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AND

SCIENTIFIC OBSERVATION

BY MEMBERS OF THE ALPINE CLUB

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CONTENTS

	PAGE
ALPINE ACCIDENTS IN 1926	345
ALPINE CLUB 1, 2, 89, 103, 123, 152, 166, 364	364
American Members of	89, 276
Farewell. <i>By G. Yeld and J. P. Farrar</i>	175
Library	152, 358
Resolution passed by, in Appreciation of the Services of Mr. G. Yeld	1
Valedictory Address, 1925. <i>By C. G. Bruce</i>	2
ARTICLES, Original and Communicated, and Notes, &c.	
Alps	
Alpine Distress Signal, The. <i>By P. J. H. Unna</i>	100, 242
<i>By H. G. Willink</i>	240
Blanc, Mt., Group, The Season of 1926 in. <i>By J. P. Farrar</i>	270
Bonneval as a Winter Centre. <i>By C. F. Meade</i>	238
Fiescherhorn, Klein, The N.E. Face of. <i>By F. S. Smythe</i>	218
The Ochs or. <i>By J. P. Farrar</i>	223
Fiescherwand, The. <i>By W. H. Amstutz</i>	215
Julian, Karawanken, The, and. <i>By H. Roger-Smith</i>	203
Kiental, the, In and Out of. <i>By W. Weston</i>	211
Matterhorn, the, A Long Day on. <i>By L. S. Amery</i>	207
Midi, Dent du, Landslide, The. <i>By J. W. Wyatt</i>	246
Mulets, Grands, The, in Alpine Illustration. <i>By J. M. Thorington</i>	189
Peuteret, Aig. Blanche de. <i>By J. P. Farrar</i>	108
Over the, to Mt. Blanc. <i>By P. v. Schumacher</i>	231
Thunderstorms in. <i>By F. S. Smythe</i>	91
Canada	
Canadian Alps	
Logan, Mt., Expedition	
Food. <i>By A. H. MacCarthy</i>	252
Notes on Equipment. <i>By H. S. Hall, jr.</i>	257
Observations during. <i>By A. Carpe</i>	72
Northern, Some First Ascents in the. <i>By J. W. A. Hickson</i>	249
Two Lesser First Ascents in, 1925. Bastion Peak and the Devil's Head. <i>By J. W. A. Hickson</i>	63
Tonquin Valley, An Early Visit to. <i>By H. Palmer</i>	53

ARTICLES, Original and Communicated, &c.— <i>continued.</i>	PAGE
Counterblast, A, Countered. <i>Anon.</i>	49
Dolomites, The, in 1925. <i>By L. G. Shadbolt</i>	31
G.H.M., With the. <i>By G. S. Bower</i>	263
Glacier Lassitude. <i>By P. J. H. Unna</i>	243
Matters of Fact, On. <i>By B. Lawford</i>	43
New Zealand: Mt. Sefton, and other N.Z. Climbs. <i>By</i> <i>H. E. L. Porter</i>	11
Stray Memories. <i>By W. T. Kirkpatrick</i>	177
Wales	
Lliwedd: The Garter Traverse. <i>By H. E. L. Porter</i> .	237
CORRESPONDENCE	137, 171
CORRECTIONS	
<i>Re</i> Philpott and Phillpotts	336
CORRIGENDA	<i>before Index</i>
DEATH OF MR. COOLIDGE	170
EXHIBITIONS	
Alpine Painting, May 1926	106
Alpine Photographs, Dec. 1925	103
EXPEDITIONS	
New	116, 304
Various	118, 329
IN MEMORIAM	
Beachcroft, Sir R. Melvill	111
Bell, Gertrude Lowthian	296
Burkhardt, E.	302
Coolidge, Rev. W. A. B.	278
FitzGerald, Hon. G.	114
Howse, Thos.	294
Inderbinen, Moritz	300
Jeffers, LeRoy	299
Merzbacher, G.	303
Reggi, A. de	303
Todhunter, R.	295
Waugh, H. D.	115
Wollaston, C. H. R.	289
MALLORY, MT., AND MT. IRVINE, CALIFORNIA	89
NOTES	
Alpine	123, 333
Canadian and American	137, 343
South African	345
REVIEWS AND NOTICES	138, 346
Adventures of Exploration (Keltie & Gilmour)	354
Akad. Skiclub, Munich, 1925-6, Pamphlet (Gruber) . .	358
Alpes, Les, de la Haute Savoie (Gos, introd. Bordeaux)	346

REVIEWS AND NOTICES— <i>continued.</i>	PAGE
<i>Appalachia</i> , Vol. XVI., No. 3 : 50th Anniversary Number	142
Atlas der Alpenflora (Fischer and Hauser)	350
Bergsteigen im Winter (Hofmeier)	356
British Ski Year Book (Lunn)	355
C.A.I. Guida dei Monti d'Italia : Dolomiti di Brenta (Prati)	352
Chaîne, La, de l'Aig. Verte : Guide Vallot, Vol. II. (de Ségogne and others)	354
Dr. Julius Kugy : Aus dem Leben eines Bergsteigers	147
Eistechnik des Bergsteigers (Flaig)	146
Epic, The, of Everest (Younghusband)	356
Glittering Mts. of Canada, The (Thorington)	151
Hochtourist, Der, in den Ostalpen : Vol. II., & Vol. IV. (ed. H. Barth)	353
Hoch über Tälern und Menschen. Im Banne der Bernina (Flaig)	144
Journal d'un Voyage à Chamouni et à la Cime du Mt. Blanc (De Saussure)	348
Julius Payer's Bergfahrten (Lehner)	145
Mountains of Youth (Lunn)	140
Petra (Kennedy)	138
Photographic Expedition to the Southern Glaciers of Kang- chenjunga in the Sikkim Himalaya (Tombazi)	150
Vers l'Idéal par la Montagne (Schwartz)	143
Vette-Ricordi di Esplorazioni e nuove Ascensione sulle Alpi, nei Gruppi del Monte Rosa, del Cervino e del Monte Bianco (Gugliermana and Lampugnani)	358

ALPHABETICAL LIST OF ILLUSTRATIONS, PORTRAITS, AND MAPS

ILLUSTRATIONS

	PAGE
Aermighorn	<i>opp.</i> 212
Bionnassay, Aig. de, N. Face of	310
Blanc, Mont	
from Col de Miage	<i>opp.</i> 234-5
from Col de Peuteret	,, 232-3
from Dôme du Goûter	,, 234-5
Breithorn	
N.W. Face of, from Gandegg	311
W. Face of, from Kl. Matterhorn	313
Canadian Alps	
Amethyst Lakes and Tonquin Valley from Arête of	
Paragon Peak	<i>opp.</i> 60
Bastion Peak from N.E.	,, 60
from N.W.	,, 54
Devil's Head from N.	68
Summit Ridge of, from E.	70
Logan, Mt., Expedition	
Group of Members	<i>opp.</i> 72
King Col, Glacier above	,, 73
Ice Blocks above	,, 73
Panorama from 1st Summit of	,, 78
Moat Lake, Peaks seen S.E. across	,, 53
Paragon Peak, Panorama from Summit of	
N.W.	,, 58
S.W.	,, 59
Ramparts, The, from the E.	,, 55
Turret Peak and Mt. Geikie from N.W.	,, 61
from N.	,, 61
Dolomites	
Dibona, Angelo	<i>opp.</i> 36
Langkofel Group: from Sellajoch	,, 36
Roces, Tofana di, S. face	,, 36

x *Alphabetical List of Illustrations, Portraits, and Maps.*

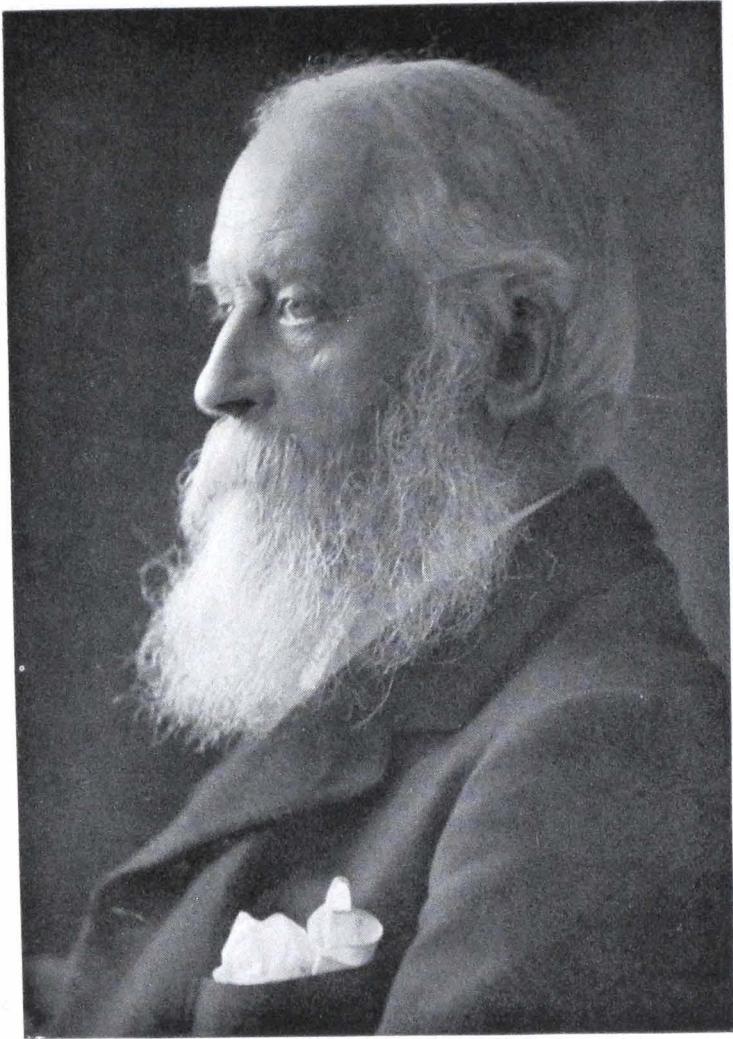
	PAGE
Ecrins, Les, and Meije, from Pelvoux	<i>opp.</i> 181
S. Face of	306
Couloir on	<i>opp.</i> 180
Eiskögele, N. face of	325
Fiescherhorn, Klein (Ochs), from Strahlegg	220
Fiescherhörner, E. Face of, from the Strahlegghorn	225
Fiescherwand, from Bäregg	<i>opp.</i> 216
Géant, Dent du, from Aig. du Tacul	,, 181
Glockerin, N.W. Face of	324
Glockner, Gross, N. Face of	323
Grépon, Aig. du Roc on	<i>opp.</i> 267
Lochmatter Chimney	,, 266
Summit of	,, 267
Herbetet, S. Arête	,, 180
Jungfrau, N. Face of	<i>opp.</i> 315, 316
Kiental, Head of	<i>opp.</i> 212
Matterhorn, Tiefenmatten, Face of	,, 208
Midi, Dents du, Sunrise on	,, 104
Mulets, Grands, Early Pictures of	<i>opp.</i> 194-5, 196-7, 198-9, 200-1
New Zealand	
Bannie, Mt., from Montgomery	<i>opp.</i> 20
<i>Celmisia spectabilis</i> ?	,, 13
Cook, Mt.	
from Near the Hermitage	<i>opp.</i> 12
Mt. Conway, Main Divide from Malte Brun to	,, 17
Party of the 25th Ascent	,, 13
W. Face, and Head of Hooker Glacier from Perouse	,, 22
Haidinger, Mt., Final Slopes of	,, 20
from S.E.	,, 14
Hamilton, Mt., and Malte Brun from De La Beche	,, 22
Huddleston Glacier	,, 17
Rudolf Glacier from Mt. Conway	,, 23
Sefton, Mt., from near Hooker Suspension Bridge	,, 16
Tasman Glacier, Early Morning on	,, 15
Vampire, Mt., from Montgomery	,, 22
Nordend, N. Arête of	127
Pennines	
Lyskamm, Bergschrund on	<i>opp.</i> 105
W. Summit	117
Peuteret, Aig. Blanche de	109
Requin, Cheminée Fontaine	<i>opp.</i> 268
Colonnes, Les, <i>bis</i>	,, 269
E. Face	,, 266
Hut	,, 268
Shoulder, Group at	,, 268
Wales	
Carnedds, The, from Elidyr Fawr	<i>opp.</i> 103
Lliwedd : Garter Traverse	<i>opp.</i> 238-9
Zdarsky Tent-sacks in use	147

PORTRAITS

	PAGE
Almer, Ulrich	<i>opp.</i> 114
Bell, Gertrude Lowthian	,, 298
Coolidge, W. A. B.	<i>opp.</i> 278, 280
Davidson, Sir Edward	<i>opp.</i> 114
Dibona, Angelo	,, 36
FitzGerald, Hon. Gerald	,, 114
Group of Mt. Cook Party	,, 13
Group of Mt. Logan Expedition	,, 72
Howse, T.	,, 294
Klucker, C.	,, 114
Todhunter, R.	,, 294
Waugh, H. D.	,, 116
Wollaston, C. H. R.	,, 290
Yeld, George	,, 1

MAPS, CHARTS, AND DIAGRAMS

Ailefroide	120, 121
Mt. Logan Expedition	
Aneroids, Tests of	87-9
Physiological Observations	77
Temperature Records	84-7



GEORGE YELD.

Elected 1877; Editor 1896; Vice-President 1915;
Hon. Member 1919; Co-Editor 1920.

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(No. 232.)

[Inserted by instructions of the Committee.]

Alpine Club,
23 Savile Row,
London, W. 1.
March 31st, 1926.

DEAR MR. YELD,—It is my duty and very great pleasure to inform you that, at their Meeting yesterday, the Committee had before them a resolution concerning yourself which they entirely approved, and thought that members generally would be glad of the opportunity to associate themselves with its terms. It was, therefore, unanimously agreed that the following should be put to the members at the General Meeting in the evening :—

‘RESOLVED that the Hon. Secretary be requested to write to Mr. George Yeld to express, on behalf of the Club, its warm appreciation of his thirty years’ services as Editor and Joint-Editor of the ALPINE JOURNAL, and the hope that his health will allow him to continue in his present office.’

This Resolution was carried with the greatest enthusiasm by the members present, and I was requested to communicate the terms of the Resolution to you.

Yours very sincerely,
SYDNEY SPENCER,
Hon. Secretary.

G. YELD, Esq.

VALEDICTORY ADDRESS.

BY CHARLES GRANVILLE BRUCE, PRESIDENT OF THE ALPINE CLUB.

(Read before the Alpine Club, December 14, 1925.)

I APPROACH this résumé of the work of the Alpine Club during the past three years with the utmost diffidence and, when one comes to think of it, in reviewing all that has been done—all the losses, gains, and exploits of the Club, whether actual deeds of superlative mountaineering or of exploration, or, in fact, of the highest that the Club stands for—that is self-sacrifice—or again, in the realms of Art or of Literature—one feels oneself very much in the position of the Friday preacher in the Persian Mosque, a preacher, too, notorious for his lazy mind, with whom I have the greatest possible sympathy.

‘O! ye Faithful,’ cried the preacher one Friday morning, ‘What shall I talk to you about?’ And knowing his mentality, his congregation answered, ‘We all of us know.’ ‘Then,’ said the preacher, ‘I need not continue.’

On the following Friday, when again addressed by the preacher in the same way, the congregation answered, ‘Some of us know, and some of us do not know.’ ‘Then,’ said the preacher, ‘let those that know tell those that do not know.’ And again he left. On the following Friday, as usual, the preacher began, ‘O! ye Faithful! what shall I preach to you about?’ and the answer came, ‘We none of us know!’

Knowing full well that such an answer would be impossible from an audience such as the members of the Alpine Club, with whom the possession of first-class brains—about which we hear so much nowadays—is an outstanding characteristic, I suppress the reply.

Gentlemen, in accordance with the heritage to which I have succeeded, passed down from a long line of distinguished Presidents, I am privileged to review what we have suffered and what we have achieved during the past three years.

The Alpine Club is in a healthy and distinctly encouraging condition, but before saying more about that, I must turn to our rather long and mournful list of losses. For our losses have

been heavy and include many most distinguished members, among them no less than three past Presidents, and others of equal distinction, both as mountaineers—lovers of the mountains—and, if I might put it so, also in their civil life.

Sir Edward Davidson, almost one of the 'Old Guard'—a pioneer, and not only that, but one of the most distinguished mountaineers in the Club. Lord Sterndale possibly had not such a record of mountaineering, but had an almost equal love for the mountains, and was a man who lent distinction to any gathering. And last, but not least on our list of Presidents, Professor Bonney, equally distinguished as a geologist, as a mountaineer, and who is also one of the real old pioneers.

Then we have Sir Henry Hayden, unfortunately lost on the Finsteraarhorn. Sir Henry was head also of the Geological Survey of India, and had a passion for wandering. His friends have told me that he had also a horror of his declining years, when his strength should leave him; therefore, his death on the mountains, however sad it might seem at first sight, was probably the way he would have wished to pass on.

We have also to lament the loss of a past Honorary Secretary, Dr. Wills of the distinguished Alpine family, closely connected with the history of the Alpine Club.

Sir James Ramsay, also a pioneer of great age. He, with Professor Bonney, was named by Captain Farrar the 'Fathers of the Alpine Club'—they were both, I think, over ninety years of age. Then, almost in the same category as a pioneer, comes Sir Clifford Allbutt, himself eighty-nine.

No two men were more deeply regretted than Professor Ker and Dr. Godley. It is often said that no man is irreplaceable, but I think it would be very hard indeed to find two men of such original minds and so many and varied interests, and both of them such passionate mountain-lovers into the bargain, as those two who have gone. Dr. Godley, too, was a Vice-President of the Club at the time of his death.

I must not forget Mr. Gerald FitzGerald, a distinguished Irish judge, an indefatigable and very competent mountaineer and a member of the Club for fifty years.

Among foreign losses we have to chronicle the death of our guest at the Alpine Club dinner two years ago—Dr. Jacot-Guillarmod—who died at Aden on his way back from East Africa. He is best remembered in the Alpine Club by his two expeditions to the Himalaya, when the height of some 22,000 ft. was attained on K², and an attempt made on Kabru.

I must also mention the death of his cousin, Charles Jacot-Guillarmod, who in the last months of his life drew for us the new Everest map.

I must also refer to our Everest loss, and with the name of George Mallory I must, of course, couple that of Andrew Irvine. I will not make any comment, but will only read this quotation: ' . . . And so these men died after this manner, leaving their death for an example of nobleness and a memorial of virtue, not only to the young but to the great body of their nation.'

Among our Honorary Members we have to lament the loss of Lord Curzon, M. Joseph Vallot, and Dr. Franz Schrader.

It is a long list of distinguished men, such as few organisations could claim. Such members and such men are by far and away the finest justification for the Alpine Club and all it stands for.

Let us turn now to other and more cheerful fields.

First, the literary output has been fairly prolific during the past three years. To begin with we have a book by one of the doyens of the Alpine Club, Mr. Douglas Freshfield, 'Below the Snow Line.' A book of wanderings which appeals to me personally very specially, for I am a born wanderer in spirit, and the life of mountain peoples in out-of-the-way hills and mountain districts has always had a very great attraction for me.

Then comes Mr. Mumm's intensely valuable work—the two Alpine Club Registers—covering from 1857 to 1876, and I believe and hope there is more to come.

We have next a work, unique of its kind, by His Holiness Pope Pius XI. I can only in my inmost soul sympathise with so great a mountain-lover that his present exalted position cuts him off prematurely from one of his great sources of inspiration.

Then what is Mr. Geoffrey Young's 'April and Rain' but himself in verse?

Among foreign publications come 'The Four Thousand Metres of the Alps' by Dr. Karl Blodig, whose hobby such mountains are. He is now in the process of being eclipsed by Mr. Eustace Thomas about whom more anon. We have also the magnificent work, 'Mont Olympe,' by M. Marcel Kurz, accompanied by a truly wonderful mountain map. 'Henceforward,' wrote Dr. Godley, in reviewing it, 'The Home of the Gods has no secrets.'

We have also 'The Making of a Mountaineer,' by George Ingle Finch, including a chapter by Mrs. Finch. With the exception of the first chapter it seems to me to record the exploits of an exceptionally well-made mountaineer.

Lord Ronaldshay contributes 'The Land of the Thunderbolt,' a most delightful book, and describes his travels not only in Sikkim, but in that truly wonderful relic, that most picturesque survival of Asiatic mediævalism, Bhutan.

It also gives one, shortly, an insight into the Buddhist religion in a way which brings it home to one far more clearly than has ever been done before in any work with which I am acquainted.

Any Members who wish to compare the merits of the Greater or Lesser Vehicle will there find out how to set about it.

Then we have 'The Wonders of the Himalaya' by another President of the R.G.S.—our own member, and the chief mover in the Mount Everest Expedition—Sir Francis Young-husband—a worthy exposition of his own attitude, mentally and physically, towards that wondrous range, with a touch of mysticism in it which only adds a still more worthy attribute to the book.

I finish by mentioning the last two books on Mount Everest—'The Assault,' which stands in my name, and 'The Attack,' which stands in that of Colonel Norton.

I will not, in fact I cannot, either criticise or describe either volume. I can only state that no other foreign group has had so much attention paid to it, has been so portrayed, or has had a map of such absolutely outstanding excellence made of it.

We have two more, Mr. Lawrence Pilkington's volume of verse, 'An Alpine Valley' and other poems, and 'Snowdonia,' by Messrs. Lister and Carr. The publication of this work was made mournful by the accident on Snowdon, which nearly deprived the Club of one of the authors and unfortunately caused the death of one of the most distinguished of our younger mountaineers, Mr. van Noorden.

I had hoped to include in this a little brochure, so to speak, which I am sorry to say is not yet ready for publication—possibly it has not even been started—a little brochure by Mr. Eustace Thomas entitled 'Middle Age and the Reduction of Obesity.' Mr. Eustace Thomas will no doubt recommend his invaluable cure, 30,000 ft. of up hill in a day of twenty-eight hours, covering seventy miles. If not already started, may I pray Mr. Thomas to take this useful book in hand immediately for my own special benefit?

We have now shortly reviewed the solemn and more serious side of the work expected from the Alpine Club, now let us turn to its real and more joyous life.

The hon. membership of the Club has been offered to H.R.H. the Duke of the Abruzzi and to Sig. Cav. Vittorio Sella, whose distinguished records alike in mountaineering, in exploration, and in services to the brotherhood of mountaineers are well known to you all. His Excellency the Swiss Minister, M. Paravicini, who so worthily represents in our country the interests of his model confederation, has likewise honoured us by acceptance of hon. membership.

There is a very healthy sign in that we are getting many new members still in the lesser twenties : that, at least, is a magnificent beginning. But don't let us forget also our more mature members, and before I go further I must jog your memories for fear that possibly more brilliant adventures may divert your attention, and therefore I begin by mentioning Mr. Mumm's World Tour. Mr. Mumm has certainly by no means arrived at his second childhood, he is only now getting to his second young-manhood, and so at a certain mature age, on paper, he sets out and climbs in the Rockies, in Japan, and in New Zealand.

The list of the principal expeditions for the whole of these three years is a long one, but I give it for record.

1923.

Direct ascent from the Schwarztor of the E. Peak of Breithorn : Mr. E. G. Oliver, with Adolf and Alfred Aufdenblatten.

Variation on S. face of Gabelhorn : Same party.

Variation on the Col des Nantillons from the Mer de Glace : Messrs. Bower, Pigott, and Morley Wood.

First ascent of Ago del Torrone or Cleopatra's Needle (very difficult) : Messrs. Finzi and Rudolf, with F. J. Biner and R. Lagger.

First descent of Col dit Infranchissable : Mr. R. W. Lloyd, with Joseph Pollinger and Lagger.

First ascent of Piz Badile by the N. buttress, probably as difficult and exposed a climb as ever made : Herr A. Zürcher, with Walter Risch.

First passage of Col du Moyen Age : Messrs. Irving, Bullock, Hawarth, and Overton.

First ascent of Rimpfischhorn by N.W. face and N. arête : Mr. E. R. Blanchet, with H. Imseng.

In New Zealand :

First ascent of Unicorn, N.Z., by Captain H. E. L. Porter, with Milne, during a ten weeks' expedition in the N.Z. Alps

when many other ascents, including Mt. Cook, were made. (See paper, 'A.J.' xxxvi.)

In the Canadian Rockies :

First ascent of Mts. Brazeau and Unwin—Maligne Lake District : Messrs. Howard Palmer and Allen Carpe ('A.J.' xxxvi).

First ascent of N. Twin, Mt. Terrace and Mt. Saskatchewan : Dr. Monroe Thorington and Dr. W. S. Ladd, with Conrad Kain.

Second ascent of Mt. Columbia, the second highest peak in the Rockies—first climbed by Outram : Same party.

Dr. Thorington's ascents were described in an able topographical paper in 'A.J.' xxxv. He made a fine panorama from the summit.

First ascent of Mt. Clemenceau : Messrs. de Villiers-Schwab, Hall, Durand, and Harris. (Paper in 'A.J.' xxxvi.)

We were also glad to welcome to the Alps Captain Chambers, the New Zealand mountaineer, and Mr. Travers-Jackson, the veteran mountain explorer from S. Africa.

1924.

Passage of the Col du Lion (first done by Mummery and Burgener) : Mr. E. G. Oliver, with the two Aufdenblattens.

First ascent by the N. face of the Aig. du Plan originally tried by Mummery, Slingsby, and Carr : MM. J. de Lépiney, Lagarde, and H. de Ségogne.

Second ascent by N.E. face of Aig. Verte : MM. T. de Lépiney, Lagarde, and H. de Ségogne.

First ascent by N. arête of Ebnefluh : Miss F. R. Wills, with P. Almer père et fils. Captain Farrar, with F. Boss.

First passage of Grossjoch : Miss F. R. Wills and Captain Farrar, with P. Almer père et fils.

First ascent by N. face of Lauterbrunnen Breithorn : MM. Richardet and Chervet.

First ascent by N. face of Blümlisalp : MM. Richardet, Amstutz, and Salvisberg.

First ascent of Pt. 3468 on Nesthorn : Messrs. de Selincourt and H. Booth.

First ascent of Pt. 3106 on Fusshörner : The same and G. C. Carlisle.

First ascent by N.E. face of Pt. 4100 on Bieshorn : M. E. R. Blanchet, with Kaspar Mooser and R. Lochmatter.

First ascent by Thälli buttress of Weissmies : Squadron-Leader Beauman, with O. Supersaxo.

In the Canadian Rockies :

First ascents of Mts. Kane, Oates, and Hooker (Paper, 'A.J.' xxxvi.): Dr. Monroe Thorington and Messrs. Strumia and Ostheimer, with Conrad Kain.

First ascent of Mt. Barbican and of Mt. Geikie (Ramparts Group): Messrs. V. A. Fynn, Wates, Geddes, and Slark. (Paper in 'A.J.' xxxvi.)

An important exploratory journey in the practically untouched Cariboo Group, B.C., when eight summits over 10,000 ft. were ascended, seven of which were first ascents, including Mt. Titan about 11,500 ft. (Paper, 'A.J.' xxxvii.): Messrs. Allen Carpe and Professor R. T. Chamberlin, with A. L. Withers and two packers.

First ascent of Mt. Albreda in the Gold Range: Same party.

First ascent of Simon Peak, Fraser Group: Messrs. Thorington, Strumia, and Ostheimer, with Conrad Kain.

Visits to the Tatra and Transylvanian Alps were made by Messrs. L. A. and V. Ellwood, and a visit to the Tatra by Drs. Roger-Smith and R. G. Rows and Mr. R. Graham. These have been described in the Journal.

Dr. J. Monroe Thorington of Philadelphia, the well-known explorer of the Rockies, familiar to readers of this Journal, was able to pay an all too short visit to the Alps.

1925.

A very gallant ascent of Mt. Blanc by the serious Brouillard arête by the two young Cambridge mountaineers, the late Mr. van Noorden and Mr. Wyn Harris.

Ascent of N. side of Jungfrauoch: Mr. E. G. Oliver, with the Aufdenblattens.

First complete traverse of the Pointes des Bouquetins from the S.

First ascent of Combin de Chessette by the arête de Boussine: Mr. I. A. Richards, with Joseph Georges.

First ascent by N.E. face of Brunegghorn: Mr. E. R. Blanchet, with K. Mooser.

Variation on N. face of Aletschhorn: Same party, and A. Rubi.

First ascent of L'Isolée (Aig. du Diable): Mr. E. R. Blanchet, with Armand Charlet, and Antoine Ravanel.

First ascent of S. Corne du Chamois: Same party.

First ascent of Weissmies by W. face and N. ridge: Messrs. Irving, Haworth, and Heywood.

First complete ascent of Aig. Verte by the arête des Grands Montets : MM. Lagarde, Dalloz, and H. de Ségogne.

Variation of Finch's route on Dent d'Hérens, direct ascent to Terrace and thence to summit: MM. W. Welzenbach and Allwein.

In the Canadian Rockies :

First ascent of Mt. King Edward : Messrs. Howard Palmer and J. W. A. Hickson, with Conrad Kain.

First ascent of Mt. Alberta : Mr. Yugo Maki and five other Japanese, with two guides.

First ascent by N. arête of Hungabee : Mr. Fynn, with R. Aemmer.

First ascent of Bastion Peak : Messrs. Howard Palmer and Hickson, with H. Kohler.

New Zealand :

Ascent of Mt. Sefton and ascents of other summits during his second expedition : Captain H. E. L. Porter, with Milne. See his paper in present Journal.

I have had to omit, for brevity's sake, the very numerous variations which may well be termed new ascents that have been made by German and Austrian climbers.

I must not forget to mention the very remarkable explorations of Mr. Visser and Madame Visser-Hooft. The country they are in, which is reached from Kunjut, Upper Hunza, is one of the most desolate in the world. It is a country in which it is most difficult to travel as the valleys are so steep and deep-cut and precipitous. With the exception of one or two settlements of the most primitive peoples, it is entirely uninhabited and without supplies. The Everest country is child's play to it, but there for some months Madame-Visser Hooft has accompanied her husband in his explorations. They have been to the Khunjurab Pass and also to the Gujurab, and have discovered and mapped glaciers and a mountain country about which next to nothing was known. The country is as hard as the language the people talk, that beautiful-sounding Burishushki, which contains more gutturals than the deepest Arabic ; and also includes in its difficulties the Welsh double L. The only previous explorer was Brigadier-General Cockerell.

We now come to the Mount Logan Expedition. The route was prospected by Capt. A. H. MacCarthy in 1924. During the early months of 1925 he made a second journey with two packers in the most arduous conditions to lay caches of provisions to below King Col on the Logan Glacier. In May he

started once more in command of the expedition, and after very great hardships he and five companions reached the summit on June 23. No finer exhibition of thorough preparation and determination is known. The reports received up to date bring it quite clearly home to one what a desperate undertaking it was. It combined the most difficult and arduous of Arctic exploration with mountaineering at a great altitude. How these men, after spending nights in hollows in the ice at 18,000 ft., had still the strength to meet the difficulties of the return journey is difficult to conceive. It will ever rank as one of the greatest and most heroic efforts yet made in the mountains.

I have news also from India of an attempt made on Nondekoote by a Gunner officer who, I hope, was accompanied by Mr. Rutledge, a very keen mountaineer, in the Indian Civil Service in charge of the Kumaon District. I am sorry to say that I have not yet been able to find out what they have accomplished.

I don't know how much I should refer to the Everest Expedition; members have heard about it *ad nauseam*. The best I can do is to ask every member not to get the new volume from his subscription library, but to buy it himself. My view of the whole of the Everest exploration is that the problem *qua* problem is solved. We have only really one question left. We know that it is necessary to lighten our oxygen apparatus; we know that that will be done; we know the time now when best to employ that oxygen apparatus, and we have learnt an enormous amount of what we may expect by acclimatisation. We have really only one question still to solve, and that is how to prevent the body wastage which occurs after a certain height has been reached. No doubt some time an adequate food which can be assimilated by the body without a great tax on the digestion, and which is both nourishing and appetising at a high altitude, will be evolved. When this is done we shall probably solve the last of the outstanding questions, and then all that remains is to go there once more and do the mountain, offering up any sacrifice that may be necessary to the Gods of fine weather.

Of course, one must also visualise a party of equal merit—a difficulty, I will allow. How to get together a party which will live in perfect amity for several months in the nerve-exciting atmosphere of Tibet, and be also of equal merit as travellers and mountaineers—that is a very great difficulty. Of course, it can be done. We have many fine young mountaineers coming on, but it cannot be expected that many of the

'Old Guard' will again be fit for work over 25,000 ft. If I dared say such a thing, I would hope that the next expedition will find Colonel Norton as leader, but I would beg and pray him not himself to go one inch beyond the North Col, and if I had my way I would confine him to barracks at Camp 3. But I should be asking for trouble there, for I know that he would break out!

To finish up. I have another pleasant duty. As I have written in another place, during the whole of my life I have been singularly dependent on a *Fidus Achates* to be always at my elbow—and who, to the best of his ability, and I hope occasionally, though not always, with some success, has kept me on the right lines. His chief use, however, is that I can always turn and rend him for any mistake I myself make. That is the chief use of these gentlemen! I here and now offer my best thanks to the Adjutant, Mr. Spencer, and apologise to him for all the anxious moments I have given him during the last three years, which are rapidly depriving him of his remaining grey hairs. You may remember the schoolboy's remark about Cardinal Wolsey: 'It is well known,' said the schoolboy 'that Cardinal Wolsey remarked if I had served my God as I have served my King he would not have deprived me of my grey hairs!' I must now also offer my thanks to the Assistant Secretary, Mr. Oughton, for much assistance, and, last but not least, to the one to whom we all turn in any of our difficulties, and who is always ready at all times in the most unselfish way to come to our rescue—Captain Farrar.

MT. SEFTON AND OTHER NEW ZEALAND CLIMBS.

BY H. E. L. PORTER.

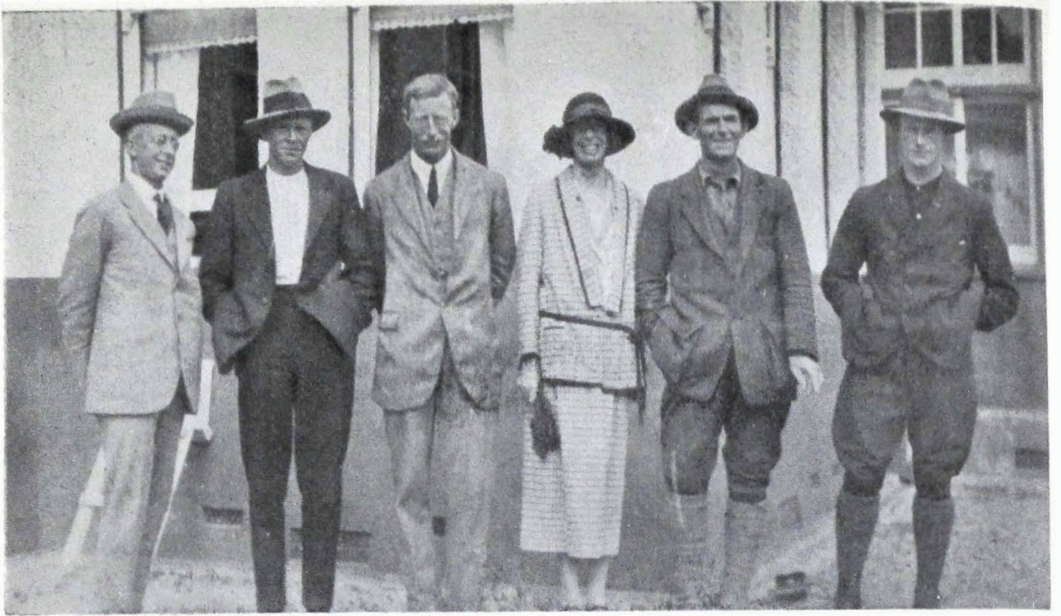
(Read before the Alpine Club, February 2, 1926.)

HOWEVER much Englishmen may run down their own country, it is undeniable that they find other lands good or bad in proportion as they resemble England more or less; and the reason why they find New Zealand exceedingly good is partly because it is in so many respects just a younger, less developed England, emptier of men and not yet a chequer-board of neatly fenced green fields, and by virtue of its youth favoured with several advantages over its parent; a land full of hope and enthusiasm and kindness, and, what is more to

my present purpose, not yet ground down like so much of its parent to a peneplain of low relief. It is difficult, except to the north of Auckland, to get out of sight of mountain ranges, volcanic and otherwise, worthy satellites of the queenly Southern Alps. The latter, justly entitled by Mr. Harper in his official pamphlet an *Alpine Paradise*, cast a spell over me in 1924 which could only be unbound by returning in 1925, and it was with the liveliest pleasure that I found myself at the New Year travelling again the familiar road from Timaru to the Hermitage.

The first expedition of the season had been arranged weeks in advance with Professor and Mrs. Algie, Hugh Chambers, and the Chief guide Milne, and was to be an elaborate camp high up the Murchison valley, which had been unvisited for several years. When the time came, however, measles and other pressing occupations reduced the party to three, Jim Rose of Auckland, myself and Milne, and we in sympathy with the disappointed absentees cut down the original week to three days. The left bank of the Murchison glacier and river is bounded throughout by the Liebig range: the final peaks of this range to the S.W. are the well-named Priest's Cap and Nun's Veil, round which the Murchison river unites its streams before it joins the Tasman. The country between Priest's Cap and Mt. Hutton, 10 miles away to the N.E., is mostly virgin, and the expedition was chiefly one of exploration. With two willing students to help with the swagging of the camp-gear and commissariat, we left the Ball hut on January 7, crossed the Tasman glacier, forded the icy branches of the Murchison, and slowly mounted the Spaniard-ridden slopes beyond to a suitable camp site in a cwm below a small peak N.E. of Priest's Cap. Arriving parched with thirst, we found here fountains more fragrant than wine and an emerald turf most unusual in these Alps. The toil was now over, and the next two days gave undiluted pleasure. On the 8th we traversed Priest's Cap and went on to the Nun's Veil, hoping to gain some useful knowledge for the morrow. Comparison of a sketchy map with the landscape did little to elucidate our doubts, but next day we identified and climbed Pt. 8606, 3 miles to the N.E. From this point an unmapped subsidiary range runs due S., bisecting the head of the basin of the Jollie river. Without much expenditure of energy we added its first and highest peak to our bag. I named them by consent The Abbot and The Abbess respectively, to harmonize with the monastic flavour of Nun's Veil, Priest's Cap, and Acolyte. The same





R. M. ALGIE. FRANK MILNE. MRS. ALGIE. CLEM. WILLIAMS.
H. E. L. PORTER. JIM STOUT.

8. See note at end.



Photo, C. Beken.

CELMISIA.

2. See note at end.

evening we broke camp, and slept snugly in the Ball hut, while rain mimicked machine-gun fire on the roof.

Chambers had now arrived, and with Milne to lead us he and I opened a campaign, the objective of which was to make the first ascent of Douglas Peak from the Tasman side, the only conquest of the mountain so far having been made from a bivouac on the Fox glacier by Teichelmann, Newton, and Alec Graham in January 1907. The obvious line of attack was to mount an ill-defined rib of some 1500 ft. from the Rudolf glacier to a névé plateau in a semi-circular recess, bastioned by Haidinger, Douglas, and Glacier Peak: this plateau forms a glacis, beyond which lie the triple defences of a big schrund, a 700-ft. wall of snow or ice, the latter probably predominating, and finally a steep rock-ridge, facing north and likely to be rotten. Our base was the De La Beche bivouac, a roomy cave under a huge erratic, much used by the pioneers and the scene of Mr. Low's grim struggle for life with a broken leg. On the way to it Milne proposed a more subtle opening gambit, which would outflank the two lower lines of fortification, namely, to strike the divide N. of Glacier Peak and follow the ridge southwards. This revised plan was accepted, and the battle began at 3.30 on January 14. We left the Rudolf by the next rib to the N., which gave out on a snow-slope perforated like a postage-stamp with grooves cut by missiles from a peculiarly evil face above. It was early, and nothing hit us as we switchbacked in and out of them to a projection of sound rock on the right, which gave good sport. The divide was gained near Frenchay Col by a long snow-arête. Traversing under Mt. Conway, we entered a gap, beyond which our ridge-scramble was in full view. It was longer and more bepinnaled than we had imagined, but seemed to present no obstacles of a nature to thwart us. But we had reckoned without one mighty adversary, the nor'-wester. We had met a few gusts on the way up, but now ran into a fierce gale, to which every little col acted as a funnel. We crossed the first, bending to the slope, and traversed the ensuing pinnacle on the leaside. The next gap was a sheet of hard ice: Milne strove valiantly, but the wind having removed his hat all but blew him too away before he was near the really exposed part. We called him back, and retired disconsolate to the foot of the final rocks of Mt. Conway, on the top of which (9500 ft.) we assembled at 10.10 in comparative calm. The second ascent of this mountain by a new route was some compensation for our failure, and we still had our old plan in reserve. Returning we avoided the

danger-spot of the morning by switching across the glacier and mounting to the névé-plateau on the other route, at which we had a good look. Milne, smarting under defeat, suggested immediate advance, but it was already 2 P.M. and the amateurs dissented.

The frontal attack was delivered a week later. This time an icy gale from the S. froze blood and brain, and it was a forlorn trio that, chattering with cold after four hours of exposure, huddled behind a fallen serac to brew a cup of tea for warmth. Thirty feet above, the wide rictus of the schrund snarled defiance at us, and every minute or two a slobbering discharge rolled down the wrinkles of the snow-face from two eyes of rock, the whole scene giving the impression of a rheumatic ogre in a hungry mood. We went up to look at it from a perfunctory sense of duty: it could indeed have been conquered up an avalanche-chute, if by a miracle nothing had hit Milne in the fifteen minutes required to cut up it. He rather wanted to try it, but we were adamant in our refusal to allow him. Douglas had triumphed again, but before we went home we had won another outpost by ascending Haidinger (10,100 ft.) to the S.E. This mountain has two summits: the southern peak has been left alone, since Fitzgerald's ascent in 1895 by the S. ridge, while the northern has succumbed twice, first to Malcolm Ross and Fyfe by the Forrest-Ross glacier and the E. face, and again to Mr. Simpson and Clarke by the route we now took.

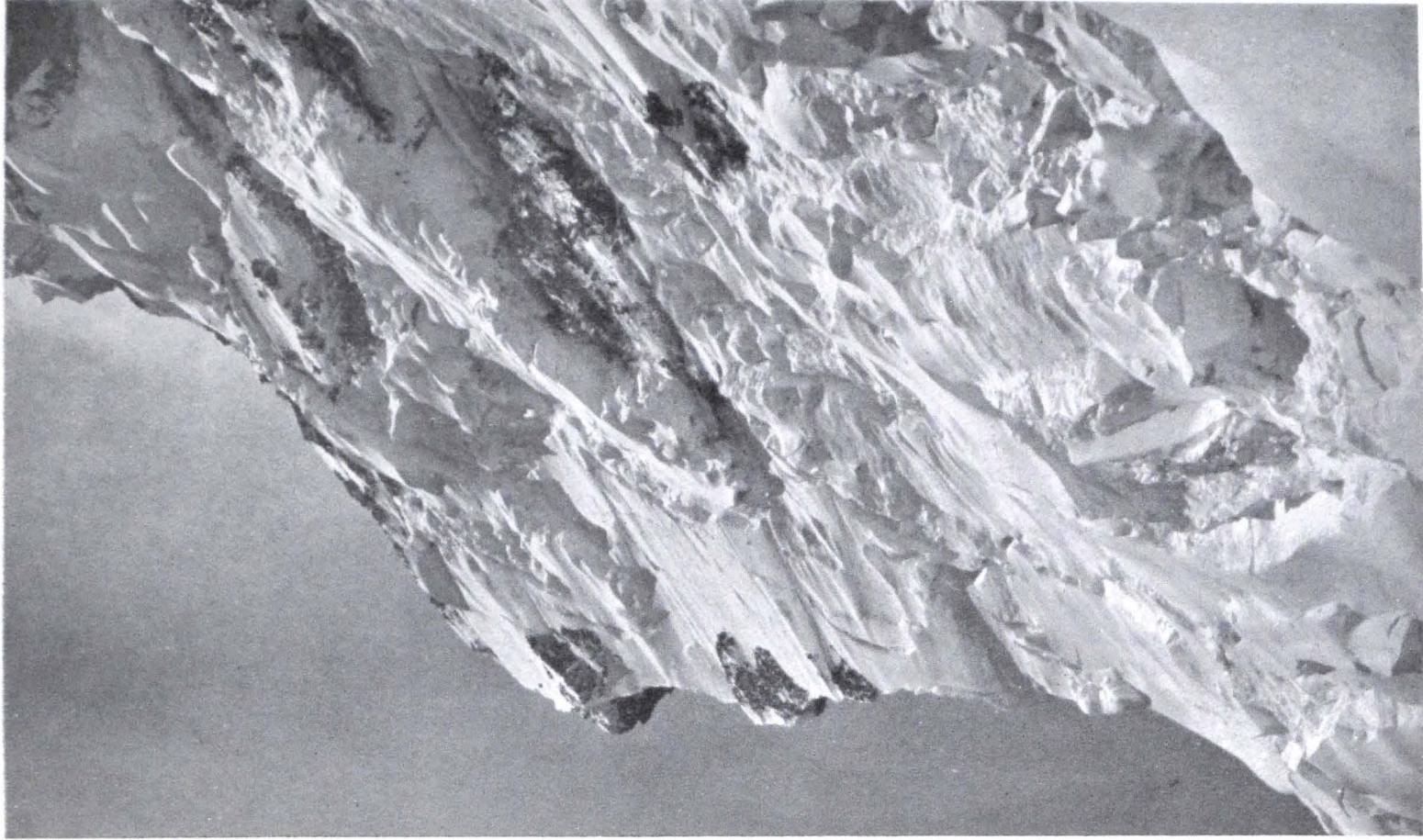
We contoured under the schrund and crossed it easily near the rock-buttress which bounds the plateau on the left. Above the rocks a snow-arête in poor condition led us to the divide. Milne had been confident that a southerly gale must blow itself out in a few hours, and he was perfectly right. A warm sun put new heart into us and enabled us to appreciate the magnificent view of Haast and Tasman which now opened out before us. Thanks to leaving the camera with the sacks below I missed a great opportunity, a loss which still vexes me, for Tasman exercises a fascination which will draw me back till I have attained sublimity upon its summit. Another hour took us to the top, most of it being spent in overcoming the resistance of an ice-bound tower, which the previous party had given up and evaded by the ice-slope below. The whole ascent had taken us eight hours.

Milne left us next morning, and Chambers and I transferred to the Malte Brun hut, from which we made, on the 23rd, the first guideless traverse of Malte Brun, going up the N. face

4. See note at end.

Photo, D. Theomin.

MT. HAIDINGER
from S.E.





Photo, H. O. Frind.

3. See note at end.

EARLY MORNING ON TASMAN GLACIER.

and down the N.W. ridge. The day was almost perfect, and the climb without incident, except for the almost miraculous escape of my sack, containing all our food, from a 700-ft. leap to destruction. We all know the agony of the owner of a runaway sack during its preliminary hops and skips. This one after an eternity pulled up on a patch of ice on the very brink of an abyss, and the dilemma of a peak without food or food without a peak was not presented for decision. The next few days were spent in two treks to the head of the Hooker glacier with the Algies and Milne. The design was to climb St. David's Dome, whose summit was still immune from feminine feet, but we did not for one reason and another get beyond Harper's Saddle; our toil, however, was amply rewarded by the near view we obtained of the vast, silent cirque at the head of the Hooker and the western route up Mt. Cook.

Milne was now free for a day or two, and my long-cherished wish to attack Mt. Sefton (10,354 ft.) had its first chance of fulfilment. The ascents up to the present date have been as follows :

(1) In February 1895, by Mr. Fitzgerald and Zurbriggen. Route A.

(2) In December 1909, by Mr. Earle, Capt. Head, Clarke, and Alec Graham. Route B.

(3) In March 1912, by Mr. Turner, Darby Thomson, and Bannister. Route B.

(4) In February 1913, by Miss Du Faur, Peter Graham, and Thomson. Routes A and B.

(5) In March 1914, by Mr. Frind, Conrad Kain, and Young. Route C.

(6) In February 1916, by Mr. Turner, Peter Graham, and Frank Milne. Routes A and B.

(7) In February 1926, by H. E. L. Porter and Frank Milne. Route A.

Three different routes have been achieved :

(A) Fitzgerald's. From the Hermitage to the Sefton bivouac at the head of the rib between the Huddleston and Stocking glaciers, then up the névé till it is possible to cross the Huddleston to a rib of rock and snow leading to Tuckett's Col at the foot of the N.E. ridge and by this ridge to the top.

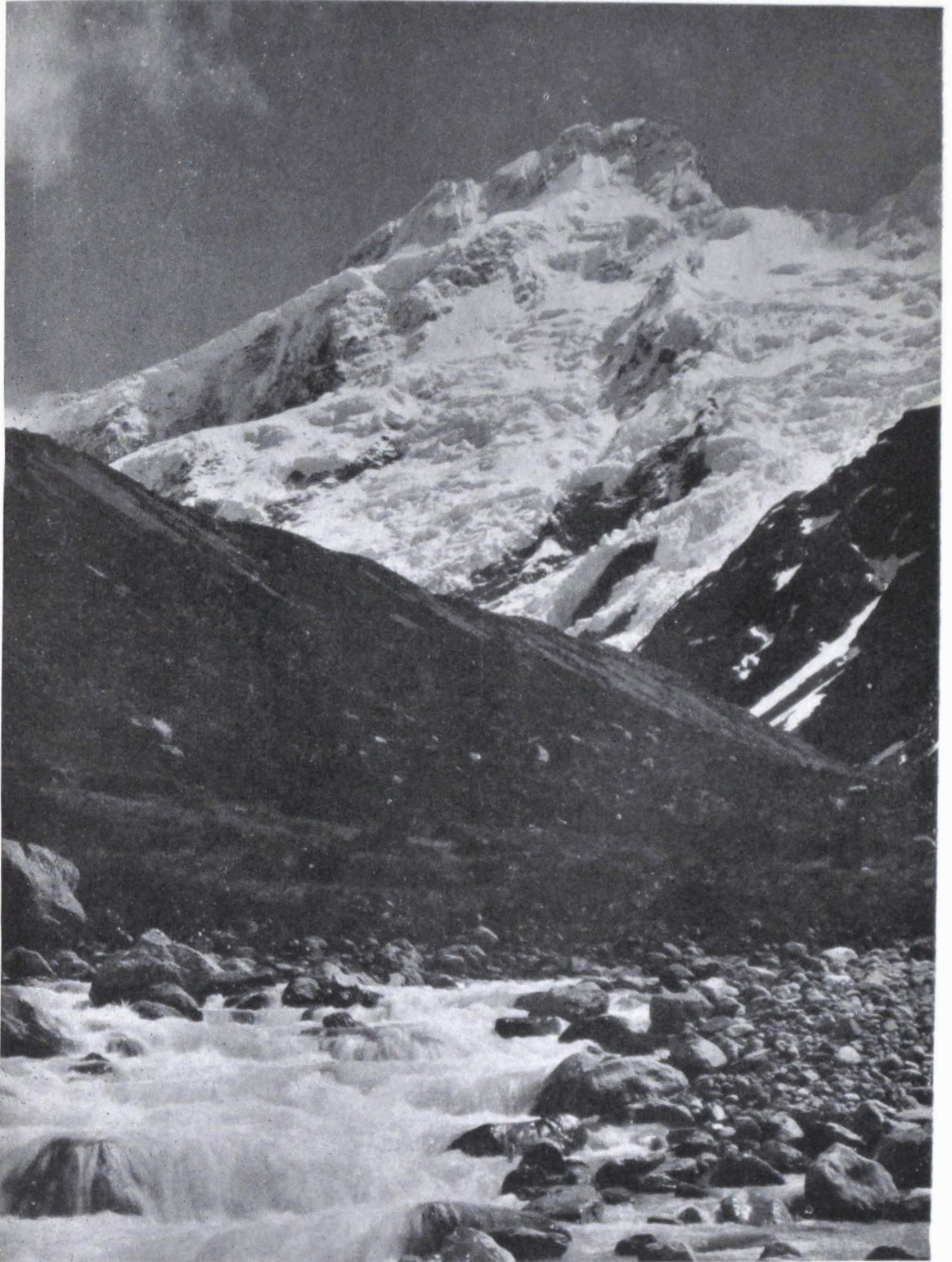
(B) Earle's. From the Douglas Rock in the Copland valley up Stony Creek to a saddle on the Karangarua range,

then over the névé of the Douglas glacier and up the W. snow-face of Sefton.

- (C) Frind's. From the Müller glacier across the E. face of Mt. Thompson to Brunner Col, across the Brunner névé and slabs W. of Mt. Brunner onto the Douglas glacier, joining B route at Karangarua saddle.

The lower part of the latter route looks exceedingly perilous, the whole face being raked by falling ice. It has never been repeated, nor have I met anyone, except Mr. Frind, who views the line taken without a shudder. Mr. Earle's route is said to be free from technical difficulty: it was used on the third ascent, and by the fourth and sixth parties for descent: the objection to it is that the base you start from and return to is miles from anywhere: once across the divide you are at the mercy of some of the most capricious elements in the temperate zones. From my own experiences in the Copland valley, which will be recounted later, I can appreciate fully Miss Du Faur's graphic narrative of her hazardous descent to the Douglas Rock in storm and darkness. The greater part of Fitzgerald's route is visible to spectators at the door of the Hermitage. From that view-point Sefton is by far the most impressive feature in the panorama, and is in consequence the most popular target for the tourist's camera and the artist's brush in the district. What rivets the attention is the mass of glittering ice: one tremendous hanging glacier, the Ngakanohi, displays a wall of ice said to be 400 ft. high, where it pushes over the brim of a precipice in five minute avalanches day and night, whose roar can easily be mistaken for distant thunder forty miles away on the Mackenzie plains.

I will preface my own description with a few extracts from the impressions of previous visitors to illustrate and explain the feeling of awe and almost horror with which it has come to be invested in its own country. Here is Zurbriggen's considered judgment: 'Never, I can truly assert, have I found a mountain so absolutely dangerous as the peak we had just surmounted. It was more difficult than Monte Rosa from the Macugnaga side. I would never try it again by the same face. We had reason however to be well pleased with the result of our climb after our seven ineffectual attempts. The New Zealanders call Mt. Sefton their Matterhorn, and its ascent had been deemed impossible by all. It would be hard to find rocks in a more frightful condition or crevasses more appalling to negotiate.' Fitzgerald and Miss Du Faur have much to say



Photo, F. Milne.

MT. SEFTON
from near Hooker Suspension Bridge.

9. See note at end.



Photo, C. S. Barker.

MAIN DIVIDE FROM MT. COOK TO MT. CONWAY
Seen from Malte Brun.

5. *See note at end.*



Photo, H. E. L. Porter.

HUDDLESTON GLACIER.

7. *See note at end.*

on the atrocities of the Huddleston glacier, but both reserve their main fire in order to deal adequately with the terrors of the ridge. 'It was,' says Miss Du Faur, 'almost inconceivably rotten, lumps of shale-like rock piled one above the other ready to fall at a touch. : . . When it came to my turn to climb the wall, I marvelled more than ever how our leader had got up it unassisted and with but one hand. It hung out sheer over the Müller glacier, so that a falling stone, dropped clear, touched nothing for 6000 ft.' Fitzgerald at about the same point looked over the other side of the ridge, and this is what he saw : 'On the Copland side of Sefton is a vast precipice, which descends perpendicularly to a glacier black with the debris fallen on its surface from that ever-crumbling mass. This precipice must be fully 5000 ft. sheer drop ; in places it seems to overhang.' Two pages later he says, 'We were soon climbing continuously up an almost vertical face of loose rock, clinging to it like flies.' Putting two and two together one might logically infer that Sefton is not built like other mountains in three dimensions.

Milne and I went up to the bivouac on the morning of February 3. The glass was high and fairly steady. There being no water near the shelter Milne went off to find some, while I filled a basin with snow to melt in the sun and retired to rest : a little later, hearing suspicious noises, I crept out to investigate, and found two young keas cleverly balancing each other on opposite sides of the basin and scooping out my snow with rhythmical motions of body and beak, as carefully timed as the alternate hammer-swings of two navvies driving a jumper. There was so much ingenuity about their mischief that I had not the heart to stone them away, thereby doubtless encouraging them to further naughtiness in later life. At 2.40 we set out to explore a way across the Huddleston : for 800 ft. above the bivouac the route lies up easy snow-slopes interspersed with rocks : at the highest of these rock-islands we turned abruptly to the left, and for a time proceeded without hesitation through some magnificent crevasse scenery, till we came to a spot which from below looks very dangerous, where a huge fan of debris bears witness to the activity of the rotten rock-face above. We found that a wide crevasse, obviously of recent origin, extended right across the lower half of the fan ; the lower lip was actually higher than the upper, so that all new missiles were likely to be trapped in the gulf. Next came a narrow edge along a gigantic ice-fin, and so we arrived at the extensive avalanche-ruins, the crossing of

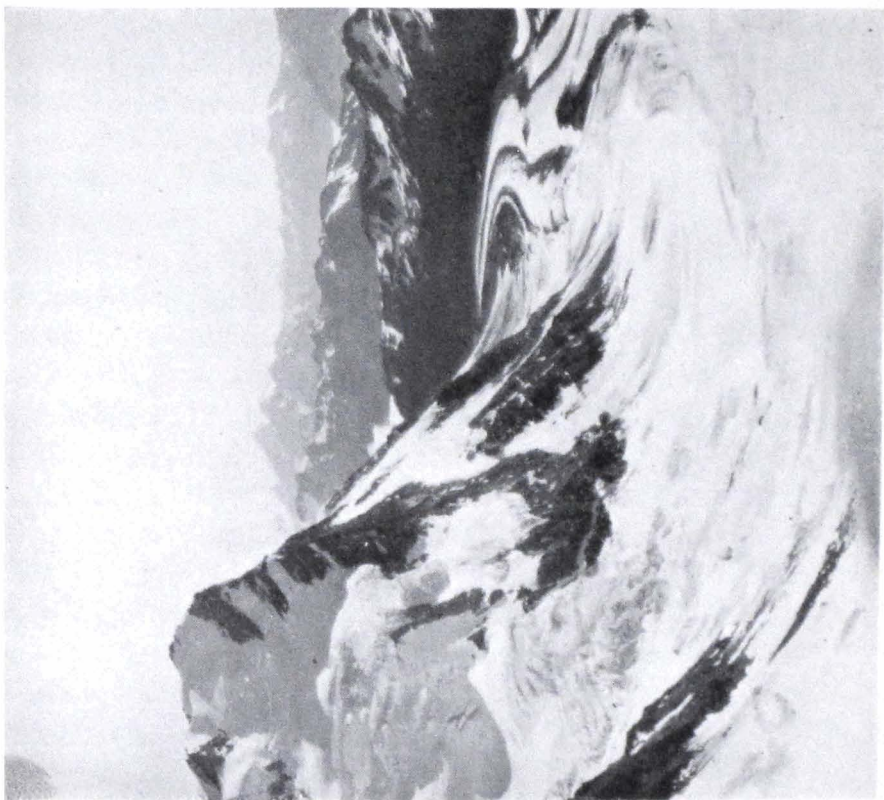
which was expected to be the most anxious episode of the reconnaissance: at close quarters, however, there proved to be far more space than we had anticipated: we were able to keep near the lower arc of the talus, and, being unroped, had perfect freedom to run should the necessity arise. A long passage through riven ice ensued, where vision was limited and experiment had to decide the way: we had hoped to traverse diagonally upwards on this section and so strike the rock-rib high up, but found that an enormous chasm, completely concealed till we actually stood on its lip, ran right across from end to end without a single visible weakness in all its length: in the end we had to forfeit some height, before we established contact with the rocks by cutting down a serac with an ominous cant: we then traced out an easier line on a lower level to connect with our tracks further back, and highly satisfied with our labours re-entered the bivouac at 6.30. Despite an ample meal and two sleeping-sacks apiece, it was not without a certain feeling of tension that we composed ourselves for rest, owing to an unusually lurid sunset.

When Milne got up at 2, the whole valley was filled with clouds, whose upper surface was some 500 ft. below us. The heaven above was also occupied by a variety of cloud-layers, one set which was drifting slowly from the west over Fyfe's Pass being particularly displeasing. Sefton was obscured, but Tuckett's Col was clear. We decided that a start was justified, though neither of us deep down in our hearts had much hope of success. Fortified for the struggle by eggs and bacon, we set out at 3.25, and each with a lantern went steadily up our track. No incident occurred during the traverse to the rock-rib, though the leaning serac which served as portcullis to the rocks seemed in the dim light to have been lowered a notch or two during the night. We now donned our 40-ft. rope, rather prematurely, for the rocks were perfectly easy. Before very long they dipped under a snow-arête, which was soft enough to be kicked up: during this stage of the climb we were very lucky to be able to adhere to the crest of the ridge all the way: the three minor schrunds, which broke the edge across, capitulated without resistance, while on Milne's last visit they had to be circumvented at great expense of time and energy. We reached Tuckett's Col at 7, quite an hour earlier than the most optimistic forecast, and went along the first fairly level section of the ridge, which consisted of some very unstable turrets, before halting for breakfast. This battered knife-edge was the only feature of the climb, to which Milne

confessed a dislike. We were reassured to observe that the western valleys were free as yet from advancing battalions of storm-cloud: the Footstool was quite clear, but a fog-bank still clung to Sefton, which lifted every now and then for a brief space and gave us tantalizing glimpses of what lay ahead. To our great joy there was very little wind and it was not cold. Immediately above us the crest of the ridge was draped every few yards with ice-wreaths: as we gazed at them during our meal, one of these detached itself and clattered down a shallow gully to the right, so we decided to work obliquely up the face on our left, till we had got above them. Before moving on I suggested leaving the sacks here, but Milne pointed out that since 1895 no party had ever descended this way, and that it was quite on the cards that we too might find it preferable to go down on the W. Discretion won the day, and the sacks were taken on. When we got out on the face we found it disgustingly loose, and when higher up it became steep as well we were forced to move singly and exercise great care. It was a joy to watch Frank's feline footwork here: there were places where a stone dislodged by him must have dislodged me, yet I do not remember any feeling of apprehension to mar my appreciation of his skill. A really nasty pitch landed us back on the crest above the ice, and for some time we made fast progress, on easy rock with a dip not much out of the horizontal. We now approached the foot of the step so well seen from the Hermitage or the Sealy range. Just below it the ridge bends gently to the right and sharply back to the left, the edge actually overhanging at the re-entrant angle thus formed: the pitch was short-circuited on the face to the left by a neat chimney of Cumbrian type, followed by a long pull-up to a shelf and a finish up a smooth slab. At the top of the slab we found one of the iron spikes which Zurbriggen had had made in Christchurch, and hammered into Sefton almost exactly thirty years ago. From subsequent study of Fitzgerald's book, it became clear that this was the scene of his famous and nearly fatal fall. A few minutes later we came on the other spike they mention: on the way down, seeing that they had lain idle for a generation and not needing them ourselves, we levered them out and brought them down as trophies. They were as good as new and still firmly wedged, so that this part of Sefton cannot be disintegrating very fast; in fact, the rock here, though still a variety of greywacke, was rather different from that below, being coarser in grain, less jointed and better cemented. Above us now were two splendid towers, each

from 50 to 60 ft. high, and approaching the vertical, a sight to delight a rock-climber's eye: they were in beautiful order, free from ice-wreath and verglas, the quality of the rock was excellent, foothold was adequate and the occasional horizontal joints were exactly wide enough for the insertion of fingers. It is curious that no previous party had tackled them, each preferring to cut up the ice-slope on the western flank. Miss Du Faur even goes so far as to say that the upper tower was probably invincible: Milne, who had led the last ascent, could not recollect why he had avoided them on that occasion, but surmised that they must have been icy. They reminded me of Jones's route up Scafell Pinnacle from Deep Ghyll above the initial crack, but were not so difficult. In a very short time we emerged at the top of them with our tails triumphantly aloft, separated from the summit only by some 300 yards of gently ascending ice, of that delightful kind where four or five well-directed blows suffice to produce an adequate step.

The summit was reached at 9.30. All the way up the ridge we had been enveloped in mist, which gathered and parted and gathered again. My camera was a useless burden, but we did get one glimpse of Cook and La Perouse looming through the shroud. After a brief halt we returned to our sacks, which we had left at the foot of the towers, having decided by then that there was nothing to prevent us returning by the way we had come: here we paused for quarter of an hour to consume the tin of pineapple, which invariably crowns a successful guided ascent in the Southern Alps. The mist now began to crystallize into snow-flakes, which pursued us on our downward path. We had every incentive to hurry, and our pace was not slow. When we neared the foot of the ridge, we held a consultation, as a result of which we agreed to defy the ice-wreaths rather than face the descent of the rotten wall, which now had the added disadvantage of being messy with new snow. We kept to the crest and found the climbing there perfectly easy, nor did the blobs of ice seem anxious to leave their moorings, so that we were safely back at the col before much damage was done. Below the col the surface had softened during our absence: in this altered condition one steep-sided little arête was quite unpleasant, anyhow to me with fogged spectacles: I preferred kicking into the slushy sides of the thing with arms on top, while Milne walked steadily on the edge a few feet behind, prepared if I began sliding to jump over the other side. After this there was no more trouble, and we made such good speed that Clive Barker, who had



Photo, C. S. Barker.
MT. BANNIE.

12. *See note at end.*



FINAL SLOPES OF MT. HAIDINGER.

6. *See note at end.*

come up to the bivouac to welcome us with a cup of tea and had watched us descend the rib, had only started the billy about five minutes before our arrival at 1.40. Our total time of $10\frac{1}{2}$ hours appears to be only a few minutes in excess of the best recorded time on this route to the top alone. This result was in no way premeditated, but was due entirely to the circumstances of the day: fear of a sudden change for the worse in the weather drove us on, and the excellent condition of the snow and rock almost everywhere contributed still more to speedy motion; further, we were a party of two with a good understanding and a liking for climbing together, based on many good climbs in each other's company.

Seeing that we were now out of its power, the snow gave up its ineffectual efforts in disgust, and permitted the sun to shine out for the first time. After a delicious rest we got back to the Hermitage before 5 o'clock, so early that everyone thought we must have failed, especially as the weather had looked so unpropitious from below, and our friends came out with long faces, prepared to sympathize with our disappointment. For New Zealanders take a keen personal interest in the ascent of their famous peaks, even if the number who aspire to climb them is still regrettably small.

Any estimate of the difficulties of a mountain based on only one ascent must be too incomplete to be of much value, and I find it harder than usual to get this particular route into proper perspective alongside other climbs of my acquaintance. Admitting that we were lucky in our conditions, I believe that Sefton's rank in the aristocracy of mountains should be reduced a grade: one thing is certain, namely, that Zurbriggen's uncompromising verdict was largely due to extraneous factors, such as the virginity of the peak, a narrow escape from a fatal accident, and the mental fatigue engendered by the failure of seven previous attempts. It is certainly not a route for novices or weaklings, and it must be excessively dangerous in a high wind, such as Miss Du Faur had to cope with. Of its two main episodes, the glacier proved less risky than it looked, and on this occasion involved very little axe-work; the crevasses are truly gigantic, but no party has yet failed to get across in reasonable time. Of the 1200 ft. of ridge the upper steep part is admirable if free from ice; the lower part is undeniably in an advanced stage of decomposition, but the average inclination of its crest is not high—*pace* previous writers—as indeed a glance at its profile will show. We came right down it, unable to see more than a few feet ahead, and

I was amazed to find myself at the bottom without once having been extended : and, rotten though it is, I could name at least two ridges in the Alps which could give it points and still win. With Milne as leader I enjoyed the day enormously, and was delighted when he said in the evening that he considered it one of the red-letter days of his climbing career.

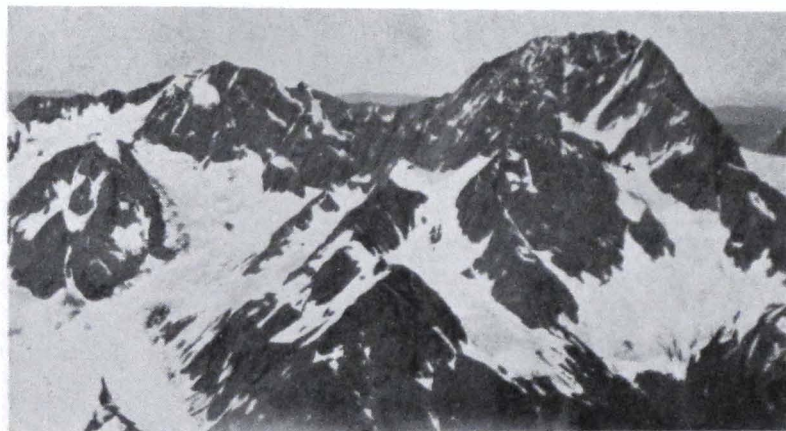
His services were now claimed by others, and my season ended with a guideless bout in the company of Clive Barker, who had been with Chambers and myself last year. After a training day on the easy Mt. Darby, we achieved on February 7 the second ascent of Mt. Bannie (8500 ft.), a more ambitious performance. Bannie is on that part of the divide called the Moorhouse range, which bounds the Müller glacier on the N. : it was first ascended by Mr. Frind and Conrad Kain in February 1914, by the nameless glacier on its S.W. flank, a tributary of the Müller. Our ascent of Darby had been made partly to get a look at this route, but the view was at too oblique an angle to be of service. We left the hut at 4.20, and reached the foot of the tributary glacier at 6. After a detour to the left to circumvent the lower ice-fall, we worked back and mounted speedily to the formidable schrund half-way up. This was not to be taken by direct assault but had to be outwitted. We had first to arrive at a ledge of refrozen debris under the overhanging upper lip, towering 25 ft. above us : the quickest route to it was over a huge pile of avalanche fragments some way to the left, but I disliked the seracs above and preferred to force a way over some well-cemented blocks which bridged the chasm across to the ledge at a point closer to the only spot where the lip ceased to overhang and broke down in height. Barker disliked the look of my causeway more than the alternative, but followed me across unmurmuringly. I had now to cut a staircase across and round a series of dorsal fins, which had sheared off from the back-wall, and then up a nearly vertical 10-ft. corner to attain the ice-slope above, which lay back at an angle of 55° for about 50 ft., then gradually easing off and finally retiring under snow. The schrund operations lasted an hour, and I was hard at work for another $1\frac{1}{4}$ hours before we reached a level place and paused for five minutes to enjoy some crystallized cherries and light a pipe. We now had a choice between continuing up the glacier to its junction with the easy W. ridge, or switching to the right and taking to the more interesting S. arête. For the sake of variety, and to save more step-cutting, we chose the latter. So we crossed another schrund and did battle with



Photo, H. E. L. Porter.

