Equipment and its Application
Dear Readers,

Safety in climbing and mountaineering is based on two fundamental requirements. One requirement is safe equipment and the other is safe use of that equipment.

If only one requirement is met, an accident may be the result. Therefore, attention must be paid to both requirements.

Safe use of any equipment can be achieved only by information, teaching, and demonstration. It is a commonly known fact that the ways of passing on new knowledge to climbers and mountaineers are very restricted. If climbers and mountaineers hear or read such information at all, in most cases it goes in at one ear and out at the other. Many climbers and mountaineers shake their heads in disbelief and carry on as normal. The success rate in improving safe usage is always very small.

Concerning equipment, things are different. Here, 100 % success may be achieved. For example, if the gate-open strength of karabiners were to be increased to a minimum of say 15 kN, all accidents caused by broken karabiners with gate open could be eliminated. As another example, when the helmet standard was introduced, which had as a requirement a high energy absorption capacity, these helmets put an end to all accidents caused by earlier helmets with inadequate energy absorption capacity.

This is the reason, why the UIAA Safety Commission has been working on standards for mountaineering and climbing equipment with high requirements, since the Commission was founded in the 1950’s, and is currently working on their improvement. (For example at the moment a sharp edge test for ropes is being developed.) The Safety Commission wants 100 % success in the safety of equipment.

And what can be done in general technology must be provided also for climbers and mountaineers. Things cannot continue as they were in the late 1960’s: At that time human beings reached the moon, but we were still using ice axes with wooden shafts, which broke during the first tour on a glacier or during the first ice climbing. Therefore, the Safety Commission tries to ensure that safety of equipment for climbers and mountaineers is continuously improving in accordance with the general state of technology.

In the Safety Commission controversial opinions are frequently discussed, but the work continues, and conclusions are reached. (For example, at the last plenary session in June this year, one new standard, for crampons, was passed, a second, for snow anchors, is in preparation.) In this way, the UIAA Safety Commission keeps on working for the benefit of climbers and mountaineers.

Last but not least I would like to say thank you to Neville McMillan, the UK Delegate to the Safety Commission, for his help with the corrections of all articles of the special subject of this issue and to Dr. Jörg Eberlein (actually a member of the Access and Conservation Commission) who has put all the material in electronic form.

I wish you always a safe return from any mountaineering and climbing.
Letter from the President

It is almost exactly 50 years since I had my first Alpine season in Chamonix. We were allowed £25 foreign currency and this was meant to cover the expenses of climbing for a month. We had a nylon rope, some ex-army steel karabiners and ice axe, heavy boots with Vibram soles, crampons, and a hammer. The latter was to be used for extracting pitons from easy climbs to be used later on hard climbs as all our cash went of food and hut fees. The issue of the safety of the equipment we were using was never discussed, it was assumed that as everyone else who had no money was using the same gear it must be OK. It was certainly better that the great mountaineers had used when they did the first ascents of the routes were repeating. Gone were the nailed boots, the hemp ropes and the ice axes over a metre long and heavy woollen jackets. We were equipped for anything that the Chamonix Aiguilles and the Dolomite faces had to offer and our equipment was the best.

All this was confirmed three years later when climbing in the rain in North Wales, using the same hawser laid rope that had become so worn that it’s full length was a dark brown colour instead of shining white, it was covered in short hairs so that the lay of the rope was indiscernible. When some 12 metres above my second I pulled a large block away, fell over the overhang, pulled the rope from my second’s hands and fell the full length of its 40 metres, bouncing off a steep slab during my trajectory. A fall of over 50 metres on an ancient nylon rope, it didn’t break but my big toe did. I was so impressed by this that I sent the rope to be tested. The results showed that at it’s most worn areas it was within 90% of it’s new strength. I regretted wasting it, it had plenty of life left in it.

The incident did teach me that the best equipment was worth the money but how to choose the best? The only way was word of mouth, but who did you trust? Since those days it has become easier as the UIAA developed tests for equipment and in co-operation with the manufacturers developed safety standards for most of the equipment we use today.

Ask any climber what the UIAA does and the response is usually something like: “They test gear so it does what it’s supposed to do”.

Well that isn’t quite true, but nearly. The Safety Commission of the UIAA is a dedicated group of engineers that design tests, along with the manufacturers that become the accepted standard. They design the tests that test the best and that is what mountaineers and climbers want. Whether it is their rope, harness, karabiners, helmets or any of the other paraphernalia a modern climber uses he wants to be sure that it isn’t going to fail at a critical time. Perhaps just as important is the ability of the Safety Commission to respond rapidly and design satisfactory tests for new equipment as it reaches the market. During its life we have seen new material for helmets, wired metal chocks, camming devices (‘friends’), abseiling devices, belaying gear and ice axes of weird shape and design. All these designed by enthusiasts to push the limits of our sport and reduce the risks of succumbing to gravity, but how safe are they really, and which is the safest? They must be studied by experts, suitable tests designed and the agreement of manufacturers to accept these tests. So how do we make our choice? The solution is to look for the UIAA label.

When we did a market survey of 18 of our largest member Federations on the value they placed on the nine UIAA Commissions they were all rated highly but it came as no surprise that that work of the Safety Commission was rated the highest. All their members are volunteers and are committed to designing tests that ensure our safety if we use the equipment properly. This issue of the Journal gives a glimpse of some of the work they do and will continue to do in the future.
Equipment and its Application

Karabiner Breakings when Using a Figure-of-Eight

Neville McMillan

Introduction

For decades climbers have been using a Figure-of-Eight (FoE) as standard equipment for abseiling. Both experts and complete novices have used this piece of equipment, invariably attached to their harness or waist belt by a screwgate karabiner, without any reported problems. Yes, there have been many abseiling accidents, due to an inadequate anchor point, or the rope getting cut, or abseiling off the end of the rope, or losing control of the free end of the rope, etc. But until five years ago there had not been any reported failures of the Figure-of-Eight (FoE) or its attachment karabiner.

Then in 1995 in England a climber had a lucky escape whilst abseiling, when his FoE levered open the gate of the attachment karabiner but failed to come free. The following year a student at an adventure centre was not so lucky, his FoE levered itself out of the attachment karabiner, and he fell 40 metres to his death. Before the ink was dry in reporting and analysing that accident, an accident occurred in Germany in 1997, due to an identical failure mode. This time the accident occurred whilst belaying with a FoE. A sport climber fell, and the sudden pull on the rope caused the FoE to break out of its attachment, leaving an opened screwgate karabiner attached to the belayer’s harness.

The problem is not really with the Figure-of-Eight, but with the typical climber’s screwgate karabiner, which is just not strong enough to withstand the levering action of a FoE in these abnormal configurations, and does not prevent these abnormal configurations from occurring. But the levering effect is not restricted to a FoE. More recently, the same mode of karabiner failure has occurred due to the levering action of an energy absorbing system (see article by Charlet).

The First Failure – a Lucky Escape

A climber had set up an anchor point for top-roping at the top of a single pitch route. He then prepared himself for abseiling to the ground. He wore a Black Diamond X harness. The make may be significant, because some Black Diamond harnesses, notably the BOD, do not have a tape loop (the belay loop) connecting the leg loops to the waist belt. When he purchased the harness he was advised to connect the leg loops to the waist-belt by a karabiner for abseiling; the same advice is commonly given to purchasers of the BOD harness. Depending on the size of the harness and the size of the climber, this arrangement often results in the karabiner not being free to rotate but being held roughly horizontally whilst abseiling. At the start of an abseil, when the rope is more horizontal than vertical, depending on the orientation of the karabiner, this can allow the FoE to apply a large force to the gate of the karabiner, and lever it open, breaking a notch out of the locking-sleeve (see Fig. 1).

It is thought that this happened at the start of this abseil, though the climber did not realise it at the time. A little further down, he felt a jolt, and looked down to see that he was connected to the abseil rope as shown in Fig. 2. As he was still 30 metres above the ground, he was a little alarmed, but managed to remain calm. He scrambled to a ledge where he replaced the karabiner, and then continued safely down.

The Second Case – a Fatality

A mature student at an adventure centre had carried out an abseil for the first time in his life. That evening he was...
persuaded by fellow students to do a free abseil, off a bridge, the following day. The bridge was modern, with a substantial steel railing giving a solid anchor point. The aim was to abseil off the parapet at the side of the bridge, down to a minor road 40 metres below. The student was using the conventional FoE and screwgate karabiner, controlling the free end of the rope close to his body, keeping his hand just behind his waist, as he had been taught (Fig. 3). He started to lean out and lower himself, then looked down and his confidence failed him. He pulled himself back into an upright position whilst he wondered whether to carry on. He was persuaded by his fellow students and the instructor to have another go. Which he did, but a second time nerves overcame him and he pulled himself back again. Each time he pulled back again, the FoE and the karabiner went slack (Fig. 4), and, each time he restarted, the instructor made sure that these two items of equipment were correctly aligned. This scenario was repeated several times, until finally he plucked up courage and launched himself into the abseil. Unfortunately for him, he did this too quickly for the instructor to correct the alignment of the FoE and karabiner. As he launched himself into the abseil, these two items moved into the abnormal configuration shown in Fig. 5, and his body-weight was sufficient to cause the FoE to lever open the karabiner gate, breaking a notch out of the locking sleeve as it did so.

The Third Case – Belaying – Luckily only Minor Injuries

This case was reported from Germany by Pit Schubert. Two young sport climbers were at a crag on a warm, sunny day. The belayer was using a FoE attached to his harness by a screwgate karabiner. He was lying on the ground, sunbathing, talking to other climbers nearby, and not paying too much attention to what his leader was doing. The leader fell off, the rope came tight, there was a sudden jolt on the belayer’s harness, and the next thing he saw was the FoE travelling up the crag to the first bolt, as the free end of the rope accelerated through his hand.

Luckily the leader was not far above the ground, anticipated his fall, and escaped a potentially serious accident with relatively minor injuries.

The Consequences

In all these cases, after the accident the Figure-of-Eight stays where it was on the rope at the time of the failure. The attachment karabiner is found on the harness, with the gate open, the locking sleeve screwed up, and a notch taken out of the locking-sleeve. These are the tell-tale signs of this failure mode. But it would be good never to see these signs, because the potential consequences of this failure mode are fatal.

So what can be done?

Many things are possible; the question is: “What are climbers prepared to accept?”

- For belaying there is no need to use a FoE. The FoE was designed for abseiling not belaying, so it could be argued that using it for belaying is a misuse of equipment.
- For abseiling, a cord sling can be attached to the abseil rope by a prusik

...
knot, and clipped to the harness. This does not avoid the mode of failure described, but does provide a safety backup in the event of any failure of the abseiling device. The prusik can be attached either above or below the abseiling device, as described in many climbing textbooks.

