

ARMY MOUNTAINEER



The Journal of The Army Mountaineering Association

- *Hot Rock*
- *The Wildest Dream*
- *Beating The System*
- *When The Wind Blows*
- *A Question of Balance*

Summer 2001

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ARMY MOUNTAINEER

The Journal of the Army Mountaineering Association Summer 2001



Foreword By AMA Chairman Brig N J Cottam OBE



By the time you read this excellent summer edition of the Army Mountaineer I guess you will have made or perhaps have even completed your summer climbing plans. Here is your chance to read what others have achieved and to gain from them ideas for future mountain challenges of your own, on rock, ice and snow. For me the Army Mountaineer remains a great read and I am grateful to the editor and contributors for making it so. If you are inspired to go into the

mountains then please make the effort afterwards to write about your experiences for the next edition as well as for your logbook. Good photographs can also help to bring expeditions to life on the page. Please get writing as well as climbing.

The announcement that the Army Sports Control Board has recognised Indoor Sport Climbing as an Army Sport came too late for the last edition but soon enough for the very successful indoor competition held near Cardiff in early May. Incidentally this turned out to be our biggest indoor competition yet and so thank you to WO1 Mike Smith. This step forward, along with the imminent, so I am assured, announcement of a Major General to act as the Army's Adventurous Training Champion, mark two significant improvements to the status of mountaineering in the Army. Indoor sport climbing is bound to attract more funding and more enthusiasts, and I am particularly keen that we in the Army Mountaineering Association do all we can to encourage young soldiers to seek active interests such as ours. Having a senior officer specifically tasked to keep adventurous training in the forefront of commanders' minds should also add impetus to this development. I am acutely aware of how many soldiers would like more adventurous training opportunities, including mountaineering and an Army Adventurous Training Champion must be a help.

I continue to be very pleased and impressed with your committee's efforts. Your website is right up to date. Your meets diary is looking well ahead. Your magazine, as you can see, is as good as ever. There are a number of ambitious expeditions in the offing. We can look forward to another really well attended annual meeting on Anglesey in late September. Try to attend if you can. All you have to do is get climbing!

<i>Foreword by the AMA Chairman</i>	1
<i>Appointments</i>	2
<i>Editorial</i>	3
<i>AMA Expedition Radio & Digital Camera Hire</i>	3
<i>AMA Welsh Winter</i>	4
<i>Engineers in Canada</i>	5
<i>When the Wind Blows</i>	6
<i>Norwegian Ice</i>	8
<i>AMA Mountain Photographic Competition 2001</i>	8
<i>Hot Rock 2001</i>	9
<i>Hairy Llama</i>	10
<i>Manang Griffin</i>	11
<i>From Dentistry to the Dent du Geant</i>	12
<i>How to beat the System</i>	14
<i>AMA Climbers in Action</i>	16
<i>\$\$ Show me the Money \$\$</i>	18
<i>The Gamow Chamber</i>	18
<i>Rock Climbing Proficiency</i>	19
<i>(One of) my Favorite Routes</i>	20
<i>Heights of Intrigue</i>	20
<i>AMA 1976 Everest Ascent - 25th Anniversary Reunion</i>	24
<i>A Question of Balance</i>	25
<i>Book Review: Culture of Fear</i>	26
<i>Book Review: Extreme Rock & Ice</i>	26
<i>On Top of Poland</i>	27
<i>The Wildest Dream</i>	28
<i>Update from AATEC</i>	32

On the Cover:

Alistair Cameron above Cair a' Grondda, Cuillins, Skye.

by Leanne Callaghan

This edition was edited by Steve and Amy Willson.

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www.theama.org.uk

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CONTENTS

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EDITORIAL

By WO2 (AQMS) Steve Willson

At last we have a real summer! Those hot sunny days on the crag had almost become a distant memory. Of course now it's too hot to climb! Only kidding. I hope you enjoy this bumper, full colour, edition of the journal and the AMA Alps 2000 magazine. We have had a good year so far with expeditions and meets taking place on a regular basis. In the journal there are a number of articles that stood out during the editorial process. Firstly "When the wind blows" is an epic account by Stu Macdonald of a near miss in South Georgia this is followed by Matt Bacon's informative review of his expedition to Nepal in "How to beat the system and successfully organise an expedition." Latter in the journal Tim King reflects on the 1976 Everest expedition and then asks us as mountaineers to look beyond the modern worlds obsession with proven fact to a time when the human imagination was the only limit, in "The wildest dream."

Throughout this journal there are a number of outstanding photographs, such as the cover picture, centre fold (nice abs Ben!) and others that were provided by Capt Leanne Callaghan from her personal collection. My thanks go out to

Leanne for the help she gave in producing this edition. Now for my usual dig at you, the membership. If you feel like producing an article on any mountaineering subject then please feel free to send it to me, preferably on disk and in hard copy to:

WO2 (AQMS) Steve Willson
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The deadline for the Winter 01/02 edition is the end of Oct 01. It only leaves me to thank all those that made contribution and I look forward to seeing as many of you as possible at the Annual Weekend at the end of September.

Cheers Steve Willson



AMA EXPEDITION RADIO SET AND DIGITAL CAMERA FOR HIRE!

RADIOS

The AMA owns a set of radio equipment for use by its members and others. The set consists of eight hand held Motorola GP68 VHF sets, one GM350 VHF base station, solar panels, video battery charger and all the ancillaries. This service has been provided by the AMA from the contributions you make as members of the association, therefore the equipment is yours and you should make full use of it. The set has been tested world wide and found to give excellent service in the mountains. The hand sets (5W power) provides a good line of sight service up to 5km and more when used with the base station's 25W output. The set, or part set, is available by booking it through the Publications Editor, Steve Willson, with the following conditions.

1. The radios must be insured by the expedition for their replacement cost.
2. A hire fee, to cover maintenance and renewal, of between £50, for part of the set, up to £150 for the whole set paid to the AMA on collection.
3. The expedition must book their own frequencies through which ever country they are

visiting and then inform the Publications Editor to program the radios prior to collection.

The equipment is very good and will improve the command and control of any expedition not to mention the increased safety cover.

DIGITAL CAMERA

The AMA has added a Nikon 990 Coolpix digital camera to its collection. This is a very high quality professional device that is capable of capturing impressive images that can be used for web pages, presentations or just snaps of your climbing. Any member of the AMA can hire this equipment for £25 (up to a month) or £50 (up to two months) for use on climbing/walking trips. The AMA Journal is also always in need of quality images and the camera will be available at AMA meets to capture the action. This will be at nil cost to the meet organiser.

If you have any questions about the radio set, digital camera or their availability please give Steve Willson a call on 94256 8351 or 01865 255351 email stevewillson@msn.com - Please make use of this kit!

From my home amongst the rain-soaked palm trees of the Devonshire coast I must have changed my mind twenty times about what gear to pack for Welsh Winter. I had never seen a Welsh winter and it felt like a lifetime since I had seen any kind of winter at all after Plymouth's record breaking 100 days of rain. Despite my pessimism rumours had reached Devon that Snowdonia was plastered in snow so I reluctantly packed my winter kit and arrived for last orders in Llanfair PG. There was of course no white stuff at all but the weather forecast was awesome; cold, clear and sunny without a breath of wind.

I bumped into Paul Edwards at breakfast and he was exploding with enthusiasm, trying desperately to persuade everyone that there had to be some ice somewhere. I burst his bubble (sorry Paul) and pointed out the blindingly obvious sun that was out and Gogarth was beckoning. He was, however, a man on a mission and to his credit his small team managed to find a satisfying 200m iced gully above Cwm Idwal.



Andy Howell on "Scavenger" HVS 5a, Gogarth.

Rachel Thompson and Graeme 'Geordie' Taylor braved the consequences of excessive quantities of vin rouge from the night before. They had a fantastic day garnished by realising they had forgotten their rock boots at the foot of the first pinnacle rib on Tryfan. Rachel had a date with her namesake "Thompson's Chimney", the final toughest pitch of the route, and climbed it in impressive style.

Ogwen proved very popular with Damien Plant climbing Tryfans grooved arate in sunshine and Jackie Spong and team also had a good day's walk in the Tryfan area.

The day's epic stories were enriched by Andy Steven's long solo scramble over Y Gribin and the Glyders followed by a 'mind focusing' steep descent into Cwm Tryfan.

I found the prospect of dry sunny rock at Gogarth too tempting to resist so headed for the main cliff with Andy Howell to climb the 3-star 'Scavenger' HVS 5a. The conditions were incredible and we down climbed for a few hundred feet to the high water mark and began the long sea-level traverse to a small ledge at the foot of a steep groove. The sea was green and calmly lapped below us and with Andy's recently acquired Cypriot suntan the whole experience felt Mediterranean. As ever on Gogarth the hardest part of the route was the enigmatic final pull over heather and rubble to mud belays.

Saturday evening's committee meeting was my first one since becoming an elected member. It was an enlightening insight into the high-powered nucleus of AMA life involving harsh but necessary financial decision making. (subtext: had a good chinwag and decided how to spend shed-loads of club dosh whilst troughing lots of custard creams and coffee.)

Sunday was just as gorgeously sunny and sadly most people drove home in the morning.

The remaining members climbed at Tremadog where there was an impressive turn-out by a REME group from Shrivvenham. Rachel Thompson, Andy Howell and I had a long wait but a good time on two classic HVS routes, 'meshach' and 'the Fang' before heading home.

Many thanks to Graeme Taylor and Tim Bird for organising an excellent meet.

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The foot and mouth crisis was really beginning to bite, for myself as a freelance outdoor activities instructor things were becoming grim. Whilst returning from another unsuccessful visit to the Job Centre, my phone rang. "Would you like three weeks Skiing in Canada?" My thoughts turned to thigh deep powder and clear blue skies - the answer was of course "yes, tell me more". Within the hour the phone rang again. This time it was Capt Stu Macdonald, the expedition leader, with the details. Two more calls and a fax, the tickets were in the post and the job was on. The expedition was to be based in Trails End Camp, the middle of nowhere, Canada. From the 22 March until the 13 April 01, with five of the team remaining in Banff, until the 18 April for some extra R & R.

After a staggered arrival on four different flights, the team were together and it was off to Fortress Mountain, an hours drive to meet John Ryan of Rocky Mountain Traveller and one of his guides Phil. The group were split into the A team, (the more experienced skiers) who would be with Phil and the B team who would be instructed by myself. The plan was to run the Alpine and the Touring modules of the BSP, basic ski proficiency, with an option of the advanced alpine for anybody up to it.

Fortress Mountain proved to be an excellent venue, although a little small, the slopes were ideal to get started and were a taster of what was to come. Three more days at fortress with a variety of terrain and conditions skied, everybody was sufficiently mobile and safe on the mountain. Time to move on to something more challenging, so it was off to

Nakiska, a little closer to Trails End than Fortress, but far more serious with its man-made blown snow being a lot faster and drop offs into the trees along the sides. Things really began to click here, which was just as well as BSP alpine tests were to be held in the afternoon, headed up by John Ryan his partner and Phil. There followed a 100% pass rate with all eleven passing the BSP Alpine, but only S/Sgt Tony Whitbread with his racing background was good enough to go on to pass the Advanced Alpine.

With the alpine module out of the way, it was back to Fortress Mountain to start the touring element with a short practice tour, freeing the heel and using skins, as well as the serious business of avalanche awareness, avoidance and prediction, looking at snow profiling and the skiers Rutch block.

The following day it was off to Sunshine Meadows for a two-day practice expedition. The conditions were far from ideal with difficult snow underfoot and deteriorating weather. After five hours of digging, a variety of snowholes had been completed. The weather had now completely closed in, so with no further skiing possible, it was down to night routine. Following a comfortable night, in which the usefulness of a pee bottle was realised, the weather was much improved for the ski out, back to civilisation and a rest day.

Fully recuperated and chomping at the bit, after an additional day snowed in at Trails End Camp, we were heading for our fourth resort, this time Lake Louise about two and a half hours away, for the final four day expedition. Lake Louise was without doubt

the most impressive of the resorts, unfortunately it was also the most expensive. We arrived in glorious sunshine, checked through our kit and made a final visit to the toilet, (all waste was to be carried out). Making use of a couple of chair lifts we were soon on our journey. The avalanche risk was high, with fresh slides, some of which were very large and others on smaller slopes, only thirty metres or so, which may have at first appeared to be safe. Rutch block tests confirmed the risk to be high and at full depth, this would affect our route choice and confine us to the relative safety of the valleys and the tree line. Any hopes of skiing any of the peaks were off.

Day one was easy enough, up through Boulder pass over Ptarmigan Lake, to snowhole at

the end of Baker Lake. This was a great site, large enough to accommodate the whole group in comfort, which was just as well as we would be in these holes for two nights.

Day two the wind was up and the mist was down, producing a thoroughly unpleasant day. We intended to do a short tour and combine this with a search exercise on a small avalanche site we had seen on the way in. After a probe line had only found one of the buried rucksacks in thirty minutes, a switch to transceivers made short work of finding the other one, highlighting the importance of wearing a transceiver whilst back county skiing.

Day three, the sun was back out revealing the stupendous views we had so far missed. More





importantly, morale was back up for the ski around to Skoki lodge. The day passed uneventfully apart from a small encounter with some bear tracks! Which caused a short diversion and focused the team's attention temporarily. Phil the guide showed off his navigational skills when he became geographically embarrassed for a short time when he led the A team up a blind valley. The routine was now well established and snowholes soon completed for the last night of the exped.

Day four, the final day with glorious sunshine, although -8 Celsius, following a straightforward ski out over Deception Pass it was back to the resort of Lake Louise. The success of the trip was summed up by seeing the whole of the group ski competently down the alpine slope,

through the day skiers as if they were slalom poles and whilst carrying full expedition rucksacks, with only one minor fall between them. The results were given in short personal reviews. Everyone who had completed the expedition had done more than was normally required for the BSP touring module, but on the other hand they would have gained far more as individuals from the experience.

The final phase and some well earned R & R, four days of freedom and a chance to explore the delights of Banff and Calgary, as well as some brilliant skiing at Sunshine. The illusive powder I had come in search of arrived on the third day and finished the trip off perfectly, as the locals say - "awesome!"

WHEN THE WIND BLOWS

An account of a windy epic on South Georgia

By Stu Macdonald

As I floundered on my hands and knees through the deep snow I could only think one thing. "Keep moving, don't stop." I was absolutely exhausted. I looked up to see where I was going when another gust hit me. I was knocked flat and buried once more. My face was pressed hard into the snow and I fought against the weight of my rucksack and the wind to get back up onto my knees again. This was not a fitting end to what had been a great expedition. It was an icy hell!

The previous few weeks had been the greatest experiences of my life. We had sailed a yacht 850 miles from the Falklands through the Southern Ocean to South Georgia. We'd then had two weeks of great climbing. The trip couldn't have been going any better, but then just as we thought we were on the home straight the wind started to blow.

Myself, Clive Woodman, Marcus Stutt and Lyn Owen had been ski touring whilst the rest of the team attempted a new route on Mt Paget. We were packing up our camp to return to base camp and the rest of the team. Windspeeds increased throughout the morning and as we hastily tried to pack, one of our tents fell foul of a gust. It was as though a giant had clapped his hands on the Quasar. The walls imploded and the (double) poles shot

through the roof. By mid day we were being pounded by hurricane force winds. We took off our skis, but were still being blown to the ground constantly. We pressed on across the glacier hoping to find some shelter from the wind but there was nothing.

We staggered on. Every time we were blown over we were pinned down by the wind in the deep snow. Getting up seemed impossible, and within moments we were blown over again. The spindrift was being blown so hard it stung me through my gore tex suit and clothing. I felt like I was naked. When a strong gust

blew the pain was incredible - I screamed at the top of my voice - nobody heard.

We needed to dig into a slope - fast. The base of Sheridan Peak was approximately 500m away, but after 20 minutes I had only managed to crawl about 15 metres. It was completely futile. I took off my rucksack and anchored it to the ground with an axe through the strap. Grabbing my shovel I began digging frantically, straight down into the glacier. After about 5 minutes Lyn (who was roped to me) managed to crawl over and help with the digging.

As I dug feverishly she pointed behind me. My rucksack was being blown away. The axe had been ripped out of the ground by the wind. Diving out of the pit I grabbed it just in time before struggling back to Lyn.

We were down to about 5' depth when Marcus and Clive appeared, staggering and crawling through the storm. They were exhausted and collapsed into the pit. Between the four of us we eventually constructed an improvised shelter.

By this time the wind speed had dropped significantly and we



Marcus Stutt emerging from the snow shelter the morning after.



Digging out a tent in a storm.

decided that the snow hole would be very uncomfortable for the four of us. We erected our remaining tent in what was now a moderately strong wind. The four of us crammed into the tent and had dinner. We were down to half rations and dinner was a spicy curry. My dislike of spicy foods and Lyn's vegetarianism were forgotten and the food was gone in minutes. Outside the wind was getting stronger once more.

The spindrift was building up around the tent and we could feel the walls pushing in. There wasn't room for four and

so the decision was made that I would stay in the snow shelter. If the situation got worse the others would join me. When I left the tent I dug it out as best I could before making my way to the snow hole. It was gone! I'd marked the entrance carefully with ski sticks and so started digging.

Once inside life seemed so much better. I was no longer being deafened by the roar of the wind. There was no spindrift stinging me. I fumbled around for my headtorch and began to sort myself out. The futility of trying to maintain an entrance dawned on

me as I gradually filled the shelter with snow I had dug out. Instead I stuck a ski pole through the roof and I gave it a shake ever half hour when my alarm woke me. I knew that this was not going to be a pleasant night.