W. FACE OF MT. COOK
and Head of Hooker Glacier.

14. *See note at end.*



Photo, H. E. L. Porter.

MT. HAMILTON AND MALTE BRUN.

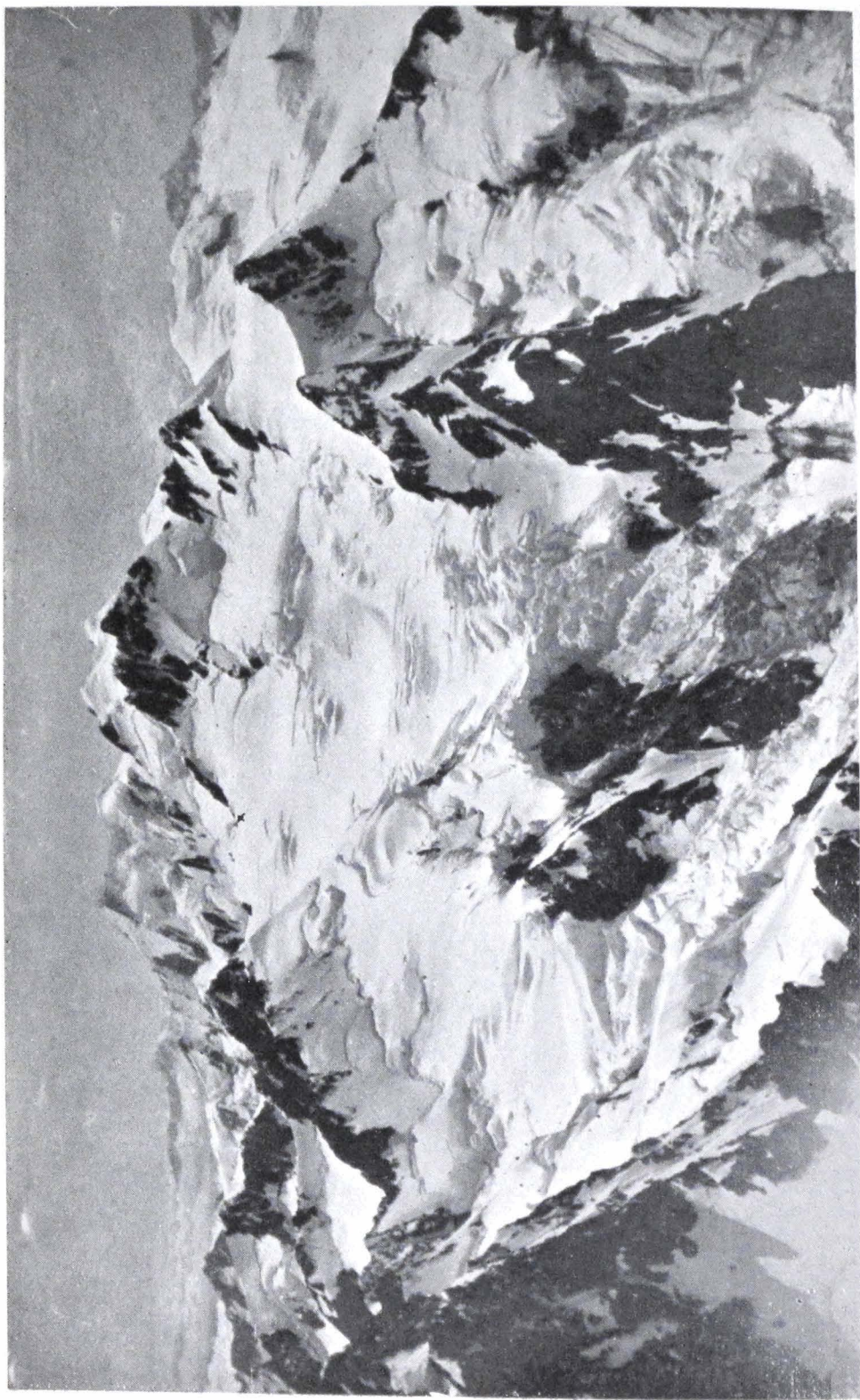
13. *See note at end.*



Photo, C. S. Barker.

MT. VAMPIRE.

11. *See note at end.*



Photo, H. E. L. Porter.

10. See note at end.

RUDOLF GLACIER.

some pitches, where a substratum of sound rock was overlaid with shattered rubbish. A tricky traverse, a vertical slab, and a short chimney with a bulge were surmounted in turn, and then by easy rocks we reached the summit at 10, after an all but non-stop run since 4.20. We took several photos, but unluckily clouds spoil the view of the Douglas valley, which should have been most interesting topographically. My original plan had included the second ascent of Vampire as well by the virgin ridge on the Bannie side, but I was deterred by the thought of my steps melting in the afternoon sun, and regretfully gave it up. Having added a salmon to the solitary sardine-tin on the cairn, we began the descent at 11.10, and reached the hut at 3.30. This was Barker's baptism in real ice-work, and he emerged from it with great credit, standing up in his steps like a veteran.

Our ambition now was to make the circular tour to Waiho, going over Graham's saddle and returning by the Copland Pass. Armed with photographs and information kindly supplied by Murrell, who makes a speciality of this expedition, we made our way to the Malte Brun hut. Above the Tasman ice-fall we came across a fluffy little fantail fluttering on the ice and pecking at a dead moth. These friendly little birds live in the bush, and here was one cut off from its home by unbroken ramparts of ice and rock: it must have been carried right over the divide from the W. coast by the wind. It was very weak and tame, and flitted onto our heads in turn, as we stopped in curiosity. I carried him in my hat to the hut, but he was ungrateful and died in the midst of plenty. Next day we started at 4, crossed the Tasman and dropped onto the Rudolf over the lowest spur of the De La Beche range. The ice-fall of the Rudolf is impregnable, and is avoided by loose rock-ribs on the right. The névé above was in perfect order for us, which compensated to some extent for shoulders aching under heavy swags. At 9.15 we stood on the saddle and looked over onto the stainless radiance of the upper Franz Josef, the most superb glacier I have yet seen, and incidentally onto a derelict ice-axe forlornly perched on the lower lip of the schrund below; there was a ladder of big steps down to the edge of the upper lip, as of attempted recovery. Axes are expensive in New Zealand, and we were puzzled to account for its abandonment: the mystery deepened, when on inquiry at Waiho and later at the Hermitage, the only two avenues of approach, we found no one bewailing its loss and none of the hotel axes missing. We also saw tracks on the glacier, and knowing that there had

been no recent crossing concluded that they were the week-old vestiges of Murrell's last party. Had we been sharper, we would have realized that to be seen at that distance they must almost certainly be fresh, and would provide an unerring clue even in thick mist through the labyrinth leading to the Almer bivouac, our intended home for the night. This knowledge would have saved us some anxious moments on the top of De La Beche, which we now attacked from the saddle. De La Beche is the next peak to the Minarets, to which it is close in distance, though not always in time. Both of them are now usually climbed direct from the Malte Brun hut by the highly glaciated eastern flank, not without a certain risk. From the saddle a route could probably be made straight up the ridge, but we thought it would be quicker to keep to the snow as long as possible. When it got steep and icy, I cut back to the ridge, and we finished up 400 ft. of as good rock as I have met in New Zealand, and emerged by a pleasing chimney exactly at the cairn. After basking for a while I took some photographs, while Barker tried to procure a drink by melting snow into water-tight crevices with indifferent success. We were just meditating an advance upon the Minarets, when, looking down, we observed that the cloud-pall of the W. coast was much lower than when we left the saddle and was already obscuring some of the Franz Josef. Instant retreat was decided on, and the saddle regained in an hour. We were sorry to forfeit the Minarets, which looked very attractive, but we heard later that a great schrund guarding the rock-summit of De La Beche was found impassable not long after, so the cloud may have been a blessing in disguise. At 1.10 we crossed the divide and soon met the tracks, which we found to our chagrin were quite fresh, and had in fact been made by a party from Waiho the day before. We followed them on perfect snow to the half-way house of the Mackay Rocks, a whale-back in the centre of the glacier, and halted for an hour for a brew of tea, while our outlook got more and more limited. But our track held mists in derision and led us undeviatingly to the Almer bivouac, into which we crawled at 4, just twelve hours after our start. The shanty had suffered severely from snow-pressure during the winter and needs rebuilding: it gave us shelter, however, and supplied sleeping-bags. At 5 it began to rain, too late to harm us and just in time to settle the doubt whether we would be wise to make a dash for the Defiance hut further down in case of worse visibility to-morrow. No less than seven keas hopped, waddled, and screeched around our evening meal, peeping in

at door and window with heads cocked sideways. Even a direct hit with a pebble on the horny head of the boldest of the band did little to restrain their curiosity at the time, though it may have been in revenge for this indignity that one of the devils woke us both up from a sound sleep at 1 A.M. by executing a war-dance on the roof. It was a dance of several figures, and must have been highly spectacular: it started with a drunken shuffle along the ridge of the tin-roof, and after some experimental steps, accompanied by unearthly jazz-band noises, ended with a zigzag toboggan slide to the gutter and a return to the ridge, achieved not as any respectable fowl would do it by flight, but by means of beak, claws, and wings all convulsively clutching at every tiny excrescence on the way up. The kea is so clever that I can believe this performance to have been specially designed as an insolent parody or pantomime of human methods of rock-climbing, a mimicry in fact of—

The hurried grab and scramble,
Which often serve him as preamble
To upward victories short but sweet,

if I may quote the words of a poet still living and here present. Finally he sailed away into the night with a chuckle of satisfaction, leaving us seething with helpless irritation and quite unable to see the joke at the time or go to sleep again. On the 11th, starting at 7.10, we dropped down by rock and scree to the junction of the Almer and Franz Josef: somewhere here we had to get out onto the main ice-stream, but I must confess to a sinking of the heart, when I looked at the serried array of shark's teeth ahead: for a hundred yards or so we followed a gutter between the two glaciers, till a reasonable way of escape presented itself. Shortly afterwards traces of ancient steps were noted with relief: once out and away from the edge, though it looked continually as if an impasse might occur at any moment, we did in fact move steadily forward, and in the end by a pleasing fluke got right through the fall with only one inexpensive rebuff. Passing the Defiance hut we kept straight on till we were face to face with the final crux. At some point opposite to a conspicuous promontory on the right bank a plunge must be made into another maze of bristling seracs, and a way forced through them to the beginning of a bush-track beyond. We had been warned that too early a plunge would drive us into the toils of Scylla on the promontory; if, on the other hand, we left it too late, a Charybdis of impossible ice would engulf us. We looked well, therefore, before we leapt:

our choice of a line was successful, if not very direct, and we were clear of the glacier and on the path by 9.30. The track runs through magnificent rata-bush, rich in tree-ferns and other glories, which serve as frames to vistas of purest ice: for, whether it is due to its great pace, said to be from 12 to 16 ft. a day, or to a smaller original load of debris, the Franz Josef has hardly any surface moraine, despite its numerous affluents. Suspension bridges span the turbulent creeks of the lateral gorges, and galleries are cut in the rock, where ice-scarred bluffs are still defiant: the difficulties, so vividly described by Mr. Harper, are no more, and the allurements of this magic glen are within the reach of all.

We reached Waiho soon after noon, and wired news of our safe arrival to the Hermitage, as promised: to our distress the parcels of extra clothes, which we had posted some days before, had not arrived, and we had perforce to be content with the meagre wardrobe we had brought with us. We had a hearty welcome from Peter and Alec Graham, great figures both in the New Zealand mountaineering world, who now run this hotel in partnership. We spent two days exploring the beauties of the neighbourhood, absorbing with great interest Peter Graham's stories of famous ascents of the past and studying his unique collection of photographs. On the 14th we set out on the 30-mile ride to Scott's house near the entrance to the Karangarua valley, Scott himself having come up the previous day with a party, guided by Murrell, doing the round in the reverse direction. I had a real live horse, not a moribund automaton with sore feet, such as the Hermitage horses inevitably become after a year or two of the Ball hut track, while Barker rode a splendid chestnut with the head of a Pheidian statue. For 16 miles the road winds through primeval bush, flourishing on ancient moraines, then after a long gradual descent comes out on the league-wide shingle-flats of the Cook river, in which the streams from the Fox, the Balfour, and the La Perouse glaciers are united. Many miles, however, of monotonous flats have to be covered before the river itself is reached. After fording its channels we completed the remaining 8 miles in a downpour, and arrived both very wet and one very sore from the unusual exercise, to be soon revived at the kitchen fire of the efficient Mrs. Scott.

Our objective for the 15th was the Douglas Rock bivouac. Taking on board a goodly stock of provisions, we got away at 9, Barker leading a pack-horse, kindly lent us by Scott. Our loads were heavier than ever, and the horse was a godsend,

carrying all our gear for the first 12 miles to the suspension bridge some way beyond the junction of the Copland with the main Karangarua valley. Here we dismissed him with our blessing to find his own way back, and shouldering with a sigh our swollen swags toiled on to the Welcome Flats hut, reaching it in a new downpour of rain at 3.15. This is a strongly built and capacious hut, which unfortunately cannot be permanently stocked like the huts on the other side owing to depredations by tramps and Maoris. At 4.45 we continued up the valley to find the Douglas Rock, said to be 5 miles farther on. Crossing the fine bridge over the Copland river, we sped over the 3 miles of shingle-flats and entered the bush above, finding the track a dripping thicket of toot and konini. I had reckoned that two hours ought to suffice for the journey, but at 6.45 there was still no sign of the bivouac : we persevered as long as we dared, and finally turned at a big creek and fled with all possible haste to try to regain the hut before complete darkness set in. We had been told that the rock was 50 ft. above the track and quite easy to overlook, but even so we had kept our eyes open, and the idea that we must have missed it was humiliating. Out on the flats the last gleam of light faded, but I had an hour's worth of candle, which sufficed to see us home. Without it we would almost certainly have been condemned to spend a night in the open, for the last half-mile had to be made between thick bush and a rapidly rising river, and was slow work even with a lantern. Night in the hut was rendered hideous by hosts of musical mosquitoes. Completely submerged, we had to listen through the night-watches to the multitudinous hum of the venomous pests, as they sought for avenues to our life-blood. On the 16th it poured without cessation : firewood gave out and more had to be collected ; this was done in a garb reduced to the barest minimum, namely, boots, for we wished to start dry, if we ever did start. Luckily nor'-west rains at low altitudes are not as cold as they are wet. Mosquito-raiding was our chief other occupation ; my pocket Sophocles, usually a mental sedative to me, came into novel use as a physical quietus to legions of *Anopheles*. The prospects were slightly better when we woke on the 17th ; the rain had ceased and the sky was clearer in the W., though up the valley it was still thick. The mosquitoes were worse than ever at this early hour : it is a delusion that they dislike smoke ; no fire could have produced smoke in a greater volume than ours, and they simply thrive on it. It was a blessed relief to get outside : we ceased to

lose blood, but gained instead pounds of water, as we brushed through the waist-high grass. We had no aneroid with us to give us a hint whether the nor'-wester was waxing or waning: had we had one we would very likely not have started, for we discovered on our return that on this particular morning the glass was free-wheeling breakneck down a precipitous incline and was already lower than it had been for weeks. In blissful ignorance, and not without hope of a fine afternoon, we waded where before we had walked: the bush completed the work of the river, and by the time we stumbled upon the Douglas Rock, less than five minutes beyond our farthest point of the 15th, every stitch we had on was at saturation point. Hidden in the heart of a dripping wood, the bivouac looked little more attractive than the darksome hole where Error had her den in the 'Faerie Queen.' Soon after leaving it we emerged from the bush, and the rain commenced; but before we were shrouded in the murky pall we had had one glimpse of the divide in the distance, and photographed the lie of the land onto our brains as well as we could, fearing we might lose the not very obvious track in the scrub and shingle we were now traversing. At 11.15 we crouched under an overhanging rock and forced some food down, then from 11.30 to 2 battled with the storm, now accompanied by thunder and lightning, while the rain got steadily colder as we mounted. By casting about at dubious points we managed to stick to the track, till it disappeared on scree-slopes about 1000 ft. below the pass, which is just under 7000 ft. We were shivering when we reached the snow-line, and if we had realized how much colder we were going to be before we got to the pass, we would have halted here, before it was too late, to put on more clothes. As it was, by the time we dropped over the col into comparative shelter after a nightmare effort at speed to create warmth, or at least lessen the time of exposure to cold, we were almost too numb to untie our sacks, while putting a sweater on and getting a sodden coat back into position was a labour of Hercules. We crossed the lowest gap we could see, and descended 50 ft. of elementary rock with a caution which would have flattered Walker's Gully, Barker having no control of his feet and I none over my hands. This perilous passage past, a bit of glacier had to be crossed to the Copland ridge, which Barker recognized to the N. of us. To my dismay a large schrund loomed up between. I was in no fit state to tackle work with fogged glasses and paralysed limbs; but the fates relented, or failed to push their advantage home: a stout bridge was found to

withstand our uncontrollable tremors, once over which our troubles were at an end. We now had a simple well-worn ridge to lead to our haven the Hooker hut, and were finally relieved of the vision of benightment, or a ghastly struggle back to the Douglas Rock with the likelihood of being imprisoned there for a week with only one day's food left. For hours past a verse of a poem culled from a child's primer in Wasdale had been haunting my tired brain ; it runs :

Benighted once, where Alpine storms
Have buried hosts of martial forms,
Trembling with fear, benumbed with cold,
While swift the avalanches rolled,
Shouted our guide with quivering breath,
' The path is lost, to move is death,'

and I had speculated in a dull sort of way, whether our forms, martial or otherwise, were going to be added to the number. In point of fact, this storm lasted a week, and at the end of it new snow was avalanching off Wakefield, a small hill opposite the hotel, almost to the floor of the valley : had we failed to get over on the 17th, we would have had to return to Waiho, if we could, and go right round by Christchurch and Timaru, a journey of hundreds of miles.

I have dwelt at considerable length on an expedition which in fine weather is almost a walk for several reasons : firstly, as a sidelight on the western approaches to Sefton ; secondly, to illustrate the progress this pass has made in thirty years towards becoming what Fitzgerald, the first man actually to cross it, expected it to be, namely, a feasible horse-track for the three summer months ; and lastly, because it has left an indelible impression on my mind, and only just failed to do the same on my fingers. On no other expedition in twenty years of climbing have I been so near that mood in which exhaustion breeds indifference and indifference begets accident. In a word, if small things may be compared with great, my feelings towards the Copland are precisely those of Zurbriggen towards Sefton.

Notes on the Illustrations.

- (1) Mt. Cook (12,349 ft.). Taken from slopes near the Hermitage. On the right is the Mt. Cook range, which divides the Hooker valley from the Tasman valley. The Hooker glacier, with its vast load of moraine, is in the centre with the Hooker river issuing from it. On the left are the spurs leading up to the

- main divide. At the head of the spur on the left is the Sefton bivouac. The Hooker hut and the route to the Copland Pass are just beyond the furthest visible spur. Right across the picture runs an old lateral moraine of the Müller glacier. In the foreground is the Mt. Cook lily (*Ranunculus Lyallii*).
- (2) *Celmisia spectabilis* (?). *Celmisia* is a genus almost confined to N.Z., where there are more than fifty species of it.
 - (3) On the right is Mt. Darwin (9715 ft.). Far up the glacier part of Hochstetter Dome is seen. On the left is the De La Beche spur, with the ice of the Rudolf below it at its junction with the Tasman.
 - (4) Taken from the Haast ridge above Glacier Dome. It shows the South Peak of Mt. Haidinger (10,178 ft.), and the S. ridge, by which the first ascent was made in 1895. Far away on the right the Minarets can be seen.
 - (5) A is the ice-cap of Mt. Cook. The Linda glacier comes down between it and B=Dampier, C=Tasman, D=Lendenfeldt, E=Haast, F=Haidinger, G=Douglas Peak, H=Glacier Peak, J=Conway. shows route of our first attempt on Peak. -.-.-.- shows route of second attempt on Douglas Peak and ascent of Haidinger.
 - (6) Final slopes of Haidinger on left. In centre beyond is N. face of Mt. Cook. Its right-hand ridge runs down to Green's Saddle. Next come Dampier and the Silberhorn. The rock-ridge below the skyline is part of the Haast ridge.
 - (7) The Huddleston Glacier taken from near the Sealy Lake after an eight-day storm which left three feet of new snow at 6000 ft. X shows approximate site of the Sefton bivouac, and the dotted line is the route to Tuckett's Col. The ridge is that between Sefton and the Footstool, and has not yet been traversed.
 - (8) The party who made the 25th ascent of Mt. Cook on February 6, 1924.
 - (9) In the foreground is the Hooker river, with the lateral moraine of the Müller glacier behind (the reverse side to that seen in No. 1). Above is the Huddleston glacier, and rib leading to Tuckett's Col. To the left of the Col is the N.E. ridge of Sefton masked in snow. The rocks, which appear to be on this ridge, are really on the precipice facing the Copland valley, and not on Fitzgerald's ridge, whose angle is far more gentle.
 - (10) Taken from Mt. Conway. In the centre are the two ice-falls and the upper névé of the Rudolf glacier. The route to Graham's Saddle is by rocks and snow to the immediate right of the right-hand of the two ice-falls. X marks the saddle. The rocky peak to the right of the saddle is De La Beche (10,058 ft.), with the Minarets behind and the Elie de Beaumont group beyond to the left. A small sunlit portion of the Franz Josef glacier is seen on the left on the far side of the rock ridge.

- (11) and (12) Vampire and Bannie taken from Montgomery at the head of the Müller glacier. On the left are the snow-slopes leading to Mt. Burns. In the centre is the nameless glacier, by which Bannie is climbed. On the right is the Müller glacier, bounded beyond by the Sealy range. In far distance is the Malte Brun range.
- (13) Mt. Hamilton (9915 ft.) and Malte Brun (10,421 ft.) from De La Beche. On the left is the Darwin glacier, which continues out of sight bounding the N. face of Malte Brun up to the Col (marked with X) at head of Malte Brun glacier. The N.W. ridge of Malte Brun is the right-hand skyline ridge.
- (14) Taken from lower slopes of La Perouse. On the extreme left is the wall of St. David's Dome, next Dampier, Green's Saddle and Mt. Cook. The couloir between these two is that used on first ascent in 1894. Cf. No. 6 and 'A.J.' xxix. 12, 13.

THE DOLOMITES IN 1925.

BY L. G. SHADBOLT.

(Read before the Alpine Club, March 2, 1926.)

AFTER several seasons climbing among the greater ranges of the Alps, it was with a sense of departing from established tradition that we decided to go to the Dolomites last year. We were prepared to find these rock peaks fairly easy of access, but not for the perfect network of good roads, which make it possible to get to any part of the district in a few hours by car, and in many cases to drive to within an hour of the actual climbing.

These mountains rise abruptly from easy ground, and there is no gradual approach through country becoming more remote and more difficult, nor is there any great mountain barrier, necessitating a long or arduous journey from one side to the other. Most of the peaks, too, have an easy side, and the development of the really unique rock climbing has been on lines similar to the development in Great Britain, though on a very much larger scale, and has been concerned with inventing complicated and difficult routes up the steeper faces. Hence it is to some extent artificial, and it is a little difficult at times to capture the true spirit of adventure and high endeavour, especially when one mentally visualises the cow or other domestic animal, which may be waiting to greet one at the summit.

Harold Porter and I arrived at Toblach on a very wet evening early last July, and were somewhat alarmed to read in a police notice that we might, without warning or hope of redress, be summarily subjected to the processes of dactyloscopy and anthropometry. Nevertheless we stayed the night and drove to Cortina on the following morning, much impressed with the magnificent Höhlenstein Gorge and a glimpse of the Drei Zinnen, as we passed Schluderbach.

Our first expedition was to the Croda da Lago¹ for which we started very late. We reached the Lago da Lago just in time to meet two parties returning from our prospective peak, and here we paused to study the guidebook and the mountain in front of us. The book was vague, but a track was visible on the far side of the lake leading away to the right to an obvious break in the lower wall of the mountain. This we followed and on the top of the lower wall worked back again to the left until we came to the opening of the great gully leading down from the N. peak. Here, we ascended to a saddle below a bluff, and changed our boots for rubber shoes, which we had decided to try instead of the more usual scarpetti. Members of the Equipment Committee will, I hope, be interested to note that we both found these light rubber shoes, fitting closely to the foot, and with a fairly wide golosh, ideal for this type of climbing, and even on wet rocks they seemed to be just as good as, if not better than, the scarpetti. We started up a very steep wall, and we both realised that the work had begun. Shortly the angle eased off and we gradually worked upwards and across until we were in the big gully on our right, after which the climbing was either in the gully, or on its right wall. Some distance up we evidently got off the conventional line, and climbed a very steep face, on which the holds were only just sufficient. I must admit that this face impressed me enormously with its difficulty, 'but,' here I quote from an early description, 'the knowledge that the rope firmly fastened round my chest was held at the upper end by a man who was a model of agile manly strength, gave the sense of security, without which no one ought to trust to chance grips on rock at that height. While I felt the cool rock pressed to my cheek, the contact turned the train of my thought from physical activity to mental reflection, and I realized my isolated position, as a tiny insect perched midway up that vast wall, with half the sky cut off above, and an unthinkable abyss sinking far below.

¹ v. *Der Hochtourist*, III. 212, for route-marked sketch.

I have been told that at such moments travellers have felt uneasy, and I do not doubt it.' From here we worked up the easier continuation of a chimney, back into the main gully between the peaks, and soon came to an unmistakable cave known as the Black Grotto. Emerging from this by the wall on the right, without much trouble, we proceeded by easy rocks to the col between the Croda and the Federa; the summit being reached a few minutes later. In descending, except that we avoided the steep wall by abseiling down an overhanging chimney, we followed our route of ascent exactly.

This expedition made us realize the difficulty of finding the way down these extraordinary rock mountains, and that without some local knowledge we should hardly be able to tackle traverses involving difficult and complicated descents. We, therefore, looked about to find a suitable guide, and were extremely fortunate, first of all, in meeting Joseph Wood, an American member of this Club, and secondly, in finding that he had just finished with Angelo Dibona, who had a few days to spare before his next engagement. We promptly made arrangements with him and decided to try the Kleine Zinne traverse² the next day. Not content with providing us with a guide, Wood offered to drive us over in his car, so that we did not have to leave until five o'clock in the morning. The day proved to be one of the two fine days we had, and starting in glorious sunshine, we picked up Angelo and drove up past Misurina to the nearest possible point to the Zinne. Here we left the car and walked for about an hour and a half, to the East foot of our peak.

Leaving our boots, we started the ascent by the W. face, along a broad ledge with an overhanging roof. This ledge contained one distinctly delicate and difficult step, and for the rest was extremely sensational. We left it by a steep chimney, followed by a long step across to the left. Then straight up a rather holdless section to easy ground, and so to the shoulder between the Kleine Zinne and the Punta di Frida or N. buttress of the Zinne.³

Here we were somewhat surprised, and Angelo extremely annoyed, to see a party of three struggling in the chimney by

² v. *Der Hochtourist*, III. 266 and 267, for route-marked sketches.

³ v. *Der Hochtourist*, III. 269, for route-marked sketch. The usual way to reach the foot of the N. face is, however, from the gap between Grosse and Kleine Zinne whence the W. wall is climbed without any difficulty, and the start for the N. face climb reached.

which the N. face is climbed. They were energetically engaged in hauling up an inanimate fourth in the shape of a huge rucksack, which caused showers of stones to descend remorselessly on those below with every jerk of the rope. Angelo called upon them to desist so that we might pass them, but failed to elicit any intelligible response. With a dramatic air he then suggested that we should try the Fehrmann Kamin further to the W. He hurriedly attacked the wall immediately below the other party and we traversed quickly away to the right, both Angelo and Porter having very narrow escapes from stones during the few seconds we were in the line of fire. We found ourselves on one of the steepest walls I have ever been on, with a terrific drop below. Across this wall we worked upwards and to the right for some distance. This was all difficult work, and the extreme steepness, together with the lack of belays, and the great length of rope out on this long upward traverse, made one realize to the full the peculiar joys of Dolomite climbing, and also feel glad that the leader, dancing about, often nearly 100 ft. away, was one who might be trusted not to fall off. Angelo had never been on this part of the mountain before and did not quite know where to find the Fehrmann Kamin.⁴ It was a great joy to watch his extraordinarily neat style and to observe the rapidity with which he tried and discarded unpromising lines of advance, and picked his way neatly and quickly along and up the least uncompromising slabs. Eventually a sketchy traverse horizontally brought us to a big belay block some 20 ft. from a great yellow patch in the centre of the chimney, a ghastly looking place. The belay block appeared to be lightly and insecurely balanced on a very narrow ledge, but at any rate it was something to put the rope behind. Angelo disappeared upwards behind a curtain of rock. The rope ceased to go out and we could hear him muttering. Then came a request for more rope, which involved my unroping, a somewhat awkward proceeding, balanced as I was on one foot. The extra rope was rapidly devoured, and after some minutes of silence Angelo suddenly reappeared on a double rope, saying that the place would not go without somebody to help him. As far as we could make out from the description we read afterwards, he had tried to get up a part of the chimney which has to be avoided, but no doubt the thought that he had two entirely unknown amateurs on his rope, had something to do with his wise retreat. This excursion across the face had

⁴ v. *Der Hochtourist*, III. 267-8.

occupied a considerable time and we could hear nothing of the other party, so felt safe in returning by our route of ascent until we could traverse into the ordinary chimney, which we found delightfully comforting and well supplied with holds, after our recent experience. We arrived at the top not far behind the other party, and enjoyed one of the few summit views we ever had in this district.

Angelo pointed out many places where heavy fighting had occurred, particularly on Monte Piano. He also indicated where Sepp Innerkofler,⁵ whom he described as the greatest of a great family of guides, was killed.

We started down the S. face and a few feet below the summit arrived at the top of the Zsigmondy Kamin, which although plentifully supplied with handholds contains one awkward overhang, below which it is somewhat difficult to effect a lodgment. I do not know whether this is the place of which such a thrilling description is given in 'Dolomite Strongholds.' From the foot of this chimney we passed easily to the shoulder between the N. peak and the S. and then down a series of easy chimneys facing the Grosse Zinne, and thence along a fine traverse right across the face, which ends above a broken buttress sloping easily down to the foot of the gully between the Grosse and Kleine Zinne. I believe this to be the traverse which I had remembered ever since I started reading about the Dolomites, and certainly its situation is exceedingly fine.

The next day the weather was very ominous and instead of walking up to the Tofana hut, which we had intended to do, we ordered a car for 4 A.M. next morning. This arrived punctually, and picking up Angelo and a dependent relative of his we drove up by the main road to beyond Pocol, and thence up an extraordinarily steep, badly made, and dangerous track, until it finally gave out at a point almost level with the foot of the precipitous S. face of the Tofana di Rocas. From here it was an easy 45 minutes walk to the start of the climb, which begins at the foot of the buttress near the middle of the face. Hundreds of sheep followed us round, curious to see what we were up to. We discarded boots and all extra impedimenta and handed them over to Angelo's cousin Damiano. This was the first occasion on which we were introduced to a custom, which, as far as I know, is peculiar to the Dolomites, that of hiring a porter to carry everything not wanted on the actual

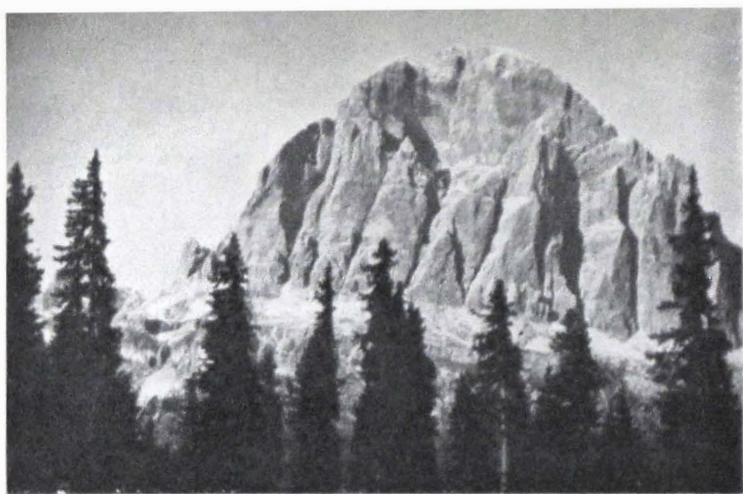
⁵ v. *A.J.* xxxvii. 388.

climb, round to the summit by an easy route, a custom which neither of us really approved of, but which we felt it necessary to comply with, especially in view of Angelo's climbing alone with us. No doubt it enabled him to deal effectively with any criticisms under this head, and the system seems to be so well developed that it really forms an important bi-product, as it were, of the main business of guiding, and augments the incomes of the weaker brethren.

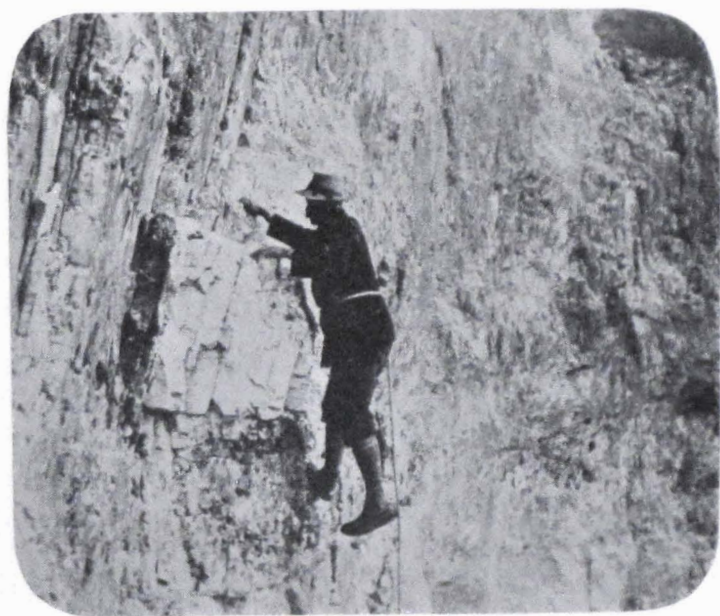
The climb up the S. face of Tofana di Roces ⁶ is a magnificent one. The line of ascent is somewhat complicated. The start is at a ledge on the right of the great gully, which drains the enormous cauldron in the middle of the face, thence up a rather difficult chimney, followed by a series of slabs, traverses and chimneys, to the top of the buttress, where we found a splendid imitation of the well-known Slingsby chimney crevasse on Scawfell, and of about the same standard of difficulty. Above this we worked to the left and came into the great cauldron. The crossing of this is undoubtedly dangerous, as stones fall frequently and freely from the whole great semicircle of cliffs above, nearly all of them eventually coming down the narrow neck which has to be crossed. When we arrived, the whole of the upper part of the mountain was shrouded in thick cloud. We crossed in safety and hurried up easy ground away to the left, pausing to take breath as soon as we could. Just as we stopped the clouds cleared for a moment, and simultaneously with the sun striking the upper crags there was a tremendous bombardment of the place we had so lately passed. We next traversed obliquely upwards and round the tower we were on until we came into sight of the next couloir. After working across this we came to the greatest difficulty of the climb. An awkward series of steps up the side of a slightly overhanging curtain of rock, with a small crack behind, was the obvious route. Angelo, however, traversed out to the right and back along a parallel ledge above, to the head of the straightforward obstacle, up which both of us climbed direct. A short traverse then led to the foot of a long chimney, which provided perfectly delightful climbing. Some easy ground, and then another 100-ft. chimney led to a comparatively easy but wonderfully impressive traverse, which must be nearly 200 ft. in length.

I know of no more airy situation on a mountain than this, for the cliffs drop apparently sheer to the grass-covered scree at the foot. So we turned the precipice, and got on to ground

⁶ v. *Der Hochtourist*, III. 198, for route-marked sketch.



TOFANA DI ROCES.



ANGELO DIBONÁ AT WORK.



LANGKOFEL GROUP.
from Sella joch

where upward progress could be made once more. There were several interesting problems hereabouts, of which I remember most distinctly the final chimney, which started with a great shallow hollow, with a niche in it, very wide to straddle, with an awkward return to a normal position after the first 10 ft. or so. Fifty feet of splendid chimney climbing brought us out behind a huge chock stone. This about ended the serious climbing, but the top was still a good way off, and the walking to it in rubber shoes, over loose débris, with occasional narrow bits of arête, was trying. Interest was kept up, however, by the numerous traces of the military occupation of this inhospitable spot during the war. Riflemen had evidently been stationed on the summit ridge and mementos of their occupation were strewn everywhere. Angelo's cousin, Damiano, had arrived at the summit ahead of us, and we were glad to be able to change into boots for the tiresome but easy descent to the hut.

The next day we climbed the Punta Fiammes,⁷ a spur of Pomagagnon. This little peak is within easy walking distance of Cortina, and while the climb up the face is interesting and difficult in parts, it can hardly be described as a mountain. We were therefore somewhat surprised to find that Angelo had again provided a porter, one Apollonio, to carry our boots and food to the summit, introducing him with as much solemnity as though we were about to tackle some long and hazardous ascent.

Next day we started in Joseph Wood's Lancia in very doubtful weather for Canazei, and were treated to a wonderful display of skilful driving up over the Falzarego Pass and down past Andraz to Pieve; up to the Pordoi Pass, and then down seemingly endless zigzags to Canazei, the whole journey occupying 2½ hours. Our intention was to go up to the Contrinhaus for the S. face of the Marmolata, but the weather was so bad that after consultation with Angelo we decided to go up to the Vajolet hut instead.

No sooner had we started than the rain came down in torrents. After a wild night, the following morning broke clear, and we walked easily up to the start of the climb below the Stabeler-Turm. Leaving our boots we traversed easily to the gully between the Stabeler and the Winkler-Türme, up this for a short distance, and then along a fairly simple ledge below a perpendicular wall to the foot of a narrow black crack, which

⁷ v. *Der Hochtourist*, III. 172, for route-marked sketch.

proved to be one of the toughest bits of the whole climb. After ascending a wall on inadequate holds, the crack has to be entered above an impending block which forces the body outwards in a most uncomfortable way. The key to a desperate position is a small sloping heel hold on the very edge of the block, which provides just enough friction for a lift. This crack can be turned by a variation up the right wall, but Angelo was emphatic that it was more difficult and dangerous than the orthodox route. From the upper end of the crack we worked a little to the right to an easier chimney, continuing by more chimney work to a gap, whence on a ledge to the N. side, back to the ridge, and so easily to the top. From here there is a most impressive view of the Stabeler-Turm, across a narrow but profound gap. From the summit the route leads back to a little gully and round to the N., on a terrace, then easily down to a lower terrace, which finally arrives at the W. wall as a small shelf. We then abseiled down a shallow chimney and an overhanging slab, where Angelo instructed us in a method of abseiling⁸ which was new to me. Bringing the rope outside and behind the right leg, in between the legs, and then up the front and round the neck. Grasping the outside rope tightly with the right hand and keeping the left hand low on the neck rope, constantly easing it so that it slides on the leg. We both found this method rather exhausting and extremely wearing on the thigh, but it seems safe so long as you keep the left hand well down, otherwise there is a risk of becoming inverted. A straddle across a yawning chasm established us upon the Stabeler-Turm, which, although steep, opposed no very great difficulties to our advance. After descending two easy chimney-pieces on the N. side, and passing along a fin or down the chimney between it and the main wall, we traversed round to the gap between the Stabeler and the Delago. A projection which breaks out from the Delago, well above the junction between the two towers, enabled us to cross, whence we climbed steep and rather rotten slabs to a platform beneath the terrible looking Pichlris, which we had noticed from the top of the Stabeler with some awe. This is a very steep crack about 60 ft. high. The start is round an undercut corner to the right and then straight up the crack, which I found very severe, although fortunately there are two places where it is possible to rest, after struggling over the overhanging portions. The handholds inside are good and tiny footholds for the left on the

⁸ v. For a good system *cf.* *A.J.* xxxiii. 212.

outside enable upward progress to be made. The strain on the right arm is severe, and after climbing it I decided that my shoulder, injured two years before, might now be considered cured. We emerged at the summit and after a short halt proceeded downwards by a series of abseils on the S. side. The traverse of these three towers makes a magnificent expedition and is an extraordinary example of complicated and acrobatic rock climbing. The route must have taken a long time to work out and link up in its entirety.

We next spent a short but very delightful day scrambling about the Cinque Torri, climbing the big tower in several directions, and also the Torre Inglese, which seems to have quite a reputation for difficulty in the district.

Our next objective was Cristallo. Leaving Cortina at 4 o'clock, we walked up past Tre Croci and straight on to the Col da Varda. We then worked out to the S.W. ridge by a steep grassy ledge, a little beyond which we discarded our boots and left them and the sacks. This was a tactical error which we never repeated. Proceeding up chimneys and along a little arête, and then traversing to another rib on the left, we finally got into a big gully full of snow, on the side of which we worked up until we came out on a terrace below a huge gendarme, which we had likened on the way up to a baron's coronet, and which was henceforth familiarly known as the 'Red Baron.' We had next to get into the gap between the Baron and the final ridge. This was effected on a long ridge of débris, in a state of most unstable equilibrium, lying at its absolute angle of rest, with a huge drop into a sinister ice gorge below. Porter advanced with the greatest care and with cat-like tread, but even so, it seemed to me, that several tons of rock descended into the abyss. His passage, however, made little difference to the general instability of the place, and in crossing it I added my full quota to the contents of the gorge. Arrived in the gap, we were faced with an extremely steep wall, which seemed to overhang for the first 40 or 50 ft. After climbing 15 ft. straight up, Porter traversed a long way to the right and then back again immediately above me. I climbed straight up to him, preferring the extra strain of the overhanging wall, to the awkward and exposed traverse out and back. After another 100 ft. or so of steep but easy climbing upwards, we arrived at a ledge which we followed westwards. It led us to a shallow depression, up which we went rapidly for 300 ft. A little beyond, we came to a path leading eastwards. We followed this to the junction with the ordinary route, where was a cairn. From here the

way was marked at intervals with red stripes, but it took us very much longer than we expected to reach the summit. The ascent had taken so long that we decided to go down by the ordinary route, in spite of the absence of boots or axes. After reaching the cairn, a long rock-ledge led to the col between the Cristallo and the Piz Popena, and we then saw that a steep snow slope would have to be descended for several hundred feet. We had at that time no experience of snow climbing in rubber shoes, and without ice axes. Fortunately the snow was in good condition, and going very carefully we had no difficulty, although I must confess to a certain sense of insecurity for the first 100 ft. or so. We had noticed from above a long succession of scree zig-zags below the snow, crossing from one side of the wide couloir to the other, and it was a most curious thing that when we got off the snow, the zig-zags had completely disappeared, so our sorely-tried and sodden shoes had to put up with a long slide down sharp scree.

We next went up to the Sellajochhaus and after a day of hopeless weather were able to start at 6 o'clock the following morning, when it showed signs of clearing. We had arranged to be back at Cortina that night in order to start for San Martino, so time was short. We hurried up the path for the Fünffinger-spitze. Angelo had told us that the Schmittkamin was impossible, on account of ice, so we made straight for the Daumenscharte route, which starts with a fine chimney. Above this a traverse to the right on an upward slant leads out on to the ridge of the ball of the thumb. We went easily up broken rocks for some 300 ft. till nearly opposite the gap between the Thumb and the First Finger and then into the gap by a neat traverse. We were now faced with a very steep wall; about 40 ft. up we foregathered in a little depression, from which Porter ran out 60 ft. before reaching a belay. Then up a slabby depression to the N. ridge of the First Finger and up this for 30 ft. We stopped to consider whether we should continue up the very steep and difficult ridge ahead or descend by a traverse into an ice couloir between the First and Second Fingers. Porter elected to take the second alternative although we had no axe. The traverse was easy except the final move on to the ice, but a piton was found to guard the leader while making this step. I could see nothing of what was going on after this but slowly paid out rope until fully 60 ft. had gone, when there was a shout from Porter announcing his arrival in the gap. When I got round the corner, I found the gully full from side to side with hard ice, in which there were faint signs of steps, now melted

and re-frozen into slightly rounded hollows in the surface.⁹ Porter told me he had crossed to the right hand side of the gully and climbed mostly on the rock, adding that the holds were small. As I could not see either how to get across the gully, or that there were any holds at all on the far side, I climbed the left side by lying back against rather inadequate handholds with my feet on the ice, but while I did not slip, I never felt really safe, not knowing the extent to which my rubbers would hold on the slippery surface and feeling all the time that they might suddenly skid. Porter said he never felt in any danger, but at the same time the place gave him no great pleasure. We were both extremely pleased to find a solid-looking rope ring in the gap, so knew that our retreat was secure. From the gap we climbed straight up for 15 ft. and then along a ledge of blocks, up a short chimney to a big window, through this back to the left, and so to the summit. We had had some hopes of traversing the peak, but the weather looked so threatening and the condition of the mountain, as evidenced by the amount of ice¹⁰ in the gully, seemed so doubtful, that we decided to descend by the way we came up. We descended rapidly, raced down to the Sellajoch, and got back to Cortina the same evening.

The next day, still in bad weather, we started in Wood's car for San Martino, running through a heavy thunderstorm over the Falzarego Pass, and down to the Lake of Alleghe. This lake was formed by a huge landslide blocking the valley about the year 1770. The water rose, slowly engulfing the village, and it is said that the church tower can still be seen below the surface. We went on through the increasing storm, first to Agordo, then to Fiera di Primiero, and finally up to San Martino.

Next morning we set out for the Cimone della Pala in fairly clear weather, having decided to try the N.W. ridge. After getting well up into the great W. basin of the mountain, we ascended a big gully to a conspicuous drop in the ridge. We then climbed a long depression to its head, and sighted an unknown party of two in a chimney just in front. Porter led away to the left up the steep wall of the ridge and we passed ahead of the others before the second had finished the chimney. A few towers came next and then at a gap where the tower beyond was unclimbable, a long traverse to the right was followed. The traverse completed we had to get back to the ridge, and here were two alternatives, a genuine chimney

⁹ Formerly an old axe was kept here.

¹⁰ There is always some ice in this gully.

leading directly to the notch, or an open gully parallel to the direction of the ridge from which easy ground might lead back to the gap. We went up the first chimney, which in its lower half proved to be a magnificent piece of climbing on perfectly sound rock. I joined Porter at the top of this and he started up the remaining 50 ft., but found its character completely changed and the whole thing entirely rotten. The party we had passed now appeared below, so we told them to go ahead while we waited, and found that they took the open gully on the right. As soon as they were out of the way, Porter, instead of descending, executed a beautiful traverse across steep slabs, into the top of the gully. We then went too far up the gully and after ascending a distinctly difficult chimney found ourselves some distance above the notch and cut off from direct approach to the ridge. A fairly easy descent down steep and rather rotten rocks brought us to the notch. Above this rises a magnificent steep unbroken ridge for some 300 ft., leading up to the foot of the great red tower which forms the preliminary summit. We passed rapidly up this and traversed away to the left until it was possible to regain the ridge beyond the tower by a chimney. A splendid wall almost vertical led out on to the level narrow summit ridge and a few minutes took us to the top. The other party proved to be young Zagonel and an Austrian climber. We had greatly admired Zagonel's style, full of tremendous dash and confidence; a pleasant fellow withal, who did not seem to resent our having passed him; indeed, on the way down, he insisted on our taking the lead. We descended by the ordinary route, which presented little difficulty, a rocky staircase or two, a chimney and a short traverse leading to a steep wall of about 70 ft., which was rather spoiled by a heavy fixed wire rope. Then a snow gully and a most curious tunnel, where we crawled through a dark hole backwards to drop suddenly a few feet on to a patch of ice. Heavy dark clouds were now all around and had it not been for nail-marked rocks and snow tracks, we might have had a good deal of trouble in finding the way to the Passo Bettega. Below this a most ingenious path which appeared and disappeared perplexingly, wound backwards and forwards through precipitous obstacles. Eventually we joined the main Rosetta path, but still there was much country to cover before we reached San Martino. As we arrived, the great red summit tower, with the sun on it, showed for a moment through the masses of cloud, but within ten minutes the usual afternoon thunderstorm broke with severity and continued through the

night. The next day broke clear and we returned *via* the Rolle Pass from which the Cimone della Pala looked most magnificent. From here on to Predazzo and up the valley to Canazei. Then over the Sellajoch and down the valley to the right; over the pass at the head of the St. Ulrich valley, and down by Colfusch to the main valley, then on to Bruneck, whence to the Pragser See, a remote and wild lake, which is said to resemble Lake Louise. Soon after leaving here, we ran into the usual afternoon thunderstorm, which accompanied us to Cortina.

ON MATTERS OF FACT.

BY BENSON LAWFORD.

‘PLACE me somewhere in the Valais, ’mid the mountains west of Binn.’ So sang the late Public Orator of Oxford in some very attractive verses, which every member of the Alpine Club ought to have by heart; and now one comes to think of it, would it not be a good plan to make a knowledge of this, or some other piece at the option of the candidate, one of the tests for admission to the Club? We might even go a step farther, and insist upon a public recitation, which should be a most amusing entertainment; and I hereby make Mr. Secretary, and the Committee for the time being, a present of the suggestion. To see a number of young gentlemen, to the limit of ten, who had otherwise satisfied the Committee of their eligibility for admission, publicly introduced to the platform, one by one, at any of the Evening Meetings—perhaps the informal ones, for choice—and solemnly repeating a set piece, would doubtless make for the gaiety of members, if not for that of the candidates themselves. Of course, on the other hand, such a procedure might result in a dearth of candidates, which would be, perhaps, a pity.

However, to return to my text, it is not so much with the mountains west of Binn, as with Binn itself, that my main thesis is concerned; for, having arrived at that time of life when we ‘prefer to walk in places which are reasonably flat,’ my wife and I decided—and I would here have you observe that the greater includes the less, though modesty forbides me to elucidate the matter further)—we decided, I say, that Binn was, in all probability, the very place for which we had been looking.

We found it all, and more than all our fancy, aided and abetted by Larden's 'Recollections of an Old Mountaineer,' had painted, from the first walk up from Fiesch on a hot June afternoon, to the, if anything, hotter descent in mid-July; and for a warning to any who do not know Binn, do not be misled by the intimation that Herr Schmidt will send his 'little mountain-car' to meet you, into thinking that he has a specially-adapted-for-hill-climbing-purposes Fiat, or Lancia—no; it is but the usual four-wheeled country-cart, drawn by a somewhat angular mule; and should you elect to ride either up or down in it, then look out for bumps! Generally speaking, Herr Schmidt's English, though slightly at fault here, was admirable, and on a par with his courtesy and attention as host, which led him to get up and see to things himself, on the one or two occasions when I did make an early start. He has spent some time in England in his younger days, and still looks back upon Piccadilly Circus as an earthly Paradise—possibly we might think so too, did we live at Binn all the year round.

In an old letter dated 1898, written by one of the most delightful men I ever knew, I lately found the following: 'We took a small boy, William Schmidt, from the Inn up with us as a guide (to the Eggerhorn), and he danced up in front of us, carrying the lunch, like a chamois—not that the latter carries the lunch, but simply does the dancing. . . . William is a very amusing boy, full of conversation, French and German, and entertained us mightily.' My friend, who was the proud father of five sons, goes on to say 'I think Binn would be a good place to send the children to, to learn mountaineering. There is plenty of ice and snow and they could kill themselves there more cheaply than in the better known parts!' This will perhaps be considered as a somewhat doubtful recommendation for Binn; but it may be added that two out of the five sons have earned the privilege of writing the mystic A.C. after their names; while the other small boy referred to has become the hotel proprietor.

The happy situation of Binn, at the junction of two valleys, each of which is split up into several glens at its head, makes for a wonderful variety of walking, while to the genuine mountaineer¹ the innumerable streams and beautiful waterfalls are a constant source of delight—at Heilig Kreuz alone there are four splendid falls within very easy reach; and the walk up the Längthal, by the river-path and back across the upper

¹ *Playground of Europe*, p. 44.

pastures, is wonderfully beautiful. Being at Heilig Kreuz, it is perhaps worth while pointing out that there is a good path to the Ritter Alp on the true left bank of the main stream, not the right, as stated in Ball.² This was noticed during an ascent of the Helsenhorn, rather long and laborious, owing to my own lack of condition, and a good deal of fresh snow ; but we had a lovely day, and the view, when the summit was eventually reached, was magnificent—not the least fine feature being the wonderful cloud effects over Italy.

The solid mass of the Ofenhorn fills up the head of the main Binn valley in very attractive fashion, bringing to memory Flecker's³ beautiful lines :

We are the pilgrims, master ; we shall go
Always a little farther ; it may be
Beyond the last blue mountain barred with snow,

and it is obvious that any walker will be tempted by the broad snow-ridge of the Hohsand Pass to cross over into Italy, especially if he knows of the glories that await him at Tosa.

Dawn was just breaking as we left the hotel, but the sky was overcast, and the weather, that eternal problem of the hills, looked very doubtful. Adalbert would not commit himself, but Herr Schmidt prophesied a fair day. As we walked up the valley, alongside the rushing torrent, the clouds seemed to come ever a little lower down the mountainside, but it was not till between 6 and 7 that our spirits were cheered by a lightening of the heavy bank overhead, and an occasional transitory glimpse of rocky peak and gleaming snow-field through the shifting mist. We were mounting steadily all the while, and by the time we had reached the edge of the glacier, and halted for a hasty meal before putting on the rope, we had risen above the clouds into glorious sunshine, and Herr Schmidt was justified of his prophecy. We toiled across the snowfield to the little pass at its head, and there paused ; looking back, the valley below was full of cloud, above which the containing hills stood out on either hand, and far away to the west the great mountains about Zermatt shone forth above the sea of cloud, resplendent in the morning sun, the Weisshorn conspicuous amongst them by reason of his clean uplifting lines and the dazzling purity of his snow mantle.

To the north, we could see but little of the Oberland ; but facing east across the pass into Italy, all was astonishingly clear,

² *Central Alps II.*, p. 12.

³ *Golden Journey to Samarkand.*

and ridge after ridge stood out before us, from the St. Gotthard hills and Basodino, comparatively near at hand, away through a wonderful variety of form to the distant Bernina, Heaven only knows how many miles away !

To cross a pass is always interesting, even though it lead merely from one glen to another : much more when, as in the present instance, it takes you over a moderately high mountain-ridge from one country to another ; and when such ridge is, in addition, a part of the watershed between two main drainage systems, the streams to the east running down through Lago Maggiore, the Ticino and the Po into the Adriatic, and those to the west by way of the Rhone into the Mediterranean. Athwart the ridge, one can almost fancy oneself a kind of God ; at all events, a being outside the bounds of time and space, watching, through countless ages, the slow wrinkling of the face of Mother Earth, as the tears she sheds over human perversity wear deeper, and ever deeper, the furrows upon her benign countenance.

The descent into Italy was arduous, for the sun was hot, and the fresh snow by this time soft, and we were well broiled before quitting the glacier proper—even then, there were still several beds of winter snow to cross, and a long steep gorge to wind down (a fine knee-test), before the upper levels of the Val Formazza were reached. Here we lay long beside a beautifully clear stream, resting from our early toils on the mountain turf, for

The sunshine in this happy glen is fair,
The grass is cool, the mountain air
Buoyant and fresh, the mountain flowers
More virginal and sweet than ours.

(Forgive, O shade of Arnold, you who also loved the hills, this slight adaptation of Callicles' song !)

It is probably fancy only, yet it always seems to me as though flowers in the Italian Valleys of the Alps are more beautiful than those on the Swiss side—they are the same kinds—arnica ; sulphur anemones ; St. Bruno lilies ; deep blue trumpet-shaped gentians ; little star-like, bright blue gentians, which with forget-me-nots carpet the alp, and endeavour to rival the colour of the sky overhead—but the colours are brighter, the blooms finer, than those of their Swiss-alpine brethren. But we must not dally too long, even with 'the dewy flowers of golden Persephone,' otherwise we shall never reach Tosa.

The valley opens out ; one alp succeeds to another, each at a slightly lower level, the river forming a series of rapids between the steps—at last, you enter a wider basin than any, a sheet of nearly level beautiful green turf, bounded by steep slopes, the river running swiftly through the midst. Crossing this basin, ‘ the traveller arrives at the Albergo della Cascata della Frua, at the very brink of the step in the valley, 470 ft. in height, which causes the Falls of the Tosa. The river descends, not in a single leap, but in a sheet of water broadening towards the base, and broken by projecting bosses and ledges into innumerable cross-jets and branches.’

Truly a wonderful sight, but one which I despair of describing ; and this is why I have quoted from Ball.⁴ I agree with Mr. Belloc⁵ (though he indeed is speaking of mountains) when he says that ‘ this kind of description is useless, and that it is better to address prayers to such things, than to attempt to interpret them for others.’

Our return journey next day was made by way of the Bocchetta del Gallo, the Scatta Minojo, and Albrun passes, on all of which there was a considerable amount of snow. From a picturesque point of view, the Vannino Lake, which lies in the deep hollow between the two first-named passes, is being spoiled by the great dam erected across its outflow ; the place was swarming with Italian labourers, and gave one the impression of a very busy hive indeed. In these utilitarian days, lamentation over such happenings is out of place ; but at present, however glad the wilderness and the solitary place may be, the desert is not blossoming like any rose that I have ever seen ; it is more like an ant-heap ; and this, though wonderful in many ways, is not necessarily a thing of beauty and a joy for ever. The obvious retort is that, if they do not like it, ‘ the wayfaring men, yea fools, should not err therein ’—but once having turned your back on Vannino, and having ascended the slopes on the other side, how glorious is the view that awaits you from the Scatta Minojo, or just below it !

I began these somewhat disjointed vapourings with a reference to the late Dr. A. D. Godley—let me close them with another. In one of the last of those delightful papers with which he used, from time to time, to tickle our fancy, he remarks⁶ : ‘ Nevertheless it is possible to allege that there *may* be mountaineers who are outside clubs.’ In the summer of

⁴ *Central Alps II.*, p. 6.

⁵ *The Path to Rome.*

⁶ *A.J.* xxxvii. p. 112.

1921, when I was staying at Les Plans, I had the honour of meeting such an one. On a certain Sunday morning, I set out alone to walk over the Col des Martinets, and at the head of the Nant Valley, just where the ascent begins, I fell in with a Swiss gentleman from Lausanne, on his way over to Morcles. A slight difference of opinion as to the correct line of ascent led to an early separation of our paths ; but a little later on, I was not altogether dissatisfied to see him retracing his steps and following my line. It was very hot, and my new acquaintance presently suggested a drink, and offered me his flask of cold tea, saying that alcohol was no good on the mountains. As I had nothing but a drinking-cup with me, I felt that it would ill become me to argue the point, and I accepted his cold tea with gratitude, water being very hard to find in those limestone hills, that hot summer. By way of endeavouring to make myself agreeable, I then suggested that he might be a member of the S.A.C. ; but as a vacuum to Nature, so, apparently, was the Club to this gentleman, and he poured forth such a torrent of abuse on the S.A.C. and all its ways, that I decided discretion was the better part of valour, and left that subject alone for the future. We then proceeded, more or less amicably, until we reached an old snow-bed just below the Col, and here lunch was suggested. At this point, I was amused to observe my friend produce a bottle of white wine, which did not seem to me to tally entirely with his previous statement about alcohol ! However, as he again very kindly offered to share it with me, I did not feel called upon to draw his attention to the discrepancy. After lunch, he drew a small pistol from his pocket, and proceeded to indulge in a little fancy shooting, which, as may be imagined, reverberated in an astonishing fashion amongst the cliffs of the Grand Moeveran, Dent aux Favres, and Dents de Morcles. It was perhaps, a harmless amusement ; but I was beginning to wonder whether I liked my new friend any better than David Balfour, in 'Kidnapped,' liked the blind catechist on the Isle of Mull. A little later, having reached the Col, and my friend showing no signs of proceeding further, I bade him a very good afternoon, and ran rapidly down to Javernaz, thankful when I had put a shoulder of the hill between my back and his pistol. I never saw any sign of his following my footsteps ; and, for all I know, he may still be sitting on the Col ; but at all events, my experience enables me to state, as a positive fact, that 'there *are* mountaineers who are outside Clubs.'

A COUNTERBLAST COUNTERED.

MR. CECIL TORR, whose work 'Hannibal Crosses the Alps' was noticed in a preceding volume (xxxvi. p. 426), has, we regret to say, been very much put out by its treatment by both editors and critics. The editors, he complains, have handed it over to reviewers conspicuous for their *incompetence* and *effrontery*, and the latter have dealt with it as might have been expected of 'people of that kind.'

Mr. Torr has taken advantage of the issue of a second edition of his book to give a free expression to his annoyance. He has added to it an appendix which he terms 'A Counterblast against Critics.' Its concluding sentences run as follows :

'I certainly should not say silly in speaking of these critics. I should require a much stronger term to characterise their incompetence and their effrontery. It is astonishing that journals of repute should get reviewing done by people of that kind. But editors are usually good judges of what their readers want. *The Geographical Journal* is for the Royal Geographical Society, the *Alpine Journal* for the Alpine Club, and the *Journal of Roman Studies* for the Society for the Promotion of Roman Studies, and I suppose the editors of those journals know what kind of stuff their readers are prepared to swallow.'

We are content to ignore the breach of literary good manners that distinguishes this singular outburst, while we willingly accept our part of the responsibility we are called on to share with the editors of the two respectable periodicals mentioned above. Nor is Mr. Torr's disparagement likely, we imagine, to affect seriously the Societies he contemns. But it may be allowable to remind our readers that among the writers of the signed criticisms specially identified by Mr. Torr whose opinion he so much resents are to be counted several distinguished members of the University of Oxford, including the Professor of Military History and an Hon. D.C.L., who is also an Hon. Fellow of University College. It will be held by many a matter for regret that expressions of the violent character of those recorded above should have been allowed to issue from the Press of the Sister University!

We do not propose to tax either our space or our readers' patience by following Mr. Torr *seriatim* through the twenty-four pages of controversial and, in the main, controvertible

statements that make up his *Counterblast*. But lest strangers to the subject should take these for more than they are worth it seems expedient to select from them half a dozen choice specimens for critical examination.

1. Mr. Torr writes (p. 43): 'By just looking at Ptolemy's "*Geographia*," ii. 10, 2 (this critic) would have seen that Fos was not at the eastern mouth of the Rhône, but further along the coast.'

It is true that the position assigned to the Fossæ Marianæ in the text of Ptolemy is some distance west of the western mouth of the Rhône, somewhere, that is, near Montpellier, and a long way from the canal dug by Marius. But Mr. Torr would have been wise if in place of contenting himself with a single glance at Ptolemy he had looked up Fossæ Marianæ in that standard work, Smith's '*Dictionary of Classical Geography*.' He would have found there a lengthy discussion, signed G. Long, on the puzzle involved in the location of Fos. Either Ptolemy's text is in this instance corrupt or the Fossæ he refers to are not the Marianæ. Long, a good authority, inclines to the former view.

2. Mr. Torr writes (p. 52): 'One mountaineering critic who had never seen the Col de la Traversette.' In the particular instance this happens to be an excusable inaccuracy. The critic in question, however, if he had not crossed it, had closely approached and seen the pass from the Italian—the crucial side. But if Mr. Torr cares for the opinion of any Alpine critic here is Mr. Coolidge's: 'I have been at least a dozen times over the Traversette, and I know Torr is wrong.'

3. Mr. Torr has gone out of his way (pp. 52-3) to distort and obscure the remarks of one of his critics, an Ex-President of the Alpine Club, on the identification of the district between two rivers described and compared to the Nile delta by Polybius. This critic compared the general description of the natural features of the region in question given by the classical author with those of two definite districts: the district between the Rhône and the Isère and that between the Rhône and the Durance. He, on the strength of his own knowledge of the ground and on the reports of early travellers, concluded that Polybius's summary of the general features of the district he described was fairly applicable to the country between the Rhône and the Isère, but 'could not reasonably be forced into any correspondence whatever with that between the Rhône and the Durance.'

The meaning of this sentence Mr. Torr has completely mis-

understood. He quotes his critic as arguing that the description given by Polybius of the range forming one of the boundaries of the Island cannot reasonably be forced into correspondence with any of the mountains east of the Rhône except those between that river and the Isère. Such an assertion would obviously be absurd. There are, as we all know, many mountain ranges east of the Rhône which, from the classical point of view, might fairly be described as 'difficult of approach and access, and almost, so to speak, impassable.' The critic's argument was obviously based, not on any one particular feature, but on the combination of natural features indicated by the Greek historian. He pointed out that the expressions employed by Polybius—a populous and corn-bearing region encompassed by two rivers and a difficult mountain rampart—agreed better with the district lying between the Rhône and the Isère than with that between the former river and the Durance. Mr. Torr, on the other hand, contends that the mountains between the Rhône and the Isère, the range west of Chambéry, in no way correspond to the picture drawn by Polybius, but are easy of access. He even goes so far as to suggest that this range with the old tracks over it may fairly be compared to Dartmoor and the road between Exeter and Plymouth! Such a comparison indicates a sad lack of local knowledge or literary research! Let Mr. Torr turn not only to the current Guide-books but also to the works of early travellers. Let him study there the accounts of the old tracks and muleroads, the Col de Couz and the Mont du Chat, which for many centuries gave the only direct access from France to Savoy.

We will make him a present of two. Here is the account of his passage given by Lassels in his 'Voyage of Italy,' A.D. 1670, p. 66 :

'Parting then from Lyons on horseback we passed through Vespillier, La Tour du Pin, Beauvoisin (whose bridge parts France and Savoy) and came in two days to Mount Aiguebellet, the threshold of the Alps. This is a pretty breathing hill and may be called the *Alpes foule over* [sic] or the Alps in a running hand and not in that fair text hand which I found Mount Cenis to be in. It hath all the lineaments and shapes of the great Alps, that is much winding and turning; deep precipices; Marons, or men with little open chairs to carry you up and down the hill for a crowne, and much stumbling worke. We find this hill resembles Mount Cenis as a proper man may do a giant. Having passed this hill and by it through the very clouds we fell as it were out of the skyes upon Chambéry.'

Next let Mr. Torr take up Brockedon's ' Passes of the Alps, 1827,' vol. i. p. 31, and note the following passages :

' The range of mountains which extends south of the Jura from the Rhône to the Isère presents a formidable barrier between France and Savoy which formerly rendered access to Chambéry from Lyons very difficult ' ; p. 32 : ' So great were the difficulties that we find from the records of early travellers that they arrived at Chambéry on their way to the Cenis by a considerable *détour* either by Geneva or by Grenoble.'

A detailed description of the old road follows, pp. 32-3 :

' From the plain the road ascends the mountain-side and then abruptly enters a ravine at a considerable height above a stream, which foams beneath in its narrow and often concealed bed. The route leads thence to Les Echelles, a little town which owes its name to the mode of passing a cavern in its vicinity through which formerly lay the only path to Chambéry. Those who travelled by the old road ascended ladders placed on the face of the rock to the height of one hundred feet ; they then entered a cavern and after climbing more than eighty feet through it regained the day in a deep cleft of the mountain ; and a path of which some vestiges remain, like a Roman pavement, enabled the traveller with comparative ease and freedom from danger to attain the summit of this extraordinary passage. This was an undertaking always dangerous to the unskilful and often impracticable, for the cavern was the embouchure of the waters from the ravine above ; and as the snow and torrents often interrupted the passage it was only in the most favourable seasons that the undertaking could be accomplished. When the policy of a more intimate intercourse with France suggested itself to the enterprising mind of Charles Emmanuel the Second, Duke of Savoy, he determined to make a road here practicable for carriages ; and the most celebrated act of his reign was the accomplishment of this great undertaking, which was called the *route of the Grotto*.'

If Mr. Torr wishes for further information he should refer to the *Notice Historique sur l'ancienne route de Charles Emmanuel II. et les grottes des Echelles* of Messrs. Franklin and Vaccarone, Chambéry 1887.

4. Mr. Torr (p. 42) is equally ill informed when he suggests that it may plausibly be argued that the Riviera route was in Hannibal's days among the *easiest* ways of getting past the Alps. In the time of the Roman Empire it was, we know, furnished with a military road. But before that date as well as after that date when the road had gone to ruin, the rugged and uneven

character of the coast rendered the track along it and over its many promontories extremely difficult, and most traffic went by water. Dante's reference to the 'ruina' between Lerici and Monaco is emphatic and well known. Brockedon in his 'Passes of the Alps' describes the narrow paths and 'giddy heights which overlook the sea,' and the unbridged torrents which up to 1828 made travel more or less dangerous even on mule-back. De Saussure's journal of 1780 fully confirms this account.

5. Mr. Torr's captious comment (p. 54) as to the Barricades on the route of the Col de l'Argentière hangs on his omission of the words 'on either side' which follow 'interrupted' in the review from which he is quoting.

These words make it clear that the reviewer was not making the absurd suggestion that Hannibal passed the Barricades 'on the way up on the west side.'

6. The treachery on the part of the tribesmen (p. 59) mentioned by Polybius consisted not in their misleading the Carthaginians but in their wearing peace-emblems. There is nothing said of their luring Hannibal into a gorge off the direct road. The narrative distinctly implies the opposite. The army went on next day *through* the gorge.

We might continue for several pages, but our readers will have had enough of Mr. Torr's querulous complaints and crude rejoinders. They can judge for themselves of the value to be attached to his *Counterblast*.

AN EARLY VISIT TO TONQUIN VALLEY.

BY HOWARD PALMER.

(*President of the American Alpine Club.*)

NOWADAYS the lovely alp-lands of Tonquin Valley, its glistening amethyst lakes, and the frowning walls of the ramparts are well known as one of the show-places of the Canadian Rockies in Jasper Park. As recently as 1919, however, despite the fact that an excellent map of its trails and peaks had already been published for several years, few tourists had gone there, and apparently no mountaineers at all. III. 8.

The locality seems to have been visited first by M. P. Bridgland in 1915, while conducting the governmental survey of the Park. Many of the peaks to the E. and N. of the valley were then occupied as photographic stations, but none on or to the

W. of the continental divide, which forms the boundary of the Park hereabouts. The maps and a descriptive booklet, illustrated with the beautiful survey photographs, were issued by the Government in 1917.¹ These supplied the first detailed information about the area, including Mt. Geikie and its remarkable neighbours, which lie just over the divide in British Columbia. The ascents made by the surveyors, and that of Mt. Edith Cavell (11,033 ft.) by the late Professor Holway and Dr. Gilmour in the same season (although well removed from Tonquin Valley), comprise all the mountaineering carried out prior to the visit reported in the present paper.

In 1919 the late Major R. H. Chapman and the writer selected Tonquin Valley as the goal of our summer holiday. Who could resist the lure of such a galaxy of untouched peaks, with the mystery of the unknown region beyond their skyline thrown in for good measure? We hoped to combine some mapping with our climbing, and took along a plane-table for the purpose. On the way out to Canada we fell in with Allen Carpe, who was also headed for the mountains, and he accepted our invitation to become one of the party.