- Clipping the attachment karabiner to both leg-loops and waist-belt should be avoided (see article by Harremoës)
- Karabiner manufacturers do not currently consider it practicable to make gate-locking sleeves sufficiently strong to prevent gates being levered open in all possible configurations.

However, there are now karabiners available on the market which make the FoE captive at one end of the karabiner, thus preventing the levering action from occurring. The DMM Belaymaster is one such device.
- Alternatively, the FoE could be attached to the harness by a small stainless steel quicklink or Maillon Rapide. This is slower and less convenient to use, but is very unlikely to be levered open by a FoE.
- Finally, one can take great care to ensure that the Figure-of-Eight and attachment karabiner are always in the correct configuration, and always under load, especially when abseiling over an edge or round a bulge. Jumping over an edge should be avoided.

In the end what one does is up to the individual climber, but being aware of this failure mode, and its potential consequences, should make a climber better able to make decisions about the equipment he uses and the way he uses it in any particular situation.

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**Analysis of Belaying Techniques: A Typical UIAA Activity**

Carlo Zanantoni

A joint effort in the analysis and discussion of the belaying techniques used in the Member Countries is a typical task of the UIAA. It was proposed by the Safety Commission during its 1996 Plenary Session: it was felt that the right time had come for a discussion on a subject which had caused endless debates between the mountaineers of the Member Countries. It was suggested that a joint publication, supported by multimedia documents, would provide climbers and mountaineers with an updated view of the pros and cons of several methods in various circumstances. Techniques and equipment have indeed improved to such an extent as to make it clear that no method is the best for any circumstance.

Since then, the progress in the proposed activity was, understandably, rather slow: a lot of field-work, documentation and theoretical analysis is necessary to support debates and conclusions in this context. The present note concerns the steps that the Italian Alpine Club Safety Commission (CMT) has made in order to contribute to the joint effort. In this paper only a brief and qualitative summary is possible. Our colleagues of the UIAA Safety Commission and the Member Associations are warmly invited to join in our future work.

**A brief look into the past**

The Italian Alpine Club “Safety Commission” (CMT) started its work on belaying techniques during the late ‘60s. The writer of this note was a new member of the CMT when the problem of belaying was discussed by the UIAA Safety Commission during its Plenary Session at Andermatt, 1974. Several practical demonstrations took place on that occasion; I regret that I was not present, since I could have witnessed the somersault of Pit Schubert, who was attached to a too long safety rope when he demonstrated holding the fall of an 80 kg mass by means of the traditional shoulder-belay. He came out of that experience with only slight body injuries, far less serious than those experienced by Dietrich Hasse at the end of the ‘50s, when he tried to hold a long fall with the Kreuzsicherung (ropes crossed around the chest) method.

Those were the times when the CMT was studying the belay system called Mezzo Barcaiolo (MB), developed by Mario Bisaccia, Franco Garda e Pietro Gilardoni. I have pleasure in mentioning those friends (who are no longer with us), since the MB has proved to be a very valuable braking system, a great contribution to mountaineers’ safety.

A great progress has been made since then, related to the development of the MB and of the Sticht Plate:

- The Sticht Plate (a small plate provided with a slot, through which the rope is passed before clamping it into a karabiner) had been developed during the late ‘60s by Fritz Sticht and
had soon become the favourite belaying device of British and American climbers. It is a very dynamic device, therefore it has evolved into the presently more popular TUBER “family” (the same basic concept, but with a more pronounced U-shaped path of the rope within the device).

- The MB (Mezzo Barcaiolo = Demi Capstan = Halbmastwurf) is such a simple tool that the only possible development concerned the kind of karabiner used with it; this karabiner is now called HMS (Halbmastwurf-Sicherung) in UIAA standards. The MB name means “a half of the knot which is used by the sailors to secure a boat to a bollard in a harbour”. The fact that the Britons call it the “Italian Hitch” does not suggest, I am afraid, any particular consideration for its inventors but, rather, lack of interest for the device, such as to lead to no particular name for it. The “English Speaking” climbers have indeed always consistently opposed the MB, basically because in their opinion it is too “static” for their body-belay system. The Americans did even worse than the Britons: they called it Munter Hitch, referring to a Swiss guide of name Munter who demonstrated the MB, or a similar braking device, during his visit to mountaineering circles in the USA, sometime during the ’70s. I wonder how the UIAA Safety Commission was able to agree to call the MB “UIAA knot”! I regret I was not a member of the Commission at that time.

Why such a long discussion about names? Because it is a reminder of the difficulties that mountaineers belonging to a certain “area” have in accepting foreign methods. Now the regional differences are fading away, I hope; therefore it can be accepted that all presently available methods are useful and the mountaineers should be put in a position to choose the best method, depending on circumstances. This is why the UIAA action in this field should be pursued, in order to avoid misconceptions.

The past work of the Italian Alpine Club Safety Commission (CMT)

We were convinced from the beginning that it was imperative to be equipped with a “playground” where it was possible to obtain long free falls without friction: the presence of a large amount of friction in practically all real falls is a great advantage in mountaineering, but it conceals a number of basic factors which are fundamental for the analysis of the dynamic belay process. Friction can be easily introduced when necessary, the difficulties are in avoiding it.

Our first demonstration occurred on occasion of the UIAA Safety Commission plenary session in Venice, 1979. The CMT and the Padova Mountaineering Club (CMT) demonstrated a possible playground for the belay groups. The demonstration was accepted as a good example of what was offered by the UIAA Safety Commission in order to avoid misconceptions.
Equipment and its Application

taineering School had equipped a high climbing wall, where it was possible to get free falls of an 80 kg mass up to 45-m height, with additional space for rope sliding. I had the privilege (!) of demonstrating how to hold a 30-meter free fall without intermediate runners by means of the MB technique. I was wearing a glove, which was necessary to let the rope slide in my hand about 15 m! That was the first demonstration of the “slip ratio” (length of rope slipping in the belayer’s hand, divided by the total free fall height), which is the single parameter determining the average belaying forces. This ratio was subsequently used by the CMT as a characteristic parameter for any belaying device, though the slip ratio depends to some extent also upon other factors, such as belayer’s hand strength and rope type.

On 1980 “The Tower”, as we call it, was built in Padova: a 16-meter high tower, where a steel mass can fall, without friction, along two columns; on the tower a large number of tests can be performed in a short time, due to the electrically operated lifting of the mass.

The work on the tower was focussed for a long time on the analysis of belaying devices and related techniques. Particular attention was put on teaching the climbers that slippage of the rope is inevitable, if friction of the rope against the rock doesn’t help. Many features of the belaying action were demonstrated; e.g. it was clearly shown that the maximum and average value of the braking forces occurring during dynamic belay (not their duration!), and consequently the load on the last runner, are practically independent of the free fall height.

At the beginning, we had to devote most of our efforts to convincing the climbers that in the large majority of real cases the friction between rope and rock is determinant in holding the falling climber; consequently, testing belay at the tower was essential to appreciate what can really happen in a bad (though unlikely) case, i.e. when there is no friction. In more recent years, the CMT has started producing films, aimed at analysing the facts occurring during the belaying action. Two films were shown during UIAA meetings:

- 1996: a film concerning the comparison of rock-belay against body-belay on a real rock face, with real people falling with a fall-factor 2 up to a 14-m height from over an overhang: by using or not using runners, cases with and without friction were compared. The attention of the audience was focussed on the need to optimise the belayer’s attachment to the stance, in order to avoid being thrown into the air or against the rock.

\[\text{Fig. 1: The rock face equipped with runners. The overhang is essential to obtain a clean free fall of the mass.}\]

\[\text{Fig. 2: Classical stance arrangement, with MB (HMS) belaying device}\]

\[\text{Fig. 3: Stance arrangement for body-belay, with figure-of-eight belaying device}\]
1998: a film concerning the comparison between combined (chest + seat) and seat harnesses. The comparison was extended to the progression on glacier, in order to confirm the results of ENSA, previously published by J.F. Charlet: the seat harness is definitely better in this case.

Recent work of the CMT

During 1998 and 1999, a few hundred tests were conducted on rock and on the Tower, comparing belay devices and belay systems, use of single rope and twin ropes, rock-belay and body-belay.

Representatives of the Italian Guides participate in our exercises; one of the major points in our discussion is the different opinion of Guides and CMT concerning body-belay. The Guides use it in any case, the CMT position is more diversified and presently under discussion. It would be very interesting for us to have UIAA colleagues participating in our debate.

At the moment, the CMT attention is focussed on improving the understanding of the belaying process by means of an analysis of its basic parameters, such as: type of device, position and weight of the belayer, length of slipping rope, amount of friction along the rope. The major aim is at the moment the evaluation of the load on the anchor points and on the last runner, which is pulled by the joint action of two strands of rope.

During 1999, two experimental sessions were held at Passo Rolle (Dolomites region). A rock face was equipped with runners up to a height of 12 meters (Fig. 1). An 80-kg steel mass was raised 2 m from the last runner above an overhang, thus providing a 4-m free fall.

Peak forces and, more recently, full plots of the forces occurring in two or three points of the belay chain were recorded. In the two sessions, about 100 cases were studied. Other sessions will follow shortly, probably at Padova next June: the Tower has been equipped with a dummy rock face; the parameters will be analysed more carefully than was possible at Passo Rolle. A computer model is being used to evaluate the results.

Notes on the results

Our set of tests is not completed; the CMT wants to perform more work before our results are published. However, a couple of points are mentioned here in order to stimulate discussion.

Use of twin or half ropes to reduce the load on the last runner

This topic is generating a lot of discussions, in relation to the doubtful strength of runners placed on lousy rock faces or on ice walls. The load on the last runner, it is alleged, is very much reduced if two twin or half ropes are used and they slide on two “parallel” lines, alternatively clamped into different runners.

[Let us confine the discussion on this single statement, leaving aside the critiques of those who, like the writer of this note, maintain that -a) clamping the two ropes into different connectors is not a good practice from the point of view of safety because it reduces the advantage of using two ropes, particularly in view of the danger caused by sharp edges -b) the rope-drag force increases if the two ropes run on aligned runners: in this case the karabiner must indeed often act as separator of the two ropes, which are usually twisted].