The severity of the storm outside was now obvious as it sounded like an express train even though I was completely entombed in snow. I knew that the rest of the group would soon be in to join me and I made as much space as I could for them. Little did I know that Clive had already left the tent for the snow cave but, unable to find any trace of it had returned to the collapsing tent and informed the others that I had probably been buried alive.

The alarm sounded again and I wiggled the ski pole. At that point someone grabbed the end of it. I could just about hear Clive shouting down the air hole. "Stu, are you ok?" "Yes, fine" "The tent's gone. There's nothing left. Is there room for us?" "Yes, of course". "Where's the entrance?" "It's between the ski poles." We both began digging and after about ten minutes were reunited. Clive had left the others crouched in the end of the tent. He went back and guided them to the shelter one at a time. As soon as they left, the tent collapsed under the weight of the snow.

It was a fairly miserable night, but I felt confident that we'd already had the worst. We had several brews and kept ourselves amused for a few hours with pop trivia. Agreeing that we needed to leave at the earliest opportunity we resolved to check the weather at 3 am.

Three am dawned without a breath of wind and we set about brewing and packing our kit. It was a long process retrieving buried tents and equipment but eventually we were off. As we skied slowly through the mist several thoughts were on my mind:

"What if we can't find base camp in this mist?"

"What if the others aren't there?"

"What if they died on Mount Paget?"

"Why the hell do I do this?"

I tried to block the thoughts out but I couldn't. We were moving slowly and I had a lot of time to think.

The mist cleared and 400m away was base camp. I could see people moving. I almost cried. A few minutes later we were there, together again with the rest of the team. I have never felt so happy in my life. Within no time the storm was a distant memory, blocked out by elation and a desire to forget.

In hindsight it had been a close run thing. Speaking to Clive over a few beers back at King Edward Point he admitted that he thought he only had about fifteen minutes left in him when he reached myself and Lyn on the glacier. That scared me then and it scares me now. We deliberately put ourselves in dangerous situations - it's one of the reasons we go climbing. We enjoy the buzz of being in danger but thinking we have the upper hand. We like to think we're the ones in control. However, every once in a while nature likes to remind us who's really in control!



Skating back from a recce on Mt Macarthur prior to making first ascent.



In the snow shelter during the storm (Marcus Strutt and Clive Woodman)



Daz Hall leading the road side ice on the second weekend.



Dusty Miller passing the top rope stance on the 100m ice fall.

Norwegian Ice By Sgt Daz Hall

January 2001 and 29 Cdo Regt RA set off for their usual winter deployment to Norway, with the usual exercise commitments and very large arctic warfare courses the opportunities to get on some vertical ice seem small. It soon becomes clear that Sundays would be a stand down, and vehicles are requisitioned, equipment pooled and the locations of the abundant roadside ice discussed.

The group consisting of Steve Willson, Dusty Miller, Dave Thatcher, Toby Maynard, Gus Swindlehurst, and myself, complete with hangovers, arrive on the first Sunday at some roadside seepage lines about 10m high for a bit of a warm up. Steve also gives some instruction to the lesser-experienced members. After a couple of hours we set off for the main event of the day, a 100m ice fall located a kilometre from the road, with a top rope set up for the less experienced under the instruction of Steve, I persuade Dusty that he's ready to second him up the fall, Dusty is on his first day ice climbing and foolishly agrees. Two 50m pitches of grade 4 ice follow with both climbers topping out in style followed by an unstylish descent.

The following Sunday finds us at a very steep and well-formed roadside waterfall about 25m high with routes up both sides graded 3/4. Another lead by me with Steve coming up behind enables top ropes to be set up, with lots of smaller routes to the left and right, a fine day is had. To cap it all a representative from the local tourist office turns up (with gorgeous blonde chick) and takes some photos which were published on the Narvik website.

Only Steve and I make it out for the final Sunday and make a mad dash climbing any roadside ice that is worth getting a rope out for with Steve leading a quality route in an old quarry.

As has been said many times in the past, with its low winter temperatures and an abundance of easily accessible ice, Norway is a superb venue for bagging quality ice routes. So if you think you are missing out, feel free to get yourself on some Norwegian ice by passing the Cdo course and getting on a Norway deployment!



Steve Willson soaking up the atmosphere after the last days climbing.

AMA MOUNTAIN PHOTOGRAPHIC COMPETITION 2001

The Photo Competition this year will be held at the AGM weekend during the 28 - 30th Sept.

Photographic entries can either be sent to WO2 (AQMS) Steve Willson OXFORD UOTC, Falklands House, Oxpens Road, Oxford OX1 1RX or you can bring them to

the AMA weekend and submit them on arrival. Entries will then be on show throughout the weekend and then judged at the end of the boulder competition on Sunday. The categories are Best Rock Climbing, Best Mountaineering and Best Black and White. There will be prizes for the first three places in each category.

During the Easter Holiday this year, 8 members of the Army Mountaineering Association spent 7 days climbing in the South of France on the first Exercise Hot Rock of 2001. This meet usually takes place in Spain, however due to the late arrival of the exercise leader and the lead time required for Spain, France was chosen as an alternative destination, and it turned out a fantastic one at that.

The group met for the first time at Chatham and then set off for the mammoth drive through France to arrive in Aix-en-Provence near Marseille. This is a university town near to the mountain of Sainte Victoire and an easy ride away from the Sea Cliffs of Les Calanques. Sainte Victoire is a huge crag in itself and would be a major rock climbing venue in the UK, however it is rather shadowed in France by the huge amount of quality rock available. This was our first venue of the trip. St Victoire has a huge classic route of Vs 4c equivalent that takes the most obvious line up 450m of quality limestone. Four of the group, Captain Mat Birch, Lt Jason Ainley, Ocdt Andy Simpson and Cdt Danny Shepherd intended to make this a grand opening to the meet but after two pitches the infamous Le Mistral overcame them. Le Mistral proved to be a bit of a nuisance being an unpredictable, strong gusting wind born over the Mediterranean, which lashes the inland mountains. It hampered our climbing on this first day and kept us down to only the first pitches of most routes.

The next two days saw us moving to the coast, which strangely enough misses out on the worst of this wind to climb in En Vau, the most popular and awesome inlet of Les Calanques. We stupidly decided to do the walk in on the first day, which involves an hour's walk on a major tourist path then a time consuming descent down to the base of the crag. This wasn't helped by having to wait for a casualty to be airlifted off the descent, injured by slipping off the polished limestone. But we learnt our lesson taking a boat from Cassis Harbour the next day that dropped us off and picked us up from the inlet and gave us a chance to appreciate the scale of these magnificent cliffs. The 2 days there saw many routes from 1 to 5 pitches climbed. Cdt Danny Shepherd, Andy Simpson and Paul Smith worked away on the harder single pitch routes with a combination of top roping, red pointing and some impressive on sights of grades from 6b to 7a while the remainder picked off some of the equally impressive multi pitch routes. There also existed two pinnacles rising from the beach which once climbed gave some excellent photo opportunities of mates on neighbouring cliffs. All this amongst the setting of a remote beach with the Mediterranean Sea below and in temperatures of over 20 degrees. Definitely a strong rival for Spain at this time of year.

It was now time to move on though to the more serious but awesome cliffs of the Verdon Gorge. We were very lucky with our 3 days in Verdon as the weather at this time of year can be very variable from almost unbearable hot sunny days to storms and even snow, and the wind in the gorge itself can sometimes hamper aspirations. Combined with the fact that it is a commitment in itself to abseil to the base of the climbs, you certainly need to keep an eye on the weather and be confident at your grade, or face a very awkward and time consuming descent into the base of the gorge followed by a savage trek out and up to the top again!

The group split between those intent on climbing good multi pitch routes out of the gorge and those who liked to stay on the single or multi pitch crags at the top of the gorge that required much less commitment, but once again some impressive climbing took place from all. Mat Birch and Lt Adam Hampshire decided to try a traditionally equipped route following a natural crackline in the area of Les Dalles Grises. This turned in to an epic battle against foliage and a long day while adjacent to them Jason Ainley and Lt Chris Coton along with Danny Shepherd and Andy Simpson, took the face routes which were fantastic lines and mainly bolt protected. Andy Simpson started gaining a bit of a reputation for falling off while Chris took it upon himself to paint the holds red with his own blood for the benefit of the indoor climbers as the week began to take its toll on his hands.

Jason and Danny managed an excellent ascent of La Demande a soaring crackling that rises from the base of the gorge terminating with an awesome bridging chimney section. The twelve pitches of climbing are sustained, never any less than French 5a but with six pitches of French 6a (about 5b) and the route is only bolted in the parts where traditional protection is hard to find. It required a range of skills extremely wide bridging, long jamming sections, long layback sections and a bit of face climbing. Truly awesome and despite the decent weather there were no other parties on the entire route.

All in all through luck with the weather and these lesser known areas due to the rise of Spain for climbing at this time of year the meet was a great success. Everyone managed to push their grades a little on huge routes while developing sun tans beside the sea, and managing in excess of 70 routes in the 6 days of actual climbing. This should definitely be considered as a worthy equal to Spain for future Hot Rock meets.



Ocdt Danny Shephard taking a hands off rest in the final crux chimney (6a) of La Demande, Verdon Gorge.

HAIRY LLAMA

By 2Lt Sam Hart



The Group at Dead Women's Pass (4200m).

For those of you who have experienced RAF Barkston Heath in the winter, fond memories of the many hours in the crew room must still remain. It was during these many hours, waiting for the fog to lift, that the idea of Exercise Hairy Llama Dragon was conceived.

Within a few short months of starting planning, five members of Joint Elementary Flying Training School and an additional team member from the Royal Anglians headed out to Peru for a trekking expedition in the Andes. Having spent the previous week being thrown in the Channel, drowned in the Dunker and decompressed, it was very pleasant to step off the plane into the warm sunshine of Lima. After an overnight stop we headed out to Cusco and started acclimatising for the trek. At 3300m, Cusco itself requires

acclimatisation, and so two days were spent organising a guide, purchasing rations and trying to catch ones breath!

The plan for the trek was to walk an elongated version of the classic Inca Trail. In essence we completed three days of trekking prior to joining the classic route for the remaining three days. The initial part started at a small village named Chilca. From here, we headed out in to the back of beyond with our guide and a muleteer with two mules (carrying the food). The climb was hard spending two days reaching a 4800m pass, but the scenery was amazing. We then spent a day trekking down to Huayllabamba where we started to encounter the tourists on the normal route. The trekking prior to the tourist route was fabulous. The only people we bumped into were

the local farmers, and the campsites used were truly wilderness locations. Once we hit the Classic Inca Trail, all this changed. The paths were well maintained, and one could only camp at the designated camping sites. Even though it was the rainy season, these sites were packed. The next three days saw the team arrive at the "Lost City" of the Inca's: Machu Picchu. The city was amazing, and our guide was worth his weight in gold, as he chaperoned us around the city explaining all about the Incas.

Unfortunately, we did not choose the best time of the year to visit the Peruvians mountains. The weather was particularly unkind and many hours of each day were spent in the trusted Gortex. The weather ranged from snow through pouring rain to blistering sunshine. However, morale was

always maintained; a simple glance in the direction of the two Royal Navy members of the team and their sodden tent was enough to cheer anyone! Admittedly, by the end of the week they were getting the hang of living in the field!

Having spent six arduous but enjoyable days in the hills, we headed back to Cusco to relax. A fantastic day was spent mountain biking in the Sacred Valley of the Inca's. Unfortunately, the terrain proved more demanding than our limited skills, and one unfortunate ended up in the local hospital being stitched!

After a brief period of R&R we headed back to the UK. It was a shame to leave as the opportunities for adventure training seemed endless, but as ever, unfortunately our leave was not!

Campsite on day three, just below the 4800m pass. Left to Right: 2Lt Anna Cliff AAC, Capt Claire Mason RA, Lt Chris Bennett RN, Lt Graham Dawson RN, 2Lt Sam Hart AAC, 2Lt Rob Mc Neil R ANGLIAN.





Approach to Pisang

MANANG GRIFFIN

By SSgt Dick Gale

Exercise Manang Griffin was a high level mountaineering expedition in the Annapurna Region of Nepal, which was run by 50 HQ Sqn with the notable additions of LCpl Govinder Rana of 69 QGE Sqn and Capt Phil Jackson from 1 RSME Regt.

After many months of preparation and organisation the expedition left from Invicta Park on the 15th March for the long trip out to Nepal, which was a great relief after the numerous last minute changes forced upon the trip at short notice, including a change to the original expedition plans, that created many a headache and late night for SSgt Dick Gale the expedition leader.

For five members of the Expedition it was a first visit to Nepal and having arrived late at night in Kathmandu, the next morning they were in for a complete culture shock as they were sent forth into the madhouse that is the Thamel District of Kathmandu armed with dodgy street maps and lists of jobs to do.

Following a 'quiet night out' in Kathmandu during which Spr Stu Evans ran into a fellow draughtsman from his trade course at the RSME by complete fluke, the team departed by bus to Pokhara and from there on to the trailhead at Nayapul the start of the trek.

Initially the trail wound its way up through the forests and terraces to Ghorepani where we got

our first real views of the Himalayas from the excellent vantage point of Poon Hill. From here we descended into the Kali Gandaki River valley to Tatopani and after a relaxing dip in the hot springs during a thunderstorm, we continued up the valley in day stages through the lush vegetated forests and into the more and planes of the upper valley as we walked into the Annapurna rain shadow.

After 12 days of trekking we reached the hill village of Muktinath, near the Tibetan border and the last stop before the long haul up and over the snow covered 5415 metre Thorong La pass. Once clear of the pass we descended into the Manang Valley which is a very dry region directly North of the impressive Annapurna Massif.

A few days acclimatisation and administration were spent in the Manang area before moving down the valley to begin an attempt on Pisang Peak, our main objective for the expedition. The peak is 6091 metres high and not a straight forward up and down job due to its steep upper ice slopes and altitude. Two camps were used prior to the attempt on the summit to



On Pisang Peak.

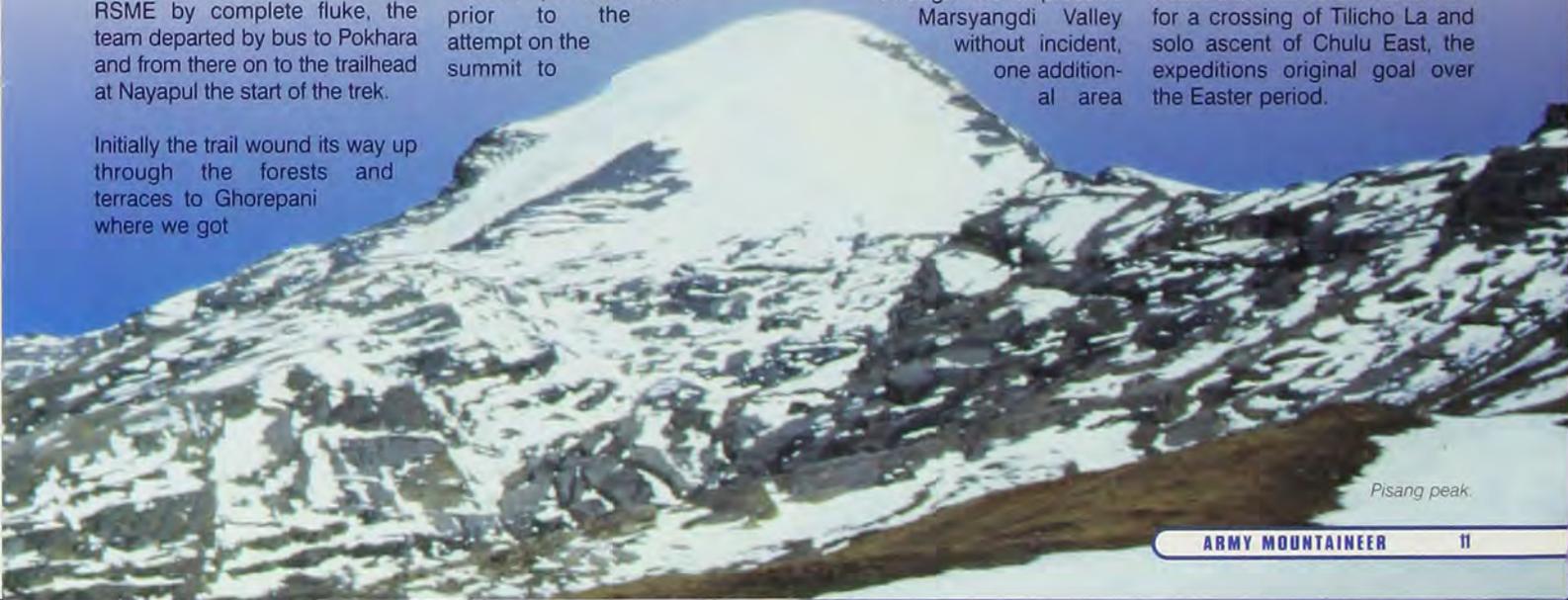
enable a sensible rate of ascent and cut down the probability of altitude sickness, a possible killer at these altitudes.

After a few nights of poor weather, the morning of the summit attempt kicked off cold and clear with everyone keen to get moving to warm up, 5000 metres up the mountain at two in the morning is not the hottest place to be! Following a hard struggle up through loose rock and scree Spr Crack Cockayne managed to set a record for the number of times he had to strip off his harness for a dump. The attempt was halted by the steep upper slopes just 200 metres from the summit, which made descent the only option for novice climbers, who were unused to movement as roped teams.