On August 10 we set forth from Jasper with two men and twelve horses supplied by the Brewsters, outfitters. We followed the Cavell road for four miles to the lateral valley of Whistlers Creek, where an old Indian trail climbs out of the Athabaska Valley in a steep ascent of nearly a thousand feet, partly over cliffs. Here we almost lost a pack-horse, which was heedless enough to step off the track and roll a hundred feet down the hill-side until arrested by a tree. Beyond this the trail had not been cleared of windfall for years, so progress was retarded by constant chopping, and at nightfall we had to camp in a swampy meadow on the slopes of Marmot Mt., having advanced only a mile up Whistlers Creek valley. During the night all but two of the horses returned to Jasper, thinking nothing, apparently, of descending in the dark the very cliffs where they had made such a fuss in the daylight. It took the best part of the following day to bring them back, so no forward movement could be undertaken.

¹ See *Description of and Guide to Jasper Park*, which should be consulted for details regarding routes of access, distances, heights, etc. In 1921 the Boundary Survey extended the mapped territory well to the W. and S. of the Park, and to-day their Sheet No. 28 (reproduced in $\frac{1}{2}$ in. to mile scale with Mr. Fynn's paper, *A.J.* xxxvi.) is of first importance in connection with this whole district.



Photo by Howard Palmer.

BASTION PEAK
from the N.W.

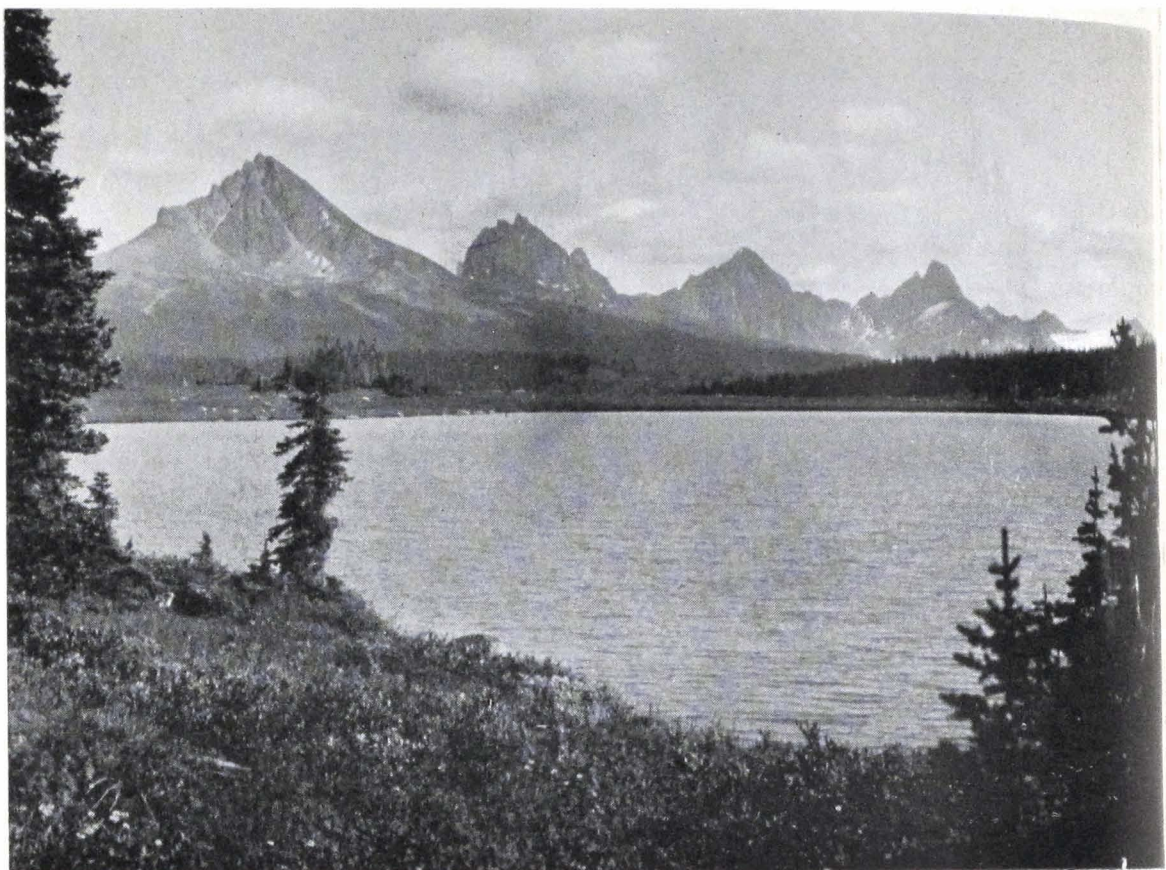


Photo by H. Palmer.

LOOKING S.E. ACROSS MOAT LAKE.

Illustration 7.

PARAGON.

NAMELESS.

DUNGEON.

REDOUBT.

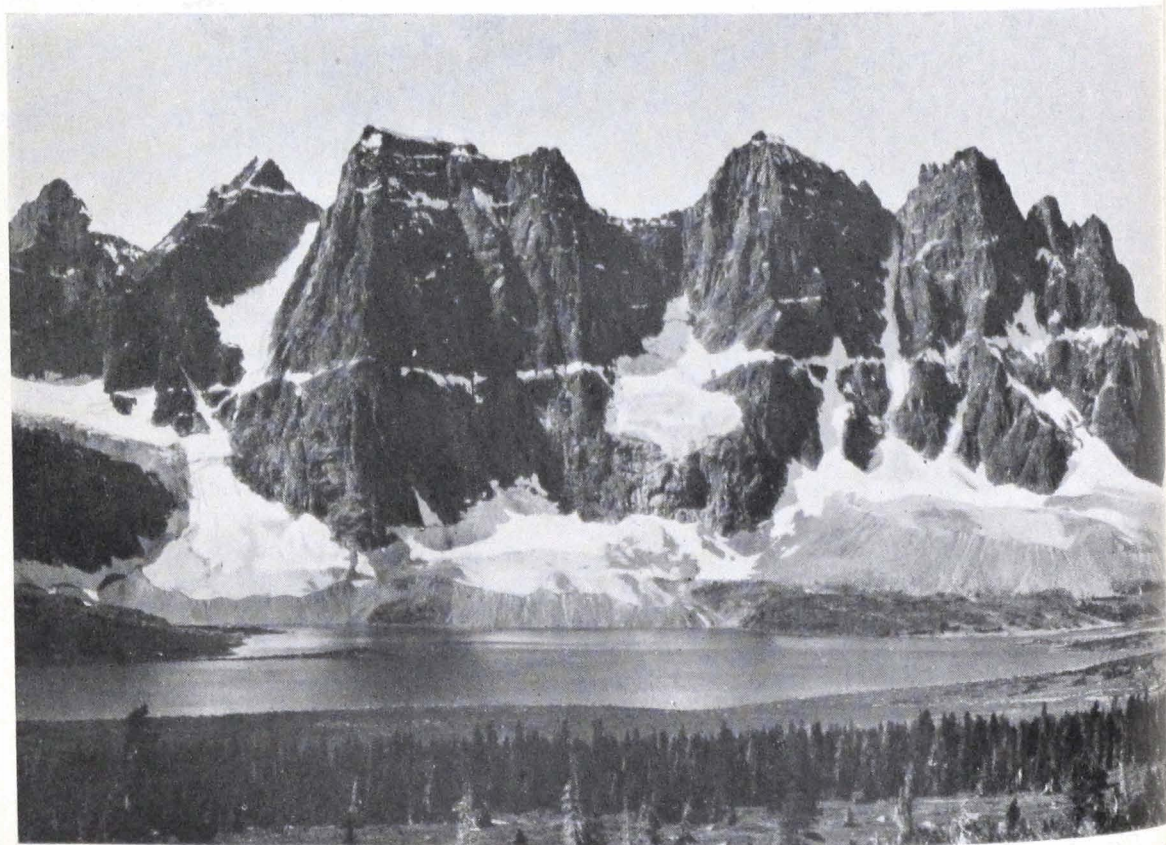


Photo by H. Palmer.

The writer took advantage of the beautiful weather to ascend Marmot Mt. (8557 ft.), whence a lovely view across the Athabaska Valley to the distant Maligne Lake peaks rewarded him. Little did he then suspect what adventures they were to afford him in a future year.

Continuing on the 12th up Whistlers Creek, we covered several miles of rough going, through forest and along stony, wet hill-sides to the open country below the glacier. Here we turned S. and crossed Marmot Pass (7400 ft.) leading to the valley of Portal Creek. A 1500-ft. drop to the bottom, through burned timber, next ensued, then a rather pleasant march up the S. fork of this stream. The mountains hereabouts are of the second class, without much snow, but of pointed, cliffy architecture. During the day the weather clouded up, and next morning the trip over Maccarib Pass (7150 ft.) was cold and cheerless, although enlivened by the sight of a splendid band of twenty-one black cariboo, led by a mighty bull with wide-flung antlers.

Maccarib Pass gives access to one of the sources of Meadow Creek, which drains Tonquin Valley to the N. We rode through a rolling, open country with grassy slopes and few trees, wet under foot. Three miles below the pass, at the corner of Mt. Clitheroe (9014 ft.), Meadow Creek valley joins the Tonquin, and we approached the place with keen anticipations, for we knew that the Ramparts would come into view. Nor did the disclosure belie them. Black walls of rock shot up into the clouds so steeply that one involuntarily caught one's breath. Snow could scarcely find room for lodgment anywhere. Along the base of the wall extended a row of diminutive glaciers, perched high up on banks of moraine. Washing their lowest boulders and reflecting the grim precipices above, lay two of the prettiest sheets of water of which the Rockies can boast, three miles long and a mile wide. About them stretched green meadows, interspersed occasionally with groves of small evergreens, the whole comprising a unique picture of pastoral park-like greensward, contrasted with ragged, beetling crags. III. 8.

Passing along the swampy margin of the lakes, at times finding easier going in the shallow water itself, we waded the gently babbling brook which drains them towards the S., and camped on dry ground just beyond (elevation 6465 ft.). The first good day, after settling ourselves, we went down into the valley of Penstock Creek and ascended the Fraser glacier, which occupies the only pronounced break in the mountain wall for

many miles in either direction. A huge landslide from the mountains to the N. almost blocks the valley. Some of the boulders are of the proportions of small cottages, as we discovered to our cost in trying to make our way through them. The glacier is quite easy to ascend. The lower half divides into two tongues, flowing N. and S. respectively from a broad saddle. The latter drains into Simon Creek. We occupied a prominent hummock of rock (8600 ft.) on the southerly arête of what is now McDonell Peak, which afforded a splendid panorama of the then unexplored district to the S. and E., including the wide glacial basin of Simon Creek, the old 'North Whirlpool,' with its entourage of interesting rock peaks.

We discovered that McDonell Peak was easy of access from the Fraser glacier, so on August 17 we ascended it with the plane-table in six hours and forty minutes from camp. This was the first occasion that any peak on the continental divide between Tonquin Pass and Athabaska Pass, a stretch of twenty-five miles, had been gained. Unfortunately, dense smoke from forest fires concealed everything. Only the outlines of the northerly peaks of the Ramparts and Geikie could be made out. The long, corniced ridge connecting us with the snowy dome of Simon Peak (10,899 ft., the loftiest summit of Mt. Fraser) looked perfectly feasible under proper conditions; but now it was mostly bare ice, which would entail heavy step-cutting, so we regretfully dismissed it from our thoughts. It has since been ascended by Dr. Thorington and party. The lower twin peak of McDonell, now named Bennington Peak (10,726 ft.), also attracted us, but it looked difficult and would involve more time than we could spare, so we postponed it for future attention. It still remains unclimbed, and can be recommended as a desirable goal for the mountaineer. We returned from McDonell Peak as we had come, in four and a half hours, the total expedition occupying fourteen hours, of which almost three were spent on the summit. The elevation is 10,776 ft.

A hot, smoky day now ensued, bringing out flies and mosquitoes in annoying numbers. Many falls of ice rumbled down from the little glacier near the lake. We strolled lazily over the meadows, photographing and enjoying the scenery. Twenty-one different kinds of flowers were noted. In the evening a gale arose with thunder and lightning accompaniments. Our tents flapped ominously as the gusts hummed across the guy ropes. At one time we feared that they would be carried away bodily. High winds are frequent in these lofty valleys near the divide, as the branches of the trees and

gnarled, bent trunks testify. Many trees have branches growing on the lee side of the trunk only.

At sunrise the fury of the storm abated, and by 9.30 it looked like clearing. Lest the day should be wasted, Carpe and I decided to take a shot at one of the rock pinnacles of the Ramparts, which rose directly overhead. Under the prevailing conditions, and with such a late start, we had scant hope of solid accomplishment, but at least we could reconnoitre for a future day and the physical activity would be welcome.

Accordingly, we started off at 10 A.M., swinging up around the grassy slopes in a spiral course for the tiny glacier occupying the gorge behind Surprise Point. An hour and a half later we pulled into the col at the top of the glacier (7500 ft.) after kicking many steps and surmounting a bit of steep ice. The view from here into the basin of Fraser Glacier, to the S., was very fine—the sun now coming out brightly between big woolly cumulous clouds, which cast lovely shadows on crag and glacier.

Turning sharply to the right we mounted along the broken, nearly horizontal, ridge which led westerly directly to the Rampart wall. We encountered big teetering boulders here as well as a file of gendarmes. Some had to be climbed, while others could be traversed on one side or the other. With a larger party, the smooth snowy glacier bordering the N. side of the ridge would save time. At 12.30, on the top of the ridge, we tarried twenty minutes for luncheon. The barometer showed a rise of nearly 1800 ft. from camp. Another half-hour's scramble along the arête brought us to a saddle (8000 ft.), beyond which our peak rose sharply, partly concealed by a large bastion jutting out towards us. The well-splintered rock promised favourable climbing.

III. 8,
on left.

Continuing up the broken wall of the bastion, we gained its top at 2.30 (elevation 8550 ft.). From here it was plain that our arête led directly to the summit in an unbroken sweep. In shape the peak approximated a triangular pyramid, steep and clean cut. Opposite sides connected in deeply incised saddles, with other towers of the Ramparts on either hand.

III. 8.

Leaving the remaining food and one ice axe behind, we started up. At two points only did we encounter difficulty. The first was a steep 10-ft. pitch with awkward holds; the other, a thousand feet higher, occurred where a horizontal ledge, covered with hard snow, interrupted the arête. Steps had to be chopped straight up until the rocks of the ridge could again be followed. The width of the snow-band exceeded our 50-ft.

rope, so with only one axe our position was distinctly insecure while the leader hewed the last dozen steps to the rocks. On the right the precipice dropped to the waters of the lake in quite a sensational manner. Of like character was the brilliant view of Dungeon Peak through the col contrasted against the dark silhouette of our own ridge. For a short space here we had first-class climbing on sound rock, and it demanded careful attention. Rather suddenly, at 4.45, we poked our heads over the edge of the flattish summit, and Paragon Peak (as we later named it) was ours. The height is approximately 9950 ft.

It was a moment of keen triumph, a success beyond hope crowning a day of uncertainty. Even the most abandoned sinner against the canons of mountaineering cannot expect to do much after a ten o'clock start, let alone a first ascent. Yet we *had* made it, and our peak was the first of the forbidding Ramparts to be conquered into the bargain—if our former climb of McDonell Peak should not be considered to belong to them, as may well happen.

But this natural elation vanished into thin air as soon as we looked about us. Awe and profound astonishment took its place. Never in our lives had we witnessed such a concatenation of towers and spiky pinnacles. The sky simply bristled with them. Opposite to the curving line of the Ramparts, and paralleling them, stretched another row of castellated peaks, a northerly offshoot or spur of Simon Peak (10,899 ft.) at our left. Of these, Postern (9720 ft.) and Casemate (10,160 ft.) have been named. Between, and seemingly at our feet, lay a vast gorge or canyon, down which the snaky tongue of Bennington glacier wound its sinuous course. In the distance, closing the vista, stood the superb blunt tower of Geikie (10,854 ft.) with its attendant fangs—Bastion (9812 ft.) and Turret (10,200 ft.), the last of which overhangs definitely towards the E. Farther to the right, above hopeless precipices, towered the rugged, pointed dome of Dungeon Peak (10,290 ft.), the culmination of the Ramparts proper.

In attempting to portray such a scene, one's pen falters helplessly. Words cannot convey the sense of austere grandeur evoked by those serried ranks of jagged, fretted teeth 'biting' into the sky. And the effect was heightened for us by the thought that we were the first among mortals to view them in this aspect. At that time the crest line of the Ramparts (the continental divide) formed the extreme limit of the Park map, which had been entirely constructed from photographic stations situated miles away to the E., and although, of course,

CASEMATE MT.

POSTERN MT.

MT. GEIKIE.

TURRET PK.

BASTION PK.

DUNGEON PK.



Photo, H. Palmer.

Bennington Glacier.

PANORAMA N.W. FROM SUMMIT OF PARAGON PK.

Illustration 3.

NAMELESS PK.
MCDONELL PK. (behind)

BENNINGTON PK.

SIMON PK.



Photo, H. Palmer.

PANORAMA S.W. FROM SUMMIT OF PARAGON PK.

Bennington Glacier.

Illustration 4.

the summits above mentioned had been observed in the distance, no one, we believe, had ever looked over the Rampart wall into the depths of the gorge, nor had the S. sides of Geikie, Turret, and Bastion been seen before. Walled in on all sides by sheer precipices, the canyon extends for six miles, being from 4000 to 5000 feet deep and less than two miles wide from crest to crest.

To the S. and E. the outlook was commanding. Bennington Peak and a nameless intervening crag a few feet higher than ourselves displayed impressive precipices. In the extreme distance, thirty miles away, Mt. Clemenceau was plainly in view beyond the upper Scott glacier. Mt. Scott looked decidedly higher than Mt. Hooker. Columbia, Fryatt, and Cavell stood forth prominently, the latter somewhat lacking in majesty on account of its far-flung lofty buttresses and rather small, shaly summit gable. III. 4.

Towards the N.-E., down the Athabaska Valley, I felt quite certain that I could see out of the mountains to the prairies, and Paragon is the only peak I ever climbed from which this was true. III. 6.

But the rapidly sinking sun and lengthening shadows in the valleys warned us that we must not tarry longer; so after building a cairn and leaving our record we commenced the descent at 5.45. It took two hours to get down the steep 1400-ft. stretch of ridge to the rucksacks, which was accomplished without incident, save the surprising discovery of a little pika living in the crags at an elevation of 9000 ft. A roping off at the abrupt pitch was avoided by a traverse out on the face. At the first col it became obvious that the light would not last long enough for us to traverse the long ridge with the gendarmes, so we abandoned the route of the morning and started down the heathery slopes on the S. leading to the valley of Penstock Creek, 2000 ft. below.

We had only casually glanced into this valley a few days previously and knew nothing whatever about conditions likely to be met with there; but the chance had to be taken, for it was essential to get as low down as possible if (as seemed likely) we were to spend the night out. Plunging down broken, grassy slopes and long fingers of scree in couloirs, we made famous progress. But the onset of darkness was quicker, and we had accomplished only half the descent when it became necessary to feel our way along. At length we arrived at the flattish brow of a cliff several hundred feet high, where bushes and stunted trees grew. A stream shot out into space over the edge. Here we rested a while and took refreshment.

The smooth white surface of a glacier towards the right did not look very far beneath us, so after a while I worked back in that direction and was delighted to come upon a slope of moraine that might afford an access to it. (My eyes were becoming adjusted to the gloom, and I could really see quite well.) The glacier curved around the foot of the buttress in a kind of ice-fall, with radiating crevasses. Along the cliff they were large and broken, but farther out they narrowed to almost insignificance. With the aid of the rope I descended the bank of moraine and discovered a rounded segment between crevasses which formed a sort of icy causeway leading out into the gloom.

Carpe joined me and, moving cautiously, one at a time, we edged along it. The going improved as we advanced, and in a few moments we found ourselves out in the middle of the dry glacier, a smooth icy plain losing itself in mysterious dusky shadows on every side. Although, alas! no stranger to nocturnal ambulations amongst high peaks—(Has anyone ever had the luck to escape them entirely?)—I must confess that our plight presented certain aspects of novelty. We were adrift on a frigid waste of ice where no one had ever stood before. Nor had we ourselves seen it, except casually as a part of the panorama of the morning. The night was moonless, and our only guidance the gentle slope of the icy surface. But it shone with a kind of phosphorescence sufficient to reveal a crevasse or other obstacle; so we struck boldly downwards, and after perhaps a quarter of a mile gained the end of the tongue. Fortunately, the glacier terminated in a thin smooth lip which permitted us to get 'ashore' with surprising ease.

Our aim now was to follow the valley stream. We knew that this would guide us to the meadows which we had crossed on our ascent of McDonell Peak, and once here we had some expectation of being able to work our way back to camp. It was a forlorn hope, but better than waiting passively for daylight. However, off from the white ice, the darkness became Stygian in intensity. The little candle lantern which we now lit seemed even to increase it. We could only grope along the bank, splashing through pools and stumbling over the tricky stones. The next couple of hours remain in my recollection as a painful nightmare needless to detail. The map shows that we covered only about a mile to the meadow, but it seemed an age. Here, kind fortune directed our faltering steps to the rude game trail which mounted through the heavy forest to the alps 500 ft. above where the camp was situated. At each halt we dutifully extinguished the candle, our last one and



Photo by Howard Palmer.

BASTION PEAK FROM THE N.E.



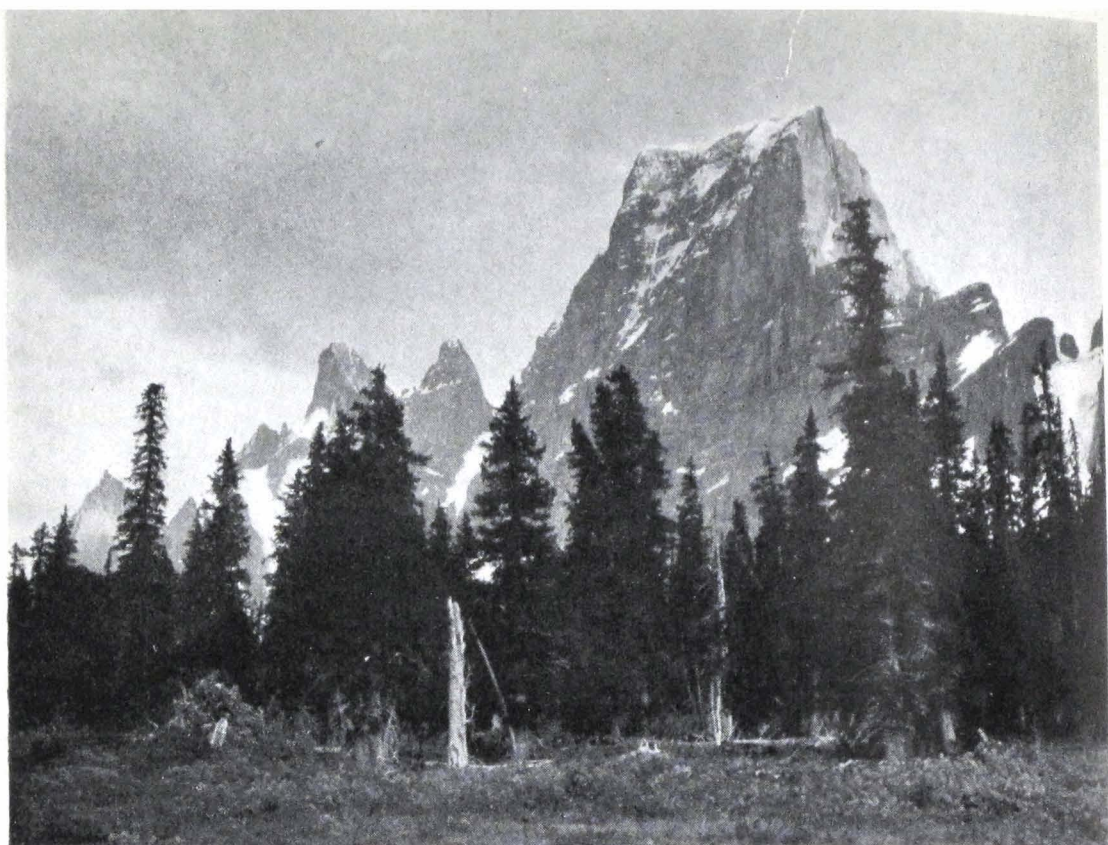


Photo by H. Palmer.

TURRET PK. (left) and MT. GEIKIE (right)
from the N.W.

Illustration 9.

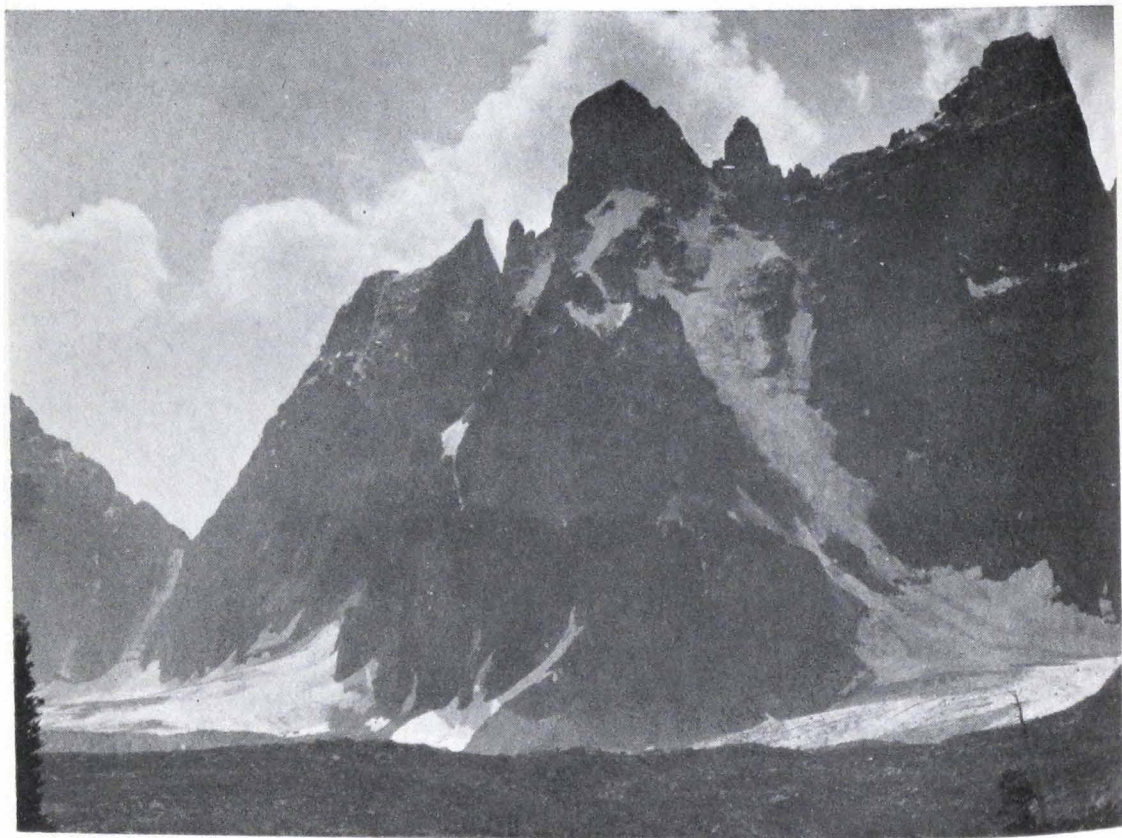


Photo by H. Palmer.

TURRET PK. (centre)
from the N.

Illustration 10.

almost gone. In the abysmal forest the faint trail was indistinguishable without it. Finally the trees thinned out and at midnight, exactly as the feeble flame consumed the last drop of grease, we emerged on the flowery alps, where a gorgeous display of the aurora lighted us to camp. We had been out fourteen and a half hours, of which four had been spent in feeling our way in the dark. Although Paragon is a small peak and probably the easiest of the Ramparts to climb, it gave us the tussle and adventure of a far bigger mountain. All in all, the day will stand out in our recollections as a memorable one.

August 20, a magnificent day, we broke camp, moved around Amethyst Lakes, crossed Tonquin Pass, and established ourselves on Tonquin Creek just below the tremendous north cliffs of Mt. Geikie. The distance covered was nine miles. We had no idea of attempting to climb it. Our time was too limited, provisions were low, one of our men had left on account of illness, and the peak would obviously require a regular campaign to subdue it. We simply wished to view it at close quarters and, if possible, look around the westerly end of the range into the unknown country to the S., where the Fraser took its source.

Mt. Geikie is perhaps the finest single rock peak of which the Rockies can boast. The abrupt 4000 ft. leap of the northerly precipice from the level valley floor makes it unique. Added to this is the compelling grandeur of its almost grotesquely sculptured neighbours. The total ensemble quite beggars description, and even the most blasé mountaineer cannot stand before it unmoved. III. 9.

After a day of uncertain weather, we crossed the creek, and, traversing around Barbican Peak, ascended to the crest of the ridge which extends westerly from it, reaching an elevation of 8900 ft. This gave us a view far up towards the Fraser's headwaters. Later we traversed the entire ridge westerly to the shaly dome (8200 ft.) which terminates it. We found that it would be feasible to take a pack train across into the Geikie Creek valley, and this has since been done by others. III. 10.

On August 23 the return march to Jasper was commenced. With lightened packs, much better time was possible. We camped on Portal Creek that night and reached town the following afternoon.

Although nearly seven years have passed since our expedition, Tonquin Valley has not yet come to its own as a climbing district. The important peaks: Geikie, Simon, Barbican, III. 7.

Erebus (10,234 ft.), Oldhorn (9779 ft.) and the nameless summit between Paragon and Bennington peaks have fallen in the meantime, it is true, (as well as Bastion Peak described elsewhere in these pages,) but plenty of others remain which may test the skill and resources of the climber even more than some that have succumbed. In this connection, it is of interest to note that the annual camp of the Alpine Club of Canada will be held in Tonquin Valley during the present summer. This, doubtless, will inaugurate a period of deserved popularity for the region and result in addition to the climbing lore of the range.

In conclusion it may be timely to mention briefly some of the good things yet remaining to be done.

- III. 10. First and foremost must be placed Turret Peak (10,200 ft.). Although examined from every side, this striking tower has not disclosed any promising line of access. Its northern aspects look entirely hopeless; the best chances appear to lie on the southern side where a camp must be established, in itself no light task.

- III. 3. In the Ramparts proper, Dungeon (10,290 ft.), Redoubt (10,220 ft.) and their adjacent peaks have no easy sides, their westerly façade rising in cliffs as forbidding as those above the lakes. Postern and Casemate require a bivouac in Geikie Creek Valley. This can be accomplished by crossing the broad saddle (about 8700 ft.) between the Ramparts and Bastion Peak. The ascent is some two thousand feet above Tonquin valley and the descent of the far side will probably be somewhat more, though without difficulty. Unless the Cols in the Postern-Casemate ridge turn out to be less severe than they look, the assault will have to be made from the west and this will entail an additional march of three or four miles, or preferably a second bivouac in the S. fork of Geikie creek near Icefall Lake.

S. and E. of Tonquin Valley proper, but readily accessible from it, stand half a dozen attractive unclimbed summits, upwards of 9500 ft. high, which will well repay attention, but the limits of this paper have already been transgressed, so the bare mention of them must suffice. The whole region is one of surpassing beauty and interest, and the assertion is hazarded that no one, be he traveller or mountaineer, will go there without feeling repaid in the fullest measure for the time and effort expended.

TWO LESSER FIRST ASCENTS IN THE CANADIAN
ROCKIES, 1925.

BASTION PEAK AND THE DEVIL'S HEAD.

BY J. W. A. HICKSON.

(*President of the Alpine Club of Canada.*)

IN the early afternoon of August 11, 1925, Mr. Howard Palmer and the writer were established in a camp near the south shore of Moat Lake, some twenty-five miles by trail S.W. of Jasper Station (3469 ft.) on the Canadian National Railway. We had with us the young Swiss guide, Hans Kohler of Meiringen, and a well-equipped pack train of horses and three men supplied by Otto Brothers of Jasper. We had left the town the day before by motor, and picking up the horses near Portal Creek Bridge, had followed the Portal trail and camped for the night below the summit of Maccarib Pass (7150 ft.). A wet and cold evening was followed by a lovely bright day, and we had a pleasant and interesting ride over the Pass into Tonquin Valley in which Moat Lake is situated, our trail skirting toward the end of the way the north shore of the Amethyst Lakes.

Our camp (6400 ft.) was placed almost immediately under the north side of the col that connects the then unclimbed Bastion Peak, which was our first objective, with Mt. Redoubt on the east. Grassy slopes, a few hundred feet in altitude, sparsely timbered with large spruce, separated us from the short rocky plateau at the foot of the col. Bastion Peak (9812 ft.) belongs to a group, four in number, which has already been brought to the notice of the readers of this Journal by the description of the first ascents of Mts. Geikie and Barbican, the two westerly peaks of the Ramparts.¹ Between Geikie and Bastion is situated Turret mountain (10,200 ft.), still unclimbed. Both it and Geikie appear to be unscalable from the northern side. During the afternoon one of the main couloirs below Turret Peak on the Moat Lake side was swept by stone and ice avalanches, the cannonading of which could be heard for miles around.

On August 12 we arose at 4 A.M. and, after a comfortable breakfast, left camp an hour later. *Festina lente* was the

¹ *A.J.* xxxvi. 342 seq. (with map and many illustrations).

maxim of our behaviour ; for we believed that, barring quite unusual difficulties, there would be ample time in which to carry out our plans.

Mounting easily through the trees and over open grassy slopes, we reached the scree and thence easy rocks by which, with earthy and shaly bits between, we ascended to the col between Bastion and Mt. Redoubt ; keeping on the left of the glacier which, as shown in the picture, descends at a very steep angle on the N.E. side of the Peak. At about 1300 ft. above our camp we came out on the ice and crossed a hollow bounded on the S. by a steep though not high rock wall. An icy patch next the massif of our peak in which some twenty steps were cut gave us access to the top of the col. A cairn was erected and a quarter of an hour's rest enjoyed. It was now 7.15 ; we were at an altitude of 7950 ft. with the weather favourable.

A long traverse to the right across coarse scree, interspersed with slopes of grass, under the southern ridges and spurs of Bastion and involving a descent of some 400 ft., brought us in an hour to a S.W. ridge, if it can be called a ridge, composed of large and closely piled rocks, up which we climbed. The top of it ended at a large buttress reached at 8.45. Here at 8500 ft. a stop of half an hour was made, and some of the party changed to crepe-rubber-soled shoes, an excellent substitute for rope-soles ; while Palmer and the writer left their axes, and we tied up. We skirted the buttress on the right and thereby reached a couloir which leads up the south-westerly side of the mountain.

This deep and commodious couloir was mostly ascended by ledges on its right side ; its neck requires care. There are several steep places and some short traverses around rather slippery rocks, but the handholds are satisfactory. Higher up the couloir broadens out to such an extent as to be hardly definable. It leads to a high and precipitous rock wall, some 300 ft. below the summit. This deflected us to the right and from here onwards the more difficult and interesting part of the rock-climbing begins. Several hundred feet below this point Kohler had donned his rope-soled shoes and left his axe.

The first really stiff bit of the climb consists of a perpendicular lateral block some 15 ft. in height, devoid of footholds at the base. Palmer, who was next to Kohler, gave him a start in a well-defined crack, by supporting his feet, and we were both glad of a slight pull on the rope. One then lands on a convenient level platform, underneath a similar difficulty of about the same height, but not quite so steep. The footholds

here in a narrow crack between the main wall of the mountain and the lateral block are better defined ; the handholds are on the right on the outside of the block, a place more agreeable to ascend than to come down. Again, a short and almost level ledge leads to another very steep block slightly longer than the foregoing, but less difficult. Above this one stands under the final and stiffest piece of the climb. It consists of a smooth perpendicular rock wall some 18 ft. in height at right angles to the last lateral block and split by a very small seam. It illustrates well the proverbial difficulty of the beginning. Palmer again supported Kohler's feet until he could get his fingers high up into the seam and reach a stand place whence he could work up over the top. Fortunately he found a good belay for the rope, which greatly aided the amateurs. The remainder of the way is an easy walk over large rocks, well packed together, to the sharp and much-disintegrated summit reached at 12.30 P.M. From Moat Lake it has the appearance of an inverted spade. It looked so fragile and topplly that although the day was fine and warm, we descended and made ourselves comfortable a little below it.

The day was perfect for climbing, almost windless, the only drawback being the smoke which increased in density during the afternoon. From the summit ridge on which we spent over an hour, we could, of course, see Moat Lake and our tents and some of the more pronounced features of the unclimbed Mts. Redoubt and Dungeon to the E. ; Paragon and Fraser and Simon Peaks appeared only very dimly ; a little more clearly to the S. the unclimbed Casemate and Postern. These, together with Bennington Glacier and the snakelike river and the three glaciers sweeping down to Icefall Lake, constituted a surprising and unique bit of scenery. The only other locality in the Rockies which rivals the Tonquin Valley for charm and variety is that around Mt. Assiniboine.² Turret Peak next us to the W. impressed one greatly by its steepness. It looks impossible from the Bastion side ; and after seeing it from the S.W. a few days later, the writer obtained the impression that it will provide as hard a rock climb as any hitherto achieved in the Canadian Rockies, perhaps surpassing even Mt. St. Bride in technical difficulties.

After building two cairns on the summit crest, under one of

² They are so different as to be non-comparable. As a climbing centre the Tonquin is easily the more attractive ; but it has no such beautiful peak as Mt. Assiniboine.

which a record was deposited, we began the descent about 1.30. The highest rock wall and the three cracks below it required half an hour. Kohler was spared the necessity of using a belayed rope through support from the powerful shoulders and strong arms of Palmer. At 2.50 we picked up Kohler's sack and axe and made a short stop. The steep bits of the couloir had to be descended slowly, and the first breakfasting place was reached shortly after 4. Nailed boots having been put on, and rucksacks and other articles collected, the traverse back to the col, reached at 6.15, was a tedious and rather wearisome zig-zag walk. After the short ice wall was descended, it was easy going back to camp, reached shortly before 8. It was a lovely night; but the air was thick with smoke and the barometer was falling, an indication of bad weather which began next day.

After three days of forced inactivity, we seized an opportunity of carrying out an excursion to the S. side of the Rampart Group. Here we spent a day in an unpremeditated attack on the exceedingly steep crags of Mt. Geikie (10,854 ft.) by a previously untried route. The description of it can await another occasion. Suffice it to say that after four and a half hours of exceptionally hard climbing, more arduous than anything encountered on Bastion Peak, and through which we had gained about 1000 ft. in altitude, we desisted at 9000 ft. on account of the certainty of spending a night on the exposed summit ridge and the approach of a heavy storm. On the following day, in a snow storm, it required considerable exertion to get ourselves and our horses over Tonquin Ridge and reach our main camp at Moat Lake, where we were snowed in for several days, and whence we eventually took refuge in the more permanent shelter of Jasper Lodge.

Three weeks later the writer made his way to Lake Louise to discuss the possibility of several first ascents with that *fidus Achates* of the Canadian Rockies, Edward Feuz, Junr. The weather was not propitious, and owing to frequent snowfalls one after another of our plans had to be put aside for a more convenient season. At last on September 12, later than the writer has ever climbed in the Rockies, we rushed over to Banff and met L. S. Crosby of that place, with whom we had been in telephone communication during several days.

The barometer had risen, and although skies still looked threatening, Crosby urged us to start on a trip up the Ghost River, which we had previously discussed, with a view of attempting the Devil's Head, an unclimbed peak (9174 ft.)

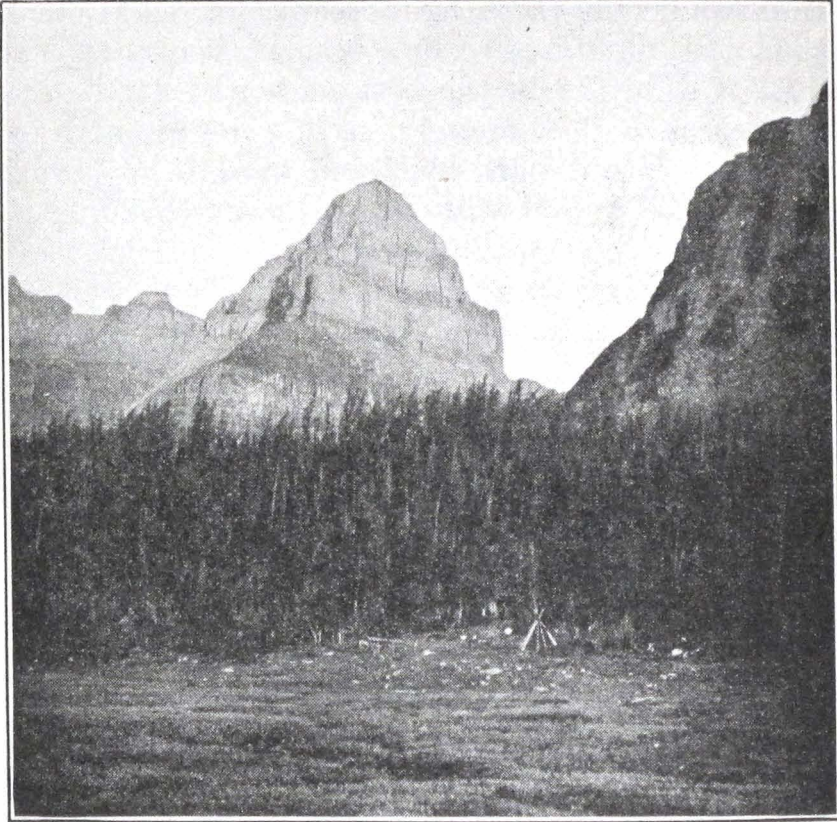
that had long been an object of attraction to the mountaineers of Calgary and Banff, and which Crosby, himself, a few years before had more than inspected. In a few hours after our arrival he had dispatched a small pack train with two men from Banff; which proceeded with such wonderful rapidity that when he, Feuz and the writer reached the E. end of Lake Minnewanka, about 6.30 the same afternoon, they found the men and the horses, notwithstanding they had to go by a poor trail around the Lake, had already arrived at our halting place for the night.³ Crosby, besides being an excellent cragsman, is a hustler in the best sense; he combines quickness of decision with thoroughness of planning and accuracy of execution. It was dark by 7 and too late to 'brush' the tent, but we slept well without this usual bedding. Some small clouds resting low down on the mountains were a disturbing phenomenon to the writer, but Feuz declared they were not unusual at this time of year and not portentous of bad weather.

Next morning we were on the trail before 9. Besides our saddle horses we had only two pack horses, so that we were able to make good time. Moreover, the trail for the most part was easy and in excellent condition. Proceeding in an easterly direction it skirts a couple of large un-named lakes and rises pleasantly through poplar trees which were now very lovely with their light golden foliage. After a couple of hours, we came out on a great waste as barren-looking as a Siberian plain, whence a gentle descent through the Devil's Gap brought us to Ghost River, the bed of which held a much-diminished stream. This was the eastward limit of our route. We now turned sharply to the left and proceeded in a north-westerly direction, sometimes along the river bank and sometimes over the gravel flats of its bed. Our peak soon came into sight, a very impressive object to the E. of the river; rising in a dominating way among bare and uninteresting hills. Crosby on a previous trip had camped too low down Ghost River, and had experienced considerable difficulty in working round a deep canyon on his way to the mountain. So we proceeded a couple of miles beyond his former camping ground and established ourselves at 2.30 p.m. near the confluence of a small mountain stream flowing almost due W. into Ghost River and in line with the N. end of the Devil's Head. At

³ The west end of the Lake is 8 miles from Banff, and the length of the Lake from west to east is about 17 miles.

this point we were about 16 miles by trail from the E. end of Lake Minnewanka at an elevation of 5450 ft.

All the way up the river and from this point also some three miles in direct line from it, our peak looked almost impossible; and it was not until Feuz and the writer walked to slightly higher ground N. of the camp and scanned it very carefully with the glass, and he pointed out an interesting fact con-



[Photo L. S. Crosby.]

THE DEVIL'S HEAD FROM THE N.

nected with the upper part of the ridge, that I felt there was more than a possibility of success. Everything now depended on the weather, which looked threatening around 8 P.M.; but the barometer remained steady and thus partly reassured us.

We left camp on September 14 at 6.20 A.M., a little later than we had planned; armed with extra ropes and a few iron spikes which we thought might be indispensable. As it turned out none of them were needed. It was a fine warm morning without wind. The top of a ridge directly E. of our camp was gained at 7.40 o'clock: which brought us near to tree line. Proceeding along it for half an hour in the direction of our peak, which was now in full view, we descended several hundred feet

into a hollow through which flowed a welcome rivulet, and thence ascended the gravel and shale slopes on the W. side of our mountain. No time was lost en route ; all was easy going until we reached the main couloir on the W. side of the mountain at 9.20.

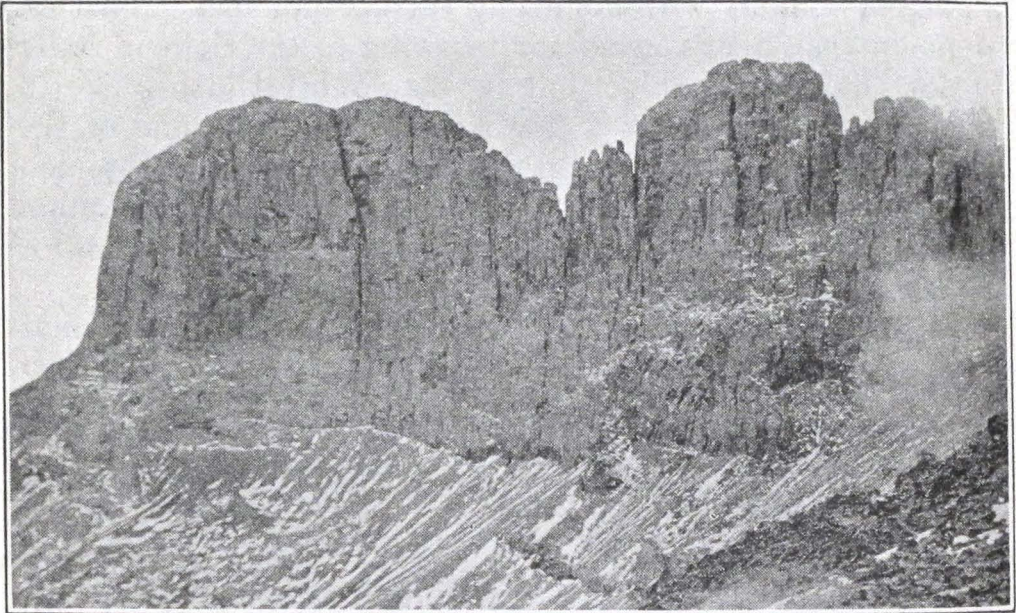
A little higher up this couloir was split, and after a brief stop for food we followed the left arm which Crosby, who had been this far before, suggested was the more likely route of ascent. The rocks beneath our feet and at our sides were very sharp and jagged, but thus far there was no difficult climbing. After an hour we stopped to look around ; for we were getting into a maze of couloirs with confusing turrets and rock pinnacles. We knew that it was necessary to swing to the right in order to gain the summit ridge, but it was doubtful just where to begin. Feuz left us for a few minutes to climb one of the turrets as a viewpoint, and on returning expressed the opinion that the outlook was favourable. The walls of the mountain are so steep that none of the recent snow lay on them, and for the same reason are almost wholly bare of loose stones.

We put on the rope and left our ice axes, and for the first time this season the writer followed the example of his fellow climbers in wearing a pair of gloves as protection against the horribly rough and spiky rocks.

We entered a narrow and deep although not very steep couloir, up which we could force our way through knee and elbow work on the side ledges. Emerging from it over a sharp nose, we gained a good platform whence easy ledges led into another couloir. Just beyond this we climbed a steep and fairly difficult wall of some 25 ft. in height, rather devoid of footholds at its base. A short ascent over ordinary ledges and a traverse under a rock wall to the right brought us to another narrow and precipitously walled couloir, one of the many minor ones which split the peak in all directions in its interior ; and at the end of this we reached a level place immediately below the very narrow and steep but not very long arête which connects with the summit table ; for so it can well be termed. After a stop of ten minutes we ascended the arête one at a time, Feuz firmly anchoring himself before the next climber moved. At one point it becomes very thin, and on the left or E. side, on which there is a slight overhang, one looks down an unbroken wall of at least 1200 ft. Having crossed this we took off the rope and walked briskly over the broad and gently rising ridge to the summit, reaching it a few minutes before noon. A cool strong wind, which had

sprung up and had been felt even in the couloirs, speedily drove us to seek shelter below the top on the S.E. side.

The sun here was pleasant, the view over the prairie fairly extensive and novel. It was the first time in climbing in the Rockies that the writer had seen into the plains. Some of the larger ranches were distinctly visible; but not Calgary, about 65 miles distant in direct line. From the roof of the Palliser Hotel in that city the Devil's Head can be distinctly seen on a clear day. But the atmosphere was much dimmed by the usual autumn haze. Mt. Aylmer to the W. with its fresh



[Photo L. S. Crosby.]

SUMMIT RIDGE OF DEVIL'S HEAD FROM THE E.

snow cap was the most prominent feature of the landscape. By the aid of our glasses we could see fairly distinctly Mts. Assiniboine, Deltaform, Neptuak and St. Bride, formerly Douglas, N.E. of Lake Louise. The great barrenness and utter forlornness of the hills around us on the E. and S. must be directly perceived in order to be appreciated; great mounds of gravel and shale, devoid of any vegetation, above 6000 ft. No game of any kind could be seen, although we had heard much about its prevalence before starting out.

Two cairns were erected on the summit, a smaller one in which was deposited a record, and another about 5 ft. in height which could be plainly seen the following day almost the whole way down Ghost River. The descent was begun at 1 P.M., the rope was picked up and put on, and the route of ascent

retraced with only one variation. A halt was made at the ice axes and some time spent near the top of the main couloir in photographing the very remarkable buttresses, turrets and gendarmes which characterize this peak. Above the main couloir in which we had begun the ascent are two extraordinarily curved pinnacles which might appropriately be designated the Devil's horns.

Shortly after 3, near the foot of this couloir we took off the rope and skirting the W. wall came rapidly down over the shale slope to the refreshing rivulet crossed earlier in the day. Twenty minutes later we were on the top of the ridge overlooking our camp whence the wall of the mountain, broken only by two couloirs and one of which is probably impossible, showed up very impressively in the afternoon light. While waiting here to use the last film of a roll, one of the party called attention to a well-marked human profile on the S. side whence presumably the name for the peak has been derived ; otherwise it is singularly inappropriate, the Devil's Tower being a much more suitable designation.

Camp was reached at 5.15 p.m. A high Chinook wind prevailed all night. Next day it was still windy, mild and overcast. The air was actually balmy. The autumn foliage was entrancing ; golden yellows and crimson and vermilion reds intermingled with the evergreens, and between the trees and shrubs the long grass varied through shades of green and yellowish brown. Threatening skies stimulated our march and the first stop was made on the eastern shore of Minnewanka where, after a late luncheon, the men and horses left the climbers and we awaited the coming of the launch. It appeared promptly at 4.30, and we quickly got our sleeping bags, other dunnage and ourselves aboard, and reached the Banff end of the Lake in less than two hours ; the horses and men arriving there almost immediately afterwards, having come around the shore of the Lake at a terrific pace. The three days of fine weather prognosticated by the meteorologist of Banff were at an end ; shortly after our arrival the weather broke with a tremendous convulsion, and next morning the mountains all around down to 6000 ft. were covered with a thick blanket of snow. Under lowering skies, Feuz and the writer parted until another season.

OBSERVATIONS DURING THE MOUNT LOGAN EXPEDITION.

By ALLEN CARPE.

THE following notes are compiled from observations of various kinds made during the Mt. Logan Expedition, incidental to the work of the ascent. The observations were made without preparation on the part of the writer, except in regard to photography, and instruments and equipment were necessarily restricted to what could be carried personally by members of the climbing party. No time was available for scientific purposes except incidental to the other activities of the ascent.

General Topographic Observations.

The mountain having already been surveyed by the International Boundary Commission in 1913, topographical observations were in general limited to the determination of our own position and altitude during the climb, and to minor additions and corrections of existing map data. Such observations were in the main as follows :

(1) The King glacier shown on the map as terminating above the head of the Ogilvie glacier, and draining to it by the 'Cascade' icefall, actually continues as a smooth glacial valley to the Quintino Sella glacier, which is tributary to the Columbus glacier and connects by through passes with the Fraser and Baldwin glaciers of the Logan-Walsh-Chitina system. The 'Cascade' ice-fall is a minor lateral dissipator.

(2) King col was found to terminate in abrupt cliffs toward the Seward glacier, overhung by highly broken ice masses on the side adjoining Mt. Logan, instead of merging smoothly with the upper slopes of Mt. Logan as indicated on the map. The map is based on the photograph taken by Vittorio Sella from the summit of Mt. St. Elias in 1897, which has been the only existing source of information regarding this side of Mt. Logan. In this photograph King col is partially masked by a snow-covered spur of King peak, thereby preventing adequate development of the topography from the data available at the time the map was drawn.

(3) Many features of the summit area of the mountain were observed in greater detail than had previously been possible from distant stations of relatively lower altitude.



(Front row) READ.
(Back row)

HALL,
LAING.

FOSTER.
CARPE.

MORGAN.
LAMBART.

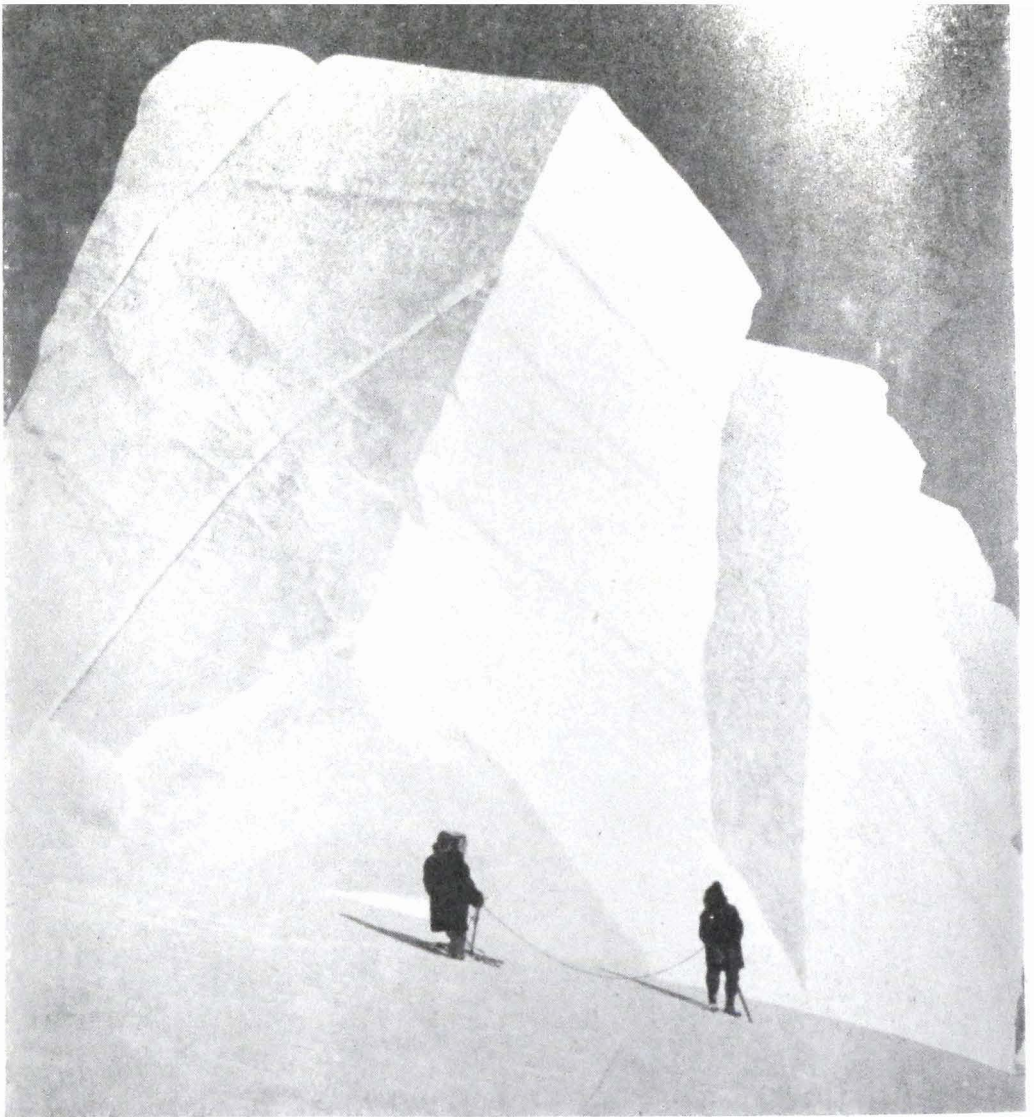


Photo N. H. Read.

ICE BLOCKS ABOVE KING COL.



Photo N. H. Read.

GLACIER ABOVE KING COL.
Looking down King and Sella Glaciers.

(4) The altitude relations of the summit peaks were checked by local observation (see below), and the indications of the map confirmed.

Instrumental Observations.

Small pocket aneroids were carried by several members of the party. Some of these had been calibrated by comparison with mercurial standards at room temperature, but none had been checked for temperature errors at low temperatures. A larger aneroid, Short and Mason, London, was furnished specially for the expedition by the Canadian Government, and was provided with complete calibrations by the Physical Testing Laboratory, Ottawa. This was also the only instrument embracing a sufficiently low pressure range for use at the highest levels of the mountain.

Readings on the mountains were taken with two or more instruments whenever possible, and were at all times corrected for air temperature. On the lower valley glaciers the small gradients and relatively large distances covered were unfavourable to barometric levelling. For this reason the altitude of 'Cascade Camp,' at the head of the Ogilvie glacier, was taken as a datum and scaled from the map at 7800 feet. Above this point repeated relays enabled elevations to be carried forward with considerable precision by the mean of ascending and descending difference readings, and elevations up to King col were established in this way. At higher altitudes the aneroids were unreliable, the pressure indication being in general too low (altitude too high). This is in accordance with the experience of Dr. Stack on Mt. McKinley, and of other observers, and is probably associated with temperature errors in the instruments themselves, errors due to the formal method of correcting for temperature of the air from the mean of the temperatures at the end stations, and departures from the basic assumptions of static equilibrium of the atmosphere in the vicinity of large mountain masses. Instrumental errors are known to be large at the low temperatures encountered, and are a frequently neglected source of error in the use of aneroid barometers, as the instruments are supposed to be 'compensated' for temperature. Actually, this compensation is never exact, and may not be even approximate except within rather limited ranges of temperature. The large Short and Mason aneroid is now being tested at the temperatures encountered on the expedition, so that a correction can be applied for temperature

error in this instrument. Final analysis of the discrepancies noted should be deferred until these test data are available.

Drift (lag or hysteresis), which causes the indications of the aneroid to creep and show troublesome secular changes after being subjected to a new pressure, has been the cause of much uncertainty in altitudes established by aneroids. It has been treated very comprehensively by the late Edward Whymper and other mountaineers. Latterly, however, considerable improvement has been made in aneroid construction, and the drift in good modern instruments should be small. Mr. Lambart advises that the drift in the large Short and Mason aneroid is almost negligibly small, probably the smallest of any aneroid ever used heretofore on a mountain ascent. Specifications and test data for this aneroid and for one other instrument are attached.

Comparison records of pressure and air temperature were kept at Kennecott, McCarthy, and 'Hubrick's Camp' (foot of Chitina glacier) during the period of the expedition. In view, however, of the considerable distances involved, it is uncertain, until the figures are fully worked up, whether the observations made at these points can be successfully applied to correct the readings observed on the mountain itself.

Vertical angles were measured by means of an Abney type hand level, previously adjusted and calibrated against a transit. The altitude of 'Windy Camp' was determined with this instrument from readings on Mt. St. Elias and King peak, as follows :

June 16, 1925.

Angle to King Peak . . .			47'
Estimated Map Distance . . .			5.25 miles ¹
Height of King Peak . . .			17,130 feet
Less—			
Diff. for 47' at 5.25 miles .	379		
Curvature and Refraction .	16	395	
			16,735 feet

¹ Distances are as scaled in the field. It is subsequently suggested by Mr. Lambart that the distance of 5.25 miles to King peak should be decreased. Obviously, this would increase the resulting altitude of 'Windy Camp,' bringing it into closer agreement with that obtained from the sight on Mt. St. Elias. The agreement should, of course, be regarded as partly accidental, as the angles can probably not be relied upon to better than about 5 minutes.

Angle to Mt. St. Elias	22'
Estimated Map Distance	24.75 miles
Height of Mt. St. Elias	18,008 feet
Less—	
Diff. for 22' at 24.75 miles	836
Curvature and refraction	349 1,185
	16,823 feet
Weighted Mean Altitude of Windy Camp	16,760 feet

Barometric levels were carried forward from this point but are not considered reliable for the reasons stated above.

The hand level also served to determine the slope of a steep part of the ascent above 'Cascade Camp,' where a slope of 39° 30' was measured at an altitude of about 8700 ft. This is the steepest pitch actually measured on the ascent. The level was also used to determine the relative altitudes of the two summits climbed on June 23, the second of these appearing under an elevation angle of about 50' when sighted from the first. This corresponds to a difference of about 77 ft. per mile, an amount not readily distinguished by the eye. A third summit to the N.E. was not sighted with the level.

Maximum and minimum thermometers carried on the expedition were supplied to the writer by the kindness of Mr. Howard Palmer and Dr. W. S. Ladd. These consisted of one pocket-size combined maximum and minimum instrument (Six's type) reading to about -20° F. with an accuracy of about 1° F., and one alcohol minimum thermometer reading to -75° F.; the former was unfortunately snowed up and lost during the night of June 23. In general, the overnight minimum was read each morning, and the actual temperature was read whenever possible in connection with barometer observations during the day, but no attempt was made to record maximum temperatures.

A record of the temperatures during the expedition is given in the attached table. The lowest temperatures in the valleys appeared to occur during the early hours of the morning, while at the higher elevations, on clear nights, the temperature frequently dropped with great rapidity after sundown, the minimum probably being approximated before midnight. Differences of several degrees were found between the minima registered by the two thermometers when placed in different locations about the tents. The lowest temperature recorded was - 33° F. on June 18-19.

A prismatic compass was carried, but there was little occasion to use it.

Physiological Observations.

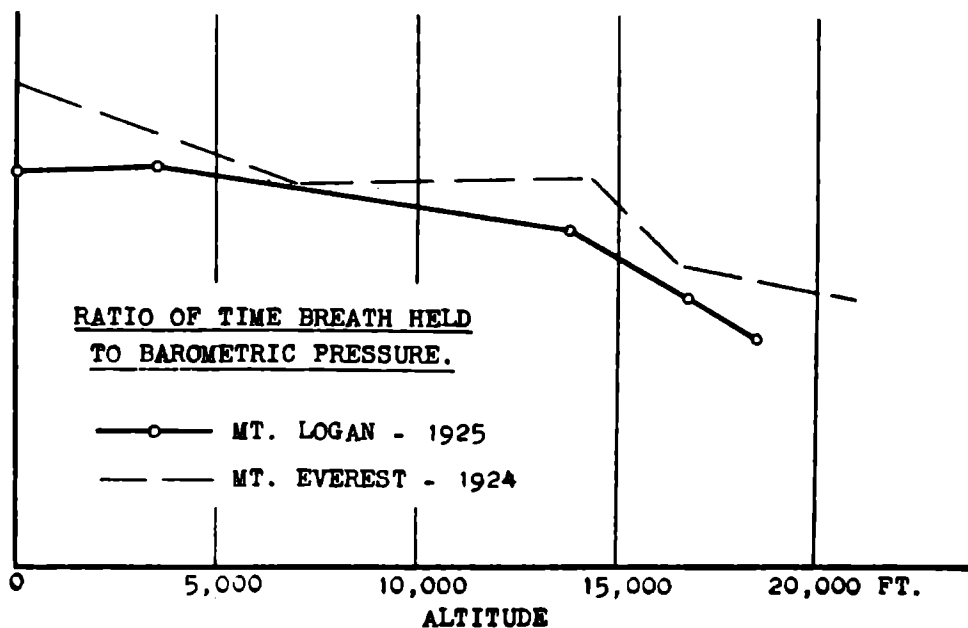
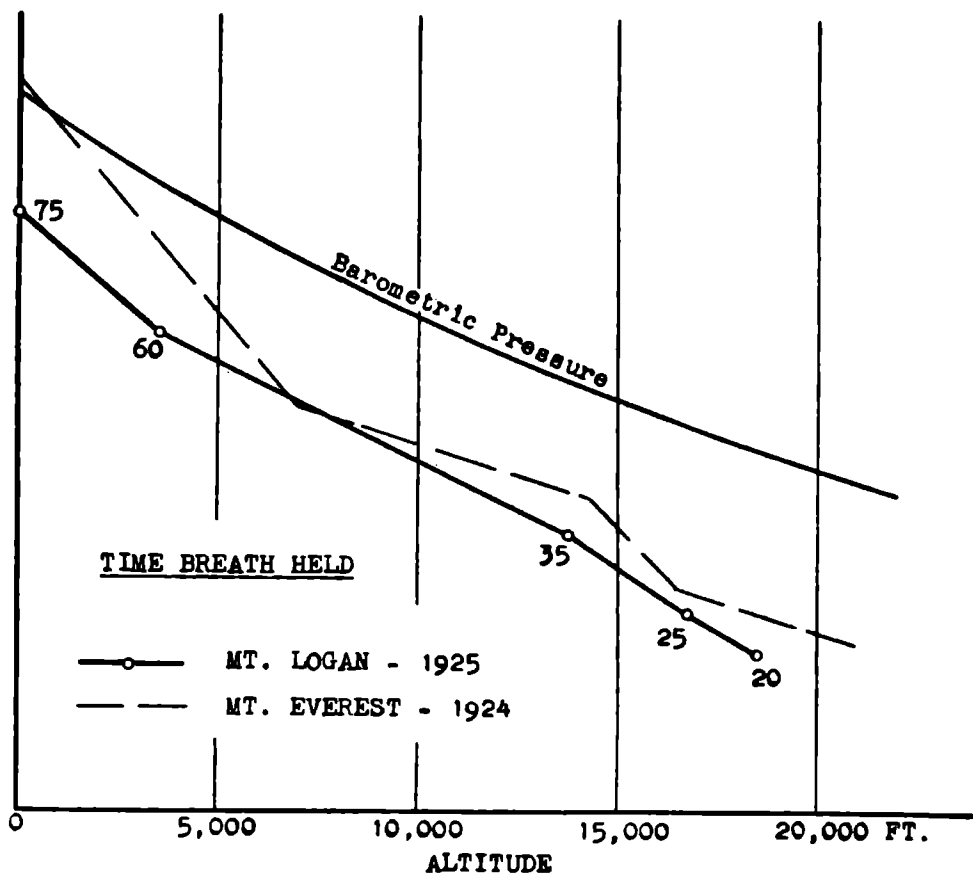
Tests were made by the writer of the time of holding the breath while at rest at different altitudes up to 18,500 ft. The results are tabulated herewith and are shown on the attached chart (upper part). The times could be duplicated to about 5 seconds, and are so recorded.

Altitude.	Seconds breath held.
0	75
3,500	60
13,875	35
16,760	25
18,500	20

The dotted line on the chart indicates for comparison the data furnished by Major Hingston for the Mt. Everest Expedition ('A.J.' xxxvii. 24). These are shown as plotted by Major Hingston, the tabulated observations given in his report having evidently been adjusted in some way before plotting to correct for the fact that different subjects were tested at the different altitudes. The data from Mt. Logan and from Mt. Everest are in very good agreement, considering the widely different conditions of climate and type of work in the two cases. The normal diminution of air pressure with altitude is shown to an arbitrary scale for comparison on the same chart.

It will be noted that the ability to hold the breath decreases in both cases roughly in proportion to the density of the air up to an elevation of about 14,000 ft., and that a marked increase in the effect of altitude is indicated above this height in both cases. This is made more evident in the second chart, in which the ratio of the holding time to the normal barometric pressure is plotted against altitude. It will be seen that this ratio decreases sharply above 14,000 ft. This appears to have been in agreement with the sensations actually experienced on both expeditions. I quote from Major Hingston: 'It (shortness of breath) was definitely apparent at 14,000 ft., and above 19,000 ft. the slightest exertion made breathing laboured and severe.'

Pronounced Cheyne-Stokes respiration was noted in the case of one member of the party while sleeping at 13,800 ft.; this member later turned back because of frostbite. Another had



For upper diagram :

Vertical scales 4.2 inches of mercury and $12\frac{1}{4}$ seconds to the centimetre.

For lower diagram :

Vertical scale $0.6 \frac{\text{seconds}}{\text{inches of mercury}}$ to the centimetre.

some difficulty in breathing while passing the night at about 19,000 ft. on June 23. No other cases of departure from normal respiration while at rest were noted. The effects during exertion appeared to the writer to be in the nature of extreme weakness rather than any acute distress, and differed in no way, in so far as the writer could observe, from the effects of exhaustion at lower altitudes. No particular correlation was noted between age and the effect of altitude.

Loss of appetite, sleeplessness, increased nervousness or irritability, 'glacier lassitude,' hallucinations, delusions or any other aberrations of the senses were not observed by the writer, nor were such observations brought to his attention by other members of the party. Estimations of mental conditions are necessarily personal. The effects noted by the writer were substantially identical with those experienced under great physical exhaustion at low altitudes, being characterized by a deadening of the nervous, emotional, and volitional faculties, without any particular impairment of the faculties of observation. In regard to 'glacier lassitude,' it may be said that we had little basis for judgment, as we were on glacier all the time.

Photography.

Mr. Hamilton M. Laing, representing the Canadian Government, Department of Mines, took still and motion pictures of the expedition up to its departure from 'Trail End' (foot of Chitina glacier). A number of still cameras were carried by members of the expedition, a small vest-pocket camera being particularly useful under conditions of exposure.

Motion pictures of the mountaineering phases of the expedition were obtained by the writer, using portable equipment. In the choice of cameras for this purpose it was felt that spring motor drive was essential, although a light tripod was carried and used whenever possible. The only cameras available for such use at the time of the expedition were (a) the 'Sept,' having a magazine capacity of 15 ft. of standard gauge film, (b) the Bell & Howell 'Filmo,' chambered for daylight loading 100-ft. reels of 16mm. narrow-gauge film. Before proceeding with the use of the latter, assurance was had from the Eastman Kodak Company that enlargements could be made from the narrow-gauge film to standard gauge, and a satisfactory test enlargement was so made.

