

THE SCOTTISH MOUNTAINEERING CLUB JOURNAL

EDITED BY J. H. B. BELL



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S.M.C. Abroad.—Please depute one person to report to the Editor for the party concerned and get it done by October when the details are still fresh in the memory. There are many accounts, so please keep it short, and use BLOCK CAPITALS for proper names and foreign place-names, **always**.

New Rock Routes.—Please report all 1957 routes before New Year. If any are done later, send them in at once.

The Mountain World

1955





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- **AN EXPEDITION TO THE BARUN VALLEY**
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Cordillera Huayhuash by Dr. Heinrich Klier
- **THE GERMAN-AUSTRIAN KARAKORUM EXPEDITION 1954**
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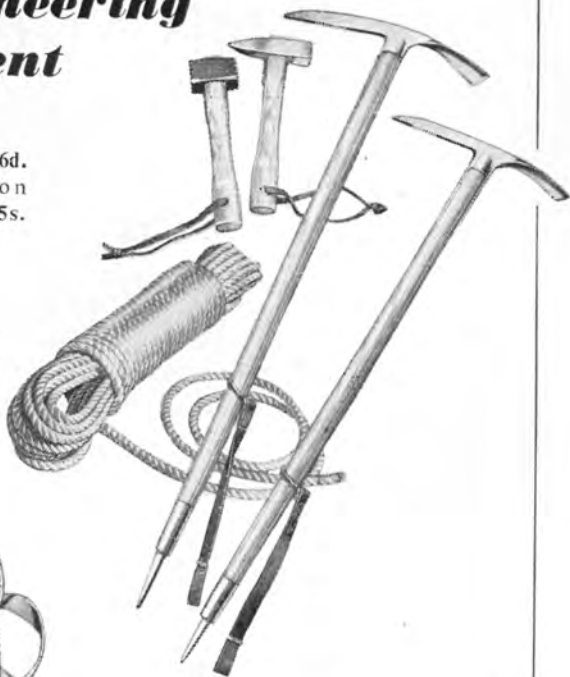
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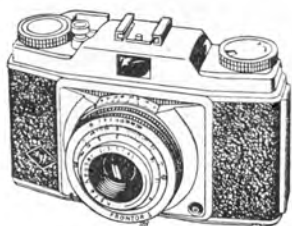
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February 1956

Tom Weir

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Douglas Scott leading the Junction Pitch, which took over two hours to climb

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MAY 1957.

No. 148.

THE MUSTAGH TOWER.

By T. W. Patey.

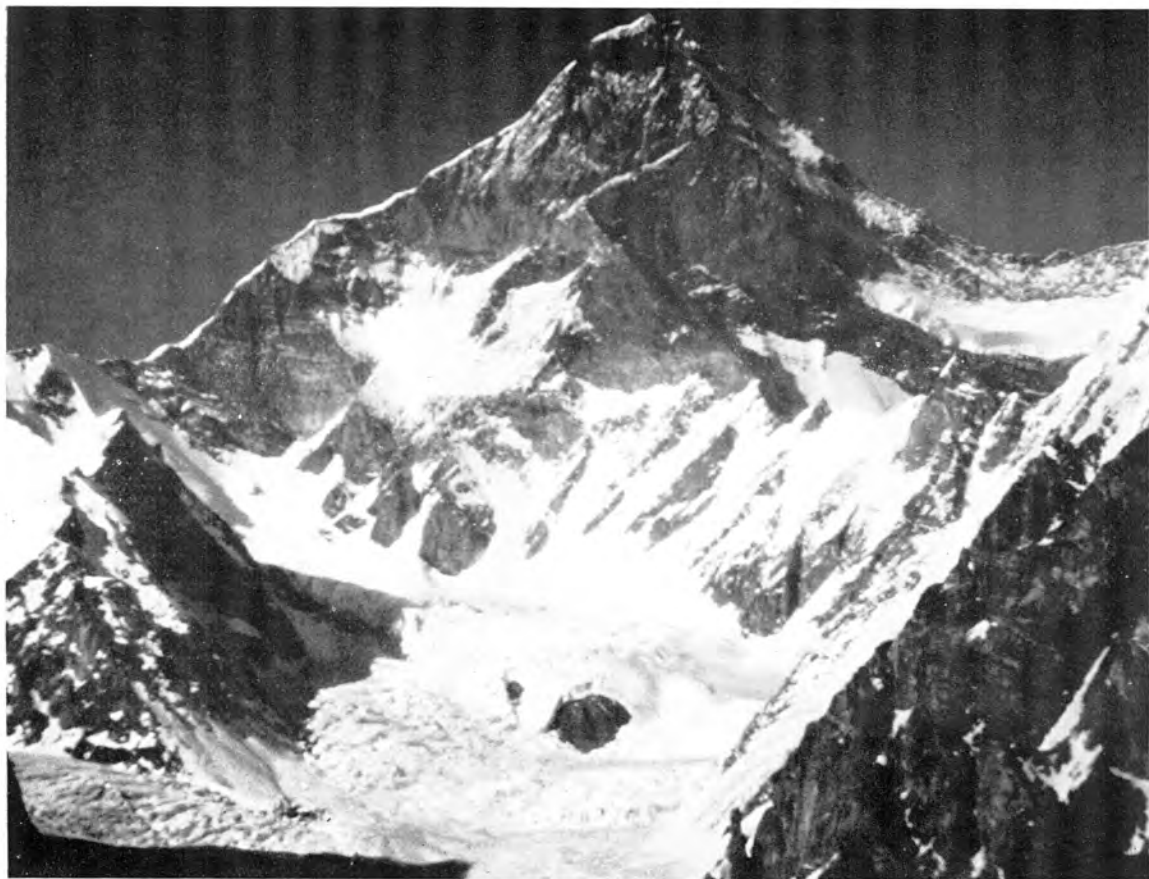
AT the beginning of April last year I was pretty much at a loose end. I had been all set to join Mike Banks and Hamish McInnes on the Anglo-American Expedition which was said to be going to the far-famed Mustagh Tower in the Karakorams. Personal expenditure was to be minimal, and we might even reap a profit. But it was not to be. As sailing date came near and it became a question of finding £500, I could see no solution to the problem; so I withdrew.

A few days later I was bemoaning my bad luck when the phone bell rang. It was John Hartog, leader of a "rival" expedition to the Tower, inviting me to join them. He was brief but to the point: "Can you come to the Himalayas in a fortnight?" It was to be a small expedition of four, run on modest lines, with Ian McNaught Davis and Joe Brown completing the party. What was more, the costs were within the scope of my pocket. So I cast personal integrity aside and joined the enemy forces. As I could not cancel my job immediately I followed on by plane three weeks behind the others, who had gone out by sea. I joined them at Rawalpindi where they were making final preparations before flying to Skardu in Pakistan Kashmir. There was no sign of Banks and Co., but we heard a rumour that they had decided to go for Rakaposhi instead.

Our own party was a curious combination, inasmuch as none of us had climbed together before. Only Joe

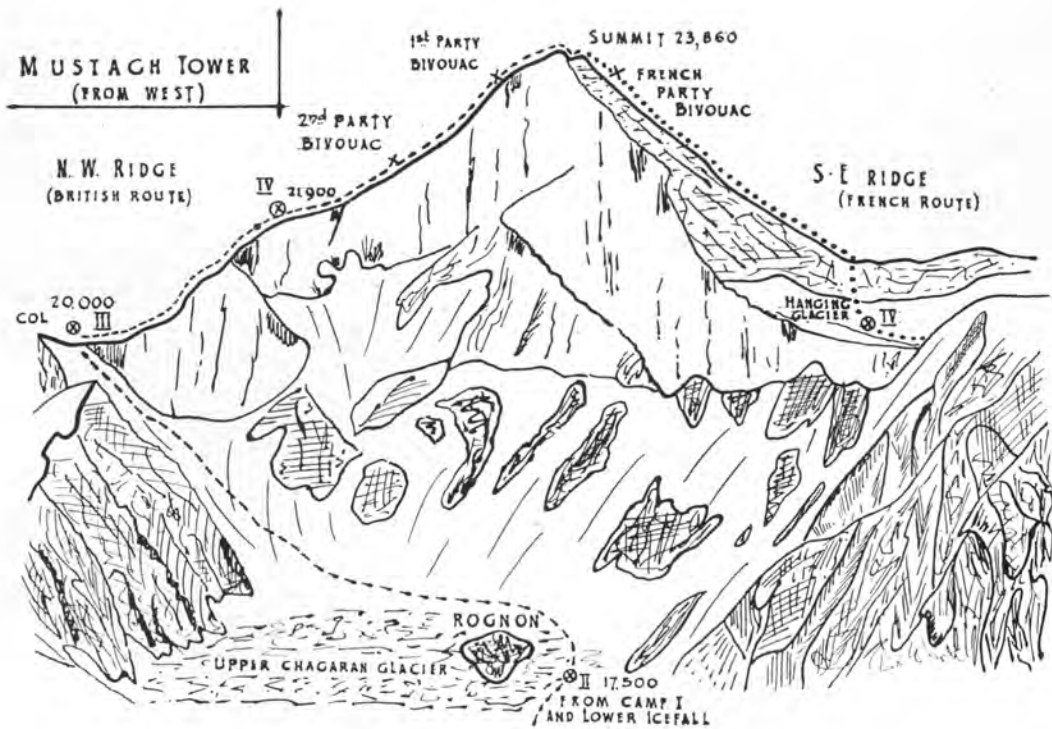
had been on a previous trip to the Himalayas, though both Mac and John had expedition experience behind them on Ruwenzori and in Spitzbergen respectively. My own "climbing abroad" had been confined to the Alps, and in my post as expedition doctor I was even less well equipped, having only just qualified. However, I was assured that my services would not be required. The flight to Skardu was an exciting affair, during which we had a close-up view of Nanga Parbat as the plane passed within a mile of the top.

Skardu is the starting point for most Karakoram expeditions now that an air lift has replaced the long trek from Srinigar. We engaged 100 Balti porters here for the approach march. There is no need to describe the eleven days' march up the Shigar Valley to the Baltoro Glacier. It is also the way to K2, Gasherbrum and the other Karakoram giants, and has been written up in several mountaineering books. However, a word about the Mustagh Tower itself is perhaps indicated. It had no real history behind it; in fact there had never been an attempt on the mountain, though many expeditions have passed by on the way to K2 and ought to have responded to the magnificent challenge of the great obelisk. On almost every side the walls fall 5,000 feet sheer to the glaciers. Armchair climbers have been put off by the famous photo by Vittorio Sella, which shows the Tower from its most terrifying angle. Indeed it is mainly because of this photo that the Mustagh Tower has passed into the category of so-called "impossible" peaks. However, no peak is impossible until it has been attempted. Now that the world's highest mountains have all been climbed, expeditions tend to be more attracted by difficulty than altitude. Hence it was an obvious choice and we considered ourselves lucky in being first in the field. There are two main ridges on the Tower, the North West and the South East. After a preliminary reconnaissance, we plumped for the North West Ridge. There was little between them as regards difficulty, but the other seemed more exposed to avalanche in the lower reaches.



THE SOUTH FACE OF THE MUSTAGH TOWER
Copyright British Baltoro Expedition 1956

J. Brown



Right away we had porter trouble. Our four Hunzas, who claimed to have carried Hermann Buhl off Nanga Parbat, decided that the equipment we had supplied for them was hardly up to standard; so we had no option but to take leave of them at an early date and engage four of the local Baltis. No doubt they were out to prove themselves against their traditional rivals, the Hunzas. Anyway, they did an excellent job of work, and we never had cause for complaint on this score throughout the expedition.

It had been our intention to limber up on the Baltoro Spires above the glacier, but these now revealed themselves as a loftier edition of the Chamonix Aiguilles, all sheeted in ice. We had, therefore, to break tradition by acclimatising on the Mustagh Tower itself. Access to the 20,000-foot col at the start of the N.W. ridge is by the Chagaran Glacier, and this is guarded at the foot by a 2,000-foot icefall. Accordingly we set up base camp at 14,000 feet immediately below the icefall, and set about solving the first problem. No doubt about it, the party's *élan* could hardly have been surpassed at this stage. We had already dismissed the Mustagh Tower as "climbed" and were making plans for our next objective—Masherbrum!

For a start everything went well. We found a way up the left border of the icefall and established Camp I at 16,000 feet on the only patch of stable snow in the vicinity. Here, alarming new crevasses were appearing every day, and we could only conjecture what would happen if one revealed itself underneath the tent. Instead of this our main difficulty was in maintaining the tent floor at ground level. A tremendous amount of melting and evaporation of snow goes on under the direct action of the sun's rays, so that after a few days the tent is left perched on a ridiculous pedestal, rather like a museum exhibit, and has to be repitched. Above the icefall the glacier shelved back at an easier angle for about $1\frac{1}{2}$ miles, to abut against the 6,000-foot vertical face of the Tower. At this point Camp II was to be erected. John and I found a reasonable route for porters through the heavily

crevassed upper glacier which we marked with little black flags.

From the top of the glacier a great 45 degree ice-slope of 2,500 feet slants up to the col at the foot of the N.W. ridge. This was the first real trial of strength, and Joe advanced to the attack, armed to the teeth with ice pitons. He returned with John in the evening, somewhat discomfited; they had been forced to retreat owing to lack of time when still a good 800 feet below the col, and they reported that the innocent-looking upper snow slope was, in fact, hard ice with a thin layer of unstable snow on top. However, their staircase saved us many hours on the following day, and we arrived at the difficulties early on.

Further ascent was indeed laborious; each step required twenty blows with the ice-axe pick, and in any case soon melted away in the heat of the sun. Obviously we would require fixed ropes all the way on this upper part if we were ever to get our porters as far as the col. Ice pitons were a rather dubious anchorage, and so we decided to force a way up the snow-covered rocks on the right. This last 800 feet took 5 or 6 hours and included several very "dicey" pitches, but, once it was all roped and the necessary rock pitons in place, we felt sure our porters would manage to cope satisfactorily. What did upset us was the view from the col. We hadn't seen the North Face before, but thought that it could hardly be any worse than the other faces of the Tower. In fact there was little difference, except in so far as it was plastered with ice and snow which lay at an incredibly steep angle. Consequently we would have to take every pitch on the N.W. ridge absolutely direct, and our route seemed comparable to the lower part of Observatory Ridge under bad winter conditions—quite a problem at 20,000 feet.

We returned and informed the others of this new problem. Already there was an undercurrent of feeling that we should scrap our projected route and take a look at the S.E. approach. Bad weather was imminent, so we descended to base to sit out the storm and conserve our precious foodstuffs at Camp II. For a week it snowed without remission and the squalor inside the tent reached

new depths of degradation. Everybody was rather apathetic. The only episode of interest was the Mystery of the Meat, the mortal remains of two goats who had accompanied the expedition. These were parked in a crevasse and disappeared piece by piece. Failing any logical explanation the porters were suspected, until one morning we discovered leopard tracks in the vicinity of the camp. Riaz told me I had nothing to worry about—a leopard does not attack unless hungry!

However, we were to be given a rude jolt. For a few days we had heard rumours of strange sahibs on the Baltoro Glacier, and our porters quoted them as saying they were going to climb the Mustagh Tower. This couldn't be true. Surely Banks was miles away on Rakaposhi. Then a letter arrived from Guido Magnone, leader of a French Karakoram Expedition. He had every intention of climbing the Tower and was, in fact, this minute, encamped below the S.E. ridge. The wily man had been in the area now for 10 days, and so ensured a good start on the first lap to the summit. There was great indignation at this, for we had understood their primary objective to be Hidden Peak. Instead, here they were on *our* mountain! A despatch deploring competition was sent round to the French, and we awaited results.

It soon had the effect of producing the conqueror of Fitzroy in person. We got only a few minutes notice of his approach, and despite our frantic attempts to appear as professional as possible, the tent was still in a state of wild chaos when Magnone and Paul Keller appeared at the door. We had expected to find a grim *face nord* austerity in our rivals, but the opposite was the case. The arch villain, Magnone, was in fact a most charming personality, though his Parisian volubility was rather wasted on Joe and myself, who knew but little French. Nevertheless, it wasn't long before an *entente cordiale* was established, and both parties were wishing each other success, blaming all the confusion on the Pakistan Government. Magnone went so far as to hope the British would get to the top first, and he promised to send us



J. M. Hartog

Tom Patey below rocks of summit ridge of the Mustagh Tower



Joe Broton

I. McNaught Davis descending cliff below Camp IV
The glacier is 6,000 feet beneath

round some cognac, if they had any left over. In the afternoon, both parties now on the best of terms, they left to rejoin their companions, Paragot and Contamine. Despite this we were left wondering just how far they had advanced up the S.E. ridge, for when we sounded them on this they were noticeably reticent.

A 20,000-foot mountain mass separates the Chagaran and Younghusband Glaciers and it is linked to the Mustagh Tower behind by a high ridge. This effectively prevented the two rival parties from spying on each other. In any case the veteran British mountaineer is noted for his imperturbability, and we resolved not to ignore the edicts of our forefathers by joining in a race to the summit.

When the fine weather came at last, we carried imperturbability to its extreme by delaying our return to the Tower for a day or two in order to bag two peaks of 18,000 feet near our base camp. Then, almost reluctantly it seemed, we set off through several feet of new snow for Camp I. Joe and I continued to Camp II as the advance guard, reaching our destination just before nightfall. Disaster! We had collapsed our tents in textbook fashion before the blizzard, and they were now invisible under several feet of snow. Luckily Joe spotted an ice-axe sticking out, and we could fix the position to start digging. It was long after dark before we could crawl into the frozen tent and start thawing out our sleeping bags. The following day was wasted.

Next morning the snow was firmer and bearing weight. Joe and I were again the navvies, but we didn't envy John and Mac who had to safeguard the porters up the great ice slope, swaying under their 50-lb. packs. This time we really went at it with axe and hammer and laid out a fine staircase up to the col, furnished for most of the way with ropes. Despite the fact that this would have been rated quite a difficult ice-climb at home, we could now rely on the porters continuing the lift unaided for the next few days.

All four of us were now lodged at the col at 20,000 feet, and we set out for the initial attack on the N.W. ridge. We could only see the first 1,000 feet of this ridge, and

beyond this, on what we hoped was easier ground, Camp IV was to be established. It was this section which had appeared almost impossible on our first visit, but we were surprised to find how much the angle leaned back when we really got to grips with the difficulties. No doubt about it, however, the slope was still exceptionally steep and we were having to cut handholds almost continuously. Soon the snow changed to hard ice, and we moved right towards the ice-covered rocks on the brink of the great West Face. The climbing here was exhilarating, quite exposed, but very sustained. Each pitch took about an hour to lead and the difficulties seldom fell below severe in standard. Again it was fixed ropes all the way, but after a pitch had been led once, the major difficulties were over. We were three days on this 1,000 feet before we reached a site suitable for Camp IV. In the evening we would slide down to our Camp III on the col and next morning pull ourselves up the ropes to the previous day's highest point.

It was the last of these days that marked the start of the final bid which was to carry us to the top. Following a vague report from the porters that Riaz our liaison officer was at death's door, I had descended the ice-slope to find him in remarkably good spirits and awaiting my arrival with hot coffee. Cursing my unfamiliarity with the Balti tongue, I returned to the col next day to find that Mac and Joe had left as the first assault party, carrying with them the ingredients of Camp IV.

They didn't return in the evening, so we assumed things had gone according to plan and followed on next day as the supporting party. Above where the fixed ropes gave out our predecessors had been unable to spare any to leave behind, so we had some exciting "free" climbing on the remaining 400 feet to the top of the first easement in the ridge. Any stones dislodged here dropped absolutely unhindered, in an awesome silence, for 2,000 feet down the West Face. As I topped the last, slightly overhanging pitch my eye ran quickly up the remaining 2,000-foot ridge to the top. Suddenly I spotted two little figures outlined on the snow, almost at the

summit. I shouted down the news to John that the Mustagh Tower was "in the bag." Then I noticed that they were still moving up! Obviously they had decided to cast discretion to the winds and emulate Hermann Buhl by sleeping out on the summit.

We reached Camp IV in another half-hour and prepared to spend a most uncomfortable night. The tent itself was perched apologetically on an insecure heap of rubble that Mac and Joe had collected, and John, who was too slow off the mark, found himself occupying the outer berth. The only primus had ceased to function, and we were denied not only warm food but also water, which was much more serious.

Despite the early hour—6 A.M.—it was almost a pleasure to get up and away from the tent next morning. We couldn't cook a breakfast and had no excuse for delay. John packed in all his bivouac kit, but I rebelled against the drudgery of a heavy rucksack and took only the minimum of spare clothes. Anyway, the ridge looked quite straightforward compared to what lay behind us and I couldn't see what had held the other two up. For the first two hours we gained height smoothly on easy ground, reminiscent of Tower Ridge in winter. Mac and Joe had reappeared below the skyline and were proceeding downwards slowly and cautiously. We met them about 9 A.M. just below the steep upper section and heard their story.

We were only at the start of the real "climbing," they announced. The 800 feet immediately above our heads had occupied 6 hours of their time. For most of the way it had been a struggle through 3 feet of soft snow lying on a substratum of hard ice, and set at a very high angle. They had left a huge trough marking their line of ascent and, quite apart from the obvious avalanche danger, it had been extremely exhausting work. At 5.30 P.M. they had reached what appeared from below to be the top, only to see the true summit 200 yards away along a knife-edge ridge which dipped to a small intermediate col. The col was the limit of their advance. Only two short rock pitches separated them from the

goal, but they were both very exhausted, and in any case it was 6.30 P.M. with only one hour to darkness. A small scoop in the ridge below the first summit served as a bivouac site, and they prepared for all the horrors of a night out at 23,000 feet. In the morning they were both very weak, though miraculously immune from frost-bite. They resolved to descend immediately so that they could vacate Camp IV that day and ensure a comfortable night's lodging for the second party. It was a very gallant action on their part to sacrifice their own chances of reaching the top, though by gaining the near summit, a mere 10 feet lower, they had, to all intents and purposes, made the first ascent of the Tower. For there had been no indications that the French had beaten us to the top.

Our own task was now much easier. The overnight frost had consolidated the snow, and we had a regular ladder of steps all the way. We put the main slope behind by 2 P.M. and carried on up a little rock rib towards the summit ridge. Magnificent climbing this, and not at all what you would expect at 23,000 feet; almost vertical rock, yet sprouting jug handles everywhere and offering grand exposed pitches of merely Very Difficult standard. Despite the rareness of the air, we got as much pleasure from it as from a climb at sea-level. At 3 P.M. we stood on the West Summit, looking across to our other objective, and already aware of mounting exultation. Just as I emerged on the summit cornice I thought I heard a shout from John below me. Then I realised that it came instead from the direction of the S.E. ridge. Suddenly I spotted the French, tiny specks on the snow, encamped on the hanging glacier, 3,000 feet below us. They had actually been prospecting their route through binoculars when two figures appeared out of nowhere at the summit. We now had a valuable eye-witness proof of our ascent!

Continuing from the col, a small rock pitch of Severe standard gave us a little trouble, as we were in too much of a hurry to remove our crampons. Only two rope-lengths to go, and a knife-edge arête of snow swept

gracefully up to the summit cornice. With mock dignity befitting the occasion, each insisted that the other lead the way and we argued it out with great spirit. At last John was persuaded to advance the remaining 10 feet; I followed him and we shook hands solemnly on the summit. The usual summit rites were restricted to photography, as we had forgotten to bring a flag along with us on the expedition. Bill Brooker had promised to present me with a Scottish Lion Rampant before I left Aberdeen, but unfortunately all the flags he had inspected in the shops were too expensive. In any case we couldn't afford to waste any time here as there were only 3 hours of daylight left for the descent, and a bivouac at 23,000 feet is a sobering thought.

We started down at 4.30 P.M. John, who probably carried the heavier pack, was going very slowly, whereas I was in a regular fever of impatience. My bivouac equipment was far too inadequate, and visions of Annapurna passed through my mind. At one point the bowline round my waist worked loose as I came down last, but I carried on regardless and rejoined John, holding the end of the rope in my hand. He was justifiably indignant.

Darkness came on quite suddenly, as it always does in the Himalayas, when we were still an hour away from the camp. There was nothing for it but to bivouac where we stood, and we established ourselves in a half-filled crevasse as a shelter against the night breeze. Within an hour or so the temperature dropped to sub-zero levels and the icy-cold draughts coming up from the depths of the crevasse did nothing to improve matters. I had removed my boots and stuck both feet in a rucksack, but John's laces were frozen and he decided to keep on his boots. However, he could feel his toes moving and took this as a sign that all was well. Dawn came at last at 4 A.M., but it was still two hours before we could start down. Both my boots had frozen stiff and would not go on my feet. I had to thaw them out under my shirt. John had to take over the lead down to the camp as I was experiencing violent paroxysms of shivering, so much

so that I could hardly keep my hands on the holds. Such were the consequences of leaving some of my bivouac kit behind and having to keep rubbing my legs most of the night. It was only later, when John removed his boots, that he discovered the extent of his frost-bite. He had not noticed his feet going dead, yet, beyond doubt, they were in a very bad way. Tired as we were, we managed to massage the blood back into his feet, but not to the toes which remained a dirty-white colour.

Next morning bad weather appeared to be imminent, so we had to continue downwards. John was very tired and unwell. All the fixed ropes were left in position: we had little inclination to remove them. Not far above the col I shouted to Mac and Joe to come up and meet us, in order to help John with his pack. They, too, were still very exhausted after their ordeal. So the four of us staggered back into Camp III. Joe and I, in response to a message from below, continued down to attend to a case of T.B. pneumonia among our porters at the Base Camp. Next day John and Mac experienced the final whims of the mountain. Descending the great ice-slope, they were involved in a small rockfall, one of the boulders ripping the rucksack off Mac's back, but luckily without personal injury.

It took John not far short of a week to reach Base Camp. We had only three fit porters, and it would have been impossible to carry him. When he arrived his frost-bitten toes were already black, and as he would eventually require surgical treatment, we were anxious that he should start down the valley as soon as possible. It was agreed that he must be carried all the way, but our own porters for the return carry were not yet due for some days.

Then news arrived that the French had reached the top six days after us and were preparing to leave immediately. With their assistance we might be able to speed up John's departure. I decided to pay them a visit at their Base Camp, both to offer my congratulations and to consult their medicô Dr Florence, who was a recognised expert on frost-bite. That evening I fared sumptuously on a five-course meal, which left me

thinking that there was a case for nationally sponsored expeditions after all. The French were in great form and full of superlatives about their climb. I was reminded of the classical descriptions of climbs in the Vallot Guide: "Itineraire audacieux et superbe, l'un des plus beaux et des plus difficiles des Karakorams." They had been forced to bivouac on the ascent, tied to ice pitons well below the summit, and had only avoided a second bivouac by 600 feet of abseiling in pitch darkness, with one torch between the four climbers. The grading was "extrêmement difficile," and 3,500 feet of fixed rope had been left *in situ*.

Next day both parties held a grand reunion dinner at the British Base Camp. It was decided that John and I would accompany the French down the valley, while Mac and Joe remained on the Baltoro for a few more days to take photographs of the Tower from its more sensational aspects. A stretcher being unmanageable, John was hoisted into a chair of sorts, perched high on a porter's back. Sixteen men carried him in turn, frequently having to cross steep cliffs and mud banks where the least slip would have been fatal. So we proceeded down the valley for 80 miles and then managed to hire a small fleet of *soks*, or goatskin rafts, racing each other down the last 30 miles to Skardu. John then flew back to England and later underwent extensive surgery to both feet in a London hospital.

The Editor has asked me for a few general impressions of the Karakorams. The most striking thing is the number of famous unclimbed peaks all within a 20-mile radius of the Mustagh Tower—Masherbrum, Hidden Peak, Broad Peak, Paiju, the Trango Towers, Crystal Peak, Mitre Peak and Bride Peak. All remain virgin. The main Trango Tower is the most extraordinary rock feature I have seen anywhere. Cut off on every side by walls as steep and long as the West Face of the Dru and attaining a height of over 20,000 feet, it poses a magnificent challenge in this new Golden Age of Himalayan climbing.