The trek out to Besi Sahar was carried out over a four day period through the impressive Marsyangdi Valley without incident, one additional area

of interest was the massive quartzite cliffs in the Bhratang area which could provide excellent multi pitch climbing for the right party. A cramped and lengthy bus ride dropped us back in Pokhara where we were treated to the hospitality of ex 69 QGE Sqn SSM, Chutra Shrestha, at his excellent guest house the Tibet Home in the Lakeside area of Pokhara. For anyone from the Corps who may visit Pokhara, it is highly recommended that they stop here, as Chutra is keen to catch up on any news.

The boys then hit the Kall Gandaki River for three excellent days of white water rafting prior to returning to Kathmandu and the long haul back to the UK on the 21st April, for a well deserved Easter leave, whilst Phil Jackson headed off with Chutra for a short trek up to his family village and Dick Gale headed back into the mountains for a crossing of Tilicho La and solo ascent of Chulu East, the expeditions original goal over the Easter period.



Pisang peak.

From Dentistry to the Dent du Geant

By Tania Noakes

"You have to have a little imagination" Cathie had told me four months earlier over the phone. My heart was beating just that little bit faster as the train pulled up at Chamonix and I hoisted my oversized rucksack onto my back. My concern was over how much imagination I would need as I saw my new apartment for the first time. At least I didn't have to struggle far from the station, Avenue Michel Croz leads down to the town centre and in a couple of minutes I stood outside the wide stone arched doorway of Residence Tairraz, my new coproprietere- or shared building.

My boyfriend James had arrived a week earlier, collected the keys from the estate agent and would form the welcoming party as I saw my place 'in the flesh' for the first time. Of course I'd seen photographs, but only after having committed to buying it and they couldn't really capture the true feel of the flat. Those very photographs which had shown the dentists surgery in all its sixties glory, complete with lurid brown lino, fully operational dentists chair, laboratory, dark-room and several casts for false teeth were now at the forefront of my mind.

I swallowed hard and pushed open the double doors and entered the cool marbled

hallway. I tried to gather all my optimism together and reminded myself of all the good reasons I had to trust my friend Cathie. She had advised me that the place was a bargain and that I should snap it up. After all it was all location, location, location! Things had moved so swiftly since then. I would never had thought that I'd be a home owner this time last year, let alone in Chamonix. Now I was the proud owner of one completely intact dentist surgery and very large and daunting French mortgage.

The entrance to the co-propietaire was vast, a marbled floor with the building's name, and a sweeping nineteen hundreds marble staircase dominate the entrance. A co-propietaire is basically a building divided into apartments of which certain bills like the building upkeep and heating are shared between the owners. Residence Tairraz is the French equivalent of a listed building so the walls are solid, ceilings high and the central maintenance costs are lower in comparison to modern buildings because very little can be changed. I climbed the stairs in a great state of excitement, my flat is on the first floor with a big double door entrance.

Imagination... I tried to concentrate as I opened the door. I had

three weeks holiday to turn the place around and do some climbing too. Would it be enough time? I surprised James, who had expected me later and we embraced in excited anticipation. At least I had a strong pair of hands to help me.

"I left it exactly as I found it," James grinned at me, buoying my hopes, "I thought you'd want to see it in pristine condition."

We toured the surgery. It had a spacious hall with broom cupboard, a toilet-washroom, a waiting room (with dental hygiene posters), and a simply huge window overlooking the Brevet, the main room with fully operational dentists chair and a laboratory at the back. My first impression was of the size, not just of floor space, at 58 square meters in central Chamonix- a real find, but the height of the ceiling. It was an old building so the rooms felt airy and spacious. There was, however a pervasive smell of dentists. My imagination was already launching into overdrive, I wanted to roll up my sleeves and dig in that night. Sense prevailed, "let's go out for dinner," James suggested "and start first thing tomorrow."

I initially looked into buying an apartment in Chamonix whilst trawling for a place to rent for a

season. I have a good friend who is a resident out there called Cathie and she suggested that the market was good for buying at that time. Firstly the pound was unusually strong against the Euro (hence the French franc). The closure of the Mont Blanc tunnel had made it more difficult for Italians to visit on short breaks and many had sold their apartments with a view to buying again once the tunnel reopened. French mortgages have impressively low interest rates in comparison to those in the UK. I was able to secure a sizeable mortgage with Credit Agricole in Chamonix repayable over 15 years with a rate of about 4.5 percent.

I admit that I needed little convincing to convert to the idea of buying. Paying money into your own pocket is infinitely preferable to paying it to someone else. The appeal of Chamonix also swayed me... So I asked Cathie to keep her eye out for me.

Less than a month later her estate agent Century 21 had identified about six potential properties within my price bracket. I had specified two bedrooms so that I'd always be able to rent one out and a price between 30 - 50 thousand pounds. As I flicked through the details one stood out. It was central Chamonix, but the text said it needed work as it was currently a dentists surgery. It was also out of my price bracket



Dawn on the Frendo Spur, By Simon Weatherall

at 65 000 FF, still I asked Cathie to have a look at it whilst she was down there and tell me what she thought.

Two weeks later I phoned her from work and checked her impression. It was very positive, so much so that when she told me that another potential buyer was going for his second viewing the next day I committed to buying it there and then. She secured the bid with her own personal check for ten percent of the value of the property. I set the wheels in motion to gather the money together. The French system works by demanding a deposit of ten percent to secure a bid on a property. This money is held by an independent 'Notaire' who deals with all the financial transactions. Once this bid is made and money handed over if the buyer pulls out of the deal for any reason other than not being able to secure a mortgage he forfeits the money. Similarly if the seller pulls out of the deal he must pay ten percent of the value of the property. A pretty fair system it seemed, but it meant that I was immediately committed to the tune of 65 000 FF without even having seen a photo of the place.

My friends thought that it was a big leap of faith, all my savings and then some, but it felt the right decision and I trusted Cathie's judgement. Century 21 the estate agent were immensely helpful and carried out effectively all the liaison at the French end. They would send me all the necessary paperwork with an 'X' where I had to sign and translations into English when required. Oh and my friend Cathie was always on hand if I ever got stuck. Do I speak French I hear you ask, well yes I do, but legal French is beyond me, as I think legal English would be. Many times I had to trust that I was feeling my way through well enough. The estate agent found me several different mortgages to compare and select one and all I had to do was sign accordingly and send off pay statements and identity documents. I compared 12 and 15 year mortgages with varying amounts of capitol. French mortgages by law have to be taken with insurance and that insurance need me to fill out endless health questionnaires and quizzed me about dangerous pursuits. By law the mortgage companies cannot raise their rates by more than 1% without going to the French government and there has been no historical precedent.

I pay my mortgage monthly by direct debit and my insurance trimensal again by direct debit from my French bank account. My bank account is with Credit Agricole, which is just next door to my flat.

So far everyone has been exceptionally helpful out there, particularly when they learn that you are buying a place out there. In three weeks James and I worked flat out to get my apartment into a rentable condition. All the old dentists equipment was removed, even the chair, although many people have since said I should have kept it. We completely redecorated the waiting room into a master bedroom with big double bed, the dentistry into the living room with pull-down sofa bed and the laboratory into the second bedroom with bunk-beds.

During that time we spent more time in the mountains than in the flat doing DIY. First to escape the smell of dentists (which was giving us both nightmares) and then to escape the smell of paint which was giving us both headaches. We climbed some major rock routes at the back of the Argentiere hut and on the Aiguille de L'M and other mixed routes including the Forbes arete on the Chardonnet and the Frontier Ridge on Mont Maudit. In fact it was an excellent summer climbing with superb weather and the DIY was completed on our rest days. We progressed from sleeping on the Waiting-room cushions to the bunk-beds which my parents brought down when they visited for a few days, to a big double bed when it was delivered from the showroom in Sallanche. I was able to find reasonably priced second hand furniture from the adverts placed on the notice boards at the back of the Mairie and a friend who was visiting with a minibus helped with the transportation.

James and I were justifiably proud and exhausted at the end but what a transformation! We bought a few bottles of wine to celebrate and then I noticed something special. The flat no longer smelled of dentists.

I have since returned to Chamonix on two further occasions and the amount of DIY outstanding diminishes accordingly. My dad came out with me for five days and helped with some of the finishing touches, whilst I attacked the hall and the toilet room with vigour. When I



NNE Arete of Agil L'im. By Simon Weatherall

returned for a week at Christmas I was able to Ski and enjoy the fruits of my labour, including the new shower room and hot water system. Although I had been trying to get a plumber in since August! Now in the last few weeks I have had a kitchen fitted into a corner of the living room and my flat is pretty much complete. I've been on an expedition in South Georgia for the last few months so what greater surprise than to return to find my sister had constructed a web-page advertising my flat for rent! The best Christmas present I've had... check it out at www.SkiChaletChamonix.co.uk.

I'm so pleased with my new flat in Chamonix now that it is proving worth all the heartache and worries and doubts I've experienced over the last year. I open my curtains to a beautiful view over the Brevant and it's in the very heart of Chamonix! Being there over Christmas, hanging my pictures on the walls and glancing outside to see the snow thickly falling in Avenue Michel

Croz I found myself smiling to myself and feeling very relaxed. I had made the best decision of my life blind, with a lot of helping hands and a little imagination I had become the proud owner of a superb flat in downtown Chamonix. The cat truly did have the cream on this occasion.

I know that my experience was made easier through the help of some very key people, Cathie, James and my very supportive family included. So many friends have said since that they'd love to do a similar sort of thing that it struck me that I should write an article about my experiences and highlight some of the possible advantages and pitfalls. I hope that this helps you find the right path and I would be happy to answer any questions you have through e-mail at: tania@SkiChaletChamonix.co.uk I don't know how many old dentist surgeries there are left out there, but I know that next time I go to Chamonix the closest that I'll be getting to one is the Dent du Geant!

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Estate Agent
Plumber/Electrician
Credit Agricole Chamonix
My web site!

HOW TO BEAT THE SYSTEM AND SUCCESSFULLY ORGANISE AN EXPEDITION!

By Capt Matt Bacon INT CORPS

Trekking and climbing are enjoyable. In fact they're very enjoyable. However, organising an authorised adventurous training expedition to get some quality trekking and climbing in world class locations is often accompanied by overwhelming and sometimes demoralising bureaucracy. Don't be daunted: our very minor and extremely busy unit has just returned from a major trekking and climbing expedition to Nepal. The experience was invaluable, not just in terms of the activity but in the process of planning and organising. It may be useful to share what we learned with less experienced readers to warn of potential pitfalls and offer a few pointers to make life easier. Armed with a little knowledge, any size of unit should be able to pull off the same.

Firstly, and to whet the appetite, what did we achieve? Exercise Trident Trek was a tri-service expedition to Nepal, run over 4 weeks and organised by a small unit based in Northern Ireland. We wanted to combine some interesting and challenging trekking with the ascent of a peak, although because only three of the eight-man team had any climbing experience this would have to be at a reasonably basic level. We opted to fly to Tumlingtar in Eastern Nepal and spend over two weeks on a fully supported trek from the humid Arun Valley to the Hinku Valley, south of the popular Khumbu region. There we temporarily joined a well-travelled route for the ascent of Mera Peak (6450m), which thanks to the excellent acclimatisation and fitness won from the walk-in we achieved at a blisteringly fast pace and without the use of a High Camp. Carrying much of our own gear we continued into the empty Upper Hongdu Valley and made the technical crossing of the Amphu Labtsa La (5800m) to Khumbu. We finished with another fast ascent of Island Peak (6100m) and, feeling well pleased with ourselves, exited down the Everest trail to Lukla.

In many ways carrying out the expedition was the easy bit. The first hurdle for any similar expedition is to bring your Commanding Officer on side and to raise support and enthusiasm from those genuinely interested in the activity - not just a few weeks away from work. Without support from both quarters the project is doomed, and we were fortunate to secure both early on. Having sold it at the right levels it's time to get the initial tranche of paperwork completed, and this means making friends with your local G3 PAT branch. Aim to get your ATFA into the system as soon as possible, even if you are unable to provide as much detail as seems to be necessary at this stage. Our submission, eight months before D-Day, was sketchy but sufficient. In any case it's important to remain flexible. We were forced to reschedule our expedition dates twice to deconflict with major festivals at the direction of the British Embassy in Kathmandu. Later on you will have to tackle High Risk/Remote clearances arranged by your G3 staff for all but the most basic expeditions to well-touristed areas.

You should be employing the tried and trusted 'concurrent activity' technique by now, researching your project in extreme detail, putting

together your team, contacting an agent if you feel the need - more on this one later - and starting work on expedition finance.

Research is vital. Our chosen approach route through the Rai and Sherpa villages of Eastern Nepal was rarely attempted, although an outline description does now appear in the latest Lonely Planet guide. Other sources, such as making contact with people who've been there before, or alternatively tapping into local agents in Kathmandu for suggested itineraries, can often pay dividends. Use the Internet to it's full potential: individuals and small companies love to show off their apparently vast knowledge of mountain regions, but beware of some blatant examples of gross exaggeration in the difficulty of certain routes, trekking and climbing. Old PXR's, sourced from Indefatigable or Upavon, can be a mine of information. We used all these sources, and were able to piece together an amazing amount of information that helped us to plan properly, to prove our enthusiasm to those we wanted money from, and to better appreciate our routes and objectives when we arrived.

A major job is putting your team together. Financial and safety considerations will probably suggest a practical minimum number of participants. Equally, there will be understandable pressure from COs to take as many people as possible. A difficult balance has to be struck, which in our case resulted in the selection of a team of eight, big enough to take advantage of economies of scale and cope with emergencies, small enough for easy management. Selection remained the responsibility of our expedition leader, Major Duncan Penry. While he had to ensure that the necessary level of expertise was included, and felt duty bound to choose a mixture of rank, he rightly stressed compatibility above all. Each member of our team was given a personal responsibility, sometimes based on an existing skill such as First Aid, but sometimes requiring a new vocation, as was the case with our Environmental Officer.

Our expedition leader had run 'self-help' trips in the past that had required the team to hire and fire their own staff and porters, but he was keen to avoid day-to-day involvement in 'the weeds' this time around. We made an early decision to use a well-respected in-country agency, which we never regretted. In these days of instant Internet communications it is difficult to justify the use of UK-based agents, although we did this as well because of the extraordinary savings we were able to make on booking flights and accommodation. Nevertheless, there are dangers in using agents for everything. While they can perhaps add a layer of reliability to your arrangements, ultimately making it more likely that you will succeed in your aim, they undoubtedly act as a barrier between you and the reality of the country, removing part of the element of adventure. Our carefully negotiated logistic 'package' gave us arranged in-country movement and the use of staff and porters, but importantly we remained responsible for all the macro decisions and took a



A difficult balance on team size has to be struck.

deliberate interest in the micro ones that usually fall to the Sirdar. We were also self-guiding and self-leading throughout. Without retaining these two responsibilities we would have become no more than a package tour, which is an obviously unacceptable way for military adventurous training to be run. Be careful.

Expedition finance is an emotive subject. Personal contributions are straightforward, and in any case compulsory. While some expeditions operate a sliding scale of payment by rank, we paid £500 each towards the real, unsubsidised cost of approximately £12000 for our expedition. This was a clean, simple and easily understood system, backed up by acknowledgement that supplementary payments may be called for or a rebate made before the books were closed. Unit PRIs, formation G3 PAT staff and other amenity funds should all be explored, and in our case netted a cool £1400 between them. After that it's time to go a little further afield, and this is where the adventurous content of what you are planning will start to come under very close scrutiny. Our own AMA gives generous grants, depending on the value and seriousness of the mountaineering content, and we were lucky enough to benefit here. The Berlin Infantry Memorial Trust Fund is still in operation, and if you can incorporate a scientific project into your expedition and present your case with conviction you should also seek the endorsement of the Joint Services Expedition Trust. Both these bodies provided the backbone of our expedition finances. Lastly, don't forget to apply for CILOR, and don't write off the idea of commercial sponsorship, responsible for £700 of our budget. Most success will be had from approaching local companies who have a personal relationship with you or others destined for the trip, although you must be scrupulous about staying within MOD guidelines in seeking funding from Defence contractors.

Sourcing loan equipment for mountain expeditions can be hugely problematical. Loan Pool stores at Bicester can be quite excellent in supplying some of the necessary kit, but hopelessly inadequate in some areas. You can equip your team in matching North Face Goretex suits, but anyone with size 10 feet or above can't be fitted with climbing boots. You can all sleep in the latest Terra Nova tents, but your crampons will be of 1950s vintage. Most worrying of all is the 'forward-basing' of all down clothing in Western Nepal under dubious storage arrangements and where it can benefit only a tiny proportion of expeditions who could use it. For an expensive expedition to board the aircraft with only a loose promise that down equipment of sufficient quantity and quality in the right sizes will be waiting at the other end is a giant leap of faith. We got as much assurance as possible by keeping in close contact with the supplying organisations by telephone, fax and signal. Use the professional logisticians in your QM chain to pull the strings and make the enquiries where appropriate.

Exercise Trident Trek was a huge success, but the path to this was laid by getting on top of the paperwork at an early stage, and staying there. Organising a trip is not beyond the scope of any motivated member of the armed forces. Just remember some sound military principles: have a clear aim, ensure you have mutual support from your chain of command and vigorously attack the mountains of paper work you will have to deal with. If in doubt, get help. And be adventurous. Good luck!



Capt Charlie Statham strikes a Hillary-like pose on Mera Central Summit (6450m) with Everest behind.



Maj Duncan Penry leading the summit ridge of Island Peak at 6150m, photographs the four climbers behind him.