A 'Sept' camera was employed in the lower work and up to an altitude of about 9000 feet. The small magazine capacity

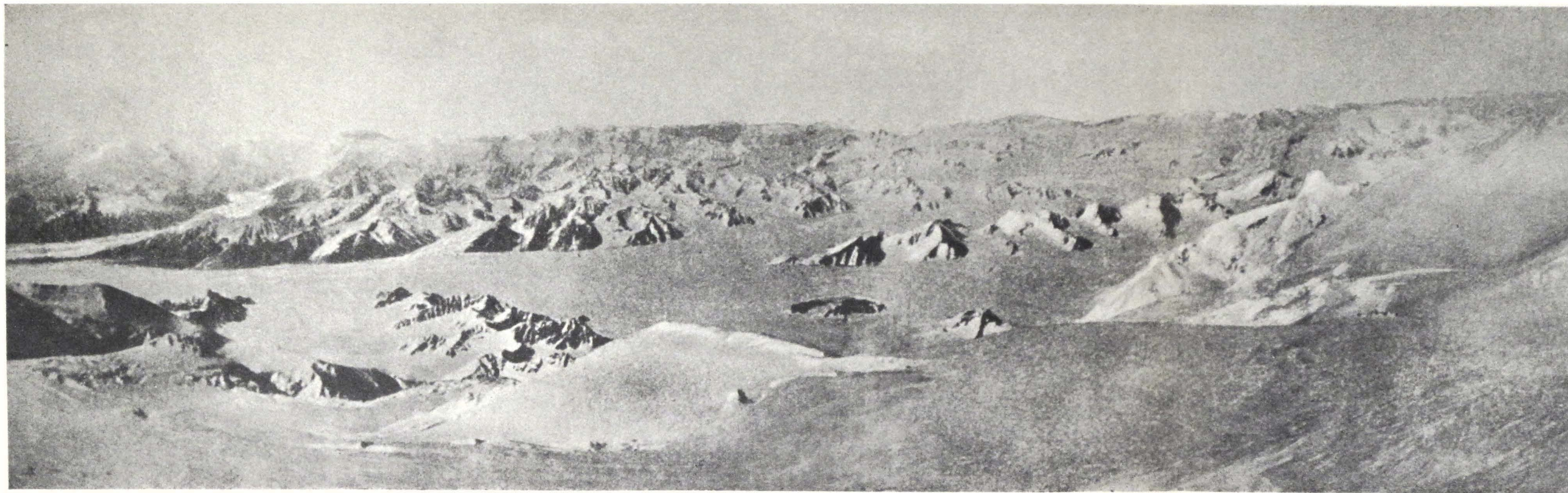


Photo Allen Carpe.

MT LOGAN.

Panorama from 1st Summit ca. 19,750ft. 4.30 p.m., June 23rd, 1925. Highest summit at right.



MT LOGAN.

Panorama from 1st Summit ca. 19,750ft. 4.30 p.m., June 23rd, 1925. Highest summit at right.

of this camera, with consequent frequent reloading, and the necessity of charging the magazines with the aid of a change-bag, greatly restrict its use in the field and render it quite impracticable at the higher levels under conditions of exposure.

The 'Filmo' was used interchangeably with the 'Sept' at the lower levels and exclusively above 9000 ft. The large capacity of this camera without reloading, being equivalent in picture capacity to 250 ft. of standard gauge film, together with the fact that the film is supplied ready spooled in daylight loading containers, is of inestimable advantage in working at low temperatures and under adverse weather conditions. Frequent rethreading or manipulation of a change-bag is impossible in a storm with frozen fingers; even operation of the camera is difficult.

Photographically, the results obtained with the narrow gauge film are inherently inferior in definition and grain to those obtainable with standard film. Surprisingly good projection enlargements can be made from the small film, considering the size of the original image, but the writer's experience in this connection does not lead him to recommend its use except where the advantages mentioned above are controlling. The advantage of weight alone, while appreciable, is not in proportion to the reduction in size of the image, due to the weight of the special daylight loading package. Cooke 35mm. and Dallmeyer 4-in. telephoto lenses were carried, but little use was found for the latter. The motor drive of the 'Filmo' camera functioned smoothly and consistently at all temperatures encountered up to the summit of the mountain.

Wratten No. 3 (Aero No. 1) filters in varnished gelatine were used permanently in the lenses of the 'Filmo' and the writer's still camera. They were found very effective in penetrating such aerial haze as was encountered and in rendering distant views and cloud effects; a Wratten No. 15 ('G') filter in glass was used in addition in a few cases. The Aero No. 1 is a light yellow filter cutting quite sharply at 4500 A.U., and requires an exposure factor of only $3\frac{1}{2}$ with ordinary orthochromatic material. The 'G' filter cuts at about 5100 A.U., and requires an exposure factor of about 25.

A word may not be out of place here as to the general problem of operating photographic or other instruments under the conditions experienced on Mt. Logan. Lenses frost over with ice at the slightest provocation. Dry snow of the consistency of fine sand finds its way into every recess. Delicate mechanical controls cannot be manipulated while wearing heavy gloves

or mittens, often coated with ice, while if these are removed, the fingers freeze quickly and become useless. Contact with bare metal parts, of course, causes almost immediate frostbite. The seriousness of these limitations is difficult to appreciate without actual experience of them. It is suggested that anyone contemplating instrumental work under similar conditions will do well to consider carefully the design of the apparatus used, in regard particularly to ruggedness and accessibility of controls, simplicity of operation, protection of the instrument from drift snow and of the operator from contact with exposed metal.

Rock Samples.

A number of rock samples were collected, most of which were, however, lost or abandoned during the descent or as a result of the wreck of one of the rafts on July 12. Three remaining samples, all taken ² near the summit of 'Observation Peak' (about 11,000 feet, at the head of 'Cascade' icefall), have been determined through the courtesy of Professor R. T. Chamberlin, of the University of Chicago, as follows: 'Nos. 3 and 6 are a biotite-diorite gneiss. No. 5 appears to be the same rock, much weathered. These determinations were made by flaking off small bits and determining their characteristics under the microscope. For a more thorough determination thin section slides are necessary.' Such slides have not been made as yet, as it is doubtful whether a further determination is warranted in view of the very isolated nature of the specimens.

Samples Nos. 3 and 6, referred to above, are of a clear grey, coarse-grained material which a layman would probably describe as 'granite.' Sample No. 5 is of similar appearance, but stained yellowish-brown. It occurred in close proximity to the other two. All the exposures on the summit area of the mountain were similar to the above specimens. Limestones, schists, quartzites, greywackes, conglomerates and other rocks are found on the lower portions of the mountain. The larger boulders on the valley glaciers were of gneissic appearance; some dissected by narrow quartz veins.

Glacier, Snow and Meteorological Conditions.

The lower part of all the glaciers observed appeared to be substantially stagnant under a continuous moraine cover. At the confluence of the Ogilvie and Logan glaciers, active melting

² By Mr. R. M. Morgan.

of the moraine-covered surface under our camp was shown during the period of our absence on the mountain, a cache consisting of wooden boxes and other material under a canvas cover being elevated on a pillar of ice some three feet above the surrounding surface on our return. Melting and opening of crevasses was also in evidence around 'Cascade Camp.' Surface activity of the lower glaciers was considerable during the warmth of the day, large boulders being continually overturned and seeking lower levels due to melting down of the surface. Large mud areas exist along the right margin of the Chitina glacier. There was no opportunity for measurements of rate of flow or other quantitative measurements on the glaciers.

Erratic ice-blocks of considerable size occur at or above 15,000 ft. along our route above King col. The faces of these blocks reveal dirt-bearing layers inter-stratified with clear ice, possibly resulting from volcanic deposit. The blocks have evidently been *in situ* for some time. Their origin from existing glacial forms is not very clear. The ice cover at this part of the mountain is much broken, and the minor surface features were subject to change even during our brief period of observation as a result of snow fall and avalanching.

An interesting problem in snow movement at the higher levels is presented by the high winds which sweep the exposed ridges and open slopes in the upper part of the massif and apparently carry with them large quantities of surface snow. In view of the low temperatures existing at these altitudes, and the consequent dryness of the snow, it is at first thought surprising that the snow is not completely carried off and conveyed to lower levels by the wind. Yet a part at least of the precipitation must be compacted and converted into ice at these levels, for many active cliff glaciers are nourished from the summit ice-cap, and true glacial forms occur on the summit area where, so far as can be observed, thawing temperatures must be very rare. The mechanism of névé formation under these conditions is an interesting problem.

One wind storm of the character mentioned was encountered on June 19 between 15,000 and 16,800 ft. Another was met with on June 26 above 18,000 ft. In both cases the temperature was probably well above zero (F.), and the wind, while severe, was not such as to prevent a man from walking upright. These storms appear to be largely a surface phenomenon, and may be of local extent. On June 26 blue sky could be seen overhead during much of the time, although visibility along

the ground was greatly impaired. It was noted on this occasion that the finely divided material was carried along with considerable force by the gusts of wind, but appeared to eddy back and adhere to the surface crust at certain points in a manner very suggestive of electrical attraction, forming drifts of considerable solidity. It is well known that substantial electric charges can be built up by friction and comminution in snow and dust storms, the smaller particles becoming negatively charged with respect to the larger masses or the ground. While the part played by such forces in the present instance must be a matter of conjecture, it is evident that the resulting attraction would tend to retard the loss of snow from the high levels of the mountain, and might assist in the formation of permanent crust. In clear weather the high ridges are frequently seen to be surrounded by clouds of snow blowing off into space, but it may be that much of this snow is not permanently lost.³

Shadow images, commonly known as 'spectre of the Brocken,' were observed on the summit of Mt. Logan at about

³ Since the above was written there has come to my attention a summary description of Arctic climate by W. Werenskiöld (*Practical Hints to Scientific Travellers*, edited by H. A. Brouwer; Martinus Nijhoff, 1925), which exhibits so well the parallelism between high altitude and polar conditions—generally speaking, between low temperature conditions however produced—that I should like to quote a few sentences :

' On clear, calm days, the temperature sinks rapidly (in the dark season), often down to some $-40-50^{\circ}$; if then a wind begins to blow, the temperature generally rises, no matter from what quarter the wind comes. The extremely low temperatures are due to the radiation and cause pronounced temperature inversions; and with a sufficiently strong wind the air is mixed, and the inversion disappears . . .

' The newly fallen snow is soft and loose, as the single crystals form thin plates and stars; but the wind soon begins to handle the snow and rolls the particles, which become rounded, and they are then packed more tightly together, and the snow becomes compact and firm. At the same time the snow is blown together into long ridges (Russ. "Sastrugi") parallel to the direction of the previous gale . . . [These were much in evidence on Mt. Logan, sometimes assuming very fantastic shapes.]

' In strong wind the snow blows up from the ground and fills the air with ice crystals, forming an intransparent layer many metres thick; it is often possible to see the blue sky at zenith, while objects only a few metres away disappear in the drifting snow. In such weather it is difficult and dangerous to move about.'

8 P.M. on June 23, the sun being, of course, at that time still well above the horizon. Such shadows are formed in an obvious manner within a cloud or fog-bank, the peculiarity of the phenomenon arising from the fact that the observer, if he be within or very close to the edge of the cloud mass, sees distinctly only his own shadow, and not those of his companions or other objects. This is due to the fact that the shadows are formed in depth within the mist, and the successive shadow planes are only superposed to form a visible image when viewed in a direction coinciding closely with that of the sun's rays. Thus each observer sees in particular the shadow of his own head and shoulders. In the present case, clouds lay up against the summit on the east, but were probably momentarily prevented from drifting across the ridge by the wind.

This phenomenon is not restricted to great heights. It had been observed twice previously by the writer, both times in the Elbsandsteingebirge of Saxony at elevations of a few hundred feet.

An interesting feature was the appearance of a fog-bow or halo around the shadow image, indicating the existence of liquid droplets in the air at a temperature of $+4^{\circ}$ F. The existence of the supercooled liquid phase at such temperatures is not unusual; Wegener observed a fog-bow in Greenland at -29° F.,⁴ but it would seem that the droplet size should be small. The reported observation by some members of the party of rainbow colours in the halo, presumably indicating larger drops, is therefore very interesting. The writer cannot recall any definite colouration in the halo, although he is under the impression that there was a slight chromatic fringe around the shadow image. This may have been due to frost on the snow glasses. Since liquid drops of any appreciable size in the clouds in contact with the summit mass of Mt. Logan at such relatively high temperatures would presumably precipitate as sleet, their existence would be significant in connection with the formation of névé at this altitude.

It remains only to mention the dust storms which occur in the Chitina valley, dry silt being blown to considerable heights from the gravel plain of the river and carried great distances up the Chitina and Logan glaciers by up-valley winds. The dust is sufficient to interfere with visibility, and is reminiscent of the smoke so frequently encountered in our western mountains at lower altitudes.

⁴ *Meteorol. Zeitschr.* 37, 9 (1921).

Record of Temperatures.

NOTE: Entries which are estimated or approximate, or which are uncertain or doubtful for any other reason, are indicated by question mark (?), as follows:

			°F.
May 12	7.30 A.M.	McCarthy	48
	1.30 P.M.	Nizina Bridge	66
	8.10 P.M.	Young Creek	49
May 13	Minimum overnight	Young Creek	33
	6.00 A.M.	Young Creek	40.5
	8.30 A.M.	Young Creek	48
	3.20 P.M.	Hill between Young Creek and Chitina River	55
	5.30 P.M.	Camp in Woods	48
	9.30 P.M.	Camp in Woods	40
May 14	Minimum overnight	Camp in Woods	31
	7.00 A.M.	Camp in Woods	39
	12.40 P.M.	Rush Pond	66
	2.10 P.M.	Rush Pond	70
	6.05 P.M.	Camp in Chitina Valley (Temperature of Chitina River)	61 44
May 15	Minimum overnight	Camp in Chitina Valley	33
	8.30 A.M.	Camp in Chitina Valley	50
	5.30 P.M.	Bryson's	54
	9.00 P.M.	Bryson's	50
May 16	Minimum overnight	Bryson's	31.5(?)
	8.00 A.M.	Bryson's	49
	8.00 P.M.	Camp, above Short River	48
May 17	Minimum overnight	Camp, above Short River	28
	6.25 A.M.	Camp, above Short River	41
May 18	3.35 P.M.	Trail End	65
May 19	Minimum overnight	Trail End	31
	5.30 P.M.	Camp, foot of Chitina Mt.	55
	8.30 P.M.	Camp, foot of Chitina Mt.	45 (?)
May 20	Minimum overnight	Camp, foot of Chitina Mt.	27
	5.45 A.M.	Camp, foot of Chitina Mt.	34
	7.30 A.M.	Camp, foot of Chitina Mt.	42
	2.30 P.M.	Fraser-Baldwin Cache(Walsh Glacier)	55
	8.30 P.M.	Fraser-Baldwin Cache(Walsh Glacier)	39
May 21	Minimum overnight	Fraser-Baldwin Cache(Walsh Glacier)	28
May 22	Minimum overnight	Fraser-Baldwin Cache(Walsh Glacier)	31

			°F.
May 22	Minimum overnight	Cache, centre Chitina Glacier	31
	3.30 A.M.	Fraser-Baldwin Cache	32·5
	8.25 P.M.	Camp, foot of Eaton Glacier	32
May 23	Minimum overnight	Camp, foot of Eaton Glacier	22
	4.30 A.M.	Camp, foot of Eaton Glacier	26
	8.00 P.M.	Turn Camp, foot of Ogilvie Glacier	26
May 24	Minimum overnight	Turn Camp, foot of Ogilvie Glacier	14
	12.00 noon	Turn Camp, foot of Ogilvie Glacier	42 (?)
	6.00 P.M.	Turn Camp, foot of Ogilvie Glacier	42
		Turn Camp, foot of Ogilvie Glacier	42
May 25	Minimum to 1 A.M.	Turn Camp, foot of Ogilvie Glacier	25·5
	5.00 P.M.	Camp, foot of Mussell Glacier	34
May 26	Minimum to 12.30 A.M.	Camp, foot of Mussell Glacier	18
	1.30 A.M.	Camp, foot of Mussell Glacier	20
	May 27	Minimum to 12 P.M.	Camp, foot of Mussell Glacier
Minimum to 2 A.M.		Camp, foot of Mussell Glacier	9
2.00 A.M.		Camp, foot of Mussell Glacier	16
5.00 A.M.		Cascade Camp	21·5
3.00 P.M.		Cascade Camp	32·5
May 28	Minimum overnight	Foot of Mussell Glacier	22
	Minimum overnight	Cascade Camp	18
	7.00 A.M.	Cascade Camp	26
	5.00 P.M.	Cascade Camp	32 (?)
	May 29	Minimum to 12 P.M.	Cascade Camp
1.00 A.M. (?)		Cascade Camp	28
9.00 A.M.		Cascade Camp	28
3.00 P.M.		Cascade Camp	32 (?)
May 30	Minimum to 2 A.M.	Foot of Mussell Glacier	7
	Minimum overnight	Cascade Camp	9
	5.00 A.M.	Cascade Camp	15
	3.00 P.M.	Cascade Camp	29
	May 31	Minimum overnight	Cascade Camp
June 1	Minimum overnight	Cascade Camp	20
	5.30 A.M.	Cascade Camp	25
	6.50 A.M.	Cascade Camp	27
	8.10 A.M.	Rock Ridge, above Cascade	25 (?)
	9.20 A.M.	Cascade Camp	34
	10.20 A.M.	Cascade Camp	38
	7.00 P.M.	Cascade Camp	32
June 2	Minimum overnight	Cascade Camp	25
	5.00 A.M.	Cascade Camp	27
	6.15 A.M.	Cascade Camp	29·5

86 *Observations during the Mount Logan Expedition.*

			°F.
June 2	7.40 A.M.	Cascade Camp . . .	39
	10.30 A.M.	Rock Ridge, above Cascade	60
June 3	Minimum overnight	Cascade Camp . . .	20
	4.30 A.M.	Cascade Camp . . .	21
	10.00 A.M.	Snow Dome, above Rock Ridge . . .	50
	10.35 A.M.	Rock Ridge . . .	57 (?)
June 4	6.00 P.M.	Observation Camp . . .	30
	Minimum overnight	Observation Camp . . .	3
	5.00 A.M.	Observation Camp . . .	15
	3.30 P.M.	Observation Camp . . .	29
	5.00 P.M.	Observation Camp . . .	20
June 5	Minimum overnight	Observation Camp . . .	4
	7.00 A.M.	Observation Camp . . .	19
	9.30 A.M.	Observation Camp . . .	27 (?)
	3.15 P.M.	Below King Col . . .	20-25 (?)
	5.00 P.M.	Observation Camp . . .	20
June 6	Minimum overnight	Observation Camp . . .	-4
	7.00 A.M.	Observation Camp . . .	9
	12.30 P.M.	Sled Dump (about 11,600 ft.)	35 (?)
	4.10 P.M.	Below King Col . . .	30 (?)
	9.10 P.M.	Observation Camp . . .	10
June 7	Minimum overnight	Observation Camp . . .	4
June 8	Minimum overnight	Observation Camp . . .	0
	6.00 A.M.	Observation Camp . . .	5
	8.40 A.M.	Sled Dump (about 11,600 ft.)	28
	11.27 A.M.	Below King Col . . .	40
	(?)	King Col Camp . . .	41
	3.30 P.M.	Sled Dump . . .	50 (?)
	4.45 P.M.	Observation Camp . . .	30 (?)
	6.00 P.M.	Observation Camp . . .	24
June 9	Minimum overnight	Observation Camp . . .	5
	4.00 A.M.	Observation Camp . . .	9
	12.00 noon	Sled Dump . . .	35 (?)
	5.30 P.M.	King Col Camp . . .	23
	8.00 P.M.	King Col Camp . . .	9
June 10	Minimum overnight	King Col Camp . . .	4
	8.00 A.M. (?)	King Col Camp . . .	20 (?)
	(?)	Sled Dump . . .	32 (?)
	6.00 P.M.	King Col Camp . . .	19
June 11	Minimum overnight	King Col Camp . . .	2
June 11-13		King Col Camp. No record, snowstorm	
June 14	Minimum overnight	King Col Camp . . .	-10
	4.30 A.M.	King Col Camp . . .	-4
	7.10 P.M.	Camp, above Col . . .	18

Criteria.	Actual Amount.	Specifications for Special Aneroid.
5a. Mean Calibration Deviation	0·03	0·02 Inch
5b. Maximum Calibration Deviation	0·04	0·04 „
5c. Maximum difference between deviations at any two consecutive inches	0·03	0·03 „
6a. Correction at Normal Pressure at 0° C.	0·00	} At 30 in. Pressure. 0·08 „ At 21 in. Pres. 0·05 Inch At 21 in. Pres.
Correction at Normal Pressure at 20° C.	0·00	
Correction at Normal Pressure at 40° C.	0·01	
Difference at Normal Pressure, between the corrections at 0° and 40° C.	0·01	
6b. Maximum difference at Normal Pressure, between corrections at 0° and 20°, or 20° and 40° C.	+0·01	
7. Scale Value at 0° C.	1·02	
Scale Value at 20° C.	1·01	
Scale Value at 40° C.	1·00	
Greatest Difference in Scale Value in the Range 0°–40° C.	0·02	0·04 Inch

*Physical Testing Laboratory—Summary of Test of Aneroid Barometer
No. 1455.*

Name : Stanley, London.

Maker : Stanley, London.

Range : 31 to 21 in. Diam. : 4½ in. Smallest Scale Division : 0·05 in.

Submitted by : Geodetic Survey of Canada.

Test No. : 8416.

Date : April 27, 1925.

Criteria.	Actual Amount.	Tolerance Allowed.
1. Average Deviation by Tapping	0·12	0·02 Inch
2. Shift	0·10	0·03 „
3. Vertical Correction	0·05	0·04 „
4. Proportional Drift	0·027	0·02 „
5a. Mean Calibration Deviation	0·02	0·03 „
5b. Maximum Calibration Deviation	0·04	0·05 „
6a. Correction at Normal Pressure at 0° C.	–0·02	
Correction at Normal Pressure at 20° C.	0·00	
Correction at Normal Pressure at 40° C.	–0·01	
Difference at Normal Pressure, between the corrections at 0° and 40° C.	0·01	0·10 „

Criteria.	Actual Amount.	Tolerance Allowed.
6b. Maximum difference at Normal Pressure between corrections at 0° and 20°, or 20° and 40° C.	0·02	0·06 Inch
7. Scale Value at 0° C.	1·01	
Scale Value at 20° C.	1·00	
Scale Value at 40° C.	0·99	
Greatest Difference in Scale Value in the Range 0°–40° C.	0·02	0·05 ,,

MOUNT MALLORY AND MOUNT IRVINE.

THE Mount Everest Committee have received, through the courtesy of Mr. Edward Arnold, the following extract from a letter of Mr. Edward Rainey, Executive Secretary to the Mayor of San Francisco :—

‘ Last summer Mr. Norman Clyde, of Independence, Inyo County, California, climbed two peaks in the vicinity of Mount Whitney (14,501 ft.), the highest mountain in the United States. No record exists of a previous climb of these peaks.

‘ He suggested to the Sierra Club that the Club sponsor the naming of these peaks after Mallory and Irvine. The Club so recommended to the United States Geographic Board, and the Board has given its approval.

‘ Mallory (13,870 ft.) is on the main crest of the Sierra Nevada, about five miles S.E. of Mount Whitney. Irvine (13,790 ft.) is about a mile E. of Mallory. These peaks are in a wild and very beautiful region, and the altitudes equal or exceed those of our most interesting peaks.’

THE AMERICAN MEMBERS OF THE ALPINE CLUB.

Précis of Minutes of Meeting held October 10, 1925.

THE Autumn Dinner of the Association was held at the University Club, Montreal, Canada, on Saturday evening, October 10.

The attending members were Messrs. Charles E. Fay, *Chairman*, Allen Carpe, A. P. Coleman, Henry S. Hall, Jr., J. W. A. Hickson, Howard Palmer, Norman H. Read, H. B.

de Villiers-Schwab, Horace Westmoreland and William Williams. The guests were Messrs. H. F. Lambart, Robert Morgan, J. A. Wilson and H. H. Worsfold.

At the conclusion of dinner the Chairman made a short address and everyone heartily joined in the toast to the President of the Club. Dr. Hickson, as Canadian Vice-Chairman, added a special greeting to the visiting members from the U.S.A.

The first speaker of the evening was Professor Coleman, whose subject, 'Happenings on the way to Mt. Brown,' was of particular interest to a number of those present, in that it described his trip to Fortress Lake in 1892 and his discovery of the Pyramid (Mt. Clemenceau). The talk was illustrated with a number of slides made from colour sketches drawn at the time.

Captain Westmoreland next described a number of difficult 'Climbs in the English Lake District and in the Dolomites.' Accompanied by some splendid slides showing many of the choice bits on these climbs, his talk, including an account of one serious accident, fairly thrilled the assembled members, but few of whom have had experience with sensational rock climbing of this kind.

Howard Palmer followed with a description of the 'Maligne Lake District' visited by Allen Carpe and himself in 1923, which included their first ascent of Mt. Brazeau. In addition, he gave an account of his 'First Ascent of Mt. Bastion' (Rampart Range) made in 1925 with J. W. A. Hickson. Slides of his usual high standard were shown in illustration.

The feature of the evening, Carpe's movies of the Mt. Logan Expedition, concluded the programme. These pictures were taken with small hand cameras (a Bell and Howell 'Filmo' and a Sept), most of those shown having been enlarged from narrow-gauged films, and despite their vicissitudes, including a submersion of two hours or more in the Chitina River when one of the rafts overturned on the way out, the results were excellent. The movies depicted the various stages of the trip; first by pack-train to the glacier, the back-packing over the interminable moraines and the laborious advance up the long glacier and névé slopes, first by man-hauling sledges and later by renewed back-packing. Many scenes about the successive camps were shown, and there was even a glimpse of the victorious group on the very summit of Mt. Logan. The fine scenery along the route was also abundantly screened, the most impressive views being those of glorious King Peak,

whose precipitous sides and terrific arêtes would seem to defy hope of conquest.

The gathering was the most interesting and notable yet held ; it did not break up until almost 1 A.M., everyone feeling that Montreal should have its full share of A.C. meetings in the future.

THUNDERSTORMS IN THE ALPS.

By F. S. SMYTHE.

MOST of those who read this have been caught in a thunderstorm on a mountain. It is an impressive experience and not a little uncanny, for this is a mood of nature of which we know but little. Wind, hail, snow, and rain we can understand both in origin and effect. These we can combat, though the fight is sometimes a stern one. Should one be in the focus of a thunderstorm there is also a feeling of a very near danger, which feeling is at times not unjustified by events as on the Schreckhorn referred to below.

Thunderstorms are primarily due to unequal air temperatures. Hot air rises and in doing so generates an electrical charge or potential by virtue of its frictional contact with the cooler and stiller air. Hot air, except over an inland desert, is usually moist. This moist air coming in contact with cooler air or a cold mountain side condenses in the form of mist. In the case where the air is electrically charged each tiny suspended drop of water holds an electrical charge. The cumulative effect of these numberless little water batteries may result in an enormous stress between the cloud and the earth which can only be relieved by a flash. In certain conditions, however, the discharge from a cloud to earth may occur without any flash-over taking place. In parts of Norway thunderstorms were unknown prior to the deforesting of large areas. This was doubtless due to the countless pine needles which acted as conductors to the electrical fluid. Thus a cloud discharged its energy as soon as it generated it, and long before it had time to become charged enough for the energy to pass as a flash. In the Alps, and in particular the Eastern Alps, thunderstorms are far more common in some localities than in others ; local conditions have, however, a great deal to do with it. The Oberland is

often maligned on account of the wretched weather which undoubtedly prevails there to a greater extent than at Zermatt. Lying as it does between the great heated trench of the Rhone valley and the central plain of Switzerland, and rising so abruptly above low, hot valleys it is tolerably certain that the mountaineer is justified in abusing the Oberland. On several occasions I have sat on the summit of a peak and watched the cumuli clouds, born of the moist heat of the Rhone or Grindelwald valleys, slowly gathering to assault the climber on his long sludge back to the hut with an almost tropical deluge, and a wholly unnecessary display of statical electricity. Yet in spite of all its eccentricities I must confess to a certain affection for the Oberland.

It is now recognized that there are two distinct kinds of lightning discharge. For want of better terms these are called the 'A' flash and the 'B' flash. The 'A' flash is one which occurs along a previously prepared path of discharge. The actual flash is preceded by a brush discharge which finally breaks down the resistance offered by the air between the cloud and the earth. A column of ionized air is formed of far less resistance than the surrounding air, and the flash occurs along this. It should be noted that a brush discharge is really a gradual discharge, and not a sudden and enormous dissipation of electrical energy as is a flash. Often it happens that a cloud discharges its energy without any flash-over at all. On several occasions I have experienced all the phenomena associated with the brush discharge prior to an 'A' flash. My ice axe has hissed; my hair stood on end; and I have actually received small shocks. Yet there was no flash, nor did I hear any thunder. All that had happened was that the cloud discharged its energy without a flash. It is only where the cloud is being charged more quickly than it can discharge that a cumulative effect is brought about which can only be relieved by a flash. The mountaineer has therefore ample warning as to the probability of an 'A' flash occurring owing to the audible and visible effects of the brush discharge that precede the flash. Ice axes and metal objects hiss and sometimes hum in a disconcerting manner; the hair stands on end; and there is often an unpleasant feeling of nervous tension probably due to the electrical tension in the atmosphere. When the little blue flames of the brush discharge appear on the head of an ice axe and sparks jump from the fingers it is high time for the mountaineer to quit any exposed point and seek shelter, leaving his ice axe behind him if possible; for the eccentricity

of the 'A' flash is that it does not necessarily strike the highest point but prefers the best conductor. As, however, one rock is very like another the mountaineer can rest assured that in point of fact the lightning will not worry about him as long as he cowers sufficiently below the crest of the ridge.

The 'B' flash is a different affair altogether. If a highly charged cloud moves at a great speed towards an outstanding object a sudden enormous electrical tension is set up which can only be relieved by a flash. There is no gradual breaking down of the intervening air resistance, no preliminary brush discharge. On this account the 'B' flash is distinctly more dangerous to a climbing party than is an 'A' flash. There is no warning, and the results of such a flash are shattering. Fortunately its occurrence in the Alps proper is rare for two reasons. Firstly, because a thundercloud in the Alps usually forms on or near a mountain or only becomes charged when in close proximity to it; secondly, because when a charged cloud approaches from an outside source it generally does so slowly enough for an 'A' flash with its previous manifestations to occur. It follows that a 'B' flash must be of far greater power than an 'A' flash. In the latter a path of comparatively small resistance is prepared beforehand, but in the former the resistance to be broken down is enormous and the flash consequently far more destructive. Were all the lightning strokes that have struck Alpine ridges of the 'B' variety there would be even greater decay and ruin than there is at present and the casualties among mountaineers might assume alarming proportions. Fortunately the death-roll directly attributable to lightning in the Alps is a small one. The worst disaster on record was that which wiped out a party of four on the Wetterhorn in 1902. In this instance the storm was seen 'going over the mountain.' It seems probable, therefore, that the fatal flash was a 'B' one. Thus did the 'Peak of Storms' live up to its reputation. The Oberland peaks have always struck me as being aptly named. The Schreckhorn or 'Peak of Terror' is the pick of the bunch as far as aptness of appellation is concerned. At least, so think Messrs. Douglas, Harrison, and I after our experiences of last summer. I will tell the story if only for its 'B' flash interest.

On July 30, 1925, Bell and I arose early from our beds in the comfortable Strahlegg hut intending to attempt a previously planned route up the Klein Fiescherhorn. A badly swollen ankle prevented Bell from starting. I accordingly joined forces with Messrs. Douglas and Harrison in an assault on the

Schreckhorn. The morning was fine and calm as we trudged up the easy rocks of Gagg and across the snow slopes to the Schreckfirn. Yet there was a warmth in the air which boded ill. A wild, hurried dawn greeted us on the Schreckfirn. Yet scarcely had the rays lit the snow wall of the Fiescherhörner when it was superseded by a weird greenish glow. None of us had seen such a sunrise. Far beyond the foothills of the Oberland the plain of Berne was drowned in a green haze. Everywhere we looked the green colour predominated. It was a portent, beautiful but evil. We were foolish to disregard it. I have since spoken to Dr. A. Russell, the noted expert on thunderstorms and their attendant phenomena. He told me that these 'green ray' sunrises are not unknown to scientists, who do not, however, understand their cause. One thing only is certain, and that is they almost invariably precede exceptionally unpleasant weather; I can vouch for it. It is a curious fact that the colour in question was identical with that emitted by a Crookes' vacuum tube, though whether there is any connexion it is as yet impossible to say. A few days later Bell and I were crossing the Grünhornlücke en route to the Agassizjoch when we witnessed a stormy sunrise with a distinct greenish tinge about it. Without argument, we at once abandoned our plan and turned off to the Finsteraarhorn hut. We were justified, for a thunderstorm and blizzard developed with extraordinary rapidity. It was this storm that killed a German on the easy slopes of the Rottalsattel. On the present occasion, however, the weather appeared reasonably good otherwise; only a few smooth, oily clouds, far detached from the world, suggested evil, while away in the far south a massive range of cumuli brooded over the Pennines.

Our route up the Schreckhorn was by the S.W. arête. Bell and I had ascended this arête two days previously on our traverse by the Schreckhorn-Lauteraarhorn ridge. In my opinion it is much more interesting than the ordinary way, but I should not hesitate to define it as a more difficult climb. In my own case, however, it is difficult to judge. I climbed the Schreckhorn by the ordinary Schreckjoch route under exceptionally good conditions in 1923, whilst last year it was exactly the reverse.

To attain the crest of the S.W. arête it is necessary to climb a wide couloir that drops on the S. side of the arête to the Schreckfirn. Messrs. Wicks, Wilson, and Bradby who first climbed this ridge mention a red buttress by which they ascended. This buttress is formed by the rocks of the W.

wall of the couloir. The couloir, however, appealed to us as being quicker. It is also in normal conditions probably the easier alternative and quite safe from falling stones.

Plodding across the Schreckfirn we crossed the bergschrund by a good bridge and attacked the ice slope above. Cutting across to the left we reached easy rocks which brought us without trouble into the couloir above the steep and icy rock wall over which it drops at its base.

Conditions had changed considerably during the two days since my previous ascent. Where we had found hard snow and dry rocks there was now ice and verglas. Progress over the icy slabs that formed the bed of the couloir was slow. It was a place not so much technically difficult as requiring great care. According to Douglas the work was not unlike that on the traverses below the Z'Mutt ridge on the Matterhorn. We mounted steadily to the foot of a long snow patch. This snow patch helped us considerably for a while. Higher up the snow thinned down to ice and impending rocks forced us to the left. The rocks at the head of the couloir were more pleasant than the smooth slabs lower down, but they were more difficult; and though there was far less verglas, what there was usually covered the best holds. At 7 A.M. we gained the crest of the arête and sat down to second breakfast. The weather did not look promising, the clouds in the S. were massing in ugly grey battalions; but over the Oberland the sun smiled kindly as yet. Bad weather was undoubtedly in the offing, but everything pointed to its holding off for some hours. By the time it did come we confidently expected to have traversed the mountain and be off all difficulties. The morning was still remarkably warm and windless.

We did not linger over breakfast and were soon off again. The S.W. arête of the Schreckhorn is composed of sound and rough rock. It is indeed a joy to climb. In places it is steep, but the holds are always there in bountiful profusion. Climbing quickly and for the most part all together, progress was enjoyable and rapid on this splendid arête.

The storm came with incredible rapidity. We were less than 500 ft. from the summit when we heard the first roll of thunder, and looking round saw a dark wall of cloud with leaden hail trailing at its skirts rushing up from the N.W. We at once looked round for shelter and were able to climb down to a small ledge partially protected by an overhanging rock a few feet below the crest of the ridge. Our ice axes we left behind lying in a patch of snow.

Within ten minutes the storm was upon us. First we heard the bombardment as the storm clouds reached the Eiger; without a pause they rushed across to wreak their fury on the Schreckhorn. They came with an insane squall of hail and tremendous cracks of thunder. Every few seconds the lightning struck the ridge above with a rending, tearing *bang*. After one particularly brilliant flash that seemed to flame all round us, accompanied by a terrific report, there was another crash and a mass of rock dislodged by the lightning fell to the left of us. We looked at each other. All we could do was to hope for the best. An appreciable time after the initial bang of the discharge would come the long roll of echoes from peak to peak, booming in tremendous waves of sound from the cliffs of the Lauteraarhorn. It was terrible, but it was also magnificent.

Meanwhile hail fell steadily. The air was full of it, we could see but a few yards. Our ledge afforded but slight protection, but the weather as yet was warm and we were reasonably comfortable.

The storm lasted for about an hour; when it had gone we climbed back to the ridge where we were greeted by a glimpse of blue sky and a wan fugitive sun. Our ice axes we found uninjured, much to our relief.

On the ridge we held a short council of war. If we went on we should have an easier descent, but we should be on an exposed ridge for at least two to three hours. To be caught by another thunderstorm on or near the summit of the Schreckhorn, with the added possibility of really bad weather into the bargain, was not to be thought of. The rocks, moreover, were covered with the newly fallen hail and progress must of necessity be slow. To retreat by the way we had come would be the more difficult but shorter. In the circumstances we decided on retreat. We started down the ridge moving as fast as possible. Progress, however, was not rapid for the rocks were covered in half-melted hail.

We had nearly reached the point where it is necessary to turn down into the couloir when again storm clouds blew up from the N.W. Like the first storm the second developed with extraordinary rapidity. We had barely turned off the ridge down the head of the couloir when it was on us in a blinding *tourmente* of snow and hail, snarling wind, and crashing thunder. There was no previous indication of the electrical tension. Ice axes and metal objects did not hiss. The charged clouds were blown at great speed against the mountain and as

soon as they were near enough discharged their electrical energy.

Douglas and Harrison were below me moving carefully over the difficult rocks when there was a blinding glare and a terrible explosion. I received a stunning blow on the head as if I had been sandbagged. For a second or so I was more or less completely knocked out, and but for the rope, which I had previously belayed securely round a rock, I might have fallen and dragged the party to disaster. When I recovered my wits sufficiently to move down, fits of trembling supervened. It was with difficulty that I could control my limbs. No doubt the nerve centres were affected. Considering the violence of the discharge and the terrific report which accompanied it, the shock I received was without doubt only the secondary effect of the flash. A direct hit must have been fatal. Even the secondary or 'corona' effects of a lightning discharge may be fatal to life. Dr. Russell tells me that had my clothes been dry I would in all probability not have survived such a powerful shock. Fortunately we had been well damped by the first storm and the electrical fluid naturally ran down my wet clothes in preference to the body. As is well known a high frequency current utilises only the surface of a conductor. This peculiarity is known to electrical engineers as the 'skin effect.' In my case my 'skin' for electrical purposes was represented by my clothes.

For the next hour or so our progress was painfully slow, less on my account than owing to the ferocity of the storm which reached a pitch I had never before experienced in such a situation. We were in imminent danger of being blown off the mountain. For minutes at a time we could barely cling on while the wind roared by beating us with hail and snow until we were sheathed in ice from head to foot. Worst of all the hail left by the first storm had partially melted, and now the bitter wind was freezing it on the rocks in sheets of ugly verglas which in turn was being covered by evil flour-like snow. The only alternative to the horrible icy slabs was the ridge and buttress forming the W. wall of the couloir, but this the lightning was hitting with unfailing regularity, and the wind would have blown us off like flies. No, the couloir was the sole way. There, at least, was a certain amount of shelter, though there was always the risk of falling stones dislodged by lightning. Once we were out of direct danger of being actually hit by lightning we gave up worrying over it. Yet never shall I forget the fearful rending bangs for all the world like Mills' bombs

magnified many times just above or to the left of us. Suddenly above the howl of the *tourmente* came the sound of falling rocks. The fall occurred down the E. wall of the couloir, but we barely noticed it, though had we been 100 ft. lower we should have been wiped out.

A slip was not to be thought of; steadiness was essential. Never did Douglas or Harrison falter, their progress was mechanical rather than human in its certainty. It is only thus that a party caught by weather of this description on an exposed and difficult place can hope to get down in safety. Whether we could stick it out was not so much the question as whether the storm would *allow* us to stick it out.

Often we were dependent on the rope. Several times I could neither find a hold or feel what I was hanging on to. On these occasions I was forced to let myself slide, braking with my axe on the icy slabs, an evolution known in climbing parlance by the expressive term 'scrabbling'; but always Harrison was below, a tower of strength to gather me to his bosom in fatherly manner at the end of the 'scrabble.'

At length we were off the upper rocks and could cut across an ice slope to the long patch of snow. There we could kick steps and move all together. The exercise was more warming than crawling down the icy slabs. The storm, however, increased in fury. We were unable to see where we were going, or each other, owing to the blinding clouds of powdery snow that came pouring down from the cliffs above until they would be caught by the hurricane, and whirled furiously back in writhing, suffocating columns.

Knowing the route better than the others I undertook to go first. With faces to the slope and axes well driven home at every step we slowly struggled down to the safety that seemed so far away. So blinding was the drift that the holds kicked by me were immediately obliterated, and Harrison as next man had perforce to make his own. We were often unable to see each other, though separated by only a yard or so, and two or three times I felt Harrison's boot on my head as he moved down a step, quite unaware that I was immediately below.

We were not more than half way down. In three hours we had not descended 500 ft. of the couloir. The storm was increasing rather than decreasing in fury. It was bitterly cold. Finally we could barely move at all, and for minutes at a time it was as much as we could do to prevent ourselves being blown from our holds. I remember well the weird noise made

by the wind as it came rushing up the couloir. Sometimes it fell upon us with a furious demented screech. At others it approached with the roar of an express train in a tunnel. Now and again it struck with a boom like thunder. We began to realize that our chances of survival, if things went on as they did, were not very bright. The forced inaction was telling. Soon the wind would numb unless we could keep moving.

Then Providence intervened. The wind moderated. The mist swept away for a few moments. We could see the route down. Somebody suggested some chocolate. The effect was great. It brought warmth and renewed determination to get down come what might. So on we went leaving the snow for the interminable ice-sheeted slabs where nearly every hold had to be hacked out with the axe.

Presently the storm came roaring back like a giant in anger, but not with the same fury as before. We were able to go on moving, albeit with difficulty. So for a total of six hours we fought our way down a couloir not more than 1000 ft. high, reaching at last the easier rocks and the ice slope above the bergschrund. On the ice slope our steps had been obliterated and we had to cut them anew, but what a joy to be able to cut into good honest ice after the hours of hacking, scraping, and groping on the horrible slabs. Not worrying about finding the bridge over the bergschrund we sat down and one by one slid down and over, subsiding ungracefully into the soft snow of the glacier. There, with nothing but easy ground separating us from the hut we shook hands, not without feeling, for it had been a very close thing, and turned for a moment to listen to the wild orchestra of the storm in the great crags above.

We were soon at the hut where we found Bell anxiously awaiting us. Had we not returned he was fully prepared to organize a search party before nightfall. As it was he was able to turn his organizing abilities into the preparation of a truly superb stew.

We all went down to Grindelwald next day where together with a large and jovial party of the S.M.C. we forgot our troubles and the weather in a huge feast of *pâtisserie*.

THE ALPINE DISTRESS SIGNAL.

BY P. J. H. UNNA.

THE original suggestion for an Alpine distress signal came from Mr. C. T. Dent ('A.J.' xvii. 152); and the code ultimately adopted by the Continental alpine clubs in 1898 ('A.J.' xix. 88 and 292), which has been in use ever since, is nearly identical with that recommended by a sub-committee of the Alpine Club appointed on November 10, 1892. The report appeared as an appendix to 'A.J.' xvii., and was discussed at a meeting of the club on April 3, 1894, when Mr. Willink read a paper on the subject ('A.J.' xvii. 151-2 and appendix). In August of the same year Mr. C. T. Dent gave an address on the suggested code to a general meeting of the D. and Ö.A.V. at Munich ('A.J.' xvii. 202 and 379).

Thus the signal has had a trial of over a quarter of a century; and probably it will not be disputed that experience has shown it to be of little practical use. One of the reasons is, no doubt, that climbers are rarely in situations where they can make it seen or heard. It may be contended that in such situations any light or sound will be carefully watched and treated as a distress signal if intended as such. On the other hand, if a system of signalling is worth maintaining at all, it should be correct in principle.

An attempt will be made here to explain the defects of the present system. As the same code is employed for all visual and sound signals, it will be sufficient to quote the precise wording of the instructions for night signals, which is as follows:

'By night: Show a light (lantern, fire, etc.) six times in a minute. Allow an interval of one minute, then recommence.'

Realizing, no doubt, that the efficiency of any system of signalling depends, for one thing, upon the sender carrying out the instructions in the exact manner which the person reading expects, Mr. Willink inserted the following paragraph, italicized, in his paper:

'In all signals regularity of interval is of the utmost importance, both as regards dots and as regards the minute intervals between the series.'

The present definition of the signal is, however, ambiguous, because, apparently, those who framed it overlooked the fact that seven flashes or dots are required to demarcate six con-

secutive intervals ; with the result that should anybody attempt to send the signal with accurate timing of intervals, doubt will immediately arise in his mind as to how the instructions are to be interpreted. The phrase ' six times a minute,' if interpreted strictly, would seem to indicate intervals of 12 seconds each ; whereas it may well be inferred that intervals of 10 seconds are really intended ; 10 second intervals and a total period of 2 minutes being the natural arrangement to make with the object of facilitating correct timing.

The most convenient form of signal of the present character might be defined as follows :

' Seven flashes at intervals of 10 seconds, followed by an interval of 60 seconds. To be repeated until an answer is received.'

Similarly the answer would be four flashes at intervals of 20 seconds.

There are, however, defects in the present system of a more fundamental nature ; and these defects seem to afford good reasons why the general character of the existing code should be altered. They are as follows :

1. Certain interpretation of the existing distress signal necessitates continuous watching for at least a period and a half ; about 3 minutes.

2. The distress signal is necessarily made to persons not on the look-out for any signal at all. Such persons may not happen to see a number of consecutive flashes sufficient to put them on their guard ; or may not realize that such consecutive flashes as they do pick up correspond in timing with the distress signal. The signal should convey its import immediately, when first seen.

3. To make the signal properly necessitates the use of a watch, and one may not be available.

4. The making of the signal, whether with or without a watch, will necessitate considerable concentration of thought.

5. Convenience, and more especially the probability of the signal being seen at night, could be increased if the periods during which the light must be screened were short.

6. The person reading the signal is expected to be able to look in two different ways at once : at the sender, and at his watch.

One of the most essential matters is that any Alpine signal must be absolutely simple. With this in view, I put forward the tentative suggestion that—

The *distress signal* should consist simply of *groups of three flashes*, waves of a flag or its substitute, or sounds ;

the groups being separated by *intervals* just sufficient to enable them to be definitely distinguishable.

The *answering signal* should consist simply of groups of *two flashes*, waves or sounds separated in the same way.

Intervals, whether between individual flashes, etc., or between groups, would not otherwise be defined; with the exception that it might be wise to lay down that whatever intervals are adopted in any particular instance should be adhered to throughout the progress of the signalling; and that, at night, if signalling is only carried out intermittently, a steady light should preferably be shown during the periods of cessation. To signal for 15 or 20 seconds every few minutes, and show a steady light at other times, is nearly as likely to be successful as to carry on signalling continuously.

It is also suggested that some standard type of light weight sound signalling apparatus should be recommended and placed on the market. The most efficient note would have to be determined experimentally. The circumstances when the signal is most likely to be of use is when two parties are within earshot.

Again, written instructions and printed notices in huts are less likely than practical demonstration to disseminate knowledge of the signal, or cause people to be able to use it efficiently. Guides, porters and hut guardians should be taught to demonstrate; and be obliged to do so, on request, at all reasonable times. Few people read printed notices, and fewer still are likely to learn the signal properly from them. Utility of the signal must be dependent upon ability to recognize it being universal.

In support of what has been explained in regard to the defects of the present system, it may be interesting to note that whereas the distinguishing signals emitted by lighthouses and light-vessels have hitherto, either in part or exclusively, been based upon time intervals, the latest practice, especially in the case of acoustic fog signals, is to use distinguishing Morse groups for purposes of identification. The trend of the recommendations made here is in the same direction. The change is, however, more necessary in the present case, as the person signalled to is not expecting to receive a signal at all. On the other hand to define any revised distress signal in terms of the Morse code would be impracticable, as in most cases the ability to use that code would be absent.



Photo, Henry Speyer.

THE CARNEDDS from ELIDYR FAWR.

AN EXHIBITION OF ALPINE PHOTOGRAPHS AT THE CLUBROOMS,
DECEMBER 1925.

AFTER an interval of two years the customary Photographic Exhibition was held in the Clubrooms last December, and showed that in spite of two very indifferent seasons our members and their friends have been far from idle. In fact, the law of compensation was well illustrated on our walls, for it is a fact that bad climbing weather (provided that it is not too bad) produces good photographs. The cloudless skies, which are the climber's delight, are apt to become a trifle monotonous if they are the only mood of the mountains represented by our photographs, particularly as their chief beauty is to be found in their glorious colouring. But the sudden storms, the heavy banks of cloud and the swirling mists with which we are all so familiar, and which are sometimes so annoying at the moment, are the photographer's opportunity.

Our exhibitors this year have made good use of this opportunity, and the first impression we got, on walking round the gallery, was the very true rendering of the ever varying cloud forms of mountain scenery. There was hardly a 'bald-headed' sky on the walls.

The next point that struck us was that although the sky renderings were so good, dark heavy foregrounds were in many cases well brought out, and were by no means lacking in detail; and a warm tribute must be paid to the skill of those photographers who succeeded in this difficult task. Cases in point were a number of pictures of our British hills, and we should particularly like to mention in this connexion Mr. Henry Speyer's beautiful 'The Tryfan from the East at Sunset,' his 'Mountain Sheep near Llyn Idwal,' and his 'After Sunset: Head of the Ogwen Valley.' The same skilful technique was evident in Mr. Leonard Eagleton's dramatic 'Loch Maree: a Stormy Evening'; his 'At the Head of Glen Guisachan' and his 'Sunset from Beinn Tharsuinn Chaol' were both splendid pictures.

Speaking of the technique of the prints shown at the Exhibition, it is interesting to note that although the skill of the best mountain photographers of the past generation has hardly been exceeded, yet the improvement in modern apparatus, particularly in regard to lightness and ease of manipulation,

has resulted in a tremendous improvement in the general run of photographs. It should, of course, be remembered that most of the prints shown at our exhibitions are the work of those who are first of all mountaineers, and only secondarily photographers, and that many of the results have been obtained under hasty and often uncomfortable conditions. When these facts are borne in mind extra credit will be given to those who, in spite of difficulties, have succeeded so well.

These difficulties are very markedly illustrated by the set of six frames sent by Dr. Somervell of the Everest Expedition. Such pictures can never lose their appeal. Perhaps the most striking of the set was 'The Ice Cliff near Camp II with Peak 22,580,' and the most historic was certainly 'The Summit of Everest from the Highest point reached.'

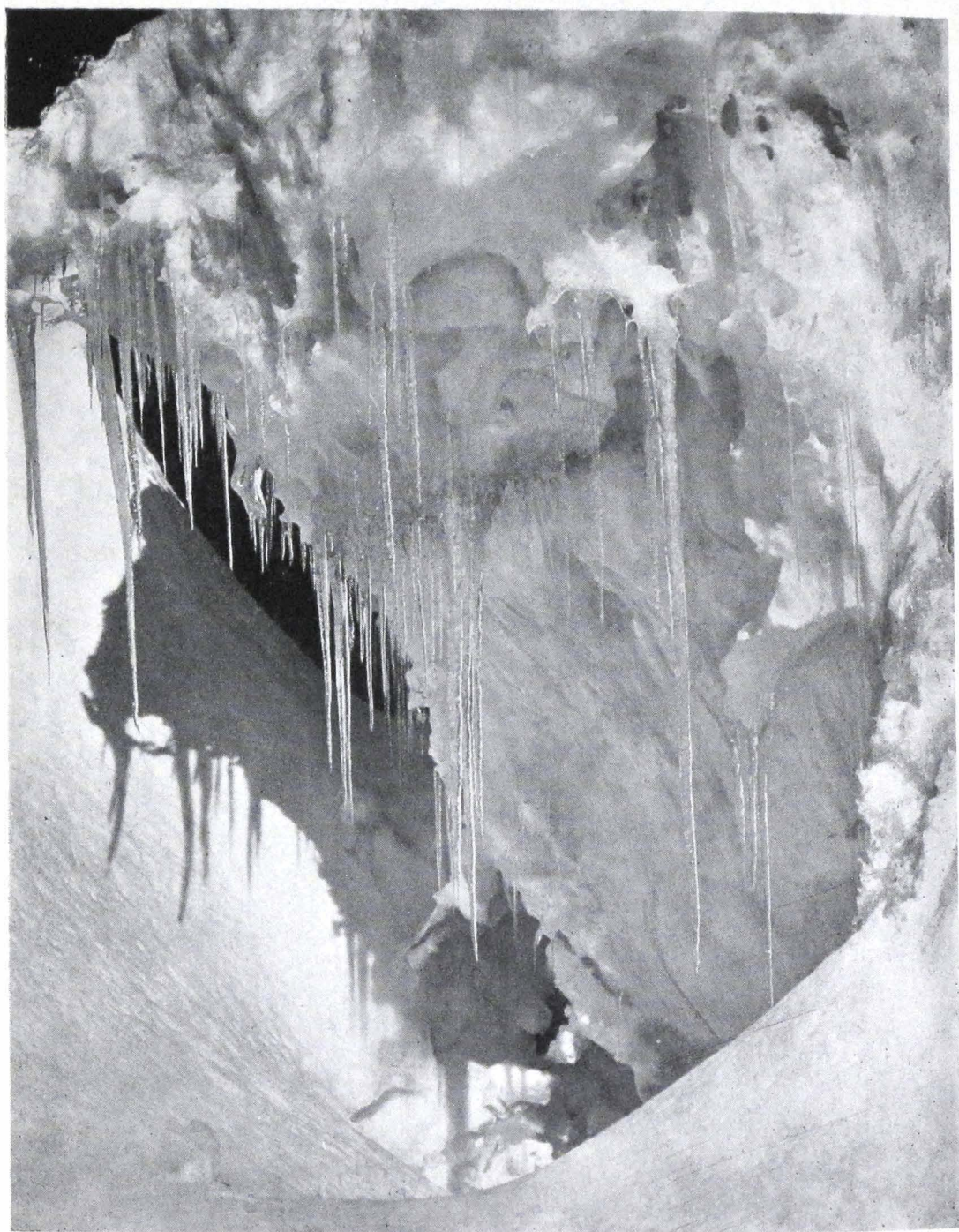
This last picture, with its figure struggling on towards the summit, suggests a subject that might receive more consideration than it sometimes does, viz: the place of figures in mountain pictures. Since the mountain is greater than the mountaineer, we think that when a climbing party is shown in a mountain photograph, its existence there is only justified if it adds in some way to the dignity of the mountain itself. In J. C. Gait's 'Piz Roseg from its North-West Arête,' the figures on the ridge are the key to the picture. So small are they that at first they are hardly noticed, but when once seen they add enormously to the apparent size of the mountain. N. S. Finzi's 'St. Niklaus Gabelhorn' was another successful example of the use of figures, as was also Mrs. Aubrey Le Blond's 'Descending the Portiengrat,' though this last was—as its title tells us—more a picture of a climbing party than of a mountain. G. A. Lister's 'A Glacier Scene' would be almost meaningless without its figures; with them it is a complete success. But we venture to think that photographs of climbers climbing are less satisfactory, in that they are neither portraits nor mountain photographs. Alpine portraiture pure and simple is always welcome, especially when the originals are really distinguished men in the Alpine world. Sir William Lister's 'Alexander Burgener' was a good example of this.

Since mountain scenery includes valleys as well as peaks, we were glad to see a number of subalpine views, and would like to mention in this connexion C. Gordon Smith's 'Le Joseray—Val d'Isère' and Miss Ulrica R. Dolling's 'Wetterhorn'—a much-photographed view, but always welcome when done as well as this. Arthur Gardner's 'Spring Flowers at Pontresina' delighted us, and J. L. Yeames' 'Caux—Spring' brought back

SUNRISE ON THE DENTS DU MIDI.

Photo, Rev. A. E. Murray.





Photo, W. T. Lister.

BERGSCHRUND ON LYSKAMM.

vivid memories to those who have spent a real spring in that frequented but lovely district.

R. S. Morrish's 'A one-seater in the Val Masino' was a charming study of Alpine life. We liked also the simplicity of G. L. Corbett's 'The Young Entry.'

The Rev. A. E. Murray's two pictures, 'Winter Sunrise' and 'Winter Sunset,' were two of the most beautiful exhibits on the walls. The sunset picture was a very difficult subject, and Mr. Murray may be congratulated on having achieved a real triumph. His contributions were all framed in a most artistic manner, a point to which photographers in general do not attach sufficient importance.

We were most glad to welcome five frames (two of them contained two pictures each) from the Skala Club. All these were beautifully taken. Some were printed in a blue colour, and some in brown. We are bound to say that we preferred those done in brown. As a picture, 'Kocna in the Kamnik Alps' by Janko Skerlep, was as fine a mountain photograph as we expect to see. Charming also was 'Spik in the Martuljek near Krajska' by Janko Revnik.

We have again to thank a number of ladies for sending contributions. Mention has already been made of one of Mrs. Aubrey Le Blond's prints: we should like also to refer to the same lady's interesting set of four prints, 'The Evolution of an Ice Flower.'

Miss MacAndrew sent two views taken from that delightful little range, the Aiguilles Dorées. Miss Ulrica R. Dolling sent several exhibits, and Miss H. F. Margaret King six prints, several of which were coloured—as were G. H. Lancaster's. These were all well done, though we are really of opinion that as things are at present, photographs in monochrome are more effective than those that have been coloured. Dr. Mary Boyle and Mrs. Clive Smith also contributed.

It is unfortunately impossible to mention in detail all the exhibits that we should wish to, but we must note J. O. Walker's 'Esk Pike, Cumberland' and his 'Bernina Group—Winter'; J. C. Gait's 'Dent Blanche from the Roc Noir'; R. S. Morrish's 'Clouds at Sunrise on the Piz Palu'; E. B. Beauman's 'Dawn'; Hugh Gardner's 'Mont Blanc'; Arthur Gardner's 'Mont Maudit'; Charles D. Brook's beautiful 'Les Bans'—a very fine brown colour this; F. N. Ellis' two large Riffelalp pictures, taken after the summer snowstorm of August 1925; Sir William Lister's two splendid berg-schrunds—there was nothing finer in the room than his upright picture

of a schrund on the Lyskamn; and Reginald Graham's large picture, a picture full of atmosphere, 'Drakensberg Mountains, S. Africa.'

Special mention must also be made of a very historic print, G. P. Baker's 'Spring Meeting of the Alpine Club 1882, Summit of Snowdon.'

Speaking generally, exhibitors did not conform to the present-day fashion of using white or very light-toned mounts. Undoubtedly pictures in a low key look well when framed close up. Yet we think that the large white mount is no mere whim, but really does show off most photographs to their best advantage, and that our Exhibition would gain by a more widespread use of it. A few small prints, excellent in themselves, were inconspicuous only because of the small size and neutral tone of their mounts. On larger, whiter mounts the same prints would have shown up well.

Taken as a whole the Exhibition was thoroughly good, and it certainly brought back pleasant memories of holidays to many of us, for it is a joy to live over again climbs now long past.

'Forsan et haec olim meminisse juvabit.'

The Club has once again to thank Mr. Sydney Spencer for the trouble he has taken and the skill he has shown in hanging the pictures. We should like to add that, much as we appreciate all that he has done, we really do miss those excellent photographs of his that used to adorn our walls.

THE EXHIBITION OF ALPINE PAINTING.

(May 3 to May 15, 1926.)

THIS has been quite a good exhibition, and well up to standard. How could it be otherwise, including, as it did, paintings from the brushes of Sir Herbert Hughes-Stanton, R.A., P.R.W.S.; Mr. Adrian Stokes, R.A.; Mr. Percy Lancaster, R.I., A.R.E.; Mr. Graham Petrie, R.I., R.O.; Mr. Cecil A. Hunt, R.W.S.; Mr. Colin Philip, R.W.S.; Mr. Charles M. Gere, A.R.W.S.; Miss Hilda Hechle, R.B.A., and other well-known artists?

Moreover, it was not a monotonous exhibition, although the absence of figure subjects was regrettable. It had plenty of variety, both of subject and of treatment. There was little, if any, of the old type of amateur 'Swiss view,' with its staring, glaring, dark hard rocks and white snow and blue sky. The

familiar fine-weather subject had enough good examples, but there were many companions of better kidney. The glories of mixed weather had exercised their attraction. What if the attempts have not always succeeded? It is better to have tried and failed than never to have tried at all. A moderately well-painted picture, which makes one say 'That man saw something fine,' is worth many immaculate chocolate boxes. As the wise old artist said to his ex-pupil, 'Remember, when you have learnt to draw and paint so well that you can depict accurately what you observe, you will be able to say something—if you have anything to say.' And this little exhibition has shown quite a number of works telling that their authors have had something to say; and, better still, not a few have succeeded in saying it.

Without making invidious comparisons of merit, I must begin by saying that Miss Hechle's pictures interested me exceedingly. Her work goes on improving. The heavy black lines and purple tints are tending to disappear, and her wonderful grasp of mountain form is being reinforced by appreciation of sky, and light, and tone. Her 'Königsspitze' (34) and 'Ortler' (65) are splendid examples of her growing powers (though in the latter her grass-green sérac is surely a blemish?); and so is her golden-glowing 'Râteau' (98). Indeed, every one of her six exhibits was worth study.

Mr. Lawrence G. Linnell's pastels, too, were remarkable. There is a certain woolliness in the two brilliant studies 'Piz Julier' (49—moonlight) and 'Piz Bernina' (54—sunlight) when looked at too closely, but the delicate evening flush, in light and shade, in 'Roseg Glacier' (92) and 'Fex Thal' (127) is admirably rendered. The pastels of Mr. Leonard Richmond, too, especially the 'Fantastic Snow' (102), show keen delight in varied and vivid winter colouring of white objects. Sir Herbert Hughes-Stanton's large mountain-scape 'Mt. Tsurugi' (42) was rather disappointing, in colour and texture. Perhaps Japanese hills are made that way; and the weather seems to have given no help.

Among other noticeable pictures may be mentioned the following: Mr. A. T. Nowell's 'Tofana' (8) and 'Fex Glacier' (122), showing his range both in delicacy and strength; Mr. Percy Lancaster's quiet amber-coloured interpretations of still, pure evening light, particularly 'The Loch' (52); Col. Donne's characteristically mannered drawings, of which, perhaps, the two best were 'The Cristalin' (14) and 'Stalden' (81); and the strong oil paintings of Mr. Graham Petrie and

Mr. Adrian Stokes, among which Miss Clifford's 'Sospel' held its modest own by gentler means.

Mr. Colin Philip tackled a most difficult subject in his large water-colour 'Winter Storm on the Lake of Geneva' (116). No one can have had more opportunities of close observation of such effects, of hills on an opposite shore showing dimly through drifting clouds and rain. And, in spite of a certain mottliness and dottiness in all the features, the more it was looked at the more interesting and suggestive it seemed. Mr. T. Hall Hall was at his best in his grey-green sunrise over a lake (29). Our old friend Mr. Lawrence Pilkington showed two careful drawings, Nos. 86 and 101, of which the latter was the better. And his daughter, Miss Margaret Pilkington, in her 'Meije' (85), displayed a knowledge of mountain architecture comparable with some of Miss Hechle's earlier work. Let us hope to see many more of her sketches as time goes on. A small green-grey sketch by another lady artist, Miss J. E. Pawsey, 'Tellialp' (107), was singularly pleasing. Her other exhibit (128) had the distinction of being the only figure picture—and it was a very small picture—in the whole show. Mrs. A. W. Moore's charming little sketches deserve a word of praise, as do many other exhibits of which space forbids the mention. It was good to see half a dozen attempts by various brushes to depict the beauties of Alpine meadows in full bloom. But our flower artists will be the first to admit that perfection has not been quite reached yet.

Lastly, the fact must not escape record that our Mr. Sydney Spencer, to whom we all owe so much as secretary, as photographer, and as organizer of this and of previous exhibitions, has, in his mature age, turned from the camera to the palette. He was represented by several water-colour sketches, which illustrate his courageous use of his new and untried tools, and his taste in choice of subjects. May he enjoy many years of devotion to this strange occupation, but let us hope he will not entirely desert his first and sunburnt love.

H. G. W.

THE AIGUILLE BLANCHE DE PEUTERET.

By J. P. FARRAR.

IT is well to emphasize the lesson to be learned from the Richardet accident on the Aiguille Blanche last summer. The line of ascent lies across the E. face, safe enough in early morning, but very subject to stonefall later. This accident

showed that it is very undesirable to *bivouac too high*, as in case of an enforced retreat the descent may become, as it did in Richardet's case, very dangerous.

On the illustration Mr. Amstutz has been good enough to mark their bivouac of August 11, 1925—the highest dot. The middle dot indicates the Rey-Klucker-Güssfeldt¹ bivouac of August 14, 1893, while the lowest dot indicates the Maquignaz-Farrar bivouac of August 26, 1893. The extreme left-hand dot indicates the spot where Richardet



was killed by a stone when his party was forced to descend in thick weather from their bivouac.

We took 9 hrs. slow going from Courmayeur to our bivouac. Next morning we left at 4.40, followed the rock rib on which our bivouac was as far as the narrowest point of the couloir on our right, cut 26 steps in the ice across this (5 to 5.15),

¹ Güssfeldt estimates his bivouac at 3200 m. (*Der Mont Blanc*, p. 259). The contour lines on the B.I.K. map have no claim to any accuracy. They were put in from the data acquired in about 2 months by a young Swiss topographer, mostly from photographs. I should put the altitude at not over 2800 m., as in those days our vertical rate was certainly much more than 900 m. in about 5 hrs.

and took to a broad rock ridge on the other side, traversing continually in a N. direction (9.30), finally, after crossing two exposed stone couloirs, turned W. up a tolerably defined ridge, cleaning out some of Güssfeldt's steps, to the beautiful little snow summit, the apex of four arêtes (9.51). We had, so far, no difficulty whatever and never saw or heard a stone. We were on the Col Peuteret at 1.15, passed what was obviously Güssfeldt's bivouac under a big rock on the Fresnay side at 3.33, and gained the summit of M. Blanc de Courmayeur at 0.5 A.M. (midnight). The total of halts all day was 1 hr. 50 mins., but as the leader—Daniel Maquignaz throughout—had much step cutting we had much waiting.²

Herr Welzenbach and Dr. Allwein in 1925 made their second bivouac on the Col de Peuteret and got to the Vallot hut that night.³ Herren Horeschowsky and Piekielko in 1923⁴ made their second bivouac (excluding an extra night in their first) somewhere about Güssfeldt's. Even from the higher bivouac of the Richardet party, a party of guideless climbers might,⁵ save in very favourable—not probable—conditions, require a second bivouac before gaining the summit. Now above the second Güssfeldt bivouac place there is hardly any suitable place, so that there is no certain gain by adopting the higher bivouac to set off against the certain danger from stones in the ascent to, and the possible descent from, that bivouac.⁶

My ever helpful old friend Klucker, whose opinion on any mountain question none will gainsay, writes to me (freely translated):

'Our bivouac of August 14, 1893, stands a little higher than yours. I have marked it. Since it is on a rock arête, it is absolutely safe from stones. I share your view that the Richardet party bivouacked too high, especially in such changeable weather as 1925. [The day they went up was brilliant with every promise of good weather.—J.P.F.] From my notes I see we reached our bivouac about 5.30 P.M.

² *A.J.* xxxiii. 50. ³ Present number, p. 121. ⁴ *A.J.* xxxvi. 408.

⁵ *A.J.* xxiv. 691. Maischberger's party took 16 hrs. from the higher bivouac to the summit of M. B. de C. (1.30 A.M. to 5.30 P.M.).

⁶ Years ago we often bivouacked, but fought very shy of impromptu bivouacs. Nowadays men like Horeschowsky and Welzenbach prepare for several consecutive bivouacs and come off all right. They carry a Zdarsky sack described and illustrated in the review of Mr. Flaig's *Eistechnik* in this number.

Rey had wished to camp lower down to the right of Richardet's fatal spot, but I protested, as on those rocks and to the right across to the rock arête I noted signs of stones. So, unroped and at a distance apart, we hurried across to the rock arête. About 6 P.M. I continued alone up the arête and cut steps across the couloir to the main mountain so that we should not be held up next morning. Next morning our start was delayed a long time by a lively controversy as to which porter was to come with us, till at last César Ollier made up his mind to come.

'By the time we had crossed the couloir to the main mountain the sun had risen and the stones began to be lively. After ascending easy rocks for a short time we determined to cross two steep névé shoots on our left, in the direction of Richardet's bivouac. We had, however, hardly taken a hundred steps when heavy stonefall compelled our retreat. Thereupon we turned to our right and reached an, at first, slightly defined rock rib which led in a straight line to the summit. The last 50 m. were, by reason of the loose rocks, extremely unpleasant. . . . The tragic end of the splendid young fellow Richardet filled me with sorrow. Ought we to reproach these three young mountaineers? No! The catastrophe was due to the unexpectedly sudden change in the weather. . . .'

There is no reason why this great expedition should not be repeated by a party of strong, well-trained, and practised mountaineers with a prospect of three days good weather and fair conditions; and this note is written, not to discourage its repetition, but to draw attention to a factor of safety.

IN MEMORIAM.

SIR R. MELVILL BEACHCROFT.

(1846-1926.)

IN Sir Melvill Beachcroft, who died in January a few days before his eightieth birthday, the Club loses another of its veterans, and the writer his oldest friend and first climbing companion.

Beachcroft was, owing to the neighbourhood of our homes at Hampstead, one of my earliest playfellows. In school-life we were parted, and he did not go to any university. But when, in 1864,

I wanted companions for my first independent journey—that recorded in the privately printed Journal ‘Thonon to Trent’—he was the nearest at hand, and he, with Douglas Walker, shared in that prolonged steeplechase, remarkable, as Mr. Mumm sententiously observes, for ‘the number of expeditions, many of them new, and the extreme youth of the parties.’ Beachcroft and I walked through the hills from Thonon to Champéry where F. Dévouassoud joined us, and then over three passes, round the Dent du Midi to Chamonix, when we found Walker and went on to attack the then newly discovered High Level Route.