Even the Mustagh Tower itself still holds its fascination—the traverse of the mountain would be a tremendous expedition.

There is an enormous amount of rock about, and nearly all the main peaks offer mixed routes of very high standard, comparable in severity to the great Alpine *faces nord*s. There is not much snow plodding, often the most exhausting type of climbing at this altitude. The rock is granite, which is sound on the lower Baltoro spires, though above 20,000 feet on the Tower it tended to be very shattered. Snow lies at a steeper angle than I have encountered in the Alps or Scotland and seemed to be relatively more stable, for we saw few major avalanches. Powder snow and *verglas* on the rocks, however, offer a problem, and for this reason I found the climbing on the N.W. ridge very similar to the Lochnagar buttresses in winter.

Acclimatisation gave us no worries, though 23,860 feet is, of course, small by Himalayan standards. The weather also was kind to us. We had one period lasting a month of almost continuously fine weather. We reached the top on the eighth day of that fine spell, though, as events proved, we could have afforded to spend much more time on the final bid.

Any comparison of the two routes is not really justified, though, from both accounts, there appears to have been little between them as regards difficulty. The angle of the N.W. ridge is slightly steeper, but to compensate for this the French had more difficulties to face in the lower stages. The first party to complete the traverse will be in a better position to judge!

THE SOUTH POST OF COIRE ARDAIR.

By C. G. M. Slessor.

FEW will deny that the exploration and subsequent ascent of a mountain by a beautiful and natural route is mountaineering at its best. To-day's mountaineer goes abroad more and more to seek this pleasure. There is no such need. All he has to do is to wait till winter, leave his guide book at home, forget all he has read of the mountain, and sally forth with his mind as blank as the proverbial examinee.

Thus it was with Norman Tennent and myself. Only we cannot lay claim to a deliberate policy of forgetfulness. It came naturally to us. We met at Newtonmore on the wet evening of 7th February 1956. It appeared we had food, a map and some elementary climbing equipment. We lacked a watch, a guide book, and any idea as to what to climb. Tennent, his deep-seated whimsicality ripened by good wine, adroitly parried all my suggestions. Finally, ordering whisky and gazing fondly into its amber depths, he muttered "You're the boss," and refused to discuss the matter further.

Thus it was that next day, after having suggested Nevis, I found myself tramping up the Coire Ardaire, bound for Creag Meaghaidh. It was a warm, soft day, glorious to behold, but poisonous to the eager climber. Coire Ardaire was dripping. We camped at the top edge of the northern woods, strategically placed to view both the Coire and the Laggan Glen. Our stiff 2½ miles approach march had whetted our appetites for food, if not for climbing. Unbidden, Tennent skilfully blended pemmican and rice, while I coaxed damp birch into flame. Such is the vanity of man that we lay back, fed and well satisfied with our day.

The value of experience lies in enabling the possessor to make grave decisions on the most flimsy evidence. The 9th of February dawned rainy and misty, and it took Tennent only a moment to put his head to the door, twitch his nose and pronounce that a general thaw

persisted in every direction, and was particularly vigorous in Coire Ardair. The day passed in the fabrication of chess pieces from matches, followed by a skilful game, ended only by an accidental sneeze which blew the Black Queen out of the door, while the remaining white Rook perished in the primus flame. With this our *ennui* vanished, and as we set out the clouds lifted from the Coire, revealing the posts and rocks still plastered after this the fifth day of thaw.

The North Post, a pencil-thin ribbon of snow and ice, seemed too stern a challenge. The Central Post looked eminently climbable if it froze, but what of those cornices? A wide amphitheatre feeds this gully, and we had both seen, on separate occasions, considerable avalanches issue from it. The South Post is topped by a much smaller amphitheatre and it carried no cornice. We agreed to investigate it. We had no idea if it had ever been climbed in summer or winter.

A knee-deep plod up the soft avalanche débris in the gently inclined Easy Gully brought us to the bottom of the South Post where it plunged its last 100 feet in a lace-work of ice fretted by water, far too unstable to climb. On either side rose very steep rock and turf. From here it was impossible to see into the South Post, but a sally on to the ridge of Pinnacle Buttress afforded a sight right up the line of the *couloir*. It ran up unbroken for some hundreds of feet, bulged enormously and continued as a narrow ribbon between ice-coated, vertical walls. Farther up all was obscure, but we pieced together a picture of a widening, followed by a steep ice-wall which barred the exit. We imagined this would be the crux. Though nothing was said, I felt that Tennent, like myself, was enormously impressed by the directness and steepness of the route. As soon as there was frost, we resolved to have a go. However, it would take days of frost to make the initial 100-foot icefall negotiable, so we traced out possible entrances into the lower *couloir* from B Buttress on its right. Three apparent traverses existed below the bulge. We favoured the lowest, which would lead in immediately above the icefall, just above

where B Buttress itself fell steeply to the wall of Easy Gully.

We romped up the remainder of Pinnacle Buttress, and in gathering dusk glissaded Easy Gully and ran back

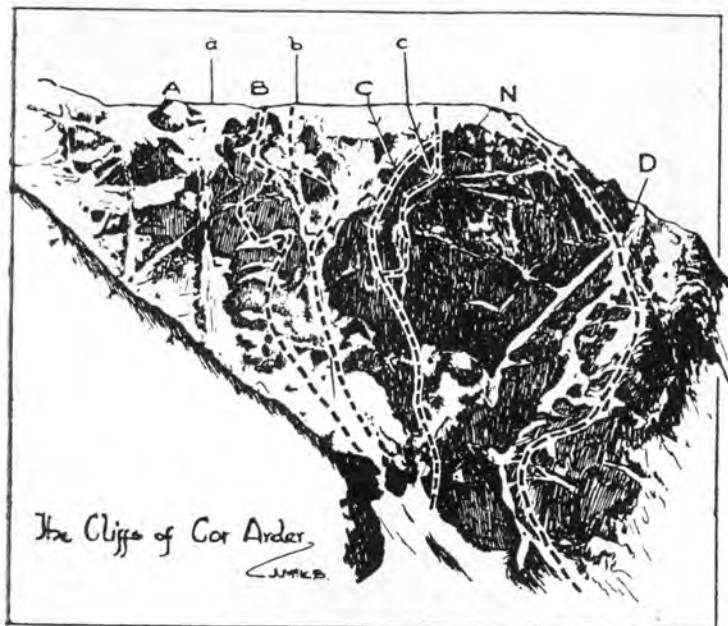


Diagram by J. McK. Stewart, *Journal*, Vol. 21, p. 398.

A, B, C, the three Buttresses.

a, South Post; b, Centre Post; c, North Post.

N D, route north of the Posts.

L L, ledge between South and Centre Posts.

Each L is situated about the foot of the great pitch in the respective Post.

Easy Gully concealed by crest line of Pinnacle Buttress in foreground, sloping down from left to right.

to camp. That night, as we dried socks by the birch fire, a pile of spare logs behind us whitened as the frost squeezed water from its sodden pores. It chilled our backs but warmed our hopes.

Modern life has made all of us slaves to the clock, and modern mountaineering seems no less afflicted. Now we were watchless; but in the night that followed the pleasure of the foregoing watchless days was considerably

lessened by the need to be continually rising to look out of the tent and see if dawn was yet breaking. After the *n*th crawl to the tent door we espied daybreak. Arbitrarily we called it 7.30 A.M. Some snow had fallen and the ground was rock hard. At an estimated 10 A.M. Tennent swung his axe into the frozen avalanche cone at the foot of the slopes that run out from the Central Post. The air was lifeless. A wall of mist wedged the lower glen; an eagle glided across the Coire, then climbed into the mist which lay at the level of the upper cliffs. Only the rhythmic chip of Tennent's axe and the merry tinkle of water running beneath the snow mitigated the silence.

On iron-hard snow we climbed diagonally left across the exposed, avalanche-swept outfall of the Central Post to reach B Buttress 50 feet above the point where it plunges into Easy Gully. Tennent briskly descended a series of slippery frozen turf ledges with deceptive ease, turned the corner, reported a belay and called me on. I found I had no adhesion to the turf, so put on instep crampons. With these I soon joined Tennent, then traversed thin ice to land squarely at the top of the first icefall. From here the South Post looked quite the most impressive thing of its kind I had ever seen. It was an impression we both found to be borne out subsequently. Four hundred feet of cutting up the shallow lower *couloir* brought us to the bulge, a 100-foot ice-pitch complete with *rimaye*, but mercifully covered in excellent snow-ice. Tennent, his zest undiminished, led the way by attacking the ice directly above me, all but knocking me out with large ice-chips when he cut a stance 50 feet up. I joined him, finding the pitch exacting. From here the way led to the left and up into the "narrows." The traverse was exciting. Very steep good snow gave way to water-eroded ice. Then, as I climbed directly up into the narrows over plain rotten ice, I paused for breath and considered the wisdom of proceeding. Just at that moment water gushed out of a handhold and ran up my sleeve, galvanising me into upward activity. At rope's length I was able to get an uncertain stance and bring Tennent up. Our situation was superb. Nothing visible

beneath till Lochan Coire Ardair 1,200 feet below. Steep walls rose on either side forming a cleft barely 15 feet wide. Above, the dull white of the amphitheatre looked impressive but easy, an opinion which altered rapidly as we climbed the next steep 300 feet to the head of the narrows. By now the gully would be a complete death-trap in avalanche conditions. Once in the narrows there seems to be no sanctuary, no escape route. We felt that under conditions of thaw or fresh snow this climb would be quite unjustifiable.

At this point the narrows open to an amphitheatre. Ahead on the left-hand side protruded a small, bared rock mass. The direct ascent would go to the right of this to culminate in 150 feet of vertical ice. Leftwards, above the rock very steep snow led to a rock-protected emplacement, from which it seemed that a rightward ascent might lead on to the upper snow slopes above the vertical ice-pitch. The wall of B Buttress was slabby, icicled and forbidding. In good snow an escape farther left to the ridge of A Buttress might be feasible. We took the route to the left of the rock mass. I belayed Tennent while he chipped smoothly up the exceptionally steep snow-rib to the emplacement. Momentarily the sun shone through parted clouds, affording a glimpse of the glen beneath. An eagle rocketed down the Coire in a vertiginous plunge and disappeared into the mist. The clouds rolled together again as Tennent's voice hailed me.

The emplacement offered protection from avalanches, but a diffident perch. Tennent cut and beat the snow, and with a look of anticipated suffering took my rope. How long I took over the pitch I cannot say. For Tennent it seemed an age as he slowly froze on his uncomfortable perch, while I, more precariously, wiped the sweat of cutting from my eyes. The pitch started as a wall of snow-ice about 70 degrees in angle, eased in the middle, and then became almost vertical. I traversed right and up to the steep bit. Just at this point the deep roar of an avalanche stilled both our hearts momentarily, until we realised that it was not in our gully, and then, blushing at our stupidity, identified it as a passing aircraft. The steep

section was passed with difficulty, and a stance in an ice-filled corner enabled me to bring up Tennent. That man, blue with cold, regained colour by bounding past me and up the snow-ice arête behind, cutting steps like a high-speed rotary machine. However, by now we were both tired, and he soon slowed down. Ahead, we could see the gentle top lip of the South Post; between lay snow of almost unbelievable steepness, dropping down to the vertical ice of the direct route. We cut up and right to reach the foot of the last pitch, a 20-foot ice-step. There we used our only mechanical aid, a piton belay. As Tennent drove it in he remarked that it scarcely compensated for the mechanical disadvantage of my small ice-pick-cum-hammer, which, hanging from his waist loop, had irritated him on this whole ascent by swinging between his legs. The ice here was of that variety glaciologists refer to as plastic. It absorbed the pick, gripping it fiercely, so that each blow ended with a struggle for extraction. Once, while stopping for breath and to relieve the cramp in my cutting hand, I paused to look back and down. Here, at the top of the climb, the full exposure of the gully is felt. I blessed that piton belay and resumed the weary pick-and-tug, twenty times a step, to the top. It was a fitting climax.

Above the pitch 100 feet brought us to the plateau edge, at what we subsequently estimated as 4 P.M., making 6 hours for the climb. Suddenly, feeling very weary and cold, we ate our food, and in thick mist compass-marched to the head of Easy Gully, slithered down joyously, raced to camp and made Newtonmore in time to celebrate with dinner and wine. That night snow fell heavily. The South Post was no longer a justifiable risk.

SKIS IN SCOTTISH MOUNTAINEERING.**By Geoffrey J. F. Dutton.**

TWELVE months ago there was unveiled the first permanent ski tow, hoist, lift or sack elevator in Scotland. Temporary contraptions of its kind have often been encountered of late by the unwary climber. The Glen Shee hills in summer hold several small rusted engines squatting balefully in hutches, wired and battened down; and in winter here and there the righteous mountaineer has paused to survey, far below in a corrie, lines of figures hauling endless ropes, and has noted with mild interest the remote fury of those crouched round some similar hutch, now frozen and doubly inaccessible; later he has heard the pop, the splutter and the inevitable malignant and deliberate silence. But such things are comforting, even necessary, to a winter climber in Scotland, providing tangible evidence of a pursuit at times more pointless and frustrating than his own.

This being agreed upon, the writer still thinks the possibility of a successful ski-lift, with its attendant flags, loudspeakers, race-cards and sleigh bells, bang next door to the ascetic recesses of the Buachaille, may provoke wrathful comment on all plank-straddlers from members-who-do-not-ski. So he humbly proposes to take up where Unna left off in that masterly article (Vol. 19, p. 257), not forgetting MacRobert's excellent survey (Vol. 21, p. 379) or Naismith's recommendation of 1892 (Vol. 2, p. 89), and briefly construct an *apologia* for ski excursions over Scottish hills with fellow-members, far from the Downhill-Only Boys. He may as well state his opinion now: that in reasonable conditions such ski-touring is vastly superior to simple hill-walking, and in unreasonable conditions it elegantly combines, as hinted above, the pointlessness of climbing in Scotland with the frustration of trying to ski there.

Now an added attraction of climbing on ski is that the difficulty is enormously increased. The veriest hump of a sub-Munro arches its back, steepens its flanks and

bristles with suddenly bared rocks; all sides instantly face north. Thus what would normally be a saunter becomes, thanks to these artificial aids on the feet, a tricky problem of route-finding and mountain craft, calling for initiative, leadership and all the well-known virtues.

Who, for instance, finding himself accidentally on the top of Ben Chonzie in the summer, amid harebells and bumblebees, could imagine the epic struggle J. R. and the writer had there one February? Merrily they struck up the snow by Invergeldie burn, into the mist and the N.W. wind. When the slope became too steep to point the skis uphill, even with the aid of skins, they side-stepped laboriously, peering about to detect some easing of the slope. It steepened, and the wind howled and rattled through six frozen skins. The writer, faced with some 1,200 feet of side-stepping and conveniently hidden from J. R. by the mist, thought to remove these excellent skis and proceed more easily on foot. He was interested to discover that vibrams were no more comforting on the now very icy snow than were steel-edged skis, and to carry two 6-foot planks in such a hurricane either up or down such a slope by means of steps poked out with two ski-sticks held in one hand was not to be thought of. So he side-stepped up to the top and found a great plateau and a blazing sun. The run down on the south side was pure joy, skating on the level with the wind, tacking skilfully with outstretched anoraks in pterodactylic delight, and then a weaving down from snowfield to snowfield by short steep and narrow bits, a maze of exhilaration. Thus did a humble mound, bad-tempered in a N.W. wind, provide first-class enjoyment and a refreshing change from ascents of the head-down, feet-kick variety.

Then again, there are conditions when it is impossible to proceed on foot. Deep snow fell overnight at Clova, choking all gullies; determined pedestrians accompanied us to the gorge on Jock's Road, before falling back exhausted, engulfed and with oaths. On ski we had a superb day over to Craig Herrich above Caenlochan Glen, a wonderful Arctic day, with blown fine snow

streaming across miles of *sastrugi*,* the sun low in an icy pale blue sky. After a day such as this the run down in the silent evening, that effortless gliding over packed crystals, each turn as right and inevitable as the banked snow in the corrie, makes for such a sense of physical contentment and of the skier's absolute identification with the scene, that the idea of treading in or clattering down on foot comes as an intrusion, a rude and hearty shattering of the spell. And this spell grows not so much from the stillness as from the silent motion and the gradual unfolding of the picture to a body perfectly relaxed and swaying to the very contours it is watching, like a physical drinking of the landscape.

Truth, alas, compels the writer to record less gratifying episodes, when the jeers of the heathen found justification and nourishment. Late one May he had seen great confident snowfields on Beinn a'Bhuird and had accordingly lured J. R. to Invercauld. The journey up the Slugain Glen was ill-omened: large wet snowflakes fell. The Quoich was full and had to be waded. Then waist-high slush-bearing heather mutely resisted all the way to the Allt an t-Sneachda and its eponymic whiteness in the mist. Through a howling blizzard two figures carried skis up deeper and deeper snow. At 3,000 feet they turned, clambered on to dripping wood, pulled ineffectual straps and lurched down again into the *tourmente*. Veils will be drawn over the way they swung, slipped, staggered, fell, leapt, bounced, collided, crashed, ploughed, rose, groped, slithered, fell again, smacked, knelt, tottered, sprawled, lost a ski, overtook it, put it on, spun, collapsed, struck matches (no good, skis too wet, wouldn't burn), waded, dived, gasped, blew, dropped, rolled, bounded and finally arrived breathless at the bottom. Then the heather and the (deeper) Quoich. *Ski de pied* with a vengeance.

It is more comforting to recall the great days, the first runs in October, the last swoops to the loch in June,

* Wave-like formations of icy snow, frequent in Scotland; anything up to a yard high from trough to crest.

midwinter days of traverses when new snow had spoilt all other climbing; the crossing from Dalnaspidal to Dalwhinnie, over a great silent plateau looking to an Alder Forest locked and shining in ice; a desolate flat place but noble in winter and where a pedestrian was met, alone and stepping hugely in snow-shoes. Or the Glas Maol ridge, with its plunges from corrie to corrie; or from Clova to Lochnagar and back again to Glen Isla, with those white miles of drifting above a Strath More engrossed in its own spring. . . . Such tours only yield their best when the skier is reasonably skilful and is not constantly reminded of the bed of clay; so summer quarries have equivalents in winter golf courses, and many a night and oft did the writer and his cronies ski back from these under the street lamps of Edinburgh and Dundee, wringing the last hour out of each week of snow, and stacking their skis in the drift by a startled tram stop.

So far we have not used the term "ski-mountaineering"; for whilst ski-touring over the easier Salvationist hills is a most satisfying improvement on walking over them and needs more mountaineering knowledge, rarely could it be called "ski-mountaineering" in the accepted sense. Skis are sometimes essential for reaching the more difficult Scottish mountains, but actual mountaineering on ski over them (if ever necessary) is extremely uncertain because of the general treachery, iciness or simple absence of the upper snow; it would be foolish to scrape expensively from rock to rock on these hills and neglect the fine foot-climbing they must afford. Such determined efforts should be regarded rather as a means of getting fit for Alpine ski-mountaineering, and are best made on borrowed skis. Delightful ski ascents of the greater Scottish hills may be made, however, in spring up their long snow gullies, with a walk or scramble to the cairn and a sun-bathing, burn-drinking descent on perfect snow, but by such lotus-eating distinctions will be blurred. And with pure ski-ing on Scottish hills, difficult or otherwise, up and down fashionable gullies, the writer does not propose to deal; that delectable pursuit must be sternly relegated to ski-club circles.

Forecasting a drought of Scottish contributions, Unna recommended inclusion of ski-touring notes in the *Journal*. Certainly, ascents or traverses on ski of otherwise uninteresting or "exploited" hills offer something both fresh and Scottish for our cataloguing pioneers, heirs of Burn and Philip and other trackers of unrecorded heather; Munros might then tick by unheeded. The working out of long, linked high-level tours, a *Haute Route Ecossaise*, would seem possible, especially in the east (starting, say, at Mount Battock and arriving at Glen Tilt in time to consider the situation). These journeys would need the highest mountaineering skill and judgment in bad weather, and the ski clubs do not cater for such activities, regarding the hills, as Unna says, merely "as suitable places for the use of ski." We would regard skis (along with boots, nails, ropes, axes, crampons, pitons, pulleys, ladders *et al.*) as suitable things to use on the hill, with the obvious proviso that it depends on the hill. One would not take skis to Glencoe any more than one would carry a piton hammer up Tom Buidhe; but if both these poles were visited with the proper equipment they would be found to offer comparable enjoyment and, should the jungle call, equal opportunities for *le Tigrisme*.

EVALUATION OF A RISK.

By I. G. Cumming, J.M.C.S., and C. G. M. Slesser.

The Appendix to this article will appear in the next issue of the *Journal*. Mr Slesser can supply duplicated copies of calculations *pro tem* if application made to him directly.

ONE of the best precepts of climbing is that the leader should not fall off, but experience has shown that he sometimes does, and, to judge from the careless posture of a very large number of belayers, they either hold passionately to this principle or they are ignorant of what it is like to hold a falling man.

We ourselves learnt our belaying in the usual *ad hoc* way in which most mountaineers pick up technique. We had never learnt how strong a rope need really be, and when we used a running belay it was at least 50 per cent. a psychological safeguard, for we would have been unprepared to put it to a real test. So we decided to find out just of what ropes were capable, how we should use them and to assess just what were our chances of being held if we fell off. We had open minds on the subject. We were prepared to find that a climbing rope is (as we had long dreaded) quite useless to a leader. We are happy to report that our confidence is renewed, and strongly too—but with one reservation: a second man is unlikely to offer a good belay unless he has practised the art under non-emergency conditions.

The Static Belay.

A belay may be static or dynamic. In the former case, when the fall of a man stresses the rope it cannot run, either because it is held immovably by the belayer or wound round a bollard. Under these circumstances the whole of the momentum of the leader's fall must be absorbed by stretching *the amount of the rope that has been run out*. Consider a man of weight W lb. climbing vertically up from his belayer at B to C , a height of h feet above. At this point he falls off, dropping a height of $2h$ feet till the rope tightens (C'), after which he will fall

a certain distance due to the stretch in the rope (C'').^{*} What then is the minimum strength of rope (T) that will withstand the shock of his fall? The answer (Appendix C) turns out to be independent of the height of his fall, but proportional to the man's weight and inversely proportional to the extensibility of the rope.[†] That is why nylon rope, which has such a high extensibility, is far better than all other ropes for climbing with. All our remarks will refer now only to nylon. If we assume that the extension of a rope is proportional to the load upon it we get a useful equation (Appendix C):—

$$\frac{T}{W} = \frac{4 + 2E}{E},$$

where $100 \times E$ = extension of rope at break (per cent.),

W = man's weight (lb.),

T = minimum strength of rope that will withstand the shock of fall (in lb.).

Thus:

TABLE I.

| Extensibility E as percentage | 10% | 20% | 25% | 30% | 40% | 47% | 50% |
|-------------------------------|-----|-----|-----|------|-----|------|-----|
| T/W | 42 | 22 | 18 | 15.3 | 12 | 10.5 | 10 |

Unfortunately with nylon rope the extension is not quite proportional to the load, but it has been shown by experiment (private communication by British Ropes Ltd.) that for a full-weight nylon rope, $T/W = 10.5$. We can, however, work out a few simple and useful results by assuming the stretch of nylon is proportional to the load on it, and assuming a fictitious value for its stretch at break from the same equation,

where,
$$\frac{T}{W} = 10.5 = \frac{4 + 2E}{E},$$

i.e., $E = 47$ per cent. (Appendix A, 1).

^{*} See Fig. 1 (p. 133).

[†] Arnold Wexler ("Theory of Belaying," American Alpine Club) has shown that, in practice, this is not strictly true. Mr Wexler's mathematical treatise derives the same conclusions as this article.

Example A.—What weight of man will conventional nylon rope hold? Since $T/W=10.5$, we find full weight will hold 337 lb., medium weight 190 lb. Medium weight is thus adequate for only very light or lightly dressed persons.

This, however, is not the whole story. Several other points must be considered:—

1. The value of $T/W=10.5$ includes no safety factor. Any weakening due to fraying either during or before the fall will reduce the breaking load. Since a rope frays a little every time it is used, a stronger initial rope is required.

Again, contrary to popular opinion, nylon *does* deteriorate with time due to the action of sunlight and contamination from wind, sweat, etc. A medium-weight nylon five-year-old rope of one of the writers was found to have a value of E of 25 per cent. and a T of only 1,200 lb. against new value of $E=47$ per cent. and $T=2,000$ lb. It could now hold only

$$\frac{1,200}{18} = 66 \text{ lb.},$$

i.e., quite useless ($T/W=18$ from Table 1).

A portion of the end of your rope should be tested after two years. Both the strength and the extension at break should be known.

2. The strength of a rope is the strength of its weakest point. This obvious truism is frequently overlooked in practice in connection with knots. Most knots (and even splices) reduce the strength of a rope. In particular, the popular bow-line and overhand knot, depending on how tied, can reduce by 20 per cent. Thus a medium-weight rope would hold only 150 lb., a full weight 270 lb. (see Example A).

The only knot known to the writers which does *not* reduce the rope strength is the Tarbuck * knot. Its use is also much to be recommended on other scores, such as ease of belaying.

* K. Tarbuck, *Rucksack Club J.*, 1947; *Wayfarers' Club J.*, 1947; British Ropes Ltd., Edinburgh, Publication No. 37.

3. A static belay is a poor belay. It puts tremendous strain both on the rope and the victim, who will suffer a retarding force of the order of 2,000 to 4,000 lb. At the worst he may be killed; at the best, badly winded.

4. Against these factors it must be borne in mind that (a) a body seldom falls clear. Its fall is absorbed unpleasantly by hitting ledges, etc., thus putting less strain on the rope. (b) *A belaying man is unable to exert the necessary restraining force to maintain a static belay*, as this force is of the order of 2,000 to 4,000 lb. He will be forced to let the rope slip through his fingers. When done in a controlled manner this is known as a *dynamic belay* or *friction brake*. A static belay made by, say, winding a rope round a bollard is unjustifiable for a direct fall for the obvious reasons demonstrated above. If used for a sideways fall, as frequently done when both climbers are moving continuously, it is permissible, indeed necessary. The method can be often used with an axe belay in snow, if the snow is good, because a leader who has fallen into steep snow is not gathering velocity with the acceleration of gravity and a component of his weight is supported by the snow. Further, the resilience of snow and axe absorb some of the load. To summarise, a static belay puts tremendous strain on rope and falling man. It decreases his chances of survival.

The Dynamic Belay.

In the dynamic belay, which is defined in 4 (b) above, the belayer grips the rope that is sliding through fingers to exert on the rope a retarding force which will slow down and eventually stop the falling man. His aim is to arrest the leader as soon as possible, without taking the rope to a dangerously strained condition or putting undue tension on the faller. Obviously a compromise must be made here, for the greater the distance a leader is allowed to slide the more liable he is to hurt himself. We have to find (a) what is a desirable retarding force, and (b) if a second man can, in fact, apply it.

1. Consider the situation in Fig. 1. In Table 2 we have calculated (Appendix D) the distance a 200-lb. leader will continue to fall after the rope tightens (*i.e.*, after $2h$ feet from point of fall) for various values of retarding force and height above point of belay. These figures are given to the right of the heavy line. To the left are given the terminal velocities, feet per second, when the rope (assumed length 100 feet) has run out without the leader being stopped.