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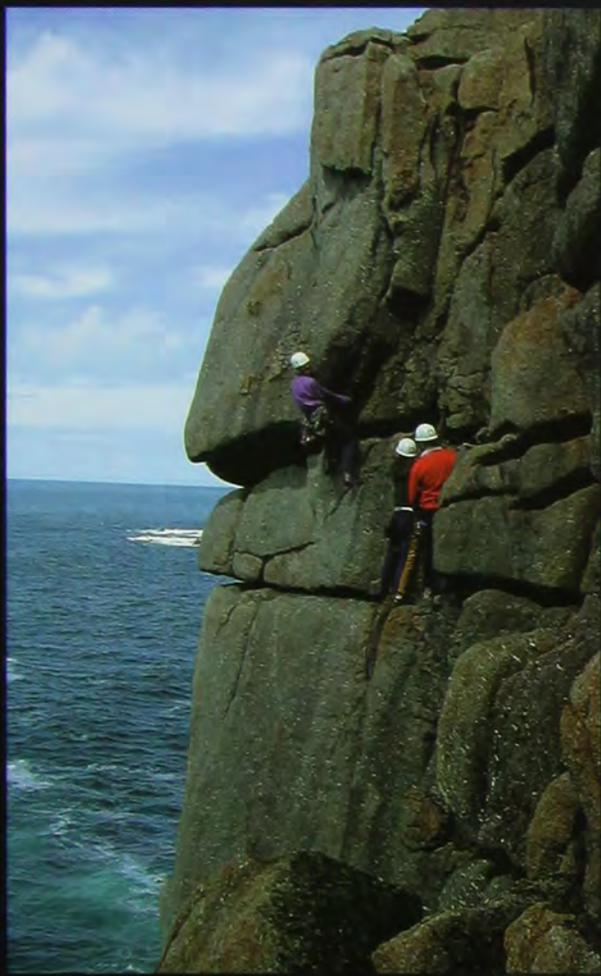
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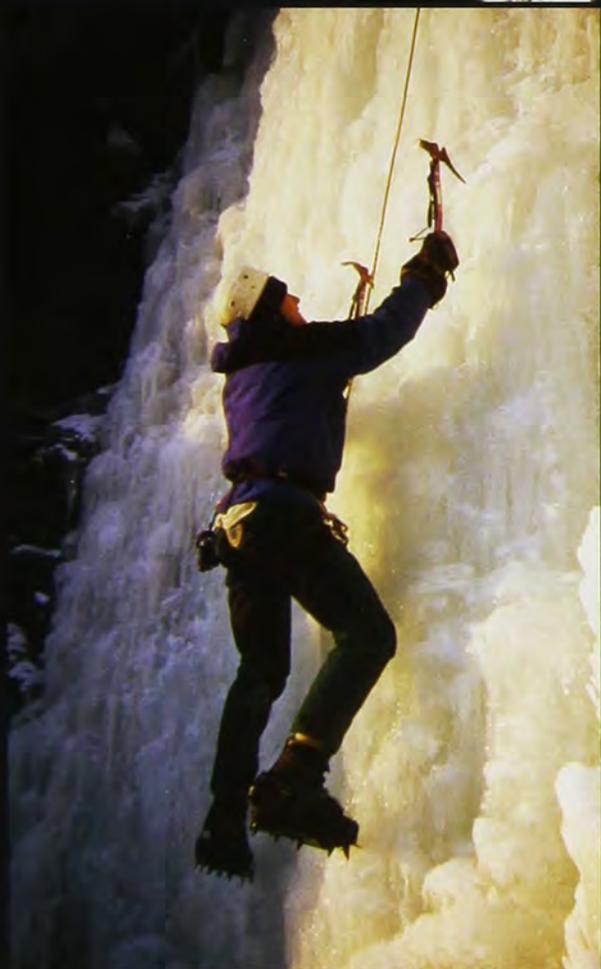
AMA CLIMBER



Daz Hall leading a group up Demo Route HS 4b, Sennon Cove during 29 Cdo RCP course.

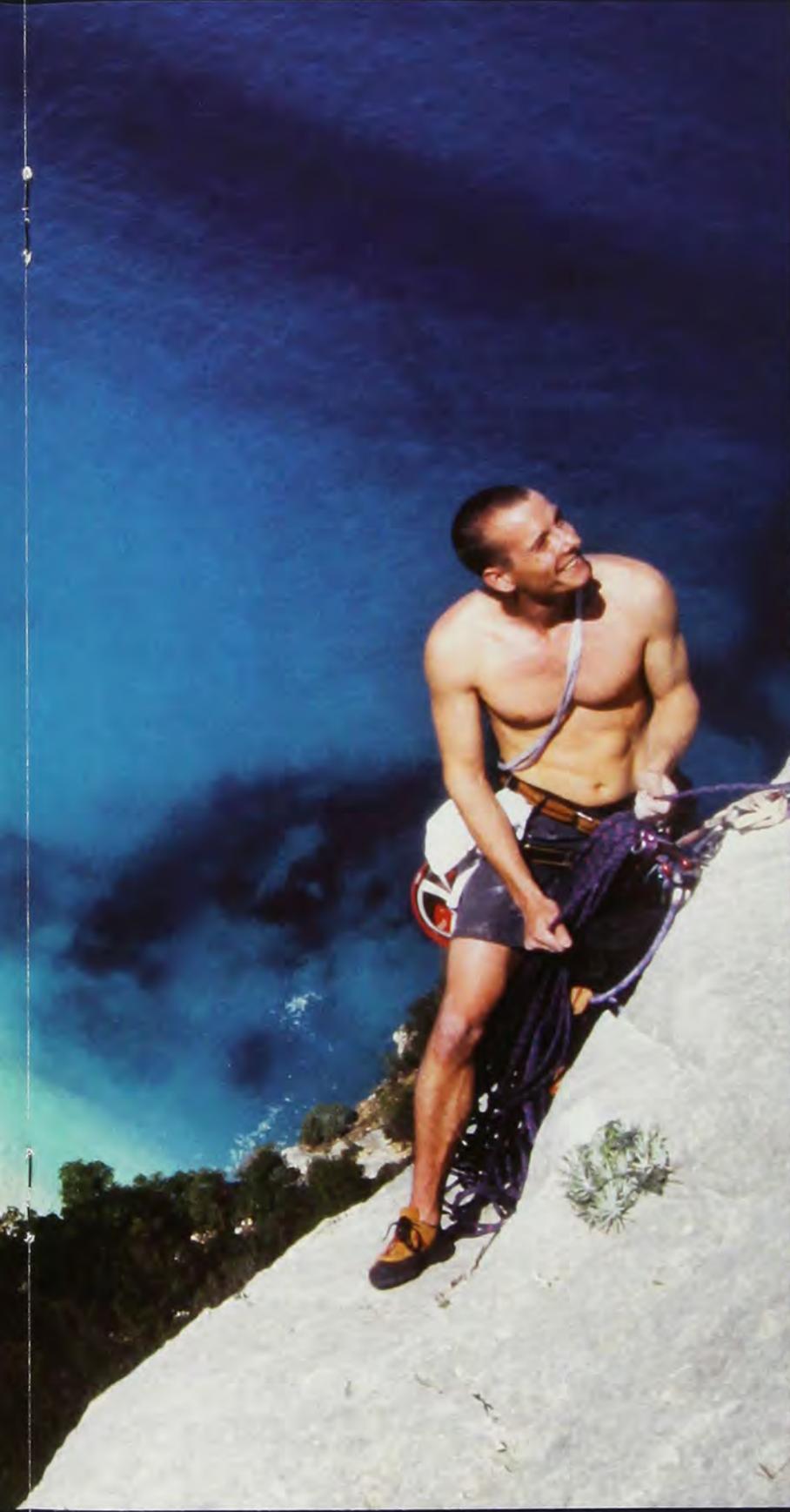


Ben MacInnes on Route 6 6c, Aguglia de Goloritze, Sardinia.

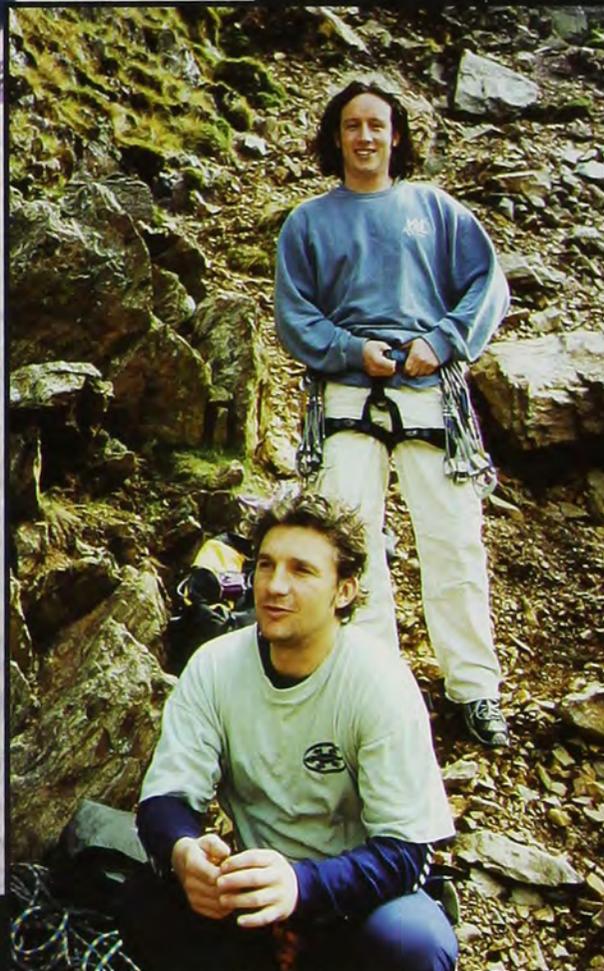


Toby Maynard ice climbing in Norway, Jan 2001.

RS IN ACTION



*Reflecting after 8 pitches.
Nissedal, S Norway.*



Andy Longman and Matty Wells gearing up for a route in the pass.

\$\$ SHOW ME THE MONEY \$\$

aka how to get a grant from the AMA

By Stu Macdonald, AMA Expeditions Advisor

Right, let's get straight down to business. You pay to be a member of the AMA. One of the benefits you can receive in return is financial assistance for expeditions you take part in.

So how much should you expect to get? The table below provides a rough figure of how much each member on a qualifying exped will receive:

To determine the exact grant a number of criteria are then assessed. These include risk, remoteness, status within the group, technical nature of the route, use of huts/camps/bivis, duration, personal contribution, environmental impact and the adventurous nature of the expedition.

Listed below are the most commonly asked questions and answers:

Q - What format should my application take?

A - The revised application form was published in the last newsletter. It's very simple to follow and once completed it should then be sent to the Expeditions Advisor.

Q - How long will I have to wait for the cheque?

A - Depending on when you send your application, it may be anything from 3 weeks to 3 months, so don't leave your application to the last minute.

Q - Should I send an ATFA with my application?

A - NO !! Send concise information about the expedition.

Q - Treks are often rejected for a grant even though you say you do support them. Why?

A - We do support treks, but only in certain cases. Treks on standard routes, with no nights under canvas and short days will not be awarded a grant. On the other hand if you're going well off the beaten track and doing something different you're probably quids in.

Q - What if some of the team aren't members of the AMA?

A - Get them to join so they'll be eligible next time. In your nominal roll include the membership details of those already joined. Newly joined members may be eligible for a grant if they are under 25 and have not been in the Army long.

Q - I've heard that it's worth exaggerating a bit to get more cash. Is it true that it works?

A - Get real! The committee has a broad range of experience from around the world. If they think you're bluffing you may find yourself with no grant at all. Be honest in your application.

Q - I'm going on a really necky exped with some friends of mine, but it's off duty. I assume that we're not eligible for a grant?

A - Not usually, but if it is something particularly challenging and/or unusual the committee will definitely consider it. It's always worth applying.

Q - So what do I have to do once I've been given a grant?

A - All you have to do is send a PXR and a journal article after the trip. Remember, this is important. Also, make the article something worth reading. It shouldn't be a mini PXR and doesn't have to list every detail of the exped.

Q - What if I'm busy after the trip and forget to do an article?

A - Then maybe the committee will forget to process your next application. Catching my drift?

So, next time you're down the pub hatching plans for an expedition why not put pen to paper and ensure that your trip gets the financial support it deserves.

As Spike Milligan once said "Money. If you've got it, spend it! If you ain't got it, GET IT!"

Activity/Area	UK	Europe	Rest of World
Trekking	Nil	Nil - 25	25 - 50
Rock Climbing	Nil	20 - 50	50 - 150
Winter Mountaineering	Nil	25 - 75	75 - 200

THE GAMOW CHAMBER

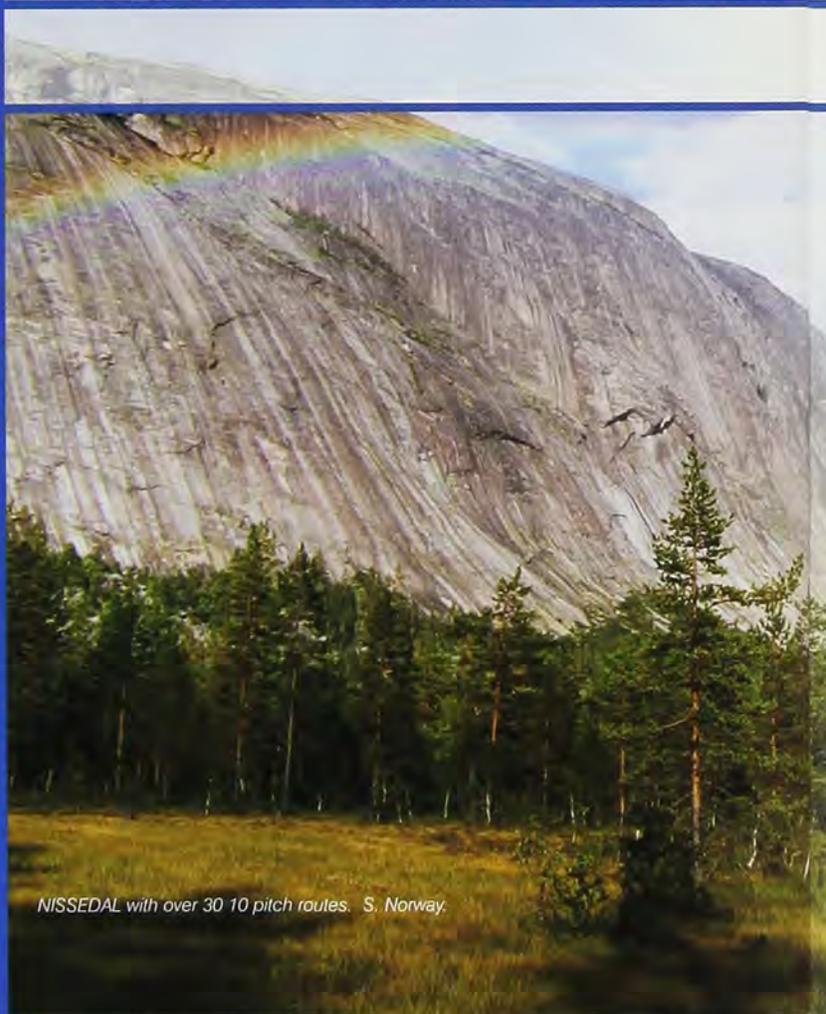
by Capt LC Callaghan RAMC

The Gamow chamber is becoming a popular item for high altitude trekkers and climbers to carry with them and justifiably so. It is effective, easy to use and now readily available through the AMA equipment member.

The use of portable hyperbaric chambers (of which the Gamow bag is one example) is a well recognised method of treating Acute Mountain Sickness and its more severe variants High Altitude Pulmonary Oedema (HAPE) and High Altitude Cerebral Oedema (HACE). The chamber is pressurised by using a foot pump once the casualty has been zipped inside. This creates an environment inside the bag which is equivalent to being at a much lower altitude, having a greater air pressure and consequently increased oxygen availability. A duration of 1-2 hours inside the chamber will normally lead to an improvement in the casualties condition which in turn may enable them to feel well enough to be helped down on foot to a lower altitude. This improve-

ment is only temporary and a deterioration in their condition to the previous level will be seen after a few hours if descent has not occurred immediately. If early descent is impossible then a further spell inside the chamber will probably be necessary after 5-10 hours.

A spell in the chamber is an uncomfortable experience for an already sick person to have to endure. A number of simple considerations will increase comfort and safety for the casualty. Firstly they are at risk of becoming hypothermic unless the ground below is well insulated with sleeping mats and it is advisable to put them inside a sleeping bag. The clear plastic window at one end of the bag should be placed in line with the patient's face so they can be reassured and, more importantly, be inspected to check for any deterioration. It may be necessary for them to equalise middle ear pressures by 'popping' their ears as the bag is pressurised. This is done by closing the nose and mouth and blowing hard. If they have a cold or upper respiratory



NISSEDAL with over 30 10 pitch routes. S. Norway.

tract infection at the time and are unable to do this then it may be too painful for them to tolerate pressurisation and hence unwise to put them in the bag at all. The seriousness of the situation will dictate the necessity.

Sufferers of HAPE may be unable to lie flat inside the bag for very long as the fluid that is in their lungs will redistribute and give them a distressing feeling of drowning and breathlessness. They may have to be either propped up or placed on a head up tilt, both of which may be difficult to achieve comfortably. They may be so short of breath that the lying position is completely impossible and in this situation it may be necessary to abandon the attempt, with descent, oxygen and specific drug treatments being the immediate priorities.

An assistant should be given the task of maintaining pressure inside the chamber by continued foot pumping at a rate of about 12 per minute. This will be enough to replace the air which escapes through deliberate leaks in the bag. These are present to allow the escape of stale air (with high carbon dioxide and low oxygen content) to be replaced by fresh gas on a constant basis. It is not recommended that the

casualty is evacuated whilst undergoing treatment inside the bag, even though there are carrying straps on the sides. It would be impossible to maintain constant air flow and pressurisation and would be difficult to monitor their condition.