Our tests have confirmed that reductions of the order of 30–40% can be reached, compared to the use of a single rope. However, the cause of the difference is only to a minor extent the larger deformation of the “thinner” rope. A simple calculation shows that this larger deformation can only lead to a maximum reduction of the order of 10%. The major part of the difference is due to the fact that the belayer’s hand is less effective in holding the ropes when only one of the two is slipping. This is clearly shown by measurements of the slippage. From these remarks it appears that the advantages of this technique are more appreciable in case of ice climbing. Indeed in this case the cutting edges are less frequent and very “dynamic” devices can and must be used: the reliability of the runners is doubtful and the slippage of the rope is made easier by the use of gloves.

Fig. 4: The belayer is lifted up by the rope.
Remarks on body-belay

Figs. 2 and 3 show the stance arrangements.

Figs. 4 and 5 show how the belayer is pulled up by the rope.

The CMT recognises that body-belay is often the best choice when the stance is bad; it is also a necessary solution when certain types of belaying devices (say a Sticht plate) are used. But are we really sure that using the belayer’s body as a counterweight always leads to a reduction of the load on the last runner?

Our experimental results, confirmed by computer simulations, show that this is not always the case, depending on the circumstances. In the body-belay process the first phase is “inertial”, i.e. the inertia of the belayer’s body prevails over the braking action; it is followed by a “frictional” phase, where the braking action of the device prevails. The inertia of the belayer’s body can lead to a higher peak load on the last runner, compared to the load caused by the regular slippage of the rope in a device attached to the stance. The role of the inertia is tricky; e.g. it is not always true that the load on the last runner is lower when the friction along the runner’s chain is lower: the pull on the belayer’s body is stronger in this case, so that his inertia can be the prevailing effect in determining the forces on the last runner. Depending on the circumstances, an increase in the belayer’s mass can lead to a reduction or an increase of the load on the last runner or on the stance.

It would not be right to insist on these tricky details without quantitative explanations. I just made these few remarks to stimulate collaboration within UIAA: I hope I didn’t produce the opposite effect.

Conclusions

Our work leads us to a better understanding of the factors affecting the various belaying techniques. We believe that each has its own advantages and the choice of the optimum method varies with circumstances. We are still investigating details of the belaying process and would welcome to join a broader UIAA effort in this field.

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About Ageing of Climbing Ropes

Pit Schubert

Ropes age due to use. Pulling a rope round a rock edge or through karabiners and pulling it under a body’s weight through the figure of eight when abseiling and bottom lowering damages a rope in the course of time. Thus the ropes also get shorter in time, in some cases up to 10%.

Ageing caused only by storage can almost be neglected compared with ageing during use. This also holds for ageing by the influence of ultraviolet radiation; ropes may lose their colour with time, but virtually no loss of strength (more precisely, no loss of energy absorption capacity over an edge), because since the beginning of the 1960’s all perlon and nylon (polyamide) has been UV-stabilised.

The decrease in energy absorption capacity depends on the metres of use; for single ropes this can be seen in the following plot (metres of use = metres of climbing + metres of abseiling). The upper part of the hatched area is valid for multi-drop ropes (11 mm diameter, 10 drops), the lower part for normal ropes (10 mm diameter, 5 to 9 drops; “-drops” = number of drops according to UIAA Standard 101 / EN 892. This means very severe drops, in fact fall factor about 1,75 and static belay).

When loaded over a rock edge a very often used rope holds less than a less often used rope, and such a rope holds less than an almost unused rope, and this less than a new rope (all for the same model of rope). So if you always want to have optimum chance of survival with respect to rope breaking caused by a sharp rock edge, you have to use a new rope for every mountaineering or climbing tour. But even a millionaire will not afford this.

Optimum chance of survival in this respect is not a 100% guarantee of survival. Even the best and newest rope may break if loaded over a sharp rock edge, even at the first drop (see below). Many of the fibres get cut and the remaining fibres tear through. The rock edge just has to be a little sharper and/or the drop a little longer and/or the fallen climber a little heavier than a normal body weight.

But statistically, the danger of such a rope breaking is very small: eg. in the last 17 years among German and Austrian climbers there was only one (!) such rope breaking caused by the influence of a sharp rock edge (Hörndlwand near Berchtesgaden, 1993), despite the fact that there is a very large number of falls in sport climbing, surely tens of thousands per year.

In practice, today’s ropes will neither break in the attachment knot, nor at the...
karabiner of a running belay, where the rope is pivoted in the case of a drop, nor in the partner belay, no matter what belay method is used: the HMS knot, the figure-of-eight, or any type of brake plate. And in the free rope length a rope will not break in any case.

These facts also hold for 10- or even 15-year-old ropes. This has been proved by many tests of such old ropes (not even 25-year-old ropes and one 30-year-old rope broke in tests in accordance with the standard; they still held at least one drop; this means that they will not break in practice, unless loaded over a sharp edge, in which case they may break).

But all acids are very dangerous! During the 17 years quoted above with only one rope breaking at a sharp rock edge (at Hörndlwand), there have been four (!) rope breakages in Germany and Austria proven to be due to the influence of sulphuric acid (liquid from batteries?). By now, also in Britain several such rope breakages became known, and in the US and in Canada one each. In all cases, other than Britain, it was due to sulphuric acid. In the British cases, wherever the acid was known, it was also found to be sulphuric. However, in all cases except one nobody could find out how the sulphuric acid came into contact with the rope; in the one case, it can be assumed that it was battery acid, because the rope had been stored in a camper van of a German mountain rescue team for some years.

The damage by any acid has the problem that it cannot be recognized on the rope; there is no visible indication of its presence.

The PPE 1) Regulations in the EU (European Union) require the manufacturer’s indication of time of use in the instructions for use. Such indications may be as follows: “Four years if rarely used, two years if often used, one year or even less if very often used.” Of course, the question arises, what is “rarely used” and “often used”.

Of course, every indication of time of use is just a rough estimate like a house number. Why?

If a rope is not loaded over a rock edge by a fall, even a 10- or 15-year-old rope will not break (influence of sharp edges and any acid of course excluded).

However, if a practically brand-new rope is loaded over a sharp rock edge within the minimum time of use indicated by the manufacturer, it may break at the first drop. One such case has been documented: A rope of the mountain troops of the German army broke on the first fall in the Laserzwand in the Dolomites (1981), on investigation found to be cut over a sharp rock edge. It was known from the log book that the rope had been used only for 10 hours and that it had not been loaded by a fall during this period. The army mountain guide fell to his death.

This shows the doubtfulness of any indication of time of use for ropes. Conclusion: If you want to survive whilst climbing and mountaineering, please do no fall so that your rope comes tight over a sharp rock edge, and do not touch the rope with any acid!

A further possibility for reducing the danger of rope breaking due to the influence of a sharp rock edge is using two half ropes or twin ropes (2 x 8 mm or 2 x 9 mm diameter); with two ropes there is redundancy: If one rope breaks, there is a second one to absorb the remaining fall energy. Up to now, no complete breaking of two ropes became known.

A rope need only be discarded when the sheath has been damaged such that the core is visible. Once this occurs, further sheath damage may quickly take place during further use, to the extent that the sheath will break. A rope with broken sheath cannot be handled. In particular, it cannot be used for abseiling. However, even in this case, there is no danger of the rope breaking, except when loaded over a sharp rock edge.

If the reader does not believe these statements and becomes anxious if his used rope is strong enough or not, he should use it for bottom lowering, or abseiling, or on glaciers. In these cases a rope will not break, because of the low load.

The author Pit Schubert is President of the UIAA Safety Commission, the German National Delegate, the Technical Director for the German language, and chief of the Department for Safety Research of the Deutscher Alpenverein DAV (German Alpine Club).

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1) PPE = Personal Protective Equipment
More and more accidents are happening because of karabiner failure. This is not because karabiners are not strong enough or because the standard is inadequate, but this is due to the basic concept of the karabiner, which has by definition a hinged gate, allowing the karabiner to open and close. This hinged gate is the weakest part, and it is from here where the problems arise.

1 Opening of the gate when falling

If the gate is closed, the karabiner can withstand a load of at least 20 kN. But when the gate is open, the strength is approximately divided by three (7 kN). This means that, if during a fall a karabiner is in a gate-open position it may break.

Different situations:

1.1 Shock of the karabiner against the rock

The karabiner body hits the rock and the inertia of the gate causes it to open (see Fig. 1).

1.2 Even without shock, just by inertia

The rotation of the quickdraw is stopped suddenly by the vertical tension of the rope; by inertia the gate may open. This problem becomes worse, the longer the sling and the higher the fall factor (see Fig. 2).

1.3 Vibrations of the rope

The vibrations of the rope are transmitted to the karabiner and at a certain frequency the gate may open, as reported by ENSA-France to the UIAA Safety Commission during the Chamonix meeting (see Fig. 3).

1.4 Untimely unclip of a karabiner

Taking in the rope from above when climbing, may move the quickdraw as shown on the left side of the following figure. This allows the upper karabiner to get into a bad position. Then, if a drop occurs, the karabiner may unclip from the anchor point as shown on the right side (see Fig. 4).

How to avoid it?

When climbing always look, if the karabiner is in a correct position on the last anchor point.
1.5 General recommendation

There are now karabiners on the market from different manufacturers fitted with a wire gate. It appears that this reduces the danger associated with gate opening of karabiners, due to the lower inertia of the gate.

2 Breaking of the gate when using a figure of eight or an energy absorbing system on a via ferrata

2.1 Figure of eight

When abseiling if the climber does not take care, the figure of eight may move to a bad position on the gate as the drawing in Fig. 5 shows.

Then under just the weight of the climber, the sleeve can break and the figure of eight comes out of the karabiner. (See article by McMillan on page 5.)

How to avoid it?

Before abseiling, or when belaying take care that the figure of eight is in the correct position. This problem can also be solved by use of a quick link or a special karabiner (such as DMM belay master).

2.2 Energy absorbing system

Any kind of energy absorbing system for use in a via ferrata can position itself badly against the gate of the karabiner as figure 6 shows.

In such a configuration the gate can break when a load between 2.2 and 3 kN is applied (depending on the model and on the relative position between karabiner and energy absorbing system).

How to avoid this?

This bad positioning is not a result of misuse, it occurs during the drop without the climber knowing. So to avoid it: a karabiner must never be used to attach an energy absorbing system to the harness.

Different ways to solve the problem:
Attach the energy absorbing system to the harness using
- the part of the rope of the energy absorbing system which is foreseen to attach to the harness (see Fig. 7)
- a quicklink (Maillon Rapide) as shown in the photograph (see Fig. 8)
- a sling.