TABLE 2.

| Height, $\frac{1}{2}$ Ft. above Belay. | Retarding Force, P Lb. | | | | | | | | Feet of rope run out to bring to rest. |
|--|------------------------|----------------|----------------|----------------|----------------|----------------|------------------|----------------|--|
| | 50. | 100. | 200. | 300. | 400. | 500. | 800. | 1,000. | |
| 10 | Ft./sec. 75 | Ft./sec. 65 | Ft./sec. 36 | Ft. 40 | Ft. 20 | Ft. 10 | Ft. 6.7 | Ft. 5 | |
| 20 | 80 | 71 | 50 | 80 | 40 | 20 | 13.3 | 10 | |
| 30 | 85 | 78 | 62 | Ft./sec. 38 | 60 | 30 | 20.0 | 15 | |
| 40 | 90 | 84 | 72 | 57 | Ft./sec. 36 | 50 | 26.8 | 20 | |
| 50 | 94 | 90 | 80 | 69 | 57 | Ft./sec. 40 | 33.3 | 25 | |
| 60 | 99 | 108 | 102 | 98 | 95 | 91 | Ft./sec. 88.0 | Ft./sec. 80 | |
| 70 | 113 | | | | | | | | |

No effective retardation before rope tightens.
113 ft./sec. = 77 miles per hour.

(Extension of rope ignored here.)

Clearly any retarding force less than the weight of the falling man cannot bring him to rest. It merely reduces his rate of acceleration due to gravity.

Seventy pounds is about the retarding force offered by a man gripping a rope running through his two hands. If he runs the rope just round his body, or over his shoulder, he can probably offer 200 lb. From Table 2 these values are totally inadequate. To effectively stop a leader falling from over 40 feet above would require a retarding force of 500 lb. How can this be done? Experience shows, and the point is mathematically proved in Appendix E, that by running the rope from the leader round the belayer's back and winding it one turn round the arm (never the arm that is playing out the rope, of course) we can magnify considerably the retarding force

exerted by the belayer's fingers—just how much depends on the value of the friction between the rope and the belayer's outer garment. Table 3 gives values for a variety of materials. It demonstrates forcibly the value of leather gloves for belaying.

TABLE 3.

Kinetic Friction Factors for Nylon Rope.

| Material. | Friction Co-efficient. | Load held by applying 50 lb. at Fingers. | | | |
|---------------------------|------------------------|--|---------------------|-------|---------------------|
| | | (1) | Relative Advantage. | (2) | Relative Advantage. |
| Karabiner | 0.19 | 90 | 1.8 | 300 | 6.0 |
| Calico anorak * | 0.22 | 100 | 2.0 | 400 | 8.0 |
| Wool suiting † | 0.25 | 110 | 2.2 | 535 | 10.7 |
| Bedford cord † | 0.275 | 116 | 2.3 | 625 | 12.5 |
| Leather glove † | 0.335 | 141 | 2.8 | 1,170 | 23.4 |
| P.V.C. glove * | 0.355 | 153 | 3.05 | 1,430 | 28.6 |

Other Values.—Cotton anorak, 0.22 *; wool jersey, 0.25 †; towel-ling, 0.24.*

(1) Rope round back only = $\frac{1}{2}$ turn.

(2) Rope round back and once round arm = $1\frac{1}{2}$ turns.

* Raby.

† Cumming.

Kinetic friction figures hold where the rope is sliding past the material.

Static friction figures (where there is no sliding) are higher, so that the magnification is higher.

2. *What Retarding Force can a Belayer Exert in Practice?*—Tests have shown that an experienced belayer, firmly attached to a good belay and using leather gauntlets, can offer a static retarding force of as much as 1,100 lb. for short periods (*i.e.*, without allowing the rope to slide through his hands). In emergency he might manage more (rope held as described above, *i.e.*, round back and one turn on the belaying arm). This is a higher figure than could have been got had the rope been sliding. Had the rope been only round the back, only about 250 lb. could have been offered.

Dynamic retarding forces are harder to measure. Also, it is known that friction between the moving rope and the outer garment is less than the static friction, so the belayer can expect a lower friction factor. However, we have been able to demonstrate that a retarding force of 600 lb. is not difficult to give under dynamic conditions. Even so, any considerable fall, as seen from Table 2, results in quite a lot of rope sliding through the belayer's fingers and round his arm and body (*e.g.*, 40 feet for a 40-foot fall) so that considerable friction heat is generated. To belay a leader without gloves is to be abhorred. The second would require exceptional strength of purpose to offer a dynamic belay with bare hands, and when all was done, the second would require hospital treatment.

By offering a dynamic belay a weaker rope is adequate and there is no chance of bisecting the falling man by the force of the rope round his middle. Thus we have increased a climber's safety factor. Can we improve on this? Yes, with the running belay.

The Running Belay (see Fig. 2).

Consider a leader at C, of weight W lb., h feet above the foot of a running belay loop at R, which in turn is M feet above the belayer at B. When the leader falls, he travels $2h$ feet before the rope tightens. Assume a friction factor of 0.19 between the climbing rope and the karabiner of the running belay: then the shock of his fall is absorbed not, as before, by h feet of rope, but by $h + M$ feet, thereby requiring less force to hold him. Fig. 3 shows this effect in terms of T/W , and M/h for different values of R/h , where R is the length of the side of a loop of running belay. The value T is that strength of rope which would just *not* break under the conditions of the fall when held from a static belay. It thus represents a pessimistic condition, since one can assume the belay would normally be dynamic. The running belay is assumed to be of the same strength as the required strength of the rope. To demonstrate, let us take an example.

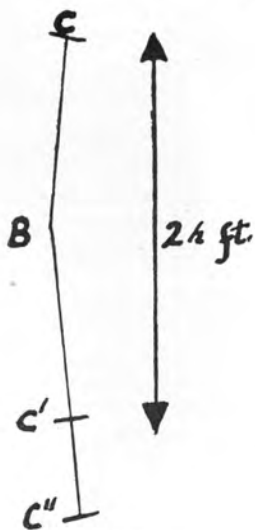


FIG. 1

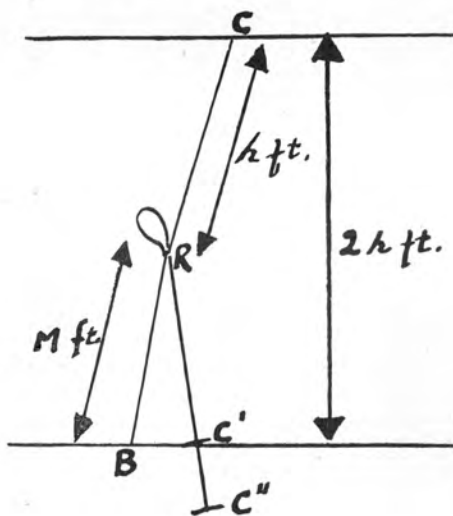


FIG. 2

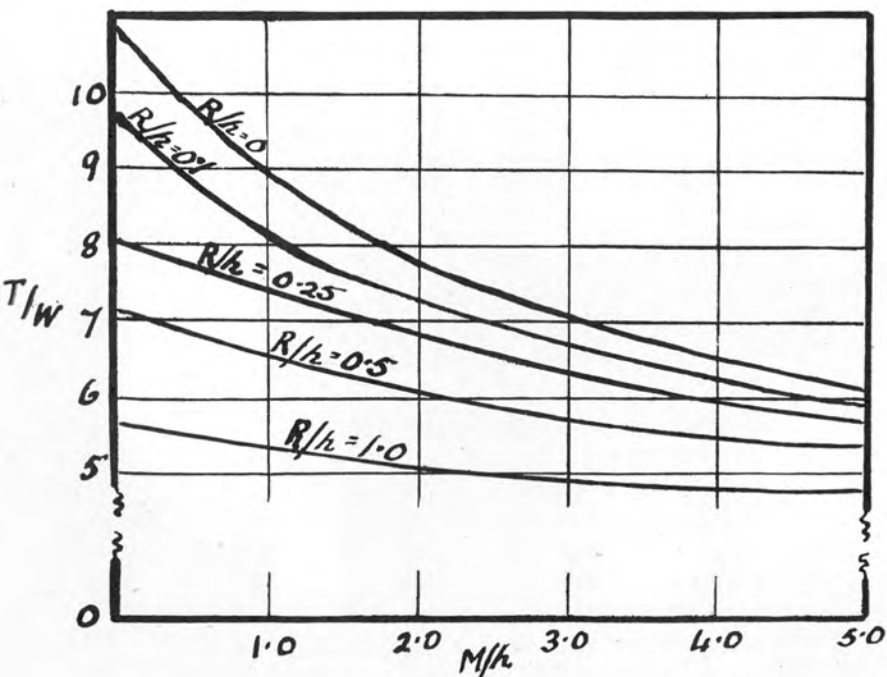


FIG. 3

I R

Example B.—Assume runner is at 20 feet above second man and that leader (weight 200 lb.) climbs to 20 feet above the foot of the runner and falls off. Let runner be a 2-foot-sided loop. Then

$$\frac{M}{h} = \frac{20}{20} = 1 \text{ and } \frac{R}{h} = \frac{2}{20} = 0.1.$$

From Fig. 3 this gives $T/W = 8.2$, therefore $T = 1,640$, $W = 200$ lb.; 1,640 lb. is therefore the strength of rope required to hold the man if a static belay is applied. Due to the friction over the Karabiner the stress on the second man is $0.57 \times 1,640$ lb. = 935 lb., which he could hold. Thus we see the stress in the rope falls from 2,100 lb. if no runner used to 1,640 lb., and on the belayer from 2,100 to 935 lb. (*N.B.*—Stress on Karabiner is $1,640 + 935 = 2,575$ lb.)

If, however, the leader used a piton belay, then R would be effectively zero, $R/h = 0$ and $T/W = 8.8$, giving a required strength of rope of $8.8 \times 200 = 1,720$ lb., with a stress of 980 lb. on the second man.

Supposing the leader put on a larger runner, say $R = 3$ feet, M becomes 1 foot less and h 1 foot more,

$$\frac{M}{h} = \frac{19}{21} = 0.9 \text{ and } \frac{R}{h} = \frac{3}{21} = 0.143,$$

so that T/W becomes 8, and $T = 1,600$ lb. on the rope and the stress on the belayer 910 lb., *i.e.*, the leader falls farther, and the load on the belayer is scarcely reduced. The reader can work out for himself any figures he wishes. The salient point is that the tendency of the rope to break decreases considerably as M/h increases. R/h has little effect on T/W , so that several short loops are preferable to one or two long loops.

This means long run-outs are not dangerous given suitably placed runners. In particular a runner close to a crux could provide a very real safeguard. There are a number of points which are dealt with below:—

1. We climb with ropes of fixed strength. The values obtained in Fig. 3 are for ropes just strong enough to absorb the shock of a fall. Thus Fig. 3 cannot be interpreted rigidly, but used as a guide to comprehending the principle.

2. In the case of a leader falling on to a runner lying almost directly above the belayer, only his weight prevents the belayer being pulled upwards, unless he has managed to wedge himself in some rocks. He can then apply a retarding force proportional only to his weight. Due to friction at the Karabiner this may effectively be about

twice his weight or a little more according to how he is wedged. He should never cling on so that he is lifted off his stance in case the runner fails, and he then has to belay a downward pull. Where the pull is much to the side the second will be able to exert a much greater pull.

3. Tests have shown that a nylon rope may shear on a sharp edge at a value as low as 40 per cent. of its normal breaking load. Since many runners use sharp-edged rock for the belays the danger is considerable. It has been known for a falling leader to break a succession of four runners, all of which sheared due to cutting and friction on the rock. Tarbuck's solution to this problem is to use a leather sleeve. The leather is little affected by friction or shear forces and we get full value for the high strength of our nylon.

4. The advantage of a running belay lies not only in the reduced load on the rope, climber and belayer, but on the reduced height of fall of the climber.

Conclusion.

Consideration of every aspect of the foregoing results is unnecessary when the reader can well work things out for himself. Some points, though, should be mentioned.

1. We cannot too warmly recommend Tarbuck's technique,* and our premises are based on its use. His booklet should be read in conjunction with this article.

2. *Karabiners*.—The leader should be attached to his rope by a karabiner of equal strength to his rope. On runners the karabiners should be at least one and a half times the rope strength if the runner is *not* to be the weakest point in the link. Provided dynamic belaying is used, weaker karabiners may be adequate. Remember a retarding force by the second man of only 800 lb. can put a total load on the karabiner up to 2,200 lb.

3. Running belay slings are made by splicing or knotting. A splice may give a value of 90 per cent. original strength, a fisherman's knot 95 per cent. By

* British Ropes Ltd., Edinburgh, Publication No. 37.

using $\frac{5}{8}$ -inch nylon (1,000 lb.) in several turns the effect of the knot weakness is considerably reduced.

4. The writers are of the opinion that the safest system is to use medium-weight nylon doubled. If runners are used, alternate ropes are put through, reducing friction and strain on the leader. It increases the safety margin where the rope joins or runs over a sharp edge. In emergency, also, the party have a very much larger scope for abseiling with. It is considerably more useful than a single rope of equal total strength.

5. Have a second man who understands how to belay. If not, teach him.

6. *Remember* you can only give a dynamic belay when there is free rope available to run through your hands. Therefore avoid leading out *all* the rope.

Practical Drop Testing.

Tar buck discusses dynamic belaying (*loc. cit.*). However, it may be useful to enable the reader to assess his ability as a static belayer. Find a steep short face with a good belay at the top. Get a companion to climb up to a point beneath you and throw himself off with small amounts of slack. The equation beneath shows the retarding force the belayer must develop to dead-stop the falling man—the static belay. Remember to be tightly roped to the belay. Measurement of your dynamic retarding force can only be achieved satisfactorily by throwing dummy loads off and holding them. Practice near the ground first. It usually requires experience to hold a man. Leather gloves are vastly superior to wool in their grip. Prove this for yourself.

Static Belay Retarding Force Measurement.—From Appendix A,

$$\frac{P^2}{W} - 2P = \frac{4 \cdot 25QT}{N}$$

for new nylon rope,

- where T=breaking load of rope,
 Q=feet of slack,
 N=rope length (feet) between belayer and climber,
 P=retarding force developed, and
 W=weight of man falling off.

Example C.—Man of 175 lb. falls off with 3 feet of slack in 8 feet of full-weight nylon rope.

$$\frac{425QT}{N} = \frac{4.25 \times 3 \times 3,500}{8} = 5,250 = \frac{P^2}{175} - 2P,$$

that is, $P = 1,130$ lb.

Dynamic Belay Retarding Force Measurement.

$$S = \frac{64h}{(d-g)},$$

therefore $d = \frac{64h}{S} + 32,$

$$P = \frac{W}{32}d,$$

where S = distance of arresting slide, feet,

h = height above belay that weight falls off ($2h$ = height of fall),

g = acceleration of gravity = 32 feet/s.s.,

d = deceleration applied by belayer,

W = weight of falling weight,

P = dynamic retarding force.

Example D.—Weight of 50 lb. chucked off 20 feet above belayer. The rope tightens, and the weight slides 10 feet before coming to rest. What P has the second exerted ?

$$S = 10, h = 20,$$

therefore $d = \frac{64 \times 20}{10} + 32 = 160,$

$$P = \frac{W \cdot d}{32} = \frac{50}{32} \times 160 = 250 \text{ lb.}$$

Example E.—Weight of 175 lb. chucked off 20 feet above belayer. The rope tightens and the weight then slides a farther 14 feet before coming to rest. What P has the second man exerted ?

$$S = 14, h = 20,$$

therefore, $d = \frac{64 \times 20}{14} + 32 = 123,$

$$P = \frac{W \cdot d}{32} = \frac{175 \times 123}{32} = 670 \text{ lb.}$$

A good belayer will exert this.

ACKNOWLEDGMENTS

The writers wish to record their thanks to British Ropes Ltd. for their helpful attitude in supplying information and to Mr Norman Raby (U.K. Atomic Energy Authority) for his critical discussion of the problems involved and his help in practical testing.

SPRING CLIMBS IN THE HIGH ATLAS.**By Tom Weir.**

To swelter in desert heat haze of a morning, yet by afternoon walk among cool pools of blue water reflecting shining snow peaks is the reward of going to the great range of mountains called the High Atlas which rise north of the Sahara Desert.

It was 1st April 1955 when Douglas Scott and I arrived in Marrakesh after a 15-hour bus journey that had taken us from the international town of Tangier, through Spanish into French Morocco, and across the wide plains of North Africa to the darkness of this city of the Berbers. Skis, ice-axes, camping kit, could wait in the bus until morning. All we wanted was bed to shake off fatigue and forget queasy stomachs upset by too much swinging along Moroccan roads. A one-star hotel in the native quarter felt like the Ritz, and we awoke with glad excitement, to be here at last after many patience-trying hold-ups in Tangier.

In the Himalayas we had been lucky on our first morning to see the great range standing clear above the foothills. The same good fortune was with us here. Beyond the palms and narrow alleys of ochre and pink houses was a glistening wall of ice-mountains, rising clear above a veil of heat haze which hid their lower slopes. Even from here we could see something of a jagged crest. It was a vision to treasure all the more because we never saw it again from Marrakesh.

Except for an article by that great pioneer Mr Bentley Beetham and a well-produced little Guide Book to the Toubkal massif, we had little information on the range, but we knew there was an enthusiastic section of the French Alpine Club in Morocco who had huts in the mountains. Our first job then in Marrakesh was to track down information, buy maps, get food, and find out what transport we could get to take us to the mountains.

Unfortunately there was little time to absorb the

atmosphere of the Medina, as this native part of Marrakesh is called. In a troubled land we had been warned not to stay in it, but we instantly felt it a friendly place, where even the beggars were polite, though we found we were more likely to get a scowl than a smile if we produced a camera, because the camera is associated with the Evil Eye. It was a Saturday morning, and our first bit of luck was to discover that a bus was due to leave for the Atlas ski grounds at 5 P.M. In a mad dash between the French and Arab towns, sweat dripping from our brows, we caught that bus with literally seconds to spare. Its only other occupants were half a dozen French skiers.

We had been baked in the heat of Marrakesh. Now we headed straight for the Atlas over arid land made colourful by green fields irrigated by water channels in the red earth where Berbers grazed their sheep and goats, every moment the Atlas seeming to draw nearer and nearer. How abruptly they rise we realised when suddenly we were off the plain and zigzagging upwards, then into a wooded ravine with trees askew on the skyline, and a thrilling surprise when we cleared the crest to find ourselves among the snows, with far below the quilted patchwork of green and pink which is the plain of Marrakesh. Now and then we glimpsed Berber villages perched inaccessibly on the summits of pointed tops, no road seeming to lead to their dun-coloured pinnacles. Still we climbed on a crazy road, slanting among rock buttresses or screeching round one hairpin after another. How much farther could the bus go, we wondered, as a great rock curtain loomed ahead. Our destination lay behind it in the recess known as Oukamaiden. Here at 8,900 feet, in less than 3 hours, was the Refuge; and it was hard to believe we were in Africa as we stepped into a room full of the blare of jazz music and crammed with smartly dressed skiers.

How amazing the contrast really was we realised in the morning, when we stepped outside to look at the mountains and found ourselves among green meadows and pools of blue water, starred round their banks with

tiny Alpine daffodils of the most vivid yellow hue. And as we looked there was the chatter of birdsong from a wheatear, the most vivid grey, black and white one I had ever seen. It was the rare specimen known as Seebohm's wheatear. Near it were the first shore-larks I had ever encountered, rust-coloured on head and nape and black-and-white round the eyes.

There is a ski-tow here at Ouka, giving a lift of some thousand feet. Using it, there was the same magic-carpet feeling as we were whisked from the green meadows to the snows in an instant, and looking down on a cloud sea speckling the distant plain with wads of cumulus. The snow was not easy to ski on, being steep and excessively icy in the early morning, but it was perfect by 10 A.M., though the heat of the sun spoiled it by midday. Not that ski-ing mattered to us. Our interest was in the Toubkal and Aksoual massifs which, seen from the summit of Oukamaiden, rose as a mysterious icy wall stretching south-west to south-east, gleaming rather than glittering over a complication of gorges. Careful inspection showed that the wall was an illusion, and that we were in reality looking on a ridge of peaky summits linked to form a huge crest, each peak seamed with exciting-looking rock buttresses and snow gullies.

By reconnaissance from the summit of Oukamaiden the ideal way of getting to this south-eastern part of the range was by a pass called the Tizi n' Ouadi, which we aimed to cross with 4 days' food and our sleeping kit. What we wanted now was a porter to help carry our gear over the pass, and we were lucky to get a young Berber called Bogema, who volunteered to come with us for 12s., a loaf of bread being his only personal accoutrement.

But first we had a climb on a peak adjacent to Oukamaiden, which is called Angour. According to our Guide Book its west buttress was unmarked by any climb: so we left early one delightful morning and plodded up to it, feeling anything but delightful ourselves, as both of us had sore tummies. Once on the rocks, however, we forgot all about them, through-leading on sound reddish-coloured rock absolutely devoid of vegetation.

Always we were expecting something to stop us on this steep 1,000-foot rock buttress, but it went splendidly and was perhaps Mild Severe in standard. From the summit of the peak we saw the north face of Aksoual and agreed that this 6,000-foot wall should be our next objective after we had moved across the pass.

We were away next afternoon, over the snowy pass with our porter, and now we were in the real Atlas, in a roadless and rocky mountain country devoid of vegetation. The snow peaks, half-hidden by drifting mist, appeared enormous over the gorge of the glen we were traversing. Contouring, but losing height all the time, we looked down suddenly on the Berber village of Tachedirt, our destination, like a castle in its fortifications, built so into the mountain that the roof of one house was the staircase and the courtyard of the one above it. Bright green fields and the sparkle of irrigation channels were in vivid contrast to the stony slopes—a proof of what water can do to even the rockiest soil.

There is a hut at Tachedirt, at 7,700 feet and adjacent to the village, but it contains within its four walls only bedsteads, a table and a few chairs. We spent our first day in reconnaissance of Aksoual and saw that it is a wall, steeper in average angle than the north-east face of Ben Nevis, with about the same amount of continuous rock, but with much more winter snow lying on it. Our intention was to force a way as directly to the summit as possible, so we worked out the links, taking note at the same time of a great *couloir* that promised an easy descent if we could traverse over the summit rocks to it.

The fuel of these parts is a low prickly shrub which burns with explosive vigour, and it was Good Friday morning when we rose at 5 A.M. and boiled our eggs in the tea water, made up a "piece" and set off for the peak, already tinged on its icy top with the red rays of the rising sun.

First we had to descend several hundred feet to the river, ford it in a series of leaps, then contour a steep hill-shoulder lying between us and the glen draining our mountain. In daylight this took only an hour. In

darkness, as we were to discover some 14 hours later, this was a very different and heart-breaking story. It was refreshingly cool, and the snow was ice-hard even at the foot of the mountain. We had to cut steps at even modest angles, but we made height quickly, up a steep gully at first and then on to iced rocks, stepping into sunshine on a silver saddle, surrounded by red rock towers projecting dizzily against the blue sky or framed against a background of snow.

The reconnaissance was paying dividends now. Without loss of time we were able to select a rock rib which we knew would lead us to a great overhang which we intended to by-pass on the snow to its left. What we did not bargain for was the snow getting soft quite so quickly: so we stayed on the rocks, playing a game of hide-and-seek between the overhang and the snow, enjoying some interesting rock climbing. And so it continued for over 3,000 feet, our real landmark being a rock arête immediately below the summit, which we intended to climb in 1,500 feet to the top. It proved much easier than it looked, so much so that we were able to move together all the way, and it was 2.30 P.M. when we stepped off it on to the highest point, the climb having taken a full 8 hours with only three halts for food—delightful halts on sunny ledges.

But something ominous was happening to the weather. It was not in the direction of the Sahara, where airships of cloud were stretched evenly on blue sky as if painted on canvas; or even at our backdoor around Toubkal and the pinnacled crest of this highest part of the Atlas. The threat lay to the east where an inky wall was slowly advancing. We did not take that weather threat too seriously. Our real concern was the *couloir* of descent and how to get to it, for between us and it was a series of towers of formidable aspect. If we tried them and failed we would need to retrace our steps back over this top. On the other hand we did not wish to give up without trying, for even the most formidable-looking obstacles can have unsuspected lines of weakness.

A few hundred feet down and we were at the base of



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HIGH ATLAS MOUNTAINS

Toubkal, 13,675 ft. (left), Ouanoukrim ridges on its right

Tom Weir

the first tower which looked even steeper from below than it did from above. One try was enough to convince us there was no quick way up it. Better try to outflank it by the south wall, hoping to reach the base of tower No. 2. If this failed we would need to retreat, however strenuous that might be. We did not like the look of the traverse on high-angle, rotten snow piled between the crags over a fair drop, but it took us where we wanted, to the foot of the next tower. Its beetling surface had a very hostile air with mist curling round it from the bad weather now imminent.

There was one line of weakness which Scott promptly attacked, and in 40 feet of difficult climbing he had found the key to the easier upper part, whose airy crest we trod delicately to an abrupt drop between us and the final tower. This last one had an ice-covered ledge running obliquely across it. But Scott, whose blood was up, scorned it, choosing its steepest arête in preference to this easier line, vanquishing its overhanging edge as if he were starting the day and not on the exposed top of a remote mountain after long hours of hard climbing.

We were up, but the mist had set us a new problem of finding the *couloir* on which our faith was pinned. We could not be far away from it, we knew; the difficulty was that every dimly seen gully looked the same. We started down, carefully at first: then, when no rocks interrupted, we decided to glissade, shooting down for 1,000 feet to suddenly throw ourselves back on our axes and hold hard. Beneath us was a void of rock hung with ice. To go back up was not to be thought of. The rope was uncoiled, and down we went by a series of steep and awkward pitches.

Fortunately it was not a long section, nor was it a nerve-racking place to be in. Beneath us was the open gully we had been hoping to find. The light was going fast, and it was a relief when we clambered down the last ice-pitch and fairly shot down the next thousand feet in a few minutes. But, fast as we were moving, the darkness was winning the race; not only the darkness of night but the darkness of storm. There was an amusing incident

here when we stopped to get out the torch and while Scott fumbled about in the rucksack for the battery I tried to tie a bootlace. Then, as Scott tried the torch there was a flash, which I thought was the light, and so did he. A crack of thunder, immediately followed by stinging hailstones the size of small peas, told us our mistake. "We're going to get soaked," said Scott. He was right.

Torch in hand and blinded by frequent stabs of lightning, we stumbled down the *couloir*, keeping to the centre as much as possible in order to avoid holes like miniature crevasses which penetrated to the stream running far below. The peaks were clear now, as we could see when each stab of lightning outlined them in quivering purple. There was a nightmarish quality about the remainder of the descent, not to mention the wet world of ravines and waterfalls, loose stones and side-*nallaks* which neither of us could remember from morning. The really astonishing thing was that we felt so fresh, the fatigue of the summit having been replaced by a dogged energy which made us feel we could go on for ever if necessary. It was a great moment when at last the hut loomed ahead, though it had its hour of bitterness when we found we could not unlock the door behind which we had hidden our food. We went to bed supperless.

The neighbour of Aksoual is Iguenouane (3,716 metres), a rather rocky comb with long snowy approach slopes, but with a rather fine buttress facing north. We climbed this buttress, whose overhanging lower ice-filled chimney proved to be the crux. It led to a skyline of broken pinnacles, more sensational to look at than difficult. The view into Berber villages in the Kassaria valley far below was memorable, as was a magnificent glissade down the wet snow of the upper corrie, that made short work of 3,000 feet.

That was phase one of the campaign. Phase two began when we were joined by Jim Green of the Carlisle Mountaineering Club, and we set off from Asni with ten days' supply of food on two mules for Toubkal,

climbing to 10,496 feet to sleep in the Neltner Refuge below a ring of craggy summits. What a contrast there is between this Alpine world of snow and the dry burnt-up country across the Tizi n' Ouanoumn which faces south to the Sahara. We saw it next day when we took skis to this high pass to reconnoitre the faces of the mountains and plan an attack on Toubkal. The ski-run back to the hut on spring snow was memorable.

We chose the Toubkal arête for next day, a long route pioneered by Bentley Beetham, which gave us a first-rate climb with every kind of rock problem from chimneys and narrow edges to an abseil from a square-cut tower too awkward to climb down with any margin of safety. As usual the rock was sound, but for once we were cold on a climb, even wearing all our jerseys and gloves. It was snowing on top, so we were denied the most extensive view in the Atlas. This was a pity, for the situation of the mountain so close to the Sahara Desert makes it unique.

