secondly, I was astounded by the sheer number of trekkers we had sharing the route with us. My illusion of being alone on the mountain was shattered. I was taken aback and slightly disappointed, as it was going to be like arriving at the North Pole to find a cornet-blowing jamboree already there. What must the more popular Marangu (Coca-cola) route be like? The M25?

“Chicken, chillies and eggs”

Before I knew it, the porters had erected our tents, collected firewood and were preparing supper. James, our inspirational cook worked wonders with chicken, chillies and eggs (although by day six I was marginally concerned that I hadn’t seen or heard any chickens around). It seemed that one by one the group turned vegetarian, the original two became seven (one complete abstainer). Yes, we must have had the only Tanzanian cook who understood that strange western concept of vegetarianism and how the veggies admired him.

Baraka our guide (and idol to the girls) popped his head in the mess tent to wish us “lala salama” (sweet dreams) which we understood to be our cue for retiring to bed since the porters were huddled together for warmth outside in the rapidly freezing temperatures and undoubtedly we were keeping them from the cosy interior.

The rumblings of a choir of snoring porters and the pain of a rock jutting into my side subsided as I slipped into unconsciousness. I awoke to yet more delights; a haemorrhaging lip, an exudating ear and a scorched nose. Why had no one warned me of the finer aspects of sun and altitude? To most people this might be a cause for concern, but to a nurse this was a picking bonanza and within minutes I had a rice paper impression of my nose in dead skin.

The next two days on the approach skirt around the base of the summit block, on paths that rock up and down between 3700 and 4400 metres. This was great (in theory) as it was going to provide us with a steady acclimatisation and magnificent views of the Western breach and the glacier walls. It was now mostly scrubland, with bushes sparsely spread across the very rough terrain. It was spectacular stuff but it became almost heartbreaking at times as we toiled our moorland gorse campsite. Two things struck me. First, the vast number of porters we had, twenty one for eight of us! The girls had a snigger as we recollected our mischievious thoughts of sneaking in a supply of Chardonnay to see us through. Secondly, I was astounded by the sheer number of trekkers we had sharing the route with us. My illusion of being alone on the mountain was shattered. I was taken aback and slightly disappointed, as it was going to be like arriving at the North Pole to find a cornet-blowing jamboree already there. What must the more popular Marangu (Coca-cola) route be like? The M25?

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up steep slopes only to descend the other side in order to make our way across further ridges that bar our way. The effects of altitude were making their mark in the group as a couple of us struggled on with our heart beats pounding in our ears, our heads feeling as though they might explode and our lungs devoid of any useful oxygen.

"Tell me again why I'm here?"

Barranco Camp finally came into view and the welcome tea and popcorn didn’t fail to revive spirit and soul. As the sun set spectacularly on the Breach Wall, I craned my neck upward towards one of the last remaining permanent glaciers and wished myself there. The mountain was incredibly imposing and massively steep. "Tell me again why I'm here?" I muttered to my altitude ailing friend.

The early morning rays roused our slumber. Refreshed and rejuvenated by my twelve hours in bed I felt ready to move on. My next full night’s sleep would be in 36 hours time, but in denial I expelled this unhelpful thought to a dark recess of my mind. The morning started with a scramble up the almost vertical Barranco Wall and for the umpteenth time the ability of the porters to carry ridiculous loads up the same route completely flummoxed me.

I joined in a rousing chorus of “Give me hope Johanna” (Johannesburg, the last in a medley of African related tunes as our group filed through a grove of Giant Lobelia, banana tree like in twin, dreadlocked pineapple in bloom and unique to Central Africa. As we ascended to our final camp Barafu Hut at an altitude of 4500 metres the vegetation changed again. At these heights there seemed to be very little hardy enough to survive, although the circling vultures seemed happy enough. With grey rock and red lava ash all around I was convinced I was on some Martian planet and half expected to see Captain Kirk appear. Altitude? Larium? Surely not reality?

The sun’s light was clipped behind a ridge as the streetlights of Moshis town several miles below peeked through the cloud blanket. A chill set in. I kicked my boots off by the mess tent door and wriggled myself into a small spot. A smokey oil lamp lit the faces of the group, our bodies lying in a reclined radial spiral around our usual aperetif of popcorn and teabags. Nobody looked too comfortable, propped as they were on a single elbow, but at least in this attitude we didn’t have to deal directly with our neighbours socks.

"Would it really be that bad?"

"Jambo! Habari?" Goodluck (real name), Baraka’s assistant slipped his head and Osmond smile through the tent door. He described the events of the ensuing 24 hours. I listened hard for something I might like the sound of. I was still waiting when he finished. It was 6pm. At midnight we would depart and make our bid for the summit, Uhuru Peak. The aim was to be on the crater rim (Stella Point) at dawn and then continue the extra hour’s walk to Uhuru, the highest point in Africa. My stomach was in knots. I had heard horror stories about this last bit. Would it really be that bad?