Beachcroft was in spirits always young : ‘ce brave M. Beachcroft, qui nous fait toujours rire,’ was François Dévouassoud’s tribute to him, after he had enlivened a fireside evening at the Col de Balme by his stories and songs. Not that he did not at first give his guide some anxious moments. New to the Alps, his impulse was to treat the crevasses of the Mer de Glace, regardless of their width, as ditches, and to take them at a run ; or, after having waited behind to take off his gaiters, to descend a loose scree so impetuously as to send a volley of missiles whistling past his companions’ ears. But he quickly accommodated himself to the Alpine environment and developed into a very competent and enthusiastic climber, and a most constant lover of the Alps, while his unfailing cheerfulness and humorous temperament made him an always welcome companion both to his colleagues at home and to his friends in the mountains.

In the seventies Beachcroft joined with C. Comyns Tucker and made various expeditions, including the Monte della Disgrazia and the Cimone della Pala and an attempt on the Sasso di Mur near Primiero.

He also climbed the Matterhorn in 1877, the year of his marriage to a daughter of Mr. R. M. Bonnor Maurice, who shared his subsequent visits to Switzerland.

Later, in the eighties, Beachcroft paid frequent visits to Arolla and Zermatt and climbed in company with his friend, the Rev. A. Fairbanks. In 1883 with him and Mrs. Beachcroft he made a ‘highlevel route’ from Saas to the Tosa Falls over the Rossbodenjoch, Monte Leone and the Lebendun Pass, which he described in a paper in vol. xi., p. 395, of the JOURNAL. For some years, and up to 1914, he and his wife made the Belalp their summer headquarters.

Beachcroft served on the Committee of the Club from 1889 to 1891, and was a fairly frequent attendant at our Meetings, despite the calls made on him by his public offices. One of his ancestors had been Lord Mayor of London in 1711 ; and, perhaps, instigated by family tradition, Beachcroft stood for, and was elected on, the first County Council and served on it continuously until 1909, when he was chosen as its Chairman.

In 1903 he became the first Chairman of the London Water Board, and held that important office till 1908. He was knighted in 1904.

He was also the Master of the Clothworkers' Company in 1913-14. He succeeded his father in 1873 as the head of a firm of solicitors which had for many years represented Christ's Hospital.

D. W. FRESHFIELD.

Colonel A. H. Tubby writes :

' In other places noteworthy tributes have been paid to the memory of Sir Melvill Beachcroft. In him our Club loses one of its oldest and, in his time, one of its most active members. Fortunately for Beachcroft, he had a unique opportunity of tasting the joys of Alpine travel whilst still almost a youth. And I have often heard him tell the story of how this came about. He was asked to be the companion of one who afterwards became one of our most honoured Presidents and a great explorer. The two young men covered a great deal of ground in their walking tour, and it left Beachcroft with happy memories. From that time he became an ardent lover of the Alps and spent many of his holidays there.

' The many notices which appeared in the press all unite in emphasizing his public spirit, his zeal in finding means to relieve the sufferings of the poor and the outcast ; his efforts to improve their surroundings and their health by removing slum areas and providing them with decent dwellings ; and his strenuous years of public service on the London County Council and on the Water Board. So highly appreciated were they all that one of the journals published a lengthy account of him under the title of the " Great Aedile." Beachcroft was a great philanthropist, too, and devoted much of his time and energies to the well-being of ragged-school children, and to the purchase of playing-fields in crowded neighbourhoods ; and his patriotism was evinced by his enlistment during the 'sixties of the last century in the " Volunteers."

' It is difficult to write adequately of him, for there was so much to love, admire, and reverence in him. Perhaps the chief impressions left upon any who came into contact with him were his singleness and purity of mind, his transparent and happy nature, and his charmingly courteous attentiveness. He lived on a high level, and he sought his inspirations from the purest sources. To know Beachcroft was to love him, and his friendship is one of my happiest memories.

' As with so many men of his kind, his Alpine holidays were his great means of recreation. He spent a large number amongst congenial friends, particularly at the Belalp. It was not my privilege to know Beachcroft during his active years of climbing, but I had the pleasure of spending several winter Alpine holidays with him. It happened to me, however, to be with him on his last summer holiday at Oberhofen in August 1924. The sunsets then were peculiarly vivid and often glorious, and they were to those who were with Beachcroft symbolic of the setting of the sun of life of one who had ever lived serenely, with singleness of purpose and purity of spirit, amid the

hurry and rush of public life. The afterglow, too, of his life was bright with the friendships which remained to him, and of others whose memory comforted and sustained him.'

HON. GERALD FITZGERALD.

1849-1925.

MR. FITZGERALD was elected to the Club in 1876, and few members have so long and consistently devoted themselves to difficult and arduous expeditions as he did. His residence in Ireland was the reason that he did not attain, long ago, high office in the Club. He was of very distinguished presence, and filled several public offices with marked ability, while his charm of manner endeared him to all his friends.

His climbing companions, Baumann, Cullinan, Holzmann, and particularly Edward Davidson have predeceased him, and the details of his climbing career have to be sought in Mr. Mumm's 'Alpine Club Register,' vol. ii., and in the many entries in the Führerbuch of the determined and right valiant little man Ulrich Almer, one of the very best of guides, who, partially blind, still survives. He seems to have commenced in 1877 with the Matterhorn! and in 1878 made a variation on the N. face of Jungfrau, probably never repeated. In 1881 he ascended the Dent d'Hérens, second ascent by N.W. arête. From 1885 onwards his expeditions are understood to be much the same as given in Sir Edward Davidson's obituary notice, 'A.J.' xxxv. His own entries in Ulrich Almer's Führerbuch start in 1891, and it is with this very able guide that many of his greater expeditions were done. Among them were, in 1891, Jungfrau from Rottal, Ochs via Viescherjoch with traverse to Agassizjoch; 1892 Matterhorn (Breuil to Schwarzsee), Mischabeljoch; 1893 Charmoz (tr.), Grand Dru (tr.), Mt. Mallet; 1894 Trifhorn, Alphubel by W.S.W. arête, Matterhorn (tr.), Signalkuppe; 1895 Grande Aiguille, Les Bans, Ecrins (tr.), Pic d'Olan (traversing the 3 summits from La Chapelle to La Bérarde), Les Rouies et Col des Rouies, Meije (tr.), Aig. du Plat, Aig. Verte, Dufourspitze by the rocks and then along arête to Signaljoch, Täschhorn-Dom; 1896 Piz Popena, Croda da Lago, Kl. Zinne (N. face), Cimone della Pala (tr.), Cima della Madonna and Sass Maor, Col des Hirondelles, Aig. and Col du Géant, asc. Zwillingsjoch, desc. Schwarzthor; 1897 Blaitière, Grépon (tr.), Col des Courtes, de Triolet, du Géant, Aig. du Chardonnet, Col de la Tour Ronde, du Miage; 1898 Adler, Weissmies, Südlenzsp-Nadelhorn, Matterhorn (Z'Mutt), Col Durand, Schallijoch; 1899 Crast 'Agüzza (tr.), Palü, Bellavista-Zupo, Scerscen-Bernina (desc. by Scharte), Ortler from Hochjoch, Königsspitze by N.E. arête, Zebbru-Ortlerjoch-Eiskögele-Thurwiesersp; 1900 Rothorn (tr.), Arbenjoch, Signalkuppe, Parrotp. Ludwigshöhe-Balmenhorn, Schallhorn (tr.), Wellenkuppe-Gabelhorn-



SIR E. DAVIDSON.

HON. GERALD FITZGERALD.

C. KLUCKER.

U. ALMER.

Arbenjoch, Rimpfischhorn from Adler to Allalinpass ; 1901 Traverse of Breithorngrat from Théodule and down to Schwarztor, Col d'Hérens, Dent des Bouquetins ; 1902 Signalkuppe, asc. and desc. of N. face of Breithorn, from Schwarzsee via Furgjoch, Col du Lion, Tête du Lion, and along arête to Col Tournanche and back to Riffelalp by Staffelalp, Weisshorn (Schalligrat) ; 1903-1910 no entries ; 1911 Tête Blanche and Mannle, Wellenkuppe, Trifthorn (tr.), Col Durand, Mönch ; 1913 Riffelhorn, Col Tournanche-Furgjoch.

The war naturally put an end to his visits to the Alps, but he was to be found each year after the Peace at his old quarters, the Riffelalp, until the last two years, when his health compelled him to remain nearer home.

The list of expeditions here given cannot be complete ; he could count upwards of forty years' close companionship in the Alps with Sir Edward Davidson, and in many of the expeditions noted in my notice in 'A.J.' xxxv. he doubtless took part, although it was their general practice to go each with his own guides.

J. P. FARRAR.

[The portrait shows the two great companions with their guides, Ulrich Almer (on right) and Chr. Klucker (behind).]

HENRY D. WAUGH.

1854-1925.

WAUGH became a member of the Club in 1894 and had done a good deal of climbing before I met him first at Saas Fee in 1896. That meeting was for me the beginning of a close and valued friendship, for I at once fell under the spell of his charm, which was so patent to all who knew him well. With but two exceptions we climbed together every season from 1896 to 1912. Our last climb was the traverse of the arête from the Rimpfischhorn to the Allalin Pass. This proved to be Waugh's final climb, for professional duties prevented him from going to the Alps in 1913, and after the War failing health prevented him from making long expeditions. Latterly, he spent his holidays at the Riffelalp, which always had a strong attraction for him. Whilst at the Riffelalp in 1925 he was seized with an illness which caused great anxiety to his friends, and which proved to be the beginning of the end. He made a remarkable recovery, but it was only temporary, and on his return to England, although he struggled against increasing weakness with his usual determination, his health gradually failed, and he suddenly collapsed whilst visiting a patient a few days after the Winter Dinner, at which he was present, and passed away on the evening of Christmas Day 1925.

Waugh had an intense love for the mountains and everything

connected with them. He was a keen observer, and took a delight in the beauty of the Alpine flowers as well as in the grandeur of the peaks and glaciers. He was an ardent and sound mountaineer, sure-footed on ice and safe and strong on rocks. He had great perseverance and staying power, and was never happier than when overcoming some technical difficulty. He was a faithful friend and the best of companions on the mountain-side and in the hotels and huts. He was always cheerful, optimistic, and unselfish, making light of difficulties, disappointments, and discomforts ; with a cheery word for everyone, visitors, guides, and peasants. Although inclined to be hard on himself, he was wonderfully sympathetic with the ills of others. He was always ready to put his medical skill at the service of those who needed it, even though, on several occasions, to do so meant the upsetting of his plans for climbing. I have known him do many quiet acts of kindness for the servants in the Swiss hotels who suffered from some passing ailments.

Waugh took a great interest in the Club, and never missed a meeting or a dinner unless prevented by his work, and I remember his pleasure when, in 1911, he heard that he had been elected to the Committee.

F. C. B.-B.

NEW EXPEDITIONS.

Le Dauphiné.

PIC SANS NOM (or Salvador-Guillemin) (3915 m. = 12,845 ft.) from the N. or Glacier Noir side. July 10 and 11, 1925. MM. P. Dalloz, J. Lagarde, and H. de Ségogne ; MM. J. and G. Vernet.

The first party left the Ailefroide hotel at 10.20 P.M., and at 5 A.M. reached the foot of the couloir which reaches up to the arête on the W. side of the spur descending from the Pic S.-G. Turning an ice-fall on the W. they crossed the first rimaye by the rocks of the left bank of the couloir and bore towards the second rimaye up an extremely steep snow-slope close to the left bank. After crossing this rimaye they climbed the long rocky island-spur which splits the couloir in its centre part into two parts. They made a difficult horizontal traverse across a steep ice-slope and then ascended near the right bank, making occasional use of iced rocks. Top of couloir 1.30 (slow time) whence the peak was gained easily (3 P.M.).

The second party crossed the first rimaye by the rocks of the right bank and then bore obliquely towards the E. end of the second rimaye, which they crossed and took to the rocks forming the right bank of the couloir. They kept to these until level with the top of the rocky dividing spur used by the first party. Here they resumed the snow and followed the same route as the first party.



H. D. WAUGH.
1853-1925.

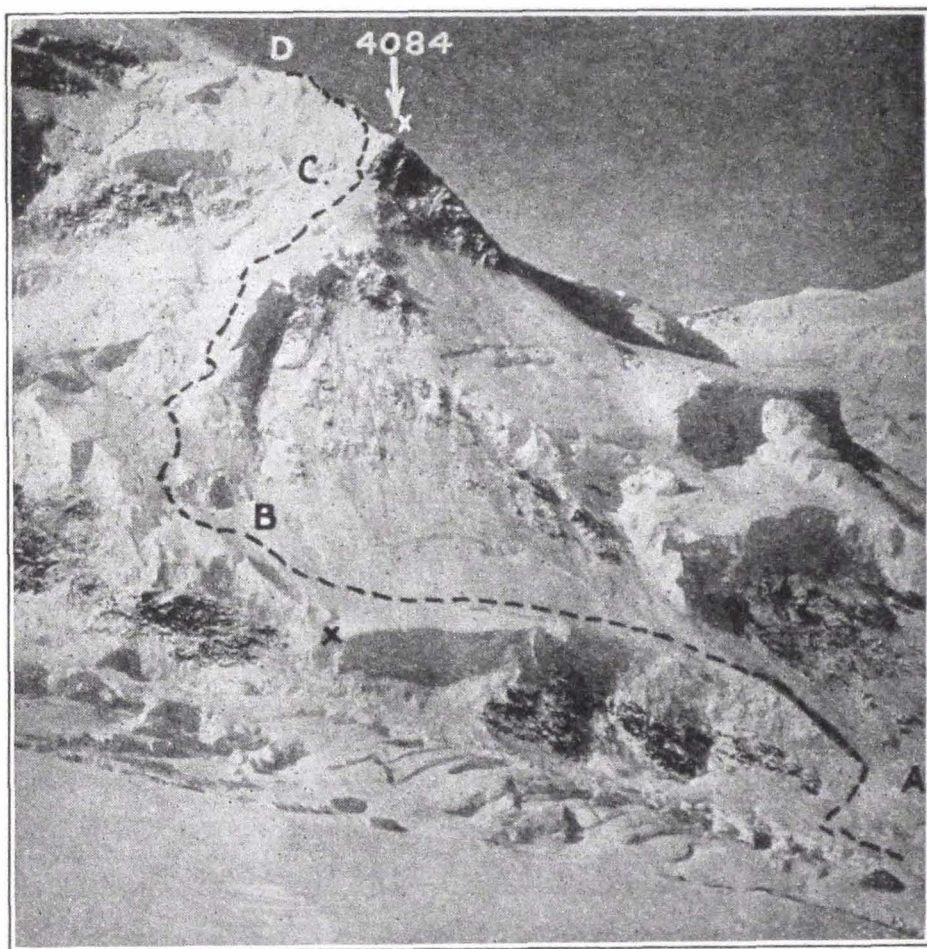
MM. Vernet gained 2 hours and their route is recommended by M. Lagarde as shorter and easier.

From *La Revue Alpine*, 1926, pp. 37-39, where M. Lagarde gives rather fuller details and a marked illustration. M. de Ségogne's very valuable monograph with several illustrations in *La Montagne*, No. 187 (Dec. 1925), should also be consulted.

Pennines.

LYSKAMM W. SUMMIT¹ (4478 m. = 14,688 ft.). August 13, 1925.
MM. B. Lendorff and M. C. Teves, both A.A.C.Z.

' We left the Bétemps hut at 2.45 A.M. and reached the ice-slope A



below the séracs at 4.30 A.M. With crampons at topmost speed in 5 minutes we ascended this ice-slope and reached the ice-band that, 100 m. above the Grenz glacier, leads to Point 3402 (marked X). Following this band, we reached the steep and broken glacier at B

¹ Cf. *A.J.* xxxiii. 429, with illustration.

that descends from the ridge between the Lyskamm W. summit and Point 4084. Over this glacier, first bearing to the E., afterwards more to the W., with much step-cutting, we reached the ice-slope leading to the ridge above Point 4084. As the rocks at C below Point 4084 were very loose and rotten, we preferred cutting about 400 steps on this ice-slope, which was covered with a thin layer of very bad snow. An ever-increasing storm also made progress very slow and forced us, as soon as we reached the easy snow-slopes at 4300 m. (D) at 10 A.M. to cross to the W. ridge leading to the Felikjoch.

'The average incline between Point 4084 and the Grenz glacier surpasses 50°. Bad weather and bad snow. We had to cross some very nasty *Schneebretter*, which cost us much time.'

Bernina (West Wing) Group.

PIZ CENGALO (3374 m. = 11,070 ft., *S. map*). By the S. ARÊTE. October 18, 1925. Count Aldo Bonacossa and Signor P. Orio.

[See in general, 'A.J.' xxxvii. 150-4 (*upper* photograph facing 143), where pessimistic remarks on S. arête should now be amended accordingly.]

From the Badile (Gianetti) Club Hut, skirt the base of Piz Cengalo's S. arête, over débris and snow, as far as the great slab, S.W. of that peak (1½ hrs.). By a fine climb scramble up to the small teeth which are taken direct. A broad and flowery ledge now appears on the W.; follow it for some 160 ft. and then mount up a slab about 90 ft. high. Next, by a slanting and *descending* traverse to the right, S., of some 10 ft. over a smooth slab—the most difficult place of the whole expedition—attain some cracks by means of which the crest of the arête is nearly attained. Another great ledge now leads N. to a gully; follow it, climb the gully by the very steep rocks of its N. bank and so arrive at a spot close to Point 3214 m. (*Lurani map*). The comparatively easy (S.)² arête is then followed to the summit (7 hrs.).

Rocks firm but generally difficult throughout. A very complicated route, the 'times' of which could now be reduced by some 3 hrs.

A. B.

VARIOUS EXPEDITIONS.

Le Dauphiné.

AILEFROIDE, CENTRAL SUMMIT (3925 m. = 12,878 ft.), BY THE N. ARÊTE. July 17, 1925. MM. J. Lagarde, H. de Ségogne, G. and J. Vernet.

² *A.J.* xxxvii. 151. Under route 2.

This is the first repetition of this route since it was first made in 1913 by Dr. Guido Mayer with Angelo Dibona of Cortina, as fully described in 'A.J.' xxvii. 437-439.

It was well worthy of the attention of these finished mountaineers of the G.H.M. The full details must be sought in :

(1) *La Montagne*, December 1925, 'Autour du Glacier Noir,' by M. Henry de Ségogne,¹ a masterly article with four illustrations including a marked route.

(2) *La Revue Alpine*, vol. xxvii. (1926) pp. 42-46, an article with a route-marked illustration by M. J. Lagarde, as careful a student of topography as he is a sound and enterprising mountaineer.

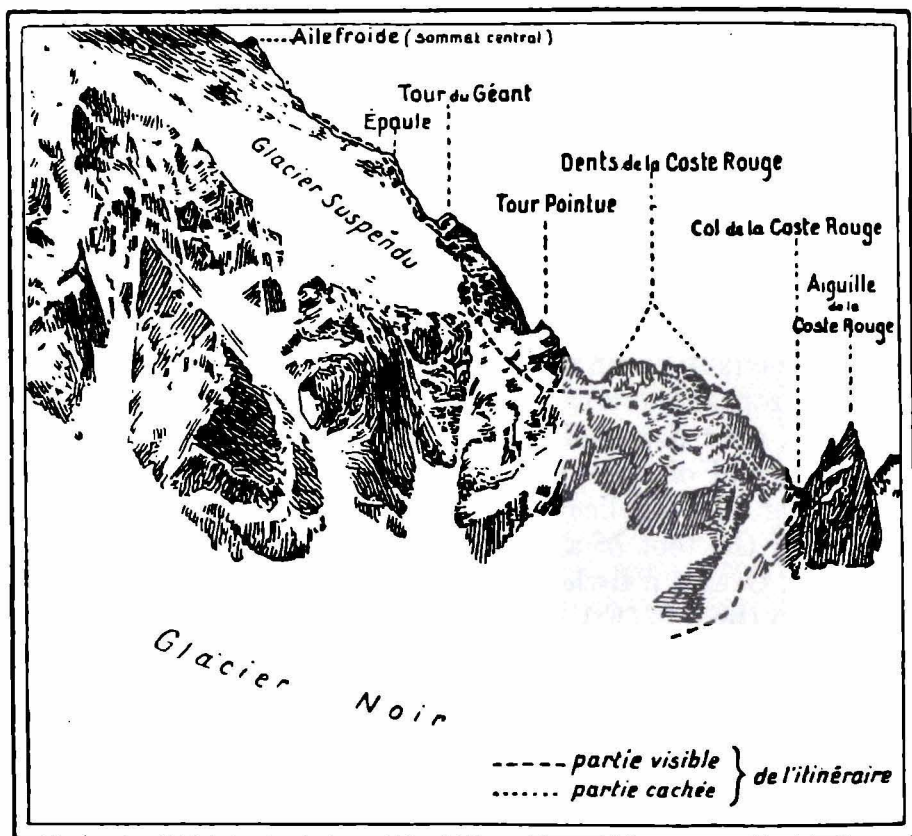
The party left the Refuge Cézanne at 11 P.M. on July 16 and followed the whole length of the Glacier Noir, gaining the Col de la Coste Rouge at 5 A.M.² They then traversed, ascending gently, on the W. side in doubtful rock but good holds. They then gained the arête at a little notch about the middle of the Dents de la Coste Rouge, which occur on a less inclined part of the arête. They descended about 10 m. on the other flank of this little notch and then made a horizontal traverse in easy but rotten rocks and turned the well-marked spur descending from the Tour Pointue. They then crossed the head of a deep couloir which descends from the arête to the Glacier Noir—delicate passage—ascending then a steep snow-slope toward the foot of a narrow couloir-chimney on the flank of the Tour du Géant, a little to the W. of the hanging glacier on the face away to the left (E.). The ascent of this couloir-chimney was rendered delicate by verglas and rounded holds. It is in parts probably vertical. The angle diminishes, and then succeed long slopes of snow and ice, cut by bands of rock, always on the Glacier Noir side, a little below the crest. These slopes were ascended, involving one difficult chimney full of verglas and with far apart holds, toward a shoulder or *épaule* which precedes the final escarpments. They regained the arête at this *épaule* and turned a gendarme on the W. side. At the foot of the final wall, by insouciance, the leader started to climb the face away to the left, but soon came on really extraordinary difficulties—greyish slabs with very rare, minute and rotten holds. The party retraced its steps, after vain attempts and much loss of time, and returned to the arête by which Mayer had ascended. They turned over to the Coste Rouge flank at the actual foot of the final wall by a *cheminée* blocked by an enormous quantity of snow and ice which led them to the foot of deep vertical chimneys of red rock with well-marked holds

¹ I cannot forbear reproducing the dedication: 'A Jacques de Lépiney, au fondateur du groupe de Haute Montagne du C.A.F., au grand serviteur de l'Alpinisme français, à mon maître et ami.' Such words bestow and reflect honour. J. P. F.

² Mayer on the first ascent bivouacked on the col, which is possibly best, although one would not be able to start very early.

and generally solid. They climbed these and gained the summit at 8 P.M.

Intending to descend by the ordinary way they followed for a few dozen metres the W. arête and then, descending a little on the S. face, bivouacked near the head of the supposed couloir of descent (the second great couloir to the W. coming from the central summit)



about 30 m. below the arête, not far from one of its most remarkable gendarmes. At 5 A.M. they descended this couloir until, about 50 m. above the glacier, it fell away in a vertical wall of smooth rocks. They then followed a sort of sloping *vire* to the E. This ended in a slab about 15 m. above the glacier, to which they roped down and returned to Ailefroide by the route described in Mr. Coolidge's guide, viz. by the left bank of the Ailefroide Glacier.¹

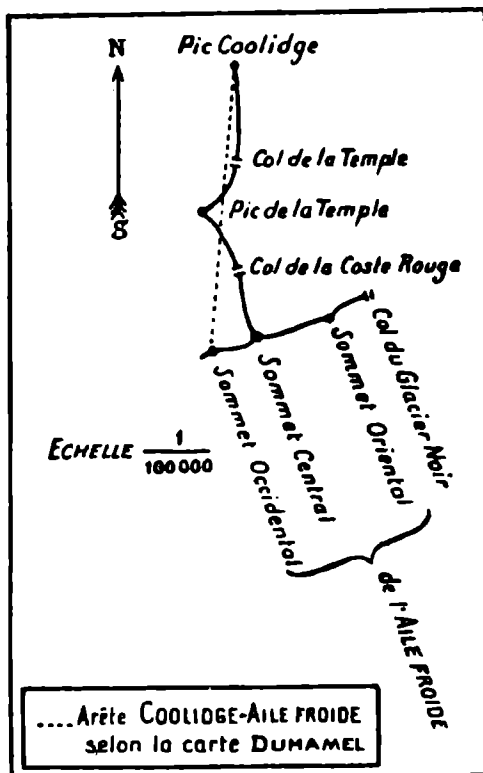
'An expedition of rare beauty. Few objective dangers. No very redoubtable difficulties for determined mountaineers.'

(Verbatim from M. Lagarde's article.²)

¹ Cf. sketch, *A.J.* xxvii. 439. Dr. Mayer was cut off from the left bank by 'savage icefalls' and got benighted in seeking another route.

² This ascent is of such importance that I have ventured to ask M. Lagarde's permission to reproduce his route-marked sketch, by

M. Lagarde points out, what is indeed confirmed by the photograph in 'A.J.' vol. xxvii. opposite p. 438, that the Carte Duhamel is in error in making the N. arête descend from the W. summit,



and he is good enough to allow us to copy his sketch, which makes the point quite clear—that the N. arête descends from the central summit.

Mont Blanc Group.

M. BLANC DE COURMAYEUR (4753 m. = 15,595 ft.), BY THE PEUTERET ARÊTE. July 27–29, 1925. Herren W. Welzenbach and Dr. W. Allwein.

Bivouac on left (orog.) bank of Brenva Glacier at about 2700 m. Left bivouac¹ at midnight. Crossed crevassed glacier to right bank (4·30–5·0)—extremely tiresome and time-wasting by lantern light.

Ascended steep glacier at foot of Dames Anglaises and crossed the terrace of the Aig. Blanche—constant exposure to stones—as well

the aid of which the description can be followed with ease. The honours seem to have fallen—well earned—to the G.H.M. these last three years at least.—J. P. F.

¹ It would have been much better to cross the glacier the same afternoon and bivouac at the foot of Dames Anglaises and thus avoid risk of stonefall next morning.

as a névé field with many stone furrows, to gain the N.E. arête of the Aig. B. The upper part of this arête was deep in snow and demanded delicate rock- and ice-work. Summit Aig. B. (4109 m.) 12.30 P.M. Left 1 P.M. The descent to the Col de Peuteret was tiresome and owing to the Peuteret avalanche¹ the last ice-slope to the Col demanded hours of step-cutting—Crossed bergschrund on doubled rope over a driven-in ice-piton 6 P.M.

July 29. Started 6 A.M. Ascended steep ice-slope on left of main arête and crossed at a suitable place to the rocks, then always on left of main arête to the top of the great corner bastion. The following bit of arête and the towers were all in deep snow and corniced. The névé arêtes before reaching the ice-wall were thickly covered with snow and corniced, and the new snow on hard névé and ice made going uncertain. The final wall was climbed, in approaching storm, up ill-defined ribs of névé and through a low cornice and the summit of M. B. de C. gained at 4.30 P.M. Mist and bad weather made the arête hard to follow to M. Blanc 5.30, Vallot hut 6.30. Detained here 30th and 31st, as mist, snow, and stormy weather defeated attempts to descend—August 1 left 5.30 A.M. Dôme hut 7.45–8.15. Courmayeur midday.

Jahresbericht A.A.V.M. xxxiii.

[In the conditions described this expedition put the greatest demands—splendidly fulfilled—on the powers and endurance of these brilliant young members of the University of Munich. In 1893 we were not troubled with any new snow and little with cornices. We had, however, constant step-cutting and a gale of wind, and took, from a bivouac at foot of Dames Anglaises to the summit of M. B. de C., 20 hours practically continuous going without change of leader.—J. P. F.]

COL DES CRISTAUX (3609 m. = 11,838 ft.). June 30, 1925. S. B. Van Noorden and P. W. Harris.

We left the Gallois hut at 3 A.M. in clear weather and gained the foot of the Col at 4. The Col has a ridge inclined at an easy angle running down into the glacier which makes it an easy way to the Couvercle hut.

We passed right round the foot of this ridge and attacked it on the left or S. side. We crossed three incipient bergschrunds and by easy snow-slopes and rocks reached the crest behind a strikingly sharp gendarme (4.15). Immediately ahead stand three rock towers which we passed on the left. The rock was good but in places difficult. Above lies an easy snow-ridge which abuts against a snow-slope. We found the condition of the slope very bad, due

¹ See illustration, *A.J.* vol. xxxv., opposite p. 113.

to recent snow. The slope gets steep at the top and ends in a face of rotten rocks which, although not difficult, needed great care. This landed us on the Col just below a small gendarme and some 500 ft. to the right of the Aiguille Mummery.

The descent to the Couvercle we found to consist chiefly of easy snow-slopes interspersed with snow-covered rocks.

P. W. H.

ALPINE NOTES.

THE ALPINE CLUB OBITUARY :	Date of Election
Wagner, H. 1869
Coolidge, W. A. B. 1870
Beachcroft, Sir R. Melvill 1871
Waugh, H. D. 1894
Spender, E. Harold 1896

‘BALL’S ALPINE GUIDE,’ THE WESTERN ALPS.—The edition (1898) by Mr. Coolidge covers the Maritimes, Graians, Dauphiné, Mt. Blanc group, and Pennines to the Simplon. With maps of each district, 1 : 250,000, and a general map. Price 10s., or 10s. 4d. post free. Obtainable from any bookseller or the Assistant Secretary.

‘BALL’S ALPINE GUIDE,’ THE CENTRAL ALPS. PART I.—The edition (1907), by Rev. A. A. Valentine-Richards, covers Switzerland and N. of the Rhone and the Rhine. With nine maps, 1 : 250,000, and a general map. Price 5s., or 5s. 4d. post free, or unbound 2s. 6d., or 2s. 10d. post free. Obtainable as above.

‘BALL’S ALPINE GUIDE,’ THE CENTRAL ALPS. PART II.—The edition (1917), by Rev. G. Broke, covers the Alpine regions S. and E. of the Rhone and Rhine as far as the Adige, *i.e.* the Lepontine, Grisons, Rhaetian (including Bernina), Ortler and Adamello groups. With nine maps, 1 : 250,000, and a general map. Price 5s., or 5s. 4d. post free, or unbound 2s. 6d., or 2s. 10d. post free. Obtainable as above.

MR. COOLIDGE’S edition of BALL’S ‘WESTERN ALPS’ is still the only complete guide to the country described, and, save as to the detail of inns and club huts, is as instructive and sufficient to the mountaineer—and to the climber with eyes—as when published, while the maps are admirable.

The volumes of the ‘Central Alps’ are, for the mountaineer, the best general guides to the districts described and contain the well-known Ravenstein maps.

'GUIDES DES ALPES VALAISANNES.'—

Vol. I. Col Ferret to Col de Collon, by M. Kurz, 10s.

Vol. II. Col de Collon to Col Théodule, by Dr. Dübi, 9s.

Vol. III. Col Théodule to Weisstor, by Dr. Dübi, 8s.

Vol. IV. Col Simplon to Furka, by M. Kurz, 8s.

At Stanford's, Long Acre, W.C. 2.

LES AIGUILLES DE CHAMONIX (GUIDE VALLOT).—Par J. de Lépiney, E. de Gigord and Dr. A. Migot, with 39 route-marked illustrations and 2 outline maps. Paris: Fischbacher, 33 rue de Seine. 1925. 20 fr., or from the Assistant Secretary, 23 Savile Row, 6s. post free.

This admirable Climbers' Guide is a complete monograph of the Aiguilles and may be said to be a much enlarged and more elaborate 'Kurz' or 'Mont Blanc Führer.'

A CLIMBER'S GUIDE TO THE ROCKY MOUNTAINS OF CANADA.—By Howard Palmer and J. Monroe Thorington, published for the American A.C. by the Knickerbocker Press, N.Y., 1921. This very useful summary, with several maps, of what has been done in the Rockies to 1921, can be obtained from the Assistant Secretary, 23 Savile Row, price 7s. 6d.

THE 'CLUBFÜHRER DURCH DIE BÜNDNERALPEN.'—Vol. IV., covering the Bregaglia and the Disgrazia group, by H. Rütter, with the assistance of Christian Klucker, can be obtained from Sauerländer and Co., Aarau, Switzerland.

LES ALPES DE SAVOIE.—Vol. VI., Part I., by Commandant Emile Gaillard, M.C. (Dardel, Chambéry, 27 fr. 50 post free), covering the groups Trélatête, Bionnassay-Goûter, M. Blanc, Brouillard-Peuteret, and Maudit-Tour Ronde, with skeleton maps of each group and several marked sketches, has just appeared. It follows generally the plan of the Kurz guide, and includes the full information of all recent climbs.

Part II., covering the groups of the Chamonix Aiguilles and the groups of the Grandes Jorasses and the Talèfre will appear very shortly and can be subscribed for at 22 fr. 50 post free from the Assistant Secretary.

The full series is as follows :

Vol. I. Le Massif entre l'Arc et l'Isère (new edition).

Part I. N. of Col de la Vanoise, 27 fr. 50 post free.

Part II. S. of Col de la Vanoise, 22 fr. 50 post free.

Vol. II. La frontière entre la Seigne et le Thabor, 22 fr. 50 post free.

- Vol. III. Les Massifs entre la Savoie et le Dauphiné, 24 fr. 50 post free.
- Vol. IV. Les Massifs de Beaufortin et Les Bauges, 27 fr. 50 post free.
- Vol. V. Les Massifs entre le Lac d'Annécý et le Léman (to appear in 1926).
- Vol. VI. Le Massif du M. Blanc.
Parts I. & II. as above.

The volume of Commandant Gaillard's 'Les Alpes du Dauphiné,' Part II., covering the Massifs of the Meije and Ecrins, is announced for 1926 and can be subscribed for later.

These guides have full sets of skeleton maps and many route-marked sketches, so that the French Alps are now very well off for guidebooks.

Commandant Gaillard will issue early in 1926 a new coloured map of the M. Blanc group, scale 1:50,000, with all the most recent nomenclature.

THE JOURNAL OF DE SAUSSURE covering his sojourn at Chamonix in July and August 1787, with an introduction and many notes on little known details by Commandant Gaillard and Mr. Henry F. Montagnier, and heliogravures, will be published very shortly, with the authorisation of the family. It shows his preoccupations and hopes and finally his unmixed joy at the success.

Subscriptions can be sent direct to Commandant Gaillard, M.C., Barberaz, Savoie, France. Edition de Luxe, 4to, 105 fr., ordinary 4to, 45 fr., post free.

LA SOCIÉTÉ DE GÉOGRAPHIE DE FRANCE has conferred on Commandant Gaillard, in recognition of his work on his series of Guides, *Le Prix William Huber* with a silver medal.

The distinction is well earned. His work has been done in a conscientious and able manner, comparable in every way with the Conway-Coolidge Climbers' Guides and other similar works, and those who have any experience of such work know full well the meticulous care and very considerable research such work demands.

LA TOUR CARRÉE DE ROCHE MÉANE (LE DAUPHINÉ).—A very useful monograph of this difficult climb by M. Pierre Dalloz of the G.H.M. appears in *La Revue Alpine*, 1926, pp. 19-27. It includes a photograph, a sketch of route, and a bibliography.

THE FIRST WINTER ASCENT OF THE ECRINS was made on February 21, 1926, by M. D. Armand-Delille. With Mlles. Barbier and Lambert he left the Refuge Caron at 4 A.M. on skis and ascended

to the rimaye on the N. face (4 hours). Leaving his companions he reached the summit on crampons by the right bank of the Whymper Couloir (3 hours). He descended by the N.W. arête to the Brèche Lory and by the N. face to the rimaye (2½ hours). Weather fine, with low temperature.

THE FIRST WINTER ASCENT OF THE PELVOUX was made on January 18, 1925, from the Refuge Lemercier by MM. D. Armand-Delille and J. Meyer. Raquettes were used.—*La Montagne*, November 1925.

THE FIRST WINTER ASCENT OF THE MEIJE was made on March 16, 1926, by MM. D. Armand-Delille and P. Dalloz. Summit reached 4.30 P.M. Long bivouac on descent near Pas du Chat; no colder than a summer bivouac. The head of the great couloir and the start up the Grande Muraille were difficult owing to verglas.

THE NEW REQUIN HUT (2516 m.) may be of use not only for the immediate peaks. From the foot of the Géant séracs one can ascend the Glacier des Périades, passing the icefall near the right bank. At the foot of W. face of Périades turn S., and almost immediately after passing a *rognon* of rock shown in the B.I.K. map you find, in the face on the left, a couloir leading without difficulty to the skyline of Périades slightly to S. of lowest gap in the crest. From this little col you can descend about 30 m. to the Mallet Glacier.

From here you can follow the N. arête of Mt. Mallet without great difficulty, though long, and thus gain the Rochefort arête. From the col between Mt. Mallet and the Rochefort arête one can descend to the Glacier de Leschaux; in normal snow the rimaye is crossed on the right side, but in 1925 it had to be turned on the left by a wide and steep ice-couloir descending nearly from top of Mt. Mallet to the plateau of the glacier. You descend in this couloir for about 100 m. and then turn to the right in the séracs and rejoin the bottom of the valley. You rejoin the left bank of the glacier near the Périades, and at the bottom, the moment you reach the ice, traverse to the right to rejoin the Leschaux Glacier.

From the above plateau of the Mallet Glacier (about 3400 m.) one can also ascend to the Col des Grandes Jorasses and even the Punta Margherita.—M. Victor Puiseux in *La Montagne*, 1925, p. 333.

AIGUILLE DES PÈLERINS (3318 m.).—The first ascent by the N.W. face and S.W. arête (Col de Peigne side) was made on July 29, 1925, by Armand Charlet, the well-known Argentière guide, and the first traverse—ascend by W.N.W. face, descent by S. face—on September 10, 1925, by Misses Y. and E. Carmichael with the same guide and his brother Georges.

Full particulars, with a marked sketch, will be found in *La Montagne* December 1925.

TRAVERSE OF GRÉPON FROM C. P.—M. Ferdinand Loicq, with Georges and Albert Simond. G. Simond led up the Knubel chimney without any artificial aid, entirely on his own. The Grand Gendarme, which has never been climbed without help from above, was, for the first time, *turned* on the Mer de Glace side by using a horizontal fissure which starts at the level of the bottom of the gap on the S. side of the Grand Gendarme and leads direct to the Râteau de Chèvre—very delicate and very exposed. To overcome the last step G. Simond accepted a rope from a party on the Râteau de Chèvre as a matter of prudence, but considers he could have dispensed with it. Thus an unassisted traverse can now be made.—*La Montagne*, December 1925, p. 335.

N. ARÊTE OF NORDEND.—Reverting to my note, vol. xxxvii. 391, Herr W. Welzenbach has kindly marked his route with dashes.



Franz Lochmatter writes that when his brother Josef and he made with Captain Ryan the first ascent in 1906, the line then followed was much the same, except that at the spot marked with a cross, he climbed the arête direct as shown by the dotted line. Franz repeated the ascent on July 31, 1923, with Mme. L. Kuhn and the porter Albert Fuchs of St. Nicolas, and with the object of finding an easier way he bore away to the right to outflank the lower step. He has dotted his route. He does not recommend this variation as easier and it is exposed at sunrise to stonefall. My good friend Paul Montandon at my request asked Mme. Kuhn for details. She reports that they left Bétemps about 2 A.M. and the Jägerjoch about 7. 'We then attacked the arête consisting of snow and rocks. At first it was not steep, but soon we reached the foot of the first great step in the arête which we turned

on the right over about 30 m. of slabby blocks. Then followed an almost vertical chimney 5 to 6 m. high: difficult, sloping holds. This brought us to the big wall about 100 m. high, consisting of tile-like slabs affording neither good foot- nor hand-hold. Above it one gains the arête, whence the next rock step is reached up slabby blocks and climbed by its arête; rocks loose and very exposed. Here the major difficulties end. One follows the arête over comfortable rocks, a sharp snow and ice arête, till one reaches, rather unexpectedly, the summit plateau of Nordend (about 1 P.M.). Descent to Silbersattel and by the ordinary way to Bétémps.'—F.'

MT. ARARAT.—Mr. Brant writes: 'I came across in a Foreign Office List of 1861 a mention of an ascent of Mt. Ararat made by Major (afterwards Colonel) A. J. Fraser in July 1856.¹ No report on the subject can be found. Fraser at that time was on the staff of Sir F. Williams and was proceeding along the N.E. frontier of Armenia with two staff officers who made the ascent with him. Fraser went to S. Africa on November 1, 1842, where he did distinguished service as an Assistant Staff-surgeon, subsequently acting in military and civil capacities in various parts of S. Africa. In 1855 during the Crimean War he served in Armenia with the Turks. In 1860 he served in Syria. Altogether he seems to have distinguished himself wherever employed.'

KAISERGEIRGE.—A full description of the ascent of the S.E. face of Fleischbank by Herr Roland Rossi, A.A.K., Innsbruck, referred to in 'A.J.' xxxvii. 392, will be found in the *Deutsche Alpenzeitung*, 1926, 1st Heft (with marked routes). This paper is admirably got up and the papers are first-rate. By the way, I am informed that the 'violent revolutionary song' (p. 283) is *meant sarcastic*!—J.P.F.

TATRA GROUP.—The Secretary of the Karpathenverein, founded 1873, Kesmark, Czechoslovakia (with many branches), is so good as to offer all information and to procure English-speaking guides.

SØNDMØRE DISTRICT (NORWAY).—By the volunteer labour of the men of Norangsdal, organised and led by Sivert Öie, with some pecuniary aid from a few Norsk and English frequenters of Öie, a small shelter hut is being built on the watershed in Habostaddal at 2500 ft. above sea-level. It ought to be ready at the end of June 1926. It will contain a paraffin stove and two or three camp-beds. A long-needed resting-place is thus provided on the passes between Öie and Brunstad, and Öie and Stranden. The hut will also be useful to climbers on Smörskredtind and Brekktind.

C. W. PATCHELL.

¹ Cf. *A.J.* xxxii. 10, where it is stated that the Rev. Charles Hudson made the ascent in 1856. Possibly he joined Major Fraser's party.

TURLO PASS.—Walkers from Macugnaga to Alagna by Turlo Pass are cautioned that the new path referred to in 'A.J.' xxxvii. 393, follows the Colle della Rottiglia track above la Piana in Val Quarazza.

Ling, Brown and myself, driven back from the Colle delle Loccie by rain, with the same information as on page 393, and with only a railway map of Northern Italy to go by,¹ were misled. We saw our error after we had passed the cowsheds about 1500 ft. above la Piana, and traversed across scree towards the Turlo, but in the mist we hit the Little Turlo [or Piccolo Altare], and found ourselves at Rima for the night.

The track up the Val Quarazza has been reconstructed as far as la Piana, and is good. In August last the reconstruction had reached to about 1000 ft. above la Piana, following the Rottiglia path. A nice footpath is being turned into a staircase having such large steps that it reminds one of the Great Pyramid, and is most tiring.

If the new path is going towards the Turlo it must eventually branch off from the Rottiglia path at the cowsheds already mentioned:

P. J. H. U.

PATH FROM HUTEGG IN SAAS VALLEY TO ST. NIKLAUS OR STALDEN VIA THE HANNIG ALP AND GRÄCHEN.—That there is a path from Hutegg over the northern end of the Balfrin range to the Zermatt valley appears to be well known to all climbers, but I had not come across anyone who had taken it. In the bad weather in August 1925 we thought it worth while trying, and this note is to advertise an exceedingly pleasant hill walk. We left Grund about 1 P.M. and, delaying for lunch on the roadside, reached Hutegg about 4—rather late for a walk entailing a rise of 2000 ft. Leaving a little before 5 we walked down the road a few hundred yards to where, very clearly marked, there bears off to the left a very good and rather steep path in excellent order zigzagging upwards over 1000 ft., the upper part through a pleasant wood. At first over open ground, it bears left towards some chalets, but 50 yards from these goes off to the right, a delightful route among trees in and out of a deeply cut ravine, then zigzags once more and loses itself, as the Siegfried map clearly shows, near the Tirbjen chalets. It is easy to pick up the continuation at the other side of an open space, and the well-marked track, mostly through woods and very attractive all the way,

¹ The Club published with vol. xxix, thanks to my good friends the Guglierminas, a splendid map of the district. It is amusing to find these very eminent mountaineers for once wandering, lost, mapless. My friend Brown's profession is to probe into the bowels of the earth: Unna's to look right through, to examine from every side, from above and from below, from far and near, every subject he illuminates: as to Ling, the ever youthful, when will he arrive at years of discretion?—F.

traverses under a line of cliffs, tending upwards all the while, and crossing another very fine ravine, until with a final zig-zag it runs out level with a glorious view of the Oberland. As it was about 7 P.M. when we reached the Hannig Alp (2-2½ hrs. walking from Hutégg) we consulted Baedeker for possible inns in the hamlets on the Zermatt side of the ridge. The first village of Grächen is credited with an inn, but an arrival there after a descent of ½ hr., mostly in a wood, we discovered that that particular inn is now a pension, but there is a small new inn called the Hannig Alp Hotel, and there are several large chalets, in one of which, perfectly new, we got beds, dining at the inn. The village is in a wonderful situation and well worth a visit; it lies on a shelf and has a magnificent view across the Rhone valley to the north, and an equally fine view, the other way, of the Weisshorn. The place is evidently well known to Swiss tourists, and anyone who wishes for a place where there are no big hotels could spend several pleasant days there, high above the Mattervisp. There is said to be some good rock climbing, and a visitor who appeared to know the place told us of a small peak which had only once been climbed!

Descending to Stalden by the track through Eggen, it is quite easy to miss the way soon after entering the great wood at the point 1698. The proper track descends almost as soon as Stalden comes into view. The route, though interesting and with fine woodland scenery, is rather too steep to be really pleasant. I do not think there are 50 yards of it right down to the bridge at Stalden which are not downhill and very steep.

W. M. ROBERTS.

CAMBRIDGE UNIVERSITY CLUB MEET.—The Club meet was held last year at Arolla from July 18 to July 26. In some ways it was a mistake to have chosen Arolla, as it offers much good rock but little snow or ice work; as it happened, the weather was bad so that snow peaks of any height would have been out of the question. The party was divided into three ropes, under S. B. Van Noorden, P. W. Harris, and L. R. Wager. We stayed at the Hôtel du Pigne, where the new management made us more than comfortable. As a training climb one party traversed the Petites Dents de Veisivi, while the others valiantly trudged knee-deep in soft snow round Mont Collon. On the second day one party traversed part of the Aiguilles Rouges, while another made an attempt on Mont Collon, defeated by bad weather. After two days of unsettled weather the meet got into its stride: the Douves Blanches and the Za were traversed by two parties, the Aiguilles Rouges completely traversed, and Mont Collon traversed by two parties. Bad weather again set in, and some of us were turned on the Perroc, some on the Bouquetins, and some on Mont Blanc de Seilon. At the end of the meet Wager led his party out of the head of the valley in the hopes of doing a high level to Courmayeur, while Van Noorden's party went by way of the face of the Za to Bricolla.

P. W. H.

LT.-COL. E. L. STRUTT gave a lecture on the 1924 attempt on Mt. Everest at the Académie des Arts, Brussels, on April 17. The lecture, which was under the auspices of the newly reconstituted Club Alpin Belge, was attended by 2000 persons and over 700 had to be turned away. His Majesty the King of the Belgians and H.R.H. Prince Léopold were present. At the conclusion of the lecture, which was listened to with the most remarkable attention, M. le Sénateur Lafontaine, Président du C.A.B., presented Colonel Strutt with the *Médaille d'Honneur* of the Club, stating that this was the first time that this medal had been awarded. His Majesty also privately presented the lecturer with the Belgian *Croix de Guerre* and *palme*, for which decoration Colonel Strutt had become eligible in 1916. Colonel Strutt was most hospitably and lavishly entertained throughout his stay in Brussels, among others, by M. le Sénateur H. Speyer, A.C.

Thanks very largely to the great interest displayed in it by the King, the C.A.B. appears to have taken on a new and most vigorous lease of life, and the Alpine Club wishes it every possible success and prosperity.

AWARDS TO LIEUTENANT-COLONEL E. F. NORTON, MAJOR KENNETH MASON, AND AFRAZ GUL.—The Royal Geographical Society announce that the King has approved the following awards :—

The FOUNDER'S MEDAL to Lieutenant-Colonel E. F. Norton, D.S.O., M.C., R.A., for his distinguished leadership of the Mount Everest Expedition, 1924, and his ascent to 28,100 ft.

The COUNCIL have awarded :—

The CUTHBERT PEEK GRANT to Major Kenneth Mason to assist his further exploration of the Himalaya.

The BACK GRANT to Afraz Gul for his surveys in Central Asia and Hunza.

MR. J. J. WITHERS, C.B.E., V.P. of the Club, has been returned, unopposed, M.P. for the University of Cambridge.

THE twenty-fifth anniversary of M. VICTOR DE CESSOLE'S Presidency of the Section Alpes Maritimes of the C.A.F. was celebrated by a great 'manifestation' on April 4, 1925, at Nice. The banquet was attended by Baron Gabet, Past President, and Commandant Regaud, President of the C.A.F., and many of his other friends.

Few men have done as much to introduce the younger generation to mountaineering ; no one has done more to relieve the distress among the poor and infirm in his own town ; and there can be no one who is held in more profound respect or who retains with greater reason the affectionate regard of his countless friends. Our Club is honoured in counting M. de Cessole among its Hon. Members.

WE much regret to note the death on January 24 of Sir W. H. WINTERBOTHAM at the age of 81. He was formerly a member of the Club, and his charming 'Travel Memories' in 'A.J.' xxxv. will not be forgotten. One of his sons was killed with 3 companions on the Grand Paradis in 1904.

THE veteran guide JEAN CHARLET-STRATON, best known for his conquest of Petit Dru, died at his home at La Roche-sur-Foron on December 10. His career was dealt with and his portrait given with the obituary notice of Mme. Charlet-Straton in 'A.J.' xxxii. He was in his day a fine and determined rock-climber and an all-round sound mountaineer. In his later years he was fond of attending Alpine Congresses, and was certain to find among the members a very sympathetic and respectful reception.

WE much regret to hear of the death of the well-known Courmeyer guide JOSEPH PETIGAX, aged 66. He was best known as chief guide to H.R.H. the Duke of the Abruzzi on his great expeditions to the Himalaya, Alaska, Central Africa and the N. Pole.

THE late R. v. TSCHARNER. Mr. M. C. Teves writes :

'It may be of interest to know that, by the desire of his father, Lendorff and I placed, on July 15 last, a bronze tablet on the S.E. arête of the Finsteraarhorn to v. Tscharner's memory. He was one of my best friends. The place was over 4000 m. on a steep red gendarme above the place of the accident.'

ZERMATT, April 9.—'We had beautiful weather for all the last month and so the mountains are in good condition. Last week were climbed Dent Blanche, Breithorn, Castor and Pollux, Monte Rosa, Rimpfischhorn, etc. for during Easter we had many tourists.'—*Adolf Aufdenblatten to Mr. E. G. Oliver.*

THE GLACIERS OF SAVOY.—An interesting article upon the glaciers of Savoy, by Dr. A. E. H. Tutton, appeared in *Nature* of March 27, 1926. He summarises a report of investigations carried out during the first twenty years of this century by the Commission Glaciaire de Savoie, which has been issued, under the title 'Études Glaciologiques,' by the Ministère de l'Agriculture, Département (Direction Générale) des Eaux et Forêts. The commission included M. Tairraz of Chamonix and the late M. Joseph Vallot. It is only practicable to notice a few particulars of more general character here; for further details reference should be made to Dr. Tutton's article, or the original document.

Between 1910 and 1920 the glaciers on the Savoy side of Mont Blanc have been advancing generally. The Gl. des Bossons was advancing between 1917 and 1920; and did so with a waddling motion, the greatest forward movement of the snout being some-

times on one side, sometimes on the other and sometimes at the centre. The rate of advance varied according to season. The following figures give the mean advance for each season during the four years: Spring, 11 m.; Summer, 5.2 m.; Autumn, 1.7 m.; and Winter 5.1 m. The greatest annual advance took place in 1917, and amounted to 51 m. The more rapid advance during the spring is accounted for by the additional pressure due to accretion of névé, unaccompanied by melting of the ice. The glaciers of the Tarantaise, and other parts of Savoy, advanced in a less pronounced manner, and in some instances were still retreating.

Measurements taken by M. Vallot to determine the thickness of the Mer de Glace, distributed over a wide area, have been confirmed by independent observations taken by the commission. The general thickness varies from 100 to 200 m.

Between 1910 and 1920 the volume of ice in the Gl. du Tour increased at the rate of $8\frac{1}{2}$ million cubic m. per annum. The corresponding figure for the Gl. d'Argentière and the Mer de Glace are from one to three million; while the latter showed a slight loss in 1920. The gain in the case of the Gl. des Bossons was from $\frac{3}{4}$ to $\frac{1}{2}$ million. Between 1912 and 1920 the total increase in the Gl. de Bionnassay was five million, and in the Gl. de Trélatête 17 million; the corresponding increase in the thickness of the ice being 17 and 6 m. respectively.

'ALPES VALAISANNES.' Vol. II., Collon to Théodule and III., Théodule to Simplon.—M. Marcel Kurz has undertaken new editions of these volumes on the same plan as his other Vols. I and IV.

Any corrections or additions (sketches are welcome) should be sent to him, St. Honoré 7, Neuchâtel, Switzerland, as soon as possible.

'GUIDE DE LA CHAÎNE DU MONT BLANC.'—By Louis Kurz. A third and carefully revised edition is being prepared by M. Marcel Kurz who will be grateful for any unpublished information. Address as above.

CLUB ACADÉMIQUE FRANÇAIS D'ALPINISME.—This is a newly formed guideless club, the moving spirits being the brothers Legrand, Dr. Roux, and M. Saint-Jacques. Their quarterly review, No. 1, contains a valuable monograph by Dr. Roux on Les Bans of the S. Summit of which Mr. Coolidge made the first ascent in 1878. We wish the new club every success.

OESTERREICHISCHE ALPENZEITUNG.—From the *Oesterreichische Alpenzeitung*, which under its present editor, Dr. Franz Rudovsky, has fully resumed its old position as the most authoritative Journal in the Eastern Alps, one gathers that the ambitious and valiant young mountaineers of Munich and the other University centres are paying great attention to the Wetterstein group. The November

issue contains notices of several new expeditions in the group, varying from 'sehr schwer' to 'äusserst schwierig,' as much as 10 hrs. being needed to climb the 1000 m. W. face of the Zugspitzeck. Herr W. Welzenbach, known for several first-rate expeditions in the Western Alps, appears also to be the leader of many of these climbs.

The April issue contains a perfectly charming confession by Ernst von Siemens of his boyhood's conceptions of mountain climbing, and of his introduction to it when a student at Munich. He was told on his first fairly difficult climb to ask for the rope when he wanted it! For his second climb he was beguiled by a comrade on to the 'Dülferweg' up the W. face of Predigtstuhl in the Kaisergebirge. His experiences are narrated with an exquisite humour that I do not remember to have seen equalled. He goes on to relate his ascent by himself of the difficult Geschweistenkamin in the famous Totenkirchl. But underlying it all one feels the stern discipline to which these young schools of mountaineers submit themselves so enthusiastically. It makes men!

Among guides in the E. Alps, there seems to be a new light, one Emil Solleder, who led the first ascent of the N.W. wall of the Civetta, 15 hrs. for 1100 m. He must needs be good to lead these exacting young enthusiasts!

M. JACQUES DE LÉPINEY finds fresh mountains to conquer at his new post in the Forestry Department in Morocco. *La Montagne* for October 1925 relates his first ascent of Djebel Angour (3617 m.) in the Great Atlas on July 12 to 14, 1925. No great difficulties seem to have been encountered. The view is described as magnificent, to the N. over the Marrakech plain and to the S. and W. ranges of mountains. Splendid pastures were found at an altitude of 10,000 ft.

It is understood that M. de Lépiney will spend his summer leave in the Mont Blanc group.

LA VALLÉE D'ENTRE-LES-AIGUES (DAUPHINÉ).—One of the chalets at the village (1610 m.) has been purchased by the C.A.F. and fitted up as a hut. This valley which debouches at Vallouise is well worth a visit. A good expedition is to traverse Les Bans. M. Camille Blanchard has written in *La Montagne* for April 1926 a careful monograph of the ridges bounding the valley, and has added a valuable skeleton map 1.50,000. Mr. Coolidge's article on the same valley in *La Revue Alpine* 1904 will not be forgotten.

The Editor of *La Montagne* adds great value to the Journal he so ably conducts by the inclusion of monographs like the one now referred to, and M. de Lépiney's 'Aiguilles Rouges,' Col. Godefroy's 'Sirac,' and others.

THE REFUGE ERNEST CARON (3169 m.) on the S. spur of the Roche Paillon, which lies on the N.W. wall of the Glacier Blanc, was burnt

down in 1921, but was rebuilt in 1922. It is intended to house 20 people. The principal expeditions are the Ecrins N. face, the Pic de Neige Cordier, and the Roche Faurio. It is about $5\frac{1}{2}$ hrs. from the Chalet de l'Alpe by the Col Emile Pic or the Col du Glacier Blanc and 8 hrs. from La Bérarde by the Col des Ecrins. It makes a good centre for several days among splendid glacier scenery.—*La Montagne*, November 1922.

THE REFUGE DU FOND TURBAT (2175 m.) in the Valjouffrey, built by the Isère section of C.A.F. in 1922, lies about $3\frac{1}{2}$ hrs. above Le Désert, right in front of the magnificent W. precipice of Pic d'Olan. It is well worth the detour if bound for the Valgaudemar, as the Col Turbat is easily reached in 2 hrs. It should be noted that the *direct* ascent from this side of Pic d'Olan referred to in 'A.J.' xxxiv. 164, notwithstanding the attempts mentioned in *La Montagne* 1922, p. 266, yet remains to be done. M. Guiton, the well-known French mountaineer, as mentioned above, reached the Lavey arête at the N. foot of the Peak, the summit of which he gained in a further 2 hrs. Reference should be made to M. Piaget's photograph in *La Montagne* 1922, p. 240, and to M. Guiton's note and sketch on p. 267, for full particulars.

REFUGE DU SÉLÉ IN THE DAUPHINÉ.—Wooden hut on the N. side of the Sélé Glacier at *ca.* 2780 m., close to the foot of the long buttress which descends from the E. Ailefroide summit. Time: 5 hours from chalets d'Ailefroide; $7\frac{1}{4}$ hours from La Bérarde; $9\frac{1}{2}$ hours from the X. Blanc hut in Val Gaudemar by the Cols de Gioberney and du Sélé. Water in a little ravine about 100 m. to E.; twelve mattresses; no wood. It serves for many near summits, including the three Ailefroides, from the S. One could in three days ascend the Ailefroide, the Pelvoux, and Les Bans. *Cf. La Montagne*, May 1925, for a detailed paper by M. C. Blanchard.

REFUGE DE LA PILATTE.—Wooden hut on left bank of Pilatte Glacier at *ca.* 2400 m., at foot of Mt. Gioberney. Time: $3\frac{1}{2}$ hours from La Bérarde by good path. Water to left of path a few minutes below hut; twenty sleeping places; no wood. The principal expedition is Les Bans, either by the Col de la Pilatte and the E. face or the Santi arête and Valgaudemar face. This face can also be reached from the hut by a traverse from the Col de Gioberney. Mt. Gioberney itself, a splendid belvedere, can be reached in about $2\frac{1}{2}$ hours either by the Col de Gioberney, the Col du Says, or the S.E. face. Various cols can be taken to the Ailefroide Valley, the Val d'Entraigues, and the Valgaudemar. *Cf. La Montagne*, March 1926, for a detailed paper by M. D. Chalonge.

A HUT at the foot of the *Colle delle Loccie* $2\frac{1}{2}$ hours above Macugnaga was opened by a Milan Society in July last. Bunks excellent. Cooking arrangements indifferent. No catering.

A NEW S.A.C. hut, to hold 60, has been built above Saas-Grund at 2730 m. at the foot of Weissmies.

A NEW hut has been erected on the Mittellegi arête near the great gendarme, presumably to serve for the ascent of the Eiger. Mr. Yuko Maki subscribed 10,000 fr. and Mr. Hasler gave considerable financial assistance. The Grindelwald guides subscribed either in cash or services. The general superintendent was Fritz Amatter, Mr. Maki's leader on the first ascent. The great arête will need much 'improvement' before it becomes a regular course, but the traverse from Alpighlen to the Kalli will also be an interesting expedition. On July 20, 1925, Dr. Kehl of Berlin with Amatter, Fritz Suter, and Adolf Rubi (porter) left the Jungfrauoch late, and ascended the Eiger *via* the Mönchjoch and Eigerjoch; they descended the Mittellegi arête and reached the hut late on the 21st.

ITALIAN SHELTERS.—The C.A.I. propose to install low wooden shelters about 7 feet 6 inches by 6 feet 6 inches by 4 feet high, with semi-circular zinc roof, five thick coverlets, a stove, lantern, etc., on (1) Col d'Estellette, (2) Glacier de Frébouzie, (3) Tête de la Roêse, Valpelline, (4) Col Signal, M. Rosa. They would be quite all right for three men or any emergency.

THE BIETSCHHORN and ENGELHORN HUTS.—The A.A.K. Berne, proprietor of these huts, through its President, Mr. Walter Amstutz, has had the courtesy to intimate that members of the A.C. are accorded the same rights in these huts as members of the S.A.C. The other members of Committee of the A.A.K. Berne are MM. Oesterle, Bürgi, v. Schuhmacher, and Dr. Chervet.

THE GAMBA HUT has been moved about 500 yds. to the Brouillard side of the ridge descending from the Innominata. It is hidden by the ridge until one is close upon it. The path to the hut, mentioned by Kurz, on the Brouillard side of the Aiguille du Châtelet is now hard to find. There are no traces and the way over the glaciated rocks is lost.—*A.M.C.-S.* 1925.

THE ARGENTIÈRE HUT has been moved down from the Jardin on to the big lateral moraine below. It has been rebuilt of stone. The interior is still dirty.—*H.R.C.C.* 1925.

THE TRIOLET HUT has no blankets and only a damaged stove, but appears to be structurally sound.—*A.M.C.-S.* 1925.

'THERE is a very good and cheap small inn in the VAL DE RHÊMES in the village next below ($\frac{1}{3}$ mile) Notre Dame de Rhêmes.' (Ball says stop at the curé's.)—*A.C.P.* 1925.

A HUT is projected near the edge of the Vallon de la Pilatte Glacier on the rocks of S.W. Ridge of Pic Coolidge. This will be very useful for the Ecrins.

CANADIAN AND AMERICAN NOTES.

MR. ALLEN CARPE writes in reference to his paper, 'Climbs in the Cariboo Mountains,' in 'A.J.' xxxvii. :

'I am informed that the "Mt. David Thompson," referred to in my paper on the Cariboo mountains last season, was climbed during July of this year by Mr. and Mrs. Munday, of Vancouver. Mr. Munday reports seeing a large snowfield S. and W. of the mountain, from which the North Thompson river is said to head instead of from the valley immediately N. of the mountain as indicated on the sketch map in my paper. There has always been a report among local trappers of an immense glacier at the head of the Thompson, and I was told once that Prof. Holway had a photograph of it, which he obtained from someone in 1916 or 1917. The observation by Mr. Munday is therefore very interesting, and my sketch map would apparently require revision and extension in this particular.'

Mr. Howard Palmer was elected on January 9 President of the American Alpine Club.

The new Hon. Secretary of the same Club is Mr. H. B. de Villiers-Schwab, already well known to us as Hon. Secretary of the Association of American Members of the Alpine Club and as the leader of the guideless party which made in 1922 the first ascent of Mt. Clemenceau.

It is very gratifying to learn that four members of the Committee are also members of our Club.

The Appalachian Mountain Club celebrates its jubilee this year and certainly shows no diminution of energy. The President is Mr. George A. Rust, and it is interesting to note that our Hon. Member Professor C. E. Fay has filled the same office in 1878, 1881, 1893 and 1905. The recording secretary and editor of the admirable journal is Mr. W. P. Dickey. Weekly meetings are generally held and all sorts of joint outings arranged, such as to the Blue Ridge Mountains, Virginia, the Saguenay River, canoeing in Newfoundland and elsewhere. The Club owns a number of club-huts, several large camps, many shelters, mostly in the White Mountains, and maintains an extensive system of trails. Capt. A. H. MacCarthy has just been awarded the well-merited distinction of Hon. Membership, which already includes Messrs. Freshfield, Collie, Bruce, Conway, Longstaff, Montagnier, and Farrar.

Mr. Geoffrey Young paid a visit to the States last autumn and was entertained at lunch in New York by the Association of American Members of the Alpine Club. Present: Messrs. William Williams

(in the Chair), Howard Palmer, Allen Carpe, De Villiers-Schwab, Read, H. S. Hall, Lindley, Nicholls, J. Hall, Seaver, and Judge Puttenham.

Mount Logan Expedition. Captain MacCarthy stated at the Annual Meeting of the Alpine Club of Canada, held on August 5, that Mr. Henry S. Hall, jun., could perfectly well have completed the ascent but stood aside in order to accompany his friend, Mr. R. Morgan, who was so incapacitated by frostbite as to be unable to ascend or descend without assistance.

REVIEWS.

Petra : Its History and Monuments. By Sir Alexander Kennedy. 'Country Life.' 1925. £4 4s.

THE subject of Sir Alexander Kennedy's important and weighty volume may not at first sight seem to have much connection with the interests of our Club and this JOURNAL. Yet its title, 'Petra,' should suffice to suggest a link. Mountaineering has in the past found itself associated with very diverse branches of knowledge—with geology, botany, meteorology, history. Why should it not come to the help of archæology? The Club has of late years shown a marked tendency to specialize in rock-climbing, and it is made clear in these pages not only that Petra deserves its name, but that its remains cannot be adequately explored except by practised cragsmen. Sir A. Kennedy tells us of 'rough climbs—inaccessible summits—a distinctly *mauvais pas*, where much agility is called for.' And these expressions are fully borne out by many of the over-two-hundred photographs to which the text forms an appropriate and illuminating complement.

The site of Petra was marked out by nature for human habitation. Situated on the edge of the desert and at the crossing of two avenues of commerce it combines a relatively abundant water supply with ranges of honeycombed cliffs offering rude shelter in caves in the walls of the narrow wadis or clefts that pierce the sandstone masses. Here, as elsewhere, a primitive race found in prehistoric times homes in the natural hollows of the rocks and added others of their own making. To what extent these caves may have been used as dwelling-places seems obscure. It is beyond question that for many centuries they served principally as tombs, or chambers for funeral or ceremonial feasts, and as places of worship. From an early date the external rock-faces were smoothed and more or less elaborately decorated with architectural features.

A peculiarity of the Petra remains is that the ordinary dwelling-houses of its inhabitants, what we may call the commercial and residential quarters, have disappeared. Of the temples and colon-

nades of the Roman period little remains but a theatre, the foundations of a temple, and the fragments of an arch. Whatever was not dug out of the solid rock the destroyer has razed to the ground. It is the more regrettable, for it would have been interesting to compare the domestic architecture of Petra in the time of the Antonines with that of the Roman towns in the Hauran of a similar date.

Any popular knowledge of the history of Petra has been hindered in this country by the circumstance that many of its early visitors were zealots who looked on its desolation as an example of the fulfilment of the Old Testament prophecy. To these egregious divines it did not seem any flaw in the argument that the destruction of the town took place after several centuries of Roman occupation and a thousand years at least after the alleged misdoings of the Edomites.

Several German professors, to whom Sir. A. Kennedy does full justice, have of late years examined the ruins more thoroughly and in a more intelligent spirit. But their works are rare and not easily obtainable in this country. The object of the volume before us is to carry on their investigations and to furnish English readers with an accessible account of the ruins as a whole and a survey of the natural features of the surrounding district made by the aid of an aeroplane survey and numerous photographs.

Most English readers have formed their impressions of Petra on the striking lithographs of its classical monuments in David Roberts's 'Sketches in the Holy Land and Syria' (1842). Sir A. Kennedy emphasizes the main fact that these monuments, which exhibit the familiar and graceful features of Greek and late Greco-Roman architecture, form but a small percentage—about one in twenty-five—of the whole. They represent only the latter period of the town's prosperity (300 B.C. to *circa* A.D. 300).

Long before the influence of Europe had made itself even indirectly felt in this remote Arabian borderland, Petra was included in a Nabathean kingdom and served both as a door between Assyria and Egypt and as one of the gateways to the wealth of the East. But as to who the Nabatheans—the successors of the erring Edomites—were; what were their gods and religious rites, their customs and traditions?—the learned can give us no definite answer. They appear to have made use of numerous 'high places' or altars of sacrifice, probably from their number mostly domestic shrines; they set up square stones as symbols of a god, who may have been the Sungod; they hewed out of the rocks monumental blocks of stone. But their unique contribution to architecture lay in the elaboration of the façades that line the sides of the wadis; natural clefts deeper and narrower than even the lanes of the business quarter of New York! The earlier fronts show traces of Assyrian or Egyptian Art. In some, perhaps the earliest of all, we find rectilinear designs and double cornices that recall those of Egyptian monuments: others exhibit the crow-step gables and friezes of

Assyria. In the long series of photographs we are able to watch the evolution from the plain mouldings and pilasters of the simpler type to the more ornate surface of the monuments of Nabathean date—prior to 300 B.C. Then gradually the external influences change, new ideas filter in from Greece; Rome, the decadent Rome of the later Empire, sets its stamp on the builders', or rather on the quarriers', work. They cut deep and boldly into the natural cliff and hew out elegant façades and pagodas such as might appear on a Pompeian fresco. There is one monument, here called an 'Urn' and figured in Photograph 126, which suggests more remote associations. It is a stone object, in shape apparently an exact facsimile of a Tibetan Chorten. The text furnishes no explanation of this strange intruder. Is it possible that some Buddhist trader may have settled and died at Petra and been commemorated after the fashion of his far-off home?

Sir A. Kennedy and his associates, Mr. Philby and Mr. Mumm, have rendered an important service to geographers and archæologists. By the aid of aeroplanes lent, at Sir A. Kennedy's cost, by the Government of Palestine Survey, they have mapped for the first time the intricate labyrinth of rocks and ravines in the centre of which Petra lies hidden. They have illustrated its monuments by an admirable series of excellent photographs—which are reproduced by the permanent process of photogravure—and they have done their best to explain and classify them. Something more is left to be accomplished. At the end of their labours the party discovered, from the air, a fresh wadi which they had not time to investigate. It is clear from their narrative that to complete the exploration of Petra will call for the qualities of accomplished cl'mbers. We trust that some in other respects competent members of our Club may be tempted to take up the task.