During the climb on Toubkal we had seen that the face of Afella n' Ouanoukrim might give a climb if we could keep to the crest of the arête rather than follow the route shown in the Guide Book. It proved to be quite difficult and rather loose in places, with an awkward traverse eastward round a bulge after 600 feet. Ten feet of this overhang took us to another steep nose, but it would not go direct, so we had to go east again on to more yielding rock which took us on to the summit.

The ridge here is like a narrower version of the Cuillin, becoming a true knife-edge beyond a point marked 4,040 metres on the map, much pinnaced and exposed. This leads to the Clocheton, a remarkable trio of teeth one of which is cleft by a great chimney. These looked difficult, but proved to be more exciting than anything else, especially jumping across the rift which splits the topmost pinnacle and then clambering up the north Clocheton by one of the most exposed walls I have ever seen. We climbed the west edge, enjoying the feeling of a mighty drop of 2,000 feet below us, thankful all the same for fine jugs to hold on to.

Now came the best climb of all, on Tazerhart, when we went round to the Refuge Lépiney to look on the iciest face in the Atlas, whose *couloirs* give winter climbs in midsummer. Now they were out of condition until some of the excess snow slid off. We chose instead the median arête which is graded *très difficile*; and so we found its huge, soaring edge which rises a full 3,000 feet from the snows. There was an epic quality about this, due partly to its length, and partly to the airy situation above the greatest cloud sea I have ever known, a cloud sea that, indeed, covered the whole of Morocco and brought bad and unseasonable weather. Fortunately it held off for most of the day, the clouds gradually rising as we climbed and the mist twining dramatically round the pinnacles of the huge knife-edge.

That climb extended us, forcing us at one point on to its east wall by a snowy ledge—not a nice place, but just as we were getting worried there rose a line of weakness in the steep, iced rock. It led us up, and then the angle eased back from the vertical. Racing the mist we emerged on the summit in sunshine. We were lucky on Tazerhart, because it is one of the most remarkable summits in the Atlas, and we were privileged to walk over it, and even select the route down before we were enveloped in snowstorm. Tazerhart is remarkable because it is a plateau, a sort of Greenland ice-cap in miniature, with an affinity to a Cairngorm peak in its flatness. So dim became the visibility that we had difficulty in finding the hut where Green was keeping warm for us a huge pot of soup and spaghetti.

What the Atlas are like in summer I have little idea, but in spring they strike me as being one of the finest mountain ranges on which I have ever climbed. And not least of their attractions is the feeling of being in another world, for life has scarcely changed, I imagine, since Biblical times. The men in their monk-like hooded robes take their sheep and goats to the hills at morning, returning with them at evening, the women carrying water from the well, milking the cows, or bringing down bundles of prickly firewood from the hills. Villagers



April 1955

PINNACLES OF OUANOUKRIM IN THE HIGH ATLAS

Central Pinnacles are the Clocheton.

Tom Weir

gave us the Arab greeting *La Bas*, the hand upraised to show that it concealed no weapon, touching it with their lips at the end of their greeting.

Nor was this an expensive trip. We were away from Britain just five weeks, flying to Gibraltar, and going by boat and bus thereafter to Marrakesh. We came back overland to Algiers in Green's car, crossed the Mediterranean to Marseilles, and by train home from there. The cost was just over £100 each, including hotels at Tangier, Gibraltar and Marrakesh, and one night at Asni. The cost of Berber porters and mules worked out at £1 per man per day, mules included.

The maps we got were on the scale of 1 in 20,000 and we found them difficult to read and interpret, though this is not to belittle their value. The Michelin map on the scale of 1 centimetre to 10 kilometres proved most useful for general travel, sheet No. 171 being most valuable. The French language will take you anywhere in Morocco. Little climbing seems to be done in the spring by Frenchmen, though considerable ski-ing is done in the high peaks.

NEW CLIMBS.

CAIRNGORMS AND LOCHNAGAR.

Lochnagar.

Eagle Buttress.—First winter ascent on 31st March 1956 by W. D. Brooker and J. M. Taylor. Time, 7 hours. Grade IV of Difficulty.

Good hard snow and an unusual amount of ice, although the rocks were not plastered. The start was beside Parallel Gully A, and a long left traverse was made at 200 ft. to the easy snow near the Ridge. Continuous step-cutting, often on ice, necessary to the foot of steep rocks, 300 ft. under the plateau. Traverse right (below rocks) led round a corner into centre of three V-grooves and a steep ice-pitch. Exit from groove by combined tactics, hingeing round a piton belay. Above this some steep rocks led to snow slope forming left bank of final chimney of Parallel Gully A. The route is to the right of the original route (1936) and was by the easiest possible line.

The Cathedral; N.E. Corrie; Transept Route was climbed on 1st April 1956 by R. H. Sellers, J. White and D. J. Ritchie. Length 350 feet and grade Severe. To the left of Central Buttress are three smaller ones around 300 feet in height. The central fluted buttress is the Cathedral and the climb is on sound rock. The left buttress has no climbing interest: that on the right is Sinister Buttress (see *Journal*, 1955, under "Miscellaneous"). This climb is on the left side of the Cathedral, starting 60 feet up from lowest rocks below a groove immediately right of the large tower seen 200 feet above.

Traverse hard right into and up groove until forced to traverse right on to wall, climbed to ledge with piton belay at foot of a second groove. Go 10 ft. up groove to a bulge and traverse 15 ft. right to a rib. Climb this for 60 ft., exposed and strenuous, to pulpit. Climb 8 ft. crack behind to grassy terrace. Go up leftwards to the base of a 50-ft. chimney. Climb chimney to the plateau.

Black Spout Pinnacle: The Link was climbed by W. D. Brooker and K. A. Grassick (through leads) on 16th June 1956. The grading is Very Severe in vibrans

and the length 350 feet. This route links Route I (Brooker, Sutherland) and Route II (Patey, Taylor) by following a fault from the Springboard on the first route to the start of the traverse pitch on the other, high up on the steep, central face of the Pinnacle. A sustained route on steep, sound rock.

Start at top right side of Springboard and enter a V-groove by short, awkward, right traverse. Climb groove 60 ft., past an unstable flake, to good stance on rib to right. Follow rib by a thin crack and traverse back to groove and up to a block (50 ft., H.S.). Move up and right, round huge block in corner to tiny recess under overhang (piton belay). Climb overhang (V.S.), following good crack slightly right to stance behind a great block at 40 ft. Now a big groove slants left and a prominent crack continues right. Follow the crack (V.S.) by chimneying, jamming, straddling. Near the top move left on to the face and slant up left to cross Route II and reach a huge, rusty piton belay in a crack. Climb the crack to big overhang above, using a small swinging block, and make an awkward move round to right into a recess (35 ft., V.S.). Escape by swinging up and creeping left between two overhangs, with one final awkward step leading to easier ground at 30 ft. Then it is easy to the Pinnacle top. (By climbing Smith's Pinnacle Face route, joining the Springboard and continuing up the Link one gets an excellent route of sustained severity.)

Miscellaneous.—(1) A mixed party of four did a short Difficult route, starting at the foot of Crumbling Cranny and finishing by the top pitch of the Stack. (2) The cracks between the Organ Pipes at the top of West Gully have all been climbed, except one which is blocked by overhanging chockstones. (3) At least three ascents of Smith's Pinnacle Face made this year. Piton at crux only used as running belay. (4) So-called crucial flake-hold at the crux of Eagle Ridge (absence erroneously reported) remained *in situ* until 1955, when it finally vanished. The climb remains Severe.

Creag an Dubh Loch; Minotaur.—This 400-foot Severe route was climbed by T. W. Patey and J. Smith on 21st October 1956. Between Central Gully and Labyrinth Edge is a lot of indefinite cliff spoilt by vegetation. Though unsatisfactory in line, the route is worth a visit. It follows a subsidiary rib joining main Central Gully Buttress about 200 feet below the top, and starts 150 feet down from the gully opening below.

Climb a 15-ft. pedestal set against a bulge, then steeply up a few feet before traversing left to an obvious chimney. From top of this

wet slabs lead up to recess with sloping floor (100-ft. run-out). Overhang on the left several times attempted unsuccessfully. Move down right instead, and climb steep rock for 80 ft. with rightward trend. The way is now obvious, with a delicate slab pitch at the top of this easy part. The last and hardest pitch follows a deep cleft with a strenuous exit at the top. Now follow (easily) up Central Gully Buttress to the top.

Aqueduct Variation to Hanging Garden Basin.—This 250-foot route, Very Difficult, was climbed by J. Smith and T. W. Patey on 21st October 1956. It is a more sporting approach than the usual one by the Terrace.

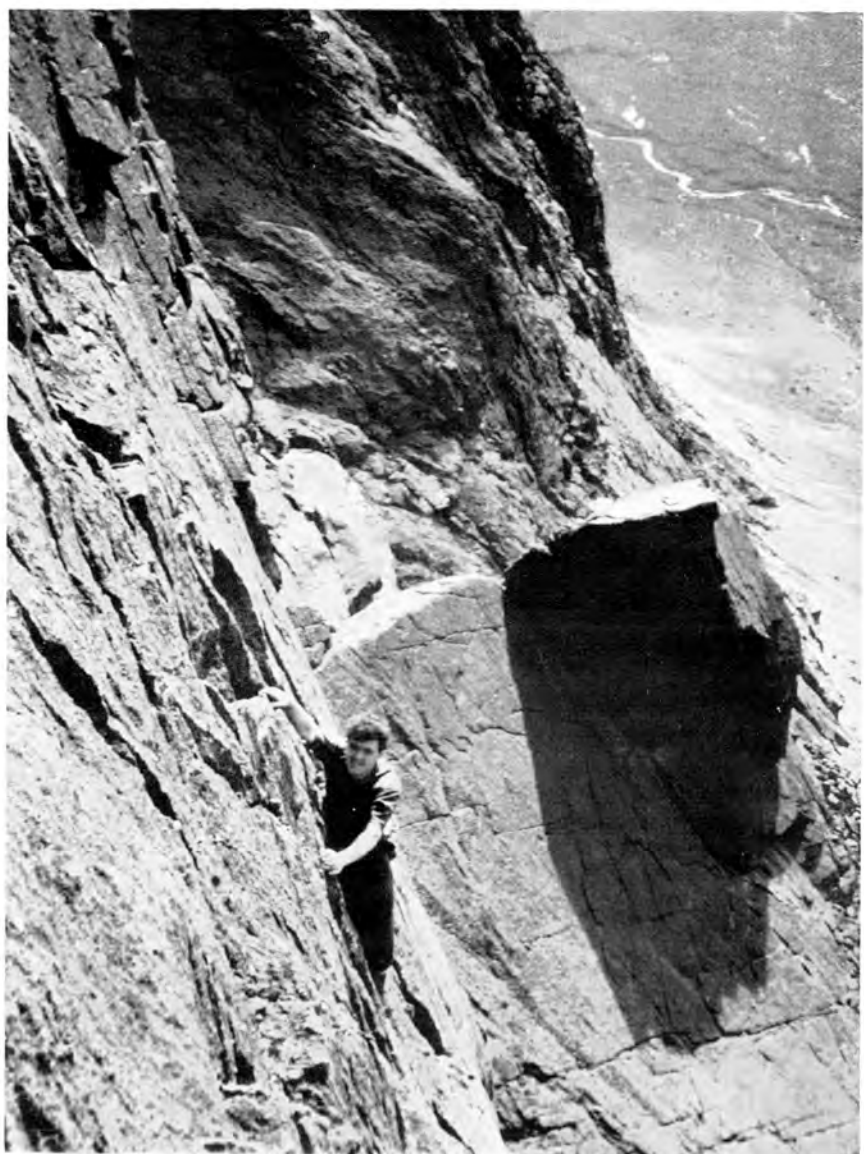
From foot of Labyrinth easy scrambling leftwards leads to a large terrace, going rightwards on to the face, below main upper terrace. Start at end of this terrace and ascend an obvious crack, often a waterspout, of which the first 15 ft. are the worst. The rest of the way to basin is obvious.

Sabre Cut.—First ascent (in winter conditions) by T. W. Patey, F. R. Malcolm and A. Thom on 13th January 1957. This is the 250-foot gully on the right-hand wall of Central Gully, immediately below Sabre Edge. Not a summer climb. It was climbed under very hard ice conditions and gave an exacting 3-hour climb. Icicle belays had to be used more than once (Grade IV).

Climb a 120-ft. groove to basin of hard snow. Steep ice close in to left wall led to an overhang of icicles. This was turned by a short traverse right to a steep trough and another very hard ice-pitch of 40 ft. Move left to reach very steep hard snow. Fifty feet to the top. Luckily there was no cornice.

Amphitheatre Route, N.E. Corrie.—First winter ascent by T. W. Patey, G. H. Leslie and S. Long on 10th March 1957 (Grade III). Previously visited in summer, this is primarily a winter route. It was first climbed in thaw conditions, which contributed largely to the fast time of 2½ hours. However, it was selected as being less exposed to avalanche than the other Lochnagar gullies.

Climb the first 150 ft. of Pinnacle Gully No. 1 to where a traverse is usually made to the right by a rock crevasse above the roof of the first cave. Instead, continue straight up a small snow gully to stance and belay on the rib on the left (80 ft.). The gully ends at a 50-ft. ice-chimney, the crux of the route and streaming with water on the first ascent. The chimney gives access to the Amphitheatre a few



June 1956

EASTERN BUTTRESS, SRON NA CICHE, SKYE

Alan Will climbing

J. V. L. Hay

feet to the right of Scarface route which here goes left on to the upper rib. There is a choice of route from the Amphitheatre which is fed from above by three snow gullies. That on the left in the corner next to Scarface Rib, and also the centre gully are usually capped by huge cornices. In a spirit of self-preservation the party selected the narrow easy-angled right-hand gully (250 ft.) where there were no cornice difficulties. (It ends on the plateau at the top of the ridge leading out to the Pinnacle.)

Ben Macdhui.

Coire Sputan Dearg; No. 2 Buttress; Amethyst Wall and Plumblin.—Plumblin is a variation of upper part of Amethyst Wall. Both climbs were made by R. W. P. Barclay and W. D. Brooker, using through-leads on 10th June 1956. Amethyst Wall is 400 feet Very Severe and Plumblin 130 feet Hard Severe. Both routes are steep and clean. The start is to the left of Pilgrim's Groove by a prominent 100-foot crack slanting leftwards.

Climb the crack to an exit on left. Scramble up 20 ft. and traverse down right on to the smooth face. Work up the face to the right by three flake cracks and then up an easy gangway to the left (70 ft., S.). The crest overhangs. Slant left up a 30-ft. slab to grassy platform. The Plumblin starts left of this, but Amethyst goes right for 15 ft. to a recess under a huge overhang, which is climbed by swinging up to the right to grasp a flake (V.S., using combined tactics). Now follow a vertical crack for 30 ft. to a stance. Climb slabs on crest to top.

Plumblin is a remarkable 100-ft. crack, seen high on the left from the grassy platform. Mantelshelf on to a tiny ledge, 10 ft. above. A low, left-handhold allows a swing across to a (V.S.) chimney. Stance is 15 ft. higher. Climb an overhang, enter the crack and follow it, treating with care an overhang of precarious blocks at the top. A 15-ft. chimney is straddled, with an exit to a good ledge on right. Plateau is easily gained in 100 ft.

Coire Sputan Dearg, Anchor Route.—The first winter ascent was made in heavy powder snow on 25th December 1955 by G. Adams and R. Barclay (both Etchachan Club), taking 2½ hours.

Start as for summer route, moving diagonally upwards and avoiding summer route by traversing right near the top. Piton used for safeguard on last move.

Coire Sputan Dearg; Janus, Left Leg.—This short and most enjoyable route is on the steep wall to the left of Janus Chimney. It was climbed on 12th April 1956 by J. Y. L. Hay, A. Will, J. Ross, C. Martin and G. Adams. It is of Very Severe grade.

Climb 15 ft. up groove at the foot of the ridge to small platform. Traverse right to the crest of arête, where a left swing on to a flake leads to main platform. Climb shallow depression above to foot of an obvious vertical crack with overhanging top. Use layback and traverse right to the crest, using pitons. Follow ridge above and gain final chimney of Janus.

Loch Avon Cliffs; Hell's Lum.—A variation finish by the obvious crack on the right wall was done by R. Barclay on 21st October 1956. Hell's Lum was climbed in full winter condition in the winter of 1955-56 by a party led by G. K. McLeod.

Carn Etchachan; Nom de Plume.—250 feet, Very Severe, was first climbed by R. W. P. Barclay and R. H. Sellers, through leads, using vibrams, on 12th August 1956. The start is 10 feet to the right of Python, by a vertical 60-foot crack.

Climb this by jamming, handling the small chockstones carefully. Then climb on to right wall with a final layback move to platform and belay at 60 ft. (S.). This is below a narrow 6-ft. chimney split into two cracks, with a fang of rock protruding above. Climb the short, strenuous chimney and pull over on to fang (floor of overhang). Move right on to grassy platform (V.S.), using runner under the overhang. Continue by mantelshelf on mossy ledges to a large platform at 100 ft. Climb the next deep-cut chimney to a huge diamond-shaped block surmounted by left wall, and continue to large platform. Join the final 60-ft. pitch of Python.

Carn Etchachan Face.—Direct Route; 800 feet. This winter route of Grade 4 standard takes a central line up the face, finishing a few yards from the summit cairn. The lower part is not a summer climb and the upper part borrows from Battlements route. The first ascent took 3½ hours in superb conditions of iron-hard snow, the axe being required for every step. As well as being the longest recorded winter climb in the Cairngorms it is one of the finest, but hard snow is needed. It was climbed by T. W. Patey and M. Smith on 10th February 1957.

Starting to the right of lowest rocks follow an ascending band of snow slanting leftwards. At 250 ft. follow a steep shelf to the right,

round a corner to the base of a steep, narrow chimney. Avoid constricted top of this by awkward exit to rib on the left. An easy groove leads to broken ground below the upper cliff. The easiest line goes right towards the groove, unseen from below, the summer crux of Battlements. Several runs-out of easier climbing here. (The groove gave a very steep 50 ft. ice-pitch, the hardest on the climb.) Then go left for 120 ft. to a short, steep rock wall, the last difficulty. One should allow 6 to 8 hours for the route for a party of two in more normal conditions.

Creagan a' Choire Etchachan.

The Talisman.—350 feet, Very Severe, in vibrans. Climbed by W. D. Brooker and K. A. Grassick (through leads) on 24th June 1956. The route follows the ridge on the edge of Bastion, bounding the Corridor on the left with a very smooth wall. It is distinct throughout from Corridor Edge route, which is more to the left. It is steep and clean and one of the best in the Cairngorms. The start is from a platform between two huge blocks against the wall, about 20 feet up the Corridor.

Climb crack behind the huge block to a ledge at 40 ft. Move right and climb huge slab on good holds to a piton belay at 40 ft. Traverse left on tiny footholds to a stance and poor belay on the crest (50 ft., S.). Detour left round an overhang and climb crest to a flake in a corner. Move left to a groove and up to a piton belay under an overhanging corner (70 ft., H.S.). Climb the corner by a shoulder (V.S.) to excellent stance. Crest is easy for 30 ft. and one could escape to the left. But the following 120 ft. gives continuously hard climbing up the slabby crest, sometimes using holds on the sheer right wall.

Djibangi, Crimson Slabs.—350 feet, Very Severe, was climbed by J. Y. L. Hay, R. Wiseman and A. Cowie on 22nd July 1956. This route is the counterpart of Patey's original Crimson Slabs route (see *Journal*, 1955), and follows the line of the left-hand of two *dièdres*. Like Talisman it is a first-rate climb, better than Crimson Slabs route, though perhaps not so hard. Two pitons were used for direct aid.

The first attempt on this route, on 10th April 1956, though a failure due to adverse conditions, was a crucial factor in the eventual success a few months later, when unfortunately Will and Adams were not present.

Start at the grassy alcove beneath *dièdre*, and follow a diagonal crack leftward to the large platform overlooking the red chimney. Trend right and climb a small corner set in the middle of the slab to a stance 90 ft. above the platform (V.S.). Work up the corner to the overhang (piton), then continue up the corner (piton) to a stance on the rib on the right (120 ft. of continuous hard climbing, the crux of the route). Ascend easy grassy grooves to the final slab, which is climbed by the last two pitches of Patey's route. In good conditions the two pitons may prove unnecessary in future.

Original Crimson Slabs Route, Direct Start.—Hard Severe. Climbed on 23rd September 1956 by J. Y. L. Hay and G. Adams.

This gives a much finer start than the original traverse from the right. It goes from a grassy alcove directly beneath Djibangi, beside an obvious right-angled corner. Ascend obliquely to the right for 30 ft., beyond an obvious shallow groove. Step left into groove and ascend to top. Escape to right, and easier climbing leads to large ledge at foot of main corner of Crimson Slabs.

Djibangi was first attempted in bitter conditions at Easter 1956, when the party (Hay, Will and Adams) were turned back half-way up. But they found an old abseil piton almost rusted through. There is no knowledge of the earlier explorer. After the first complete ascent in superb, dry conditions a second was made later by a party of four in very cold and wet weather, and two of the party, including a lady, abseiled off after the main difficulty was passed. The piton at the top of Crimson Slabs has been removed as being no longer necessary. There are still possibilities on the cliff, including a thin crack ascending in an absolutely straight line (from the end of Direct Start to Crimson Slabs) for about two-thirds of the height of the cliff. The party called it Will Power, but the crack remains unclimbed so far.

Quartz Vein Edge.—First winter ascent, 29th December 1956, by J. Y. L. Hay, G. Adams and A. Thom. Leads shared (Grade II). Hard snow-ice throughout except for the final wall which carried a heavy coating of fresh snow. Difficulties were fairly continuous and the final wall, which was climbed in the dark, provided the crux. Time, 3½ hours.

Beinn a' Bhuird—Mitre Ridge, N.W. Gully.—This was first climbed under winter conditions on 16th December 1956 by R. H. Sellers and G. Adams. The route was on hard snow but of no great difficulty.



Summer

J. V. L. Hay



Winter

J. V. L. Hay

DJIBANGI AND CRIMSON SLABS ROUTES ON CREAGAN A' CHOIRE ETCHACHAN

The arrow on winter photo indicates height reached by J. V. L. Hay, climbing solo, before Xmas 1936. A thaw compelled retreat

NORTH WEST REGION.

Kintail—*Sgurr nan Saighead, California*.—250 feet, Severe at crux, remainder Difficult and Very Difficult. Climbed by J. H. Barber and C. A. Simpson (both E.U.M.C.). Through leads. The climb is on the eastern cliffs of *Sgurr nan Saighead*. Approaching from *Gleann Lichd* the climb lies at the apex of the left-hand of the two *large* scree cones. It is an obvious S-shaped crack. The start is cairned and arrowed.

The chimney was climbed for about 25 ft. and then the right wall climbed for 40 ft.; a further 30 ft. of loose stones led to a belay. A much narrower chimney was climbed for 30 ft. and the next 8 ft. (crux) on the wall; a further 70 ft. led to a belay. Fifty feet of scrambling up and leftwards led to grass, by which the party returned to the start.

Sgurr nan Saighead, Kintail.—The north-east face of this mountain is composed of irregular rock buttresses divided by several deep, narrow gullies. The *Forked Gully*, 400 feet, was climbed by J. H. Barber (S.M.C.) and C. A. Simpson (E.U.M.C.) on 2nd January 1957 with through leads. Under the conditions prevailing this gave a good snow climb finishing with a 12-foot ice-pitch and a spectacular exit to the summit ridge of the mountain.

It is the deep, prominent gully in the centre of the face, with a wide scree cone beneath it. After about 150 ft. of easy step-cutting the left-hand fork was entered. In the centre of the upper part the gully narrowed to about 3 ft. in width and so continued for about 100 ft. This section was well iced. Above this was one ice-pitch, which under better conditions would probably be longer. The average angle of the left fork was about 60 degrees, and the exit was steep but straightforward. The right fork of this gully, if filled with snow, would also give an enjoyable climb.

Sgurr na Carnach.—The north side of this mountain is very broken and presents one definite gully, leading from the foot of the face to the summit. It is well recognised, when approached from the north, by its similarity to a dog's hind leg. The *Dog's Leg Gully*, 550 feet, was climbed by J. H. Barber and Gordon Burns (E.U.M.C.) on 3rd January 1957 by through leads.

Start in the wide corridor to the left of a prominent rock buttress and climb up for about 100 ft. on easy snow. At this point the gully divides, the right fork continuing up to the western ridge of the mountain and the left fork being blocked by a bluff of rock and small ledges, above which the gully leads straight to the summit. This bluff gave some difficulty as it was well iced. The rest of the gully was straightforward and the snow hard. The finish is at about 10 yds. to the west of the summit.

Sgurr Fhuaran, North Face.—An obvious gully splits this face from top to bottom, with a triple fork in the upper reaches. Height approximately 700 feet. Climbed by J. G. Burns and H. Kindness on 2nd January 1957. Time, 3 hours.

In the lower half of the gully three steep snow-ice pitches of 15, 25 and 40 feet climbed. Centre fork followed. A steep straightforward snow slope led to vertical exit at the summit.

Solo Gully.—350 feet, climbed by J. G. Burns in 1 hour on 3rd January 1957.

An obvious line on left side of corrie between Sgurr na Ciste Duibhe and Coirein nan Spainteach. Climbed in crampons, straightforward with two very short ice steps. Exit to ridge, 200 yards from summit of Sgurr nan Spainteach.

Liathach—*Coire na Caime.*—P.C. Buttress is separated by a broad gully from the buttresses of the Fasarinen Pinnacles. The first buttress to the left of this gully is double, with a poorly defined gully up its centre. The left-hand portion of this rather imposing-looking buttress was climbed on 11th April 1955 by Scott Johnstone, W. A. Read and D. Niven. The climb is of no merit, being disappointingly grassy below and disgustingly loose farther up. It is not recommended.

An Teallach—*Coire a' Ghlas Thuill—Minor Rib.*—Winter ascent. Climbed by R. Barclay and W. D. Brooker (through leads) on 15th April 1956. By far the largest buttress in the coire lies on the left and has been named Main Rib. On its right and divided from it by a long narrow gully is Minor Rib.

For nearly 200 ft. the crest was simple and then came a vertical wall climbed in the centre by a crack and mantelshelf. Higher up was a jutting fang of rock passed on the right. The rib then reared

in a tower which was climbed by a chimney on the right. (Slanting left up the face of the tower was a most inviting crack which might make the best summer route.) The ridge now rose in a series of easy steps until it merged with the gully on the left. Directly above, the obvious route was by a steep wall, well broken by cracks, but lack of time demanded that a gully on the right of the wall be followed for the upper 300 ft. The angle was easy and only two small ice-pitches were found in the gully. The climb is sound throughout and the route, not unlike Observatory Ridge on Nevis, would be about very difficult in summer. It is about 1,000 ft. long.

Stack Polly.—When viewed from the road below it the mountain appears to have six buttresses. No. 1 Buttress is the West Buttress and No. 6 is the East Buttress. Nos. 1 and 2 Buttresses appear to be rounded and between them lies a steep-walled amphitheatre. Between Nos. 2 and 3 Buttresses lies the most westerly of the light-coloured scree-filled gullies which descend from the summit ridge. Nos. 3 and 4 Buttresses are castellated.

The rounded appearance of No. 2 Buttress is deceptive; the crest is in fact a narrow ridge, especially in the upper half where it is possible to straddle it above an impressive drop. No. 3 Buttress has one large tower which rises from the scree-gully some distance above its foot.

No. 2 Buttress.—Start from the scree-gully about 50 ft. above the lowest rocks along a ledge to a monumental thread belay. Artificial, but interesting climbing (first pitch difficult, rest moderate) follows on the crest of the ridge, becoming progressively less artificial until, after a slabby section, the extremely narrow portion of the ridge is traversed with the aid, at one point, of a doubled-rope handhold. The steep final tower is climbed direct (difficult) in an excellent situation. This 350-ft. climb is recommended.