The author Jean-Franc Charlet is President of the Safety Commission of the Fédération Française de la Montagne et de l’Escalade (FFME). He is Vice President of the UIAA Safety Commission, French National Delegate and the Technical Director for the French language.
When the UIAA Safety Commission, in the second half of the 80’s, worked out the details for the Standard for bolts, UIAA 123, it was aware of the corrosive environment of sea cliffs. The Standard, therefore, specified suitable alloys, which, it was assumed, would cover all terrain.

In the last few years bolt failures in various areas near sea water around the globe have been reported at an alarming rate. No reports of failures have been received from Great Britain, most likely because of their disdain for bolts. Areas in and around the Mediterranean Sea, as far as 20 km inland, have experienced corrosion problems for many years—often within months of placement. Further inland the effects of pollution and acid rain may, however, be the major contributing factors. More recently developed climbing areas in Thailand and Cayman Brac seem particularly affected.

Stainless steel extension bolts consisting of two or more pieces (bolt plus hanger) have repeatedly failed in these two exotic locations. Failures occur usually in the first three years of installation, but have happened in as little as nine months. The bolts typically break under the hanger, flush with the surface of the rock; hangers break where the karabiner rests. Some hangers have been known to shatter like glass with a slight hit of a hammer.

American climbers and metallurgists, investigating Thailand and Cayman Brac, have determined that the failure mechanism is not only simple oxidation or galvanic salt corrosion. The major culprit is apparently Chloride Stress Corrosion Cracking (SCC). Time ago, many different units have been used and, with time, found wanting. Plain galvanized bolts (whether single glue-in units or with hangers) have long been discarded. The problems have been too thin a zinc coating, low quality steel, the rapid advance of corrosion when hanger and bolts are of dissimilar alloys and the natural trapping of moisture under the hanger.

While bolts made to the present UIAA 123 specifications appear to be suitable in mountains and in areas of sport climbing away from the sea, they are definitely not satisfactory in the corrosive environment of sea-side climbing areas. From the above experiences, the suggested solution will most likely contain the following ideal criteria:
1. Single unit glue-in anchor, possible stress relieved,
2. Material not susceptible to chemical corrosion, such as oxidation and galvanic (chloride) corrosion,
3. Material not susceptible to SCC,
4. Material insensitive to temperature,
5. Glue is resistant to chloride and chemical attack and is temperature insensitive,
6. Installation must separate metal from the surrounding rock (by the glue).

The reality is that corrosion will, nevertheless, eventually cause damage to the bolt but the service life will be greatly extended over most units on the market right now.

American climbers have already pioneered the manufacture of bolts, which satisfy most of these criteria. The outcome has been a titanium bolt, which is now available on the US market. The material is considered superior to stainless steel.

In the Calanques, because of cost implications (8000 bolts placed per year) a single mild steel, hot dipped galvanized eyebolt is used (hot dipping greatly increases the thickness of the zinc coating never less than 24 microns). The experience has been very favorable and the price is very low. The service life of these bolts is expected to be only a little less than that of comparable stainless steel units.

These above developments have provided much information. At the plenary session of the Safety Commission in May this year in Cassis (near Calanques), a working group has been established to further investigate. The culmination of this work should be an addition to the existing bolt Standard covering bolts for use on sea cliffs.

The author Helmut Microys is National Delegate to the UIAA Safety Commission of Canada and the US.
Crampons are dangerous! We often start off our crampon technique training courses with this phrase. The pitfalls of crampon use include potential injuries of the ankle joint, but more importantly the risk of stumbling. Walking with crampons differs from “normal” walking in several respects: for a start, the legs must be kept apart sufficiently, otherwise there is a permanent danger that the points will get caught in your trouser legs. The third risk – and it is this risk that the present contribution will focus on – is falling as a consequence of the so-called „balling-up“ phenomenon.

The perpendicular crampon points are keen “snow catchers”. Especially when the snow is wet or sticky, large lumps can form quickly, prevent the points from gripping and create a very dangerous situation.

When the climber sets off in the early morning, he will easily forget this risk. After all, the firn is still hard and the grip of the points superb. However, on descent it is an entirely different story. The snow now tends to be soft, and the mountainer’s tired feet often have to drag along a heavy load of snow.

Remedies

- The most important and easiest countermeasure to prevent balling of snow on the points is to use a crampon only when you really need it. Unfortunately, it is still not a rare sight to spy a mountaineer walking on a glacier in the deep snow with crampons on his feet (but without a rope!).
- Many climbers also try to prevent balling-up by regularly hitting their crampons with the ice axe. Although this will help, it does little to solve the problem in the long term.

However, anti-balling systems are ideal to prevent the problem. Almost all crampon manufacturers (Austri-Alpin, Black Diamond, Camp, Cassin, Charlet-Moser, Grivel, Simond, Salewa, Stubai) have responded to the challenge and now offer fitting anti-balling systems for their crampons. The function principle is amazingly simple. Normally the snow gets stuck between the sole and crampon frame and then ices up. On this foundation, balling-up will readily occur. Anti-balling plates are smooth plates which cover the entire sole. They are made of latex, a material that retains its elasticity to –40 °C. As a result of the constant movement, the plates prevent the build-up of snow.

The effect of these flexiplates is so convincing that we have now made the use of this piece of equipment compulsory for our guide training courses. In other words, every participant must use crampons with anti-balling systems. And as they themselves confirm: use them once, and you will be hooked forever!

UIAA standard?

The UIAA Safety Commission has clearly recognised the importance of the anti-balling plate. Currently, the commission is discussing whether it should not be a compulsory requirement for the manufacturer to offer a suitable anti-balling system for his crampon before a UIAA label is even considered.

The author Michael Larcher is chief instructor of the Österichicher Alpenverein OeAV (Austrian Alpine Club), and National Delegate of Austria to the UIAA Safety Commission.
Karabiners only have sufficient breaking strength if loaded longitudinally. If loaded transversally or due to other unfavourable loading of the gate a karabiner may break even at a fall length of one metre or less. In the worst situation this means falling to the ground and being killed. So the advice must be not to attach to the rope by a karabiner, or, if the use of karabiners is essential, as maybe while top-roping or on glaciers, the following text makes proposals on how to minimise the chance of such breaking of karabiners.

**Top roping**

In top-roping technique, especially at climbing walls or among students under instruction, attaching to the rope by karabiner is commonplace, because it facilitates detaching from the rope and going to another rope. Screw gate or self-locking karabiners are used for attachment. But several accidents have happened due to inadvertent and unwanted detachment from the rope. The number of accidents has increased during the last few years, often enough with serious consequences: two cases of paraplegia became known by now. The rope detached itself both from karabiners with screw-locking gates and from karabiners with twist-locking gates. At first sight, there is no idea, how this could happen.

In none of these cases could clarification be obtained as to how the closed screw-locking sleeve (if it really was closed!) had become undone. There are only speculations. With a fair probability the screw-locking sleeve may not have been closed to its stop and tightly fastened, but only loosely screwed up. By inadvertent rubbing of the loose screw-locking sleeve against clothing, the rope, or whatever, the partially unscrewed screw-locking sleeve might have been unscrewed further during climbing. Self-acting opening even by vibration or imbalance of the screw-locking sleeve can be imagined in such a case, also.

The opening of twist-lock karabiners may happen in a similar way: a textile filament of the rope sheath may cling to

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**Fig. 1:** Typical method for tying to the rope, frequently used for indoor top roping. Dangerous!

**Fig. 2 / 3:** Typical opening of a twistlock karabiner
Equipment and its Application

a sharp edge of the twist lock mechanism and open it when loaded (see figure); this has also been known to occur when abseiling using an HMS knot.

With the locking sleeve (screw- or twist-lock) once undone, as soon as the karabiner is loaded in an unfavourable direction, the attached loop of the rope or the belay loop of the climbing harness detaches from the karabiner in a self-acting manner (see figures).

So what can be done? There are several possibilities, but each has its disadvantages:

● Closing the screw-locking sleeve to its stop and fastening it tightly so that it cannot open inadvertently (cannot be guaranteed, and often the sleeve cannot be loosened after use).
● Using karabiners with a double-acting (twisting and sliding) self locking mechanism (very good, but not liked by many climbers because of the complicated action).

● Tying directly to the rope, as is standard practice at climbing walls in Britain, and as is required in UIAA climbing competitions (the best solution, but considered too slow by many climbers when moving from rope to rope, and disliked by inexperienced climbers because the knot becomes difficult to undo after falling).

Only one possibility remains: redundancy, i.e. using two karabiners (both with locking mechanisms) attached parallel and in opposite directions (see figure)*. If there is not a second karabiner with locking mechanism, use a normal karabiner. Attaching a second karabiner is not too much trouble with regard to weight and effort.

On glaciers

On glaciers attaching to the rope by karabiner is usual. Here, the redundancy using a second karabiner as described above is also recommended*. As far as is known at present, no accidents due to the use of only one karabiner have occurred. But this may only be because falls into crevasses fortunately happen far less frequently than loading of rope in top roping technique. Of course, such accidents could happen on glaciers as well. There simply would have to be a similar number of falls into crevasses for practical evidence!

*) If a “ball-lock karabiner” manufactured by PETZEL or a “belay master” manufactured by DMM with their special locking mechanism is used, the second karabiner may be omitted. This locking system is designed in a manner that self-acting opening is excluded.

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Beware of Quickdraws for Self-Belay

Neville McMillan

Introduction

A climber climbed up to a bolt 9 metres above the ground, and clipped his harness directly to the bolt with a quickdraw, to take a rest. Directly above the bolt was a piton which he wanted to remove. In order to reach the piton he extended his self-belay with another sling and karabiner (Fig. 1). He then moved up until the slings came tight, and started to remove the piton (Fig. 2). Whilst doing this, he slipped and fell. One of the karabiners broke (Fig. 3) and he fell a further 9 metres to the ground, fortunately without injury.

Analysis of the Events

The climber found some of the bits of the broken karabiner, and sent them for investigation. Initially he had only fallen 1.5 metres, and he did not think that anything should have broken. No damage could be seen on the karabiner gate-latch, and the position and nature of the fracture indicated that the karabiner had fractured whilst the gate was open. On the face of it, this was a classic fall-factor 2 situation, but without any dynamic belay. It is known from rope testing that, if climbing rope had been used for the belay link, this would have generated a force in the range 6 – 12 kN. Since the gate-open strength of the karabiner he was using was only 6 kN, it is not surprising that the karabiner broke. When using a static belay it is essential always to use screwgate or automatic-locking gate karabiners. The forces generated are much higher than when using a belay device which allows some slippage.