The chamber should come with its own pressure gauge and maintaining a pressure of 104mmHg inside will be approximately equivalent to between a half and two thirds of the altitude. For example: at sea level the atmospheric pressure is 750mmHg (1 bar). At 4000m the atmospheric pressure is about 460mmHg. Pressurising the chamber will create an increase to around 564mmHg overall which is equivalent to an altitude of around 2600m. (mmHg = millimetres of mercury)

It is strongly recommended that expedition leaders acquire a Gamow chamber, or equivalent, prior to taking a group to altitudes over 3500m in remote settings. Altitude related illness is a very common problem which every year claims needless lives. These chambers are easy to use, safe and effective at facilitating descent in many victims of Acute Mountain Sickness, HACE and HAPE when they are too ill to descend immediately on foot.



Gamow bag in use at Everest Base Camp

ROCK CLIMBING PROFICIENCY

By W01 Ewen Martin

Removing his dark and well used sunglasses he reaches for a soft cloth to clean the smears that now distort his view. His eyes, narrow slits in the strong sunlight as it reflects back at him off the many different surfaces; white rock, golden sand and azure sea. The people around him are fit and athletic with the tanned skin of a Malibu surfer, they wait as he opens his mouth to speak.

"Welcome to day 2 of your RCP course." Today we shall climb several single pitch routes and have an introduction to gear placement."

The golden beach and sun bleached rock is "Three Cliffs," a popular coastal climbing area on the Gower in S. Wales. The group are 10 staff from the ATFC Arborfield and their instructors are from the L & IT Wing ATFC Arborfield.

The 5 day course included an indoor wall day, two beautiful single pitch days and

Shallow water soloing, 44.5 - S. Norway.



Continued on page 20



ATFC STAFF at Three Cliffs, Gower S. Wales.

Continued from page 19

two days that involved torrential rain on multipitch routes at Winters Leap. Routes from Diff to HVS were climbed and everyone was recommended to attend RLT without delay. Four people have already completed the course.

The Rock Climbing Proficiency course is one of the best the services offer and while you may not have the resources that ATFC Arborfield have, any JSRCI can obtain a course training plan from JSMTTC and conduct the course. I believe it is one of the best methods we have of developing our future climbing leaders and if all AMA members that are qualified to run these courses manage even one course a year we should begin to broaden the climbing base.

EX TROLL TIGER

ATFC Arborfield ran a 10 day RCP course in Norway Aug 00 with 10 apprentices and the L & IT Wing staff. Norway offers so much in the way of climbing so please get in touch if you would like more info. I shall be working in S Norway from Apr 2001 for TROLL MOUNTAIN: e-mail: troll.mountain@online.no.

Silberwand "Slabs" - Setesdal.



(ONE OF) MY FAVOURITE ROUTES

by Lt Col John Muston

When the Editor uttered a *cri de coeur* for articles on the theme of My Favourite Route I felt I had a problem. When one has been roaming much of the world climbing mountains - with the odd bit of military duty filling in the gaps - to select one route as a favourite is impossible; hence the slightly modified title of this article.

I am privileged to be able to look from my home across the Mawddach Estuary to the north face of Cader Idris and despite the peak being less than 3000 ft the face is impressively alpine when it has a good covering of snow. Nestling at the foot of the face is the small loch Llyn y Gadair or Lake of the Seat if you want the English, Cader Idris translating as Idris' Seat or Chair and nothing to do with bums I will have you know. This is my mountain we are talking about. Go 200 meters west from the centre of the west margin of the lake, ferret about a bit and you will find 'CA' marked on a rock by someone tapping at it with a hammer or similar tool. This is the start of CyfrwyArete, a modest climb by any standard. It is a Diff and probably 'low in its grade' as the guide books might say. However we are into climbing history because this is allegedly the very first rock climb done in North Wales by a man called O G Jones back in the 18 somethings.

'Man, that's not a climb, that's a doddle' I can hear the hard men saying but on a warm, windless and sunny day it is a delightful doddle with glorious views out over the estuary or, coming right a touch, over the Rhinogs and north to Snowdon and other peaks in that area. The first two pitches go fairly steeply up the ridge following 'the obvious line of weakness' as a baronet member of the AMA used to say. This lands you on top of The Table, a near flat area of rock some 15 feet square, and an idyllic spot to linger for whatever purpose comes to mind. We locals have no objection to the wine or women but would object to song - too noisy.

Having dallied, gird your loins, check the rope (and your second) because you are about to tackle the 'crux' if you can have such a thing on a Diff. From 'The Table' you descend ten feet into a sort of mini Tower Gap and then climb about 40 feet up a steep nose. There are good holds and about half way up you can put one of those wiggly bits of metal on wire into a crack if you are so minded. 'Protection' I believe is the term. From a good belay at the top you can bring up your second and coil the rope unless your partner has an aversion to exposure. The rest of the ridge offers some delightful scrambling on very sound rock with the angle gradually easing as you come to the top of the ridge to join one of the tourist routes up Cader. However there is another advantage to this route. If your party is composed of climbers and walkers the latter can scramble up the broad gully to the south of the arete and then cut up onto the ridge at the point where the climbers coil the rope. By so doing they avoid the climb but can still enjoy the scramble. Yet a further advantage is that the climb can be done without any preliminary training - no pumping iron, fingerboard work or anything nasty like that. All you require is very average muscles and not all these need to be in the right places. Please leave your chalk bag at home; the route needs no desecration. It can be climbed in 'big boots'; you do not need those fancy coloured carpet slippery things which now seem to be essential footwear on the Ordinary Route on Idwal Slabs.

Baedecker (a long superseded tourist guide book publisher) used to describe some 'walks and excursions' to use the Victorian phrase as 'an easy day for a lady' when it was deemed only suitable for ladies to enjoy the most modest of excursions. Nowadays ladies do what they like and seem none the worse for it so Cyfrwy Arete must now be described as 'an easy day for a mountaineer' but a delightful day nevertheless.

HEIGHTS OF INTRIGUE

by Captain Mick Jenkins RE

Did anyone ever see the film "The Englishman that went up a mountain and came down a hill?" To understand why the Welsh locals went up the "hill" and painstakingly added 20 metres of earth to make it into their beloved "Mountain" is a thought provoking action and one which went a long way to explain the passionate feelings behind a mountain's height! Typical then that it was an English surveyor who announced it as only a hill, narrowly failing it's prerequisite height to be classified a mountain. British surveyors have been busy for centuries exploring and determining mountain heights across the globe, how then does controversy still abound on the heights of mountains...?

The heights of mountains around the world have been a source of fascination and intrigue since records began provoking intense and passionate debate amongst governments, climbers, surveyors and countrymen worldwide. Strange then that in this day of high tech computers and space probes, we still lack definitive heights in particular regions of the Globe. For the climber returning from a peak,

one is often asked "how high is it?" before being questioned about the difficulty, duration or equipment needed. In many parts of the world and in particular the Andes and the Himalayas the question "how high is it?" is not easily answered. Maps are often sketchy or inaccurate and the methods of calculating a mountain's height may differ from region to region. Some methods such as accurate triangulation and modern day geodetic GPS surveys are for instance slightly more reliable than calculations from satellite imagery or air photography, but not without their limitations.

In this article I will attempt an overview of the problem based on research for expeditions involving both climbing and surveying. Without delving into deep technicalities of survey techniques I hope to show a perplexing situation that exists worldwide with particular emphasis given to South America which is a topographers nightmare! We will hopefully see that heights are argued over vehemently, not easily determined and quite often subject to nationalistic bias!

The Apogee Expeditions

So where did I begin to culture a passion for mountain heights...? It all began in 1992 when the first 'Apogee' expedition unfolded in Ecuador. As a Military Surveyor in the British Army, it was apparent that our surveying skills could add an extra dimension to the adventurous training aims the Army so encouraged. Military Survey is steeped in adventurous and exploratory history, reflected by the many deeds of 'daring do' that early British military surveyors accomplished across the globe. Our intent was to rekindle that adventurous history amongst modern day Royal Engineer surveyors, but at the same time, "depending upon which map you look at, there are mountains with different heights and national bias' across the south American continent", contribute to the geographic discovery of the worlds remote mountain ranges by undertaking geodetic mountain surveys.

Ecuador became a 'labour of love' for me – the first major Military Survey mountaineering expedition to work alongside our host nation counterparts. The source of intrigue lay in the height of Chimborazo, once believed to be the highest peak in the world. The 'Apogees' completed an accurate GPS height survey of the peak working in close collaboration with the Ecuadorian IGM, and also heighted 3 other Andean volcanoes during the course of a 5 week expedition. The IGM were particularly impressed with our post processed results and have since established our reading of 6,257m as the official height (as apposed to the 6310m still published on many other maps. The peculiarities associated with South American heights thereby became apparent during the research of survey data for the Ecuadorian trip and became even more confusing when I carried out research on some of the Chilean giants...!! The Apogee expeditions have since gone on to undertake mountain surveys and complete satellite image maps in the Indian Himalayas, in Africa, in Chile and recently in an unexplored range on the Kazakh/Chinese border. Each has had its own fascinating dramas and Chile in particular added to the height conundrum of south American peaks when we were convinced that we might just prove that Ojos del Salado was the highest in south America - read on to understand more of the intrigue.....!!

The Himalayas

It is perhaps best to begin with the Himalayas where early exploration, surveying and daring

exploits eventually led to a systematic survey of the Indian sub continent, supervised by British surveyors. William Lambton, the founder of the Great Trigonometrical Survey of India, began this massive project in 1800 before Sir George Everest continued as Surveyor General of India in 1830. Everest continued Lambtons work probing north towards the Himalayas where he established the Survey of India HQ at Dehra Dun. During this period up to 1843 when he retired, Everest masterminded the Gridiron system of triangulation which provided the framework for detailed surveys. Perhaps his most incredible feat was the foundation of the mathematical spheroid which best fitted the figure of the earth, or Geoid in India. All positions and officially accepted heights in India are to this day, still referenced to this spheroid - the Everest spheroid.

It wasn't until after Everest's retirement that most of the great peaks were observed by theodolite from distant stations with calculations adjusted and recorded at Dehra Dun. National mapping was produced at various scales and the accuracy of these early surveys bear great testament to those pioneers who endured all manner of risk and danger to life in their quest to explore the "blanks on the maps". In essence, the majority of Himalayan peaks lie in some sort of pecking order but have not been without controversy regarding definitive heights. The heights of the great peaks are not yet exact. They are as precise as scientific observations can make them given that technical unknowns in corrections still prevail. "Because peaks have not been triangulated... a curious chaos now exists in south American heights"

Some years ago it was announced that K2 was measured as being higher than Everest. To settle the argument, Italian scientist Ardito Desio measured both peaks in 1987 using GPS and electronic theodolite technology. The height of K2, after corrections for refraction and other errors came out at 8616m +/- 7m, compared to Colonel Montgomery's original height of 8611m during the Survey of India in 1858. The traditional height of Everest, first observed in 1850 but subject to further height corrections thereafter, is 8848m, a figure retained on current mapping of the area despite modern data quoting it as even higher. Desio calculated it at 8872 +/- 20m. The reason why the Survey of India Office will not change its height to the modern figure (24m higher) is because of a lack of definitive data to finally confirm separation values of the Geoid and spheroid in the

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Military Surveyors carrying out geodetic GPS surveys in the Atacama desert, 1997.

Himalayas, an ongoing technical anomaly. As with Everest, so with the other great mountains. Kangchenjunga at 8598m is not far off the height of K2 and it has been intimated that it could displace K2 if more was known of the geoidal separation in these parts. It is a great tribute to those early surveyors that their figures do not differ substantially from those of modern day techniques. I for one advocate the retention of traditional heights until more is known of the separations.

Determination of Heights

This is a good place to look briefly at how heights are determined. The greatest problem of heightening a peak lies not solely with the techniques used but primarily with the shape of the earth! The earth is oblate in shape, (flattened at the poles), and not a true mathematical surface which presents great problems to Geodesists and topographers alike. The geoid or earth's figure is not a true spheroid, mean sea level erratic and not a true spheroidal surface and we do not know where it is under a particular mountain. Specific mathematical spheroids are devised for numerous regions of the world and calculations maintained from their central datums. Transformations are made to relate observations to mean sea level and there are numerous associated problems in providing definitive heights. The geoidal separation must be calculated and accurately known to reference heights to mean sea level. This separation is the distance between the earth's figure (geoid) and the mathematical spheroid which is not easily determined. Tidal shifts around the world add to the problem where maximum accuracy is required. Much work is ongoing to improve geoidal knowledge to reduce the separation errors to a minimum and the advent of GPS networks and gravity measurements will go a long way to solve them.

Nowadays a world geodetic reference system is in place (WGS 84) enabling us to relate all worldwide heights to one datum point and therefore make comparisons of peaks across the globe. Practically though many mountains around the world have not been privy to the aimed theodolite and not accurately triangulated. Curvature of the earth, light refraction and deflection of the vertical are for instance some of the problems associated with traditional theodolite observations reduced in error by complex tables and calculations. Photogrammetry and remote sensing surveying can accomplish heights for peaks where mountains have not been subjected to triangulation. Many peaks around the world have been heightened in this way but the method requires accurate ground control and slight imperfections in determining the horizontal position of a peak can result in major changes of the vertical. This is also true of traditional methods because the separation values of the Geoid will change with ground position. Each method will have its own integral problems in minimising errors but the advent of GPS has made significant breakthrough to solve and assist in many of these problems. GPS has added a new dimension to geodetic surveying allowing for incredible accuracy in horizontal position. By virtue of its increasing accuracy and speed, the results of satellite geodesy are used more and more in related disciplines such as geophysics and oceanography. GPS heighting, is however, still subject to the errors of geoidal separation values necessary to calculate elevations to mean sea level.

South America

Unlike the Himalayas, the South American Andes was not subject to a systematic continental survey though early pioneers did much to improve the geographic knowledge of the range. In the early part of this century, frontier surveys and boundary commissions (some of which were by British Military Surveyors) established heights for many peaks but because most were not triangulated a curious chaos now reigns in terms of definitive heights. National mapping agencies, most of which are

Military, are responsible for publishing heights on their maps and therefore are open to national bias. Just scanning different atlas's and maps of varying scales will subject the researcher to an inordinate number of different values for just one mountain - the cause of much frustration! Most reliable heights in South America only become exposed following detailed research from the methods employed and not just from official mapping. Most reliable heights are still gained from the early frontier surveys and known triangulation's of peaks. Aconcagua for instance was always declared by the Argentinians as being 7,035m until such time as Adams Carter got 6,960m earlier this century - even then the Argentinians maintained it above 7,000m for some time! In consequence to this the Chileans (not a great lover of their neighbours!) announced that they also had a seven thousander, Ojos del Salado being 7,084m and again Adams Carter disproved this in 1957 by getting 6885m - still the most reliable figure for the mountain and based on theodolite observations. Both these peaks have been triangulated and are therefore reasonably accurate unlike many other peaks in the South Americas. Despite these fairly accurate readings Ojos has now tumbled to number three in the western hemisphere following the arrival of revised Argentinian mapping (1991) declaring Pissis, obviously in Argentina, as being higher. Ojos has actually fallen to 6864m and Pissis grown 3m to 6882m. Such is the height debacle in S. America. Chile of course maintains the height of 6893m (Ojos) published on most official maps including the restricted 1:50,000 series of the border region the peak lies on. All the heights above are based on the local S. American spheroid where again separation values are not fully known.

The basis for the recent Argentine figures comes from US satellite imagery and an Argentine photogrammetric survey which despite the method employed, is still subject to bias. This mapping along with John Reinhard's article on the heights of South American peaks, compelled Canadian Greg Horne to carry out a GPS survey of Pissis. In 1995 Greg undertook the survey, by differential techniques, and got 6872m tied into Chilean control stations. He hoped to get assistance from the Chile IGM but was denied by it's Director, Colonel Pablo Gran, who simply stated that Ojos was the second highest at 6893m and growing 2cm per year due to plate tectonics. Discussion closed!

Atacama Disputes

The Puna region of the Atacama desert (covering both Chile and Argentina) houses 35 peaks of the 99 in South America that are over 6,000m high, 6 of which are in the top 10. It is an area that has witnessed little exploration or surveying which has subsequently led to vigorous debate over the heights of it's mountains. This is compounded by the fact that the contested border of Chile and Argentina runs through the middle of the Atacama with each country declaring their peaks higher than the other. Such confusion has led to my research on South American heights and to mount an expedition to Ojos del Salado to height the mountain by GPS means. In August and September 1997 the team of 12 Military surveyors set off with 2 Chilean IGM surveyors on a mammoth journey to the remotest part of the Andes, hoping to settle the Ojos argument for good. As fate would have it, the 2 years of research and planning were scuppered by the effects of 'El Nino' which rendered the North of Chile 'impassable'. Amongst the devastation and floods that El Nino had inflicted on the country, the team were denied access to Ojos by the sheer scale of snow acting as an obstacle to get anywhere near to the peak. Having stopped some 80km short of Ojos the team set about heighting 2 other volcanoes to establish the accuracy of the Chilean survey network and were impressed by the results. Copiapo, an active volcano, was heighted using differential GPS and was within 3 metres of the published IGM heights of 6,080m. This has thereby given credence to the published Chilean heights of Ojos and again gives rise to speculation that it is firmly established as number 2 in South America with a remote chance of escalation to number 1 if Argentinian bias has been included in Aconcagua's height. The arrest of Augusto Pinochet in 1998, by the Police in London, caused my 1998 return to be shelved until the political unrest subsided.....!!! Interestingly, British Military Surveyors were involved in early boundary demarkations of these two great nations in 1904 and were again called upon to act as arbitrators between the two nations' boundary disputes in 1970.