No. 3 Buttress.—The prominent steep tower mentioned above was climbed by a crack which slants across its face from left to right. This is a scrappy climb, which could be made artificially more difficult by following the rocks to the left of the crack. Moderate: not recommended.

No. 4 Buttress.—This is too broken up for good continuous climbing. It provided paternal diversion during a family traverse of Stack Polly.

Nos. 2 and 3 Buttresses were climbed on 2nd April 1956 by Scott Johnstone and Molly Johnstone (L.S.C.C.), while No. 4 Buttress was investigated by Scott Johnstone in September 1955.

Cona Mheall—*Achininver Pinnacle*.—Not knowing of the previous ascent of this crag (*Journal*, Vol. 26, p. 52) the Johnstones repeated the climb on 3rd April 1956. The upper half of the route was ascended first slightly to the left of the crest then slightly to the right, by way of an awkward 25-foot crack. This variant apparently avoids the left traverse made by the original party.

Ben Hope—*Petticoat Ridge*.—Scott Johnstone and Molly Johnstone (L.S.C.C.). 1st April 1956.

The ridge of Bell's climb is bounded on the left by a funnel-shaped gully and on the right by a steep grassy rake (a gully near its bottom) from which the right-hand wall of the ridge apparently rises in a series of steep slabby towers. One of these towers, on which lies a prominent square-cut pinnacle, rises in a ridge from the grassy saddle at the top of the rake, while a lower tower rises in a ridge from the rake about 200 ft. below the saddle. This latter ridge was climbed. It proved to be moderate (difficult if the lower steep section is climbed) and disappointingly artificial as easy ground was always easily accessible on the right of the climb. The grassy rake was difficult of access and in the conditions which prevailed was entered by a circuitous route from the right. The steep lower gully is probably climbable. While the route is of no great difficulty, it is an excellent way to the top of the mountain and has grand rock scenery and distant views. The climb was named for geological reasons. There is scope for further climbing hereabouts.

Ben Hope is a curiously shaped mountain, with a flat, plateau-like summit and narrow northerly ridge. Part of this northerly ridge forms the upper section of Bell's climb and apparently includes the "steep exposed corner" of that route. This corner is distinctly difficult on the descent. Unless hill-walkers are willing to make the long detour mentioned in the *Guide*, the north-south traverse of the mountain involves the negotiation of this *mauvais pas*, on which the use of a rope is distinctly comforting.

In several publications the rocks of Ben Hope are referred to as Torridonian Sandstone. This is not the case. The rock is a variety of Moine granulite with a sheet, or sheets, of hornblende-schist. Ben Hope is one of the few really impressive crags—and one of the very few with good climbing—whose rocks belong to the Moine assemblage.

Fionn Loch Area.

The following new routes were done in the Carnmore, A'Mhaighdean, Beinn Dearg(s) area by members of the Cambridge U.M.C. during the past two years. A diagram of the Maiden Buttress climbs appears in *Cambridge Mountaineering*, 1956, and there may be one of the Carnmore Crag routes in 1957. Mr O'Hara writes that several accounts are from a short guide, cyclostyled for exploration purposes by the Club, and that more discoveries may be expected, and also that a more correct description of the start of Diagonal Route on Carnmore Crag ("Northern Highlands" Guide, p. 64) places it *between* the two prominent ribs on the lower face and nearer to the right-hand rib. The routes (see below) Fionn Buttress and Red Scar start well to the left of Diagonal and Botanist's Boulevard to its right. Poucher's Route starts 200 to 300 feet left of Fionn Buttress. One party repeated Wisdom Buttress (Cigar) of Ben Lair and fully approve its fine standard and continued interest.

Carnmore Crag—Happy Wanderer.—600 feet of wandering, Very Severe. The climb lies on the left wing of the crag and is seen almost side on from Carnmore. About 100 yards left of the base of the chimney the slabs lie back in steep heather. Above this is a wall, with a purple slab on its right, below great overhangs. Aim for the base of this slab.

(1) 100 ft. Unpleasant heather and easy slab to base of purple slab. Huge belay. (2) 50 ft. Traverse left, up into slab-floored recess, overhung. Step down from left end, and into another recess, with tiny tree. Belay. (3) 60 ft. Climb the vertical wall on the right, to the top of the rib. Arrive in another slab-floored recess, somewhat overhung. Piton belay at back. (4) 50 ft. Descend from belay and traverse across the vertical wall on the left, round the corner, and up into the second groove beyond. Continue up a little slab to grass ledge and peg belay. (5) 80 ft. Climb up easily to the overhang and follow the rake up to the right, out on to the main face above the first tier of overhangs. (6) 70 ft. Continue the traverse below the overhangs to the foot of an obviously climbable gap. (7) 120 ft. Continue the traverse to easy ground and finish unnecessarily up a short wall.

M. J. O'Hara, Miss M. Langmuir. 31st March 1956.

Fionn Buttress.—800 feet, Very Severe (just). Start about 40 yards left of the base of the left-hand rib on the lower wall and 20 yards right of the foot of Great Chimney. Ignore a prominent curving red line to the right.

(1) 150 ft. Up a short rib, then up a wall, trending left in steep grooves, aiming for an easier turfey groove. Severe, sustained for first 60 ft., then easier climbing to good belay at an overhang. (2) 90 ft. Up ledges to right, then up slab to base of steep wall. Aim right and belay in grassy niche. (3) 60 ft. Up the short overhanging crack above, then up the wall above, going left. (4) 150 ft. Up grass and easy scrambling in the bottom left corner of the great bay, tending a little right and arriving at the foot of a huge overhung corner and crack. Move out left from the heather patch and belay on ledge. (5) 70 ft. A few feet to left one can look round on to the main face of the buttress. Above and to the left is a flake. Gain this by ascending 15 ft. above belay, then traversing left. Belay at inconspicuous thread, just above an enormous green eye. (6, 7, 8) Continue up the crest of the arête, with magnificent exposure, in pitches of 70, 120 and 80 ft. This is the finest part of the climb.

M. J. O., G. J. Fraser, leading through. 29th March 1956.

Mr O'Hara's party thought this climb the finest in the region, and one of the best they had done anywhere, if not the very best.

The Red Scar.—510 feet, Very Severe. A good way into the heathery bay. Start at the foot of the left hand of the two prominent ribs on the lower face of the right flank of the crag.

(1) 70 ft. From overhung cave up crack, then diagonally right and up a slab to overhung ledge. (2) 50 ft. Evade overhang by gangway on left. Belay just short of red scar line. (3) 90 ft. Up a few feet, then cross the steep red wall to regain crest of the rib. Follow this variably until a right traverse leads to good ledges. Hard. (4) 50 ft. Up into red scar and climb crack to shelf, then crack beyond to recess. Poor belays. (5) 50 ft. Climb across wall to right, below the scar to niche, rock needs care, or run this into one pitch with (6) 100 ft. Continue traverse to heathery shelf. Belays high left. (7) 100 ft. Up red wall above, and aim left up easy ground to a forest of blocks.

M. J. O., R. E. Kendall. 17th June 1956.

Botanist's Boulevard.—425 feet, Severe. Heads into the lower right corner of the great bay. Start 100 feet right of large orange patch at base of the right hand of the two ribs on the lower face, on a heather-topped plinth.

(1) 95 ft. Up scoop above to left, then by rib on its right. Thread belay below *toit*. (2) 60 ft. Move right, up a wall, then back to grass belay. Piton belay. (3) 100 ft. Exit over left wall, to foot of an undercut slab. Up this, and into a steep corner after 60 ft. Then right over a bush, across a steep red wall, and up a rake to belay round a turf pinnacle. (4) 170 ft. Up wall above, then steep vegetation, to the bay.

J. H. Longland, M. J. Clay; H. B. Carslake, D. Rhodes; two ropes, leading through. 17th June 1956.

Most climbs on this crag deserve 150 feet of rope for comfort, and pitons are recommended, all belay pitons having been removed with the exception of two on Happy Wanderer, which may now be unsound due to efforts to dislodge them.

Torr na h'Iolaire—*Ipswich Rib*.—1,250 feet of climbing. Very Difficult on lowest wall, otherwise Difficult. Start at foot of rib below the very lowest wall, south-west face.

(1) 100 ft. Climb crest of rib to where it joins lower wall at a crack. (2) 70 ft. Climb up a few feet, traverse right, continue up in a niche beneath a bulging crack. (3) 60 ft. Step down to another ledge below right wall of niche, then up for 15 ft., and traverse a slab into an overhanging chimney. Exposed. Climb this to easy ground. 150 ft. of scrambling, and a short chimney pitch lead back to the crest of the ridge. 500 ft. of easy climbing up slabs follow, aiming for the foot of the rib which forms the left-hand wall of the prominent *dièdre* in the summit crag. (4) 60 ft. Climb chimney just right of rib, then up slabs to foot of steep crack. (5) 50 ft. Traverse right to platform below *dièdre*, mantelshelf, and traverse back to top of the crack. (6) 80 ft. Up chimney behind a flake, and follow slabs to top, keeping to crest of the ridge.

G. J. F., P. R. Steele, leading through. 27th March 1956.

Shark's Tooth.—Start from the broad gully at one-third height on north-west flank. Find a prominent pinnacle, the Tooth. Start just right of this.

(1) 70 ft. Follow a crack leading right. (2) Scramble to foot of steep slabs (cairn). Go left up these, 30 ft., to another terrace. Up this, then up a crack to a jammed chockstone. Hard. (3) 40 ft. Move left and up rib to a huge standing flake. Cross the terrace and go left up wall above into a chimney which leads to the top in 100 ft.

P. R. S., Miss M. Langmuir. 29th March 1956.

The account and start of the latter route are very confused.

A'Mhaighdean and Carnan Ban.—This mountain lies $2\frac{1}{2}$ miles south-east of Carnmore House. A good path leads over to Shenavall. After a steep ascent this turns left into a narrow glen. From the turn the west face of Carnan Ban is well seen. On this side it is very slabby. One climb has been done here. Towards the lower left part of this great sheet of slab, and about 200 yards left of the lip of the basin holding Fuar Loch Beag, is a prominent triangular mass of slab, coming to a point in an overhanging nose at the bottom right. Start at a narrow slab, with corner on its right, under the overhung nose.

Barndance.—390 feet, Difficult. A pleasant climb. Scope for greater things to its left.

(1) 40 ft. Up the slab, or corner. Belay on right, under overhang. (2) 50 ft. Move right to edge of big chimney. Up 5 ft., then back left on a ledge under the overhang. At left end move out and up to the left, exposed, into grooves running left. (3) 200 ft. Follow the grooves past a bulge, cross a rake slanting up right, and continue 100 ft. in same line until interest ceases.

M. J. O., Miss M. Langmuir. 28th March 1956.

The slabs to the left should give a harder climb. Those to the right might also be worth investigating; they lead up to Maiden Buttress.

Following up the path one passes below the north-west slope of Carnan Ban. There is a short crag immediately above the stream here. Three short climbs of about 100 to 150 feet were done here, towards right of crag, by P. R. S. and G. J. F. on 31st March 1956. Each about Very Difficult. Named P. G. and G. P.

Fuar Loch Beag Face of Carnan Ban.—This is the south face of the hill, and faces to the main mass of A'Mhaighdean. The main buttress here is the *Maiden Buttress* on the left. To its right there is a short easy buttress, then two steep outcrops of excellent rock in the back of the coire. These latter have not been explored. There are seven climbs on Maiden Buttress. From left to right they are:—

Strewth.—240 feet, Very Severe. Left flank of buttress, foot of second rib rising from grass gully. Small cairn.

(1) 40 ft. Climb the vertical rib to a platform. Hard. Good belays. (2) 80 ft. Climb the wall behind belay and gain a narrow slab. Climb the inside corner of this, step across at top into a crack. Belay on right. (3) Up easy slabs on left flank of buttress to a big ledge on this face after 60 ft. Then straight up the wall at right edge of ledge, and slabs to top.

M. J. O., R. E. K., leading through. 19th August 1955.

Ecstasy.—305 feet, Hard Severe. Start at foot of a downward pointing triangular slab, 20 feet below Strewth.

(1) 45 ft. Up the left edge of the slab. Awkward belay. (2) 45 ft. Swing out on to an ascending hand traverse and follow it past the obvious niche above, then climb the small slab and corner beyond. Big ledge. (3) 50 ft. Up the slab above the belay, traversing left above the overhang. (4) 90 ft. Follow left edge of buttress past two ledges on right. Belay at steeper slab. (5) 70 ft. Up the slab at the corner.

R. E. K., M. J. O., leading through. 20th August 1955.

Dishonour.—390 feet, Very Difficult. Start at base of slab at extreme left base of front face of buttress.

(1) 70 ft. Up the slab, left edge. Belay below wall. (2) 40 ft. Round corner on left, up on to loose flake, then step back. Peg belay in niche, or straight up wall. (3) 100 ft. Up the slab to ledge and large block. Move into chimney, then up left to near end of an invisible ledge. Belay just right of the ledge. (4) 80 ft. Step left above overhang, then up slab, then a groove, to terrace. (5) 100 ft. Climb the wall above just right of twin cracks, and second wall by a crack.

M. J. O., Miss M. Langmuir. 10th April 1955.

Twedledum.—335 feet, Severe. Foot of slab 15 feet right of cairn for Dishonour.

(1) Climb the slab between two lines of cracks to foot of wall. Belay left. (2) 25 ft. Climb up to the right, then up the overhang to the right. Belay in niche. Piton not in place. (3) 50 ft. Climb rib on right, and chimney crack beyond. Belay below steeper wall. (4) 90 ft. Up chimney, traverse left above overhang. Up the indefinite bay above by a good crack to terrace. (5) 120 ft. of scrambling on slabs just left of turf gully leads to the top.

R. E. K., M. J. O., leading through. 19th August 1955.

Modesty.—320 feet, Very Difficult. Start right of line of turf crack, centre of buttress.

(1) 180 ft. in all. Climb the slab to belay at a small ledge on left. Climb the slab above the belay, left of crack, then up latter

through the steeper wall. Continue to the terrace. (2) 50 ft. Climb the slabs ahead to thread belay below steeper section. (3) 90 ft. Layback flake in centre of wall, and up to top.

R. E. K., M. J. O., leading through. 19th August 1955.

Tweedledee.—340 feet, Severe. Start towards right of buttress, below an open chimney left of the big overhang.

(1) 60 ft. Up crack or slab to the foot of the chimney. (2) 30 ft. Up the chimney, hard. (3) 90 ft. Follow cracks for 60 ft., then up slab on left to terrace. Belay to blocks. (4) 80 ft. Ignore slabs above, left, and go right, up a slab and corner set back a bit. Belay at ledge. (5) 40 ft. Climb the diagonal crack in vertical wall on left; then climb overhanging nose from shelf above.

M. J. O., R. E. K., leading through. 18th August 1955.

Cakewalk.—270 feet, Difficult. Start at base of third narrow slab right of overhang. Slab is red.

(1) 100 ft. Climb the right edge of the slab. (2) 70 ft. Round wall on right, and up. (3) Climb wall beyond by an obvious crack, then up easy slabs to end of climbing.

M. J. O., R. E. K. 20th August 1955.

Immediately to the right of Maiden Buttress is an easy angled, very broken buttress. An easy climb follows the rocks all the way and is reasonably interesting.

Doddle.—250 ft., Moderate.

G. J. F., P. R. S., Miss M. Langmuir, M. J. O. 28th March 1956.

Am Bearta Buttress (*Strath Beinn Dearg*).—This crag lies on the west side of the glen running northwards behind the Beinn Deargs as seen from Shenavall. It is most easily reached from Carnmore, by path towards Shenavall to Lochan Feith Mhic'illeann, then by moor to Lochan na Bearta. Descend the left side of the stream from the loch. The buttress is on the left. It is not indicated at all on the 1-inch map, but is about 700 feet in height at the greatest extent. The general character is slabby. From left to right the structure is first a very broad buttress, composed of a series of walls. Apart from some detached parts at the lower left there are three major rock bands running right across the crag, of 200, 100 and 300 feet in ascending order. Broad terraces divide these, so routes are likely to be a bit interchangeable. Whereas

the two lower walls have several lines obvious upon them, the upper wall presents a very challenging problem, as yet untouched. To the right an indefinite grassy gully, or scoop, splits the crag vertically. To the right of this is a great sheet of slabs, narrow at the base, and terminated to the right by an indefinite gully beyond which is grass. This gully slants diagonally up to the right, and there are several steep slabs on this right wall of the crag that deserve attention. There are three climbs here, one left of the central grassy scoop and two on the sheet of slab immediately to its right.

Wallflower.—610 feet of climbing. Severe, perhaps Hard. Start at foot of rocks left of the central grassy scoop, immediately right of a prominent gully-chimney, with a cave in its right wall. A slabby face rises on the left. Cairn.

(1) 100 ft. Up the slabs, easy at first, then harder and harder, to reach a ledge with two saplings. Rock belays. (Avoid detached layback flake at half height, on the line leading to a prominent grass field and trees on the right, and from it trend left, finishing up a sort of crack line.) (2) 90 ft. Traverse turf ledge to right and climb the edge of the slab on good holds. Near top return left and go over a tiny overhang. Traverse left to turfy platform, and tree. (3) 50 ft. Up corner on left to a ledge; up slab above. Belay to trees. 200 ft. of scrambling above this leads to a huge terrace. Immediately opposite is an obvious groove with corner crack. (4) 50 ft. Up the groove by a variety of techniques, stepping left at the top into a minor groove. Piton useful, but will become easier with more gardening. 30 ft. of easy slab on the right then lead to the second terrace at a huge block. The wall above, of steep slabs, looks hard, but possible. (5) 40 ft. To the right the terrace falls away into the grassy scoop. Level with the terrace, and on the extreme right of the cliff, almost in the scoop, is an obvious tree. Traverse with carefully controlled breathing along a ledge at a level with the tree. Interesting. (6) 40 ft. Above to left is a chimney. Gain its foot. 10 ft. up on left is a ledge, blocks, and a thread belay low down at back. 200 ft. of climbing in chimney, and walls above lead to easy ground.

M. J. O., Miss M. Langmuir. 30th March 1956.

Ricepaper.—450 feet, Very Severe. Start (cairn) at foot of a minor rib below main slabs, just to the right of the central grassy scoop. A short pitch leads to terrace, then a wall to trees.

(1) 70 ft. Up the indefinite turfy rib. Belay below steep slabs. (2) 120 ft. Climb cracks in an indefinite scoop on right, diagonally right at first, then straight up to a small grassy ledge. Runners at 45 ft. Continue up to the right, then straight up on small holds, then traverse back left and up to the trees. Hard on first section. (3) 40 ft. Climb into the foot of the steep grey groove on the right. Belays at foot. (4) 90 ft. Crux. Climb the groove. Inconspicuous belay over top. Sustained, unprotected. (5) 70 ft. Continue more easily up cracks, passing left of a rib rising out of the slab. Line sling belay at small ledge well out on the left, below steeper wall. (6) 60 ft. Up the wall. 300 ft. of scrambling to top.

R. E. K., M. J. O., leading through. 22nd August 1955.

Good Friday Slab.—440 feet. Very Severe, Hard. Start (cairn) 30 yards right of above at foot of the right-hand gully bounding buttress.

(1) 150 ft. Up rib, then scoop to tree. Step left up wall into cracks leading to scoop. Left at top and on to traverse. Piton belay at stance out on right, below steeper section. (2) 45 ft. Traverse left below a steep band to grassy ledge. Up from right edge to a smaller ledge. Crux. Double reverse sprag useful. Step left and up crack to belays. (3) 80 ft. Follow crack on its left. (4) 75 ft. Climb slab on left of heathery groove to belays below undercut nose. The right edge of this slab was top-roped. Leader went out left, then back. (5) 40 ft. Traverse right under nose, and up to small tree at edge of groove. (6) 50 ft. Up groove, or traverse back on to rib, the latter not led.

G. J. F., P. R. S., leading through. 30th March 1956.

BEN NEVIS.

Minus One Direct.—850 feet, Very Severe. First ascent, 11th June 1956, by R. O. Downes, M. J. O'Hara (shared leads) and M. Prestige. The climb takes a fairly direct line up the buttress, using the first three pitches of North-eastern Grooves and turning the upper overhangs on the right. From the Meadow one could probably finish up Minus One Gully (bad rock), but it seems in every way desirable to regain the crest of the buttress.

Start as for North-eastern Grooves. (1) 75 ft. Up to the corner, and exit right on to a glacia. (2) 85 ft. Ascend a shallow groove in the wall above to a detached block at 20 ft. Climb it by the crack on its right (led and seconded without the aid of a sling), then climb short walls, moving left to a niche. (3) 65 ft. Step right and climb

easily to the top of a vast plinth. (4) 80 ft. Traverse right on to a nose above the overhang and ascend to a ledge. At the right-hand end of the ledge is an undercut groove; pull into this and climb it until it is possible to follow a ramp up to the right, finishing at a block on a platform. A piton was used. (5) 100 ft. Move up to the crack. Climb an overhang into it and continue up the wide crack above to the Meadow. Stance at the great detached flake well seen from Observatory Ridge. (6) 85 ft. Climb grooves on the left-hand side of the gully to a small stance. (7) 60 ft. Continue up the corner until one can traverse left across a loose wall into a fine niche. (8) 70 ft. Step left on to the crest of the buttress and climb cracks and slabs above to the great terrace. (9) 140 ft. Climb to the top of the 40-ft. flake, then up the crest easily to a curiously poised pedestal. (10) 90 ft. Follow the narrow shattered arête beyond, to join the N.E. Buttress above the Second Platform.

Sassenach; a Note.—The second ascent of this route was made on 13th June 1956 by R. O. Downes and M. J. O'Hara. It seemed a terrific climb and a long day—perhaps the greatest mountaineering route in Britain; continuously difficult and strenuous for 600 ft. A few points may be helpful to other parties:—

The first pitch gives 110 ft., not 80 ft., of climbing.

Some of the rock needs delicate handling on the crux, of which the leftward grooves above the overhang are more technical and strenuous than the roof itself.

In the 200-ft. Great Chimney the poised flake is no more; a salvo of accidentally dislodged chockstones trundled it over the enormous *toit* below. The chimney itself is very strenuous, characterised by loose chocks and green slime. The security is sufficient, but owing to the width of the chimney it is a mistake to carry a rucksack or haulage becomes necessary. The pitches above are not easy. Eleven hours, of which four were on the second pitch.

Inevitably, one compares it with some of the hard Welsh climbs by Brown and Whillans, but it is difficult to think of a route which has the character of Sassenach. Although the hard pitch is only half the length of Cenotaph Corner, to this party at least it seemed more tiring, more precarious and certainly more baffling than that climb.

Carn Dearg Buttress—Centurion.—620 feet, Very Severe. First ascent, 30th August 1956, by D. Whillans and R. O. Downes (R. O. D. led Pitch 7). The climb takes a direct line up the Great Buttress, midway between Route 1 and Sassenach. The lower part follows the prominent central groove which is flanked on its right by smooth overlapping slabs; the upper section pierces the large overhangs above Route 2. In general the rock is perfect.

Start below the obvious corner about 100 ft. left of Sassenach. (1) 50 ft. Climb the wall on the left of the corner to a platform. Step right into the groove proper and up to a grass ledge with belays. (2) 120 ft. Climb the steep corner above, difficult at 70 ft. This pitch is well protected by thread belays. Stance on a slab in an overhung bay. (3) 80 ft. Traverse left to the arête; easily up grooves, then step right on to the lip of the big overhang and up to a stance with piton belay. (4) 70 ft. Move back into the corner. Traverse the wall up to the left, below the overhanging crack, and follow the arête to stance. (5) 70 ft. Ascend slabby grooves in the same line to a small stance and block belay. (6) 60 ft. Continue in the same line, then move leftwards to the stance before the long traverse pitch of Route 2. (7) 90 ft. Climb up to the overhang and traverse left to a slab. Move left up to another overhang, step off a detached flake and traverse delicately up-left on to a large slab. Climb this easily up to the right, to stance and belays below the second tier of overhangs. (8) 80 ft. Traverse right for 20 ft., then climb straight up a spiky arête to a bulge. Above the bulge step left into an easy groove, which leads to a broad ledge and broken ground.

The Shield.—740 feet, Very Severe (owing to the conditions; probably the climb is not often dry). First ascent, 1st September 1956, by D. Whillans and R. O. Downes (alternate leads). The north-west wall of Carn Dearg Buttress is bounded on its right by a 350-foot flake, rising from Waterfall Gully. The climb follows the conspicuous chimney between the wall and the flake, using the first pitch of Evening Wall to reach the chimney.

(1) 80 ft. As for Evening Wall. (2) 150 ft. Cross Waterfall Gully and scramble up to a broad glacis on the left. Then follow a grass rake down to the foot of the chimney. (3) 60 ft. Up the chimney with difficulty to a small grass ledge. (4) 40 ft. Climb the narrow chimney until it is possible to step left to a small cave. Thread belays. (5) 130 ft. Step back into the chimney; climb a difficult bulge, then continue up the corner to another chimney. (6) 120 ft. Up the chimney, then a long grassy groove, to the top of the flake. This is the "lofty corner" of Evening Wall. (7 and 8) 160 ft. As for Evening Wall.

Rogues Rib, Tower Ridge.—500 feet, Mild Severe. First ascent, 1st April 1956, by T. W. Patey and J. Smith (through leads). This is the rib forming the left edge of the gully of the Italian climb. In common with Secondary Tower Ridge routes it joins the Tower Ridge route just below the Little Tower.

There are two sections. *Lower*.—The slabby bottom pitch was avoided by the crux of the Italian climb (then an ice-pitch). It should be possible in rubbers. Thence steep exposed climbing for 200 ft. direct up the edge. Easy scrambling to foot of upper rib. *Upper*.—Climb direct for 30 ft., then long traverse to left to reach an awkward chimney ending below huge perched blocks. Gain deep chimney behind main block (crux) and climb it to reach easier ground. Keep on the right edge to the top in order to appreciate the exposure at the top of the gully of the Italian Climb. Traverse a few small towers at the top of secondary Tower Ridge.

Carn Dearg, N.E. Face.—Winter Ascent by H. Brunton and J. Clarkson (Edinburgh J.M.C.S.) on 14th February 1957.

The route started by the gully of the ordinary route on Raeburn's Buttress. Steep snow with one short ice-pitch led to a 100-ft. ice-pitch immediately below the bifurcation of the gully. This was not climbed. Instead, the gully was left by an ice-shelf on the left wall, which led out on to a big ledge which cuts right across Cousins' Buttress and leads horizontally south-east in 200 ft. to a large ice-fall. Ledge was banked up to about 65 degrees with hard snow, and situation was most impressive. Principal feature of ice-fall was vertical wave of black ice mostly about 20 ft. high, spanning the entire width of about 200 ft. This was climbed near right-hand corner: first a leftward horizontal traverse for 30 ft., then up on to a shelf sloping upwards to the right and steeply outwards with almost vertical ice above and below, and finally up an 8-ft. wall of ice. This pitch was about 100 ft. high, mostly black ice, and very exposed. After a further 80-ft. ice-pitch at an easier angle, the large snowy corrie which forms the upper part of the face was reached, and followed to the easy upper arête of the Ledge Route. On the difficult section pitons were used for belays. Time, 6 hours to summit of Carn Dearg.

Zero Gully.—First winter ascent. Very Severe. Climbed by H. McInnes, A. G. Nicol and T. W. Patey on 18th February 1957.

Patey led the first three pitches. McInnes led Pitch 4. On a previous attempt in February 1957, McInnes and R. Hope (Creag Dhu) overcame the first three pitches in 6½ hours but were forced to retreat by spindrift, leaving an axe behind. The first ascent, made in superb snow-ice conditions, occupied only 5 hours. The gully is notable for the extreme steepness and difficulty of the first 400 feet and is probably the hardest ice climb on Nevis to date. (Point Five Gully remains virgin.) On the

earlier attempt there was a 20-foot chimney pitch at the bottom (obliterated on 18th February).

First pitch—110 ft. Straight up the central ice funnel all the way to a stance on the left at the top below some overhanging rock. This can be very hard if the ice is of poor quality.