However, further analysis gave more cause for concern.
Lowering Off and Abseiling – a Huge Difference

Pit Schubert

Lowering off over a sling will damage this sling by melting. This fact and the related danger are commonly known by now. Nevertheless, there are still accidents, especially if abseiling and lowering off are interchanged. The two accidents described below emphasize this point. However, up to now it was not known how fast, i.e. after how many – or perhaps we should say how few – metres of lowering off, a sling may melt and break.

Two examples:

Two young Swiss sport climbers were abseiling down a multi-abseil descent. While going down the last length they noticed that this would be a nice pitch for climbing. Arriving at the bottom, one of them tied to one end of the rope, while the other one belayed him in top roping technique.

During the following lowering off the inevitable happened: The sling, which now was no longer used for abseiling but for lowering off, broke due to melting. Taking into account the length of the fall, the injuries were only minor.

Something similar happened to two well-experienced German climbers (one of them is a mountain guide) on Grand Capucin (Montblanc). Fortunately, also in this case there were no major injuries.

An astonishing fact is that the Swiss sport climbers complained to the manufacturer of the accessory cord: they wrote to him complaining that the quality of his accessory cord had deteriorated. The manufacturer would not accept their complaint and in reply asked how they had the idea to use accessory cord for top roping and lowering off. Their answer: in the past they had been told by mountain guides that even old lengths of cord or rope can be used as slings for abseiling. That is true! But: Abseiling is not lowering off!

How many metres?

As such accidents keep on happening, I did some tests to find out how many, or how few, metres of lowering off it takes until a sling breaks by melting? We used the usual, free hanging standard weight of 80 kg. Our suspicion was proven: really, it takes only a few metres of lowering off. Using a thin rope a sling melts even faster than using a thick rope. The reason is evident: the force per unit area is bigger using a thin rope than using a thick one, and the bigger the force per unit area, the more rapidly the sling heats up in this small area, and the quicker it melts. The table at the end summarises the results.

The values hold for new accessory cords and a medium speed of lowering off. The slings might break even faster if old accessory cord is used or the...
speed is higher. These values seem to be significantly lower than those known in practice. The reason may be that frequently the terrain is not quite vertical and so the slings are not loaded with the full body weight. The length of lowering off before breaking may also be significantly larger if the climber’s weight is less than 80 kg, or if several slings – sometimes there is a whole bundle of them – hang at the lowering point. However, there is always danger.

**The difference**

The force on the sling when pulling down the rope after abseiling is quite different from the force applied when lowering off:

- Pulling down the rope (after abseiling) loads the fixed point (sling) with approximately 0.10 kN (about 10 kp) initially, but the load reduces as the rope comes free. Of course, this causes a little rope melting, but there is only slight damage to the sling and it will not break.

- The load for lowering off (top roping) may be 15 (!) times as large, i.e. up to 1.5 kN (about 150 kp). The much more rapid heating caused by such a load quickly melts the sling and causes it to break. The high pressure exerted on the sling by the rope during lowering off combined with the friction really cuts the sling by melting.

**Tests concerning sling melting**

<table>
<thead>
<tr>
<th>sling</th>
<th>9 mm half rope metres of lowering off</th>
<th>11.5 mm single rope metres of lowering off</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 mm cord</td>
<td>single sling</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>doubled sling</td>
<td>2.00</td>
</tr>
<tr>
<td>6 mm cord</td>
<td>single sling</td>
<td>1.55</td>
</tr>
<tr>
<td></td>
<td>doubled sling</td>
<td>2.70</td>
</tr>
<tr>
<td>7 mm cord</td>
<td>single sling</td>
<td>2.80</td>
</tr>
<tr>
<td></td>
<td>doubled sling</td>
<td>3.90</td>
</tr>
<tr>
<td>8 mm cord</td>
<td>single sling</td>
<td>3.70</td>
</tr>
<tr>
<td></td>
<td>doubled sling</td>
<td>3.60 *</td>
</tr>
<tr>
<td>10 mm cord</td>
<td>single sling</td>
<td>4.30</td>
</tr>
</tbody>
</table>

The values marked with an asterisk (*) deviate from the others. The reason might be the different speed of lowering off, which cannot be controlled exactly if done by hand.
How to Get a UIAA Label

1. UIAA Standards and EN Standards*

1.1. The UIAA Standards are based on the EN Standards and have additional safety requirements; only these additional safety requirements are described (only published in English).

1.2. For an overall view of all the safety requirements, which shall be fulfilled by the product (to get the UIAA Label), it is necessary to get the EN Standard also.

1.3. The UIAA Standards are free of charge and can be ordered from the UIAA Office in Bern / Switzerland or directly from the President of the UIAA Safety Commission, presently:

Pit Schubert
Deutscher Alpenverein
Praterinsel 5
D-80538 Muenchen / Germany
Tel: +49-89-21122439
Fax: +49-89-21122440
e-mail: pit.schubert@alpenverein.de

1.4. The EN Standards can be purchased (in the language of the mentioned country) for payment from the addresses listed at the end of this document.

2. Samples for Testing

2.1. Samples of the product shall be sent to one of the UIAA-approved Test Laboratories with the order for testing according to the UIAA Standard (this includes the testing according to the EN Standard too, because the UIAA Standards include the safety requirements of the EN Standards). The test costs shall be paid by the manufacturer.

2.2. A list of the UIAA-approved Test Laboratories can be obtained from the above mentioned president.

3. Test Report

3.1. The test report and an application for the UIAA Label shall be sent to

*) EN Standards = European Standards, they are also called CEN Standards, CE Standards
3.2. If a manufacturer has the CE mark for his product, it is only necessary to send the equivalent documents to the UIAA Label Administrator and those paper(s), which the corresponding UIAA Standard requires.

4. UIAA Label Certificate

If the test report or the aforementioned equivalent documents show that all the safety requirements of the UIAA Standard (which includes the safety requirements of the EN Standard) are met, the UIAA Label Certificate will be issued and sent to the manufacturer.

5. Retests

5.1. A retest shall be made every year by a UIAA approved Test Laboratory (samples and the order for testing shall be sent by the label holder). The test report shall be sent to the UIAA Label Administrator (if the UIAA Label Administrator receives no annual test report, the UIAA Label will be cancelled).

5.2. If the product has the CE Mark, no retest and no more documents are necessary.

Important remark for manufacturers in non-EU: If a manufacturer wants to sell his products in the EU, the product shall have the CE mark. The UIAA is not responsible for the CE Mark.

T

hese days most climbing harnesses consist of a waist belt and leg loops connected with an abseil loop. Many young climbers place a locking karabiner parallel with the abseil loop for belaying, despite the fact that this doesn’t seem to be recommended anywhere in the climbing literature or in the instructions from the manufacturer when the equipment is sold. On modern harnesses the abseil loop is tested as an attachment point so that you can use it for belaying. Anyway you can always belay in the tie-in knot – even on harnesses which don’t have an abseil loop. The reason I have heard for placing the locking karabiner parallel with the abseil loop is that in this position you have double security because 2 points (waist belt and leg loops) are better than one. The problem is that if the locking karabiner can’t rotate freely, we can’t be sure how the karabiner will be loaded. There are 3 main problems with this:

1. Danger of partial or full loading along the minor axis

Karabiners are tested to a minimum of 20 kN on the major axis, but only to 7 kN on the minor axis. 20 kN is more than can be generated in even the worst fall, while 7 kN can be generated in high-factor falls with most ropes. If a figure-of-eight or similar brake is used, the karabiner might even be loaded in a worse manner (see page 5).

2. Danger of unintentional opening of the karabiner

Both screwgate and twistlock karabiners may open if the rope runs over the sleeve. This may happen if a brake of the Sticht-type is used.

3. Cutting the rope

The last problem is perhaps less known and therefore I will describe it in a little more detail. In the safety requirements for connectors (karabiners) it is stated that: “All edges of a connector that can contact with the user’s hands and/or combinable components such as ropes, slings, accessory cords and harnesses, shall be free from burrs.” But although a locking karabiner doesn’t have burrs it normally has relatively sharp edges where the gate meets the latch. Also many sleeves on locking karabiners have relatively sharp edges – especially on locking karabiners of the self-closing type.

If you belay with a Sticht-plate, tube, ATC etc. and the karabiner is fixed then there is a danger that the rope will run over the sharp edges. I know of 2 instances where this actually happened, and in both cases the whole sheath of the rope was cut. In both cases the core was undamaged. Climbing ropes are of kernmantel construction. Therefore as soon as the sheath is cut, the strands of the core will spread out and the load will be distributed on a much larger surface. At the same time the sheath will pack around the sharp edge while the strands slide inside the sheath. Therefore the core might be intact even when the whole sheath is cut on a sharp rock edge or as in this case on the karabiner.

The best way to prevent these problems is of cause to connect the locking karabiner to the abseil loop or to the tie-in knot, or eventually use a type of karabiner where this can’t happen.

The author Peter Harremoës represents Denmark as the National Delegate to the UIAA Safety Commission. He is a member of the Safety Commission of the Danish Mountain Club.
UIAA International Youth Leader Education Seminar

Petro Grobler, Mountain Club of South Africa

The UIAA Youth Commission presented a successful seminar about the training of youth leaders in mountaineering and climbing. This took place, following the Youth Commission meeting, in Le Tour, France from 23 – 25 June 2000, and was attended by 20 participants from 10 countries worldwide. It was organised by the Youth Commission President, Jürg Schweizer, and the Fédérations des Clubs Alpins Français (FCAF), with Dominique Girard in charge, were the hosts.

A session was held in which all federations represented at the seminar presented posters about the organisational structures in their countries through which youth leaders for mountaineering and climbing are being trained and how this slot into the professional side of mountain guide training. With no official youth leader education schemes present in some federations, some presentations were made about how the youth and/or training are being accommodated within those organisations.

This session inter alia illustrated the wide diversity in the level of activity in youth leadership training and youth involvement between federations. Generally speaking it is the larger federations that have professional administrators and receive government funding who attend to the important aspect of youth in mountaineering and climbing. Some federations have no problems presented a lecture on the different training methods to be followed when the youth or adults are trained. Clearly, kids are not just small adults! Markus also discussed a pilot project of SAC through which thousands of school children were exposed to climbing via a mobile climbing wall that visited schools.