Unlike Ojos, Pissis had retained a remarkable consistency in height since Riso Patron surveyed it at 6779m in 1902. Many other heights of Puna mountains descend from Patron's surveys and also those of Austrian geographer Walther Penck who was employed by the Argentinians to carry out a Geographical survey during 1912-1914. In 1936/7 a Polish expedition traversed and climbed many peaks in the Atacama adding great knowledge to the region with the discoveries of Inca remnants on many high peaks and active fumaroles on Ojos, making it the highest active volcano in the world.

Other peaks such as Nevado Tres cruces (6758m by photogrametric means, Riso Patron 6769m, Polish 6630m) have seen considerable debate as has Mercedario (6770m), Bonete (6759m), and Tupungato (6570m). Huascarán in Peru is stable at 6768m and Illimani in Bolivia is accepted at 6462m despite previous Bolivian fantasies of 7,000m+ and some modern atlases showing 6882m. Further north Chimborazo in Ecuador has always been the centre of controversy as has Cotopaxi, wrongly regarded as the highest active volcano in the world.

Chimborazo at 6310m was always considered the highest in the world - a belief that existed until the 1820's. Led by Charles-Marie Condamine in 1736, a French scientific expedition undertook a survey of the meridian at the equator to prove the world was oblate. The expedition declared Chimborazo as the highest in the world, which in fact it is if measured from the centre of the earth, and also started a series of disputes not resolved to this day. For example, Cotopaxi was measured at 5871m by Condamine whereas Whymper got 5978m in 1880 and Martínez 5940m in 1906. Worst of all 6005m was published by Arthur Eichler in 1970. 5897m is the recognised height of Cotopaxi published by the Ecuadorians in 1979 and confirmed by Military Survey in 1993.

The perplexing situation with all peaks in Ecuador led to me mounting my first major mountaineering and surveying expedition, which alongside Ecuadorian surveyors, we heighted Chimborazo, Cotopaxi and Tungurahua by differential GPS. WO1 (RSM) Stuart Fairnington post processed the results getting 5896m for Cotopaxi and 5028.7m for Tungurahua, an increase of 13m +/- 2m. Chimborazo came out at 6268.2 +/- 2m, with a reduction in height of 42m. This reduction after corrections, was due to the fact that Chimborazo had previously been measured by photogrametric means, and because of the large expanse of the summit, was liable to misinterpretation of the exact highest point. As discussed earlier, any change in summit position can radically change the separation value and subsequent height referenced to mean sea level. The Ecuadorian IGM suitably impressed by our techniques agreed to accept the figures though I have yet to see proof that they are published. (Hopefully Betsy Wagenhauser's climbing guide to Ecuador will reflect these values!)

On reflection, I hope I have been able to cast some light on the intriguing nature of heights of mountains around the world and possibly even add fuel to an already voriferous debate on South American peaks. Further developments are likely to unfold this year in 2001 when Major Rob Blackstock aims to take a team of Surveyors to Bolivia to height numerous well known Andean giants which may help assist the development of a new South American pecking order, thereby keeping up British Military Survey influence on mountain heights...!! I certainly intend to finally return to Ojos in the coming years to settle that intriguing debate. Who knows, Ojos could possibly come out higher than Aconacagua, now that would start an interesting argument amongst those continental peak baggers!

Top 13 South American Heights

The heights given below are a personal appreciation based on research of the methods, reliability of observations, and impartiality. Independent reliable surveys are quoted for Ojos and Pissis to eradicate bias. At no time are aneroid measurements used which are totally unreliable. These are the 13 peaks above 6500m.

1. Aconcagua	Argentina	6959m	Adams Carter Survey, AIGM Mapping
2. Ojos Del Salado	Chile	6885m	Adams Carter Survey, AIGM
		6880m	Frontier surveys 1900
		6900m	University of Padua 1989 (unconfirmed)
3. Pissis	Argentina	6872m	Greg Horne 1995
		6875m	Hans Stegman early 1900's
		6779m	Riso Patron 1902
		6875m	Sverre Aarseth 1994 +/- 50m!
4. Huascarán	Peru	6769m	Peru IGM
5. Bonete	Argentina	6759m	AIGM 1991
6. Tres Cruces	Chil	6758m	Chile IGM 1990
			1:50,000 (Restricted)
		6769m	Riso Patron 1902
		6749m	AIGM
		6603m	Russian 1980

7. Llullaillaco	Chile	6739m	Chile IGM
8. Mercedario	Argentina	6670m	Riso Patron 1902
9. Cazadero	Argentina	6637m	Riso Patron 1902
		6669m	Polish 1937
		6658m	AIGM 1991
		6693m	Russian 1980
10. Yerupaja	Peru	6634m	AIGM 1991
11. Incahuasi	Chile	6624m	Chile IGM
		6638m	AIGM
		6620m	Russian
12. Tupungato	Chile	6550m	Chile IGM
13. Sajama	Bolivia	6542m	BIGM
33. Chimborazo	Ecuador	6268m	Jenkins/Fairnington 1993
115. Cotopaxi	Ecuador	5896m	Jenkins/Fairnington 1993

Confirmation and further surveys are necessary to solve the places of Mercedario, (quoted as 6770m on AIGM maps) Tres Cruces, Bonete, Incahuasi and Cazadero.

Mick Jenkins is a Military Surveyor in the Royal Engineers. He is a specialist in mountain surveying and map making underpinned by his 21 year Geographic career in HM forces, and by his 13 years experience of exploratory expeditioning. He has led numerous surveying and mountaineering expeditions working alongside 'host' country survey agencies. Each expedition has produced satellite image maps, geodetic survey networks and collected geographic data of rarely visited mountain wildernesses. In the last 4 years Mick has exploited IT and communication technology to assist in the mountaineering and science objectives of Military Survey's 'Apogee' expeditions." He intends to continue surveying the high mountains.

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Johan Reinhard.....	Pissis and Bonete 1986
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Exercise Chilean Apogee (RGS).....	Mick Jenkins 1997





AMA 1976 EVEREST ASCENT - 25TH ANNIVERSARY REUNION

By Tim King

First, I must make the point that this is a personal account and if I have failed to insult anyone enough I can only say 'Sorry'. Berg-Fuehrer Bazire asked me to put something in the Journal, so here goes....

On Saturday 19 May 2001, 25 years and 3 days since they put the third and fourth Englishmen on the top of Everest, 20 members of the team met in the Lakes for a reunion. Many of their wives came too as did two children - a junior Johnston on her way to a gymnastics championship and Will King, erstwhile youngest member of the AMA (that honour having been usurped many years ago by a Bazire sprog) and my climbing partner. Except for our little alpine trip last summer, neither Will nor I had done any climbing for over a year. The Oxford Brookes climbing wall is just not the same as real rock. It seemed a pity to travel all that way from Oxford and not attempt something before we went to the reunion.

The BMC had told me that Shepherd's Crag in Borrowdale was the only crag open in the Lake District. Arduus (Severe in my 1952 guide but now apparently Mild VS) seemed a good way to start and I gave the first pitch up to the enthusiastic youth. He made short work of it and I was soon making my excuses for thrutching up a perfect second pitch. Obviously I needed further practice and he offered me the final airy traverse. Apart from the distinct lack of protection it is a splendid pitch and is surely the reason why Arduus rates three stars. Next we wanted to try Eve or Brown Crag Wall but, not surprisingly, the crag was rapidly filling up. While waiting for something better, Will shot up one of the easier Brown Slabs routes and I was soon being hauled skywards. By the time we were down again, BC Wall was free so we took the chance. This, too, has been upgraded in modern guides, from HS to VS. Neither of us thought it merited the higher

grade but it is a lovely line and I got the best (first) pitch, so we were a happy couple as we descended to the car.

We knew we would be a little late to the Shap Wells Hotel especially as we got lost on the way but I assumed that we could just roll up in scruff order and start bewyving. Fat chance. The b—ers had all brought their sharp suits and Brylcream. There were ladies too, in court shoes, all perfectly coiffed and dripping with jewellery. 'Whoops', I thought as we entered the august gathering. 'Who are all these smart looking oldies?' The barrage of insulting remarks from strangely familiar faces soon told us. 'King, you've got 10 minutes to get out of that T-shirt and into a tie'. Will and I bolted. I won't say we panicked but in our hotel room there was an awful lot of rushing about, hot water and frantic searching for clothing that looked as though it might once have seen an iron before we re-emerged to take our places besides those suave, sartorially unchallenged personages. Minutes later, Bronco, the organiser, announced somewhat conspiratorially that we were 'going in'. 'Hang on', I thought, 'we came for a reunion, not a séance' but I need not have worried. Scoff! Will and I were starving and would have been happy troughing away in silence but had promised to be on our best behaviour. The presence of the girls made it a very civilised occasion with talk of civvy jobs, offspring, education, housing and all the usual domestic stuff that middle aged people seem to like.

Will was fascinated. So much walking AMA history, so many dinosaurs gathered in one grazing ground! I list them all: Streather, Himalayan legend and Burrah Sahib; Muston, bigamist - ie wedded to Greenland for most of his life (and still keeping his matches dry) but also quite openly married to Judy; Peacock of the Arctic; Lane and Stokes of just about everywhere; Flying Faux of the Times; Horniblow, desert rat

with one more jebel to climb (and no doubt a surgery still full of wretched humanity); Johnston, big man, big heart; Scott, big man, another big heart; Page, doyen of Icefall Engineers; Martindale, long retired but still marking his Tywyn students out of ten; Hardie, high altitude pipe-smoker ('Oxygen, who needs it? Trust me I'm a doctor'); Armstrong, flyer and birdman (Robin Accentor, Rufus Niltava, etc); Kefford sahib, still saying 'Chito!' to his porters; Hellberg, uncompromising climber but now teaching diplomacy; Day, formerly of Henry's Balls and high summits; Gifford, L'Enfant Terrible and still our Best Boy; Fleming, leader of so many trips to High Places, known to some as the Gaffer and to them the last true climbing gentleman; Bridges, golden boy of Gasherbrum and still climbing without runners (or rope if he can get away with it) and lastly Yours Truly, still dazed and confused from climbing with Bridges. It was a lot for the lad to take in all at once but he really enjoyed chatting to all these museum pieces, many of them still in working order or at least able to raise a charged glass without assistance. Absent from the tableau were Crispin, 10th (or thereabouts) Baronet Agnew of Lochnaw, Rothsay Herald, Archer of Scotland, etc, who still holds the high altitude record for wearing pyjamas (Pure cotton, draw string, South Col); Neame of unparalleled uncouthness (even for a Para); West, who has probably been kidding Kitty all these years that he just went fishing for a few months; Gunson, master of the Cumbrian Welding Torch; Francis, who keeps coming back from the dead, much to the annoyance of the IRA; and last but not least The Fairly Ancient Mariner, Keelan, all of them out there on the ocean of time and all with perfect excuses for not turning up. Those who could not be with us under any circumstances were Terry Thompson, killed in the Western Cwm, and Steve Johnson, killed in the Alps the following year.

About half way through the meal, the AMA President rose, we thought to make a speech but actually to tell the men to circulate, presumably so that we could talk to different girls about schools, housing, jobs, etc. Tony left the speech making to Brummie. Before that moment I had assumed that SAS men spoke as infrequently as possible and always kept it to something like 'Left flanking, two up, plenty of smoke'. The sight of Brum waxing lyrical was enough to bring tears to the eyes of every Rupert in the land and he got a well-deserved round of applause. Next came the photographs - first the men and then the ladies. Then it all got personal. Small huddles formed and stronger beverage was brought in. Hardie leaned back in his chair, lit his umpteenth cigar and began to look inscrutable - a sure sign that the night would be a long one. Icefall engineers congregated. Arch raconteurs such as Faux and Horniblow warmed to their work. Various important moments were relived and the small hours crept inexorably closer. For a moment I disengaged from the flow of yet another story and looked around. Here were represented all the big AMA climbs and expeditions of the past 40 years or so and many that were Navy, RAF or civilian led. Many had been successful, some had not and some could only be described as 'epic'. We could each remember those who had not returned. We had been to mountains all over the world: on the Greenland and Arctic trips; on Alaskan, African and South American ascents; on big walls and bad rock; on so many of the Himalayan giants - Haramosh, Tirich Mir, Annapurna, Kin Yang Kish, K2, Kanchenjunga, Shishapangma, Everest, Nuptse, Kirat Chuli, Lamjung Himal, Api, Gasherbrum, Dhaulagiri IV, Manaslu, Saser Kangri, Deo Tiba, Indrasan, the list rolls on and on.

But the thing that struck me about these old buffers, 25 years on from when we were all together on That Mountain, was not the mountains they had climbed (or tried to climb) but how much so-called 'ordinary' life had been lived by each one of them and their families since Everest. We were a lucky expedition, not just because we had been well led or because we had put 2 men on the top of Everest but because we had each been granted time to realise that, whatever its importance then, our achievement was just one point on a much longer and in many ways a more satisfying adventure. I look forward to hearing more about that adventure when we meet again in 5 years time.

"A Question of Balance" A Conference on Risk and Adventure in Society

Major Martin Bazire MBE RLC, AMA Vice Chairman

At the end of November 2000, I attended a conference entitled "A Question of Balance" at the Royal Geographical Society. The purpose was for speakers to challenge the trend towards excessive caution, explore the positive benefits of sensible risk taking, and bring a sense of realism to questions of risk and safety. In particular, it aimed to show how important it is that young people have the opportunity to develop balanced attitudes to risk, and the need to maintain challenge and adventure in a healthy society.

There was a large and varied audience, but with many "providers" of one sort or another. PAT Branch and HQ LAND sent representatives. I will attempt to summarize the proceedings.

The speakers, in order, were: Alan Blackshaw, who chaired the conference; Dr Frank Furedi (University sociologist) - A Culture of Fear, the title of his recent book; Sir Michael Hobbs (Director Outward Bound Trust) Mind the Gap; Libby Purves (BBC presenter and interviewer) - The Reputation of Adventure; Bob Barton (guide) - Risk Management as Opportunity. HRH Prince Philip - A Question of Balance.

Alan Blackshaw briefly outlined some of his views. He put adventure at one end of a spectrum with boredom in the middle and misadventure (with implications of culpability) at the other. He saw risk including elements of freedom, choice and judgement. Danger and safety (albeit with objective and subjective perspectives) generated calls for social responsibility.

A Culture of Fear - Frank Furedi presented a view based on academic research, tempered with his own experiences as a parent. He was concerned that children today have less experience of the outdoors, and that they therefore have more difficulty in assessing risks. He says "risk" is seen as a strange label that denies the chance for a "good risk", while placing everyone "at risk" of something. Why this trend? He sees: a tendency to inflate risks; a reduction in trust; a difficulty in rearing children and saying "no"; and a professionalisation of parenting. (see book review)

Mind the Gap - Michael Hobbs saw many "gaps". First, the growing failure of courage among adults, for fear of being pilloried: we should believe in what we say. Then there is hypocrisy, between what we say and what we do (things that are okay for adults but not children); leaders and teachers acting for themselves (selflessness is called for); the need to take children through wild country and not over it. He described the sound bite gap, the worry gap (parents increasingly worried - "stranger danger"), and the gap in experiencing risk and danger (too much reliance on computers). He spoke of the need to "manage" risk against a heightened perception of risk.

The Reputation of Adventure - Libby Purves began by speaking of the media portraying adventure in terms of how things seem. Adventure is a personal experience, difficult sometimes to portray to others. She said that when things go wrong, the story tends to go public. She said we "have to accept some regulation". She distinguished between sport (rules, competition) and outdoor education (confronting real situations): (compare our own distinction between adventurous training (AT) and sport). She saw a real place and purpose for adventure (she is a keen sailor).

Risk Management as Opportunity - Bob Barton quoted Mortlock ("The Adventure Alternative") in describing the span of activity from recreation through adventure to misadventure (as did Alan Blackshaw). He saw an overdependence on management systems. The trouble with a systems-based approach to risk management is that they tend to focus on the systems. How people make decisions is separate from technical issues. He said the best safety lies not in eroding danger but in confronting it.

A Question of Balance - HRH Prince Philip rounded off the formal part by giving a characteristically robust portrayal of responding to challenge in a positive manner.

Numerous questions were asked, although many arose from the perspective of the "providers" of experiences. There was a lack of input from officialdom, whether the Health and Safety Executive, the DFEE or Government Minister (one was due to attend, but couldn't make it, and a letter from Tony Blair was read out instead). Nonetheless, it was good to pause and reflect on the nature of risk and adventure.

A final thought - While there was a genuine buzz that tried to get to the heart of the issue of risk and adventure, the conference did not move on to address the really healthy aspects of AT that the services aim to promote. Outdoor experiences can be great for the individual, of course, but while we, too, place a premium on using these for personal development, we also encourage leadership, teamwork and achievement of the aim. In a sense, this moves us along the road that starts with the student-teacher relationship, which could be described as one of dependence. With the acquisition of skills and experiences, the individual gains a degree of independence. But what of the team and the aim? When we strive for interdependence, great things can happen, for both the team and the individual. You may wish to consider how these words apply to different outdoor situations.

Websites: outdoor-learning.org and adventure-ed.co.uk

Leanne Callaghan leading "Line Up" HVS 5a Buchaille Ective Mor.



Book Review: Culture of Fear Risk-taking and the morality of low expectation

By Frank Furedi, published by Cassell

Furedi claims that safety was the fundamental value of the 1990s, and that we are constantly told that we are "at risk" and urged to take greater precautions and seek more protection. This book sets out to argue that the preoccupation with safety and survival reflects an outlook of low expectations.