Second pitch—60 ft. Do not traverse right into the corner of the gully but continue straight up on the direct line by an almost vertical ice-chimney; a few unsatisfactory rock holds on the right wall. Ice piton for safeguard while cutting handholds.

Third pitch—100 ft. Traverse right for 40 ft. on ice-covered rock to reach the gully bed where it bends slightly right out of sight as seen from directly below. At this point a temporary easing of angle led the earlier party to believe that they had passed the worst. Continue straight up the gully bed for 60 ft. to the foot of the next big pitch.

Fourth pitch—100 ft. Surmount a very awkward ice-wall to move rightwards into a steep scoop in the centre of the pitch. At the top of the scoop, when the leader had run out 80 ft., a 20-ft. section of friable snow provided the most dangerous moment of the climb.

Fifth pitch—40 ft. Steep snow ice. The general angle of the climb now relents and the way is obvious. Although a few indeterminate pitches were encountered en route, the party climbed the last 800 ft. in less than an hour.

Cresta Climb, S.E. Face, N.E. Buttress.—First winter ascent by T. W. Patey, L. S. Lovat and A. G. Nicol on 16th February 1957.

This is essentially a winter route, alpine in character, which gets a full complement of sun. It follows a line suggested by W. H. Murray who reconnoitred this face in the winter of 1947. The face is in two parts. The right-hand section would provide a grand mixed climb (one of the longest in Britain), and by avoiding the imposing central spur at the top would join the classic N.E. Buttress route near the Mantrap. The left-hand part of the face between the main buttress and Carn Mor Dearg arête carries much more snow and is often heavily iced. It is here that the party selected their route, which follows for the most part an obvious long snow *coulloir* cut off at the top and bottom.

The *coulloir* terminates below, at the top of a rocky spur 300 ft. up from the screes. Start well to the right of the spur and by a steep curving ice-shelf of 250 ft. join a small snow gully running up the right side of the rocky spur to its top. Now the way is straight up

the long *couloir* of moderately angled snow for 600 ft. till it ends below a big upper ice-pitch. Climb up into the bowl of the pitch and then commence a long traverse rightwards across a steep rocky barrier. This pitch is the highlight of the climb with some airy situations until 120 ft. have been run out. Then the leader effects a break through to an easy snow slope above the big ice-pitch. The finish is in direct line with the *couloir* and about 50 yds. away from the top of the N.E. Buttress. (Time, 3 hours in good conditions.)

C. G. M. Slesser and N. Tennent repeated this route on 18th February as far as the head of the long snow *couloir* terminating in an icy recess, where Patey traversed right to an easy snow slope leading to the plateau. This second party climbed the recess on the left side for 15 ft., then traversed left for 20 ft. under a vertical wall until rocks opened out to allow ascent to stance and belay. The direct upward route now involved 120 ft. of cutting on ice, but no time was available. They accordingly traversed right (sensational), above the recess, to gain Patey's exit. If the direct leftward route had been completed it would have been the most satisfying line. They estimated the total height of the climb at between 800 and 900 ft.

Carn Dearg, Central Trident Buttress: Jubilee Gully.—Climbed by K. Bryan (J.M.C.S.) and L. S. Lovat on 11th March 1956.

This is the gully and snowfield described in the Guide as bounding South Trident Buttress and leading up to Central Trident Buttress. From the Hut it appears to be to the immediate right of the steep lowest tier of South Trident Buttress. It is named because Jubilee Climb emerges from it. In winter an obvious pillar of ice forms some distance up the gully beyond the fork. Cutting on steep snow led to the pillar which was the only ice-pitch. It was vertical but short and led to the snowfield above, where a choice of routes can be taken to the plateau.

Tower Ridge, East Wall: Echo Traverse.—550 feet, Severe. L. S. Lovat, K. Bryan and N. Harthill (last two J.M.C.S.), 15th July 1956. The route begins below the big outcrop of rock which bars the direct way to Tower Gully, about the level of the start of the ordinary route up Observatory Buttress.

Strike up right as if aiming for the crest of Tower Ridge. About 300 feet of scrambling leads to the overhanging base of the slabby wall above. The only obvious breach leading on to this wall is at the right end where there is a shattered chimney with a continuous fault leading diagonally left above. Climb the chimney, descend a little on the other side and embark on a red slab opposite. Make a delicate left traverse (crux) and so up the slab into the fault. Climb the fault, which finishes at the start of the Eastern Traverse.

No. 3 Gully Buttress.—First winter ascent. L. S. Lovat and D. J. Bennet (through leads), 18th February 1957.

The route followed was the ordinary route and conditions were ideal with excellent snow and much snow-ice. The obvious sloping ledge was followed and a short wall and steep groove led to "the high platform at the top of the gigantic wall" (Guide). From the platform the party took to the left up steep grooves and finished by the 40-foot chimney, which was transformed into a snow-ice corner. The climb was very exposed but safe in these conditions, and although sustained was nowhere particularly difficult. Time, 2½ hours approximately.

SKYE.

Sgurr a' Mhadaidh (S.W. Peak) Dyke and Buttress Route.—600 feet, Very Difficult, with one move Hard Severe. This was climbed on 5th August 1956 by P. R. Stafford of Manchester U.M.C. and A. C. Gilby, London U.M.C. The first half of the route follows the gully formed by a trap dyke which slants upwards to the left from near the bottom of Deep Gash Gully, and the second half lies up the buttress on its right where the situation is superb.

From the bottom of Deep Gash Gully traverse horizontally left on a grass ledge to where the trap dyke is joined in about 50 ft. Above this point the gully narrows and steepens.

(1) 100 ft. Climb the gully, mainly by the left wall to below the overhanging cave pitch. (2) 30 ft. The overhang is taken direct (Hard Severe for one move). (3) 170 ft. Up the gully to where jammed blocks form a shallow cave. Above this the gully can be seen to peter out in an area of broken ground. (4) 50 ft. From the top of the jammed blocks traverse upwards to the right across the right wall of the gully to a massive flake belay beneath a vertical wall. (5) 250 ft. Turn these vertical rocks on the left by an awkward sloping shelf, after which make straight up the buttress on interesting rocks to the finish of the climb.

Scrambling first left to avoid a prominent tower and then right above it leads across the top of Deep Gash Gully to the final rocks of the Thuilm Ridge. The lower section of the gully showed signs of having been climbed before.

Sally's Climb, Lower Coire Lagan, Sgurr Dearg.—This route is situated practically opposite Cioch Gully, on the other side of the corrie, and the start is about on

a level with the barrier slabs between the upper and lower corries, but well to the left, as seen from the Sron na Ciche. It is on the rib forming the right wall of a long, sloping gully, blocked part way up by a huge chockstone. There are three pitches and standard is a Hard Difficult. It was climbed on 23rd August 1956 by H. Barrs and J. E. Jackson, Nottingham U.M.C.

The wall is the main difficulty, climbed on rough, unmarked rock. Above this there is 70 feet or so of slab and crack work. The top pitch was easy.

Sron na Ciche, possible New Route left of Median Route.—This climb starts from Central Gully about midway between the foot of Median Route and the point where Mallory's Slab and Groove route enters the gully. It goes straight up to join a trap fault. It was climbed on 19th June 1956 by M. C. Prestige (C.U.M.C.) and Miss A. L. Turnbull, who rate it Very Difficult.

After 70 feet up the steep part of Central Gully, ascend the thin crack in the groove, going straight upwards for 120 feet. Then go up the slabs and on to the trap fault (100 feet). Go 80 feet up fault to West Central Gully.

Many variants possible here. No others can be recorded. (Editor, "Skye" Guide.)

GLENCOE.

Buachaille Etive Mor.

Lady's Gully.—First winter ascent. Two parties—J. R. Marshall, I. D. Haig and G. J. Ritchie; L. S. Lovat and W. J. R. Greaves (latter J.M.C.S.). 24th February 1957.

The first 90-ft. pitch went by the summer route on the left wall, finishing by thick ice on the boulder at the top. The next section to the 150-ft. wall gave no difficulty. The 150-ft. wall went in two pitches, the first up the steep ice of the rib immediately left of the chimney and so up the crest to the left traverse across the wall to the small chimney. The traverse was icy and exposed, but the second pitch up the chimney followed by a right traverse on insecure snow was not difficult. In summer the crux is really the next pitch and it provided a very steep and sustained pitch on rock, snow and ice. The groove left of the overhanging section was used with a horizontal right traverse at the top. The last pitch before the junction gave 30 to 40 ft. of near-vertical ice.

At the junction, Marshall's party took the left fork, involving the 40-ft. cave pitch and a good continuous line above for some distance. Lovat's party took the right fork (summer "direct finish"), leading in 200 ft. to the huge cave which marks the finish of the gully. Total time, both parties, approximately 4½ hours. Some pitches severe.

Central Buttress—Hangover.—200 feet, Severe. J. R. Marshall and A. H. Hendry. 9th September 1956.

From the foot of Slanting Ledge a crack springs vertically upwards. Climb it for 40 ft. to a ledge, immediately above which is a thin crack cutting the overhang. Go up right and then left, passing a jammed spike, and climb the overhang. Then traverse right for 20 ft. to a wide crack and continue to the top.

Rannoch Wall—Whortleberry Wall.—410 feet (measured rope-lengths), Very Severe. J. Cunningham and W. Smith (both C.D.M.C.). 16th September 1956.

Climb Autumn Slab to the belay at 100 ft. below the crux of Overhanging Crack. Traverse horizontally left for 15 ft. then gradually upwards to a shallow groove which is climbed to a small juniper ledge (65 ft.). Directly above are two thin cracks. Climb the left one for a few feet and transfer to the right one. Easier ground leads to a belay on a stance of Peasants' Passage (40 ft.). Pitch 3 (85 ft.) starts with a right horizontal traverse for a few feet followed by a right upward traverse to a large grassy groove with overhanging top 10 ft. below the overhang; step right round a corner and cross the face rightwards to a small ledge and belay. The final pitch of 120 ft. goes by a mossy crack directly above, then easier ground leading to large blocks below the Crowberry Tower. Two pitons were used as runners. The route is the hardest on the Rannoch Wall.

North Buttress, East Face—Gibbet.—95 feet, Very Severe. E. Taylor and W. Smith (latter C.D.M.C.). 9th September 1956.

The route lies between Garrotte and Guillotine. Climb Garrotte to the first bulge and make a delicate traverse right into a clean-cut groove. Climb the groove for 10 ft. where a piton is inserted and continue up the groove to finish.

North Buttress, West Face.—The following five routes are on the wall between the ordinary west route and Guerdon Grooves, but beginning above the finish of Belial.

Girdle Traverse.—460 feet, Very Severe. P. Walsh and C. Vigano (both C.D.M.C.). June 1956.

About 25 ft. left of a block belay and easy rightward sloping ledge above Belial is the thin 130-ft. crack of Bloody Crack (see below). Left of this is another crack. The Girdle Traverse starts up the wall left of the last-mentioned crack until a step is made across the crack on to a ledge which is followed to a flake belay at 60 ft. Continue right along the ledge to a corner with a small triangular grass ledge a few feet higher. Ten feet above that take a piton belay at 40 ft. The third pitch is also 40 ft. Above the piton traverse right round a very exposed corner and continue past a crack to below a small ledge. Go up to the ledge and along to huge flake belays. Pitch 5 (70 ft.) goes gradually up and right, using a piton runner, to gain a sloping ledge and a block. Belay by piton in crack above block. Another 70-ft. pitch follows. Traverse right to a grassy corner and then up 30 ft. to a belay below a large cave. Now descend a few feet and follow a line of weakness beside Ravens' Gully for 100 ft. to a belay in a corner well up Guerdon Grooves. Final pitch of 70 ft. goes right and up to top of North Buttress.

Bloody Crack.—130 feet, Very Severe. P. Walsh and S. Crawford (both C.D.M.C.). June 1956.

Start immediately right of Girdle Traverse at foot of 130-ft. crack described. Climb the crack for 60 ft. to a grass ledge (flake belay 6 ft. left). This pitch may be as difficult as any pitch in Glencoe. Go back into the crack and climb it for a further 70 ft.

Revelation.—290 feet, Very Severe. P. Walsh and C. Vigano. June 1956.

Just above and to the right of Belial's finish there is a block belay and an easy rightward sloping ledge. Follow the ledge round the corner and go up and right for a few feet. Move left and up a steep groove till a ledge is reached at 100 ft. Belay. Swing down from belay into a steep groove which follow for 20 ft. Make a very severe traverse right to a flake crack. Use undercut holds on flake, swing into the crack and climb up to a poor stance and small chockstone belay below an overhang (80 ft.). Avoid on the left and up 40 ft. to block belay. The fourth pitch of 70 ft. follows the crest of a large flake to the right and so by easy climbing to a deep corner with a belay at the back.

Doom Arête.—230 feet, Very Severe. P. Walsh and C. Vigano. June 1956.

Climb Pitch 1 of Revelation. Go back along the ledge from the belay for a few feet and climb a steep wall aiming left for the edge and so up to a shallow corner. Start up the corner, then step left (crux) and continue to a ledge and above to a small grass ledge. Piton belay 10 ft. above. Run-out 80 ft. and very exposed. Pitch 3 (60 ft.) goes up to the piton and by a right traverse round a very

exposed corner to a crack, which is climbed to a ledge and then a corner and so to the finish.

Nightmare Traverse.—260 feet, Very Severe. P. Walsh and M. Noon (both C.D.M.C.). July 1956.

Pitch 1, 120 ft., starts 15 ft. below Revelation. Traverse across an arête and to the left of a small overhang; make an awkward move to the right round a corner and so across to a flake and a piton belay. Pitch 2 is also 120 ft. Climb up the rib above till a hard traverse can be made to the right on to small ledges. Climb a crack for 10 ft. and then climb 20 ft. to top of steep wall and small spike. Insert piton and descend an overhang with aid of rope to a flake belay. Climb a crack above for 20 ft. to a small ledge and belay. Now the climb joins the finish of Guerdon Grooves. This route is in the Bloody Crack category.

Lagangarbh Buttress, East Face—Nameless Groove.—110 feet, Severe. L. S. Lovat and R. Tingley (latter J.M.C.S.). 12th August 1956.

Climb the groove immediately left of Nameless Wall (see *S.M.C.J.*, 1953). Two pitches.

Left Edge.—150 feet, Severe. J. R. Marshall and A. H. Hendry. 9th June 1956.

This is the north-east edge at the extreme left end of the terrace which is below the 200-ft. moderate part of Crest Route. Climb the slab and groove to cracked blocks which are turned to the right.

Aonach Dubh.

East Face—The Gut.—210 feet, Very Severe. J. Cunningham and W. Smith. 15th September 1956.

Start 10 ft. to the right of G String, Basin Face (see *S.M.C.J.*, 1956). Climb a slabby scoop and pass an overlap at 15 ft. and then a bulge with loose rock at 40 ft. Go diagonally left to a grass ledge and a belay on the G String route at 90 ft. Climb wall directly above for about 15 ft. and make a right horizontal traverse to a large groove beneath a huge overhang. Go up the groove for 15 ft., gain a rock ledge on the right, traverse right a few feet and climb a steep wall to a belay (120 ft.).

Lower North-east Nose.—

Two routes to the immediate right of the original Lower North-east Nose route were climbed, one by an S.M.C. party on 25th March 1956 and the other by a Creagh Dhu party on 17th June 1956. Both were severe and seem to coincide in places and will not be reported until the confusion has been resolved.

North Face—Abomination.—400 feet, Mild Severe. J. R. Marshall and A. H. Hendry. 5th August 1956. Between the Lower North-east Nose and the start of Sloping Shelf on the North Face, and on the same level as the former, is a twisting buttress with an overhanging base and a bright moss patch at mid-height. The route goes up this buttress.

Get on to the buttress from the right about 50 ft. above the base. Traverse left after an awkward corner to the left edge of a large open corner and climb the edge to a belay at 100 ft. Turn overhang on left to a grass bay, exit by a flake crack, traverse right into an open corner which climb for 15 to 20 ft., then climb its steep right wall to arrive at the area of moss at the 200-ft. level. The remaining 200 ft., after struggling through deep vegetation, is scrambling on very rough rock.

Corridor Wall.—250 feet, Severe. J. A. White and D. Hill (O.U.M.C.). Summer, 1956. This route is really an alternative to the Corridor of Shadbolt's Chimney and is best reached by climbing the chimney.

From the grass amphitheatre about 50 ft. below the Corridor a steep wall on the left is seen with two vertical grooves. Climb the right-hand groove for 25 ft., traverse left round a nose into a recess and reach a thread belay at 40 ft. Climb the right rib of a small chimney above, step across left and go up moderate slabs to a large grassy ledge (60 ft.). A corner above has a jammed flake. Go up by the flake and after 30 ft. of steep climbing, scrambling for 120 ft. leads to the top.

Clevedon Way.—150 feet (to Pleasant Terrace), Hard Severe. D. H. Briggs, A. J. J. Moulam and Miss D. Shortall (Rucksack Club). May 1956.

At the right-hand end of Sloping Shelf near the recess below Deep Gash Gully a leftward slanting crack is seen on the wall above. Climb the crack until a move left can be made to a small stance and belay at 30 ft. Pitch 2 (60 ft.) goes by a rib on the left for a few feet, then back to the crack and then by steep ledges to the left to an insecure ledge and belay. Finally, cross to a corner on the right, climb it for a few feet and then follow the rib to the right to Pleasant Terrace (60 ft.).

Deep Gash Gully.—First winter ascent. J. Cunningham and M. Noon. 24th February 1957.

(The first summer ascent, hard severe, is reported in *S.M.C.J.* 1953.) The first pitch (30 ft.) was climbed as in summer, finishing by

an awkward ice overhang. Steep snow to Pitch 2 which was a short but 75-degree ice-pitch leading to the main overhang. Pitch 3 (30 ft.) was the summer Pitch 2 and went on iced rock. The summer crux followed (25 ft.) and the thread belay in the hole in the roof was used with the effect of a top rope. The party swung out from the ledge and climbed the rope for 10 ft. by slings to reach eventually the belay. The last pitch of 40 ft. went through the small hole, feet first, as in summer, then an ice overhang was climbed and steep snow to finish. The climb was very severe.

West Face, F Buttress—The Vent.—250 feet, Severe. L. S. Lovat and R. Reid (latter J.M.C.S.). 26th August 1956. This route goes up the prominent narrow chimney in the middle of F Buttress, starting at Middle Ledge.

The chimney has a slightly overhanging start and two sustained pitches, being steep and insecure. The second pitch is the crux and will often be greasy. After the chimney ends, go up good slabs and a steep and interesting finish.

Stob Coire nan Lochan.

Summit Buttress.—First winter ascent. L. S. Lovat, J. R. Marshall and A. H. Hendry. 12th February 1956. The route taken was Scabbard Chimney which is a very natural and obvious winter line. (The first summer ascent, Severe, is reported in *S.M.C.J.*, 1955.)

The first difficulty was the very difficult slab which could not be climbed (*verglas*). The party wedged up the crack on its left, which was full of snow and ice. From the belay above at 70 ft. to the "sentry-box" 100 ft. higher the crack and chimney, with sufficient snow and ice, were not so difficult. The crux was the summer crux (40 ft.) but the summer route in the corner to the right could not be taken. The "sentry-box" was partly banked with excellent snow so that combined tactics were feasible to reach footholds below the crack in the roof. Piton in left wall for foothold. Ice in the crack assisted the awkward moves above, but higher up a piton had to be driven vertically into snow-ice to assist a mantelshelf. Above the mantelshelf the pitch continued awkward and steep with ice in the crack and occasional rockholds on the vertical left wall. Then hard snow at much easier angle led in the last 100 ft. to the shoulder. From the shoulder, in summer, 100 ft. of columnar rocks are climbed. The natural winter line curves round these rocks to the right up a narrow gully leading to the summit of the buttress, just at the start of the arête leading to the final rocks of the mountain. Time 5½ hours. The climb was very severe. This route should often be in condition and a heavy cover of snow should make the crux easier.

Boomerang Arête.—First ascent. J. Clarkson and R. Keltie (both J.M.C.S.). 24th December 1956. This winter ascent on Summit Buttress follows the left edge which overlooks Boomerang Gully.

Traverse right on to Buttress opposite entrance to Boomerang Gully and go up short walls and grooves to large ledge. Turn steep wall above on right. Snow slope led to next steep section, climbed by a chimney on the right with short ice-pitch. Finally an easy arête led to the top.

Sgor na h'Ulaidh.—*Red Gully.*—On 10th February 1957 J. Clarkson and E. S. Wise (both J.M.C.S.) climbed the gully without making an excursion on to the rib on the right as made in the original ascent (see *S.M.C.J.*, 1950).

This third pitch was climbed in the left-hand corner, and where it became vertical a traverse was made past a bulge to the right-hand corner and thus into a recess. Then a steep wall for 7 ft. Severe. This was followed by 70 ft. at a moderate angle. The whole climb took 3 hours and had four ice-pitches.

Ardgour, Garbh Bheinn.

Two routes climbed in April 1956 by D. M. Niven and Miss M. L. Fleming are not reported here as the Guide Book Editor is unsure of their exact location. This difficulty will be dealt with later.

Great Ridge, South Wall—Razor Slash.—250 feet, Hard Severe. J. R. Marshall, L. S. Lovat and A. H. Hendry. 1st April 1956.

Start at the huge boulder set against the face about 100 ft. down from Scimitar (see *S.M.C.J.*, 1953). Climb the boulder and step into a *dièdre*, which climb to a platform and belay at 80 ft. This is just right of the right end of the shattered ledge running left to Scimitar. Make a horizontal left traverse for 25 ft. along the ledge to the foot of an obvious layback slab ledge. (The crack of Scimitar is not far to the left.) Climb this ledge, occasionally laybacking, and at the top (crux) move out very delicately over a nose, then move right and up and gradually left to choose a belay among loose spikes (70 ft.). Now go by a left diagonal fracture which cuts across the prominent chimney of Scimitar (delicate at recess just across chimney) to finish on terrace below upper tier (100 ft.).

Butterknife.—350 feet, Severe. J. R. Marshall, A. H. Hendry, G. J. Ritchie, I. D. Haig. 15th September 1956.

Climb the chimney to the right of the huge boulder mentioned in Razor Slash and belay at 80 ft. below a corner from which a long and very prominent crack springs. Climb the crack for 40 ft. to a belay and continue above to halfway terrace at the right end. Climb the overhang above and so to the top of the upper tier in a further 100 ft.

Sgian Dubh.—140 feet, Very Difficult. J. R. Marshall and L. S. Lovat. 1st April 1956.

On the upper tier of the South Wall near the left end is a very conspicuous chimney with a crack in the rear. Climb it to a platform at 35 ft., traverse to the left and up cracked ledges to a belay and stance 40 ft. beyond the platform. Move left and over an overhang and follow a groove to the right, then up a steep nose and steep rock to finish.

The following routes were climbed by Mr and Mrs G. J. Sutton, the latter leading Outside Edge Route. The three first described are on the face of the Pinnacle Ridge seen from the Garbh Choire Mor.

Interrupted Slabs.—300 feet, Very Severe. 1st April 1956.

Half-way down the gully below the face are two whitish slabs, one above the other, separated by a roof overhang. Start at the foot of the first slab and climb the corner crack to a jammed block whence a semi-hand traverse is made to a ledge round the corner on the left at 40 ft. Now traverse back to the corner under the overhang and use two pitons (left in place) to surmount the 8-ft. roof, turned on the right. Layback to sloping ledge (40 ft.). Traverse to left edge of slab where there is a loose block and climb the slab followed by an upper corner, a wide terrace and a belay in a chimney above on the left (80 ft.). The final section goes up the chimney and grassy slabs to the ridge.

Outside Edge Route.—400 feet, Very Severe. 1st April 1956.

Start at the foot of a small chimney-gully at the right-hand end of the face. Pitch 1 is 90 ft. and is the crux. Climb the slimy overhanging crack on the left of the gully. Traverse left along grassy shelf to a corner, climb the corner and step right to a groove. Go up the groove to a small ledge with belay 10 ft. above. Above the belay and niche above climb the wall to a grass ledge and belay on

a ledge slightly to the right at 40 ft. Continue up the edge and, at about 30 ft., move right on grass to short, steep quartz wall. Climb this and slabs above to ledge with loose blocks. Go up the corner at the left end and so up slabs to a grassy terrace. Scramble for 150 ft. and climb a 20-ft. wall to finish.

Iubhair Grooves.—450 feet, Very Severe. 30th March 1956.

Start at a cairn a little above the lowest corner of the face. Pitch 1 is the crux. Climb a chimney with overhang to gain a cave. Go up direct from the cave, step right, climb a short wall and surmount a corner and loose blocks to ledge below overhang (60 ft.). Pitch 2 (70 ft.) goes left along the ledge across a gap and up a short slab with a loose boulder to the right. Move right into the chimney, which climb until possible to step right round the corner. Chockstone belay high up grass bay on right. Go up to foot of slab, which climb to a corner on the left at 30 ft. Climb the crack for 30 ft. Go straight up two successive noses and scramble on some distance to the top.

March Buttress.—600 feet, Very Severe. 29th March 1956. This route is on the mass of North-east Buttress starting to the right of Route II and keeping to the right of Route I. The lowest section below No. 1 grass rake is not described here.

Start at a steep corner crack about 30 ft. right of the chimney which bounds the slab (a considerable distance right of the existing routes). Pitch 1 is the crux and is 110 ft. The rest of the route is difficult to very difficult. Climb the crack past loose blocks and a turf ledge, and when the crack peters out move round the corner to the right and so up to a shaky spike high on the right. Go up the groove on the left, step right on to the slab and up to a wide grass bay at 80 ft. Step left on to the nose, then up easily to a small spike to the right of the foot of a slab rib on the edge of the border chimney at 120 ft. Climb the slab rib and step left into a scoop and so up to small belay on right wall at 70 ft. Climb scoops for 150 ft. and then the final 50 ft. up the left wall overlooking the border chimney.

The party found another good finish on the last tier, but a variety of finishes have been done there and description is superfluous.

In Memoriam.

ROBERT JEFFREY,

1884-1956.

WHILE on short leave from the Army in the spring of 1915 I met three members of the Club at Ballachulish. These were Simon Henderson, Robert Jeffrey and G. Murray Lawson. On our first day we traversed the Aonach Eagach Ridge and found the rocks covered with deep, soft snow. It was the first time I had had this experience and I was filled with admiration at Jeffrey's skill under these difficult conditions, an admiration which grew as I came to know him and climb with him. Members of the Club have come to join it through very varied circumstances, and in the case of Robert Jeffrey it was through meeting E. P. Buchanan as a fellow-member of a golf club. He joined the Scottish Mountaineering Club in 1911, having already had one season in Norway, and from that date until his death he took part in many expeditions both at home and abroad.

In 1915 he married Miss Mabel Clark, daughter of Dr Inglis Clark who had served as Secretary of the Club and was its President during all the war years of 1914-18. Mrs Jeffrey was his constant companion in summer and winter, climbing and ski-ing.

After the conclusion of the 1914-18 war, Jeffrey's business took him to London. He had had a season in the Alps in 1912 and it was natural that his attention should turn there again. Between 1925 and 1955 he was in the Alps most seasons, except during the period of the 1939-45 war, and there were few districts of the Alps which he had not visited. He spent two seasons in the Dolomites and besides the Tarentaise and Dauphiné made many expeditions in the Bernese Oberland and the Pennines, but Mont Blanc was his favourite area. Between 1934 and 1937 he and Mrs Jeffrey climbed with Alphonse Chenoz of Courmayeur and his son Attilo, and their excursions included several major ascents such as



ROBERT JEFFREY

the traverse in one day of Mont Blanc from the Col de Géant by Mont Blanc du Tacul, Mont Maudit and descent to Courmayeur by Dôme de Gouter, Dôme Arête and Glacier de Miage, the Grépon, the traverse of Grand and Petit Drus, the traverse of Monte Rosa and Lyskamm. In the Dolomites they climbed the Vajolet Towers and the Adang Kamin.