They will do well to carry with them the *Geographical Journal* (Vol. lxiii, No. 4) containing the paper read by Sir A. Kennedy before the Royal Geographical Society and the subsequent discussion. They will find there much useful information, and some general remarks and conclusions that are not contained in the larger work.

We note with great satisfaction from the Preface that 'in July last the Ma'an Province (including Petra itself) was annexed by the British Government to the territory subject to the Palestine Mandate.' This step should serve to remove many of the restrictions that have hitherto delayed or impeded the work of the investigator or excavator.

D. W. F.

The Mountains of Youth. By Arnold Lunn. Oxford University Press, 1925. Price 10s. 6d.

I AM afraid of overdoing it in praise of this book lest I should provoke the reader to impatience rather than excite in him a desire to read it, yet the fact is that I know of no book on mountains

on the whole so well written, and containing so many passages of admirable prose vividly descriptive and with a choice and command of words of singular aptitude. It tells many a story of climbing and ski-ing and conveys the reader through beautiful regions, and always in a fitting mood. Those of us who made early acquaintanee with the Alps in childhood, and who fell immediately under their charm, will revive (as they read) the hours of undefined romance which are amongst the most delightful memories lasting through life. For Mr. Lunn is not merely an excellent climber with a now perhaps unrivalled knowledge of the broad regions of Central European mountains, but he sees glacier and peak with an imaginative vision, and always behind the thing seen for him is the vaguely felt spirit of beauty of which we get transient visions, but which we can never capture.

In this book we are not merely told the story of certain special climbs, but we are led through all the seasons of the year in the mountains. We see the snow melting in the spring, and the flowers pushing forth along its retreating edge. We see the full glory of summer, the fading of the year, and the short days and long, moonlight nights of winter when the snow-mantle enshrouds hills and vales alike.

Mr. Lunn has proved himself a keen and efficient rock climber, but it will be plain to every reader of this book that ski-ing is really his passion, or rather ski-ing in combination with climbing. For him the finest time of the year are the months of May and June, when there is still plenty of snow on the higher levels; when the days are long and great distances can be traversed among the névés and glaciers; when the ascent of some peak or passage of some pass can be combined with great sweeping traverses over snow. He is, in fact, the apostle of ski-climbing, and he writes with such enthusiasm and knowledge that it is impossible not to tremble with envy as one reads of the beautiful expeditions it has been his good fortune to make.

The book is illustrated with admirable plates, faultlessly reproduced and printed. I make no attempt to abstract the contents of this work, or to cite passages from it. It is a book to be taken up and laid down rather than read straight through. Thus its little gems of descriptive sentences, which bring a whole scene before the mind's eye, can be appreciated and returned to. Though I read the whole book through without missing a word, and enjoyed it heartily, I have found yet greater pleasure in returning to it and reading at random here and there than I even experienced at the first survey. 'The Mountains of Youth,' if it attains its deserts, ought to take high rank among the best books ever written about mountaineering.

MARTIN CONWAY.

Appalachia, Vol. XVI., No. 3: Fiftieth Anniversary Number.

THIS volume of *Appalachia* is unusually rich in articles of Alpine interest. The place of honour is given to a short account by Mr. H. S. Hall, junior, one of our own members, of the Mount Logan expedition. Mr. Hall was not one of the six who reached the summit, and his narrative will, no doubt, be superseded by a full record; but it gives a vivid impression of the appalling character of the weather conditions with which the party had to do battle. He passes very lightly over his own return (after reaching 18,700 ft.) in charge of a frost-bitten comrade, but it must have been a formidable experience. Of this, too, we shall no doubt hear more details later.

Of no less interest is a paper by another of our members, Mr. Howard Palmer (we take this opportunity of congratulating him warmly on his election to the Presidency of the American A.C.), on his visit to the Columbia region and to the Fortress Lake in 1920. We welcome this record of a memorable trip, of which the outstanding feature was the first ascent of Mount Serenity. Mr. Palmer's return to 'ancient history' needs no justification.

The most noteworthy of the minor items are a note on Mt. Alberta, an account of an ascent, presumably the first, of Mt. Katahdin, or Ktaddn, the highest peak in Maine, as far back as 1838, and a paper on North-Western Newfoundland. Gros Morne, the second highest peak in Newfoundland, is about 2500 ft. high. We are not told the height of the highest peak, but near Gros Morne are 'other bold peaks with apparently fine possibilities for exciting rock-climbing in their huge chimneys'; the region offers much to the botanist, the fisherman, and the mountaineer, and 'a small party, ready to rough it, and looking for new mountains to conquer and bold cliffs to scale, could hardly do better than seek this imperfectly appreciated corner of the oldest of British colonies.' The paper on the Grand Teton is tantalisingly brief, and leaves unanswered the problem with regard to its first ascent, which was presented some years ago to readers of the *ALPINE JOURNAL*.¹

This is a 'Fiftieth Anniversary Number,' and much of it is naturally taken up with retrospective summaries of the various activities of the Appalachian Mountain Club since its foundation. Among these are two papers of great historical value which

¹ *A.J.* xix. 536, 559.

together form an almost exhaustive review of mountaineering in Canada. We say 'almost,' because Mr. Bent, who takes the story down to 1906, the year in which the Alpine Club of Canada was founded, confines himself to the doings of early Appalachian climbers, and so passes over the great expedition of Dr. Collie's party in 1898. From 1906 onward Professor Hickson carries on the tale to 1925, and practically covers the whole ground during this period. His summary, packed with information, and at the same time lucid and readable, is a model of its kind.

Vers l'Idéal par la Montagne. Par Myrtil Schwartz. Illustrations de P.-F. Namur. Rey, Grenoble. 20 francs.

M. MYRTIL SCHWARTZ, the author of the work before us, is a native of Strasbourg who has spent several summers in climbing in the Pennine Alps, often accompanied by his wife. His title may possibly mislead some intending readers. For his volume is in the main a picturesque and vivid description of his various climbs rather than another description of the influence of mountains on their worshippers. His tale is told at some length; its moral pointed with comparative brevity.

M. Schwartz's favourite haunts have been Saas-Fee and Arolla, and among his principal climbs were Mont Blanc, Monte Rosa, the Matterhorn, the Strahlhorn, Rimpfischhorn, Portiengrat and Mont Collon; the last by the worst possible route, one which Marcel Kurz, in his 'Guide des Alpes Valaisannes,' describes as 'not to be recommended.' Since the ascent occupied seventeen hours, included a highly dangerous rock climb, and ended in a slope of hard ice some 600 feet high and at an angle of 60° to 65° (?), this warning can hardly be held superfluous.

It is a little perplexing to find the hero of so desperate an adventure as that just mentioned writing in his first chapter with exaggerated respect of the ordinary way up Monte Rosa. No one surely but a novice would describe it as an *escalade audacieuse*, or confess to having felt a wish to traverse the arête on all fours. May we venture to trace, in M. Schwartz's pages, a Climber's Progress in an upward direction, and assume Monte Rosa to have been his first venture above the snow-line?

Taken as a whole, however, M. Schwartz tells the story of his climbs lightly and pleasantly, and with a vividness—particularly in the case of the Matterhorn—that brings their characteristic features forcibly before his readers' eyes. They are invited to share his hours of enjoyment as fully as his struggles and perils. It is, perhaps, a pity that he has interrupted his narrative by fairly full summaries of the stories of Mont Blanc and the Matterhorn, and the catastrophes connected with them, annals in part controversial and by this time familiar to most students of Alpine literature.

Further digressions are two chapters devoted to a sketch of

Granada and an itinerary for the Sierra Nevada—a region where the tourist has not yet penetrated—and a spirited account of an ascent of Popocatepetl, one of the great volcanoes which give character to the landscape of Mexico.

When we come to his final chapter we find M. Schwartz at pains to justify his title and to explain the purpose that has inspired the preceding pages. He is convinced, he tells us, that mountaineering is the noblest form of sport, since it is a struggle against the forces of inanimate nature and one that involves neither the defeat of rivals, nor death or suffering to the lower orders of creation. In it he finds a discipline for the body and a means by which men may gain both nervous and moral self-control. He feels further assured that, by bringing its votaries into close contact with nature in her noblest manifestations, mountaineering assists in developing in them a religious emotion and in raising them above daily cares to a sense of the meaning of the universe. In short, he endorses the verdict of the old Swiss scholar who, in the thirteenth century, cut on the crags of the Stockhorn the words :

‘Ο τῶν ὄρων ἔρος ἄριστος

‘The love of mountains is best.’

Englishmen are commonly held abroad to lack either emotional feeling, or the power of expressing it. It may be that their feelings lie less near the surface than those of their Latin neighbours. We may, however, remember that no one has expressed more eloquently than Leslie Stephen—not even Pope Pius XI.—how for some of us the Alps may serve as sanctuaries and even take the place of cathedrals. But, whatever the popular sentiment of the time, there will, doubtless, always be individuals to whom mountain scenery makes no appeal, who refuse to look on the great peaks, or to treat them, as anything but a gymnasium. M. Schwartz holds that there are too many among his countrymen who take this point of view and he is bent on converting them. We wish him all success in his mission. The circumstances are favourable. For the Great War has had at least this good result. It has promoted and hastened the popularization of the French Alps. It has made the fortune of, and, some may think, ruined, Chamonix !

M. Schwartz's volume is furnished with some good photographs and a number of vigorous, but to our taste hideous, black and white drawings of peaks and climbing incidents. On railroad posters, inkblots may effectively represent snowpeaks ; as book illustrations their violence seems out of place.

Hoch über Tälern und Menschen. Im Banne der Bernina. Von Walther Flaig. 27.50 Swiss francs.

THIS volume consists of a series of lively chapters describing with youthful exuberance the adventures of a party of young Germans, including a lady, among the peaks and glaciers of the Bernina

range. They enjoyed themselves, and have done their best to convey a share of their enjoyment and high spirits to fellow-climbers of their own nationality. To visitors to the Engadine generally the main attraction of the volume lies in the series of excellent photographs by which it is illustrated. The crocus meadows of the Fex Tal in spring, or a group of marmots, lend variety to a number (84) of admirable pictures of the snow world, of arêtes and icefalls. Views taken from the air give a new aspect of the Roseg and Morteratsch basins and summits. Special praise is due to the management of atmospheric effects and the extraordinary clearness of definition obtained in the distant ranges, even as far as Monte Rosa.

Julius Payer's Bergfahrten. By Wilhelm Lehner (with twenty-one Illustrations). G. J. Manz, Regensburg. 8 marks.

PAYER was a contemporary of Tuckett and Freshfield in the 'sixties, and showed himself, under difficult conditions, a great explorer and topographer. It is a good idea of Mr. Lehner, best known as the author of the 'Eroberung der Alpen,' a work of great merit and historical value, which must have cost him an infinity of research, and will remain long the standard book of reference, to have devoted his attention to an edition of Payer's Alpine writings. He has included a number of sketches and drawings by Payer, which show him to have been no mean draughtsman.

Payer was born in 1841, went through the 1866 campaign in Italy, and was then attached to the Topographical Bureau in Vienna. But before this, on the miserable subaltern's pay, which was all he had, he had managed to make several Alpine journeys which place him high among explorers.

His first journey was to the Hohe Tauern in 1863, and in 1864 he was just forestalled on Presanella by Mr. Freshfield and his party, but Adamello and Corno Bianco first fell to him, as well as another route on Presanella. He returned to this group in 1868.

It is, however, with the more important Ortler group that his name is closely connected. He spent the four seasons, 1865 to 1868, in exploration from one end to the other, his companion being the then little known but soon famous Hans Pinggera, in his day a great guide. The Ortler itself had been climbed in 1864 by Tuckett and Buxton, after an interval of thirty years. Payer repeated the ascent in 1865 and made likewise the fourth ascent of Königsspitze, another of Tuckett's conquests, while altogether he made more than fifty ascents in the group, and finally his carefully collected data were embodied in a map, long the standard map of the district.

Payer's descriptions of his expeditions may rank worthily with the best of our own explorers, and they read to-day as fresh and natural.

Payer took part in 1869–70 in the second German North Pole expedition, which reached 77° N. latitude, and again in Weyprecht's expedition in 1871. He was naturally invited to take a leading part in the great Austrian Polar expedition of 1872–4, which resulted in the discovery of Franz-Josef-Land, named by Payer after the Austrian emperor. The highest point reached and named, Cape Fligely, after the Field-Marshal Director of the Topographical Bureau, a patron of Payer's, was 82° N. latitude.

Payer died in 1915.

The book is well got up, and is a delightful record of the life history of a great pioneer.

J. P. F.

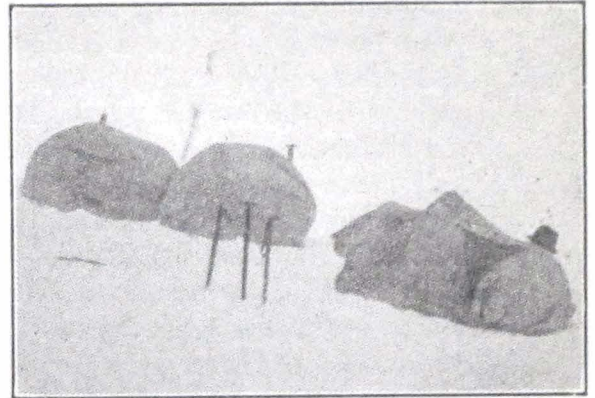
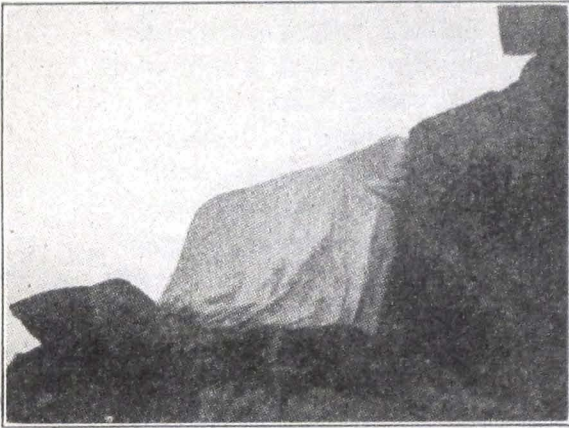
Eistechnik des Bergsteigers. By Walter Flaig. Dieck & Co., Stuttgart. 1925. 5 marks.

THIS is an admirable little work, with forty-two very practical illustrations from photographs of actual work—quite the best book of its kind that I have seen. Not only correct, but also incorrect step-cutting positions are shown, and few men will look through the pictures even if they cannot read the text without learning something that may stand them in good stead.

Formerly we used to complete our expeditions within the twenty-four hours, and benightal and still more an impromptu bivouac was looked upon as a serious matter. Nowadays the young French, German, and Austrian mountaineers seem to make nothing of sleeping-out.

According to the present book the German and Austrian mountaineers carry a Zdarsky 'tent-sack.' This is made of waterproofed Egyptian cotton sheet, like an ordinary ridge tent without any poles. The No. 2 size which I sent for cost 47s. including postage (from Viktor Sohm, Bregenz, Austria), and is 8 ft. along the ridge, while the sides from the ridge to the bottom are 5 ft. 9 ins. In case of a bivouac it is simply slipped over the heads of the party—it would hold four at least—and their heads or bodies support it while it is tucked in all round, and the inmates sit on the inturned edges. It cannot well be blown away, and it is stated that if facing each other one could even cook with a spirit-lamp! No provision for ventilation is made! The weight is just under 3 lbs. I have been caught out, in years gone by, in places where such a tent would have protected us well. It might have saved the lives of the Americans in 1870 on Mont Blanc, and of Nettleship, Fedschenko, and others. It might be worth carrying on a big expedition. Mr. Horeschowsky, the well-known Viennese mountaineer, it will be remembered ('A.J.' xxxvi. 408), when traversing the M. Blanc de Courmayeur, bivouacked *four* times in one of these tents, and Mr. Welzenbach, a brilliant leader of the Munich Academics, I understand, used one on the Peuteret but urges ventilation openings.

The attached illustrations explain themselves.



The only other equipment which is new is pitons *for ice*, made about 12 inches long with a loose ring. These have been introduced by Mr. Welzenbach, and were used on his ascent of the N. face of Dent d'Hérens ('A.J.' xxxvii. 371), as belays presumably, as illustrated *ibid.* 282.

The practices advocated in the book appear to be sound, the illustrations are most instructive, and recall happy and unhappy situations.

J. P. F.

Dr. Julius Kugy: Aus dem Leben eines Bergsteigers. Rudolf Rother, Munich. 1925. Price 18s. post free.

I FEAR Dr. Kugy may not be known to many English climbers of to-day. Thirty years ago he was one of the outstanding figures in the Alpine world, outstanding not only for what he did, but also for his herculean frame and weight—nearly seventeen stones before he was thirty, and later even more, so he tells us.

Among German-speaking mountaineers there is no better-known name. His kingdom is the Julische, or Julian Alps, whose culminating point is the Terglou, better known to our people years ago than now. Visible every fine day from his home at Trieste, these mountains were only an easy day's journey, and year after year he devoted his energies to the thorough exploration of this difficult and intricate group. Among the sparse inhabitants—guides, chamois hunters, authorized and unauthorized—he was the uncrowned king, spoken of with reverence, only just behind the Emperor himself.

In the war the group, hard on the frontier, was the centre of intensive fighting. One day the rumour went round: 'Dr. Kugy is coming,' and out of every sort of hole crept war-worn Austrian Jäger. They had, many of them, been his disciples down in Trieste, to whom his advice, instruction, assistance had been ever free. They were

still his young men, here at the front.¹ Such homage comes not often to a man alive or dead, and few men can deserve it more.

But it was not only there, out East, that he was known. For years he was to be found at Zermatt, Arolla, Macugnaga, Chamonix, and, above all, at Courmayeur. He is the only mountaineer to claim ascents of the Brenva, of the Dufour, and of the Nordend both from the Italian side, and many almost equal ascents stand to his credit.

He was always attended by the best guides of the day—Komac,² Oitzinger, Pesamosca in the Julians, Bonetti, Alexander Burgener, Mattäus Zurbrücken, Daniel Maquignaz, Joseph Croux in the Western Alps. Komac and Croux, both long dead, were the closest to his heart, and one object of the book is that it shall serve as a monument to them.

When his book of 'Recollections' was announced, the whole of the Alpine world that knew him, or of him, was all expectation. We are not now disappointed. The very enterprising publisher, Mr. Rudolf Rother, of Munich, who issues volume after volume of mountaineering books—to read which it is well worth alone to know German—has treated his author very well in this superb volume with its series of excellent pictures.

It is the fascinating mountain book, not of the year only, but of very many years. It is written in a charming conversational style, candid to the last degree in its expressions as to men and occurrences, without a trace of malice. It is a great thing to read the judgments of this close and competent observer on men who, to many of the younger generation, are only traditions.

His first chapter tells of his boyhood and his home at Trieste, where he met men interested in the mountains, and particularly in botany, of which he became a zealous student. Among the visitors was Richard Burton, then British Consul at Trieste, whose principal interest to the youngster was the scar of a lance wound in the cheek!

His initiation into actual mountaineering is told with exquisite humour. For the summer of 1877—he must have been about sixteen—he showed his mother his plan, full of botanical projects, not a word of a mountain—and so started for Flitsch, in the Isonzo Valley, and there found a roadman willing to try an ascent of the fairly difficult Jalouc, of which the first and only ascent had been made in 1875. They picked up a chamois hunter, who wore his wooden clogs until it got difficult, when the whole party went *barefoot*! Kugy tells the tale at length with exquisite humour that carries us with him all the way. This is indeed the captivating style of the whole book. When they got back to the Alphot they were long out of food,

¹ O.A.Z. May 1926, a very sympathetic article by a well-known mountaineer, Gustav Renker.

² A great bear hunter. In one encounter a blow from a bear's paw tore his lower jaw right off, so that he could only feed through a tube. He lived for some years. I saw his somewhat gruesome photograph when that way in 1922.

and as there was no wine or bread there they ate turnips and drank snow-water and vinegar! As they parted, Cernutta, the hunter, asked whether two *Gulden* (four shillings) was too much. Kugy gave him three, and was rewarded with a bear-like embrace and two resounding kisses!

These were the days which the author brings back to us fresh and clear. There is nothing in Weilenmann to beat it. For over two hundred pages Kugy reveals to us in graphic language the glories of his kingdom. It is well worth the while of a young and ardent climber to follow him carefully, as he indicates several, yet unsolved, magnificent problems that will try out the best.

His Chapter V, 'Ice and Snow,' treats of the great western peaks, and will no doubt interest the many by their greater familiarity.

In 1886 he meets Prochaska,³ and they arrange a Swiss tour, Kugy stipulating that the entry into Switzerland from Italy shall be over the Monte Rosa! It befitted this lion-hearted Hercules. We looked dangers and difficulties fairly in the face even then! 'An unusual, a quite extraordinary way, always noble' had Susner described the route to Kugy!

Bonetti, the Santa Catarina guide, was quite prepared to go, although his own cousin, Pedranzini, had perished with Marinelli. Good men these Italian guides. They always seemed to me to excel in *flair*, and one or two among them had far to search even for their equals.

They picked up a second guide, later to earn great fame, Mattäus Zurbrücken. Kugy got called back home through urgent business. Prochaska did the job. Keener than ever, Kugy races back to Macugnaga, and does it too—of a truth a very man! That E. face, somehow, is a bit qualmy. I remember when Daniel and I, ten years later, left for the Nordend, technically much harder, he turned for a moment into the little church, good Catholic that he was, and somehow or other I followed him in. Ah, you moderns, you miss a bit of the exquisite mystery of the great mountain!

There are page after page of this kind of brilliant description, of exquisite sympathy. He tells us of meeting Luttmann-Johnson, C. H. R. W.'s great friend and companion, 'the splendid guideless couple, Fynn and Murphy,' Mummery, Collie, and many another familiar name. 'In the Midi hut I met a party returning from the Aig. du Midi, led by Norman Collie, the famous companion of Mummery. I was gratified to meet him, and managed to raise a short smile on his "deeply-earnest, dark face," which seemed to me a greater "*Leistung*" than ascending M. Blanc.' And again, 'I was coming over the Théodule with Alex. Burgener when a tall Englishman came riding up to Schwarzsee. He did not look very knightly, bunched up and with legs almost touching the ground. Mule and ice-axe seemed droll. I asked Alexander, whom he greeted very

³ I cannot undertake to introduce them all. They were familiar names when I started serious climbing in the early 'eighties. The Zsigmondy brothers, Friedmann, and Blodig were typical of the set.

warmly, who he was. "That is Mummery—he climbs better than I do," was the answer.'

I cannot go, in a review, through the whole book, nor were I capable of reproducing the exquisite lights and shades that pervade it and make page after page a perfect delight.

If ever a book deserved translation, this does, but the outrageous cost of issue in England probably forbids it, and where, besides, can we find, as Guido Rey had the fortune to do, an Eaton, not merely to *translate the word*, but to reproduce the author, his very self?

You have written a very great book, *Geehrter Herr Doktor!* that is fit to be set, side by side *at least*, with the greatest classics of the past. I remember once asking Daniel Maquignaz with his modest eleven stones; how he dare guide you with your seventeen stones. 'Ah! vous savez, Monsieur, jamais il ne fait un faux pas, jamais il ne manque.' Of a truth, you have not *manqué* even here, and if somehow I have written these lines from my heart, it is you with your great stalwart personality and your unforgettable frankness and charm of manner who have been looking over my shoulder.

J. P. FARRAR.

Account of a Photographic Expedition to the Southern Glaciers of Kangchenjunga in the Sikkim Himalaya. By N. A. Tombazi, F.R.G.S. With Illustrations, Map, and Tables. Maxwell Press, Bombay. 1925.

As described in the title this book is an account of a photographic expedition, and mountain ascents are merely incidental thereto. A height of 18,660 ft. was reached on an eastern spur of Kabru from the head of the Guicha glacier; the Guicha La (16,380 ft.) was crossed to the Talung glacier; and the southern side of the Zemu Gap (19,375 ft.) was ascended from the Tongshyong glacier; but the author does not recommend this route for reaching a base camp at the eastern foot of Kangchenjunga at the head of the Zemu glacier, thus confirming Mr. Freshfield's opinion of it. Mr. Tombazi is to be heartily congratulated on his perseverance through bad weather in accomplishing the first ascent to the Gap, which was likened by its first beholders to the Güssfeldt Sattel: it is the more provoking that persistent cloud and snow storms prevented photography, and put out of the question any reconnaissance of the descent to the Zemu glacier on the north.

This book is remarkable for the number and excellence of its photographs. These consist of actual quarter-plate positives neatly pasted into the volume. Their artistic merit is great, and the management of light and shade on the snows quite admirable. Kangchenjunga from Jubonu (opposite p. 22) stands out amongst a wonderful collection. These photographs are so good that, with the aid of a magnifying glass, a mountaineer intent on a campaign in this region could do most of his reconnoitring at home, before he started: in fact, with such a mass of material as is here made available to us, it would be folly not to do so. The map is adequate for the utilization of the photographs. The thanks of the Club are due to the author for a most useful addition to our Library.

T. G. L.

The Glittering Mountains of Canada: A Record of Exploration and Pioneer Ascents in the Canadian Rockies 1914 to 1924. By J. Monroe Thorington. Published in Philadelphia. 1925.

It is considerably over half a century since books were published dealing with the first ascents of the giant peaks in the Alps. The literature of climbing in the Canadian Rocky Mountains is now in a similar condition to that of Alpine literature in those days, and amongst the books that deal with the conquest of some of the giant peaks of the Rockies, Dr. Thorington's account of the glittering mountains of Canada will take a high place.

For over ten years this enthusiastic mountaineer has been actively interested in the icefields at the sources of the Saskatchewan and Athabaska Rivers; he has climbed in all the important groups of mountains that lie between the Canadian Pacific Railway and the Canadian National Railway. Here he has made first ascents of the North Twin (the third highest summit in the Canadian Rocky Mountains), Mt. Hooker, and Mt. Saskatchewan. Dr. Thorington's account of his ascent of Mt. Hooker shows that climbing in the Rockies can be quite as strenuous as in the Alps. The party was two nights and nearly three days on the mountain; a somewhat similar experience was also met with by the Japanese party who recently made the first ascent of Mt. Alberta.

Although nearly all the highest summits have been conquered, there yet remain dozens of other peaks still to be ascended. Nowadays travelling has been made far easier than it was thirty years ago, when there were no maps, no trails, and the very existence of many of the big peaks was unknown. In those days exploration had to come first. A new era has now opened, and mountaineering takes the first place. Mountaineers, however, who visit the Canadian Rockies will find much more to interest them besides making first ascents, and Dr. Thorington's descriptions of the rivers, the valleys, the forests, the camp life, and the many moods of the mountains tell us that the Rockies are no ordinary mountainland; that the free life spent amongst mighty woods, rushing rivers, and lakes set like jewels amidst the precipices and the snows, all combine to make one of the most beautiful mountain regions in the world.

The Canadian Rocky Mountains are the heritage of a coming generation, where those who can appreciate an open-air existence, far from habitations, will find a land full of every kind of interest, 'days of crag and precipice, of ice and snow in sunshine and storm, days with the pack-train winding along the northern trails, and nights—starlight nights in the country of the fur-trade routes—with song and story beside the camp fire.'

Besides mountaineering, Dr. Thorington's book is a book of mountain history, geography in the making, and he gives an excellent account of all the early 'Voyageurs' or the fur-traders of a century ago, and of the few other people who visited the Rockies some thirty years later. It is a story that has never been properly gathered together, and the historical material has now been collected by

Dr. Thorington, with much painstaking research, from all possible sources.

A century ago David Douglas probably was the first to climb a mountain in the Canadian Rocky Mountains. He named it Mt. Brown; close by, on the other side of the Athabaska Pass, was another that he named Mt. Hooker; nearly a century has passed before the latter has been conquered by Dr. Thorington.

Two whole chapters deal with the various accounts of the early travellers who penetrated into the wild mountainous region of Western Canada. The account of Athabaska Pass gives for the first time all available information collected from the letters and diaries of the fur-hunters and trappers, David Thompson of the North-West Company, David Douglas, Ross Cox, Henry Ross, and others. Excellent portraits of some of these are given, together with a map and facsimile of handwriting in one of Douglas's journals.

Dr. Thorington's book is delightfully written, the photographs are excellent, there is a good index, and numerous maps and appendices.

J. N. C.

THE ALPINE CLUB LIBRARY.

The following works have been added to the Library:—

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- (1) **Akad. Alpenclub Bern.** 19. Jahresbericht. 9 × 6: pp. 20. 1923-4
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Presented by Mr. O. Frind. Contains pp. 673-715, list of mountains and ascents and pp. 716-8, a bibliography of the N.Z. Alps.
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- Calciati, Cesare.** Il più grande ghiacciaio della terra. In Emporium, vol. 58, no. 344. $10\frac{1}{2} \times 7\frac{1}{2}$: pp. 105-15 : ill. Bergamo, Agosto, 1923
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Page 143 : June 1862.
'Last night I dined at the Castle, Richmond, with the Alpine Club. We found a jolly party round William Longman the publisher, who is Vice-President of the Club, Anthony Trollope sitting next to him. Longman is a glorious fellow full of jokes and story, and beaming with humour. Trollope is also a good fellow modelled on Silenus, with a large black beard. There was a call for Trollope, and Silenus made a funny speech, assuring the Club that he was most desirous of becoming a member, but the qualification was difficult, and both time and flesh were against him. He added that, not very long since, in the city of Washington, a member of the U.S. Government asked him if it were true that a club of Englishmen existed, who held their meetings on the summits of the Alps. In my anxiety to support the credit of my country, I may have transgressed the strict limits of veracity, but I told him that what he had heard was quite true.'
- Lasalle, L.** Costumes suisses des 22 Cantons. $8\frac{1}{2} \times 5\frac{1}{2}$: 24 col. plates. Genève, Morel (c. 1869)
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Description of Kuenlun, Karakorum, Trans-Himalaya : Himalayas climate, orography, botany : Bibliography, 1831-1920.
- Weaver, E. P.** Canadian pictures by Harold Copping. $15\frac{1}{2} \times 11\frac{1}{2}$: 8 col. mountain views. London, R.T.S., 1912
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1855, Norway ; 1860, Fierschergl, Finsteraarh ; 1862, Strahlegg, Eggish, Aletschh, D Blanche, Col. d'Hérens, Mt. Blanc.
- Wimperis, E. M. and F. Jones,** illustrated by. Snowdonia. $3\frac{1}{2} \times 5\frac{1}{2}$: 16 oleographs. London, Cooper & Hodson [c. 1860]

Items.

Maps. Mt. Robson district. Three maps, sheets 30/2 : 1/50,000 : Mt. Blanc. Vallot Feuille 14; Talèfre 1/20,000. 1925

Advertisement in Wm. White 'Tourists knapsack' 1873. To be had of C. Price, 12, Gt. Marylebone Street "The Alpine Queen" or Mountaineer's song, dedicated to the Alpine Club by Wm. White, Esq. F.S.A., set to music by Lalla. Published by Cramer & Co. 4s.

Extract from "Piccadilly, Leicester Square, and Soho," by Charles Lethbridge Kingsford, published by the University Press, Cambridge, 1925. 12s. 6d. P. 128.

'The land at the back of Stone Conduit Close was acquired by the first Earl of Burlington in 1687 from Sir Benjamin Maddox. It was at that time known from its area as "The Ten Acres Field,"¹ and may be identified with the ten acres of pasture which Maddox had included in his marriage settlement in 1664. At first this land seems to have been used as an extension of the gardens of Burlington House. Afterwards the third Earl built on a part of it the house at the end of Savile Row, which is now occupied by the Alpine Club, as a garden or tea-house, the interior decorations being in the same style as those of Burlington House itself. But ultimately the whole area was laid out for building under the Earl's direction between 1720 and 1733.'

SUBJECTS IN PRECEDING ENTRIES.

Numbers in brackets refer to numbers on left hand on preceding pp.: numbers not in brackets are dates from 1900.

a stands for ascent : d for descent : h for horn : t for turn : tr for traverse.

Abbot's Pass (9b); accidents, rules to avoid (17c); Aconcagua 24 (5b) (26) (48); Adar Mns. 23 (17b); Adolph's Kop 23 (17); Africa (90), Birds of South (17c); Aiguille, Mt. 1489 (24); Alberta Mt. a 25 (6); Almagellh 22 (9a); Alphorn (22); Alpine Club register (92); Alps, divisions (88); Altai (4) (25) (60); America, South (108); Ancohuma 19 (3); Andensberg 23 (17b); Andes (22); Antelao (97); Aran, Pays d' (71); Athabasca, a 24 (5); Atlas (110); Austrian Alps (115); Avalanches & early texts (7b) (28).
Bailey's Pk. 23 (17b); Baker, Mt. a 23 (5); Bans (9a); Barberton Mn. land (17b); Barbican, a 24 (5); Berglistock (22); Bernina (62); Blaitière, Aig de, fr Mer de Glace (9a); Blindenhorn 20 (9a); Bolivia (128); Bonaparte, Prince (7a); Botany (51) (96); Breithorn, Lauterbr, 24 (22); Breney, Col de 19 (9a); Brenta, Guglia di (14); Brenva Glacier (9a); British Columbia (27) (42); Buffel's Dome 23 (17b); Buffel's Hoek (17b); Bulnes Naranjo de 25 (21); Busazza (25).
Caca-Aca (25); CAF, fifty yrs. (7a); Calendar (36) (40) (118); Campanile, Pizzo 24 (9b); Camping (41); Canada (43) (122): mng. in, 06-25 (6): early climbers in (6); Capucin, Gr. (9a); Carducci in montagna (9a); Cariboo 25 (6); Castleguard a 23 (5); Cathedral Peak (17c): Craggs a 23 (5); Catinaccio, Cima di (10); Cedarbergen (17b); Charmoz, Aig d Pts. 20 (9a); Cheadle, WB (5); Chosen (47); Cinematografia (9b); Cinque Dita, Pta (9b); Clemenceau, Mt. a 23 (5); Cleopatra, Ago di 23 (9a); Cleveland, Mt. (23); Cocco, Pta del 19 (9a); Coldai, Mte (9b); Columbia, Mt. a 24 (5); Corridor Pk. (17b); Couttet, Pte Alf 25 (7b); Cromortal (15).
Devil's Head 25 (6); Diable, Aigs du (7a); Diavolo, Croda del (10); Dolent, Aigs Rouges du (7a); Dolomiti, Piccoli (9b); Dolomites (76) (135); Dolomitenstrasse (67); Donald, Mt. Sir a 24 (5); Dreitorsp (25); Dreitorsp, Leut 25 (25); Dru (9a); Dru, Aigs tr 21 (22); Drusenfluh 23 (15); Duivel's Berg 22 (17b).

¹ Shown on the Plan of 1585 as the 'Cunditt Meadow.' Note:—Rocque's Map of 1763 shows Savile Row and the alleyway connecting it with Conduit Street, which runs under the Secretary's Room.

See A.J. xviii. 358.

- East Alps (34); Ecuador (77); Edelweiss (22); Ehrwalder Wetterwand (20a); Eiger ski 24 (8); Europa, Picos de (7a) (21); Everest (11) (63) (66) (94) (95). Farinet Pta 22 (9a); Ferro, Torr. del 22 (9a); Fervall (25); Finsteraarhorn winter (12a); Ficobon (57); First aid (23); Fizzo, Pizzi 24 (9a); Flèche Rousse 22 (9a); Forstein 23 (15); French alps (7a) (35) (57); Fuego, Tierra del (25).
- Galdhöpigggen (19); Gamskogel 24 (206); Géant, Aig du (20b), 23 (15); Geikie, Mt. a 23 (5); Glacier National Park (23); Glaciers indian (68), italian (99), variations 24 (22); Greifenstein N. face (20a); Glockturm (25); Gr. Glockner (126b), C. Steinberger 54 (15), Pallavicinirinne (20a); Gnifetti, Pta (12a); Göll, Hohe (25); Gosaudäumling (12a); Greiner, Gr. (25); Grépon 14 (9a), tr 20 (9a); Griesener 24 (25); Grohmann, Pta (9b); Gufelkopf, Hint 24 (2).
- Hall's Nordlandsferd 89 (19); Halt, Kl (20a); Hannibal (38) (58) (65) (124); Hector Mt. a 23 (5); Hérens, Dent d' tr 24 (18a); Himalayas (52) (61) (72) (80) (84) (89) (100); Hörmann, L. v (11); Hornbachkette (12a); Hornung-tinderne (19); Horseshoe Pk. 23 (17b); Hühnersattel 13 (9a); Huts CAI (59).
- Illimani 2nd a 15 (3); Innerkoffler, Sepp (12b); Italian alps (39).
- Japan (130); Jefferson, Mt. (17); Jétoule, Dent de 19 (9a) (9b); Jorasses, Gdes 23 (15); Jungfrau (73), N. face (22), d ski 24 (1); Jungfraubahn (81).
- Kaibling Hauser (12a); Kangchenjunga (123); Kasbek (111); Kilimanjaro (12a) (90); Kinabalu (75); Klafferessel (11); Kleinberg (17b) (23); Kleinpoort Berg (17c).
- Lake District (30); Lappland (25); Lenzerheide (78); Lofoten climbing (19); Logan, Mount (44) (64) (86) (121); Lungo, Sasso (9b); Lyskamm (20a), N. face 25 (3).
- Magnerkamm (20a); Markasiturm S. face 24 (16); Masare, Pta di (10); Matterh. (8b) (32) (106), Zmutt arête (14); Meije u. ihre Geschichte (22); Meiring Ridge Pks. (17b); Menue, Pierre 11 (9a); Mezzodi, Becco di tr. 14 (9b); Mezzogiorno, Piz tr (22); Middelberg Towers 23 (17b); Milner Pk. (17b); Milton, Viscount (5); Mönch tr 25 (22); Mont Blanc (8c) (49) (50) (107) (127) (134); Mte Rosa (8c), bibliography (54), E. face (20a); Moschesin 23 (9a); Mosquitoes (5); Mountaineering (56) (93) (103) (112) (113), winter (79); Muverans (70); Mummery, Aig. itinerary (8); Murietta, Pta 23 (9b); Musik u Bergsteiger (20a).
- Nantillons, Col des 23 (9a); Neptuak Pk. a 23 (5); New Zealand (105); Norischen Alpen, König d (11); Norway (19); Nova, Aig de la (7a).
- Obergabelh tr 13 (9b); Oberland (109); Oedstein 22 (15); Oetztal (83); Oiseau, Bec d' 25 (7b); Oranaye, Mte (9a); Oregon Mns. heights (17); Ortlergeschichte (12a).
- Palü tr (18a); Pamier expedition 13 (12a); Panda Crag 21 (17b); Papillons, Pte des 13 (9a); Paradis (9b) (98); Persia (91); Parasnaturn (25); Pasterze (12a); Paternkofel (20a); Peigne, Rochers du (8); Pelvoux, (9a); Pesciora, Passo di 18 (9a); Pétéret, Mt. Noir de 23 (9a); Peter Both (24); Physiology (29); Plansp, N.W. face (20a); Psicologia (9b); Pyrenees (33), climbs 23 (5), lakes (7a).
- Quéant, Mt. a 23 (5).
- Ramelkogel, Gr. v N. 21 (20a); Ramsay, James (125); Ravel, Aig (9b); Recastello, Pta 23 (9a); Requin 14 (9a); Richardet, W. (22); Rifugi Alpi Giulie (9b); Roth, Zinal (9a).
- Sambucco Pic (9a); Sanntal (67); Santa Marta (133); Saskatchewan, Mt. a 24 (5); Schlangen unserer Alpen (11); Schlenkersp, Kl 23 (2); Schobergrupp (20a) (37); F. Schrader in mem (7b) (15b) (87); Schrammacher 21 (12b); Schrankogel winter (12a); Schreckhorn (22); Schurfteberg 22 (17b); Schuttmantel unserer Berge (11); Sciora tr (22); Sélé, Refuge du (7b); Séa, Ptes de (8); Sentinel (17c); Sforcella, Cima di (10); Shasta (22); Sierra, place names (23); Simelikoff 25 (2); Similaun winter (12a); Ski (55) (82) (85); Snowdon (45); Stedtind 89 (19); Steirische Tanzlust (11); Stella, Corno (9a); Stickle Pleiss (15); Stikine Glacier (23);

- Strandaatind 89 (19); Stubauer Winterfahrten 24 (4); Stüdl, J. (116); Sucre, Pain de 21 (15); Sulzfluh (12a); Switzerland (119).
- Table Mn. fifty ways down (17b); new routes (17c): a 1803, Sam Haydon (17c); Tafelberg 23 (17b); Tambo all'Adula (9a); Tatra (46); Tauern, Geolog. ü d Niedern (11); Tauern, Schladminger (11); Temple de la Nature (7a); Tennengebirge (74); Terminologia tedesca (9a); Tétons (6); Teufelsgrat (11); Tibet (31) (120) (129); Tirol (102) (114); Tödi (18b); Tofana di Roces (9a); Torstein, S. face (12a); Totenkirchl, Heroldweg (12b); Tribolazione, Becchi 24 (9a); Tricorno (9a); Triglav 25 N. face (15); Stüdl, Joh 25 (15); Trogkopf 25 (3); Troldtind 89 (19); Twin, North a 24 (5); Tuzerkamm (12a); Twin Sphinx 23 (17b).
- Umbrailsp winter (12a).
- Vajolon, Cima di (10); Valeille, Cima di (9b); Verte 22 Argentière face (7b); arête du Jardin 24 (8); arête Gds. Montets (8); Viso (9a).
- Waaiohoek tr 23 (17b); Waaiohoek Pks. (17c); Waldrastsp N. face (25); Warscheneck (25); Warscheneckst (11); Watzesp E. arête 20 (20a); Weisseckkamm 22 (15); Wemmer's Hoek 23 (17b); Wetterwanddeck 22 (20a); Wildsp winter (12a); Winter, Hochalpen im (11); Winterfahrten (12a); Winterhoek (17c); Winter Sports (53) (101) (104) (131) (132), Sweden (117); Witzenberg range (17b).
- Zahnkofel (12a); Zeburu 21 (9a); Zermatt (69); Zillertaler Alpen (11); Zinthorn, Mittl, S. face (25); Zmuttgrat (25); Zocca, Mt. 22, 23 (22); Zocccone, Bocca del 21 (9a); Zuckerhütl (12a); Zugspitzbuch, älteste (12a); Zwölfer N. arête 22 (20a).

First Ascents Recorded.

- Adamello Belvedere basso 25 (3); Ailefroide arête Coste Rouge (7b); Albaron S. face (7a) (9a); Aliet, Mt. l' W. arête 24 (7b); Alphubel S. face 19 (9a); Amoincei, Pta S. face 22 (9a, b); Ancohuna 24 (25); Angeli, Castello dei N. face 24 (9b); Angelina, Cuglia 23 (9a); Arandelières, Mt. d W. face (7a); Arandalières, Pte d 20 (9b); Arcana, Pta and E. arête tr 25 (24); Arolla, Pigne d' N. face E. arête 22 (9a, b); Augusto, Pta 24 (22); Arves, Aig mérid. d' S.E. arête 23 (9a, b).
- Bacone, Forcolo di tr W. 24 (22); Piz B., S. arête 21 (9a); Baderhorn E. face 23 (9a); Badile N. face (22); Balaïtous N. face (7a); Balfrin N.E. arête 22 (9a); Bandita, Mte E. arête 23 (9a); Bärenbartkogel, Ausserer N. arête 23 (206); Bastion Pk. 25 (6); Bayernturm 24 (25); Bellecote, Sommet de S. arête 21 (9a); Belledonne, Croix de N. face 25 (8); Bergeisturm W. face 25 (3); Bergwerksp N. face 24 (2); Berti, Cuglia Ant N. face 24 (9b); Besso N. arête 23 (9b); Bionnassey, Col de N. face 19 (9a); Blankah E. face 25 (2); Blümlisalph N. face 24 (1) (22); Boccareccio, Pta di W. face 21 (9a); Bouquetins, Pte S. des by W. (9a); Braneikamin 24 (25); Breith, Lauterbr N. face 24 (1); S.W. face 22 (9a); Breithorn E. fr Schwartztor 23 (9a, b); Breithorn, Lötscht S arête 22 (22); Broglio, Dente del S.E. face 19 (9b); Brûlé, Mt. N. face 23 (9a, b); Brunnenkogel, Vord ?25, S.E. arête (25); Buchstein, Gr. N. face (14).
- Cacciabella, N. arête 22 (22); Canada, I as 06-25 (6); Carei-Manu 24 (25); Casmile, Piz E. arête 23 (22); Castello, Cima di S.E. arête 24 (9a); Charbonel, Pta N.E. arête 23 (9a); Charmoz, Gds. tr 02 (22); Aig d C., E. face 19 (9a); Chianaletta, Creta di N. face 24 (13); Ciamarella, Uja di S.E. face guideless 24 (9b); Ciardonney, Gde Uja di E. arête 23 (9b); Ciarforon, S. face 20 (9b); Clapier, Mt. du di Valpelline tr W. 23 (9a, b); Collerin, Pte N. Dente N.E. face (9a); Collon, Mt. N. face 23 (9a); arête W.-N.W. 21 (9a); Cornier, Gr. fr N.E. 20 (9a); Costila E.N.E. face (25); Cunei, Ermite di 24 (9a).
- Doge, Corno del N. face 24 (9b); Dom, E. face 24 (9a); Dreitorsp., Leut. S.W. arête, 25 (3); Dru, Aigs du guideless ital. 21 (9a).

- Ebnefuh N. arête 22 (9a); Eiger, ski 24 (1) (24); Eiskarlsp N. face, 25 (25); Eiskastenkopf, S.E. arête 21 (20a); Entrèvea, Aig d' S.W. arête (9a, b); Epicoun, Picion S.E. arête 23 (9c); Ester, Pta 24 (9a, b).
- Feldkopf d N.W. arête, 24 (20b); Fiescherhörner (22); Fleischbank S.E. face 25 (25); Floitenturm S. arête 23 (20b); Fluchthorn, S.E. arête 19 (9a, b); Fourche, Gde, N.E. arête 23 (9a, b); Frachiccio, E. arête 23 (22); Frate, Pta del 22 (9a, b); Funes, Camp di guideless 23 (24).
- Gabelh; Fiescher, N.E. arête 22 (9a); Gallina, Piz N. face (22); Pta G., E. arête 13 (9a); Gamsholt 25 (25); Gamskarst, S. face 24 (206); Gamskofel, S. face (14); Gattersp, E. face 25 (2); Gay, Becca di 24 S. arête (9a, b); Gebäudesp, E. arête 24 (2); Geischneid, N.E. arête 22 (20a); Geiselstein, N.E. face (25); Gemelli, Pta dei S. arête (9a); Gerlsdorfersp aus d Kessel 23 (16); Ghigo, Pta 21 (9a); Gigelisp, N.E. arête 23 (206); Glaciers, Aig des fr S.E. 13, tr. W. 21 (9a); Glockner, Gross 74 winter (25); Granta Parei, N. face 24 (9a, b); Grohotisul 24 (25); Grimstein, N.W. face 25 (3); Grosskarsp, E. face 25 (2); Guin, Becca di W. arête 22 (9b).
- D. d'Hérens, tr 21 (9b); N. face 25 (20b); Hochbrett, E. face (25); Hocheissp, E. arête 25 (25); Hochkanzel 24 (20b); Hochschober ski 23 (15); Höllentalsp, Inn., S.W. arête 25 (3) (20b).
- Invalidi, Cresta by S.E. 24 (9b).
- Jäghorn, W. arête, E. face 21, 23 (9a); Vord. S.E. arête 24 (1) (22); Jungfrau tr 24 ski (22).
- Kamm, N. face 22 (9a); Kanzelti, E. face S. arête 21 (9a); Kienhorn, W. arête 19 (9a); E. arête 19 (9b); Kirchlisp, E. face 23 (15); Kirchturm, Kl, S.E. face 25 (3) (20b); Klimmsp, N. face 25 (3) (20b); Kreuzjochsp, N. face 24 (2); Kühbodenhorn, N.W. arête 18 (9a).
- Lafatscher, Kl. N. arête 24 (20b); Laghetto, Pta del S.E. arête 15 (9a); Lago, Cima di, fr. W. 24 (20b); Lago, Pta d N. face (9a); Laquinhorn, W. face 23 (9a); Laquinjoch 21 (9a); Lärcheck, E. face (25); Laurasca, Pta di S. face 22 (9a); Legnone, Mte. 21 N.E. face (9a); Leitersp, Gr. E. face 24 (2); Lentahorn, N.W. arête 15 (9a); Likofwand, fr W. 25 (2); Logan, Mt. 25 (6) (17); Loup, Dent du tr. 24 (7b); Lungo, Campo W. arête 13 (9a); Lunga, Cima di Val E. arête 25 (3); Luseney, Becca di S.S.E. arête (9a); Lyskamm orient 22 (9a).
- Maidassa, Mte. E. arête 24 (9a); Maldenkopf, S. arête 22 (20a); Manegorio, Poncione di W. arête (9a); Marchauthorn, E. face (25); Maresensp, N. arête (14); Marienbergsp, N.E. face (25); Martino, Pala di S.E. face (18a, b); Mattirollo, Pta S.W. face 11 (9a); Mezzodi, Becco di N.W. face 14 (9a); Midi, Aig du 19 (9a); Milano, Pta N.E. face 24 (9a); Mittaghorn, W. face 19 (9a, b); Mittelgrat, N. face 25 (16); Mittelkopf, N.N.E. face 24 (25); Monciair, Becca di S.—S.W. arêtes 21 (9b); S.—S.E. arêtes 21 (9b); Mont Blan de Courmayeur to Chamonix ski 24 (22); Monte Rosa, N. arête 25 (3) (20b); E. face 24 (20b); Monticello, N. face 25 (3); Morarturm 24 (25); Moretan, Gr. Pte E. (9a); Mummery, Aig E. face 24 (7b); Mutte, N.W. face 24 (2); Mutterhorn, Hint, N.E. and N.W. arêtes 18 (9a).
- Nero Pta E. face 13 (9a); Neve, Pta Val d., fr S.W. 24 (22); Niedernesslt, Westl N. face 25 (2); Notre Dame, Tours de 24 (9b).
- Orso, Toronne dell' 24 (9b); Ouille Noire, S. arête 22 (9b); S. face 23 (9a).
- Painale, Pizzo, S.E. arête 24 (9b); Paloro, Spegol dei, fr S. 24 (20b); Partent S.E. face 25 (3); Parvo, Rocca N.E. face (9a); Peigne, Aig du la, ital. 23 (9b); Pelaou Blanc fr E. (9a); Pèlerins, Aig des, W.N.W. face 25 (7b); Pelmetto, S.W. face 25 (3); Pelmo, N. face 24 (12a) (20b); Pelvoux, winter 25 (7b); Percée, Pte. February 19, 1924 (7a); Périades, S. arête and tr 24 (7b); Perron, Gr. W. face 23 (9b); Pesciola, Pizzo N.W. face 25 (24); Plan, Aig du N. face 24 (7a) (8) (22); Planereuse, Gr. Glocker de 16 (8a); Platthorn d. N.E. arête 21 (9a); Plattsp, Westl. S. arête 25 (20b); Pollux 19 (9a); Popbergsp, S.W. arête 23 (20b); Popera, Pala di S. face 22 (9a); Porola, Pta S.E. arête 23 (9a); Portalet, E.—N.E. arêtes 11 (9a) (20a); E.—S.E. arêtes 15 (9a, b); Portenhorn E. face 20 (9a); Prabitschalpscharte 24 (20b); Pramper, Cima di, fr S. 24 (20b); Pramperei, Cima di S.—N. 24

- (20b); Prefuns, Caire di N. arête 24 (9b); Presolana centr. N. face 24 (9a, b); Pricorno, Mte. W. face, N. arête 23 (9b); Probstwand E. arête 25 (3) (25).
- Quisisana, Guglia 24 (9a).
- Rappenhorn, E. arête 20 (9a); Ratti, Pta 22 (9a, b); Raubenberg N. arête 23 (20b); Ravanel, Aig. N.W. face 23 (9b); Rebbio, Pta del fr S. 21 (9a, b); Rebenzaunkarlsopf, N.E. face 23 (20b); Ridasco, Pta Elsa di 24 (24); Riffelsp, Nördl, N.W. face 25 (3); Rimpfischhorn, N.W. face 23 (9a); Robson, Mt. la woman (5); Rogalsp, N. face 23 (2); Ronde, Tour d S. face 14 (9a); Roseg, Piz N. face 24 (22); Rossa, Corno S.W. arête 21 (9a); Croce W. arête 23 (7a) (9b); E. arête 23 (9a); Rossa, Rocca N.E. arête 22 (9a); Rosskopf, N. face (25); S.W. face 25 (2); Rosso, Cima di S.E. face 13 (9a); Mte. S.W. arête 25 (3); Rotondo, Piz fr N. 18 (9a), 22 (9a); Rousse, Gde. E. arête 24 (9b); Ruchenglärnisch E. face 24 (22); Ruiskogel (20b).
- Saashorn, N. face 18 (9a); Sagwand, N. face 25 (20b); Salvador-Guillemín by Gl. Noir 25 (7b); Sass' Arienté, N. face 15 (9a); Sauhorn 24 (25); Säurling, E. face (25); Savoie, Aig S.E. arête 13 (9a); Col tr 21 (8); Scharnitzsp, S.W. face 22 (20a), Scharnsp, S. face 23 (20b); Schiefersp, N. face 22 (20a); Schienhorn, Kl, S.E. arête 21 (9a); Schneefernerkopf, S. arête 25 (3); Schneekarlesp, S.W. face 24 (25); Schönaugersp, N. face 25 (3); Schlüsselkart, Ober, N. arête 25 (3); Selbhorn, S. arête 24 (20b); Sellatum I. S.W. face ? 24 (20b); Sera, Mte. S. arête 13 (9a); Sertori, Pta S. arête (9a); Silbersp, N. face 22 (20a); Sommerstein Wand (20b); Sparafeld, N. face 25 (13) (14); Stecknadelhorn, E. face 13 (9a); S.W. face 21 (9a); Stellih, N.E. arête 19 (9a); Sulzfluh, S. face 25 (3).
- Tälhorn, N. arête 13 (9a); Tanna, Cima di Val W. arête 25 (3); Tersiva, Pta E. face 15 (9a, b); Törleck, Westl S. face 25 (25); Törlsp, Goinger 24 (25); Törlturm Höchster S. face 24 (25); Totenkirchl, S. face 25 (3); Treutse Boc, E. face 16 (9a); Tribolazione, Becchi di tr 24 (9b); Tricorno, Mte. W. face N. arête 23 (9b); Trifthorn, Saaser fr E. 21 (9a); Trifftkogel, fr S.W. 22 (20a); Traversette, Pta di S. arête (9a); Triolet, Aig Rouge de S. arête (8a); Tsalion, Aig de W. 22 (9a) (9b); Tsanteleina, S. face (8); Tseuque, Aouille N. face 23 (9a).
- Uomo, Cima dell' N.W. face (9a); Urbeleskarsp, S.W. face 25 (3) (20b); Uritorko, E. face 25 (3).
- Vazzeda, Cima di N. arête 25 (3); Vedorica, Castello di 23 (9a); Vent, Aig du N.E. arête 22 (9a); Vêlan, Doigt du 22 (9a); Verte 15 att. arête Gds. Montets (7b); N. face 24 (20b); Vesine, Aigs de (7a); Vesivi, Pte Dent du N.W. arête 22 (9a, b); Viso N.E. face 23 (9a); Vlou, Becca di S. arête 24 (9a).
- Wannehorn, Gr. N. arête 22 (9a) (22); Wannensp, W. and S. arêtes 25 (2); Wanner, Kl. N. face 25 (20b); N.W. arête 25 (3) (20b); Wante, Hohe S.W. ü d N. (14); Weissersp, S.W. arête 23 (20b); Wettersp, Mittl. S.E. arête 25 (20b); Wiesbachhorn, N.W. face 24 (20b); Wildgerlossp, S. face 23 (20b); Windgälle, W. arête (22); Windhaspel, N. face 25 (3); Wolayerkopf, E. face (14); Wyttenwasserturm, N.W. arête 18 (9a).
- Zettenkaiser S. face 24 (25); Zugspitzeck, W. face 25 (20b); W.S.W. arête 25 (3); Zwölfer, S. face 25 (3).

PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, November 3, 1925, at 8.30 P.M., Brig.-Gen. the Hon. C. G. Bruce, C.B., M.V.O., *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. D. W. Bassett-Smith, Mr. H. A. Haworth,

Mr. L. H. Hurst, Mr. L. C. Letts, Mr. G. A. Lister, Mr. W. H. Pryce Jones, Dr. D. H. Koetser, Mr. A. J. Rusk, and Mr. Charles Mathew.

The PRESIDENT announced with regret the deaths of the following Members, namely, Monsieur Joseph Vallot (Hon. Mem.), elected 1924; Dr. Franz Schrader (Hon. Mem.), elected 1902; Mr. A. C. Benson, elected 1895; Mr. J. Maclay, elected 1896; the Rev. R. T. Brockman, elected 1918; Dr. W. M. Davies, elected 1907; Mr. F. A. Y. Brown, elected 1866; The Hon. Gerald FitzGerald, elected 1876; and Mr. A. D. Godley, Vice-President of the Club, elected in 1890.

Dr. Monroe Thorington's lantern slides of the whole range of the Rocky Mountains between the Canadian Pacific Railway in the South and the Canadian National Railway in the North were shown and explained by Mr. A. L. Mumm.

The views shown were afterwards commented upon by a number of Members present, and Professor J. Norman Collie also showed a number of his own Rocky Mountain slides.

All were greatly appreciated, and the proceedings terminated with the passing of a vote of thanks to Dr. Monroe Thorington for his kindness in affording Members an opportunity of seeing his slides.

THE ANNUAL GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Monday, December 14, 1925, at 8.30 P.M., Brig.-Gen. the Hon. C. G. Bruce, C.B., M.V.O., *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. Walter Augustus Gustav Beck, Mr. Oliver Eaton Cromwell, Mr. Howard Charles Adie Grant, Mr. Robert George Kingdon, Mr. George William Murray, Mr. Harold Haldane Calder Prestige, Mr. Eric Walter Powell, and the Rev. George Stanton Provis.

The PRESIDENT, in accordance with the provisions of Rule 29, there being no other candidates, declared the following Members nominated by the Committee to be duly elected as Officers of the Club and Members of Committee for the year 1926:

As President.—Sir George H. Morse, in place of Brig.-Gen. the Hon. C. G. Bruce, C.B., M.V.O., whose term of office expires.

As Vice-President.—Mr. R. P. Bicknell, in place of Mr. A. D. Godley, deceased.

As Members of Committee.—Dr. H. L. R. Dent, Mr. Reginald Graham, Mr. C. E. Montague, and Mr. H. E. L. Porter, in the places of Messrs. R. S. Morrish, N. E. Odell, G. Sang, and P. J. H. Unna, whose terms of office expire.

Mr. John J. Withers, C.B.E., Vice-President, Mr. Sydney Spencer, Honorary Secretary, and the other Members of Committee being eligible, were re-elected.

Mr. CLAUDE A. MACDONALD proposed, and Mr. J. E. C. EATON seconded, that Mr. W. M. Roberts and Mr. H. J. Macartney be

appointed Auditors to audit the Club Accounts for the current year. This was carried unanimously.

Mr. JOHN J. WITHERS, C.B.E., *Vice-President*, proposed a vote of thanks to the retiring President, Brig.-Gen. the Hon. C. G. Bruce, C.B., M.V.O. This was duly seconded and carried with acclamation.

Mr. A. L. MUMM proposed a vote of thanks to Mr. Sydney Spencer, the Honorary Secretary, for his work in connection with the Exhibition of Photographs, which was seconded and carried with applause.

The following resolution modifying the limitation imposed by Rule 26 as to the re-election of officers and elective members of Committee was proposed and seconded, and after a discussion duly carried :—

‘ That with a view to the quicker advancement of members to the management of the Club, the Vice-Presidents and Elective Members of the Committee should not serve for more than two years.’

The PRESIDENT delivered a valedictory address.

AN Exhibition of Alpine Photographs was held in the Hall of the Club from Monday, December 14, to Saturday, January 9, 1926, and in connection with this the usual ‘ At Home ’ was held on Tuesday, December 15, when about 500 persons—Members and their friends—attended.

THE ANNUAL WINTER DINNER was held in the Edward VII Rooms, Hotel Victoria, on Tuesday, December 15, 1925, at 7 P.M., Brig.-Gen. the Hon. C. G. Bruce, C.B., M.V.O., *President*, in the Chair. There were present 255 Members and guests, among the latter being Dr. D. G. Hogarth, C.M.G., President of the Royal Geographical Society; General Sir George F. Milne, G.C.M.G., K.C.B., D.S.O., LL.D.; Maj.-Gen. J. R. E. Charles, C.B., C.M.G., D.S.O.; Mr. George M. Trevelyan, C.B.E., LL.D.; and Professor Leon W. Collet, Dean of the Faculty of Science of the University of Geneva.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, February 2, 1926, at 8.30 P.M., Sir George H. Morse, *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. George Ednie, the Rev. Frederick Edmeston Freese, Mr. Francis Richard Mills, Mr. Charles Samuel Myers, Mr. Noel Marcus Prowse Reilly, and Mr. Alec Edwin Storr.

The PRESIDENT announced with great regret the deaths of Dr. H. D. Waugh, elected in 1894, and Sir R. Melvill Beachcroft, elected in 1871.

The PRESIDENT informed the Members that the question of the publication of an Index to Vols. XVI. to XXXVII. of the ALPINE JOURNAL, which had been in abeyance for some time, had now been

revived, and that the Committee were of the opinion that if Members would help the matter forward by putting their names down as subscribers it would be possible to take the initial steps towards publication in a short time. Attention was drawn to the notice concerning this which appeared in the last number of the Journal.

Mr. H. E. L. PORTER then read a paper entitled 'Mount Sefton and other New Zealand Climbs,' which was illustrated by lantern slides. Discussion followed, in which Mr. H. O. Frind, Mr. L. M. Earle, Mr. Claude A. Macdonald, and Mr. A. L. Mumm took part, and the proceedings closed with the passing by acclamation of a vote of thanks to the reader of the Paper.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, March 2, 1926, at 8.30 P.M., Sir George H. Morse, *President*, in the Chair.

Mr. PERCY WYN HARRIS was balloted for and elected a Member of the Club.

The PRESIDENT made a further announcement with regard to the proposed publication of an Index to Vols. XVI. to XXXVII. of the ALPINE JOURNAL, pointing out the desirability of such a work, without which the volumes of the Journal could only be regarded as incomplete, and urging Members to do what they could in the matter of having their names added to the List of Subscribers, in order to make publication possible. The President stated that so far the approximate number of subscribers at 10s. a copy was only 231, and that another 170 subscribers were required before the work could be proceeded with.

The HONORARY SECRETARY and TREASURER, Mr. Sydney Spencer, presented the Accounts for 1925, which were duly adopted, *nem. con.*

Dr. H. L. R. DENT proposed, and Mr. H. J. MOTHERSILL seconded, that a vote of thanks be accorded to Mr. W. M. Roberts and Mr. H. J. Macartney for their work in connection with the Audit. This was carried with acclamation.

Mr. L. G. SHADBOLT then read a Paper entitled 'The Dolomites in 1925,' which was illustrated by lantern slides. Mr. H. E. L. Porter, Capt. J. P. Farrar, D.S.O., Mr. R. W. Lloyd, Dr. Claude Wilson, Dr. H. L. R. Dent, and Dr. H. R. Roger-Smith took part in the ensuing discussion, and, finally, a cordial vote of thanks to Mr. L. G. Shadbolt was carried unanimously.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, March 30, 1926, at 8.30 P.M., Sir George H. Morse, *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. Thomas Elrington and Mr. Mervyn Frederick Ryan.

The PRESIDENT informed the Members that this year Mr. G. Yeld would complete thirty years' work as Editor and Joint-Editor of

the ALPINE JOURNAL, and that the Committee had had before them, at their Meeting in the afternoon, a Resolution of appreciation of Mr. Yeld's long service. The Committee had thought that Members generally would desire to associate themselves with the terms of the Resolution, and he would therefore put the following to the Meeting :

RESOLVED that the Hon. Secretary be requested to write to Mr. George Yeld to express, on behalf of the Club, its warm appreciation of his thirty years' services as Editor and Joint-Editor of the ALPINE JOURNAL, and the hope that his health will allow him to continue in his present office.

This was carried with the greatest enthusiasm, and the Honorary Secretary was thereupon requested to communicate the terms of the Resolution to Mr. George Yeld.

DR. TOM G. LONGSTAFF then gave a lantern lecture on 'The Diversity of the Himalayan Region.' Mr. A. L. Mumm, Major C. T. Carfrae, Lt.-Col. E. F. Norton, and Mr. N. E. Odell took part in the subsequent discussion, which was closed with the passing of a very cordial vote of thanks to Dr. Longstaff.

DEATH OF MR. COOLIDGE.

We much regret to learn that Mr. Coolidge died on May 8 at Grindelwald, where he had made his home for the last thirty years. His health had been declining for some years following on a serious operation. He died in his sleep, aged nearly 76. Mr. Coolidge was the most extensive Alpine traveller of his time, and a very voluminous writer on Alpine subjects. The Alpine Club owes him a great debt, as not only was he the editor of the JOURNAL for ten eventful years, but he also undertook the revision of Ball's 'Western Alps,' which cost him two years of close work. For his writings and climbers' guides, the whole Alpine fraternity owes him thanks.

Mr. Coolidge became a member of the Club in 1870, at the age of 20, and was made an honorary member in 1905.

An In Memoriam notice will appear in the November JOURNAL.

The following letter has been received :—

DEAR CAPTAIN FARRAR,—On Saturday last Mr. Coolidge died. His death, which was quite sudden and painless, was due to heart failure.

The burial was on Tuesday. Dr. Dübi came from Bern to represent the S.A.C. and various learned societies of which Mr. Coolidge was an honorary member.

All the notables of the village attended. They waited outside the Chalet Montana until the coffin appeared, carried by guides, of whom Gottfried Bohren and Ammater were the leaders.

My wife and I were the only English mourners in the church. It was curious to see the English church packed by Grindelwalders, few, if any, of whom had ever attended an English service. They all stood through the prayers, and would apparently have remained standing if the chaplain had not motioned them to sit down while he read the lessons. The effect was strange—the coffin containing the mortal remains of the old Oxford don in the aisle, the English chaplain, and the characteristically Swiss congregation.

After the service we all walked to the Swiss cemetery, and Dr. Dübi spoke at some length. He spoke with great eloquence and with real feeling of his old friend. He referred to their first meeting among the mountains many years ago, to their long partnership in Alpine research, and to Mr. Coolidge's great work as the first historian who specialised in the history of mountaineering. He paid him full credit for generosity, and mentioned his royal gifts to the various museums. Then, with a candour as rare as it is refreshing in funeral orations, he stated frankly that his old friend had a difficult side to his nature and was inclined to be a trifle 'schroff,' especially in the written word.

The Swiss Pfarrer then spoke the final words, and the mourners dispersed.

The funeral was in the afternoon. It was one of those warm spring days, full of colour and sound. The avalanches poured down the cliffs of the Mettenberg, and their echoes broke in on Dr. Dübi's speech like the low roll of minute guns.

The villagers cherished a real feeling of affection for Mr. Coolidge, less perhaps for him as an individual, for they knew nothing and saw less of him in his later years, than as a venerable institution and a Grindelwald landmark. I think they were always a little flattered that a man of his learning in the world of letters should have made Grindelwald his home.

Yours sincerely,
ARNOLD LUNN.

Chalet Berna,
May 12, 1926.

At the graveside Dr. Dübi delivered the following address :—

' But for the occasion I should be tempted to reproach my departed friend for having once more forestalled me, as he did more than

sixty years ago when, as a youth of 17, he made the ascent of one of the last unconquered summits of the Grisons, upon which I had had my eye. To-day he makes his last ascent, although he is by two years my junior. In after years, when we had got to know each other well, we used to remark how often our ways on the mountains crossed, although we never made an expedition together. So it happened a few days after a hasty meeting in the Maderanertal that each of us had to submit to his first impromptu bivouac, the same night and only a few kilometres apart, he on the Tschingelmannen, I on the Brigelserhörner. Thus old connexions and a ten years' partnership in the service of mountaineering seem to give me a right to address to him, now beyond call, the assurance that we mountaineers of our own and foreign countries recognize with gratitude and affection his great deserts. I feel that I speak not merely in my own name, but that I represent the thoughts and the feelings of many Alpine and scientific societies as well as of others who may not have received notice of this occasion. In particular, I am authorized to represent the Section Berne of the S.A.C., as well as the Central Committee of the same club, the Historical Society of the Canton Berne, and the Swiss Alpine Museum. I am to bear witness that we lose in Mr. Coolidge not only a great mountaineer and scholar, but also a warm friend and patron, who is entitled to this public recognition. It is not mere chance that historical societies in particular have benefited by his literary activities. So far as I know he was the first to treat mountaineering, not simply from the scientific side or as a branch of geography, but from the historical side. Two of his principal works, 'Josias Simler et les Origines de l'Alpinisme' and 'The Alps in Nature and History,' indicate by their titles his point of view. This was the particular mission of Mr. Coolidge upon which I lay stress, even if it is not possible to enumerate here his manifold publications. His is the merit that mountaineering, in so far as it concerns the exploration of the High Alps and its history, has attained to the status of a science. Alpine activities must beware lest it be allowed to lose its place. To this point of view our late friend held fast to the smallest detail. The day will come, though none of us may live to see it, when humanity is perfectly indifferent to mere climbing, but it will always be interested in the reasons which determined the names of mountains, and in the history of their conquest. But our friend went further. He studied the settling of the mountain regions and the movements of the mountain folk. His studies of the wanderings of the Lütcher and the Walser prove him to be a great authority. His conclusions, examined and amplified by others, may be considered final.

'Just as his expeditions extended from the Mediterranean to the Ortler, the Brenta and the Dolomites, so his literary activities covered the same ground, and where his own knowledge did not suffice he knew how to interest all and sundry in his projects. One feature was the unselfishness which allowed others to claim their share in the work.

‘ I should like to allude to one other matter which concerns rather the man than the scholar. Mr. Coolidge gave considerable sums to the Section Berne of the S.A.C., to the Swiss Alpine Museum, and to the Historical Society of the Canton Berne, with the direction that the money should be used for Alpine objects and for historical investigations and publications. This object has been much fostered thereby. Other investigators and libraries could tell of the unselfish manner in which his knowledge and copies of his works were placed at their disposal. His many publications cost him a great amount of work, while offering no prospect of pecuniary reward. I mention these facts, because the acknowledgment due to him was not always forthcoming. In his exchange of ideas he gave generally more than he received, and over this open grave we still owe him thanks.