Helmut Knabl, chairman of the Austrian Competition Climbing Commission and sport teacher, lectured on risk management for ski-touring and snowboarding. Off-piste snowboarding in particular currently leads many youngsters into avalanche-prone country. Although the subject had particular relevance to alpine countries, the principles can be universally applied to any high-risk activity including mountaineering and climbing. To engage the attention of children – whether Swiss or African! – you must take into account that all has to be ‘cool’! After all: ‘no risk – no fun’... Risk must therefore be accepted and managed. Although simplified presentation – especially of avalanche risk – is not easy to make and oversimplification can provide false security, such a presentation can perhaps succeed in gaining the attention span of active children and by repetition of easy slogan-like rules could save lives in emergencies.
The seminar lectures were complemented by practical exercises. Markus Ruff presented an exercise about sport climbing movement to illustrate the way in which adults think and learn, contrasting this with how children learn. Wolfgang Wahl and Hannes Boneberger of the youth organisation of the German Alpine Club (JDAV) led two outdoor exercises with the aim to use group dynamics to solve problems and develop technical rope skills. It is a rare thing to see mountaineers climbing trees near Chamonix!

Michela Dello Iojo of Club Alpino Italiano (CAI) presided over a communication exercise in which seminar participants in groups of two had to discuss how they experienced the seminar they had attended. Each person then had to present the other’s views to the assembled group. In a final workshop the aims, content and target groups of youth leader training seminars were thrashed out.

The youth leader training seminar led to sharing of information between various federations. Ideas were provided to federations and delegates who have not yet given much attention to this important aspect.

After all, surely the future, also for mountaineering and climbing, lies in the youth?

Meeting International Standards in Training

By John Cousins, United Kingdom Mountain Training Board

Twenty seven delegates from fifteen countries attended this seminar organised by the UIAA Training Standards Working Group in Chamonix at the CAF Chalet du Tour from 21 to 25 June 2000. This event was a new initiative for the UIAA, bringing together experts for practical and theoretical discussion on the best practices needed to train and assess voluntary leaders and instructors.

The aims of the seminar were simple:

- To learn from each representative of the training schemes available in their countries and the training methods used to deliver these schemes.
- To hear something of the work of the UIAA and to consider how it can continue to assist federations.
- To make progress in giving approval to federations’ training programmes.
- To identify useful training resources and identify what further work needs to be done by the UIAA or by individual member associations.

The delegates took part in a varied programme over three days, including sessions on:

- teaching methods for environmental education
- single pitch climbing – top-roping and abseiling
- the experience of the Swedish Climbing Association in gaining UIAA approval
- training in mountaineering – differences according to age
- the work of the UIAA’s Legal Group
- the teaching of lead climbing
- review of assessment techniques
- training at the margins of walking/climbing terrain
- the teaching of ice climbing

By the end of the seminar five federations had made considerable progress towards gaining approval under the UIAA Model Standards for Voluntary Leaders. Besides these developments, the delegates appreciated the opportunity afforded by the seminar to become involved in an international network of individuals and federations whose common interest is mountain training. The delegates felt that Chamonix was a natural place to hold this first meeting since it was at the heart of mountaineering. Delegates also felt that it was important for them to meet again in two or three years in order to review progress and maintain the network created by the Seminar.

Thanks are due to the French Alpine Club for their tremendous hospitality at their chalet and to Patrick Lamarque for acting as our host. Also to the individuals who had run the many sessions during the three days and the delegates themselves for contributing so fully and making the meeting such a success.
Meetings and Events

Club Arc Alpin Meet with President of European Commission

Ian McNaught-Davis

Sometimes before Britain joined the European Union there was a small piece in a newspaper which said “Storm force gales in the Channel, continent cut off”.

That mentality continued for many years until the Channel Tunnel was created connecting France and Britain by a high speed railway. It seemed appropriate to take the Eurostar TGV to attend a meeting with the President of the European Commission, Romano Prodi in Brussels on June 16, 2000.

As I got off the train three hours late because a man had committed suicide by throwing himself in front of the train, I realised that my problems were just starting. Between me and the gate were several hundred English football supporters dressed in strange ritual garb and makeup surrounded by many black clad cops presenting sinister looking weapons. I went up to the smallest policeman I could find and showed him the invitation letter from the EU. Without hesitation he presented me to two cops took me to a taxi, gave the driver directions, saluted me and returned me to the pending riot.

Ten minutes later I met the members of the Club Arc Alpin (CAA) who had arranged the meeting. They were representing some of the Alpine Clubs in Europe with particular interest in the Alpine regions – France, Italy, Austria, Slovenia, Liechtenstein.

Romano Prodi received us in his office and André Croibier, President of the Club Alpin Français, spoke on behalf of the Club Arc Alpin. Essentially the meeting was to get support from the EU to help on certain projects in the Alps, particularly within the EU.

These were:

- To get financial support from the EU to establish an “Environmental Charter” for refuges in the Alps to define good environmental practices on rubbish and waste disposal, use of solar power and other ecological issues. In addition, to create an EU label for refuges that meet the environmental charter.

- To assist with the creation of a network of some 300 authentic, old Alpine villages that are unfrequented by tourists and are facing economic difficulties.

- For the EU to recognise the importance of the UN Year of the Mountains 2002.

- Roberto de Martin, the ex-President of the Club Alpino Italiano spoke about how many mountaineers climbed on peaks straddling national frontiers and presented Mr Prodi with new maps of the Argentera/Mercantour region entitled “Alps without frontiers”: No frontiers between Italy and France are shown on the maps. Mr Prodi seemed pleased about this as being a step in the right direction. Is it impossible to imagine other countries doing the same thing? In the 1930’s it would have seemed impossible in Europe, a fantasy. Could we see it in other countries in 2030? Nepal, India, Pakistan?

I outlined the role of the UIAA with 82 international federations as members including all the members of CAA and pointed out that progress made in the projects suggested could influence opinions elsewhere in the world. The last four issues of “World Mountaineering and Climbing” that I gave him showed very clearly some of the UIAA’s international interests – Women, Youth, Mountain Medicine and Mountain Protection. He accepted them with interest.

This was an important meeting showing at the highest level in the EU the interest of CAA and the UIAA in mountain regions and the importance of the community of mountaineering and climbers. He was particularly impressed by the number in the Netherlands which as far as he knew had no mountains.

Mr. Prodi asked everyone who spoke to speak their own language so it was conducted in Italian, French, German and English. It was a warm and friendly meeting.

Andrzej Zawada is Dead

Andrzej passed way in Warsaw August 21st after suffering from cancer for some time.

Born in 1928 in Poland, he will be remembered as one of the world pioneers of winter mountaineering. One of his first great achievements was a three weeks winter traverse of the Tatras. 1973, he reached the top of Noshag, the first winter ascent of a 7000 m peak.

1980 he lead the first winter ascent of Everest; one year later he conquered Everest South Pillar. He tried spectacular but unsuccessful winter ascents of Lhotse (1974) and K2 (1988). Andrzej is survived by his wife Anna Milewska.
The year 2000 Spring Council Meeting was held on invitation of the British Mountaineering Council at the UK Training Centre in Plas-y-Brenin, North Wales on May 13, 2000. As usual for this area and for the organisation talent of our BMC friends, the weather was of Mediterranean character all the time, and on the approach to the mountains we got glimpses of the last flowering rhododendrons and of the lambing season.

It was very nice to meet also participants of the BMC International Performance Training Seminar (see page 30) which took place at the same time.

A new Council member was welcomed: After Hanspeter Schmid had become a Board member, the SAC designated their current President Franz Stämpfl as a Council member.

A good deal of the time of the meeting was spent on the progress reports of the Commission Presidents, and it is interesting to mention how many issues concerning more than one commission were discussed.

This started right at the beginning with Pascal Mouche expressing his concerns about anorexia of young competition climbers and asked for the support of the Medical Commission, represented by Jim Milledge, to develop rules for this problem.

Conservation Commission as access restrictions in many countries are currently cause by legal circumstances.

A draft text of a “UIAA Summit Charter 2002” had been prepared in view of the UN Year of the Mountains 2002 program; the main aim of the paper is to call on international organisations and governments worldwide to recognise as a basic value for all people from all backgrounds the freedom to enjoy climbing mountaineering and the natural mountain environment and to express their support for this value and its importance.

Alan Blackshaw will resign as President of the Mountaineering Commission at the end of this year and he was asked by the Board to act as the “UIAA Special Representative for the UN Year of the Mountains 2002”, which was unanimously approved by the meeting.

Council members were requested to inform Alan Blackshaw of any activities member associations are planning for this year.

The absence of both the President or Vice-President of the Mountain Protection Commission caused concern.

The discussion of matters of the Expeditions Commission focussed on two items: Increases of permit fees in Nepal, which are regrettable on one hand, but on the other there is the continuing trend particularly among young climbers to concentrate on already popular and overcrowded areas with little interest in remote and new ranges. Secondly, the “HIMS” Langtang Mountaineering School Project of the French EAN organisation, which has been selected by the UIAA for an IOC grant of USD 10,000, has seen continuing delays forcing the UIAA to withdraw. Options presentable to the IOC were discussed and left to the Expeditions and Mountaineering Commissions.

The International Council for Ski Mountaineering Competitions (ISMC) President Jordi Colomer reported about his meeting with the IOC President Samaranch and possible perspectives to get Ski Mountaineering Competitions into the Olympic Games 2006 in Turin. Meanwhile a positive reaction of the IOC Sports Director Mr. Felli has been received and his condition of a backing by the FIS has been favourably answered in a discussion with the FIS President Mr. Kasper. It seems now to…
Meetings and Events

be up to the Organising Committee in Torino to decide on the inclusion of Ski Mountaineering Competitions in the 2006 Winter Games.

The Safety Commission represented by their Director for the English-speaking countries Neville McMillan was reminded by Bill Putnam about the 1999 Council Meeting motion to develop tests and standards for ropes passing over sharp edges. McMillan had to report about the difficulties in designing tests and obtaining meaningful results. Work will continue.

The report of the Access & Conservation Commission dealt with the aims and objectives of this rather new commission. President Bob Pettigrew emphasized the untiring lobby efforts necessary when it comes to legislation for access, mainly because of the innocence of legislators.

Pascal Mouche, President of the International Council for Competition Climbing (ICC) demonstrated the substantial increase in competitions in 2000 and the formation of a Sports Development Commission for the purpose of getting more visibility at Olympic level.

Jürg Schweizer, President of the Youth Commission concentrated on the planned International Youth Leader Education Seminar (which eventually proved to be a great success) and on plans for the UN Year of the Mountains 2002.

The discussion on Finances concentrated largely on budget revision after receiving the USD 55,000 grant from Worldsport.com for every quarter the website has been operational. The Council decided to propose to the GA to approve the revised budget for 2000.

M. Chris Payne and Seb Lauzier of Worldsport.com explained present and possible future relationships between their company and the UIAA. There was agreement that the website is presently in bad shape and needs considerable improvement.