In 1938 the Jeffreys were in Canada and they took the opportunity of climbing in the Canadian Rockies and the Selkirks. In 1948, when Jeffrey retired from business, it was his intention to revisit Canada but currency restrictions prevented this and he had to content himself with seasons spent in the Oberland, Engadine and Mont Blanc area.

Jeffrey took every opportunity of walking and climbing in Scotland, and after he came to reside in Bridge of Allan he was a regular attender at S.M.C. Meets. He knew every part of the Highlands and records show that he was in Skye about twenty times and had done all the standard climbs and every top of the Cuillins. The Cairngorms was his favourite hill-walking country. He was lightly built, very agile, seldom ruffled and thoroughly at home on both rock and snow, but probably rock was his speciality.

Jeffrey was also a pioneer ski-runner in Scotland. The first record shows that in 1913 he ski-ed on the Pentlands. After he went to Bridge of Allan, and when the week-ends were suitable, he was usually out on the hills; and he also visited many of the meets of the Scottish Ski Club. He joined the Scottish Ski Club in 1913 and was Vice-President from 1950 until his death. In February 1923 he visited Saanenmöser and this became, when at all possible, a yearly assignment where he joined friends, many of whom were also members of the S.M.C., for two or three weeks touring in the neighbourhood. He was there in February 1956 and said that he had never run so well in his life.

His whole interests were in the open air, and although his contributions to the *Journal* were not numerous apart from notes in "S.M.C. Abroad," his love of the hills

was expressed in his photographs. Both he and Mrs Jeffrey were expert photographers, first in black and white and latterly in colour. His beautiful garden at Bridge of Allan has a good collection of Alpine plants.

Jeffrey joined the Alpine Club in 1928 and served on the Committee from 1943 to 1945. He served on the Committee of the S.M.C. from 1921 to 1923, was Vice-President from 1934 to 1936 and President from 1938 to 1945.

His sporting activities were not confined to ski-ing and mountaineering, he was also a first-class golfer. For several years he represented the S.M.C. on the Council of the National Trust for Scotland. He was a member of the Faculty of Actuaries and manager of the Scottish Amicable Life Assurance Company.

Jeffrey loved all hills and mountains and one could not have had a better companion on any mountaineering expedition. In an emergency his judgment was sound; he kept a cool head and retained his keen sense of humour. Those who had the privilege of climbing with him will treasure the memory of expeditions, in fair weather and foul, spent with an ideal comrade.

One day in the spring of last year he was walking in the woods near his house when he suddenly passed away.

ALEXANDER HARRISON.

We announce with regret the deaths of the following during the past year. The dates are those of election to membership:—

Sir John Stirling Maxwell, Hon. President of the Club. Other members, **Arthur R. Anderson** (1913); **T. C. Ormiston Chant** (1920); and **Dan McKellar** (1945). Perhaps only the last named was a familiar figure and a frequent attender at meets in recent years. He climbed frequently in the Alps, as well as doing the *Haute Route* from Zermatt to Chamonix on ski. He was a good rock climber, having done a good deal with the Commandos in Wales during the recent war.

Erratum.—We wish to correct the note on Alexander Fraser in the 1956 *Journal*. His qualifications should read F.F.A., F.I.A., F.R.S.E. He was Secretary and Actuary of the Scottish Life Assurance Co. (not of the Life Association of Scotland as there stated).

PROCEEDINGS OF THE CLUB.

EASTER MEET, 1956—GLEN AFFRIC.

THE Easter Meet of 1956 will long be remembered for the brilliance of its weather. Not a cloud marred the sky in which the sun shone continuously for over ten hours each day, and long sun-bathes, and even slumber, were the order of the day at summit cairns. The following twenty-eight members and five guests attended:—

Glen Affric Hotel, Cannich: E. C. Thomson (President); F. D. C. Allen, A. W. Anton, W. J. Bannister, D. L. Campbell, W. C. Carmichael, A. Dixon, R. R. Elton, J. C. Henderson, J. B. Home, R. G. Inglis, J. N. Ledingham, J. Y. Macdonald, I. M. McPhail, G. G. Macphee, D. H. M'Pherson, R. W. Martin, M. Morrison, T. Nicholson, F. E. O'Riordan, G. Peat, A. M. Smith, T. E. Thomson, F. R. Wylie (members); W. L. G. Duff, C. Macdonald, P. Stein, R. Stewart (guests). *Tomich Hotel:* H. A. Hetherington, R. R. S. Higgins, A. W. Laughland, A. G. Murray (members); J. White (guest).

The following expeditions were reported:—

Macphee arrived on the previous Monday (26th March), via Lurg Mhor and Bidein a' Choire Sheasgaich, and spent the next three days on Beinn na Muice (Monar), Ben Achairn and Sgurr Mhuilinn.

Inglis arrived on Thursday, 29th March, via Sgurr na Sgine (Glenshiel).

Proceedings started in earnest on *Friday, 30th March.*—The President, Campbell-Allen, Home, Inglis: Carn nan Gobhar (Cannich) and Creag Dubh. Macphee, the Macdonalds, Anton, Stein: Creag Dubh, Carn nan Gobhar and Sgurr na Lapaich (Cannich). Ledingham: Sgurr na Ruaidhe (Strathfarrar). Macpherson: Sgurr na Lapaich, Mam Soul, Carn Eige and Tom a' Choinich. Elton and Nicholson: Mam Soul and An Socach (Affric). Martin, T. E. Thomson, Stewart: Creag Meaghaidh.

Saturday, 31st March.—President, Home, Hetherington, Inglis: Mam Soul and S.W. tops. Home, Stewart: Mam Soul, Carn Eige and Tom a' Choinich. T. E. Thomson, Ledingham, Carmichael, Morrison, Wylie: Sgurr na Lapaich, Mam Soul, Carn Eige. The Macdonalds: Sgurr na Ruaidhe, Sgurr a' Choire Ghlais, Sgurr Fuar Thuill and Carn nan Gobhar (Strathfarrar). McPhail,

Campbell, Smith; also Martin and Macpherson: Carn nan Gobhar, Sgurr na Lapaich (Cannich). O'Riordan: Tom a' Choinich, Anton, Stein: Tom a' Choinich, Carn Eige, Mam Soul, Elton, Nicholson: Carn nan Gobhar, Cannich, and Toll Creagach, Affric. Dixon, Bannister: Carn nan Gobhar, Cannich. Campbell-Allen: Walk up Glen Affric. Higgins, White and Laughland: Toll Creagach, Tom a' Choinich.

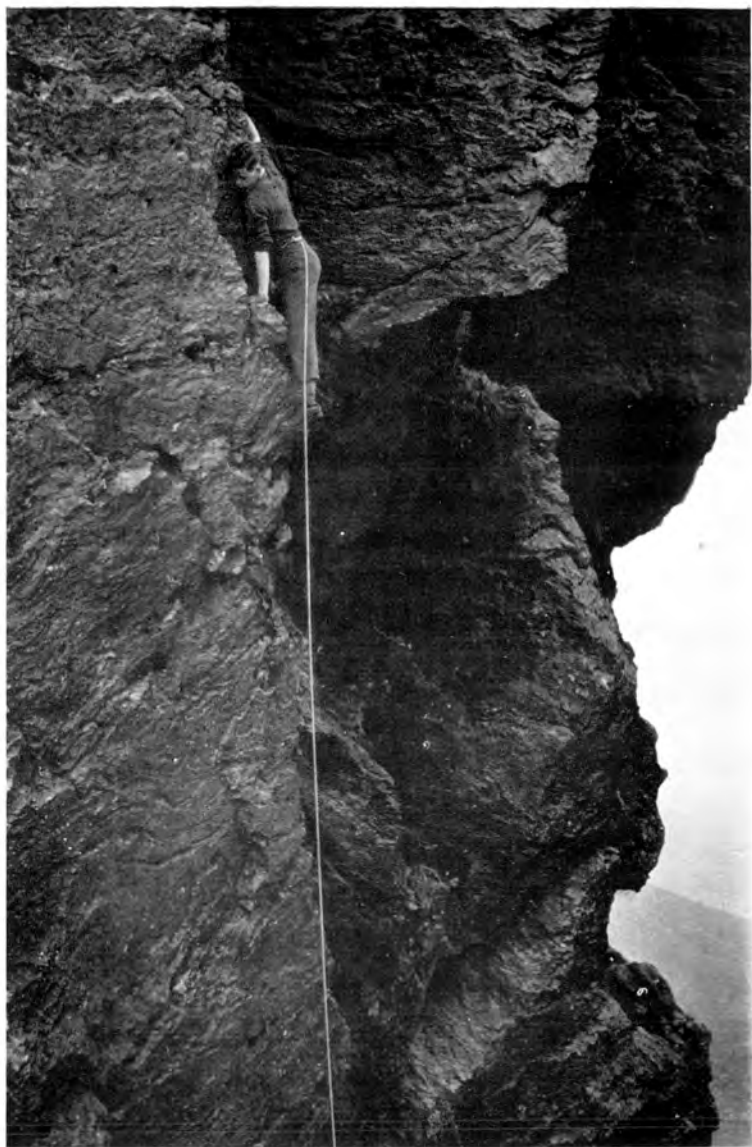
Sunday, 1st April.—President, Dixon, Bannister: Toll Creagach, Tom a' Choinich and all tops. Inglis, Stewart: Sgurr na Lapaich, Cannich and Carn nan Gobhar. Carmichael, Ledingham, Wylie, Morrison, Anton, Stein: Sgurr Fuar Thuill, Sgurr a' Choire Ghlais; also Campbell, McPhail and Smith. O'Riordan, Martin, T. E. Thomson: Sgurr Fuar Thuill, Sgurr a' Choire Ghlais, Creag Ghorm a' Bhealaich and Sgurr na Fearstaig. Elton, Nicholson, Macpherson: Maoile Lunndaidh. Home: An Socach, Mam Soul, Sgurr na Lapaich, Affric. Duff, Henderson: An Riabhachan, Sgurr na Lapaich, Carn nan Gobhar, Cannich. Peat, Colin Macdonald: Mam Soul, Carn Eige. J. Y. Macdonald: Bathing in Glen Affric.

Monday, 2nd April.—President, Elton: Gleouraich (Tomdown). Martin, T. E. Thomson, Stewart: Sron a' Choire Ghairbh (L. Lochy). Nicholson: Tigh Mor na Seilge (Cluanie). Inglis: Stob Ban (Glen Nevis). Anton, McPhail, Campbell, Smith: Toll Creagach, Tom a' Choinich. Home, Ledingham, Wylie: Creag Dubh, Carn nan Gobhar, Sgurr na Lapaich (Cannich), Braigh a' Choire Bhig. O'Riordan, Bannister, Dixon: Carn Eige, Mam Soul, Sgurr na Lapaich. Carmichael and Myles: Sgurr na Ruaidhè, Carn nan Gobhar (Strathfarrar). Myles went on to Sgurr a' Choire Ghlais.

Tomich Party.—Sunday, 1st April.—Laughland: Carn nan Gobhar and Sgurr na Lapaich. Higgins, White: Carn nan Gobhar. Murray: An Socach (Affric). Hetherington: Sgurr nan Ceathreamhnan and An Socach.

Monday, 2nd April.—Murray, Hetherington: Carn nan Gobhar.

Clova Subsidiary Meet.—This Meet was poorly attended and was so scattered in time that several participants did not meet others. Dykehead Jubilee Arms Hotel was comfortable. On 30th March E. S. Chapman and Mrs Chapman prospected Loch Brandy for snow for ski-ing, leaving for Glenshee and Braemar next day. R. D. Walton was on hills behind Loch Brandy on 31st March and, in company with the Editor and Mrs Bell, was on Broad Cairn on Sunday, 1st April. He included Craig of Gowal and they included Sandy Hillock. On the same day L. M. Hill with his son was on Craig Mellon. On Monday, 2nd April, Walton did Mayar and Driesh. C. R. Steven and Carstairs (guest) did Broad Cairn, Carn Bannoch, Fafernie and other tops on the same day.



Tom Weir

CLIMBING STYLE

Kenneth Bryan on Chimney Arête of the Cabbler

NEW YEAR MEET, 1957—ARROCHAR.

THE main centre was at the Arrochar Hotel where eighteen members and six guests were present. Except for Saturday, the weather was misty and there was a good deal of rain. The principal events of the Meet were the pleasant visits of members staying at Inverarnan, and of those at Glen Loin House who brought Mr Dowd Big of Pakistan, who showed slides of the Austro-German expedition to Rakaposhi. The entertainment of those present by a member who had brought his pipes was curtailed by the police, but for reasons which were not explained.

The following members and guests were present at the hotel: W. B. Speirs (President); W. C. Carmichael, M. H. Cooke, C. V. Dodgson, R. R. Elton, A. Harrison, E. W. Hodge, D. C. Hutchison, R. M. G. Inglis, G. S. Johnstone, J. N. Ledingham, J. Y. Macdonald, G. Graham Macphee, J. G. Osborne, J. S. Stewart, E. C. Thomson, T. E. Thomson, F. R. Wylie (members), and J. Dougall, C. G. Macdonald, C. R. M. Notcutt, J. G. Speirs, R. J. Stewart, H. S. Thompson.

The following expeditions were reported:—

Saturday, 29th December.—E. C. Thomson, T. E. Thomson, Cooke: Ben Vane.

Sunday, 30th December.—Wylie, Ledingham, Carmichael: Ben Vane. J. S. Stewart, Johnstone, Hutchison: visit to Glen Loin caves and Cruach Tairbeirt. E. C. Thomson: Tullich Hill. Macphee, T. E. Thomson, Hodge: visited caves. Harrison, Elton, Osborne, Notcutt, Cooke: Ben Narnain.

Monday, 31st December.—Wylie, Carmichael: Ben Reoch and Tullich Hill. Harrison, Osborne: Tullich Hill. Elton, E. C. Thomson: Tullich Hill. The Macdonalds, Evershed Thomson, Notcutt, Cooke: Beinn an Lochain.

Tuesday, 1st January 1957.—The President and his son: A' Chrois. Dodgson, Inglis, C. Macdonald, R. Stewart, Dougall: Ben Narnain. Harrison, Elton, E. C. and T. E. Thomson, Cooke: Cobbler. J. Y. Macdonald: Glen Loin.

Wednesday, 2nd January.—The Macdonalds: Ben Ime. The President and son, Inglis, R. Stewart, Dougall, Dodgson: traversed Beinn an Lochain.

The Glen Loin House party consisted of the Editor, I. G. Charleson, B. H. Humble and J. B. Nimlin, of

whom the latter two members were temporarily disabled for climbing purposes. The other two took a low-level walk on Sunday, were on Narnain on Monday and on the Cobbler on Tuesday. Mr Dowd Big, of Pakistan, engaged in the study of British hydro-electric projects, showed his Karakoram slides in Glen Loin House on Sunday, and again, by request, on Monday at the Arrochar Hotel, but to a more limited audience, as several members had gone to Inverarnan to a Hogmanay dinner. Quite a few members were at Inverarnan, not officially, perhaps, at the Meet, but some of their climbing was done on the Arrochar hills. Dr G. Graham Macphee concluded by climbing Bidean nam Bian from Glencoe.

Lagangarbh Section.—The following members were present: R. W. MacLennan, J. E. Proom, I. D. Haig, G. Hood, J. R. Marshall, along with A. McCorquadales, R. Marshall and N. Harthill (guests).

On Saturday, 29th December, Proom climbed Sron na Creise and Meall a' Bhuiridh. The Marshalls and McCorquadales arrived by midday bus and climbed the Buachaille by the Curved Ridge. Sunday was an atrocious day, yet Proom and Harthill climbed the North Buttress of Buachaille; the Marshalls, with McCorquadales, climbed Slanting Grooves and Green Gully of Buachaille. Hood and MacLennan retired to Lagangarbh, and Haig, without axe, compass or companion, achieved Ben a' Chrulaiste. On Monday, MacLennan did Chrulaiste and Stob Mhic Mhartuin, followed by J. R. Marshall to the first summit only. Domestic duties, reading and a traditional Hogmanay were enjoyed by others. On New Year's day R. Marshall, Hood and MacLennan walked to Coire Gabhail; Haig and J. R. Marshall dug ditches. On 2nd January, R. Marshall and Harthill climbed the left branch of Forked Gully on Stob Coire nan Lochan. D. Goldie (member), with J. Dunn, C. Carter and K. Bryan (J.M.C.S.), appeared on Hogmanay and did some very secret climb on Bidean next day.

Annual General Meeting.

THE 68th A.G.M. of the Club was held in the George Hotel, Edinburgh, on Saturday, 1st December 1956, at 5 P.M. Mr E. C. Thomson, President, occupied the chair, and over one hundred members were present. The office-bearers' reports, a summary of which are given, were approved.

The *Hon. Treasurer* reported a credit balance of approximately £58 at the start and of £63. 13s. at the close of the year. He reported an increase of over £600 in the Funds, which was mainly due to *Guide Book* sales, and would be required for corresponding expenditure during the forthcoming year. Details in connection with *Journal*, *Guide Books* and Huts will be found in the relevant reports. Other printing costs, on which reduction might have been hoped for, were nearly the same as last year. The cost to the Club of the A.G.M. functions was about £60, and it was hoped to reduce this item. He noted that no Members' List had been printed during this year. The Edinburgh Club Room had cost rather more, but the income from projectors showed a credit of about £17. One member only had commuted for life membership.

The *Hon. Secretary* reported the deaths of the Hon. President, Sir John Stirling Maxwell, and of four members—Arthur Anderson, Ormiston Chant, R. M. Scott and ex-President Robert Jeffrey. One member resigned and two have been struck off the roll under Rule II. Against these losses eight new members were elected at the October meeting of Committee: J. H. Barber, A. J. Bennet, Alan Dick, John Hay, Charles Rose, J. E. Proom, Alan Will and Adam Watson. These are cordially welcomed. The Club membership remains, as last year, at the total of 333. He then reported on the outstanding climbing activities of members, and commented on the correspondence involved in his work. Negotiations were still proceeding in connection with the proposed Skye Hut, the appeal for additional funds not yet having been issued. Detailed planning would depend on the funds available. The A.S.C.C. continued to function smoothly with Mr Duff (C.C.) as Chairman and Miss B. Stark (L.S.C.C.) as Secretary. F. E. O'Riordan would replace Robert Jeffrey on the National Trust. A tribute was paid to the Joint Meets Secretaries (now resigning)—T. E. Thomson and G. Arthur.

The *Hon. Editor's* report dealt with No. 147 of the *Journal*, the first number of Vol. 26 and the index to Vol. 25. The printing number of 900 and the size of the *Journal* were approximately the same as last year. Printing costs, however, had risen by about 15 per cent. The total cost, including postage, amounts to £390. 11s., of which £17. 4s. covers half-tone blocks. The index may be estimated as costing over £20. Advertisement space is about the same as last year, but rates have not been raised. It is proposed to bring them into line with printing costs for next year. Sales revenue being much the same as last year, the net cost to the Club has increased and stands at £191. This works out at about 11s. 6d. per member.

The *Hon. Guide Book General Editor* expected that, apart from Arran, the outstanding rock-climbing "Guides" would be all in preparation during 1957 for publication in the spring of 1958. The new "Glencoe" Guide would appear in two volumes. He expressed thanks to Messrs L. Lovat, W. M. Mackenzie, Malcolm Smith and

J. M. Johnstone for their continued work on these guide books. Sales had fallen off somewhat during the year, at £869, but this was normal. The increased balance was already earmarked for subsequent expenditure.

The *Convener Huts Sub-Committee*, G. S. Roger, reported on the satisfactory condition of the C.I.C. Hut, with minor repairs in hand, fuel supply arranged for, a slight increase of hut-nights over last year, and a credit balance increased by about £86. Lagangarbh Hut was in good condition with an increase over last year in hut-nights. Water had been laid on to the hut, through alkathene pipe, from a source about 100 yards away, thanks to W. Bennet and his helpers. Painting had been carried out. Mr Cameron continues as caretaker and custodian of first-aid equipment. The stretcher and official mountain rescue sign are at the hut. The credit balance, despite expenditure, has increased by about £6. The Ling Hut showed about the same occupation as last year, mainly about New Year and Easter. Its condition is satisfactory, minor repairs having been done to the roof and painting the walls by voluntary helpers. Mr Hector Cameron continues to look after the keys. Balance on occupation account has risen by about £29. Thanks are due to the custodians of all three huts.

District Conveners' Reports.—G. C. Williams (East) reported an excellent series of lectures in the Club Room of climbing in Colorado, Morocco, the Alps, Kangchenjunga, Jugal Himal and of the R.A.F. Himalayan Expedition. The average attendance at meetings was forty-five. The Club Room was also used by the J.M.C.S. and the L.S.C.C. On 5th June two Russian mountaineers, Messrs Beleski (who led a successful expedition to Mustagh Ata) and Gippenreuter, lectured to members, J.M.C.S. and friends at Edinburgh with slides and films of climbing in the Caucasus and the Pamirs. Finally, Mr Beleski presented the badge of the All Soviet Sports Culture Mountaineering Section (First Class) to the President for the Club. A. H. Hendry now becomes District Secretary, with R. W. MacLennan and James Russell taking the place of C. R. Donaldson and R. Brown on the Committee.

L. S. Lovat (West) reported the regular use of the Club Room, though a more convenient location is being sought. A panel of car-owners has been arranged jointly with the J.M.C.S. for the fortnightly meets. Good lectures continued to draw large audiences. The following books, as well as the regular periodicals, have been added to the Library: "Nanga Parbat Pilgrimage," "Mont Blanc to Everest," "Tents in the Clouds." D. J. Bennet and T. J. Ransley replace D. Scott and W. Bennet who retire.

J. McK. Stewart (London) reports a series of six joint lectures along with three other Clubs in the area, but no other activities. During the year Iain Ogilvie went abroad and J. McK. Stewart took his place as Convener.

First-Aid Committee.—Dr A. I. L. Maitland, Convener, reported that the rescue kit had been moved from Dundee to Glen More, under the charge of Mr D. D. C. Robertson, head forester at the Sluggan, and with the Moray M.C. responsible for maintenance. The Coylum Bridge kit is temporarily withdrawn. Mountain Rescue plaques now mark all our posts. The Convener thanks all who have given their services in search and rescue parties.

Library and Slide Collection.—The report by F. Bennett acknowledges presentations from D. Pilkington, D. Barker, E. W. Hodge, J. Hirst and the library of H. MacRobert. A complete list of Library additions was circulated to members.

R. Grieve, Slide Custodian, reported seventeen requests for slides, of which eleven were for the 2-in. collection, a total of 276 standard and 523 small size. The collection as a whole has been increased from the excellent private collection of H. MacRobert. Denis Moore and James Marshall and a few others have made donations to the 2-in. collection.

Scottish Council for National Parks.—I. G. Charleson, Club representative, reported on a meeting in February 1956, where a discussion took place on the future of the Council. Mr Macaulay of the Town and Country Planning Association moved that the Council continue in being. Mr Ivory of the National Trust moved the direct negative but found no seconder. Mr Charleson holds that the Club should continue to be represented.

Meets.—All the Committee recommendations were accepted as follows: New Year, 1957, Arrochar; Easter, 1957, Glen Spean; New Year, 1958, Crianlarich; Easter, 1958, Braemar. Each New Year add Lagangarbh and each Easter C.I.C. Hut.

Office-Bearers and Committee.—The Committee's nominations, all except one, were accepted. The following were elected: President, W. B. Speirs; Vice-President, R. Grieve; Committee, J. M. Johnstone, James Marshall, James Russell and Adam Watson, jun.; Meets Secretary, M. H. Cooke (alone); East of Scotland District Secretary, A. H. Hendry. Other appointments by the Committee include the following: B.M.C. Hut Committee, A. G. Waldie; Scottish National Trust Council, F. E. O'Riordan; Eastern District Sub-Committee, R. W. MacLennan and James Russell; Western Sub-Committee, D. J. Bennet and T. J. Ransley; London Sub-Committee Convener, J. McK. Stewart.

The Committee had, by a majority of 9 to 7 (the Hon. Editor not voting), nominated G. J. F. Dutton for the Editorship. The Hon. Editor did not resign, and was later nominated by I. G. Charleson and G. C. Williams, thus giving rise to a most unusual election and a prolonged discussion, which resulted in the re-election of the Hon. Editor by 52 votes to 41.

The A.G.M. for 1957 was fixed for Glasgow on 7th December. Mr G. R. Donald proposed a vote of thanks to the retiring President.

Reception and Dinner.

The Reception was held at 2.30 P.M., when 175 members and guests were received by the President and Mrs Thomson. An illustrated talk on the first ascent of the Mustagh Tower was delivered jointly by John Hartog and Tom Patey (both members of the Club). Both the discourses and the slides were received with enthusiasm.

The Dinner, later in the evening, was attended by 126 members and guests, who included the afternoon's speakers, the Lord Justice Clerk and guests from many kindred clubs. Archie Hendry proposed "Our Guests and Kindred Clubs." John Hartog replied for the Guests and Harry Spilsbury of the Wayfarers' Club for the Kindred Clubs, adding greatly to the gaiety of the evening by delivering part of his speech in song. After the formal programme, members circulated freely and an extempore sing-song developed under the leadership of Tom Patey and Len Lovat.

THE JUNIOR MOUNTAINEERING CLUB OF SCOTLAND.

Annual General Meeting (Whole Club).

THIS event, owing to difficulty in obtaining suitable transport, has been postponed from early March until 4th May. It will therefore, unfortunately, be impossible to report the proceedings in the 1957 *Journal*.

Edinburgh Section.—The past year has been a most successful one, and the amount and standard of climbing have shown a significant improvement. Week-end bus meets have been held monthly with an average attendance of 29, the places visited being Glencoe, Fort William, Loch Quoich, Glen Clova, Lochnagar, Linn of Dee and Borrowdale. Members have also been very active on other week-ends, and have attended the bus meets of the Edinburgh and Falkirk Mountaineering Clubs. The S.M.C. lectures have been much enjoyed. J.M.C.S. indoor meets have been held monthly throughout the year and have included talks on technique and slide shows by members. During October the Section provided a stand at the Hobbies Exhibition of the Edinburgh Rotary Club.

There have been some changes in the membership of the Section: 21 new members have been admitted and 17 members have

either resigned or been removed from the list for arrears of subscription. The present membership stands at 69, with 6 associate members. Finances are sound, and the annual subscription is 10s. Honorary officials are J. Russell (President) and R. MacLennan (Vice-President). The President is D. Lamont and the Secretary is J. Clarkson, N.C.R.E., St Leonard's Hill, Dunfermline.

Glasgow Section.—This year the Club has enjoyed the services of a ruthless Treasurer, who has pruned down the membership to 120 ordinary members, 7 associate members and 1 honorary member; to balance this there have been 12 applications for membership. Collectively, the Club has not been very active, as most of the 23 car meets which were organised had to be cancelled for lack of support. It was found that members preferred to go in independent parties, so that on any one week-end it would be possible to find the hard core of some 25 climbers scattered over the mountains of Scotland. Now, on account of fuel shortage, monthly bus meets have revived and the first two have been very successful.

Nine lectures, all of a high standard, have been held in conjunction with the S.M.C. and were well attended. At the Photographic Competition in April 1956 a large selection of colour slides were shown but only a small number of monochrome prints were exhibited. G. A. Kitchin, A.R.P.S., judged and gave an interesting and informative criticism of each slide. The Section A.G.M. was held in the Bath Hotel in December and a considerable amount of business was transacted despite the red herrings produced, as usual, by certain members. A highly successful Annual Dinner was held in the Grand Hotel on 8th February 1957, attended by 50 members and guests. John Cunningham of the Creagh Dhu Club was principal guest. The Thursday lunch has become a movable feast, in search of a reasonable eating house. Members who have lost the trail should get in contact with the Secretary.

Several members were abroad during the summer of 1956, but it appears that they were able to do very little climbing. Two members at least know Venice very well, and there was an audacious solo expedition to the French Alps.