‘ Mr. Coolidge, whose interests comprised the whole Alps, had an affection for Grindelwald and its mountains. He visited it first in 1865 and remained true to it during a long life—in fact, had made it his home since 1896. Many of his smaller books are a permanent record of the place.

‘ His somewhat self-willed character, probably accentuated by his lost touch, in later years, with his American homeland and his adopted country, England, tended to cut him off from his friends and acquaintances of like interests, and to make intercourse difficult. Probably he harmed himself more than them. To-day, as the grave closes over his virtues and his possible failings, I should like to say that our friend’s heart was in the right place, and that for a good cause, as he understood it, he was always ready to stand fast.

‘ We will now take leave of the man, always ready to give of his best for the mountains that surround us. From them he drew ever fresh strength for his spiritual elevation until the weary body failed.

‘ At the foot of the Grindelwald mountains, which he loved above all, we lay him to his eternal rest.

‘ Ave pia anima ! ’

Owing to Mr. Coolidge’s death occurring at the height of the general strike, the Alpine Club was prevented from making arrangements to be represented at the funeral.

THE ALPINE JOURNAL.

NOVEMBER 1926.

(No. 233.)

Farewell.

WITH this number we complete respectively 30 and 18 years' work as Editors of the JOURNAL.

Colonel Strutt succeeds to the control. His great practical knowledge of mountaineering, his accurate acquaintance with Alpine literature both English and foreign, his literary ability and his industry ensure its future.

Although, of course, the change was inevitable and the time for it could not have been chosen better, we feel acutely, so far as we ourselves are concerned, the possible severance or even slackening of the ties of a real friendship that in so long a period have been formed and have bound us not only to our comrades in the Club but also to contributors in all parts of the world.

Among the helpers and advisors we can never forget the late Mr. Tuckett, the late Mr. Coolidge, the late Sir Edward Davidson, Dr. Dübi, M. Paul Montandon and the Signori Gugliermine, while Mr. Freshfield remains to-day as keenly helpful as ever. Mr. Mumm and his Registers have been indispensable. Mr. Montagnier has been a great support.

Of the younger generation, in many parts of the world, we can only speak generally.

But there are also others concerned in the actual production of the JOURNAL, whose technical knowledge has been freely at our call, and with whom our relations, all these years, have been without a cloud.

There is Mr. W. A. Kelk, our advisor-general, of the great House of Longmans, publishers of the JOURNAL since its first number in March 1863; there is their very painstaking accountant. There is the late Mr. James Abel, formerly Manager of their binding works, and Mr. H. Mills, his successor, who could fairly hustle out a belated JOURNAL.

Of the famous firm of Spottiswoode, printers of the JOURNAL for the same period, there is the late Mr. Walsh, who dated back to Leslie Stephen's editorship or earlier; there is Mr. W. H. White, manager of the printing works, whose speech, even on the 'phone, bewrayeth him a Scot; there is, not least, Mr. J. H. Fisher, whose exact duties seem very manifold, but whose care and attention are never ending; there are the unseen but all-seeing 'readers' who so often correct us and whom we have scant chance of correcting! there are all their compositors and printers and others, even those who have been known to alter passed proofs!

There are Mr. Cameron Swan, the late, and Mr. Hughes, the present, blockmakers, of patience and care unlimited.

They have all stood by us, their pride in their work could be *felt*. We look upon them all as our friends.

Mr. Mackintosh and Mr. Oughton have been helpful and ever ready to search after records and quotations.

Miss James, the indexer, revels in her work; while a little lady in the office of one of us has been perfectly indefatigable in deciphering the most butchered MSS, even the famous hieroglyphics of Mr. Freshfield. She must have typed miles of MSS!

The Hon. Secretaries, we believe, have at times considered us—or one of us—'expensive,' but, as a rule, have held their peace! The one and twenty volumes stand our witness.

The kindness and generous help of all, and the forbearance of some who have been a little 'edited,' have made our work a labour of love.

To them all we tender our greetings and our thanks.

Your very faithful,

G. YELD,
J. P. FARRAR.

ALPINE CLUB,
October, 1926.

STRAY MEMORIES.

BY W. T. KIRKPATRICK.

WHEN only a year or so separates the mountaineer from the goal of three score years and ten, his alpine thoughts naturally dwell on the past, and he lives over again the good days that are gone.

In a paper which appeared in the *JOURNAL* some years ago,¹ I enlarged on one of the principal drawbacks of guideless climbing, that of being sometimes benighted (though even guided parties have occasionally spent an unexpected night under the stars); and at the outset of these random reminiscences, I may recall, in addition to my stories of nights spent out, some of the failures and some of the rough times that Hope and I have experienced during our climbs of the last thirty years—adventures most of which a guide would probably have prevented our enjoying.

There have only been some half dozen instances in which we failed to climb, sooner or later, the mountain we set out for, and in at least three of these cases the mountains were quite easy ones. In 1906, after climbing the Pala di San Martino (where we carried umbrellas as far as the bergschrund), and Cimone della Pala, we left San Martino early one morning, intending to climb Sass Maor. We walked through dewy meadows and woods to Malga di Sopra Ronzo, where a cooking stove and fresh milk from a chalet made our second breakfast, which we took at a table under trees, more luxurious and comfortable than is usual on a climbing expedition. We went on through scrub and up scree to the south foot of the mountain. At the base of the rock towers the gully leading up them is blocked by an enormous chock stone, forming a big cave underneath. We began by trying to throw a stone, with the rope attached, up through a hole which was evidently used for a sling rope in descending, but having failed, we turned our attention to a very exposed face on the left of the gully. The first ten feet or so are fairly easy, and we climbed up and down once or twice; but to proceed further we should have had to

¹ 'Nights out in the Alps,' *A.J.* 29, 312.

launch out on the Unknown, hoping to find holds, but with no certainty of doing so. I felt that if I let myself go I should probably find a handhold above, but if I failed to do so, it might have meant a broken leg, so we returned to the ground and tried for some time to throw a stone through the aforesaid hole from outside. If we had had a long enough piece of string we might have succeeded, but no stone small enough to go through the hole was heavy enough to carry the rope with it, and we decided to give it up.

We always hoped to go back and climb the mountain by another route, but the war intervened, and the occasion has never come. My diary records that this was the first time that we were fairly beaten, and I think I may claim that it was also the last, as on none of the other occasions on which we failed to complete our climb were we beaten by the mountain.

The first of these failures was on the Tournelon Blanc. I don't quite know why we wanted to climb it, but when it seemed that success might endanger our dinner at Mauvoisin, we turned immediately and without regret. Another occasion of failure was on Pic D'Olan in Dauphiné, twelve years later. Our resting place the previous night had been a very small hut, lacking both door and roof, at the head of Valjouffrey. Rank weeds grew inside, and juniper had to serve as bed, blankets, and fuel. Next morning the going was easy as far as the Brèche D'Olan, where we got the sun and breakfasted, but derived no energy from our meal. In fact I believe I had a nap after it before turning south along the snow, so as to follow Cust's route of 1880. When we reached the rocks of the North arête, which began with a steep chimney, we decided that we were not in fit condition for the struggle, and gave it up, and we have never had an opportunity of making a second attempt.

We also turned back when more than half way up Piz Badile, in that worst of all seasons, 1910, owing to the very bad condition of the rocks in the upper couloir, and I have already recorded how we failed on Monte Leone, owing to our having been obliged to celebrate the birthday of the landlord's daughter at Veglia in Asti spumante, after drinking red wine and the local mineral water at dinner.² Having not only looked on the wine when it was red, but also when it was white and frothy, we were far from being in that *pink* of condition which the mixture of those colours should have produced.

² 'Ten Years without Guides,' *A.J.* 22, 547.

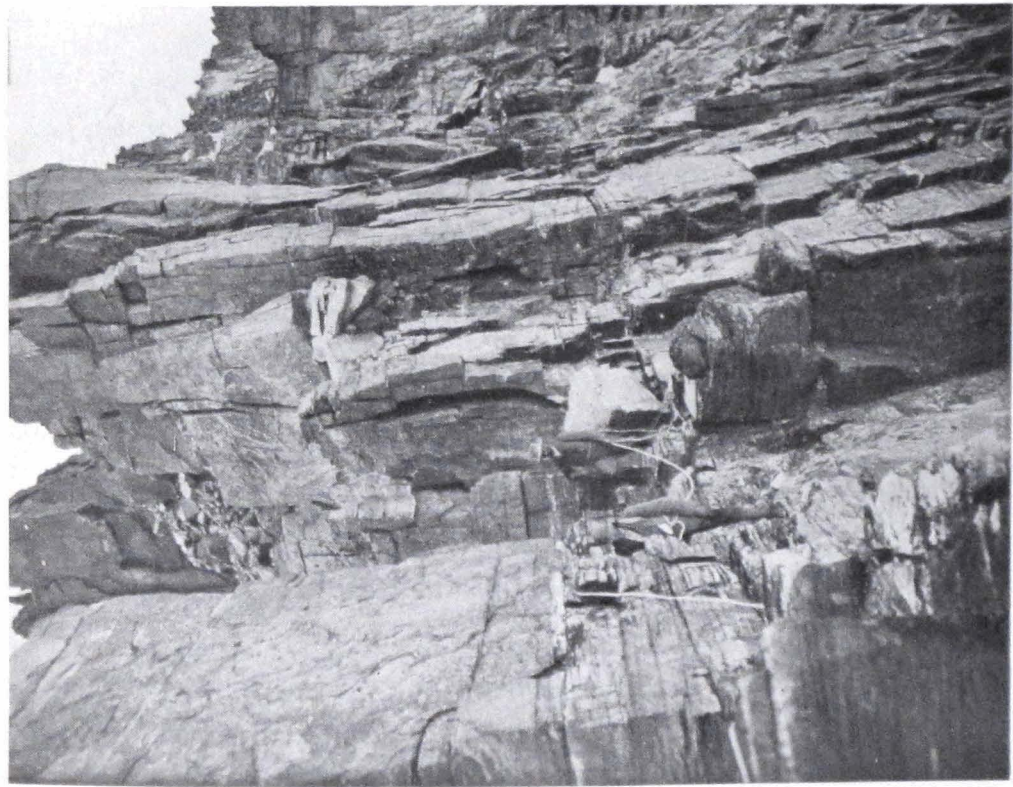
Our last total failure was on Mont Pourri. It was a weird expedition from start to finish, and we were clearly not meant to succeed. We walked up from Landry to Peisey, where we had hoped to get luncheon, supplies, and a porter. We got an indifferent lunch, poor supplies, and no porter. After lunch we set out to find the chalets of La Sevolière, which proved to be an island in a sea of mud. The inhabitants seemed busy and uncivil, and would not attend to us, so we climbed up to a clean place, and dined by a stream on rather damp grass. Returning to the chalets we found them all closed for the night. No amount of knocking produced any answer, and it gradually dawned on us that we were not wanted—a novel experience in mountain chalets. So we went down four or five hundred feet, wading through wet grass and dock leaves to the lower part of the alp, where was a cow byre, dry but dirty, which we had seen on the way up. There was a small shelf at one end, with a very scanty supply of hay, not enough to lie on, but we used it to stuff our small oil silk capes, converting them into *duvets*, and lay on bare boards.

Next morning the clouds were low. We went up in what we imagined to be the right direction, and got on to a glacier, the name of which, if any, I still do not know, as French maps do not convey much information. We followed up its right bank, and halted for food and consideration, before going into the clouds. The prospect was not encouraging, but having come so far, we thought we might as well try to find Mont Pourri, and went out into the centre of the glacier, rising gradually. By this time it was raining steadily. We finally arrived at the bergschrund, and crossed it easily. The slope above was ice, with a few inches of wet snow. Up it we went, using the toes of our boots, finger tips, and the picks of our axes. We were never very secure, but knew, though we could no longer see them, that a good bridge and a shelf of soft snow lay below us. What was above was wrapped in cloud and mystery. After about half an hour of this, we saw rocks above, but the intervening slope was almost bare of snow, and guideless methods would no longer have availed us. We should have had an hour's step cutting to reach them, and though they might have been the summit rocks of Mont Pourri, it was equally possible that that mountain was a mile away. It was still raining: our enthusiasm fizzled out, and we scrambled down, but not without having to cut a few steps. The best part of this expedition was the dinner at Nancroit, and the breakfast next morning of trout, eggs, and strawberries. We

have never yet seen this side of Mont Pourri, and have no idea where we got to.

In 1902 we failed in an attempt to climb the Ecrins from the south. We had a third man with us and left the Carrelet hut at 1.30 A.M. along with a guideless party consisting of Fischer, Fankhauser, and Hermann, three well-known Swiss climbers. We all went up the Vallon de la Pilatte and when the Swiss had reached the highest bay of the glacier, they bore to the left and vanished in a gully. We sat down to study the rock face, and noted the most likely place at which to start up the rocks. It did not seem to agree with the directions in the Climbers' Guide, so we went more to the right, thinking that was indicated. This was clearly wrong, so we went back and saw the Swiss half way up a steep, narrow and deep ice gully, cutting steadily. This did not look at all attractive, so we fell back on our first choice, and after a short spell up the rocks, found tracks such as guideless climbers learn to note on any regular rock climb. There was no difficulty till we reached the wire rope, which we did not use. Shortly before this the Swiss met us, having traversed to their right, when clear of their couloir. We soon came to the side of an ice gully which had to be crossed, and the other party crossed at once, and went up very steep rocks on its left bank. We continued climbing on our side, and after a time both parties halted for a meal, almost opposite each other, seated high above the deep cut gully; and while we were thus engaged Hasler appeared with Jossi and another guide and descended the gully between us, giving us an object-lesson of the care which should be taken in a steep ice gully. It was an extraordinary position for all of us, and it must have been a curious experience for him, while engaged in descending a particularly nasty gully, to find his every movement studied from above by a leisurely lunch party on either bank. We went on up our rocks which became very difficult, and at 3 P.M., as the party was not unanimous in favour of going on, we turned, which may have saved us a night out. The Swiss party reached La Béarde at midnight, having traversed the mountain.

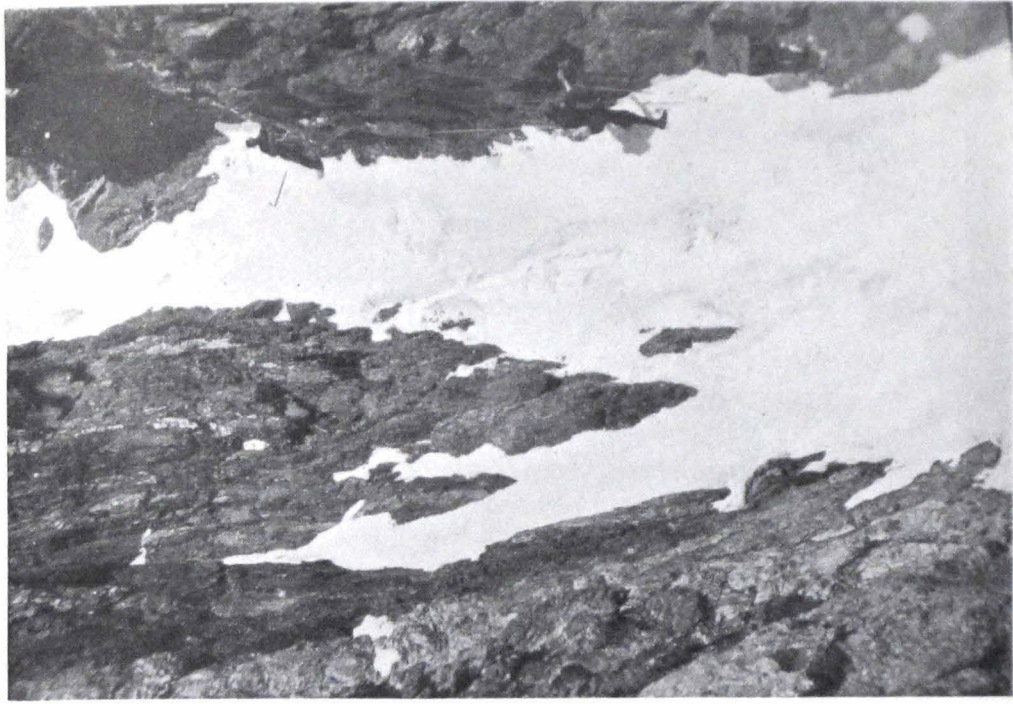
We have twice climbed the wrong mountain by mistake. Starting one year for the Elferkofel, we went into the Innere Loch, the route indicated in Sinigaglia's book (where 'Innere' is obviously a mistake for 'Äussere'), though we knew that the Elferkofel was far to our left, and trusted that some easy high level path to it would appear. So we followed the Innere Loch up to the sky-line, and finding that



Phot. R. Philip Hope.

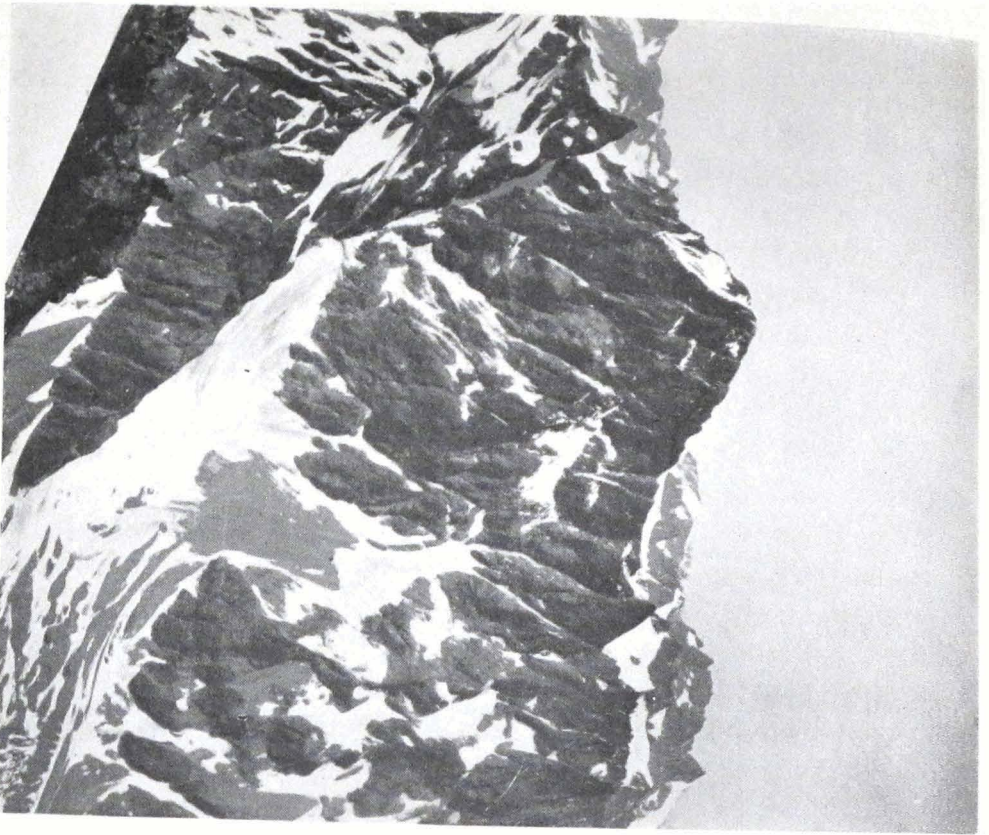
S. ARETE OF HERBETET.

(Messrs Wigner and Kirkpatrick descending.)



COULOIR ON S. FACE OF ECRINS.

(Mr. Hasler and Jossi descending.)

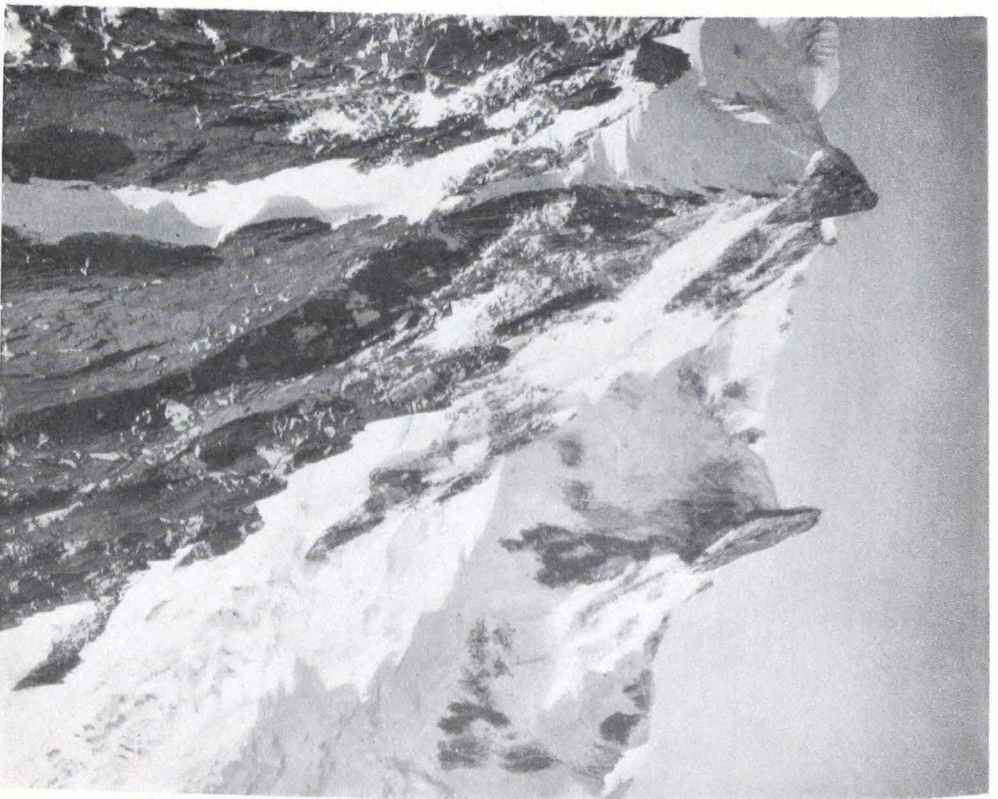


Phot. R. Philip Hope.

ECRINS AND MEIJE

from Pelvoux.

(The Ecrins face is that climbed by M. Vernet in 1926.)



DENT DU GEANT

from Aig. du Tacul.

the Elferkofel was quite inaccessible from there, we ascended another summit to our right. On our return to the Zsigmondy hut we were pleased to find that our dull mountain had a name, and a very sonorous one at that—the Hochbrunnerschneide. The next day we climbed the Elferkofel.

On another occasion we left Almagel Alp intending to climb the Portiengrat, but discovered that we were on the Portienhorn, which was the more unpardonable as I had climbed the Portiengrat before. We therefore had to climb it by the N. arête instead of by the usual route by the S. arête, which involved scrambling up the big slab, for the descent of which the guides use a doubled rope. We had a third man with us, H. H. Jennings, who gallantly volunteered to negotiate the slab, which he did at the expense of being photographed in an undignified position in the middle of it. It is said that sometimes, if the guides feel lazy, they take their employers up the Portienhorn and tell them it is the Portiengrat, but whether this is a true bill or not, I cannot say.

We once had an unpleasant experience in crossing the Agassizjoch from the Finsteraar hut, which we left with heavy loads, as we meant also to climb the Schreckhorn from Schwarzegg. We descended from the col by snow and rocks on the left bank of the big couloir, and while we were at our second breakfast just below the Finsteraarjoch, snow came on accompanied by thick mist. We steered by the compass, trying to find a short cut by which Hope had once ascended, but got down into soft snow and crevasses, and finally found ourselves on the top of a sérac wall. So we struck right up towards the Strahlegghorn, until the mist cleared somewhat, and we saw the regular route. Hope got a bad attack of snow blindness from having discarded his goggles, in order to try and see better through the driving snow and mist, and we had to go down from Schwarzegg. The descent to Bäregg, where we slept, was rather a nightmare, as every now and then the pain became so bad that he had to stop and keep his eyes shut for two or three minutes. This seemed usually to happen on the worst bits of the route, and as I see badly in the dark, it was very much a case of the blind leading the blind. Next day we took a man to lead him down to Grindelwald, so that he could keep his eyes shut, and he had to spend two or three days in a dark room before he was able to return to the Schwarzegg and do the Schreckhorn. We had made a *cache* of the stores we had uselessly and laboriously carried over the Agassizjoch, under a rock near the hut, but the marmots

had found it, and devoured all our candles and some other luxuries.

We also suffered from fog on the occasion of our climbing the Aiguille du Tour. The weather was bad, and we did not leave the Orny hut till 9 A.M. At the foot of the mountain we ate a meal in fog and hail showers, and went on in fog, guided by tracks, to the top, when there was a sudden clearing and short-lived view. Descending, still in fog, we traversed N.E., intending to go through the Col Pessieux (formerly known by a less euphonious name), and so get down to Trient. We could not find the easy snow gap in the mist, and when the glacier became steeper we made for some rocks on our left, but a slight clearing showed a steep descent on every side. Not knowing quite where we were, we thought the only safe thing to do was to climb up again about 700 ft. to the base of the Aiguille du Tour, and go over the Col du Tour, following old tracks. There was a thunderstorm as we left the glacier, which made us too miserable to do anything but steer for the most easily accessible inn, so instead of going over the Col de Balme we went down to Montroc, where we arrived drenched to the skin. As our only change consisted of underclothes we had to sup in the seclusion of a bedroom, a blanket secured by a safety pin taking the place of a dinner jacket.

We had a baddish time another year in the Mont Blanc district, after climbing Les Courtes. A thunderstorm came on while we were on the top, and we hurried off the actual ridge and squeezed into a deep cleft in a rock, where we hoped the lightning would not discover us, though it struck somewhere very close. When the storm abated we descended to the Jardin, where we enjoyed an hour's rest, but paid for it, as on nearing the spot for leaving the Mer de Glace it was already dark and we got caught by another furious storm. We were on a broad hummock between open crevasses, and had to stand there for about ten minutes without moving hand or foot, exposed to the full fury of the gale which blew out our lantern at the first gust. When there was a lull, we moved on and got off the ice as quickly as possible, but could not find the path. After wandering about on loose moraine for some time, we sheltered, wet through, under an inadequate rock. Leaving it we struck uphill, until we were certain the path was not above us and then, accepting the alternative, went down to the moraine and followed it until we reached the path. On our way back to the Montenvers we met two guides who had come to look

for us, and reached the hotel at 11.30 p.m., the rain still descending in torrents.

Having faithfully confessed our failures, and some of the *contretemps* which we have experienced, perhaps I may, without undue presumption, record some occasions on which we were, so to say, pitted against guided parties. In one of our early seasons, we spent a night at Ferpècle in company with a party consisting of two Englishmen with two Zermatt guides, Truffer and Taugwalder, who like ourselves were bound for the Col du Grand Cornier. When a guided party has been going the same way as ourselves, we have always kept our ears open the night before, to try and learn what time they were going to start, so as to get off before them. On this occasion we succeeded, but saw the lantern light of the other party moving from the inn very soon after us.

Before we left Arolla, Girdlestone, who may be considered the father of guideless climbers, had told us to keep well to the right bank of the glacier when descending from the col. We followed his instructions, and got through without any difficulty, reaching the Mountet hut at noon, just before a violent storm of rain came on. When our friends arrived, over an hour later, they were wet through, draggled and miserable—so miserable that they said they must give up all idea of crossing the Triftjoch next day, and go down to Zinal in search of warm baths and other comforts. I remember being much impressed when one of them produced a pair of boot trees—the only time I have seen this emblem of civilization in an alpine hut. Before they left, Truffer complimented us, and said we must have been that way before, as we had gone ‘den ganz richtigen Weg.’ Some other parties also cleared out of the hut, and we were left in sole occupation, with the guardian and his wife. It rained most of the afternoon and night, and our slumber was disturbed by avalanches thundering down the surrounding amphitheatre. When we got up at 5 o’clock, it was a fine clear morning, the August moon shining brilliantly between the Dent Blanche and Grand Cornier. We started at 6 o’clock in splendid keen air, the Gabelhorn, Rothhorn and other giants all looking beautiful in their mantle of fresh snow. The glacier leading from the hut to the Triftjoch was easy—perhaps it always is—but it was early in our guideless career, and one bridge rather frightened us. It was hardly a bridge, but a great flake of *névé*, the two ends of which merged in the walls of the crevasse. We had the full length of a 60 ft. rope between us, but the second man had to start

before the leader had reached solid snow. The bridge would most likely have carried an elephant, but if it had given way, no rope would have been of any use. In later years we have probably walked over worse bridges unroped.

A fatal accident had occurred on the Triftjoch not long before, and when we got near the foot of the pass we noticed the quantity of stones that had fallen from above. We mounted among them with some trepidation, and were relieved when we reached the rocks, where we felt safer. One stone came near us, but nothing else moved, and though everything was thickly covered with new snow, the ascent was not difficult, and we reached Zermatt in time for a late lunch.

Some years later we were taking an off-day at the Tschierva hut after climbing Piz Roseg, and while I was sitting outside the hut, a German came and asked me to take him on the glacier. I was very sunburnt, my alpine beard was going strong, and my clothes showed the effects of three or four weeks grappling with Dolomite rocks, and if only my German had been up to the mark I might have earned my ten francs. As it was I had to confess that I was not a guide, though I felt much flattered at the tribute to my professional appearance. On another occasion near the end of a season, Hope and I were taken for Swiss guides by an English parson, so it was not surprising that a German was deceived.

As we meant to do Piz Bernina by the Scharte next day, we spent an hour or two in the afternoon prospecting the first part of our way, and made a *cache* of ropes and provisions so as to lighten our load in the early morning. When we returned to the hut we found an Austrian with two guides, one local and the other Tyrolese, who told us he had been in the Himalaya. They were also bound for the Bernina, and the Pontresina guide announced that we should start at such an hour, at such an hour we should be at the Scharte, and at such an hour we should be on the top; that we could follow them, and they would cut all the steps.

Things did not however fall out quite according to his programme. We started at 1.45 on a beautiful starry night, a quarter of an hour before the guided party and three guideless Swiss. The previous afternoon we had marked our route on the glacier by making slashes on the snow with our ice axes, which enabled us to steer almost straight across, while the others went round to avoid the crevasses. Thus we kept our lead as far as the Prievlusa Sattel, from which we saw a wonderful effect of dawn on the Pennines, a band of bluish

light beginning to disperse in a ' V ' shape, where the sun found its way through a gap. We sat down to eat, the guided party arriving twenty minutes after us. They had a short meal and went on ; and the Swiss also turned up and started before us. We allowed the guided party forty minutes' start, traversed to our right to avoid the steep bit on the arête, and very soon caught them up on the rocks. They turned left to avoid a steep little chimney, while we slipped down on to the snow, and passed them. We then cut up the ice for 50 or 60 ft. and disappeared from the view of the others. Before us was a long snow arête leading up, but we noticed that we could easily walk along the top of the rock wall below the crest. So we dropped down to it, and found it an excellent pathway. We got back to the arête before the guided party saw us, and when they emerged from the hollow where they had halted, they must have expected to see us hacking steps up the arête, instead of which we were far up on it. We finally reached the summit at 10.40, and had a magnificent view. While seated on the top we saw our friends making very heavy weather over getting down into the Scharte. In the excitement of watching them I laid down my rucksack carelessly, and the big loaf of bread which was inside overbalanced it, and it started down for the Crast' Agüzzasattel. Luckily neither of us tried to grab it, or we might have lost our balance, and followed it. When we met the guided party on our way down they all shook hands with us and congratulated us warmly, and also rejoiced our hearts by telling us that they had left bread at the Prievlusa Sattel which we could appropriate.

The following season we left Lognan at 3 o'clock one morning for the Aiguille d'Argentière, closely followed by three other caravans, each consisting of two tourists and two guides, while another party of four from the Saleinaz hut joined the procession higher up. The first of the three parties passed us during a halt, but afterwards waited, and passing them we went on up the glacier to the rocks leading to the arête of the mountain. We thought we could climb the rocks without risk to those below and did so. The guides were not so confident of their *messieurs* and kept all together, and the sounds which reached us, as the cavalcade ascended, justified their caution.

Turning to our right up the arête we soon had to cut steps, but cut only such as sufficed for our needs. When we reached the first, or rock top, we looked back and saw a string of sixteen persons, all the guides simultaneously hacking at our steps

for bare life. The snow arête was rotten at first, and we traversed below it on the Argentière side, reaching the top at 9.30—a perfect day and splendid view—while the leading party of the cavalcade appeared on the first top at 10.40. Having eaten, we basked in the sun and enjoyed the view for over two hours.

I am glad to say that we have never witnessed an Alpine accident, though twice we have been in rather close proximity to one. In 1909 we left La Bérarde on August 7, taking a porter as far as the Col des Ecrins. On arriving there we saw a guideless party consisting of a Frenchman and his sister, a girl of twenty-three, and a German, all of whom had been staying at La Bérarde, coming down from the Ecrins, and though it was getting late they were not much below the bergschrund. They jodelled to us, and we to them, but we noticed that they were not going well and seemed to be tired. The couloir up which we had come was icy and in bad condition, so we convoyed the porter down the upper part with the rope, till he could safely go alone. The subsequent accident took place here. We climbed to the top of the couloir again, and on our way to the Caron hut saw the other party disappearing over the col.

The Ecrins looked magnificent from the hut with the evening sun full on its snow face. We hoped to get off at 3 o'clock next morning, but we both woke early and felt lively, and at 2.15, as we had nothing else to do, we thought we might as well start. We ascended the mountain by the N.E. arête, the route taken on the first ascent, and any guide would have looked askance at the way we went up. The snow was hard, but not very deep, and we managed to kick small footholds and grab at frozen stones, climbing it rather as one climbs a rock face, so as to avoid cutting steps, as we were not coming down the same way. We reached the top at 6.45 A.M., surely one of the finest positions in the Alps, and the earliest hour at which we had ever reached a mountain top in all our travels. Having spent about two hours there, we came down by the N.W. arête, again following Whymper's route. The snow slope above the bergschrund was well tramped, and so was the landing place, as the leader found to his cost after an 8-ft. drop. After regaining the hut we toiled up towards the Col Emile Pic, on approaching which we were amazed to see water pouring over the rock col as if from the sky. The snow col behind was quite invisible, and the water came from a small lake which was dammed up by the rock and was overflowing.

We went down the Agneaux glacier and reached the Chalets de l'Alpe rather late, after a long heavy day.

The following morning, on arriving at the Col Lautaret we heard that the party which we had seen disappearing over the Col des Ecrins had slipped a few yards below the top of the couloir, and fallen about 1000 ft. to the Bonne Pierre glacier. The German and the lady were killed, and the survivor badly injured. This tragedy naturally came home to us the more as we had last seen the party only a few moments before they fell.

The following year we travelled in Hope's car, and halting on our way over the St. Gothard, went to the Rotondo hut, intending to climb Pizzo Rotondo next day. On reaching the hut we heard that two Swiss, without guides, had fallen while descending the N. face of the mountain that afternoon, that one of them had been killed, and the other had gone down for help. We asked someone in the hut whether they were sure that the man who had been hurt was dead before the other left him, and the answer was that he was dead by this time anyhow!

We have happily only experienced one accident ourselves, and that a very small one. It happened on the Aiguille du Géant. The provisioned hut on the col was crowded, and we could not get our morning coffee as early as we wished, so that one or two parties started for the mountain before us, the first consisting of four Tyrolese, one of whom was a lady, without guides. We were following them up a snow slope and heard them dislodging stones on the rocks above. We sent up maledictions, though we thought we were safe, as we were on a sort of hog's back; but notwithstanding, a small sharp three-cornered stone came buzzing down at a tremendous pace, and hit me on the upper right arm. In a minute or two I saw that my hand was covered with blood, and when I took off my coat, the sleeve of my shirt was saturated, the result probably of a small vein having been cut. Hope, who had carried first-aid equipment for years, without any opportunity of using it, washed the wound with snow, applied lint, binding it with a handkerchief, and utilized my muffler as a sling. I found having only the use of my left hand a decided handicap in descending the rocks, and in the passage of the Géant ice fall.

In our early days when it became known that we were going to climb a serious mountain without guides, the local people were apt to get a good deal exercised, and usually tried to dissuade us. Nowadays climbing without guides has become

quite common, and among the younger foreign climbers seems to be the rule rather than the exception.

We had an amusing experience about twenty-five years ago, when we arrived at the Tiefengletscher Hotel, intending to climb the Galenstock from the Tiefen Glacier. This suggested itself to us from Conway's descent of the mountain by that side, in his journey through the Alps from end to end. When the hotel people discovered our plans, they seemed a good deal excited over them, as no one had ever gone up the Galenstock from their hotel, and we received a message that 'Madame' would furnish us with a guide and with all the wine and provisions we wanted, if we would write to Baedeker in case of our success. It was clear that we were to show the local guide the way for future use, but we said that we preferred going without guides, and that we had all the provisions we needed, except some eggs, for which we must pay. When the basket of eggs appeared next morning a large flask of cognac lay ensconced among them. This would not have helped us at all, and we returned it with thanks. 'Madame' was up herself at 4 A.M. to see us off, and asked us to send her a postcard as a *témoïn* if we succeeded, and also begged us to be sure to write to Baedeker. The ascent gave no trouble, and after spending an hour and a half enjoying the splendid view, we descended by the ordinary route to the Rhône glacier. We duly sent Madame her postcard and wrote to Baedeker, but I do not think he noted our expedition in his next edition.

Returning one year from Verona—where, shades of ancient days! there was a circus going on in the amphitheatre, lit up with electric light—by the Simplon line, we drove from Iselle to Gondo, the first village over the Swiss frontier, with the intention of going across country to Arolla; which we did, climbing the Weissmies, Südlenzspitze, and Grand Cornier on the way.

During lunch at Gondo the landlord asked where we were going, and pressed us to take a guide. When we refused, he said that a 'personne' was going in the same direction and would show us the way; but we said we preferred to go alone. However, soon after we had started up the Zwischbergen Valley we found a man with a heavy load on his back following us. We stopped to let him pass, but he stopped too, and when we went on, he went on. After a time we began to talk to him, and ascertained that his pack weighed about 80 lbs. and contained coffee and tobacco, which he intended to smuggle into Italy that night, and during the first portion of the journey

he was trying to pose as our guide and porter in order to avert suspicion. I do not know how he fared, but we spent the night at Galgi, where we supped in a cheese hut, and slept very comfortably in hay.

As I look back on the days we have spent among the mountains, it is borne in upon me how much of the interest and enjoyment have been due to the fact that we have always climbed without guides. This has restricted us in the past from some of the *courses extraordinaires*, which only a few guideless parties can accomplish, and now handicaps us the more as compared with those who have the assistance of young and vigorous guides.

But having consistently kept to the guideless way for so many years, we have never even considered the question of employing professional help, and so our climbing is now replaced by walking up-hill, and glacier expeditions.

THE GRANDS MULETS IN ALPINE ILLUSTRATION.

By J. MONROE THORINGTON, M.D.

'But the old school will never think any mountain so interesting or so beautiful as Mont Blanc.'—C. E. MATHEWS.

AN interest in Alpine illustration, while by no means a new phase of pictorial appreciation, is certain to be aroused in any mountaineer who takes the trouble to look through a series of the books of mountain travel published during the past hundred years. The quaintness of many of these old views makes them most attractive. Mr. Freshfield¹ has remarked on this subject, as has also Dr. Coolidge,² the latter stating, 'It would be very instructive to take some one subject and follow the representation given of it in various works. . . . Apart from their historical importance as showing the increasing amount of interest taken in the phenomena of the ice-world, these engravings, however rough and rude, ought to be of some value in controlling and correcting the very vague reports as to the advance or retreat of glaciers. Of no other glacier than

¹ 'The History of the Buet,' *A.J.* 9, 15-18.

² *Swiss Travel and Swiss Guide-Books*, W. A. B. Coolidge (Longmans, Green & Co., London, 1889), p. 166.

the Lower Grindelwald one probably is there such a complete series of views.'

Charles Gos³ has recently carried the idea into effect in his attractive pictorial history of the Matterhorn. In a more general and elaborate fashion, similar work has been undertaken by E. W. Brecht,⁴ and especially by Alfred Steinitzer,⁵ to indicate the progress of Alpine art and illustration over extensive time periods.

It has been an enjoyable pastime with me to attempt the classification of the illustrations in my own mountaineering library, in which there are at present about four hundred volumes. Of these, some thirty volumes were published in the Eighteenth century, including books by Scheuchzer, Ruchat, Stanyan, Burnet, Windham and Martel, Gruner, Wyttenbach, Bourrit, and others. Out of the entire collection, I find that approximately one hundred and thirty items may be grouped as a bibliography of Mont Blanc (that is, their titles occur either in the bibliography of C. E. Mathews⁶ or of H. F. Montagnier),⁷ a fact not so strange when one considers the overwhelming preponderance of early narratives dealing with ascents of Mont Blanc.

In classifying the illustrations I have made my task easier by consulting only volumes in my own collection and by omitting books illustrated by modern photographic methods—roughly after 1870. A large group of books is automatically excluded

³ *Le Cervin par l'Image*, Charles Gos (Dardel, Chambéry, 1923).

⁴ *Die Alpen und ihre Maler*, E. W. Brecht (Thomas, Leipzig, n.d.).

⁵ *Der Alpinismus in Bildern*, Alfred Steinitzer (Piper, München, 1913; 2te Aufl., 1924).

Mention may here be made of three plates, in which the Grands Mulets rocks are indicated, reproduced in *La Montagne à travers les Ages*, John Grand Carteret (Grenoble-Moutiers, 1904. 2 vols.: vol. 1, p. 559, 'Montée de M. de Saussure sur la cime du Mont-Blanc au mois d'Aoust 1785' (Lith. de Kellner à Genève, Chez les frères Manega); vol. 2, p. 89, *Couverture d'un album sur le Mont-Blanc* (Genève, Briquet & Dubois, vers 1840); vol. 2, p. 289, *Les guides de Chamonix faisant l'ascension du Mont-Blanc pour arborer le drapeau français, le 5 juillet*, Gustave Doré (Le Monde Illustré, juillet 1860). In this engraving, executed with great vigour, no less than twenty-six figures are introduced into so interesting if somewhat imaginative a composition.

⁶ *The Annals of Mont Blanc*, Charles Edward Mathews (T. Fisher Unwin, London, 1898).

⁷ *A.J.* 25, 608. The bibliography covers the period 1786-1853.

through the fact that they possess no illustrations. I have further limited the illustrations classified to those which depict some very definite topographic feature, excluding pure climbing scenes which are often highly imaginary and fantastic.

Although, as Dr. Coolidge says, the series of pictures of the Lower Grindelwald glacier is very complete (the earliest appeared in 1674), in my own collection the total number of pictures of the Mer de Glace, although beginning at a later date (Gruner, 1760), is far greater than of any other ice-stream in the Alps. The Rhone glacier also appears frequently and in curious delineation (Ruchat, Gruner, and others).

The illustrations of the Mer de Glace may be conveniently subdivided according to the viewpoint: Flégère (usually panoramic); Arveiron sources; Montanvert; Jardin; Col de Balme. Views from the latter point are of especial interest, since the glacier tongue is in lateral profile and shows the extent of the ice into the valley.

There are several reasons why the early illustrations were not always true to nature. The traveller who chose to illustrate his own work was often a poor draughtsman. If he made no sketches at the time, the illustration was entrusted to an artist who was usually unfamiliar with the nature of any subject he was depicting. Finally, a great number of illustrations were copied from already existing pictures, the errors carried over and usually increased.

Of the topographical details of Mont Blanc itself, none received greater attention at the hands of illustrators than the rocks of the Grands Mulets. De Saussure's ascent of the mountain was responsible for much of this artistic interest, and in the earliest pictures the Grands Mulets appears merely as a background to the climbers.

Jacques Balmat is the first person known to have visited the Grands Mulets, and, according to Alexandre Dumas,⁸ he had spent at least one night there prior to 1787. On the first successful ascent, with Dr. Paccard, in 1786, the bivouac was on the Montagne de la Côte. De Saussure, in 1787, breakfasted on the lower rocks of the Grands Mulets after a night on the Montagne de la Côte. He writes,⁹ ' Il faut d'abord traverser le glacier de la Côte pour gagner le pied d'une petite chaîne de

⁸ *Impressions de Voyage*, Alexandre Dumas (Michel Lévy Frères, Paris, 1851), vol. i. p. 122.

⁹ *Voyages dans les Alpes*, Horace-Bénédict de Saussure (Louis Fouche-Borel, Neuchatel, 1796), vol. vii. p. 228.

rocs qui sont enclavés dans les neiges du Mont-Blanc.' The second night was spent, below the Grand Plateau, in a hole in the snow covered with a tent which they had carried with them. After the ascent, de Saussure spent a third night at the upper rocks of the Grands Mulets, which he named 'le rocher de l'heureux retour,' the exact place being not far below the Petit Plateau at the base of the Aiguille Pitschner.¹⁰

Bourrit¹¹ seems to have been the first to mention the rocks by their usual name, writing, 'On atteignit ensuite une groupe de rochers appelés les mulets du Mont-Blanc.'

The shelters erected at the Grands Mulets are of no little interest¹²:

1. CABANE DE SAUSSURE.—As Bourrit¹³ says, 'le gîte est situé derrière les rocs (vus de Chamonix) et aux pieds (sic) du glacier.' Beaufoy (1787) spent the night there and states that it 'had been erected the previous year by the order and at the expense of M. de Saussure.' It was probably little more than a natural

¹⁰ 'Le nom d' *Aiguille Pitschner* lui a été donné en vertu d'une délibération du conseil de la compagnie des guides (17 septembre 1861), à la requête de M. E. de Catelin, commissaire spécial de police à Chamonix. C'est le seul cas, à ma connaissance, où la compagnie des guides soit intervenue aussi solennellement pour baptiser un des pics du Mont-Blanc.' *Le Mont-Blanc*, Charles Durier (Fischbacher, Paris, 1897), p. 251.

'Chamonix, August 1918.—The Rocher Pitschner, named after a Prussian professor who ascended Mont Blanc in 1859, with great tribulation (as related by himself), is to be re-named Pic Wilson—after the President of the United States. Delegations from various Alpine Clubs are to attend at the Grands Mulets.' *A.J.* 32, 277.

There was a subsequent ceremony on the summit of M. Blanc when the U.S. flag was raised and the new name formally adopted.

¹¹ *Description des Cols ou Passages des Alpes*, Marc-Théodore Bourrit (G. J. Manget, Genève, 1803), vol. i. p. 80. Bourrit's earliest use of the name was in the *Journal de Genève* for August 23, 1788, where he says 'Après cent détours et trois heures d'inquiétudes nous avons le bonheur d'arriver au pied des Grands Mulets, rochers qui séparent le glacier en deux parties.' It is therefore probable that the name originated among the guides about the time of Woodley's ascent (1788). See *A.J.* 30, 114.

¹² *Le Mont Blanc*, p. 441. See also an article by M. J. Vallot in *Annuaire du C.A.F.*, 1888. The plans and details of the 1896 construction may be found in *Revue du Mont-Blanc* (M. Raffin, Thonon), for June 9, 1897.

¹³ *Journal de Genève*, 23 août 1788. Also, *Description des Cols*, vol. i. p. 107; and *Voyages dans les Alpes*, vol. vii. p. 256 (§ 1976).

grotto, enlarged and walled in. It was used by Dorthesen and Forneret (1802), but seems not to have been occupied by subsequent parties, although Le Pileur¹⁴ noted its ruins as late as 1844.

Woodley (1788) carried two tents to the rocks, and by the time of Undrell (1819) most of the original shelter had probably been burnt for firewood. Clissold (1822) did not remain at the Grands Mulets but bivouacked at the Rochers Rouges—the highest bivouac hitherto made in the Alps. He was on the summit before six in the morning, and was the first to make the round trip from Chamonix in less than forty-eight hours.

2. **ABRI PRIMITIF.**—Howard and van Rensselaer (1819) constructed a tent out of sheets and for a number of years this was the customary shelter on the Grands Mulets. The sleeping place remained close to the original site of de Saussure's bivouac. The use of a sheet-tent was followed by Sherwill and Clark (1825), Hawes and Fellows (1827), Auldjo (1827), Wilbraham (1830), and Barry (1834). Hawes and Fellows made use of the sheet which Jackson had taken there four years previously, so the cloth was evidently of good quality.

Durnford and Henderson,¹⁵ who accompanied Hamel on the disastrous attempt of 1820, carried fireworks to the Grands Mulets for the delectation of their friends in the valley below—'l'effet eût été magnifique, lorsque à un moment donné, le Mont Blanc serait illuminé par les flammes de Bengale.'

On the occasion of the ascent by Nicholson and Abbé Caux (1843) the Abbé performed evening service on the rocks of the Grands Mulets.

Bravais, Martins and Le Pileur (1844), and Galton (1850), carried tents to the rocks, while Albert Smith (1851), and the large party with him, slept under the open sky.

3. **ANCIEN REFUGE.**—This was a wooden cabin, built by the Chamonix guides in 1853, at an elevation of 3050 m. on the southern summit of the rocks on a little platform, and was in use there until 1866.

4. **PREMIÈRE HÔTELLERIE.**—This was built adjoining the site of de Saussure's cavern, and was under the proprietorship of Silvain Couttet from 1868 until 1881. Couttet brought down the remains of the Ancien Refuge and joined it to the kitchen of the new structure, forming a room for the guides.

5. **DEUXIÈME HÔTELLERIE.**—This building resulted from the moving of the first hostelry and its enlargement on the north

¹⁴ *L'Illustration*, 5 octobre 1844.

¹⁵ *Le Mont-Blanc*, p. 347.

summit of the Grands Mulets in 1881. Its elevation was 3067 m. It consisted of a kitchen and four bedrooms, each containing two beds, the expense of construction being defrayed by the Commune of Chamonix.

6. TROISIÈME HÔTELLERIE.—The present building was begun in 1896 and inaugurated in the following year, being erected on the site of the Ancien Refuge of 1853. It contained eight bedrooms and a large kitchen.

The first illustrations of the Grands Mulets appeared as separate plates following the ascent of de Saussure, and in the narratives of later climbers. My own series of these pictures is listed and described as follows.

1. *ca.* 1790. Deroy.¹⁶ In this coloured lithograph, 'Ascension du Montblanc,' printed in Paris at the end of the Eighteenth century, the Grands Mulets chain appears as a jagged background to a group of sixteen climbers engaged in crossing a crevasse. All of the climbers have pointed alpenstocks, and a ladder is used to bridge the chasm, but no rope is in sight.

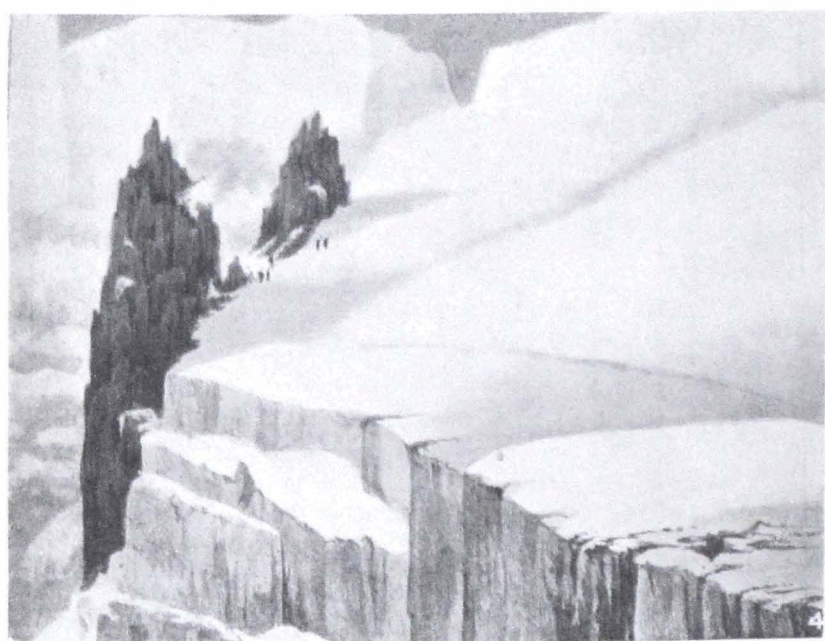
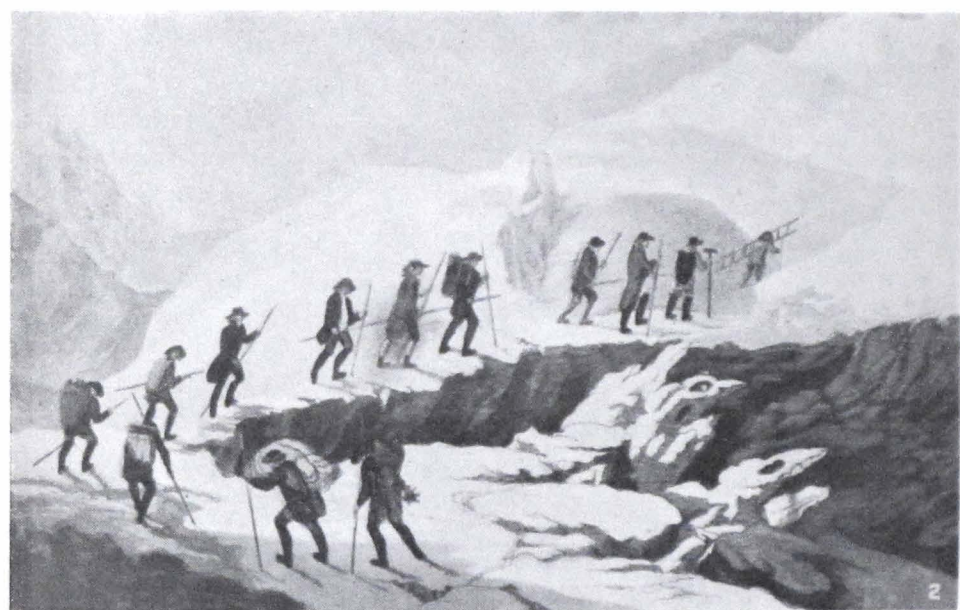
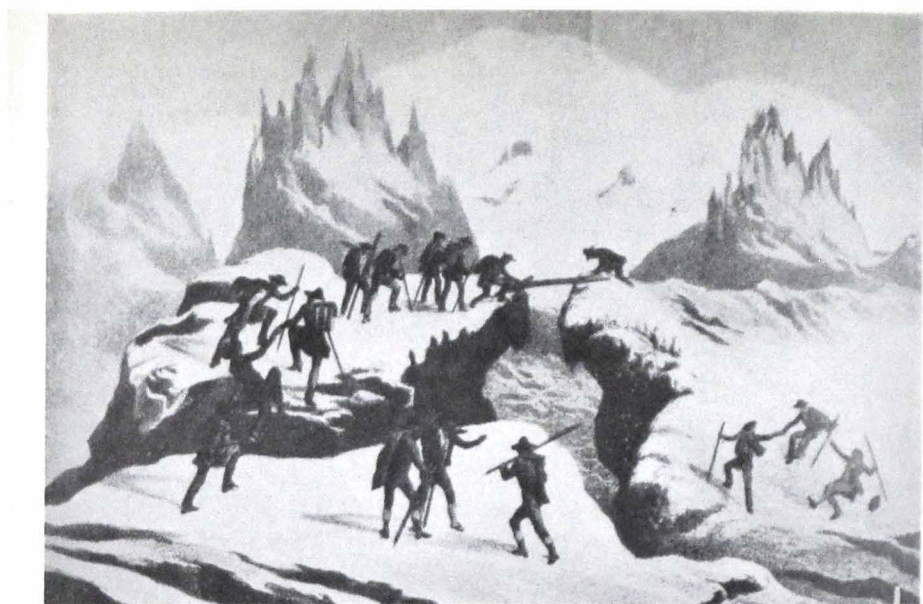
2. 1790. Christien de Mechel.¹⁷ 'Voyage de Mr. de Saussure à la cime du Mont-Blanc au mois d'Août 1787' is the title of a quaint plate which Albert Smith later reproduced as the frontispiece of his own book. There are thirteen climbers in the picture. A leading guide carries a ladder,¹⁸ while another has a long-shafted pick, while the travellers, in colourful frock-coats and broad-brimmed hats, follow. The travellers and guides are supplied with alpenstocks and walk in groups of three,

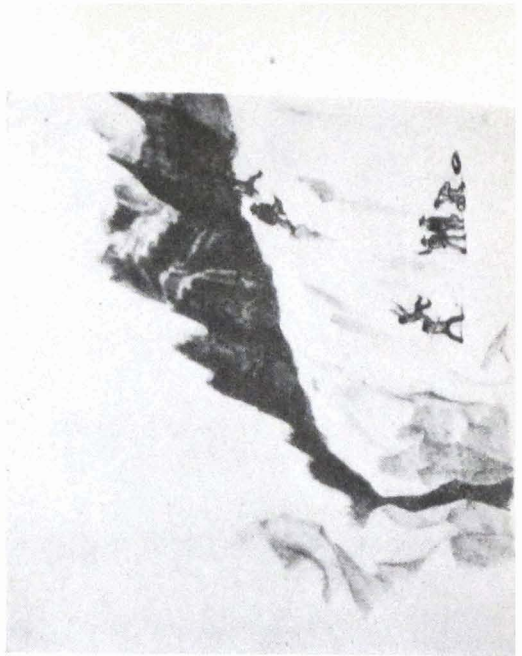
¹⁶ Reproduced in *Der Alpinismus in Bildern*, p. 49.

¹⁷ *Der Alpinismus in Bildern*, p. 50. Also *The Story of Mont Blanc*, Albert Smith (David Bogue, London, 1853), first edition, frontispiece.

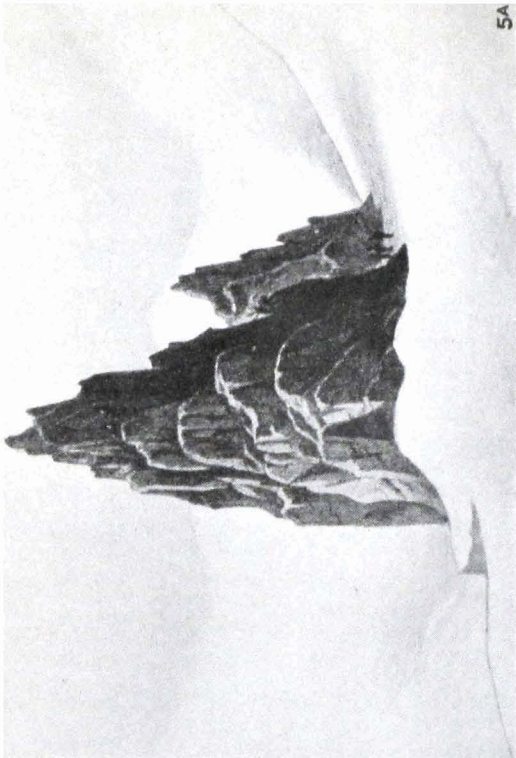
¹⁸ 'L'échelle, *invention de Saussure*, n'est plus guère d'usage.' *Le Mont-Blanc*, p. 132. But the use of the rope was understood even in de Saussure's day, although it was not used continually: 'Heureusement ils avoient eu la précaution de se lier les uns aux autres avec les cordes,' *Voyages dans les Alpes*, vol. vii. p. 229; also p. 259 (§ 1978).

For notations on the early use of special alpine equipment consult *Josias Simler et Les Origines de l'Alpinisme jusqu'en 1600*, W. A. B. Coolidge (Allier Frères, Grenoble, 1904), p. 134, *et seq.* Ladders were used by Antoine de Ville on the occasion of his ascent of Mont Aiguille in 1492, and by M. de Candale during an attempt on the Pic du Midi d'Ossau (de Pau) in 1555. But these were isolated instances, and it is not probable that ladders were much in vogue, at least for glacier work, until the early ascents of Mont Blanc.





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holding fast to a long pole, one tourist between two guides. The Grands Mulets ridge, pink and misty, rises in the background.

3. ca. 1800. L. Bleuler.¹⁹ An interesting old print, published in Schaffhausen at the beginning of the Nineteenth century, is entitled 'Passage d'une Crevasse du Glacier des Bossons.' A party of more than a dozen climbers is descending from the Grands Mulets, shown in jagged silhouette against the clouds of the central horizon, to reach the Glacier des Pèlerins. Not only is the picture one of the few in which climbers are shown coming down the mountain, but it illustrates the elaborate ladder technique then in vogue. The men have three long ladders, two of which are being used to bridge a gigantic chasm in the foreground. Rope is not in evidence, but most of the climbers have long alpenstocks and appear to be making good progress. [*Not illustrated.*]

4. 1827. Hawes and Fellows.²⁰ This is the earliest narrative I have seen containing pictorial representation of the Grands Mulets. The plates, some if not all being drawn by Fellows himself, are in colour and very attractive. They were lithographed by C. Hullmandel. In several the climbers are shown roped together in groups of three or four, neither axe nor ladder being in evidence.

'Arriving at the Grands Mulets' shows a bristling rock-spire attached to the brink of an icy precipice. Five climbers are yet on the snow, but seven have reached a high ledge and are standing by a blazing fire.

My copy of this book is inscribed to 'William Hawes, Esq., from his fellow traveller The Author.'

5. 1827. Auldjo.²¹ The lithographs in this book are beautifully done, the valley scenes being for the most part from sketches by Birmann. The author has drawn the amusing climbing pictures, several of which bear the influence of plates in Fellows' book. C. Hullmandel was the lithographer, the plates being uncoloured.

The Grands Mulets appears twice. 'Scaling a Wall of Ice'

¹⁹ *Der Alpinismus in Bildern*, p. 54.

²⁰ *Narrative of the Ascent to the Summit of Mont Blanc of 25 July 1827*, Charles Fellows (Thomas Davidson, London, 1827), p. 14.

²¹ *Narrative of an Ascent to the Summit of Mont Blanc on the 8th and 9th August 1827*, John Auldjo (Longman, Rees, Orme, Brown and Green, London, 1828), pp. 18, 22. The book is a large-paper 4to, with India-paper proofs. A second edition, 8vo, appeared in 1830.

presents the rocks as a background of cubistic molars to a group of nine climbers, seven of whom are roped and crossing a chasm.

'The Grand Mulet' rises as a rocky fang in a snowy waste; three climbers are at the top of the rocks, two on a lower point, and three below on the snow.

6. 1834. Barry.²² 'The Guide Couttet, ascending the Ice Cliff to gain the Grand Mulet Rock,' and 'The Guides, Couttet and Balmat, having gained the Grand Mulet Rock, drawing up the rest of the party,' are two brightly coloured plates which are interesting from the technique depicted. Couttet, with alpenstock in his left hand and axe in his right, hews a staircase up a precipitous ice-bulge, after which the rest of the party comes up. Seven climbers are shown, the first three roped together.

The original sketches are by the author, the lithography being done by D. Volck, Heidelberg.

7. 1834. de Tilly.²³ 'Escalade du Rocher des grands mulets' is a plate on which is shown a sharp symmetrical pyramid of rock, with seven climbers ascending ledges towards the top where the sleeping place had so long been established. The Count is seen in the act of crossing a snow couloir, supporting himself by a short rope *held* between the leading guides.

The drawing, which is uncoloured, was made by Siméon Fort, and the lithography done by de Thierry frères.

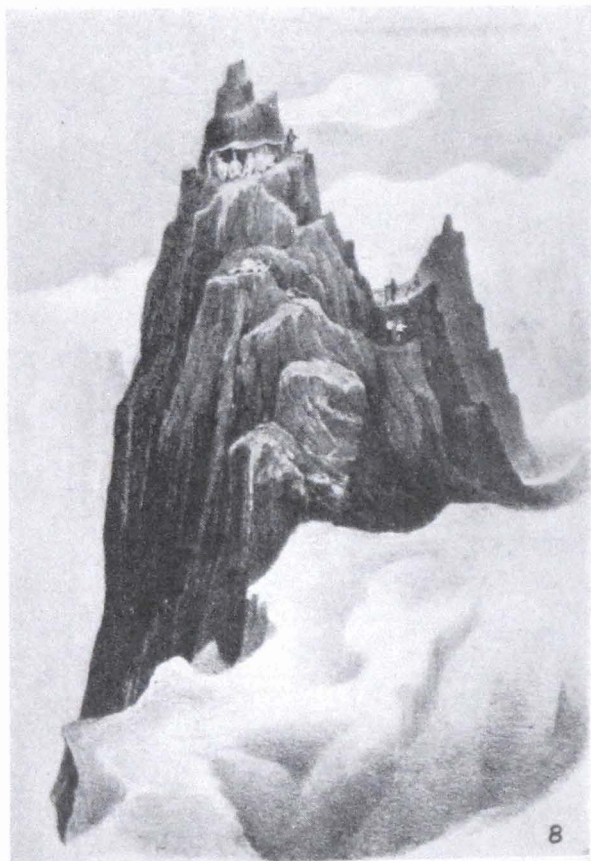
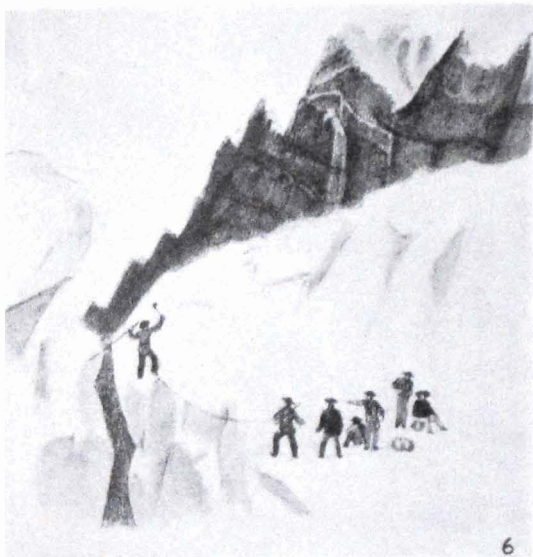
8. 1837. Atkins,²⁴ Pidwel, and Hendrengen. The plates in Atkins' book are enlivened by the presence of Michel Balmat's dog, the Jacques Balmat of his kind, not only the first canine to reach the summit of Mont Blanc, but the predecessor of Dr. Coolidge's Tschingel and Silvain Couttet's Finette in mountaineering accomplishment.

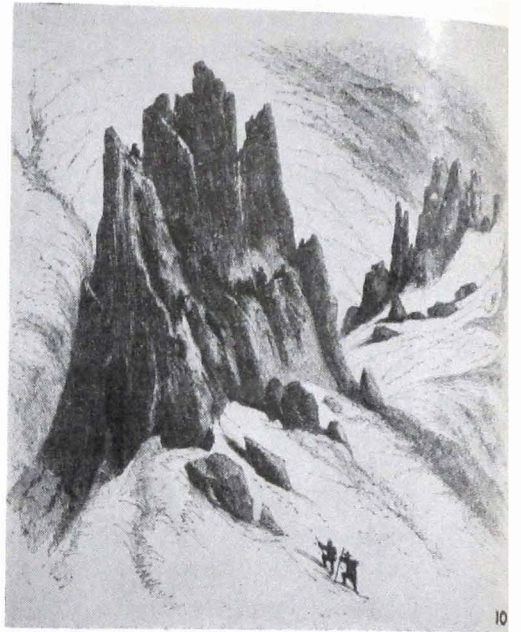
'Bivouac on the Grands Mulets' shows the rock rising from the ice in a series of ledges and pinnacles. A canopy has been

²² *Ascent to the Summit of Mont Blanc in 1834*, Martin Barry (William Blackwood & Sons. Edinburgh, 1836), frontispiece and p. 25. There was also a privately printed edition (1835), in which the plates are uncoloured. My copy of the latter is inscribed to 'Charlotte Platt, respectfully presented by The Author, Jersey, 28th IV. mo. (April) 1841.'

²³ *Ascension aux cimes de l'Etna et du Mont-Blanc*, Henri de Tilly (Berthier-Guers, Genève, 1835), p. 34.

²⁴ *Ascent to the Summit of Mont Blanc on the 22nd and 23rd of August 1837*, Henry Martin Atkins (not published, London, 1838), p. 21. The copies contain the author's autograph; mine has also the beautiful bookplate of Thomas Brushfield, M.A.





erected near the top, under which five climbers sit sedately. Outside stands a guide, with the dog at his feet. Below, tucked away in nooks in the rock or searching for a comfortable bivouac, are eight other figures.

The lithographs, uncoloured, were done by J. E. Netherclift. One suspects that the rock outlines of the Grands Mulets were copied from Auldjo. I know of no earlier book containing a plate of the actual summit of Mont Blanc.

9. 1850. Galton.²⁵ The sketches, made by the author, who frankly admits that he is not accustomed to draw, were copied and improved by Mr. Jewitt of Plymouth. The result is that the six illustrations made for Galton's paper are among the most lurid woodcuts which one can discover in mountaineering literature. The climbers are either falling or about to fall, or are in danger of being overwhelmed by breaking cornices; in every picture one feels that a disaster is imminent.

'The Grands Mulets—Evening View' presents a background of spiked peaks, worthy of the Himalaya. On a ledge, appalling in steepness, are four climbers, prone and flattened as if they had been run over by a steam-roller. Two long poles are slanted upward from the edge of the ledge to the lateral wall above, apparently to keep the cliff from toppling over. The climbers wear top-hats, and by some means have brought up a large cask with them which is in evidence in the foreground. On the extreme point of the ledge a fire is blazing, while a skillet and a frying-pan repose near by in orderly fashion.

10. 1851. Smith,²⁶ Sackville West, Floyd, Philips, and Vansittart. A little woodcut, 'The Bivouac on the Grands Mulets,' shows the rocks as a truncated pyramid, with several pinnacles fallen to the snow. There are two climbers coming up the glacier, and two much higher, on slopes above the bivouac, while one counts some twelve figures in various attitudes of discomfort clinging to the rocks. A lantern on the end of a pole illuminates the central group. That they were not uncomfortable one is, however, assured on reading Smith's amusing account of the wine-bottle races on the glacier that evening.

In the hand-book ²⁷ used for the exhibition at Egyptian Hall

²⁵ 'Recent Ascent of Mont Blanc,' Erasmus Galton, *Illustrated London News*, February 8, 1851, pp. 93-94.

²⁶ *The Story of Mont Blanc*, Albert Smith (David Bogue, London, 1853), frontispiece and p. 178.

²⁷ *A Hand-Book of Mr. Albert Smith's Ascent of Mont Blanc*, first represented at the Egyptian Hall, Piccadilly, Monday evening, March 15, 1852. Illustrated by Mr. William Beverly.

there is introduced a clearer drawing of 'The Grands Mulets Rocks by sunset.' The climbers from below have just reached the bivouac and the ledge assumes a much more restful appearance. Two of the guides have gone out on the snow to explore the way for the morrow.

As frontispiece to the second edition²⁸ of Albert Smith's book, the coloured plate of de Saussure's ascent, already considered (Christien de Mechel), has been replaced by a view of 'The Hut lately erected on the Grands Mulets.' The rocks rise into a series of smooth steep cones and Mont Blanc towers behind; the little hut is shown on a ledge beside a huge boulder, and a group of climbers are enjoying the afternoon sun.