President Ian McNaught-Davis drew some conclusions on a future strategic plan from his report “What I have learned from the survey of Council members”. He outlined the need to have a Development Director and to greatly improve the management of the Website. It was decided to have a meeting with the Commission Presidents to discuss strategic issues very soon.

Preparations for this year’s General Assembly in Paris are particularly important because a new Board, Council and Commission Members will have to be elected for the next four-year term 2001 – 2004.

The venue of the next Spring Council Meeting will be in Pakistan. For the Spring 2002 Meeting there were two invitations: From the Italian CAI to come to Trento in conjunction with both the UNO 2002 Year of the Mountains manifestations taking place there and also because of the 50th anniversary of the Trento International Film Festival. The second invitation came from the Dutch NKBV in connection with their 100th anniversary of organised climbing in the Netherlands. After some discussion the meeting decided with 8 votes in favour for Trento, 5 votes for the Netherlands and two abstentions.

The BMC quality of organisation and hospitality are already proverbial – many thanks to Derek Walker and Roger Payne and congratulations for the success to their BMC team.
The bi-annual BMC International Meet, this year in May in Plas-y-Brenin, usually has 2 aims; firstly to bring together climbers of all nationalities and introduce them to the famous pleasures of North Wales traditional routes, and secondly to discuss current hot topics in the climbing and mountaineering world. The Meet went one step further this year in hosting the first International High Performance Seminar. Alexander Piratinsky, the Russian head coach was the first person to sign up for the HPS seminar, an innovative week long mix of presentations, panel discussions, and practical workshops. Many others from over 20 different countries followed, sacrificing time in the unexpected endless sunshine to investigate just what “Makes the difference”, not just in the world of sport climbing, but also mountaineering and high altitude mountaineering.

For evening entertainment the Neil Gresham and Tim Emmet slideshow showed the exciting developments around the fringes of British climbing today, by delving into hooking on chalk, monopoints and deep water soloing. Then Stevie Haston took us through his climbing and snowboarding exploits, looking down on 1000ft drops from the snowboard and up at his suggested selection of spectacular unclimbed lines on Himalayan peaks.

The first two days of the Seminar program focused on strength and endurance training for climbing and monitoring of performance including video analysis of climbing movement and monitoring of forearm fatigue. Grip endurance strength was eventually shown to be most important characteristic affecting climbing performance.

Guido Köstermeyer suggested in his study of climbers with a minimum red point level of 8a, that to increase onsight level rapidly, power endurance should partly be trained at sub maximal intensity on longer routes with a short
rest period of 1–2 mins between routes. Climbing with a slow rhythm and attempting recovery between moves was ideal. Alexander Piratinsky followed this up with an excellent presentation on the Russian system of training for speed climbing, explaining the benefits of planning sessions within the week and over the year.

French team coach Antoine Pecher gave an example of how it was important to cater for the individual, for example the French Competition Climbing Team questionnaire that examined many personal details including food, sleep pattern before a competition as well as the individual’s goal setting. But don’t head for the cellar just yet, Marius Morstad from Norway quickly warned of the evils of top level performance training and its threat to the soul of our sport in a lively presentation that raised many moral and logistical questions for the future.

Stojan Burnik again highlighted the difference between climbing and conventional sport with his study of the Slovenian junior schools, a discussion on good and bad points of federation infrastructure to aid performance and a Spanish system of selecting and training young alpinists.

Selection and training included assessing individual skills in rock climbing, expedition planning, ski mountaineering, ice climbing, big wall climbing, self rescue and security techniques and personal motivation to undergo training and achieve objectives.

Looking beyond training ‘Methods of attack’ with Andy Perkins provided an entertaining analysis of tactics and the importance of having an intense experience and feeling ‘balance’ when mountaineering. To achieve high performance necessitates an improvement in physical or mental state i.e. harder climb, harder to survive, greater danger, greater commitment, faster ascent. Logistics of choosing the right length of objective, size of team and style of ascent were discussed.

The practical sessions including on Friday provided a well-earned break from the lecture room. Even ice climbing wasn’t missed out, and at the cost of just a few bolt on holds, the DMM duo of Neil Gresham & Tim Emmet pointed out the way forward, albeit on plastic.

The seminar was extremely well attended, and plenty of international meet guests from far and wide including pre registered experts and those who took advantage of this unique event to hide from their hard climbing British hosts.

Many thanks to Dave Binney and members of the BMC High Performance Steering Group who had an input to program design and chaired the panel discussions. One of the most important outcomes will be the formation of the International e-mail link group to co-ordinate research and discuss training plans. If you would like to know more or be involved contact anne@thebmc.co.uk.

Following the seminar recommendations are being summarized in the proceedings which are available from the BMC Office. There was much interest in a similar event being held in the future.

Meetings and Events
Meetings and Events

Trento Film Festival Internazionale – Montagna Esplorazione Avventura

Ernst Haase, Editor

Statistics

The 48th International Trento Film Festival was held from 28.04. to 06.05.00 and a remarkable event it was. The selection committee had to go through 201 films and 78 films from 21 nations made it into the competition. Fiction films were a new category and 7 films were entered.

Otherwise, in the classical categories there were 29 mountain films, 19 mountaineering films, 14 exploration films and 9 sports or sports adventure in the mountain films.

But there were not only films to be seen. No less than 9 art exhibitions were arranged throughout the town, and a Mountain book Festival was held.

I Grandi Protagonisti Degli 8000

Among the numerous events around the films one was outstanding: A great celebration of the first summitters of 8000ers and other pioneers on them, culminating in an evening at the auditorium where Reinhold the Great led the audience through the history of the ascents of the 8000 m peaks, and many of the protagonists were present and came to the floor to be interviewed by Reinhold: Sir Edmund Hillary, Kurt Diemberger, Krysztof Wielecki, Carlos Casolio, Fausto De Stefani, Tomas Humar and others.

The Atmosphere

One of the wonderful features of the Trento Filmfestival is that it literally embraces the whole town. In other places such events attract specialists and fans, but where would permission be given for a huge tent on the Piazza Duomo, one of the most remarkable architectural ensembles in whole Italy. And it is here that old and young mix with celebrities.

As a native of Munich which always boasted itself as a “city of mountaineers”, I say Trento is offering a lot more presence of mountains and mountain culture and mountaineers.

Comitato Italiano per il 2002

It is not surprising that many officials met for meetings during the Festival, taking advantage of the presence of all VIPs. I had the privilege to attend a meeting of the “Comitato Italiano per il 2002 – Anno Internazionale delle Montagne”, composed of the Group “Amici della Montagna” of the Italian Parliament (!), the ev-K2-CNR committee, the Courmayeur Foundation, the National Museum of the Mountains Torino, the Club Alpino Italiano and the Trento Filmfestival; and the Secretary of the commission is climber of an 8000er: Agostino da Polenza.

Knowing where the preparations stand in other countries I can only say that our Italian friends are light-years ahead of any other nation in their ideas and projects for the UNO 2002 Year of the Mountains.

The Film Program

Perhaps it reveals a lot about the situation of mountain films that retrospectives played a big role in the program: All of the famous films of the first ascents of 8000 m peaks were shown, from Marcel Ichac’s great Annapurna film to Hans Ertl’s account of Nanga Parbat 1953. Obviously, these types of films belong to the past and the modern style of mountaineering also requires another style of filming.

One of the very best mountaineering films which received the Golden Gen-

Protagonists of Mountaineering: Kurt Diemberger and Riccardo Cassin

Photo: E. Haase
Meetings and Events

The UIAA Prize

For the UIAA prize, which is given to “the best film portraying an important, modern and genuine mountaineering venture on any mountain in the world” a jury was formed consisting of Paola Gigliotti, Alessandro Giorgetta, (Editor of the Rivista del CAI) and me and we quickly had a consensus on *PAMIR ALAY – CLIMBING BIG WALL 1999* by Lorenzo Pevarello and Alberto Beltrami. We justified the decision by saying: *The film was shot by the climbing team itself in the course of a demanding first ascent, perfectly reflecting the UIAA philosophy about mountaineering, but still using the most modern big wall climbing style.*

During the press conference, I was challenged and expressed our opinion in simple turns: We like young people who find big walls in remote areas and go there by simple means, without paying ten thousands of peak fee dollars, choosing the cheapest flight for budget reasons, using trucks and donkeys and not helicopters for the access, caring for local people and their culture …

Caravane – or Himalaya

The other Golden Gentiane went to the film “Himalaya” which is also shown under the title “Caravane”. An outstanding movie by the renowned photographer Eric Valli; it had been nominated for Oscars. It is the story of the survival of a small Nepales community in the arid Dolpo region, and the conflict of the ageing Yak caravan leader Tinlê against the young and emerging Karma, who is suspected by Tinlê to be responsible for the death of his son. The stars of the film are the yaks, the nature of Dolpo and the inhabitants of Ringmo. An extremely professionally made film penetrating the soul and the culture of the Dolpo-pa.

Other events

As the number of mountain film festivals seems to germinate and grow forever, with the leaders remaining Trento (50th anniversary in 2002) and Banff (25th anniversary this year), but also Graz, Autrans, Lugano, Les Diablerets, Torella, Kendall (not complete) it seemed quite logical that the organizers have formed an “alliance” with the intent of some future collaboration for the promotion of mountain films.

The editor had the honour and pleasure to attend a meeting of the “Italian Committee for the United Nation’s Year of the Mountains 2002”. As the Italians have been on the forefront of the promotion of this year, they are also certainly the most advanced in their plans for year-round activities and events on international, national and regional levels.

The coincidence with the 50th Trento Film Festival will be a climax of the year in Italy. Therefore the CAI has decided to invite the UIAA to hold its 2002 Spring Council Meeting in Trento in conjunction with the Festival Anniversary.

IBEX EXPEDITIONS – THE INDIAN HIMALAYA

Established 1979. Handled over 500 treks and expeditions. Winner of two global environmental awards – Green Globe, UK and Pacific Asia Travel Association (PATA). Ibex undertakes all expedition arrangements including peak permits, accommodation, transport, cooks, guides, porters. Personalised and friendly service. Owner is a reputed Mountaineer & Explorer – Mandip Singh Soin FRGS. Some of our clients have been: Jean Claude Marmier, France; Karl Schrag, Germany; Roger Payne, UK; Markus Schmuck, Austria; Don Arturo Bergamaschi, Italy; Michael Kennedy, USA.