"Habari asubuhi, twendai, twendai." (Hello good morning, let’s go). I woke, but not from restful sleep. I had been dozing, my mind drifting in an altitude induced frenzy of pink fluffy balls and gremlin-like creatures. There was plenty of starlight to see the far front from appetising tray of biscuits and tea. I wanted to sleep not eat, but I shoved a biscuit meal down anyway, where it remained as a sticky bolus for several more hours

Baraka led off in a steady heel to toe fashion, a line of feet rippling like a line of stop start traffic. I felt terribly lacklustre, weary and dizzy. An evil sharp wind caught us whenever we were out of shelter stealing any warmth our bodies had. I was feeling sick, very sick. I watched my feet as they waggled drunkenly beneath and my head had a constant ache. I would fall asleep in seconds of slumping forwards over my poles, gasping for air, freezing up within seconds and saved only by the timely intervention and comforting words of Baraka forcing me onward and upward. I kept hoping that someone up ahead would pause so I could rest but the only pauses came when Baraka signalled we could do so.

I added a chunk of Kendal mint cake to the mealy collection of bits I already had in my mouth and began gulping lungfuls of air. I set myself targets, ten steps, thirty seconds and then a look at the horizon. I found some comfort in this and the sickness eased as I lollled forward in a semi-euphoric state. There were cream-crackers perched on snow, and rings of birds flying around my head as if I’d been dazed by a large cartoon sledgehammer. It amused me so much I did not dispel these thoughts from my mind.

I fixed my thoughts on the inevitable sunrise, for I knew that with daylight I would feel rejuvenated. I searched for the merest suggestion of dawn. When would it arrive? 4am, 5am, surely it won’t be 6am? My fingers were stiff. I glanced at my lunar shadow stretching out behind me, but then there was a hint of a solar shadow too. It was beginning to appear in front of me with what must be the final ascent to Stella Point. I sat back and waited for the sun’s recharging effects. This would be it, but I felt nothing, only an intense desire to sleep. It haunted me with devilish temptation. I shook my head violently from side to side, wake-up, wake-up. I stood, but too quickly and rocked giddily into Baraka.

"Every ounce of energy"

The footholds I made crumbled with each step, the lava ash providing little purchase. Baraka held out his hand, “Come on, you can do it.” I could see the others already huddled on the crater rim. They were close, but not close enough, soon enough. Those last few metres seemed interminable, each step demanding every ounce of energy I had.

I collapsed as the others hugged me but there wasn’t time for celebrations. There was still an hour’s climbing to be done and my desire for sleep was becoming unquenchable. I passed scores of cheery faced hikers returning from the summit, had I the strength I would have punched them for looking so jubilant. The walking became easier following my final sickness bout and then, there it was, the flag draped Uhuru Point.

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Kilimanjaro

Mount Kilimanjaro (5895m), just south of the equator, is the highest mountain in Africa and one of the highest volcanoes in the world. With a basal diameter of 40 miles it's “wide as all the world, great, high and unbelievably white as the sun” - (Hemingway).

There are three volcanic centres - Shira (west), Mawenzi (east) and the snowcapped Kibo (middle), with the highest point being Uhuru peak. It lies within the National Park, with the vegetation ranging from rainforest, to alpine meadow, to the summit snows.

The routes - There are 8 approach routes to Kibo, of varying difficulty. By far the cheapest is the normal (Marangu) route, this is high altitude walking and can be a long and tiring slog. Despite the easy terrain, lack of water and the altitude combine to make a potentially serious proposition. The permeable ground surface and timing of the rains results in variable water supplies. Most people reach Gillmans' point on the crater rim, but then altitude takes its toll and less press on to the actual summit of Uhuru.

At present the most popular route remains the Marangu but increasingly groups are turning to the Machame which has consequently become busy. The other routes are the Rongai, Loitokitok, Shira, Lemosho, Maweka and Umbwe.

The Himalayan scale of Kilimanjaro, long cold bivouacs, remoteness, and lack of decent rescue facilities mean that technical difficulty is a serious undertaking, and the harder climbing routes are rarely ascended now, due to the poor rock quality and massive glacial recession.

Costs - Kilimanjaro is expensive; it is now not possible to make your own arrangements, and everything must be booked through a travel agent. The prices (which include park & hut fees, guide, porters, food and transport) range between $400-700 for a climb of 5-6 days on the normal (Marangu) route. If you intend to climb another route, the prices increase by over 50%. If you have the time and are prepared to take the chance the best prices will be found by going directly to local operators. The situation is often fraught with bureaucratic difficulties which will lessen considerably if a good operator is employed, but don't attempt to make an illegal ascent, as you may be brought down at gunpoint!

Accommodation - On the Marangu route this is good, although the huts that officially require booking are often overbooked anyway. There are two National Park Hotels at Marangu that cater for would be ascensionists, Kibo Hotel and the Marangu Hotel. Camping is not recommended.

On all other routes camping is essential but the local outfitters can supply tents and cooking equipment.