He says the book was motivated by the conviction that risk-taking is most of the time a creative and constructive enterprise. Today's sad attempt to ban risks has the effect of undermining the spirit of exploration and experimentation.

The key message Furedi gives is that "the worship of safety represents a profoundly pessimistic attitude towards human potential".

Early on he refers to "activities that have been pursued precisely because they are risky...The fact that young people who choose to climb mountains might not want to be denied the frisson of risk does not enter into the calculations of the safety-conscious professional, concerned to protect us from ourselves... Once mountain-climbing is linked to risk aversion, it is surely only a matter of time before a campaign is launched to ban it altogether. At the very least, those who suffer from climbing-related accidents will be told that "they have brought it upon themselves", for to ignore safety advice is to transgress the new moral consensus."

This book covers much more than the nature of outdoor challenges. I found it a lively, thought-provoking book, which I can recommend to anyone with even a passing interest in the perceptions of risk today.

By Martin Bazire.



Ben MacInnes on "Ticket Danger" Verdon.

Book Review: Extreme Rock & Ice 25 of the World's Great Climbs by Garth Hattingh

New Holland, published 2000 (ISBN 1 85974 513 X) - Price £29.99 - 160 pages, 12" x 11", full colour

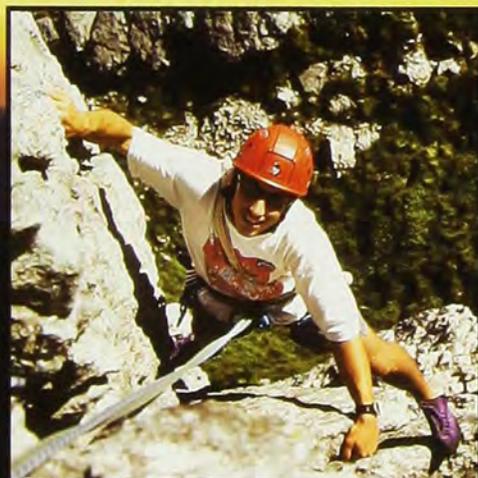
Extreme Rock & Ice is billed as taking "an awe-inspiring and breathtaking look at 25 of the hardest climbs in the world", all first ascents since 1979. They are grouped into Rock, Ice and Mixed, Alpine-scale, Big Wall and Big Mountain, ranging from solos to expeditions, and most continents are represented.

The introduction spells out what the book is about: in a nutshell, "the games extreme climbers play". It briefly considers the nature of challenge and risk, and how climbers have responded from earliest times; aspects of techniques, equipment and ethics are mentioned. The scene is set to look at modern climbers at the cutting edge of their craft.

The climbs themselves are described in an informative manner. The historical context respectfully notes previous attempts and achievements. The focus then switches to certain modern climbers, and their first ascents. The route descriptions are gripping summaries of these endeavours, and the photographs are of a high quality, and many are quite stunning. The book inevitably must be selective, and opinions will differ as to which climbs and climbers should be included. I believe the book succeeds in covering an interesting variety of extreme climbs, and does a good job in drawing out features of top climbers operating out there on the edge. This coffee table book should have a broad appeal.

By Martin Bazire

Sunset over the Anach Eagach ridge.



Andy Howell on Butterknife vs Chats-Bheinn of Ardgour, Scotland.

Eleven soldiers from 1st Battalion The King's Own Scottish Borderers, recently took part in a three week climbing expedition to Poland. The expedition, entitled "Aphrodite Boski, left the Borderer's station in Cyprus on 2nd November and travelled to the High Tatra Mountains in Eastern Europe. The Tatra range is alpine and it forms part of the border between Poland and Slovakia. The team was climbing on the Polish side of the range, and so they based themselves in Poland's number one skiing and climbing resort, Zakopane. The expedition, led by ex-Royal Marine mountain instructor, Captain Peter Kay, had two major goals.

To traverse large sections of the High Tatra ridge, most of which rises above 2000 metres. To summit some of the major peaks in the area, including the highest peak in Poland, Mount Rysy (2499m). Two major factors would determine whether the team could achieve these objectives. First, the weather; the team knew even at planning stage that they had chosen a time of year when the local climate was due to change from late autumn to full winter conditions. The second factor that would govern success would be the relative fitness and experience within the team.

On arrival it became apparent winter had begun to grip the Tatra ridgeline, as the main peaks already held a significant amount of deep snow. These conditions ruled out long traverses of the main ridge due to the increased demands, of time and technical ability, that they would make on a fairly inexperienced team. However, the expedition was still ready to ascend some of the major Tatra peaks, now offering a greater challenge than ever. A sense of excitement rose within the team.

The first major peak to be undertaken was Minich (2069m). Minich is a frightening tower of rock, shaped like a shark's tooth, and it dominates



Nearing the frozen summit of Mt Rysy (2499m)

the skyline over a glacial lake, called Morskie Oko. This was a serious climb, bringing home to each group the need to keep moving in winter conditions. Captain Kay and some locally hired guides went ahead of the team, fixing ropes to aid the climb on difficult sections of the rock. Finally, the summit was reached but biting winds and heavy snow showers ensured each man briefly enjoyed his moment of triumph and then descended as quickly as possible. In such conditions, no one wants to spend more time on the mountain than they have to. After achieving success on Minich the team retreated to Zakopane for a well-earned rest and tried out some low level climbing as well as a day's caving in the Koscieliska Valley.

The main challenge for the expedition still lay ahead: to ascend Poland's highest mountain, Mt Rysy (2499m). However, the team failed on its first attempt, due to a high avalanche risk barring progress up Rysy's main gully. However, over the following few days, weather conditions improved so as to reduce this risk and the team prepared itself for a second attempt.

At 3.30am, on Friday 17th November, a selected team of six Borderers and two hired guides set off for Mt Rysy in two cars from our base in

Zakopane. Though it was dark, by the time they reached Morskie Oko they could see stars overhead - a strong indicator that conditions were good. The team made very quick progress and by 7am stood just below the main gully leading them towards Rysy's peak.

They began to climb with crampons and ice axes, roped up in groups of three. The gully was steep and seemed to take forever to climb. A lot of effort was needed to keep up the constant climbing rhythm required to reach the ridge. Finally, at 8.15am, the climbers broke out of the gully and onto the lofty main Tatra ridge. Climbers blinked like moles taking in their first impressions of the airy world around them. The clear weather offered them magnificent views of the many granite peaks and ridgelines that stretched into the distance.

The team orientated themselves and headed south along the ridge towards Rysy's peak. The wind was ferocious and several times the climbing struggled to stay upright while slowly traversing the steep icy faces of rock en-

On Top Of Poland

By Padre Alan Cobain

route towards the summit. They sensed the exposure, knowing any crampon slip could be very serious at this stage of the climb. Some relief was given in places where the Polish mountain authorities have bolted lengths of chain into the rock to offer protection, but in other places only sound use of crampons and ice axes kept them from slipping off. Finally, at 8.30am, six tired but exhilarated Borderers found themselves standing on top of Poland's highest mountain.

There is no doubt that the scaling of Mt Rysy formed the high point of a thoroughly enjoyable expedition. Poland may sound like a surprising choice for a climbing venture, but the High Tatra Range holds many attractive surprises for the would be tourist or adventurer. It offers top quality mountain climbs, both in summer and winter, as well as a great alpine skiing

season, and all at very competitive prices, especially when compared to other European centres. Why not check the region out for yourself at

www.cs.put.pozan.pl/holidays/tatry

It's worth a visit.

'P' is for the top of Poland! Four members of 1 KOSB reach the summit of Mt Rysy (2499m). R-L: Padre Alan Cobain, Pte Scotty Moscrop, LCpl Gary Simpson, Pte Jerry Mallone and local mountain guide Matthew.





Everest Massif from high in the Kumbu valley.

THE WILDEST DREAM

By Tim King

This is the title of a biography of George Leigh Mallory by Peter and Leni Gillman. I meant to review it last year (and I will get round to it!) but felt that I was getting Mallory and Irvine Overload and ducked this and the Irvine biography until the fuss died down. I now wonder if the fuss will ever die down until conclusive proof is found of what really happened on 8 June 1924. Mallory and Irvine Fever has broken out again this year. June seems to be the month of maximum susceptibility. Now we have news that there may be another search for Irvine's body and I have just read an article entitled 'The Final Proof?' in this month's edition of *High* magazine. As it happens I am also writing this on the 77th anniversary of that fateful day.

What is it about this M & I mystery that is so fascinating? I must admit to being completely hooked on it – even more so than on the question of whether Peary in 1909, or an Englishman by the name of Wally Herbert 60 years later, discovered the North Pole.

This latest article on what really happened to M & I is by Tom Holzel the American Everest researcher but as with so much that has been written recently it is very speculative. Holzel's article is fascinating but frankly I do not buy it. In fact the 'evidence' on which it is predicated is even more flaky than that supporting the 'third oxygen bottle' theory that puts M & I comfortably on top at about 3pm with oxygen to spare. I cannot understand why Holzel, one of the most experi-

enced and respected Everest researchers on the planet, has taken this line. It seems to fly in the face of so much that has been learned recently.

In a nutshell, Holzel argues that, when they had to change oxygen bottles 200 feet short of the First Step, M & I realized that they were not going to make it because the oxygen would not last. However, they continued upwards and climbed the First Step (just for the hell of it, you understand) so that they could be seen climbing it by Odell at 12.50pm. Just after they had climbed the First Step they went into a cloud. This conveniently prevented Odell from seeing them almost immediately reversing the ascent, to arrive back at the point where Irvine's axe was found just in time to have the accident at between 1.25 and 1.55pm. In the article there are lots of calculations

about rates of oxygen use, height gained, etc.

Tom Holzel's argument hinges first on the watch found in Mallory's pocket, which is supposed to have stopped at the time of his fall and not just run down. The hands and the crystal (the glass protecting the watch face) are missing but rust marks on the face, caused by the hands, indicate a time between 1.25 and 1.55. Holzel assumes that this time is pm and not am and so puts 1.55pm as the time of the accident, ie just an hour after Odell saw them well above the accident site and going strongly upwards.

Holzel discounts Odell's initial description of his sighting of M & I from Camp 6. In it Odell describes two figures climbing with alacrity up the 'step before the final snow pyramid' (ie the Third Step or more probably the



Second Step) at 12.50pm. Holzel is adamant that Odell was mistaken and saw them on the much lower and nearer First Step, despite the fact that Politz in 1999 confirmed from where Odell was standing that you can see all three steps and the pyramid distinctly. Was Odell that badly mistaken? It is vital to Holzel's hypothesis that he was and there is no gainsaying that Odell himself shifted his stance a few times.

More critically, Holzel also discounts the possibility that the hands of the watch may have moved after it was stopped by the initial impact – ie during the considerable fall that Mallory took before he came to rest in the snow basin. For Holzel the watch unequivocally tells us the time of the accident. It was not a digital watch of course, so Holzel guesses that the time must have been 1.55 pm rather than 1.55

am because that fits the hypothesis better. This is too good to be true. Why should the impact that broke the crystal not have moved the hands that the crystal protected? We do not even know if the watch was still working when the accident occurred. We do know that the main spring had wound down by the time it was found in 1999. Maybe it was in Mallory's pocket because it had broken already or the crystal had come off. Maybe it was working but he no longer needed it to calculate rate of use of the oxygen. To count on the watch telling us anything so definite as the time of the accident is foolish in the extreme. The watch must surely be one of the least reliable pieces of evidence.

Holzel's oxygen/height calculations are more objective but, incredibly for what High Magazine calls 'a scientific

study', they take no account of the distances covered – just the height gain. Poor old Naismith must be turning in his grave. The second pivot of Holzel's argument is that from Camp 6 to the point at which the discarded first bottle was found, represents four hours five minutes of climbing and 840 feet of ascent, because that is how long a full bottle would have lasted. Therefore, the 'standard' rate of ascent is 198 feet per hour. He slows this to 100 feet per hour between the First and Second Steps because of the difficult terrain as shown in a 1993 photograph. This 'standard' rate is then applied by Holzel to the entire route and quite convincingly shows that with only two bottles each, M & I would have run out of oxygen at, or just after, the Second Step.

The distance from Camp 6 to the site where the first bottle was

discarded is about half a mile further than the distance between the First and Second Steps. If we apply Naismith to this distance at 2 mph – fast going even at sea level with those loads – we can subtract a factor of at least 15 minutes from the 4 hours, for the extra distance covered. At a speed of 1.5 mph this time becomes 20 minutes. Then we have to remember what Holzel seems to forget – that Bottle No 9 had only 110 atmospheres in it (as recorded on the 'Stella' letter found in Mallory's pocket) and so was only about 80% full. This would reduce the time to exhaustion of the bottle by at least another 30 minutes. Finally we have to add 100 feet to the height gained in that time because Holzel puts Camp 6 at 26,900 ft instead of 26,800 ft. Taking into account the factors mentioned, the actual rate of climb between First and Second Steps could have been as much as 300 feet



End of a hard day in the mountains.

per hour, or 1.5 times the standard rate calculated by Holzel and 3 times what he assumes to be the rate for that part of the climb. It makes a massive difference to the overall picture. As for the 'going', yes, the terrain from the First to Second Steps is more difficult than that below the First Step but in 1924 there was hardly any snow on that part of the face, so the difficulties experienced in 1993 between First and Second Steps cannot be applied to calculating 1924 rates of movement. Furthermore, both men would have been warmed up, climbing when the sun was at its highest and climbing lighter by one bottle each.

Mallory was as sure-footed as a goat and Irvine had already proved that he could follow anything that Mallory could lead. Mallory chose Irvine as much for his commitment, competence on mixed ground and staying power as for his wizardry with the 'infernal apparatus'. There is every reason to suppose that they made very good time from the First to the Second Step (assuming that they did not take the lower line taken by Norton and Somervell). It is entirely probable that, having made an early start, they were seen completing the Second Step at 1250pm. It is even conceivable that they were on the Third Step at that time if they made the very

early start that they intended to make. Odell's sighting would then confirm a much faster rate of ascent after the first bottles had been discarded – 300 feet per hour.

Although I find Holzel's broad hypothesis unconvincing, he does make an irrefutable point: if they only took two bottles each and kept them on full flow, they almost certainly ran out of oxygen before the summit. Although it is unsafe to assume a constant rate of ascent and impossible to devise a satisfactory formula for calculating horizontal speed, we can easily calculate the time at which the second oxygen bottle ran out, assuming that all bottles were full at Camp 6 and were used on full flow. This time is 8 hours from Camp 6. Even climbing at a rate of 300 feet per hour from the site of the discarded bottle (ie roughly at the 4 hour point), they would have been about 100 feet below the summit after a further 4 hours.

Holzel argues that long before the 8-hour point, in fact at the 4-hour point, when they switched to the second bottle, Mallory decided that they should retreat. Holzel thinks that only the summit was good enough for Mallory – he was not interested in a 'highest on Everest' record: he wanted the top. He also knew that only oxygen could get them there. Therefore when Mallory's

calculations showed him that they would run out of oxygen before the top he at once resolved to turn back.

To some extent I agree with Holzel. Mallory was determined that they should succeed on his third Everest expedition and he knew just how important the oxygen was. However, a decision to abandon the climb so early in the day seems out-of-character for Mallory and I suspect would not have been the decision of most climbing leaders in those circumstances, however cautious they might normally be. It is much more likely that Mallory understood the implications but was prepared to see how they got on in good conditions of light and weather after they had changed bottles and thus delay any decision about turning back until much later, say at the 6-hour point. By then they would be over the Second Step and possibly over the Third Step. As he had brought the oxygen wizard with him, he might also have considered the possibility of regulating the supply from the second bottles so that they lasted longer.

In fact M & I may have had good reason to hope that the oxygen would last out almost until the top because if they were seen by Odell at the top of the Second Step, they would still have had as much as 2 hours of oxygen left. If

they were seen – as Politz believes – on the Third Step then they would have almost 3 hours of oxygen left. In the first case they would still have run out of oxygen about 150 feet from the top (especially if they were relying on any of the other bottles on Mallory's list that had only 110 atmospheres) but in the second case the oxygen may have got them almost there. In both cases there would have been no more technical difficulties in front of them – they just had to keep plodding. We know that at that altitude, the effort of doing this requires almost superhuman strength of body and mind but we should not underestimate Mallory's determination or Irvine's commitment. However, there is no doubt that the point at which they finally ran out of oxygen would be a critical one for Mallory and the closer it was to the summit, the more difficult it would have been for Mallory to turn back. With the summit so tantalisingly close, should they not 'go for it'? We know that whatever Mallory decided it made no difference to their ultimate fate – they both died that day – but it does make a difference as to whether Everest was first climbed in 1924 or 1953.

Could Mallory have made what Holzel describes as a 'wise and morally correct' decision to go back after first nipping up the First Step for a look-see?

Possibly, but it must have occurred to Mallory that he could save both of the second bottles – and the apparatus – for another day if he simply turned back when the first bottles ran out. He could now see that three bottles were needed and although some of these were available at the lower camps, he needed to husband what had not yet been expended. Why plan to go on for another hour, climb the First Step to admire the view and then retreat, presumably discarding the apparatus and half-used bottles at that point?

Mallory's 'wise and morally correct' decision seems unlikely while there was still a chance of success. It is much more likely that he pushed both of them to a point where he really did have to make a decision, ie at some time between leaving the First Step and when their second bottles ran out. Assuming he left the decision to the last possible moment, he would have felt the oxygen go at some point on the final pyramid. If they had had a third bottle, they could have taken perhaps another 20 minutes to 1 hour to finish the job. Without oxygen he knew that it would take double, perhaps triple, this time, although, having jettisoned the apparatus, they had almost no kit to carry.