Ibex Expeditions Private Limited, G 66 East of Kailash, New Delhi 110065, INDIA
Tel: ++91 11 6912641, 6828479, 6917829, Fax: ++91 11 6846403
e-mail: ibex@nde.vsnl.net.in, Internet: www.IbexExpeditions.com
Himalayan Newsbites
Provided by Joss Lynam, President Expeditions Commission

“Real” Mera Peak

A Finnish/American expedition claim that the hundreds of mountaineers who have climbed the popular trekking peak “Mera Peak” in the Everest region have all climbed the wrong peak. The Nepal Government’s list of Trekking Peaks (1999), supported by the latest Government maps show Mera Peak 6654 m, at Lat. 27° 46’ 27”, Long. 86° 54’ 40”. This is the peak they attempted unsuccessfully in May this year. Many teams gave up, but there was success for those who could afford to wait. The first ascent of the millenium was on 15th May, by four Russians, but over the next two weeks the total rose of 6476 (6473?) m eight kilometres to the south-southwest. Read about it on http://www.benefon.com.

The jury is out …

Everest – Pre-monsoon 2000

The spring weather in Nepal this year was poor; met stations reported up to twice the average precipitation in May. Many teams gave up, but there was success for those who could afford to wait. The first ascent of the millenium was on 15th May, by four Russians, but over the next two weeks the total rose of 6476 (6473?) m eight kilometres to the south-southwest. Read about it on http://www.benefon.com.

The jury is out …

Unclimbed Peaks in the Indian Himalaya

The Indian Mountaineering Foundation has released a list of unclimbed peaks which are open to mountaineers. There are eighteen, seven unnamed between the Chenab and Zanskar valleys; CB9 and another in the Lahul triangle; two in the Bara Shigri; Changuch and Chaukamba III and IV, in Kumaon/Garwal; and Chorten Nyima, Langchung Khang, Longpo and Khane Khang in northern Sikkim. Heights vary from 6995 m to 5852 m. Full details on the IMF web site http://www.indmount.com or from the IMF.

Nepal – Fees for “Trekking Peaks”

After many years the Nepal Mountaineering Association has increased the fees for the eighteen “Trekking Peaks” substantially – see below.

<table>
<thead>
<tr>
<th>Group size</th>
<th>Fee (in US$)</th>
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<tbody>
<tr>
<td>Up to 4 climbers</td>
<td>350</td>
</tr>
<tr>
<td>Between 5 and 8 climbers</td>
<td>350</td>
</tr>
<tr>
<td>Between 9 and 12 climbers</td>
<td>550</td>
</tr>
<tr>
<td>Maximum number in party is 12</td>
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</table>

Note that the previous distinction between peaks over and under 6000 m has gone, that there is now a maximum of 12 climbers, and that the designation “Trekking Peaks” is misleading; it refers to the type of permit, not the difficulty of the peak).

Errata

In “World Mountaineering and Climbing” No. 2/2000 on page 39 the two gentlemen in the picture got reversed. Bill Ruthven is on the right and Robert Pettigrew on the left.

Apologies from the Editor.

Sad News About Nor Ramille Sulaiman

It is with deep regret that we inform you of the sudden death of Nor Ramille Sulaiman, KMN, ANS, President of the MAM Malaysia. Nor Ramille passed away suddenly in his sleep at his residence at about 2.30 AM on 14th July 2000. His body was buried on the same noon. The “UIAA family” has lost one of its prominent members. Nor Ramille will stay alive in our memories of the General Assembly of Malacca which he hosted in his warm and friendly manner which was part of his winning personality.

We extend our condolences to his wife and family and to the members of the Mountaineering Association of Malaysia.

Detailed information about fees, regulations, LOs etc in the four Himalayan Countries is available under the heading “Mountaineering in the Distant Ranges” in the UIAA website http://www.mountaineering.org/
Beginning from 2000, the Ukrainian National Federation on Mountaineering and Climbing (UNFMC) holds the Ukrainian open competitions for climber-veterans (by correspondence). Ukraine has 4-year experience in holding such competitions capturing the great attention in our country. Among our champions, there are climbers on Aconcagua (6960 m) at 60 years of age; Elbrus (5643 m) at 73; Nanga-Porbat (8125 m) at 50 years etc.

Now our famous climber V. Monogarov at his 75 years is training for climbing Everest (8848 m).

It is not accidentally that Ukraine became an initiator in holding such competitions in the altitude-age category with obligatory detailed medical examination. Ukrainian pathophysiological school of academician N. N. Sirotinin was the first who explored the age aspects of hypoxia influence on human and comprehensively studied the adaptive mechanisms to hypoxia in different age. In former USSR one and only Research Institute of Gerontology was in Ukraine, too.

Systematization of the materials obtained during holding such competitions in one research center under MCAA aegis will permit to elaborate the recommendations that would help to overcome difficulties to many elderly travelers who cannot imagine their life without mountains.

The reports on mountaineering, the filled forms etc. should be sent to the following address:

Beloshitsky P.
Institute of Physiology,
4 Bogomoletz str.
01601 GSP, Kyiv-24, UKRAINE
tel.: (044) 5552048
fax: (044) 2933431
e-mail: doloman@serv.biph.kiev.ua

Regulations on holding the Ukrainian Mountaineering Competition among veterans (by correspondence)

1. The purpose of competitions
- mountaineering popularization, experience exchange;
- prolongation of a sportsman’s active sport life;
- researches in the field of body’s reserves and capacities in gerontological aspect;
- elaboration of necessary recommendations for veterans of mountaineering and tourism.

2. The terms and place of competitions
The competitions are annual. The account is taken to all the data of mountaineering without oxygen the summits all over the world during the last year. The results of competitions are summed up from the 1st till 31st of December each year.

3. The guidance of competition
The general guidance is accomplished by State Sport Committee of Ukraine (SSCU).

4. The participants of competitions
The right to participate in competitions is given to mountaineers aged 50 years and more, having made mountaineering for last 2 years, supporting constantly their physical state, having been subjected to medical investigation and carrying out the decisions of UIAA and MRCFU. Participants may accomplish their mountaineering with any team, group, expedition or personally.

5. The conditions of competitions
The competitions are carrying out by personal test. The account is taken to a single full completed route without infringement of mountaineering roles and use of oxygen devices. The fact of mountaineering must be confirmed by documents.

6. The definition of winners
Evaluation of mountaineering (the number of points and distribution of places) is accomplished by the team of referees on the ground of following data:
- the report on mountaineering in special form;
- the filled medical form (is enclosed);
- the documents confirming mountaineering.

A number of points is calculated according to the formula:

\[ B = A \times H \]

Where B is number of points; A is the age of climber (years); H: height of the summit (meters).

In the case of equal number of points the referee team takes into consideration technical difficulties, state of weather, rate of movement, novelty of route, scientific and social aspects, physical data of a climber.

The summary report is to be presented to MRCFU till the 30th of November every year.

7. Rewarding the winners
The winners of competitions are rewarded by different degree diplomas and medals of the State Sport Committee of Ukraine (SSCU).

8. Financing
All expenses with competitions are laid upon organizations sending participants or competitors themselves. SSCU takes upon itself the expenses with rewarding the winners by diplomas and medals.
Kitchen Sink on Everest?

Ernst Haase, Editor

For several consecutive issues the American Alpine News carried a classified ad with the following request:

EVERYTHING BUT: I am redesigning my house and want to install a souvenir from the roof of the world. I’m looking for climbers willing to carry my kitchen sink (approx. 4 kg) to the summit of Everest, photograph it and return it to me. Please email offers, including expedition date and your fee for this service, to kitchensink@usa.net.

In Number 228 (January 2000) of the AAC News the ad has disappeared.

This leaves us with a question of worldwide interest and global importance:
Has the kitchen-sink been on top of Everest?

If the answer is yes, the editor would be similarly interested to have his toilet-pot being carried on the roof of the world. I would only be interested in the photograph, the pot itself may remain there as a donation by an UIAA official. This would represent an environmentally highly desirable public convenience in full compliance with the NMA Code of Conduct, § 41: Use toilets wherever they are available.

Letter to the President

Dear Ian McNaught-Davis,
UIAA President

Mr. Fikret Ünlü, the Turkish Minister Youth and Sports, is very interested in mountaineering. In the frame of his responsibility, he inspected our work by attending the activities of training, climbing, search and rescue organized by the Turkish Mountaineering Federation.

Mr. Ünlü has made a great contribution to the Turkish mountaineering sport by his personal efforts. He participated in the climbing of Mt. Agri (5137 m) which was organized by our federation on July 6 – 9, 2000 and he climbed the peak in very hard weather conditions together with a team of five persons including the President of the Turkish Mountaineering Federation, Mr. Alaattin Karaca who guided the team.

Mr. Ünlü is the first Minister of Turkey climbing the peak of Mt. Agri. For us, it has been a very important event and we would be grateful if it could be mentioned in the Journal of the UIAA.

Thank you in advance for your kind interest in our matters,

Yours sincerely,

Alaattin Karaca
President Turkish Mountaineering Federation

The editor is pleased to publish this letter and would be interested to hear about other national leaders and government members active in genuine mountaineering and climbing. The only person the editor is aware of is the President of Slovenia, Prof. Milan Kucan, who received the Board of the UIAA on the occasion of the UIAA General Assembly in Slovenia in 1998.

ISMC Calendar 2001

Senior European Cup

- 14.01.01 Gavarnie (FFME)
- 18.02.01 Gastlosen (CAS)
- 01.04.01 Adamello (FISI)

Senior European Championship

Teams: 27 ou 28.01
Miage-Contamines (FFME)

Singles: 04.03.01
Jaca (FEDME)

Junior European Championship

Teams: 01.04.01
Adamello (FISI)

Singles: 04.03.01
Jaca (FEDME)

The competitions of Gastlosen, Adamello and Jaca will make up the classification of the YOUTH EUROPEAN CUP

ISMC Management Committee,
Grenoble, 27th May 2000

The FFME has decided to relocate the UIAA General Assembly 2000 from Paris to Clairefontaine (France) for cost reasons. The date is fixed for October 21st, 2000.
### ICC Calendar 2000
**UIAA Climbing-Worldcup 2000**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>MEN difficulty</th>
<th>WOMEN difficulty</th>
<th>MEN boulder</th>
<th>WOMEN boulder</th>
<th>MEN speed</th>
<th>WOMEN speed</th>
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<tr>
<td>16.12.00</td>
<td>no CUWR: Int. Event – Albertville (FRA) 2000</td>
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<tr>
<td>24.11.00</td>
<td>no CUWR: UIAA Asian Championship – Kuala Lumpur (MAS) 2000</td>
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Calendars and Diaries

Diary of UIAA Events 2000–2002
(10. 08. 00)

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<td>12–14 Oct 2001</td>
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Anzeige Lowell
wie 2/00
Anzeige Salewa
wie 2/00