The office-bearers are as follows: Hon. President, D. Scott (S.M.C.); Hon. Vice-President, J. Nimlin (S.M.C.); President, W. C. Harrison; Secretary, C. R. Ford, 28 Croftmont Avenue, Croftfoot, Glasgow, S.4.

Lochaber Section.—Membership is on the increase. Owing to lack of petrol the snow ski-ing enthusiasts have had a very quiet season. Steill Hut is as popular as ever at the holiday periods and even week-end bookings are increasing.

The Section is financially sound. At the A.G.M. the possibilities and advantages of two small Anderson shelter type Refuge Huts were discussed, the intention being that they would be erected on Ben Nevis and maintained by the Section. A series of lectures on

Mountain Rescue are at present being given by Club members, and these are being attended by Police and others. It is hoped that this will speed up and co-ordinate the various parties who usually volunteer when needed. Practical training will also be given during the summer evenings.

Owing to the departure of the present Hut custodian all enquiries about Steill Hut after March should be addressed to the Treasurer, J. A. Sutherland, British Linen Bank, Fort William. The retiring Secretary, J. Wyne, is leaving for Canada at the end of March and all his friends wish him all prosperity and good climbing in his new home. The new Secretary is J. Cameron-Phin, Royal Bank,

London Section.—Meets were held regularly at the sandstone outcrops and in North Wales, at which the main supporters were a small group of stalwarts. Small parties went farther afield to climb in Scotland and the Alps.

E. C. Pyatt's revised Guide to the climbs in South-east England was published during the year.

The Annual Dinner held in December was very successful, as have been the opening meets of this year, and the prospects for the 1957 season, including finances, are good. Forthcoming activities include indoor meets and week-end trips to North Wales. We should appreciate contacts from other Sections who have members going to the Alps.

The honorary officials of the Section are R. G. Folkard (President) and E. R. Zenthon (Vice-President). The Section President is D. W. Tait and the Secretary is K. N. Reed, Ardenlea, 61 Shawley Way, Epsom, Surrey.

Perth Section have had another good year, the membership remaining steady at 40 despite the loss of several older members. The bus meets have all been well attended, as were also the car meets to Derry Lodge. Unfortunately we have been unable to hold any film shows as we seem to have used up all available stock. The Perth Section organised the Club A.G.M. at Lochearnhead which was well attended, and in November we held our Annual Dinner at the Spittal of Glenshee Hotel. This was a great success, and on this occasion we had our Hon. President, Bill Murray, with us, which made the day more enjoyable. (From the Hon. Secretary, J. Grant, 37 Burghmuir Road, Perth.)

S.M.C. and J.M.C.S. ABROAD.**Scoresby Land, East Greenland.**

During July and August I was with a party prospecting for minerals in the Scoresby Peninsula of East Greenland. Most of our time was spent in the Schuchert Elv, a large valley running from north to south between the Staunings Alper to the west and the Werner mountains to the east. The Werner mountains are a small group, only about 15 miles across, mostly of unpleasant sedimentary rocks and with a maximum height of 6,000 ft. In the east and south they fade into gentler mountains not unlike those of our own north-west Highlands. The Staunings Alper form one of the finest mountain regions in Greenland, extending for over 100 miles. Their igneous and metamorphic rocks offer excellent climbing with summits approaching 10,000 ft. In appearance they present a wild tangle of exciting rocky spires rising from a maze of huge glaciers. Due to the small annual snowfall these glaciers are very slow moving and hence remarkably free from crevasses.

Occasionally I succeeded in having a day's climbing with two other members of our party who were fairly willing, if inexperienced. In the Werner mountains we climbed a small unnamed peak (about 5,000 ft.), one of the peaks of the Erzberg (about 5,500 ft.) and failed miserably through lack of time on a large and appallingly rotten rock face at the end of a long ridge called the "Weisser Rucken."

In the Staunings Alper our climbing was more enjoyable if no more successful. We had a very pleasant twenty-hour day on the highest peak in our vicinity (about 6,500 ft.). Its summit ridge consisted of a succession of huge *gendarmes*, but we were unable to pass the last of these in a reasonable time and so had to turn back. We were more successful on two smaller virgin peaks, one of 4,500 ft. and the other of 5,300 ft. The former of these gave a splendid climb up a 2,000-ft. rock face and the latter was distinguished by its steep final tower and needle-like summit.

As a whole the region was most attractive and I found the Arctic flora and the herds of musk oxen particularly interesting. A properly equipped climbing expedition could enjoy some magnificent mountaineering and reap the advantages of the equable temperatures, unlimited daylight and almost unbroken fine weather which exist throughout the summer. Unfortunately, the difficulties of access and supply are very great and the current policy in this part of Greenland is discouraging to purely mountaineering expeditions. Eventually, however, things may become easier as there is a distinct possibility of a mining settlement being established in the Schuchert Elv within a few days march of some of the better peaks of the Staunings Alper. (W. D. BROOKER.)

Alps and Corsica.

A. S. Dick, G. J. Ritchie, C. G. Slessor and J. S. Stewart undertook a motoring mountaineering marathon in the Dauphiné and Mont Blanc areas. Leaving Glasgow on the night of 12th July, they arrived at La Bérarde on the 14th. Snow came to the valley on the 15th but some climbed on the Pic de la Bérarde. The 16th saw them on the west ridge of the Pic Nord des Cavales, but desquamating rock and danger from débris of recent falls caused them to transfer their attentions, steep slabs providing a hitherto unrecorded approach to the south ridge. Near the top, snowstorms led to a final retreat. Up at the new Pilatte Hut next day mountain troops reported that *verglas* and ice still barred all rock routes. In the event, Les Bans gave a fine winter climb on the 18th, but conditions so deteriorated as to turn back all guided parties the following day. In such conditions the lower Aiguille Dibona de Soreiller is often clear. It provided a fine steep climb on beautiful rock on the 20th. Next evening the party were at the Refuge Temple-Écrins. For full value from one ascent of Les Écrins they passed the Col des Avalanches and climbed the Clocher arête to the Dome de Neige. Thereafter, in rapidly worsening conditions while traversing the Barre, they descended in a blizzard by the northern snow slopes of the Col des Écrins and the Glacier de Bonne Pierre to La Bérarde.

Acting on a conviction that conditions were now more favourable for the Brenva face of Mont Blanc than the Oisans, the party took the road in brilliant weather through snow-covered mountains by the cols of Lautaret, Galibier, Iséran and Petit St Bernard to Courmayeur. Dick generously undertook to drive round by the Grand St Bernard and Forclaz passes to Chamonix; and the others, waiting no longer than to confirm conditions, left immediately for the Col de la Fourche. That evening, 24th July, they arrived at the hut where two Munich climbers were already installed. Conditions of snow and weather were perfect and all left before 4 A.M. for the same route, the Sentinelle Rouge. The climb was arduous but without incident. The Germans could travel very quickly up steep slopes on the front points of their twelve-point crampons, each clawing with an ice-axe in one hand and a short pick in the other. The Scots required to cut on ice but had the advantage on rock. The Twisting Rib was nearly buried in places, and the curtain of rock below the final snow slope was ice-covered. The parties met on the top at 2 P.M. The worst feature of the day was the descent in the heat of the afternoon by the Grands Mulets, plunging one moment on the surface crust and the next waist deep in slush.

Mr B. S. Fraser writes as follows: During a family holiday in Corsica, where John Whyte (S.A.C.) joined us, we had some interesting expeditions. With a large and cheerful Corsican party we ascended Monte Renoso (2,357 m.) from Bastelica. This

entailed a night on a *bergerie*, and from near the summit a sunrise over the Apennines; there was no climbing, but J. W. and my son Andrew found interesting problems on rocks near the summit of Punto Scaldasole (2,102 m.). For the ascent of Monte d'Oro (2,391 m.) J. W. and I travelled light up the fine Cuzzini valley, slept behind a boulder above the col, found some easy rocks near the summit and some dreadful alder scrub on the way down.

We made two expeditions to the Monte Cinto group: (1) From camp by the Rio Golo, about a mile north of the Col de Vergio, J. W., Andrew and I climbed Capo Tafonato (2,343 m.) from the Col du Trou by the line of least resistance, and found with some difficulty a route back from west to east through the celebrated hole in the mountain. Next day we ascended Paglia Orba (2,523 m.) from the south-west—a gully and then a face climb on clean, rough rock. (2) Our northern approach was by Asco and the valley of the Stranciacone; we camped (*ca.* 1,200 to 1,300 m.) near where the Loghietta joins the main stream. The first afternoon's reconnaissance took us some distance along the pinnacled north-east ridge of Punta Minuta from which we descended before darkness by roping down into a gully to the north. Next day we did Monte Cinto (2,710 m.)—a grind all the way. The last day we started sluggishly up the fine north-west ridge of Punta Minuta (2,547 m.), but continued to the summit with increasing enjoyment of the views, the route finding and the varied climbing. It was perhaps as well, though it was an anticlimax, that we found an easy route off to the south and so down the Loghietta Cirque.

Camping at the tree-line in Corsica was a dream come true—primus unnecessary, tent likewise, at least in the first half of August; no insects; no poisonous snakes. We much preferred the northern side, reached from Asco, and recently made more accessible by a rough road used by forestry lorries; we could have spent much longer up the Stranciacone. We met no climbers, and each ascent was an exploration. There seemed to be many new and testing rock climbs for those in search of the less easy routes.

A. Robinson (J.M.C.S.) and George Roger were in Zermatt from 26th August until 10th September and were fortunate in getting some good weather during a particularly bad season. We had a splendid day on the Wellenkuppe on 31st August and next day made an attempt on the Trifhorn, but retired from the Triftjoch in a blizzard. Frank Yule joined us on 3rd September and from the Theodule Hut we did the Breithorn and Klein Matterhorn on the 5th in perfect weather. Two days later we had a most enjoyable day on Monte Rosa. It is perhaps worthy of note that Frank Yule's one week in the Alps was fine throughout and the weather promptly broke on his departure.

J. Clarkson and F. King (both Edinburgh J.M.C.S.), R. J. Tanton and Miss M. Billing climbed in the Mont Blanc area from

22nd July onwards, and W. M. MacLeod joined the party a week later. Climbs done from Chamionx were as follows: N.N.E. Arête of the Aiguille de l'M.; Petits Charmoz; Chapeau à Cornes arête of the Dent du Réquin; traverse of Les Courtes; Aiguille du Moine. The party then moved to the Argentière Hut and climbed the Aiguille d'Argentière from the Col du Chardonnet. From the Trient Hut, MacLeod and King climbed the Aiguille Javelle of the Aiguilles Dorées, then, from the Torino Hut, the Rochefort Ridge was traversed. Towards the end the weather around Mont Blanc was stormy and unsuitable for climbing. Clarkson and Tanton went to Cogne in the Gran Paradiso group. From the Bivacco Carlo Pol they traversed the Piccolo and Gran Paradiso, the Tsta di Tribolazione and the Pt. di Ceresole.

G. G. Freeman spent part of August in the French Alps with five members of the M.A.M. Starting from Chamonix, the Aiguille de l'M. and Dent du Réquin were climbed *en route* to Courmayeur via the Col du Géant. The party returned to Chamonix by way of the Aiguille du Midi, which was rapidly descended by *téléferique*. An attempt to climb Mont Blanc from St Gervais les Bains was repulsed by a storm at the Aiguille du Gouêter Hut, but a useful lesson in the value of crampons on new snow-covered rock was learnt on the retreat to the Tête Rousse. Finally, in search of sunshine, we went south to the Maritime Alps where the excellent rock ridge of Pic St Robert was traversed from the Madonna de Fenêtre Hut above St Martin de Vésubie.

J. Bell, G. Wallace and H. Robertson (all Edinburgh J.M.C.S.) spent the middle fortnight of July in Saas Fee and Zermatt, experiencing wet and thundery weather most of the time. Climbing from the Weissmies Hut, they enjoyed the excellent ridge of the Jägigrat, including the Jägihorn. Next day they made an ascent of the north ridge of the Weissmies in poor weather conditions. From the Britannia Hut they traversed the Egginer and Mittaghorn, a very moderate rock ridge. In the Zermatt area they did several routes on the Riffelhorn and ascended Monte Rosa.

C. S. Tilly was in the Oberland in the first half of August, in reasonably good weather, cold with much snow, often difficult. Camped at Wengern Alp in bad weather, train to Jungfrauoch on 30th July in good weather, walk to Concordia Hut. Thence to Hollandia Hut and up Ebnefluh by south-east ridge on 1st August. Snowstorm on 2nd, returning to Concordia, with a rock climb on Faulhorn next day. On 4th August traversed Grüneckhorn and up Grünhorn by its south-west ridge in cold weather and some snowfall. On the 5th, up Aletschhorn by Hasler Rib, but turned back below summit owing to bad snow conditions. Next day to Jungfrauoch in mist and snowstorm. Down to valley and thunderstorms. On 8th August to Gleckstein Hut followed by an ascent of Wetterhorn in perfect weather.

Louis M. Hill and a Grampian Club party (Mr and Mrs Watson, Misses Scrimgeour and Soutar) were at Saas Fee from 13th to 28th July and climbed on 10 days in brilliant weather. His training climbs were to the Mischabel Hut, the Mittelgrat, Egginergrat and Mittaghorn. Subsequent ascents comprised the Weissmies, Strahlhorn, Allalinhorn and Alphubel.

C. M. Dixon had a good season, starting at Chamonix with a traverse of the Chardonnet by the Forbes arête. Bad weather drove the party to the Dolomites, where they traversed the Fünffingerspitze, climbed the west face of the 3rd Sella Tower and did two routes on the Tre Cime di Lavaredo, the north-east ridge of Cime Grande and the Voie Preuss of Cime Piccola. Many good photographs were taken.

I. G. Charleson, the Editor and Mrs Bell joined forces for a week at the end of July at Gruben in the Turtmann valley. Weather was good for training period when they climbed Frilihorn, the Pigne de Combaz Vert rock ridge, the Schwartzhorn and the neighbouring Rothorn. The rock ridge was entertaining. On 31st July they went to the Turtmann Hut and on the following day climbed the Bieshorn from the Biesjoch by a steep corniced snow ridge with rock outcrops, long and sporting, returning from the summit by the easy way in soft snow. The weather broke that night for 3 days and Charleson went home. The others crossed over the Bella Tola to Ayer in Zinal valley and proceeded next day to the Moiry Hut, where the weather was again bad. On the last fine day they climbed the Pigne and traversed all the Aiguilles de la Lex, descending to Zinal.

NOTES.

Scottish Mountain Accidents, 1956-57.

13th March.—O.U.M.C. party on Ben Nevis. Fall at cornice. Lawton, third man, held both others of whom leader, J. Brown, fractured spine and second suffered head and chest injuries.

20th March.—Scott Hamilton, Oxford student, benighted at top of Tower Ridge, Ben Nevis, and suffered frost-bite.

28th March.—Malcolm Bruce (19) lost on way from Braemar to Glen Doll. Many searchers out for weeks, and helicopter used. Body found 29th April in gully on Creag Herrich.

31st March.—Christina McMath (24) and G. M. Liddle (22) descended Ben Nevis by Red Burn without ice-axes, slipped and fell 80 ft. McMath had spinal injury, Liddle facial injury. Kinloss R.A.F. and local police to rescue. R.A.F. near at hand acted very promptly.

10th April.—Mr Argill (Summit Club, Nottingham) fell in same area while glissading. Dislocated shoulder. Given first aid and helped to Glen Nevis by Kinloss R.A.F., who were at hand.

29th April.—John Spence (G.U.M.C.) fell on Central Buttress, Buachaille Etive. Head injury. Creagh Dhu rescue, along with R.A.F.

6th May.—David Morrice (24), with Carn Dearg M.C. of Dundee on Ben Lawers, got lost on descent. Body found 9th May and brought down by Leuchars R.A.F. unit.

23rd May.—John Taylor (23), London, broke leg on Coire Lagan screes, Skye. Local rescue party.

25th June.—J. D. Brill (28), London, fell and was killed in Ravens' Gully, Buachaille Etive. Leuchars R.A.F. brought him down.

22nd July.—John Eccles (17), Lomond Club, Yoker, fell on Carn Dearg Buttress, Ben Nevis, owing to loose rock. Back and wrist injuries. Local rescue team.

5th August.—Helen Clark (24), Edinburgh, fell from 2nd pitch of Recess route, Cobbler. Creagh Dhu Club and local rescue.

20th August.—Allan R. Grout (19) Kinloss R.A.F., killed on practice climb on Garbh Bheinn of Ardgour.

6th September.—Frank Turner, novice, fractured ankle near summit of Cobbler. Local rescue.

25th December.—M. Hornby (19), F. Wearden (20), I. Sumner (20), J. Bond (19), T. Carrol (21), all from Lancashire, benighted in blizzard on plateau after climbing South Castle Gully, Ben Nevis. Carrol got down to Fort William on 26th. Rescue party held up by blizzard on first day, other four climbers found dead next day. Kinloss R.A.F., Lochaber J.M.C.S. and police co-operated in rescue operations.

27th December.—Mr and Mrs Leslie Wallace (Edinburgh) benighted on Ben More in improvised shelter, but returned to Crianlarich in morning safely. A search party was out.

30th December.—T. Barton, Liverpool U.M.C., second on rope on Stob Coire nam Beith, Glencoe, fractured spine. Reported that a Tarbuck knot had slipped.

30th December.—G. Ramsden (Surrey) and G. Mitchell (Glasgow) camping in Allt a' Mhuilinn, Ben Nevis. Ramsden collapsed returning from climb. Mitchell brought up a local stretcher party, which carried Ramsden to the foot of mountain. He thereafter got off stretcher and walked!

8th January.—Mrs A. L. Prestige (Cambridge) fell 200 ft. when descending Stob Coire nan Lochan with her husband. Fatal injuries.

13th January.—Derek Hill (20), O.U.M.C., fell when climbing Chasm on Buachaille Etive. Fractured skull.

23rd February.—Avalanche on Ben Lui, near summit, carried down party of four of Leuchars R.A.F. Rescue Unit. Macdonald went to Coninish for help. Horner and Halford (bruised) splinted Law's broken leg with ice-axe and got him down to a sheepfold. Another party of four lost direction in a blizzard and search party out. They reached hydro-electric camp, Glen Fyne, in the morning.

Dr Duff makes some comments on the Ben Nevis fatalities of 25th December 1956. These young Lancashire climbers were experienced, for their age, on Lakeland hills. The leader had led a party on the Matterhorn. One other member had climbed in Glencoe in summer. They obviously had no idea of the easy and safe way off Carn Dearg, Ben Nevis. They had no idea of blizzard conditions on the Ben. Their clothing was quite inadequate. They had no gloves, although they were camping in the Allt a' Mhuilinn Glen. When they reached the plateau they could see the lights of Fort William, but aimed at a short cut back to their tent, aiming for the Lochan Meall an t'Suidhe, so getting into difficulty on small rock outcrops. Then they tried to scoop a hollow in the snow on a bouldery slope. This gave most inadequate protection from the wind. Two men could not be roused at all next morning and only one could struggle to the path, reaching Fort William at 11 A.M.

All climbers are indebted to the Leuchars and Kinloss R.A.F. Rescue Units, who have done such good work on the hills. The R.A.F. note the good work of the Lochaber and Argyllshire Police, but point out that these men are not well equipped for the work in hand. Adequate mountaineering equipment and protective clothing are essential.

Guide to Climbs on North-East Coastline.—A small handbook of rock climbs, limited edition, at a modest price, is to be published some time in 1957 by the Etchachan Club of Aberdeen. The coast covered will be roughly from Stonehaven to Banff. Any S.M.C. members desiring a copy should write as soon as possible to the Club Secretary—A. P. Crichton, 454 King Street, Aberdeen.

Cuillin Main Ridge Traverse.—In May 1956 an L.S.C.C. party consisting of Misses Anne Littlejohn, R. E. Stark and Anne Clark effected the traverse starting from and returning to Camasunary. Miss Littlejohn traversed the ridge and then included Blaven and Clach Glas (start 12.15 A.M., return midnight), the first time the complete expedition has been done by a lady. The others did the ridge only. They left at 10 P.M., waited a longish time at Thearlaich Dubh Gap for their friend (who left them after Sgurr Thormaid), reached Sgurr nan Gillean at 8 P.M. and returned to Camasunary after midnight. They were a supporting party, not out to make a record.

Maol Chean Dearg (Torridon).—G. J. F. Dutton and James Russell ascended this mountain by a rather narrow buttress, like a pinnacle, forming the right skyline of the peak, as seen from Bealach na Lice. An airy scramble, including grass and mossy blocks, but with two exposed, moderate to difficult pitches, with a shallow gully on left and a sheer face on the right down to Loch an Eoin.

(Continued on page 204)

LIBRARY, BOOKS AND JOURNALS.

THIS list covers books added to the Library after the list contained in the 1956 Journal. Books reviewed in this issue are also in the Library.

The Island Hills. By C. R. Steven. (Hurst & Blackett. 18s. 190 pp., 35 illustrations, 9 maps.)

A review of this delightful book by one of our members should have appeared in our last number, but the review copy went astray. We are now glad to express our appreciation. It is a record of visits, several of them all too brief, to Ailsa Craig, Arran, Bute, Scarba, Jura, Lismore, the Isles of the Sea, Mull, Staffa and Iona, Eigg, Rum, Skye and Handa. The book has a delightful carefree atmosphere with full appreciation of the local worthies and the natural history of the islands. Some long hill expeditions are described, not at all easy to plan out owing to the scarcity of transport.

Tents in the Clouds. By Monica Jackson and Elizabeth Stark. (Collins. 18s. 255 pp., 36 plates, 5 maps.)

Our readers need no introduction to this account of the first all-women's Himalayan party, an article on which appeared in the 1956 *Journal*.

The Conquest of Fitzroy. By M. A. Azema. (André Deutsch. 21s. 237 pp., 19 illustrations, 3 maps, 3 diagrams.)

The French expedition to Mount Fitzroy, 3,441 metres, a spectacular tower of granite in the Patagonian Andes, reached the summit in February 1952. The mountain, exposed to the blizzards and foul weather from the cold, West Pacific coast at all seasons presented fantastic rock difficulties, accentuated by the rapid weather changes. The final assault from Camp 3, a snow cave excavated just beneath the saddle at the start of the rock tower, was effected by Lionel Terray and Guido Magnone, both experts in the latest developments of mechanised climbing. Starting off with a day's reconnaissance climbing, leaving ropes fixed for the assault, they only just managed to achieve success on the third day, after an exposed night, tied on to the rock face—and raced oncoming bad weather on the descent, reaching the snow cave camp after dark. A modern and exciting book with a climax to it. One last essential piton was just found in time to avert failure!

Snowdon Biography. By G. Winthrop Young, G. Sutton and Wilfrid Noyce. (Dent. 25s. 186 pp., 24 illustrations.)

This is a history of Welsh climbing, and also of the British activities of the Climbers' Club who have been the most active body in its development. Winthrop Young writes the history up to the 1914-18 War, in his charming philosophic style. Modern developments, under the title "The Greased Pole," are described by

Geoffrey Sutton and bring the narrative up to date, finishing with Joe Brown, Don Whillans, Ron Moseley and others who have been engaged on the hardest climbs of recent years. In the 1950's balance technique has been succeeded by out-of-balance technique, made somewhat safer by nylon rope and modern methods of belaying; although be it said that the stamina required must be both nervous and physical, and only a few men are endowed with sufficient rock intelligence for the hardest climbs. Wilfrid Noyce in "The Writer and Snowdonia" surveys the literature which, in this modern period, is climbing literature, even to the extent of novels and thrillers.

A Picture History of Mountaineering. By Ronald W. Clark. (Hulton Press. 30s. Introduction 17 pp. quarto. 350 pictures and index.)

This is a delightful book for the mountaineer to browse over in a completely idle hour. The reproduction in black and white is excellent. Besides the historical introduction there are captions and short explanatory notes to each picture. These form a historical series from the ascent of Mont Aiguille in 1492 up to the present day. Even Scotland gets a bit of a show. W. H. Murray appears twice and there are other well-known figures. The *Club*, however, is not mentioned, nor are its famous pioneering figures such as Naismith, Inglis Clark, Raeburn or Ling. This is a pity as the last-named partnership did much to advance guideless Alpine climbing and also pioneer work in the Caucasus.

Aconcagua, South Face. By R. Ferlet and G. Poulet. (Constable. 25s.)

This book, published in July 1956, must receive somewhat late acknowledgment. It describes the ascent of this difficult face, viewed long ago by Fitzgerald's party on the first ascent of the mountain, and now climbed by a French party.

Give Me the Hills. By Miriam Underhill. (Methuen. 25s. 252 pp., 4 colour and 32 other illustrations.)

This is the autobiography of the American mountaineer and explorer, well written in an easy style with adequate illustrations. It describes a lifetime of climbing in New England, the Rockies and the Alps with several first ascents and many done by a woman for the first time.

The following additions to the Library may be noted without comment:

On Climbing. By Charles Evans. (Museum Press. 30s. 191 pp., 32 plates, 6 maps, 96 figures.)

Alpine Ski Tour. By Robin Feddenn. (Putnam. 30s. 93pp. 24 plates, 1 map.)

The Valley of Shadows. By N. C. Negri. (F. Muller. 16s. 196 pp., 16 plates, 2 maps.)

Nanga Parbat Pilgrimage. By Hermann Buhl. (Hodder & Stoughton. 360 pp., 19 plates, 3 maps.)

Kangchenjunga: The Untrodden Peak. By Charles Evans. (Hodder & Stoughton. 25s. 187 pp., 5 colour, 32 monochromes, 2 maps, 5 diagrams.)

The following have just been notified:

The Mountain World 1956-57. English version Ed. Malcolm Barnes. (G. Allen & Unwin. 25s. 244 pp., with 64 pp. illustrations.)

The emphasis this year falls on American exploits—Bradford Washburn on Mount McKinley and Sheldon Brook on University Peak, Alaska. In the Himalayas are stories of the British ascent of Kangchenjunga, the French ascent of Makalu, with many fine new Alpine ascents, and Professor Heim's exploration of Central African volcanoes.

The Influence of Mountains on the Development of Human Intelligence. W. P. Ker Memorial Lecture by G. Winthrop Young. (Jackson & Co., 73 West George Street, Glasgow, for Glasgow University. 4s. 6d.)

This completes the list of Library additions since the list which was issued to members before the Annual General Meeting in December. It is not possible, on account of lack of space, to list the Journals of kindred clubs which have been received, usually by way of exchange, but we wish to acknowledge them with appreciation and thanks.

(Continued from page 201)

Coire Ardair, Pinnacle Buttress.—The left hand and shorter of the two steep gullies rising from Raeburn's Gully to the top of the buttress has been ascended for the first time under difficult winter conditions in February 1957 by G. J. Ritchie and James Marshall. Details available are scanty—"a fearsome traverse into the gully and then an alternation of powder snow up to 2-feet thick and then ice, or both, for the whole 450 feet, with consistent cutting through overhanging snow to the subjacent ice."

Journal Anthology.—The possibility of publishing an Anthology from the earlier volumes of the *Journal* (now out of print and unknown to many members) is under consideration. So far two members have re-read the first twenty volumes and have made tentative selections. More readers are required in order to compare notes and consider the feasibility of such a project. Would those interested please notify Mr R. Grieve, Vice-President, or the Hon. Editor.

East of Katmandu

TOM WEIR

An account of exploration in the unknown country to the west of Everest. This is more than another climbing book—Tom Weir describes the way of life of the people and the fascinating natural history of the region. The book is illustrated by a particularly fine selection of photographs by the author and Douglas Scott.

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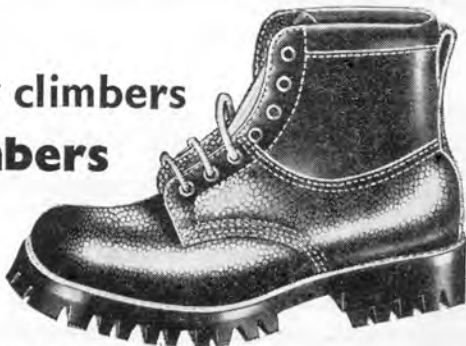
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