As well as the effort involved, they would have considered the timings. Assuming that Odell saw them at the Second Step at 12.50pm, and they had 2 hours of oxygen left at that point, they would be facing the prospect of climbing the last 150 feet without oxygen at about 3.00 pm. At that point they knew that if they decided to go for it and took 2 hours, they would reach the top

at 5.0 pm, leaving 3 hours to be back at the top of the Second Step and descend through the last real difficulties before the onset of darkness.

Maybe they decided to go for it and at 8pm were making their way back to the top of the First Step. Now darkness, the cold, the thin air and exhaustion from climbing continuously for 14 or 15 hours would sap their remaining strength. The lack of visibility as they finally headed down from the ridge towards the camp would have made safe movement difficult (Mallory had left his torch in the tent at Camp 6). Then one of them slipped.

Alternatively Mallory might have seen the risks of continuing. The equation was weighted towards unacceptable risk. Perhaps the snow on the final pyramid was deep and unstable or perhaps the squall that blew up at 2pm was the deciding factor. It hit Odell, now at Camp 6, but may not have affected them. If it did hit them, they would be battling their way through it whether ascending or descending and would not know that it would only last two hours. So, at some time between 2.00pm and 3.00 pm Mallory may have turned, dumped his apparatus with its almost empty cylinder and started down. A few hours later, in the gathering gloom, he or Irvine slipped and the other man failed to stop him.

There is of course the third possibility that they decided to ration the oxygen in their second bottles until they reached the summit. Irvine had already redesigned and rebuilt the oxygen sets and his scientific mind would know exactly what to do to achieve the required effect.

Their reduced speed would be compensated by the fact that it could be maintained until the goal had been reached. Anything left over would make their descent faster and safer. Even so, the gas would have run out before they got back to the second Step.

Despite the testimony of the climber Wang Hung-bao (before he was killed in an avalanche) that he found an 'Englishman curled up in a sleeping position with the hole in his cheek' twenty minutes from the Chinese 1975 Camp 6, we still do not know if Sandy Irvine, like Mallory, slid to a halt in the snow basin, is lying further up or went 'all the way' to the bottom of the face. Holzel assumes that Wang found Mallory and not – as commonly supposed – Irvine. However, Mallory's head was covered in debris and his body was stretched out so perhaps Wang did find Irvine, who is lying nearby. Until Irvine's body is found there are too many unanswered questions to make anything other than intelligent guesses about what happened. However, there are many other interesting factors ignored by Holzel of which I cite just four, below.

First the goggles. Mallory had put his away. If he were climbing at 1.55pm he would have had them on. Norton had gone snow-blind two days previously and this had taught them all a lesson. Therefore, it is likely that Mallory was climbing in very low light when the accident occurred.

Secondly the oxygen apparatus. Holzel thinks that they were still wearing this when they fell and that it was ripped off both bodies during the fall. Mallory had carefully put his oxygen

mask straps in his pocket and there is nothing to indicate from his injuries or his clothing that he was wearing his oxygen apparatus at the time of the accident.

Thirdly, the ice axe. Holzel makes a connection between Irvine's ice axe and Mallory's final resting place. Irvine's axe had been deliberately placed, almost as if to make sure that it could be recovered later. It could not have 'landed' there. He could have put it there on the ascent but he is much more likely to have left it on the descent, once the last of the snow had been passed. Maybe Irvine put it there before they started the descent from the ridge towards Camp 6, so that he would have both hands free. The injuries that Mallory sustained are certainly not consistent with a fall all the way from the ridge, where the ice axe was left. Therefore there is no reason to suppose that the axe's position (directly above the assumed fall line of Mallory's body) is germane to the accident itself.

Lastly, the photograph. This is one to which I keep returning. Mallory carried a photograph of his wife Ruth on his expeditions. He had promised Ruth that he would leave the photograph on the summit if he got there. Other letters and scraps of paper were found on Mallory's body in 1999, all perfectly preserved but there was no trace of the photograph. Mallory was well known for being forgetful but this was his special summit token. Does it sit 50 winters below the Chinese tripod on the summit of Mt Everest? Perhaps, despite all the difficulties that we might imagine, the Wildest Dream came true.

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The advertisement features a central graphic of a globe composed of small images of various landscapes and events. To the right, several publications are displayed, including 'The Household Cavalry Journal', 'The Welsh Gunner', 'The Wish Stream', and 'balloon festival'. Below the globe, the Crest Publications logo is visible. The contact information for Crest Publications is provided in the bottom right corner.

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UPDATE FROM ARMY ADVENTUROUS TRAINING EXECUTIVE COMMITTEE

Reference:

A. D/AG/11855/6 (D Trg Pol (A)) (PAT) dated 16 Mar 01 (Notal).

1. Introduction.

The following decisions reference qualifications were decided on at the meeting at Reference A. They are key to facilitating alpine expeditions and rock climbing. They are disseminated in the layout provided but in electronic form to enable easy formatting to suit specific publications.

2. Summer Glacier Leader. Because so few people hold the Summer Glacier Leader award the system has accepted the following criteria as an acceptable alternative for an interim period.

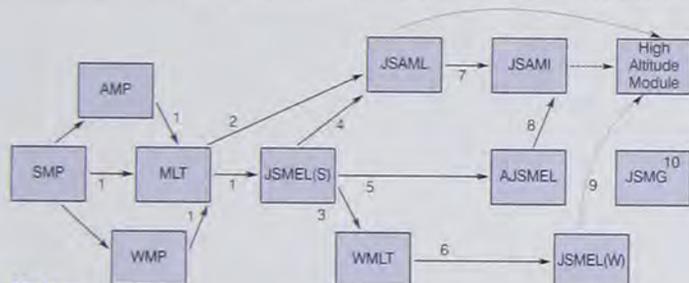
- A minimum of one season (10 days) alpine experience providing glacier/travel and rescue experience.
- Familiar with the routes they intend to lead.
- Hold JSMEL (W).

3. Climbing Wall Qualifications.

- Reference A confirms that holders of Rock Climbing Proficiency (RCP) can lead on climbing walls if appropriate matting and runners are in place. There is no need for other qualifications.
- Bouldering does not require any formal qualifications, as long as appropriate matting is in situ.

4. JSAT Alpine Mountaineering Scheme. A new Alpine Mountaineering scheme has been devised. A schematic detailing progression is enclosed.

5. JSAT Winter Climbing Scheme. A number of amendments have been proposed to the Winter Climbing scheme. They are detailed at Annexes A and B and are to be implemented as from 16 Mar 01.



Notes:

- 20 Quality Mountain Days (QMD) experience required before progression.
- AMP + 10 QMD + 10 QMD (Alpine) experience required before progression.
- 20 QMD (Winter) experience required before progression.
- AMP + 10 QMD (Alpine) experience required before progression.
- RCP or 4 graded scrambles/multi-pitch climbs experience required before progression.
- 20 QMD + 10 Grade 1 winter climbs experience required before progression.
- 10 QMD (Alpine) experience required before progression.
- AMP + 15 QMD (Alpine) experience required before progression.
- Proven alpine experience.
- JS Mountain Guide (JSMG) is a proposed honorary award to personnel who attain JSAMI + JSMEL(W) + JSWCI + JSSML.

WINTER CLIMBING SCHEME AMENDMENTS – 8 JAN 01

- The amendments for the Winter Climbing Scheme are detailed below.
- Winter Climbing Proficiency (WCP)
 - The course can be conducted on grade 2/3 climbs as opposed to 1/2.

- There is no requirement to conduct Top-Roped climbs.
- The New Zealand (NZ) Foot Brake has been removed from the syllabus.

3. Winter Climbing Leader (WCL)

- The NZ Foot Brake has been removed from the syllabus.
- There is now no requirement to practice problem-solving techniques. However, there remains a need to explain solutions to potential problems.
- Short-Roping technique has been replaced with "Moving together" roped-up.
- The emphasis on "top-roping" climbs has been removed.
- A third category of climbing area has been introduced.

4. Winter Climbing Instructor (WCI)

There is no longer a requirement for students to present a 20 minute lecture.

QUALIFICATION LIMITATIONS

1. General.

Personnel awarded the JSWCL can lead one other climber (WCP or WMP with 8 x multi-pitch rock climbing routes) on recognised multi-pitch winter climbing routes compatible with the leader's logbook experience. The personal experience of the second will determine the location of the climbing area. The 3 categories of climbing area are defined below:

- Roadside Crag.** A crag that can be found in some parts of the UK but are more common in the Alps, Norway and Canada. The crag need not have been visited prior to climbing but the JSWCL must use a guidebook and gain local knowledge on climbing conditions and weather. The climb should be within 2 km of access to a vehicle or habitation.
- Semi-Remote.** A crag that may require some navigational skills to and from the route. The JSWCL is permitted to use this crag if he/she has previously completed a route at this location under full winter conditions. The route including the walk in and off should be easily achievable in normal daylight hours.
- Remote.** A crag that requires a full range of winter navigational skills and normally necessitates a walk off in the dark. The remoteness may require an overnight stop, using a snow shelter or some form of base camp. JSWCL may only undertake such a route when the other member of the party has either the WMT or JSMEL (W) award.

2. Examples

- Roadside Crag.** Scotland – Creag Dhubb (Newtonmore) Qui-Qui. Glen Nevis, Achintee Gully, Winter Wall, Glen Orchy. Wales – Llanberis, Graig Ddu, Nant Peris Waterfall, Clogwyn Y Crochan, Nantmor Falls.
 - Semi-Remote.** Scotland – Glencoe, Stob Corie nan Lochan, Cairngorm, Coire An T-Sneachda. Wales, Ogwen, Devils Kitchen, Carneddau, Amphitheatre Gully.
 - Remote.** – Scotland – Ben Nevis all areas. Cairngorm, Hell's Lum Crag/Stag Rocks. Wales – Snowdon, The Trinities.
3. The JSWCL is authorised to use all 3 categories of climbing areas if he/she holds JSMEL (W) or if the "second" has completed a WMT course. The JSWCL is authorised to lead a "competent second" to a semi-remote crag if he/she has completed a recognised winter climbing route at that location before, in full winter conditions. A JSWCL who does not hold the JSMEL (W) award and with no prior experience of a particular Semi-remote crag is limited to the use of Roadside Crags only.

Military Climbing Walls

KEY: EP = Entre Prises, RW = Rock Works, DR = Don Robinson, B = Bendcrete.

SCOTLAND

MACRAHANISH: US NAVY (RW)
LOSSIEMOUTH: RAF LOSSIEMOUTH (DR)

NORTH WEST

HALTON: HALTON TRAINING CAMP (RW) OUTDOOR - 94554 8190
WARCOP: WARCOP TRAINING CAMP (DR) OUTDOOR - 94542 3232

NORTH EAST

CATTERICK: P&RTC BOURLON BKS - 94731 3433
RIPON: 38 ENGR REGT - CLARO BKS (EP) - 94711 4309
YORK: IMPHALL BKS (RW) - 94777 2215
NEWCASTLE: RM TRAINING CENTRE (RW)
ALBERMARLE BKS (DR)
HARROGATE: TA CENTRE (DR)
LEEDS: CARLTON GATE, LEEDS OTC (B) - 94771 8623
SPADEADAM: RAF SPADEADAM (DR)
STRENSALL: QUEEN ELIZABETH BKS (DR)

MIDLANDS

BIRMINGHAM: TA CENTRE ? (EP)
LICHFIELD: ATR - WHITTINGTON BKS (DR) - 94422 3257
BICESTER: ACF TRAINING CENTRE (EP)
NOTTINGHAM: PROTEUS TRAINING CAMP (EP)
WORKSOP: WELBECK SCHOOL (EP)
LINCOLN: RAF WADDINGTON (RW)
BIRKENHEAD: ROYAL MARINES TRAINING CENTRE (B)
WOLVERHAMPTON: RAF COSFORD (DR)

NORTH WALES

ANGLESEY: JSMTC (I) (EP)

MID WALES

NESSCLIFF: NESSCLIFF TRAINING CAMP (B) OUTDOOR

SOUTH WALES

Please let us know.

SOUTH WEST

PLYMOUTH: BICKLEIGH BKS (RM) (EP)
CITADEL (29 CDO) (EP)/(DR)
ROYAL NAVAL ENGINEERING COLLEGE (EP)
HMS DRAKE (DR)
ROYAL MARINES (DR)
RAF ST MAWGAN (EP) - 01637 853539
PENHALE TRAINING CAMP (EP) OUTDOOR
FREMINGTON TRAINING CAMP (DR) OUTDOOR
NORTON MANOR TRAINING CAMP (B) OUTDOOR

LYMPSTONE:

NEWQUAY:

FREMINGTON:

TAUNTON:

SOUTH

WINCHESTER: ATR - SIR JOHN MOORE BKS (DR) OUTDOOR
BLANDFORD CAMP: ROYAL SCHOOL OF SIGNALS (EP) - 94371 2370
TWO WALLS INDOOR & OUTDOOR
ARMY SCHOOL OF PHYSICAL TRAINING (EP)
ROYAL MILITARY ACADEMY SANDHURST (EP)
BRAMLEY TRAINING CAMP (EP) OUTDOOR
ROWCROFT BKS (EP)
HMS DOLPHIN (DR)
ATR PIRBRIGHT (B)
BROWNDOWN BKS (DR)
P&RTC TIDWORTH GARRISON (DR)

ALDERSHOT:

CAMBERLEY:

BASINGSTOKE:

ARBORFIELD:

GOSPORT:

PIRBRIGHT:

PORTSMOUTH:

TIDWORTH:

SOUTH EAST

WATTISHAM: WATTISHAM AIRFIELD (DR)
CHATHAM: RSME (RW)
LAKENHEATH: RAF LAKENHEATH (DR)
SAFFRON WALDEN: CARVER BKS, WIMBISH (DR)
SWANTON MORLEY: ROBERTSON BKS (DR)
KINGS LYNN: DERSINGHAM DRILL HALL (DR)
LONDON: FINSBURY BKS, HAC (DR)



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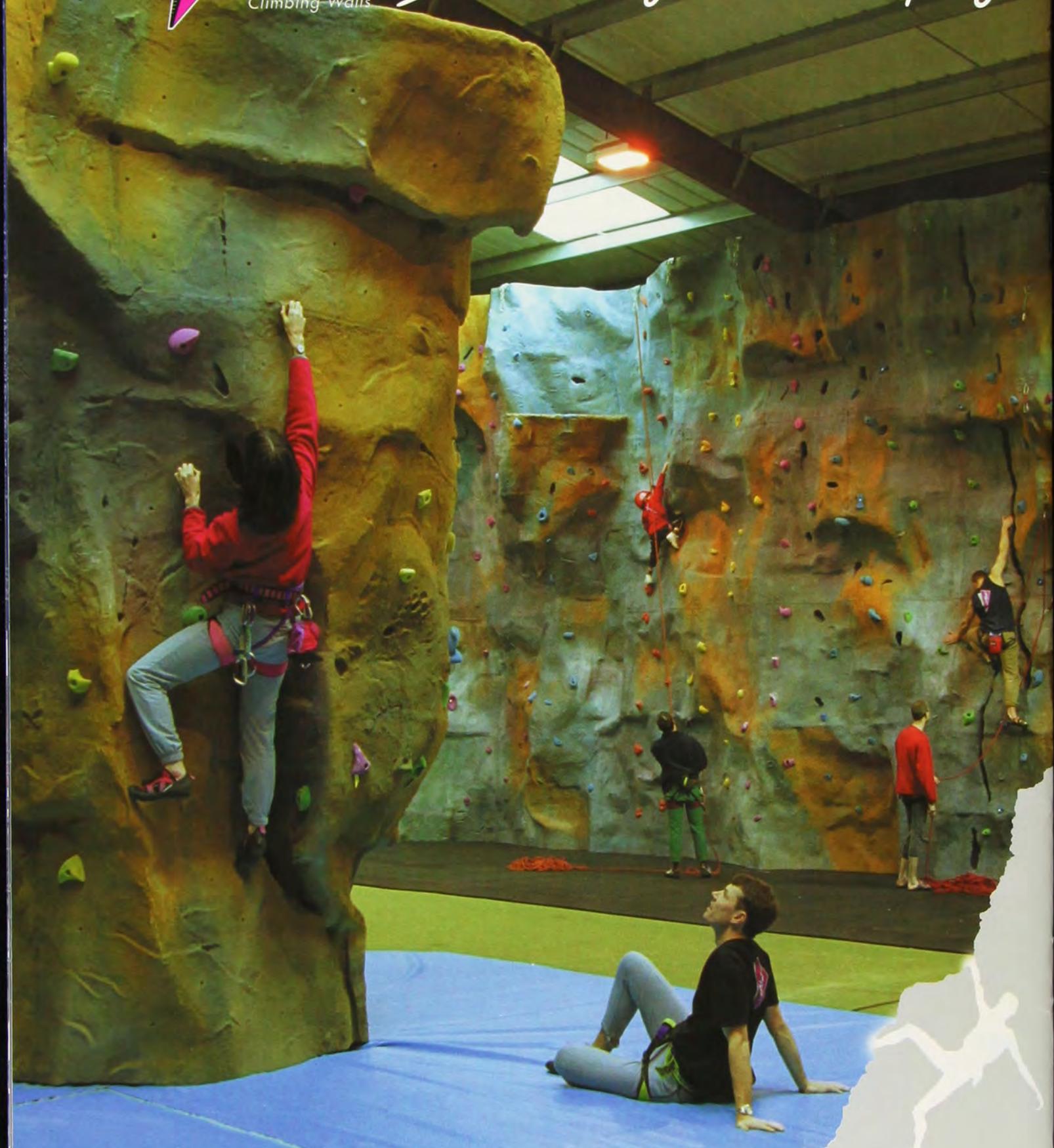
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