Equipment and altitude - For the normal route, standard walking gear is required, including a good sleeping bag, sunscreen, glacier glasses, lipsalve, and plenty of water. It can be very cold on the final ascent and lack of oxygen will accentuate this, so be prepared. Take all your litter out with you.

Altitude is the main problem on Kil and so read up on altitude sickness. Fortunately most of the mountain guides are now pretty clued up, which has reduced serious cases. See the BMC website for Mountain Medical info.

Contacts and info - Many companies offer Kilimanjaro ascents, too many to list in full here, but a good firm to check out is Natural Action Ltd - 7 Jeffreys Road, London, SW4 6QW Tel/Fax 0207 627 8614, naturalaction@compuserve.com. For general travel info see the Lonely Planet trekking guides. For specific information see the BMC East Africa Pack.
The Madman

BY UMBERTO GHIAIDI
TRANSLATED BY MELANIE ROBERTS

One day, my friend Carlo Barbolini, director of the Scuola Centrale del’Alpinismo (National Climbing School), asked me out of the blue “Do you want to go climbing in Wales for a week”? The thought flashed through my mind ‘Maledetta Albione’ (‘cursed Britain’, a reference to a comment made by a previous visitor to North Wales), Gogarth: terrifying footpaths, loose rock, impossible, barely acceptable, belays. The British are all mad.

And this is the memory that my old neurones recall at the word Wales. A vague sense of discomfort. Never the less, St. Thomas has always been very important in my life: What I can’t see, I don’t believe.

And so, why not, Carlo? The only minor problem, I don’t speak any English.

Wales – International Meet, Plas y Brenin

The atmosphere is of a calm and efficient place considering the number of guests. On the walls of the reception, the corridors and the rooms the photos speak for themselves. Anglo-Saxon pride: the places are beautiful and so is the rock.

In fact, the climbing is in a very unique environment, at least from my point of view, as I haven’t seen much. But we all know that it is not what is beautiful that is beautiful, but that which someone likes. And I like this place. Anglo-Saxon pride is justified.

And the rock? It’s not possible to call these crags (I hope the Welsh don’t mind me calling their mountains crags) the El Dorado of good rock. But even in Italy, we find truck loads of loose rock, maybe a bit less humid and with a bit less lichen. And then in Italy you can choose, while here there’s only this!! Better than nothing, old man.

And modesty? This is important for survival. It is pointless to go looking recklessly for adventure. You find it, everyone at his or her own level and mine is modest enough, sooner than you might expect. There is room for everyone, at every level of difficulty, even if the lengths of the climbs are comparatively short: to compensate they are comparatively severe.

It is vital before starting to understand the difference between the UIAA, the French and the British grading system. When the E appears, always be very careful. The E comprises a heap of nuances, which it is best to interpret properly, don’t get distracted. It’s like driving in Britain; trouble arrives from the side where you least expect it.

It is an iron ethic, even if of iron or other metal the British only know nuts and Friends. The piton, pre-Roman apparitions you come across rarely and usually in the form of an archaeological find. So much so that it is advisable not to use them, except to clip them from a sense of mystic respect: a habit contracted through time, which has become a reflex action: if it doesn’t stop me, at least it’ll slow me down.

And you are also contracted, when in a crack or worse, on a slab with some ridiculous seam, which they call a crack, you can’t manage to think what gear to place being as your tiniest Friend won’t go in. And so more than contracted, pumped, you find the right size micronut. Ufff.

An exaggerated ethic, stronger than iron? Maybe, but it’s theirs. Not for sharing? Personally I don’t know, but it’s important to debate on areas such as conservation, the ecology of climbing and much more. Stay below your limit and re-invent the game of climbing. Except for the shoes, a small consideration, and Friends, which are another small consideration, the routes are in the same condition as 30 years ago. They still have the fascination of the new even if you know someone has already passed.

A nice way to be a conservationist. Conserving for those who will come afterwards, with the modesty of knowing that what is impossible today, may not be tomorrow.

And the madman? He continues to be mad. According to ancient beliefs, the Gods protect the mad. And then, who amongst us is not a little mad?

Cameron Tague

In early July the BMC learnt of the tragic death of Cameron Tague on the Diamond, Colorado - a cliff he had climbed over 30 times and knew as well as anyone. Cameron was one of the most super-psyched, super-competent climbers you’d ever hope to meet and impressed all at the recent BMC International Meet with his smooth ascents of 15 Extreme Rock routes in 10 days and inspired slideshow of desert crack climbing. His death is a solemn reminder of the fine line that so often divides us between success and failure, life and death in this dangerous game we choose to play and love so much. Our thoughts are with his family, friends and his Chesapeake Retriever, Hobbs.

Dave Turnbull

Cameron Tague on an early season flash of Lost Horizons (5.11d), Scafell East Buttress. Credit: Dave Turnbull

Spaniards on the bold initial moves of Tracach, during the International Meet
Credit: Alex Ekins

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