Mr. Adams Reilly,²⁹ in 1862, made a drawing of the hut, showing its snug position in the rocks; two climbers recline on the roof, sunning themselves, while a third is seated outside on a bench. The hut is apparently of stone,³⁰ the door and two windows are visible, and one would estimate the floor dimensions to be not more than 8 × 12 ft. The drawing is entitled 'The First Hut on the Grands Mulets.'

11. ca. 1851. Müller.³¹ In a little souvenir booklet illustrating the scenery of the Chamonix valley, one of the many which appeared during the '50's, is a small uncoloured lithograph entitled 'Les Grands Mulets.' It is undoubtedly a composite plate, copied from portions of the two plates by Auldjo, mentioned above.

Nine climbers, roped together and carrying long alpenstocks, are crossing a huge crevasse below the Grands Mulets, the chasm bridged by a short ladder.

12. 1852. Browne.³² In the series of large lithographs made from the author's own sketches there are two in relation to the Grands Mulets.

'Incident before reaching the Grands Mulets' is a thrilling scene in which nine top-hatted figures, unroped, are storming

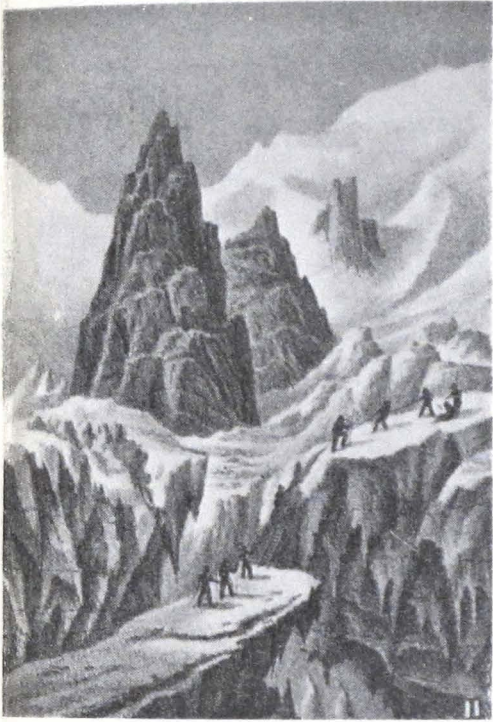
²⁸ The second edition, enlarged, appeared in 1854.

²⁹ *The Annals of Mont Blanc*, p. 264.

³⁰ 'Elle était en bois de sapin; pour la rendre plus solide, on la doubla d'un mur extérieur en pierres sèches; quelques éclats de roc posés sur les bardeaux affermirent la toiture.' *Le Mont-Blanc*, p. 279.

³¹ *Souvenir du Mont-Blanc, de Chamonix et des bains de Saint-Gervais*, 26 vues et 2 panoramas, lithogr., par Müller, s.d.

³² *Ten Scenes in the last ascent of Mont Blanc*, J. D. H. Browne (Thos. McLean, London, 1853), folio.



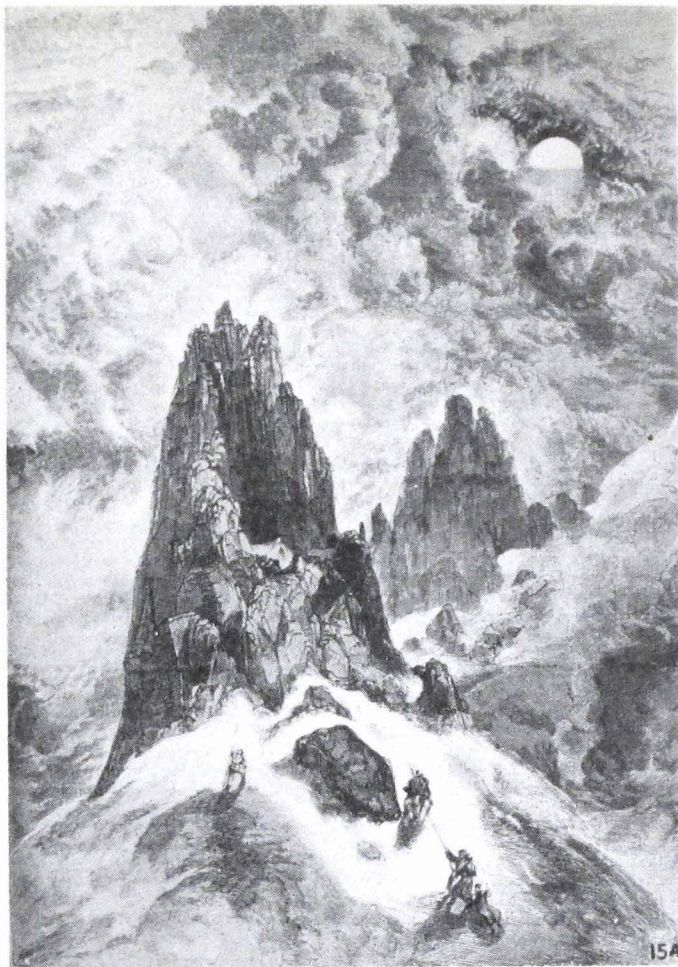
11



12



12A



a corniced snow ridge that springs from fathomless depths and no apparent base. The central group of climbers supports a sagging ladder, by means of which one of their number crosses a crevasse. The Grands Mulets appears, like a small volcanic cone, floating in the upper distance.

'Camp on the Grands Mulets' shows the climbers at rest on a ledge of the rocks. A guide, on the snow, is opening a bottle of wine; two are cooking over a small fire, while a third has scrambled out on the precipitous rock face and waves a flag towards the valley.

13. 1852. Bulwer.³³ The account of the author's uncompleted ascent of Mont Blanc is illustrated with etchings by F. Sands. That of 'The Grands Mulets' shows a pointed rock mass, without much recognizable detail. Seven climbers are seen in various attitudes on a broad shelf of rock, the general effect being decidedly theatrical.

14. 1853. Anonymous.³⁴ An illustration, without title, shows eight climbers, seven of whom are roped together, the leader unroped. They are crossing a chasm without the aid of a ladder, and must have had supernatural assistance in attaining success. The Grands Mulets raises multiple rock-fangs in the distance. The woodcut is evidently a poor copy from Auldjo, as are the other engravings in the same paper. [*Not illustrated.*]

14A. 1853. J. J. MacGregor.^{34A} 'Leaving the Grands Mulets' is the title of the second of a series of four prints by Baxter, illustrating the ascent of Mont Blanc by J. MacGregor, the latter being responsible for the original sketches and the description accompanying them.

On the occasion of this ascent (September 20, 1853) one of the largest groups hitherto on the mountain assembled at the Grands Mulets. Albert Smith, who was of the company, states: 'We were nearly fifty in number, as well as I can recollect. The tourists consisted of Lord Killeen, Colonel de Bathe (of the Scots Fusilier Guards), Mr. Howard Russell (the gentleman whose "Gallipoli Letters" in *The Times* have

³³ *Extracts from My Journal*, J. R. Bulwer (Charles Muskett, Norwich, 1853), p. 11. Printed for private circulation.

³⁴ 'Climb to the Highest Point in Europe,' *Leisure Hour*, July 21, 1853, p. 465.

^{34A} *The Ascent of Mont Blanc*. A series of four views, printed in oil colours by George Baxter, the original sketches and the description by J. MacGregor, Esq., M.A. London, 1855.

excited so much interest), Mr. MacGregor, Mr. Fanshawe, Mr. Shuldham, Mr. Burrowes, and myself. . . . we were joined by the younger Kehrli (who keeps the Bazaar), from Chamouni, accompanied by Benoît, the *sommelier* of the Hôtel de Londres. . . . Mr. MacGregor, Mr. Shuldham, Kehrli, and Benoît returned [to Chamonix] about three in the afternoon, after a most successful ascent.'

Mr. MacGregor alludes to 'the malicious revelry of Albert Smith [who had made the ascent in 1851] and others who were not going further.'

The print presents the Grands Mulets in startling, coniferous outline against the night sky. A full moon sheds its light over the glacier, while eleven unroped climbers begin the ascent. One appears to have a rope slung over his shoulders; another has a ladder; all have alpenstocks. The new hut is seen in a corner of the rocks, with no fewer than twenty-three figures clustered on the adjacent snow, watching the advance of the climbers.

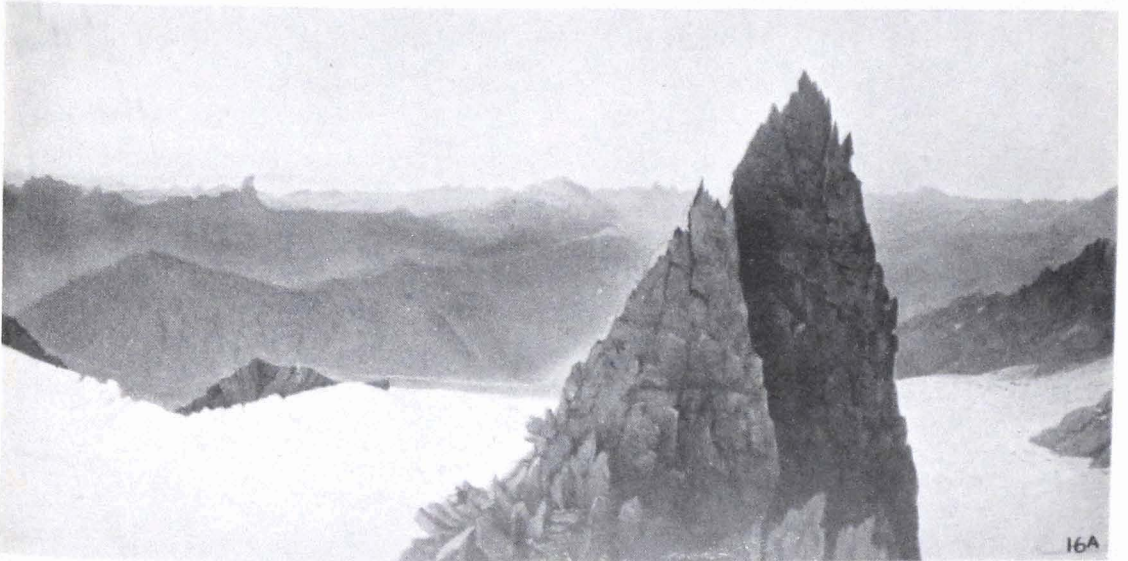
15. 1854. Williams.³⁵ 'Climbing a Wall of Ice' is a woodcut in which some fifteen climbers are seen. There is an enormous crevasse, filled with swirling mist; a group of climbers has passed over, the last seven roped together and crossing with the aid of a long, slim ladder. It looks very dangerous. The dark spires of the Grands Mulets rise in the background, the base shrouded in cloud. The influence of Auldjo is marked. [*Not illustrated.*]

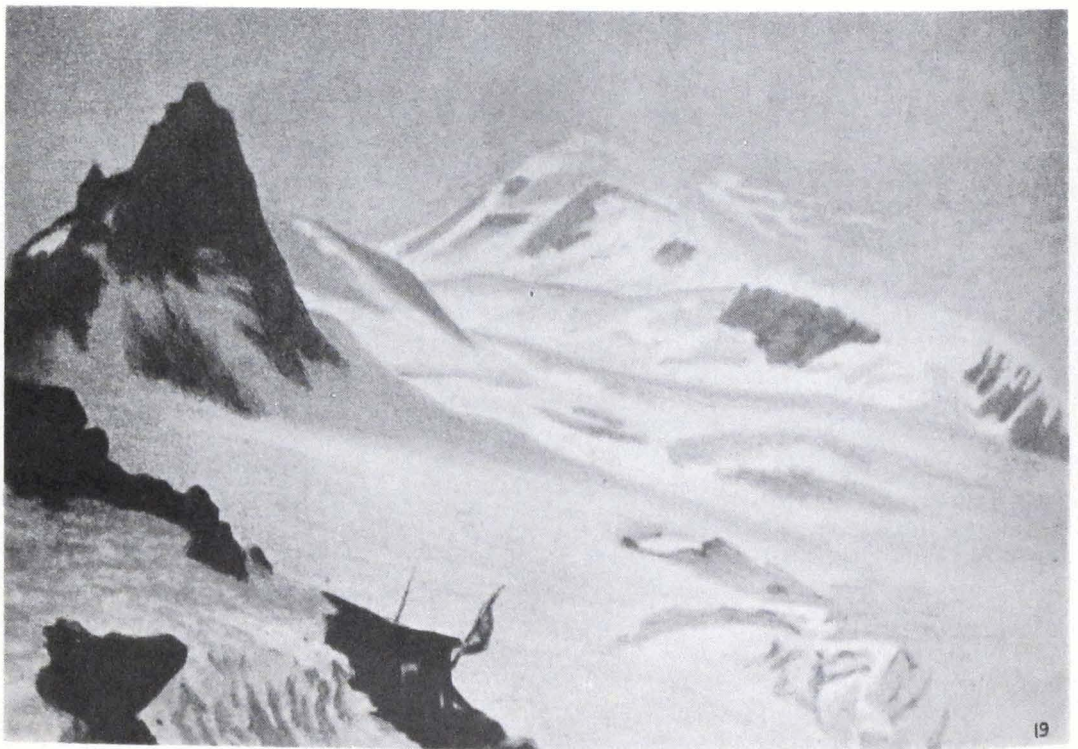
'The Grands Mulets' presents a scene reminiscent of Albert Smith. The sun is setting in the southern heavens, with masses of cloud obscuring Mont Blanc. The Grands Mulets towers in organ-pipe columns, but contains a deep recess and a splendid ledge on which a large tent is pitched. A large party is seated in a circle before the tent, illuminated as if in fire-light. Seven climbers are yet below on the snow; six are roped together—three at each end of a long rope—and seem to be pulling in opposite directions.

16. 1859. Coleman.³⁶ The coloured plates in this volume

³⁵ *The Alps, Switzerland and the North of Italy*, Charles Williams (Alexander Montgomery, New York, 1854), pp. 73, 77.

³⁶ *Scenes from the Snow-Fields*, from sketches made on the spot in the years 1855–58, Edmund T. Coleman (Longmans, Brown, Green, Longmans and Roberts, London, 1859), folio, plates iv., vi., vii. The plates were lithographed and printed in colours by Vincent Brooks.





were by far the best hitherto made of the snow scenery of the Mont Blanc chain, the author being an artist of repute.

'The Glacier du Tacconay' shows a snowy waste of pinnacled seracs. Six climbers, unroped, are seen approaching a snow bridge. One lags behind and is dragging up a ladder. The Grands Mulets is a serrated rock-fin, rising at the apex of a skyline of toppling seracs, with the tip of the Dôme du Gôuter peeping over at the right. [*Not illustrated.*]

'View from the Grands Mulets, looking towards the mountain, shows the cabin in the foreground, much as in the sketch made later by Mr. Adams Reilly. A climber is sitting on a huge slab by the front door. The Aiguille Pitschner is a sharp spike in the central background, with the Dôme du Gôuter to the right and the lighted dome of Mont Blanc receding to the left, giving a suggestion of the spaciousness of the Grand Plateau.

'View from the Grands Mulets looking over the valley' is a lovely twilight scene, with the castellated groups of Fours and Varens, the Rochers des Fys and the Pointe de Sales, and the range of the Jura, against a saffron horizon. The Buet and the Dent du Midi appear just to the left of the Grands Mulets pinnacles, and to the right the Diablerets. Beyond the valley, where the Arve is seen, rise the slopes of the Brévent, and the Aiguilles Rouges almost lost in mist. A climber sits on a ledge of the Grands Mulets, looking out across the ice at the grandeur of the surroundings. See coloured plate, 'A.J.' 31, opp. p. 1.

17. 1859. Pitschner.³⁷ The coloured lithographs from sketches by the author have a classic reputation as spectacular. They were lithographed and printed by C. Ullrich.

'Meine Ueberschreitung der Gletscher von Buissons und Tacconay in der Nähe der Grands Mulets-Felsen' is the lengthy title of a plate bearing the influence of Auldjo. The foreground is a profound abyss, incompletely bridged, across the narrowest point of which a ladder has been thrown. Two climbers are below in the seracs. At the great crevasse is a group of five roped figures, the leader having crossed and the second man following on hands and knees across the ladder. The brown rocks of the Grands Mulets rise to a superb height in the middle distance, their base shrouded in billowing mist. Three other climbers, roped and with a ladder, are far ahead and approach the rocks, on an angle of which is seen the hut.

³⁷ *Der Mont-Blanc, Darstellung der Besteigung desselben am 31 Juli, 1 und 2 August, 1859*, Dr. W. Pitschner (Berlin, 1860), with atlas and six plates in folio, plate iii.

18. 1863. F. Baumann.³⁸ A little plate in bright colours is entitled 'Les Grands Mulets,' and purports to represent an incident in the ascent of Albert Smith, although the artist was evidently unaware that the hut was not erected until two years later. One catches a glimpse of the Chamonix valley, with the Brévent and a range of snowy peaks beyond. The rocks of the Grands Mulets are a slender flake bristling with pinnacles, while on a level platform is the hut, its roof covered with snow. The first climber has reached the doorway and waves back to a group of five men, one of whom carries a ladder. Behind these are three figures seated on the snow, the central one holding a flag aloft. Near by, four climbers have just emerged from the seracs above the Junction. Two climbers have walked out on the flat snow at the base of the Grands Mulets and are pointing toward a slender aiguille evidently intended to be the Midi.

Altogether there are sixteen in the climbing party ; all have alpenstocks but are unroped.

The plate occurs in a delightful little souvenir picture-book, in which a number of the illustrations are by Baumann, Deroy, and Loppé. The lithography is from the press of Lemercier.

A pleasant sentiment still clings to my copy for, although now more than half a century old, it is inscribed to a little boy 'from his affectionate father and mother on the family returning from a tour on the Continent.'

19. 1882. Havergal.³⁹ 'Les Grands Mulets et Mont Blanc' is a chromo-lithograph in soft colours, showing the Aiguille Pitschner yet in shadow and the Dôme du Goûter pale in the light of dawn. A figure stands in the doorway of the hut, and a large pink banner floats from a staff on the outer wall. The Grands Mulets, at the whim of the lithographer, is almost submerged in a blue ice-stream which is endangering the hut. The colouring suggests the influence of Coleman and is not inaccurate ; the plate was lithographed by M. and N. Hanbart.

20. 1888. Ceresole.⁴⁰ 'Les Grands Mulets,' a woodcut from a sketch by J. Weber, drawn in 1884, shows the large hostelry built on a strong rock foundation. Two banners are flying on

³⁸ *Souvenir de la Suisse et des Alpes* (F. Margueron, Genève, 1863), oblong 8vo, with 73 illustrations in colour.

³⁹ *Swiss Letters and Alpine Poems*, Frances Ridley Havergal (John Nisbet & Co., London, 1882), p. 254.

⁴⁰ *Chamonix et le Mont-Blanc*, Alfred Ceresole (Orell Füssli & Cie, Zürich, 1888), p. 664.

the outer balcony and a group of climbers watches the progress of a party on the glacier. The Aiguille Pitschner rises above the hut, and to the right is the white wave of the Dôme du Gôûter. [*Not illustrated.*]

21. 1911. Whymper.⁴¹ A little picture, drawn by the author, shows 'The Grands Mulets in 1895,' diminutive in silhouette against the wall of the Aiguille du Midi. The hut rests on a stone foundation, with balcony and two small out-houses. The host stands in the doorway, waving to three climbers on the snow near the rocks. [*Not illustrated.*]

This completes my series of Grands Mulets pictures, and no doubt omissions occur in it.⁴² For more than a century these rocks on 'the great white mountain' have served as a refuge to travellers making the ascent of Mont Blanc. So I shall hope to have brought out something of the charm in these entertaining old illustrations of the Grands Mulets, and to have indicated the pleasure derived from having them in one's mountaineering library.

THE KARAWANKEN AND JULIAN ALPS.

By HUGH ROGER-SMITH.

I HAD been anxious to visit the Karawanken Alps for some time, as they possess a richer alpine flora than almost any other mountain district of Europe, and when the opportunity arose to explore the district in the company of Mr. Walter Ingwersen, one of the leading authorities in this country on alpine plants, I naturally jumped at it. We left London on June 6 and travelled straight through to Klagenfurt, *via* Schwarzach, a small junction, where we had to while away four weary hours in a minute café, our train not leaving till 1.40 A.M. Having secured a room in Klagenfurt to act as a depot for our plants, we made our way to the Kalvarienberg, on

⁴¹ *A Guide to Chamonix and the Range of Mont Blanc*, Edward Whymper (John Murray, London, 1896), p. 114.

⁴² The libraries of the Appalachian Mountain Club (Boston) and the American Alpine Club (New York) have since been examined without the disclosure of additional material.

the top of which is an *Aussichts-turm*, and from here we had a magnificent view of the whole Karawanken range. There is a dial giving the names of all the peaks, so that from the start we were able to familiarise ourselves with the appearance of the whole group. After lunch we packed our rucksacks and took the train for Eisenkappel, passing through the fine Rechberg gorge that cuts right through the mountain range. At the station we were told that we could find sleeping quarters at the Gasthaus Barache, about two hours' walk up the Ebriach Tal, but on arrival we found it was a minute place, only providing rye bread, cheese, butter, and coffee. There was, however, a hay-loft near by, and here we spent a very comfortable night, and started early the next morning to ascend the Hochobir. Of actual climbing there was none: it was simply a stiff walk up a well-made path, at first through wood and then over grass and rock-strewn debris. The sub-alpine plants were wonderfully fine, and there were many I had never seen before, one of the most striking being *Melittis melissophyllum*; but when we reached the crest of the ridge the flowers were extraordinarily beautiful. This is the home of *Primula Wulfeniana*, and there were literally millions of them, giving the whole of the top of the mountain a red tinge. Amongst some of the other treasures were *Androsace arachnoidea*, *Alyssum Wulfenianum*, *Ranunculus Traunfelneri*, huge clumps of sweet-smelling *Petrocallis pyrenaica*, *Papaver Kernerii*, and *Saxifraga Burseriana*, *S. crustata*, *S. caesia*, and *S. squarrosa*. There is a very comfortable hut fifteen minutes from the summit, which is crowned by a meteorological station, and from which there is a magnificent view, the Steiner Alps to the south looking specially attractive. We spent the afternoon and the morning of the following day collecting and photographing the plants, and walked down the northern face of the mountain by the beautiful Wildenstein waterfall, finding masses of *Rhodothamnus chamaecystus* and *Cypripedium calceolus* on the way, and thence to Grafenstein, only two stations from Klagenfurt, which we reached at midnight. Altogether a delightful and not too strenuous expedition.

The following day we caught an early train for Treibach, where we changed to the narrow-gauge railway up the Gurktal to Klein Glödnitz. From here a horse and trap took us over the most appalling road to Weissberg, whence we had a pretty tedious tramp, enlivened by finding a clump of *Saxifraga mutata*, to Fladnitz, a fascinating little village with a queer two-spired church adjoining the Kurhaus, where we were made very comfortable. Next morning we started early for the

Eisenhut over the Winterturmer Joch. It is a delightful walk through pastures and wood to the shoulder of the ridge, and here *Silene pumilio* was abundant, as was also 'Speick' (*Valeriana celtica*), the fragrant-rooted little plant the essential oil of which is largely used in cosmetics. Then *Primula minima* appeared and higher up covered the whole mountain-side, producing a red glow. I discovered three albino forms of this plant, a great rarity. Higher still we came upon great quantities of *Primula glutinosa*, the only blue primula and one of the most beautiful of the race, and then on the crest of the ridge the plant we had really come for, *Androsace Wulfeniana*, a most enchanting little cushion of green leaves almost completely hidden by masses of delicate pink flowers. It was so abundant that the ground was quite red with it. We had been so long collecting and photographing the plants that the summit of the Eisenhut was still some way off. It was getting late, so we turned and raced down to our hotel. Next morning an hour and a half's walk through woods took us to a waiting motor-car, and we had a most nerve-racking drive to Friesach, whence we took train to Klagenfurt.

The following day, June 14, we caught an early train down the beautiful Rosental and through the five-mile tunnel to Jesenice, the frontier station of Jugo-Slavia, thence past Bled—which looked a charming place for a long stay—to Bohinska Bistritza, where we put up at the most comfortable Hotel Triglav. The views from here of the Triglav range are very fine. In the afternoon we explored the Bohinska Jezero, one of the most picturesque lakes I have ever seen in the Alps. The Hotel Zlatorog at the farther end of the lake is most beautifully situated and very comfortable, and would make a good centre for exploring the surrounding mountains. During our tramp we found a mass of interesting plants, among the rarities being *Genista schipkaensis*, *Ononis natrix*, and *Astrantia gracilis*. Returning, we were rowed down the four-mile-long lake, and half-way were caught in a terrific thunderstorm and torrents of rain, so were not sorry to find a motor to take us the six miles to our hotel.

Next morning we climbed the Cerna Prst, 6050 ft., a most delightful scramble, first through wood and meadow land, a perfect riot of colour from the wild flowers, the rare *Scorzonera rosea* and the lovely *Lilium carniolicum* being the most noteworthy, and reached the Mallner hut. Above the hut there are bold rock faces festooned with *Pæderota Argeria* and *Primula Auricula albo-marginata*, while *Saxifraga caesia*, *S. crustata*, *S. Hostii*

altissima and *S. squarrosa* were plentiful, and the stiff little *Genista radiata* appeared. We had to traverse some steep snow-slopes before reaching the arête forming the boundary between Italy and Jugo-Slavia, and from here ten minutes took us to the top. On the summit, from which there is a grand view, *Ranunculus alpestris* and *Geranium argenteum* were growing. We returned *via* the Orozan hut and had some quite interesting climbing, negotiating excessively steep snow-slopes.

Next day we took a motor to Hotel Zlatorog and walked up to the Skerbinja Pass, 6250 ft., along one of the most extraordinary roads I have ever seen in the Alps. It was made during the war by the Austrians, but never completed, and is quite broad and paved, and evidently intended for heavy guns. The whole had fallen into a hopeless state of disrepair, and all the bridges had broken down, necessitating scrambling along narrow paths. In one of these gullies we found quantities of *Primula Clusiana*. We plugged on until we were within sight of the Italian frontier, when we found *Campanula Zoysii*, the quaintest and most attractive of all that family and exceedingly rare. Now this was what we were out for, and I have to confess that, having found it, we did not make for the top of the pass, but made a bee-line down the mountain-side to the lake below. The following day, June 17, we were off at 6.30 for the Vodnita hut, with the intention of climbing the Triglav on the following day. We had been assured in the village that all the huts were open, so we took things easily, collecting and photographing plants, including more *Campanula Zoysii*. We did not reach the hut till 4 p.m., to find it locked and with no possibility of breaking in! It is most wonderfully situated in the centre of a great amphitheatre of rocky peaks. The Maria Theresia hut stood out on the skyline a thousand feet above, but there was no sign of life in it, so the only thing was to beat a hasty retreat. The descent, by the other bank of the stream, was exceedingly steep, with a good deal of snow, so we only reached the valley and an hotel at the head of the lake at 10.30, just sixteen hours' steady going. I confess I had had rather more than enough.

The next two days it rained in torrents with, of course, snow up in the mountains, so that, even had the hut been open, we could not have climbed our peak. We decided to return to Klagenfurt with the idea of climbing the Hochstuhl, but on reaching our hotel we found a pressing invitation from Dr. Lempberg, of Hazendorf in Styria, to visit him at his wonderful surgical home, so we took train to Graz and descended to the

flesh-pot of Steiermark. Graz is a fascinating old town with an imposing castle set on a hill, and from here we found our way to the tiny village of Hazendorf and were entertained by the Doctor with true Austrian hospitality. He has a most amazing garden with over 6000 different species of plants in it, and here we luxuriated for four days, when we had to return to England.

In this very short visit we were able to do only a very little actual climbing, but I saw enough of the country to realise its charm and mountaineering possibilities. The actual ascents are not difficult, but there is a great deal to do, and for anyone who is on the look-out for new country and not too exacting work it is ideal. The people are most friendly, and German passes everywhere, but no one knows a word of English. Klagenfurt is, I think, the best centre, as from there a network of railways takes you comparatively near to all the principal climbs. We found the hotels clean and good and the food excellent, while for the Alpine botanist the whole region is full of the greatest interest.

A LONG DAY ON THE MATTERHORN.

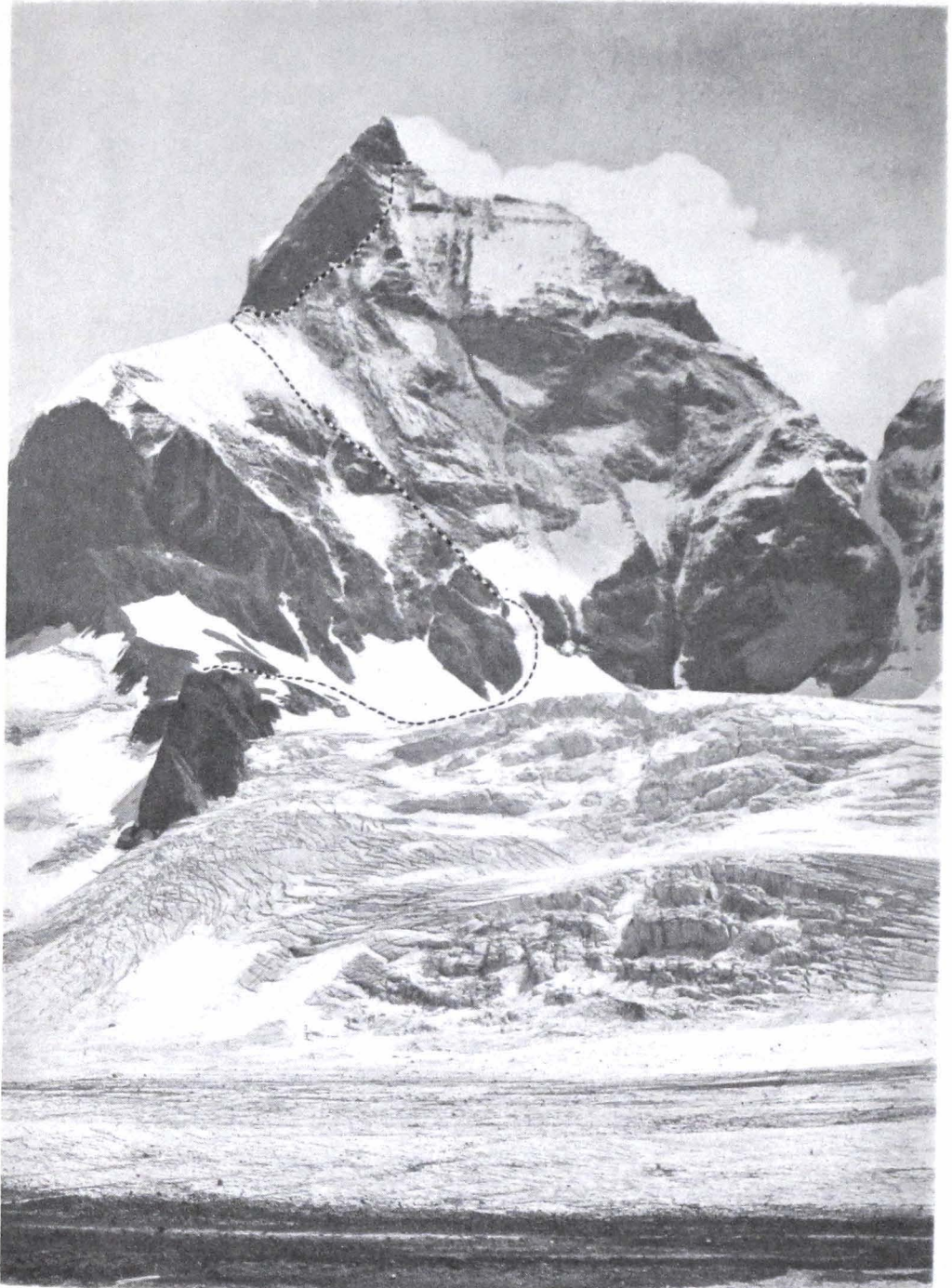
By L. S. AMERY:

THE Matterhorn has a fascination all of its own, not merely for the tourist who gets hauled up it by two stout guides and never wants to climb again, but also for every true mountaineer. It is youth's first great ambition; in middle age it is still a register of reasonable fitness; an avowed last ascent is a confession that the time has come for half days, easy passes, and a closer study of Alpine flora. I was twenty when I first went over it to Breuil with Elias Furrer, and watched my contemporary Josef Pollinger starting down the first descent of the Z'Mutt arête with Mathias Zurbriggen and Miss Bristow. Josef and I have planned a jubilee ascent for 1944, but I have some misgivings as to its fulfilment. If I do manage it I have no doubt that Captain Farrar, who did the first ascent and descent of the Z'Mutt that same day, will be there too! A dozen years later I went up the Z'Mutt side with Heinrich Burgener. Rock and climber were in perfect condition, and we were up in four and a half hours from our *gîte*, the equivalent I suppose of six hours or so from Schönbühl. The indescribable beauty and awe of the moonlit landscape from our sleeping place, Dent d'Hérens and Dent

Blanche gleaming high above the Tiefenmatten abyss, the delight of the climb itself, the glory of a cloudless view of the Alps from end to end almost—these things made a day that lived in memory, and asked for repetition. But for many years the opportunity was not to come, and it was not till the other day that I had the chance of trying again, and of discovering how different a climb the Z'Mutt can be under unfavourable conditions.

I was climbing with Josef Pollinger and his son Adolf, but at the last moment Josef was seedy. So at 2.30 A.M. on September 3 Adolf and I started from the Schönbühl hut in somewhat dubious weather. On the upper glacier we began by carrying on beyond the snow couloir from which one works to the left to the foot of the long snow ridge which leads to the actual climb and, rather than retrace our steps, decided to make straight up the rocks to the upper end of the ridge, *i.e.* just to the left of the long, narrow snow couloir which leads straight up to the 'teeth.' We negotiated a tricky bergschrund and got some quite good scrambling, and would not really have lost so very much time if the ridge itself had been snow. But after weeks of fine weather its sides were hard ice, and what looked from below a mere strip of snow, and might under other conditions have taken ten minutes, meant over an hour and a half of step-cutting. So we started on the climb proper at least a couple of hours behind time.

This seemed a trifle at first. On the jagged teeth which connect the snow ridge with the main Z'Mutt arête the rock was in good condition, and we were quickly across them. But when we came to the arête itself, with its steeper angle and treacherous rock, we found everything smothered in fresh powder-snow, deposited and conserved by the cloud which for the last two days had hung over the N. face of the mountain. If Josef had been there we should probably have turned right about. But we hoped for the best and went on. The higher we went the worse things became and the slower our progress. Climbing simultaneously was out of the question, and even Adolf could only advance with infinite care, brushing a square yard of mountain side with his hands for every hold, and ever on the watch for glaze of which there was plenty. Hands froze, and thawed and froze again—a painful business—and, what was almost worse, got soft in the process so that our fingers were cut all to pieces before the day was out. At times the weather looked threatening and we were lost in mist and light snow flurries. Then the mist would clear and reveal



TIEFENMATTEN FACE OF MATTERHORN.

the contorted folds of brilliantly coloured rock on the great N. wall of the mountain to our left or the summit above our heads, appallingly vertical and appallingly distant.

Still, by slow degrees, the distance diminished. Meanwhile the state of the rocks on the ridge itself had led us gradually to bear away more and more to our right on to the Tiefenmatten face, and the thick weather may have helped to prevent our realizing quite how far we had got across the face and away from the ordinary route. A small vertical chimney in a projecting square-faced block above us to the right drew us still further away with its suggestion of shelter and refreshment. This proved a disappointment, for the chimney was full of ice and offered no suitable halting place inside or at the top. Soon after passing it we came up under the vertical final pitch to the level of Carrel's 'galerie.' As we did so the weather cleared and revealed the Italian ridge not much more than 100 yards to our right. The 'galerie' extended towards it, I will not say invitingly—for it shelved in very exposed fashion over the endless steep below, and the rocks were unpleasantly glazed—but still quite feasibly. In any case it was the easiest and certainly the speediest way out of a difficult position. An excellent natural belay was visible just above, and with the rope secured over this Adolf made his way across and found a good stance just within the full length of 120 ft. of rope. It was a traverse needing steadiness, for handholds on the face above were few or none, but not otherwise exceptionally difficult. The rest was easy and in a few minutes more we were safe on Tyndall's arête at Col Félicité.¹

At this moment the sun came out brilliantly, and on the retreating cloud S.E. of us we saw a small circular halo, recalling to mind the similar spectacle which, about the same time of day, was seen by Whymper after the accident on the day of the first ascent and by the Italians a few days later. But we had little time to study such phenomena. It was half-past five, and the only question was whether we should finish the ascent and try to reach the Solvay hut before dark, or cut out the summit and make for the Italian hut. We decided for the latter, consoling ourselves by the thought that, if the morrow were really fine, we might retrace the mountain. So we hurried down the ridge. Presently the

¹ See *A.J.* 37, 223 *seq.* The route we followed must have been approximately K-B on the sketch plan on p. 223.

Italian hut was visible nestling under its great gendarme, and made us feel that we were all but arrived. But the sun was descending a good deal faster than we were, and soon we were climbing first in twilight, then in darkness. For a while we kept on by lantern-light till suddenly, through some flaw in the mechanism of Adolf's lantern, the candle dropped out of the bottom of the lantern and left us in real black night. We felt our way a little further, helped by an occasional flash of summer lightning, hoping every minute that we might see the hut just below us. But it was too dangerous to go on and we decided that we had to sleep out. A bottomless black abyss into which I had just fearfully lowered myself proved to be quite a good shelf on the ridge with an overhang above it for shelter. We supped heartily off the fag end of a sausage, some prunes and a tot of rum, put on whatever spare clothes we had, took off our boots, tucked our feet in our rucksacks, 'and so to bed,' prepared for a chilly and probably snowy night.

Five minutes later I heard a distant shout. Soon the voice came nearer and a lantern showed faintly in the misty depths below. A few minutes more and we were shaking hands with Louis Carrel, who from the hut had seen us on the ridge just before dark, and when we had not reached the hut by 9.30 had, like a good sportsman, come out to help us in. With the aid of his lantern and intimate knowledge of every bit of the ridge we were down in less than half an hour, and by 10.30 were enjoying hot tea with some hospitable young Italians who had come up with Carrel to do the mountain next day.

In this they were to be disappointed, for there was a bad storm in the night—to which I listened from under my warm blankets wondering what our bivouac would have been like—and by the morning everything was deep in snow and the wire railings round the hut all embedded in thick ice.

So we made our way down at leisure to Carrel's cross, where the great Carrel died on a similar but much more difficult retreat, and there parted, our Italian friends to Breuil, Adolf and I back to Zermatt. So ended an interesting and, at moments, anxious climb. But I have registered a mental note that next time I climb the Z'Mutt I shall be sure that the sun has cleaned the snow off the rocks and not left the job to be done by hand.

IN AND OUT OF THE KIENTAL:

BY WALTER WESTON.

TO some members of the Club it will come almost with surprise to learn that, within an hour or so of turning their backs on the shores of the Lake of Thun, at Spiez, they may find themselves entering the gateway of one of the most charming valleys in the Alps.

From the cheerful little village of Reichenbach, on the Lötschberg line, the car-forbidden road climbs up beyond the quaint old church and the massive brown-walled chalets of the village through the shade of a great forest of dark pines and deciduous trees. The tall aisles are broken only here and there by some clearing that opens out a cluster of cottages gay with sunlit gardens or with window-boxes filled with scarlet geraniums, fuchsias, and many other flowers of every hue. The wayfarer may still recapture memories of earlier travel by traversing the few miles to the village of Kiental in one of the familiar old black and yellow diligences, with the blue-uniformed driver in his shiny black hat.

On approaching the village of Kiental a sudden turn in the road discloses a striking prospect of the peaks of the great barrier of the Blümlis Alp group. The contrast of their dazzling snows with the sunny pastures of the fertile meadows in the foreground and the dark pines of the forests in the middle distance is one of exceeding impressiveness. Such Englishmen as have visited the valley have usually been mountaineers *en route* for the passes and the club-huts at its head.

Beyond the village, to the left, a torrent descends from a secluded glen, the Spiggengrund, the existence of whose attractive upper reaches would never be guessed at from below. At length the road arrives at the entrance to Tschingel, where is a homely inn, the Alpenruhe, home of the charming and wholly unspoilt small people who form the family of the leading guide of the valley, Jakob Mani-Lauener—to his intimates 'Köbeli.' It is an oval cirque of level pasturage that here occupies the entire compass of the valley floor. At its farther end tall cliffs are surmounted by cleverly constructed zigzags up the wooded face of the opposing grey rocky wall. Near the foot of these a deafening roar is raised by the mass of water hurled down

into a gigantic 'pot-hole'—the Hexenkessel—by the converging currents of two rival cascades.

After a heavy pull of a good half-hour our road turns a sudden corner, to pass through an old torrent bed with gigantic rock walls—a wild spot indeed—and gains the Gries Alp itself, supporting on its rocky platform the apparent cluster of large chalets resolving itself into an hotel, entirely in harmony with its surroundings, and arranged and conducted with an efficiency that makes it an attractive haven of rest, nearly 5000 ft. above sea level.

Delightful as it is as a headquarters for summer climbs, it offers in many respects equal inducements for a winter stay. Let it not be thought that the bolder spirits among the climbing fraternity will have to be content with expeditions of relatively moderate difficulty. In 'A.J.' 30, he will find the story of one of the most difficult climbs ever accomplished—the first ascent, by Geoffrey Young and his party, in July 1914, of the western or Rothe Zähne ridge of the Gspaltenhorn. The ascent of the Aermighorn by the face seen from the hotel is by no means easy, and the ascent of the Dündenhorn *direct* by the N. arête, both first done by Jakob Mani, is hard.

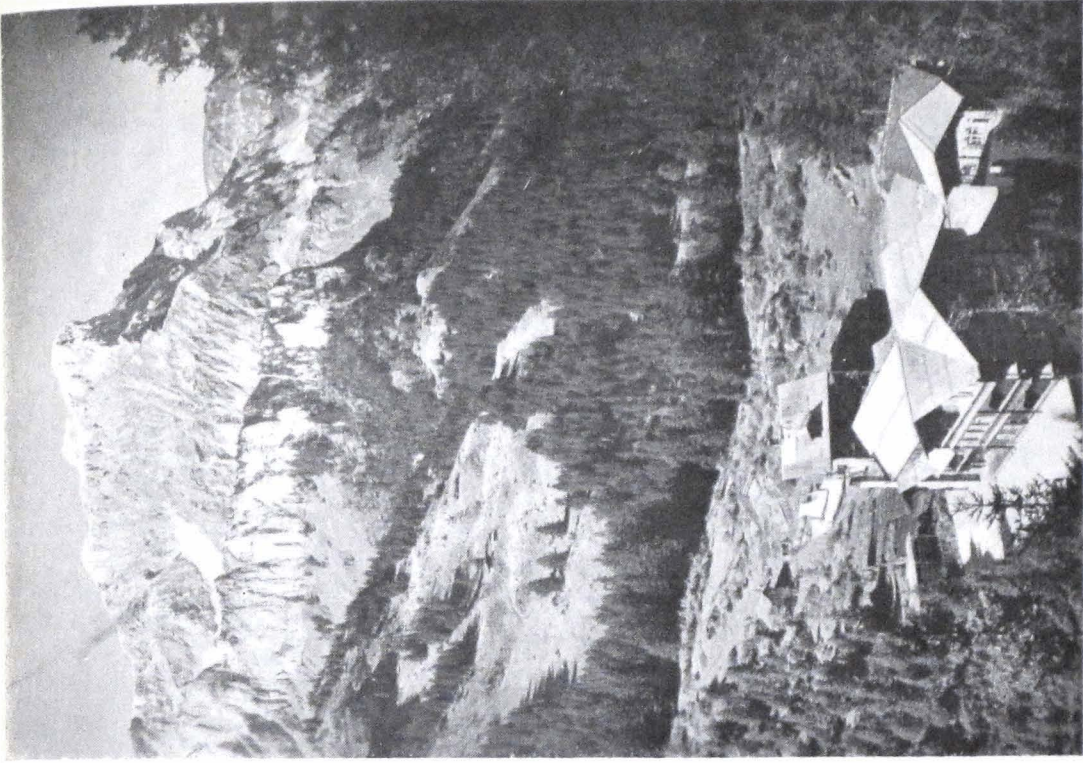
Add to these the *direct* ascent of the Morgenhorn from the Gamchi-Lücke, and you will have a choice of expeditions worthy of the prowess of the best of the Alpine brotherhood. On the off-days, all the more refreshing after such strenuous toil, no more delightful hours can be spent than in such solitudes as Agniboden, the pastures below the Dünden Grat, gay with *gentiana verna*, *soldanella*, and true 'alpines' of kaleidoscopic hues. Hard by here, or on some of the higher slopes at the base of the Wilde Frau, groups of chamois may be watched almost any day. For the valley is noted for its prolific herds, and Jakob has told me of as many as 400 in a favourable season.

To the mountaineer, however, of more moderate ambitions, there is a variety of expeditions—most of which were shared with me by my wife in a season some years ago—of which a few notes may be of interest. The first of the Blümlis Alp peaks was the Weisse Frau. The Wilde Frau and the Blümlis Alp proper we knew of old. Herr Scheurer, managing director and presiding genius of this remarkable hotel, suggests the feminine titles of these peaks may be due to the fact that much of the land hereabouts once belonged to the important nunnery at Interlaken. Legend also states that a cowherd on the Oeschinen Alp (on the Kandersteg side of the group), under the



Phot. E. Gyger Adelboden.

HEAD OF KIENTAL
with Blümlisalp Group.



AERMIGHORN
from Kurhaus Griesalp.

influence of a handsome but unprincipled young woman, turned out his mother to starve, while for the entertainment of the damsel herself he built a staircase of cheeses to the Alp. At length, heaven's vengeance smote them with effectual force. The cowherd suddenly vanished in flame and sulphurous vapour, his seducer was transformed into the Wilde Frau, but his mother found ultimate and fitting transfiguration in the lovely form of 'The White Lady.'

On the walk up to the Hohtürli hut from the Gries Alp a delightful spot for a noontide halt is the Bund Alp. A spirited account of a lively night (lively for more reasons than one) spent there is given, with illustrations, in Roth and Fellenberg's 'Doldenhorn and Weisse Frau.' One is reminded of the description of a certain hill resort in Japan, described in a country guide-book as a 'pleasant place where most of the inhabitants *feed peacefully upon tourists.*'

From the Hohtürli hut a delightful climb brought us, in three hours—a considerable portion of which was spent in step-cutting on the final icy arête—to the top of the Weisse Frau. Our downward journey to the hut took us an hour and a half, and the afternoon saw us circling round the head of the Kiental, across the Gamchi glacier, and sunning ourselves, at tea, outside the cosy Gspaltenhorn hut.

The Gspaltenhorn, from which a year or two earlier we had been driven by a frightful storm, was our next objective, but the rocks above the Büttlassenlücke, being in shadow, were so thickly glazed that our attentions had perforce to be addressed elsewhere. A delightful scramble of a little over an hour and a half carried us along the rocky ridge that leads to the top of the Büttlassen from the Lücke. Two chimneys on the left edge of the arête and a curious little 'letter box' hole on the top afforded excellent scrambling.

When traversing along the top of the ridge the sheer drop of some 2000 to 3000 ft. on the side looking towards Mürren appeared quite sensational, but most of the climbing itself was comparatively simple.

Another night at the friendly hut, with two agreeable English climbers, was followed by a most delightful expedition up the Gspaltenhorn; indeed, the conditions were ideal, the day perfect, and our enjoyment, after the disappointments of hope deferred, complete. The gaunt black cliffs falling down sheer to the Kanderfirn filled us with admiration for Mr. Hasler's feat in scaling them, but the sensations suggested by the sight of the great gashed arête from the Gamchilücke, by which Geoffrey

Young's memorable ascent was made, were more akin to shuddering wonder. Our next step 'in the Kiental' was to get out of it to the Ober-Steinberg, by way of the Gamchilücke.

On my last crossing of this attractive little col I had passed the traces of two fatal disasters. In the one case a Dutchman and his daughter, guideless, fell into a crevasse on the Kiental side, the father being killed and the girl escaping with a broken arm. In the other, some distance below the Mutthorn, one of two German brothers—also guideless—dropped into a crevasse unhurt, but the other brother was killed.

From Steinberg, after delightful days off, we carried out a long cherished project in the passage of the Schmadrijoch, between the Grosshorn and the Lauterbrunnen-Breithorn and leading to the Lötschental. As we traversed the Breithorn glacier, there opened out the lights of Wengen, a chaplet of brilliants glittering far below. The climb itself was full of variety, its main feature being some 1500 ft. of interesting rocks to the left of the channel of a great ice avalanche, which we had watched falling some days before. On the way to the col we passed the remains of a little rocky shelter, built up against an overhanging cliff by a French climber and his guides the last time the pass was attempted, several years before.

We ascended the rocks until on a level with the Nollen, a great boss of ice that usually forms the crux of the climb. Here we crossed a steep icy couloir to its right side, and then found our main difficulties done with. The quaint little rocky gap that forms the actual summit of the pass discloses a striking prospect of the fine Bietschhorn and the other peaks across the Lötschental. Our upward way had taken us five and a half hours of steady but not very strenuous going, and we contentedly imagined that now 'all was over but the shouting.' But at the end of that hot summer the Jägi glacier was very 'dry,' and its tangled maze of crevasses took over three hours to get through in safety. As far as Jakob was aware our route was appreciably different from the general line usually followed.

That night the clean and cosy little inn on the Fafler Alp sheltered us comfortably. Our return to the Steinberg was to have been over the intricacies of the Wetterlücke, of which I had pleasant memories, thrice repeated. But the crevasses were unbridged and wide-jawed, so we gave them the go-by, and traversed the Tschingelhorn to the Mutthorn hut, from east to west, a route which Jakob stated had been made but once before.

This, of all our Alpine seasons the pleasantest, ended with a

traverse, from the Schwarenbach Inn, of the Balmhorn to the Altels by the airy little icy ridge that connects them. The walk up to the former peak we made in the company of a bulky local porter who carried the rope. The traverse, however, did call for its use, a fact which, at the airiest spot, led to his untimely interrogation to my wife 'Sind Sie schwindelig?' eliciting an indignant negative.

THE FIESCHERWAND.

BY W. H. AMSTUTZ (PRESIDENT ACAD. A.C., BERNE).

ON the afternoon of August 2 my friend P. v. Schumacher and I stepped out strongly for the Bäregg. My thoughts were, like Andreas Fischer's years ago, in the Mont Blanc range, for of a truth our design was not exactly pitched low! We were about to venture 'a new ascent.' Our bodily training was by no means at its height, but one thing was certain, our *moral* was all right, and this for the success of the present undertaking was of great significance.

From Bäregg the Fiescherwand presents a magnificent picture. From the Ochs or Kl. Fiescherhorn to the Lower Mönchjoch it is untrodden by the foot of man. In the middle of the wall a casual glance shows a steep arête starting in the Fiescherfirn and mounting a thousand metres high to the minor summit of the Fiescherhorn. Up that was our job! We had had it long in mind. In June we had made a thrilling ski-run over the Kalli to judge a bit closer of the possibilities, which convinced us that it must go. The wet days of July had played havoc, however, with the rocks. Snow, much snow, lay on the arête. This made us very undecided whether to wait a couple of days. Two sunny days would, we considered, alter a lot, work much alteration. Still, what guarantee had we in such a summer of such a thing? Besides, how could we be certain a second time of feeling the enterprise that now possessed us? Surely this year we had lounged about in huts perforce idle. So off!

But we had not yet done with our Tantalus trials. Scarcely had we left the inn when we ran into our fellow-member, R. Wyss. Our doubts started anew. Difficulties and fresh snow in the one scale; youthful exuberance and hope of fine weather in the other. We had also heard lately that an English

flying officer¹ had designs on the climb. The rumour in Grindelwald ascribed to Mr. Yuko Maki considerable interest; and, last but not least, there was the veteran Captain Farrar.² He is in his sixty-ninth year, but you had better have a look at him! Two years ago he had told us 'It goes; if you don't go, I shall.' With von Schumacher at the other end of the rope I also thought it must go!

When Wyss also told us that a few days previously the famous climber, Fritz Amatter, with his Herr Dr. Kehl, had made an attempt to reach *direct* the summit of the Fiescherhorn, our minds were soon made up. Might not indeed Dr. Kehl take a fancy to 'our arête'?

By 6 P.M. we were on the Zäsenberghorn. A good place to bivouac was soon found. We went on for another hour to reconnoitre the glacier, and then busied ourselves with our bivouac. A little shelter-wall was soon built—in fact, we have developed the building of such walls into a fine art! On the damp ground an insulating layer of newspaper—that we are never tired of praising—was placed. We spread them out anyhow, without fear or favour—Conservative, Liberal, Democratic, Popular, and Fascistic. But since that night my secret inclination is to the Conservative paper, for my resting-place was a 32-page *Times*!

We crept into our joint sleeping sack and were soon in the arms of Morpheus. Such is the power of the press!

By 5.20 next morning our hands touched the rocks of the Fiescherwand. Von Schumacher at once took the lead and kept it during the next fifteen hours, until at dusk we stood on the cornice.

Right away the work was exciting, but not difficult. We kept immediately below the crest of the arête, on the N. side.

¹ F. S. Smythe, now stationed at Abu-Sueir, Egypt. See his paper in present number, p. 218.

² In 1924, with Peter Almer I & II, I made a careful examination of the very obvious arête. We crossed from the Zäsenberghorn to the Kalli, thus seeing it quite close in profile and in full. We came to the conclusion that it would undoubtedly go, and with such guides I would not, if my years agree to stand still, hesitate to attempt it in a fairly dry state. I am unfeignedly glad that it has fallen to these enthusiastic and competent young mountaineers who with Dr. Lauper, Richardet, Dr. Chervet, and one or two others have done much to lift their Club into the very high position which it holds in the estimation of mountaineers. They are indeed all craftsmen.—J. P. F.



Phot. W. Burkhard.

FIESCHERWAND
from Bäregg.

Moving together, we gained height rapidly. Gradually we approached the crest and then followed it, finally on snow. Thus the full lower third was behind us before we sat down for a rest. A little halt ; a short bite could do no harm (1. See marked photograph). I took a few pictures. It was to be my last chance !

A marked increase in the angle of the arête now occurs. The ridge which we had followed up to now loses itself gradually in a face, while the actual arête descends from the summit into a couloir to our left.

After a short bout of step-cutting, holdless, slabby rocks forbade farther progress. We accordingly traversed to the left (2) over very exposed rocks, and then for four or five rope-lengths—we were using a 30-m. rope—followed very unpleasant slabby, mostly snow-covered, very steep and difficult rocks (3). It is difficult to remember every incident. One impression was blotted out by another. Of making safe there was seldom any possibility. Many a snow-covered spot that, if dry, would have been climbed without hesitation, tried our powers to the utmost. There was no want of excitement here !

As to the line now to follow, we were not agreed. I proposed to climb in a direct line to regain the arête, while my friend was anxious to try a traverse to the left. This, as I immediately saw, was the only solution when my proposal had been tried in vain. Geologists³ have good eyes ! Nothing remained but to hew with the axe in grey-black ice—sown with stones—an exposed way. But Willisch's axes cut well, and now and again one found a hold. We regained the arête (4), and up we went over great savage blocks of aiguille-like, bare granite with good holds. One reach succeeded another. The sweat fairly ran. It was real hard work.

When at times one looked down into the void the same thought struck us : there is no turning back, so up you go ! And up we did go, always with care, and more and more on the S. flank of the arête. By 5 P.M. we had gained the snow arête (5). It leads steeply to the last great bastion, the summit-block itself, of the Fiescherwand. Miserably it deceived us, for we had to stamp up its soft back for an hour and three-quarters. At its end we made a short halt (6) and put on crampons. Light driving snow set in, together with unpleasant cold. The next bit looked holdless, very steep, and smothered in ice and snow. Von Schumacher set to work, felt for a bit—

³ Von Schumacher has just taken his degree in geology.

seldom long—and then ventured, with a few points of the crampon, on to the glassy rock. No holds! But in dire need the devil feeds on flies! My friend held himself by frozen-in stones. They held. He disappeared into a gully. A shower of ice-cold snow poured continuously down my neck. Slowly, by jerks, the frozen rope passed through my stiffened hands. It seemed to me an eternity. He was hardly 30 m. above me, and it had taken half an hour! At last came the shout, 'Come on! I am secure.' 'Secure! Thank God!' I shouted back, for my powers were no longer at their zenith. My fingers were stiff and without feeling; without the rope I could hardly have got up this bit.

The game was won. Under the snow we found holds for hand and foot. We could see right up to the cornice: that was not going to stop us. Two ropelengths, and my friend cut right through it!

The watch pointed to 8.20 as we stepped on to the main arête. 'With von Schumacher it goes.' So I will tell Captain Farrar.

Tired, but filled with joy, we set our course by lantern light for the Concordia.

THE NORTH-EAST FACE OF THE KLEIN FIESCHERHORN.

BY F. S. SMYTHE.

ON July 26, 1925, J. H. B. Bell and I sat on the top of the Klein Strahlegghorn. The weather of the previous few days had been, to put it mildly, abandoned. We looked regretfully at the splintered spires of the Lauteraarhorn far above. Plastered in snow and ice they looked unassailable. But the sun was hot, and hour by hour the rocks showed more darkly as their icy armour was stripped relentlessly from them. Below, the new snow poured in cascades from the slabs and, quickly gathering volume, thundered down to below the Finsteraarjoch. To the N.W. vast processions of cloud mountains moved in stately array over the blue plain of Berne to the assault of the great Oberland wall. Piling up in sun-kissed pillars against the dark watch-tower of the 'Ogre,' they poured over the Mittellegi ridge into the inmost sanctuary of the High Mountains. Stretching forth hungry arms they crept along the precipices of the Fiescherwand and enwrapped

the Klein Fiescherhorn. And there they were halted, battling with a sun that strove to dissolve and a wind to dissipate.

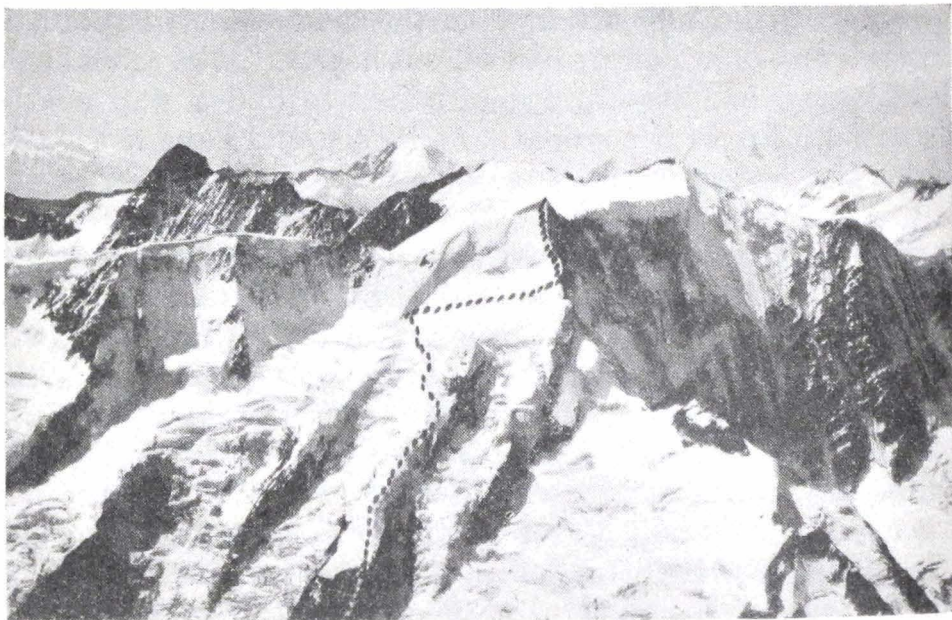
We were watching idly the play of sunshine and mist when a ray of the former, piercing the latter, shone suddenly on a little cone-like peak that rose from the N.E. face of the Klein Fiescherhorn. This small summit formed the culminating point of a ridge that ran up from the Ober Grindelwald glacier. Above, the ridge disappeared in the snows of the plateau that extends for a considerable distance across the face. From this plateau the final peak of the Klein Fiescherhorn rises steeply for over a thousand feet. We looked at this ridge with interest, for it seemed to afford the most direct route from the Strahlegg hut to the summit of the Klein Fiescherhorn. As a matter of fact a line drawn between these two points passes along the ridge. Some eight hundred feet from the glacier the ridge broke away in a steep buttress. There seemed no way of circumventing this buttress: the icefalls on either side were too broken and steep. For a while the sun lighted the small peak, but soon his rays were withdrawn, and it hid itself shyly against the slope.

Thunder growled during the night, and the dark hour before dawn was lit with flickering lightning. The weather was far too unsettled for any attempt on the Schreckhorn-Lauteraarhorn traverse on which we had set our hearts. We remembered the ridge we had seen and determined to find a way up the big initial buttress if possible. As luck would have it the day turned out perfect. The sun shone warmly as we crossed the easy glacier to the foot of the buttress. Towering séracs overlooked the rocks on either side; while masses of blue ice-blocks at their base spoke eloquently of possibilities. We gave them a wide berth. An abysmal cleft separated the rocks from the glacier. Fortunately, at the only place where the base of the buttress appeared feasible, the cleft was substantially bridged. For thirty feet the climbing was steep and difficult. Above this initial bit, impending rocks forced us to the left along a ledge until it was possible to climb upwards again. The going was delightful. Firm steep slabs, warm and dry, put me strongly in mind of pleasant sunny days on Gimmer Crag. All too soon the difficulties eased off, and we found ourselves on easy broken rocks up which we scrambled to the crest of the buttress. We had discovered all we wanted to know, so we returned and lazed in the sun, until that good friend swung down and the shadows of a perfect evening stole across the snows.

The wretched weather prevented our attempting the remainder of the route; and Bell's holiday coming to an end he had to return home. It was not until about ten days later that J. V. Hazard and I trudged up to the Strahlegg hut for the climb.

We left the hut at 5 A.M. on the following morning. One of the very few, very short, spells of good weather, that alone redeemed 'the worst season on record,' had begun, and 'everything was lovely in the garden.' Even the Schreckhorn looked kind, and the Lauteraarhorn less cruel, in the golden light of early morning. Moving quickly we were on the crest of the buttress soon after 6. There we halted to allow Hazard to attach a weird beaklike arrangement over his nose which he declared was warranted to keep that part of his physiognomy immune from the pressing attentions of the sun. Of its efficacy it is perhaps not for me to judge, but I do know what his appearance at the end of the day was like. In this grim contrivance he looked like some feathered heraldic monster prowling among the mountains in search of prey.

Above the buttress a steep snow slope, occasionally icy, took us up to the crest of the snow ridge. At first narrow, the



ridge soon broadened out to a broad hogsback, up which we trudged, feeling a little bored that things were going so easily.

At one point where the ridge almost sinks to the level of the icefalls on either side some suspicious-looking transverse bulges had suggested serious difficulty. We had previously

examined these carefully through a telescope, but could make nothing of them. We accordingly pressed on eagerly, expecting to find a series of 'Eis Nollen,' similar to that on the Mönch. We were not a little disgusted to find the formidable-looking 'ice bulges' nothing but gentle swellings of snow between two or three well-bridged crevasses!

The morning was glorious and a level place simply invited breakfast. So down we sat for a few minutes in the warm sun, with no breath of wind to alloy the enjoyment of the good things in our sacks or the prospect before our eyes. A little higher we elected to leave the ridge in favour of the snow slopes on the left. It would, however, have been more interesting and less fatiguing to have followed the ridge to its termination. The snow slopes were not steep, but they were soft. The sun shone with vigour on our backs. We bore upwards and to the left to an immense crevasse that split the slope across. This we crossed by a long rickety bridge, with as much circumspection as that of the individuals depicted in Mr. Bairnsfather's famous cartoon.¹

More treadmill action followed to another big crevasse. This was well bridged. We now found ourselves on the smooth floor of the plateau below the slope running up to the Fiescherjoch. Another party, a day or so previously, had been up this slope, and had started on it before the sun had softened the covering of snow. But now the surface consisted of mere slush overlying hard ice; to cut up it would obviously take many hours; we therefore cast around for an alternative. There was but one—the N.E. ridge. This ridge is well seen in profile from the Bergli hut. It looks steep and it is steep. To gain it we turned to the right, and walking along the plateau climbed a short slope to its crest. There we halted for a meal and the view. All the way up the scenery had been magnificent. It is, in fact, as fine as that on the N. face of the Jungfrau. The savage sculpture of the shattered icefalls; the proud sweep of the snow slopes; the bitter gleam of the icy steep; the sun-kissed cornice against the blue of heaven are not easily forgotten. Now from our perch we gazed down and across the fearful precipices of the Fiescherwand and far along that great unrelenting wall,² to the little rib of rock, where stands the Bergli hut, a hardly distinguishable speck amid desolation.

¹ 'An army crawls on its stomach.'

² [Since climbed by MM. von Schumacher and Amstutz, as described on p. 215 *seq.*]

We were not a little surprised to find the ridge in exceptionally good condition. Had it been icy the ascent might have taken even longer than by the Fiescherjoch. As it was, we mounted easily over hard snow, kicking steps most of the time. Other parties have experienced difficulty on this ridge and have taken three to four hours to do the last thousand feet. We were lucky to find just the right snow into which the axe drove well home. It was hard work nevertheless, for the angle was continuously severe, and we were glad when the slope suddenly eased off, and we stepped on the summit of our peak. The ascent had taken barely seven hours.

Sitting in the soft wet snow we basked in the sun. The weather was perfect—almost too perfect. Scarcely a breeze stirred. There was not a cloud in the sky. And the view? Custom demands a catalogue of things seen. ‘Opposite we saw the Schreckhorn. To the S. the Finsteraarhorn rose finely. The Eiger showed to fine advantage in the N. Mont Blanc stood out in the S.E.’ and so on. I don’t remember them. I remember only a fearful precipice dropping away at our feet; torn glaciers far below; a glimpse of pastoral green framed in a dark portal of mountain walls; a huddle of brown chalets—mere dots—so small, it seemed incredible that people could dwell within them. I remember vaguely many ranges shining in the sunlight; the violet depths of quiet valleys over which the eye wandered mechanically to the wide horizon, where the peaks marched in endless procession. That is all most of us see from a mountain top. Do we want to see more? Is it not better to dream and for a while tread space with the Gods?

All dreams end. It is time to be off. The dreamy ethereality of the mountain world becomes a stern reality once more; where snow is cold, and rock hard, and the law of gravity eternal.

Our original intention was to traverse to the Gross Fiescherhorn and descend to the Ewigschneefeld and the Concordia hut. For some reason or other I had imagined the connecting ridge to be a bagatelle. But such was not the case, and when we looked at the thin-edged ridge and felt the sloppy snow beneath our feet we decided against it. The alternative lay in the ridge towards the Agassizhorn, and subsequent descent to the Fiescher glacier and the Finsteraarhorn hut.

Time was getting on. Off we went, treading carefully in the soft snow. The ridge was easy and progress rapid to some

rocks. There we halted for a refreshing drink of rum and a small meal. After this we went more slowly.

Beyond the rocks easy-looking snow slopes tempted us downwards towards the Fiescher glacier. We had not gone far before an icefall got in the way; we managed to avoid it, however, and found some rocks which took us rapidly and conveniently downwards to the glacier. At the bottom, these rocks were smooth and steep, and to save time we abseiled freely. Finally we got off the last difficulty and jumped down on to the glacier.

It had been a truly perfect day. Now as we tramped over the gentle surface of the great ice river the evening shadows stole across to cool the last charred fragment of Hazard's nose.

The sunlight was still on the peaks when we reached the Finsteraarhorn hut. There we were entertained, watching a party stuck on the slopes of the Finsteraarhorn. First the hut-keeper and his assistant left to succour the unfortunates. With nightfall we brought up the rear with a lantern. It was unnecessary; for by-and-by voices were heard on the glacier, and in a few minutes the party was at the hut. Its components included a sprightly young lady, a middle-aged gentleman, and a worn, jaded-looking guide. The first two appeared both proud and pleased with their exploit—far too much so to harbour any feelings of gratitude towards their rescuers or those like ourselves who had spent a small amount of time and energy in going forth to help them.

THE OCHS OR KLEIN FIESCHERHORN.

BY J. P. FARRAR.

MR. Smythe's paper and statement that in Grindelwald his route was held to be new induced me to turn up some investigations made in October 1897, soon after I had made the ascent. They were sent, at the time, to Mr. Coolidge with a marked photograph, and some correspondence followed.

The paper may as well be put on record for the few readers interested in intricate topography.

Its understanding is rendered more easy by the photograph now reproduced, marked and sent to me by my friend de Villiers-Schwab, Hon. Secretary of the American A.C., with a letter dated May 13, 1921, reading:

VOL. XXXVIII.—NO. CCXXXIII.

Q

' Your very kind letter of March 24 tempts me to write you again in the belief that you will be able to clear up some questions about my climb of August 5.

' In my list of expeditions for 1920, I spoke of having been turned back on this day from an attempt on the Ochs from the Strahlegg Hut, high up on a snow arête "about the level of the Fiescherjoch." The statement in quotation marks was based largely on the last sentence of the first paragraph on p. 13 of volume ii, C. & C.'s "Climbers' Guide of the Bernese Oberland," but I all along had some doubt as to its correctness.¹

' Since my return here from South Africa, which occurred shortly before I sent my list in to you, I have had opportunity to look into this matter and am now convinced that I was in error as to the location of the Fiescherjoch, and that the joch, about the level of which we turned back, was the nameless one which appears to be the lowest depression in the Ochs-Agassiz-horn ridge, which I have marked D in the accompanying photo. However, if my present conviction is right, then the statement in the C. & C. Guide appears to be incorrect.

' On the enclosed photograph of the ridge, which I took the following day from the Strahleggghorn, I have marked with a dotted line the route which we took, and I have continued [from C] the route by which we had intended to complete the ascent of the Ochs.

' Now, according to the S. map, P. 3758 cannot possibly be the point on the ridge for which we were making, but must be the point which I have marked with that number on the photo, and an ascent of the spur leading to this would appear to be a matter of excessive difficulty, if not impossible altogether.² Furthermore, my point C would doubtless lead to the snowy plane enclosed by the three summits of the Fiescherhörner, while the S. map P. 3758 does not. I take it that the true Fiescherjoch must lie between [as marked] C and the Ochs summit.

¹ [It reads: 'It is generally best to cut up the steep snowy spur that descends from the rounded snowy summit marked 3758 m. on the S. map and so to reach the watershed rather E. of the true pass. (2 to 3 hours. See this way dotted in on the diagram in Aeby and Fellenberg's *Hochgebirge*, p. 125.)']

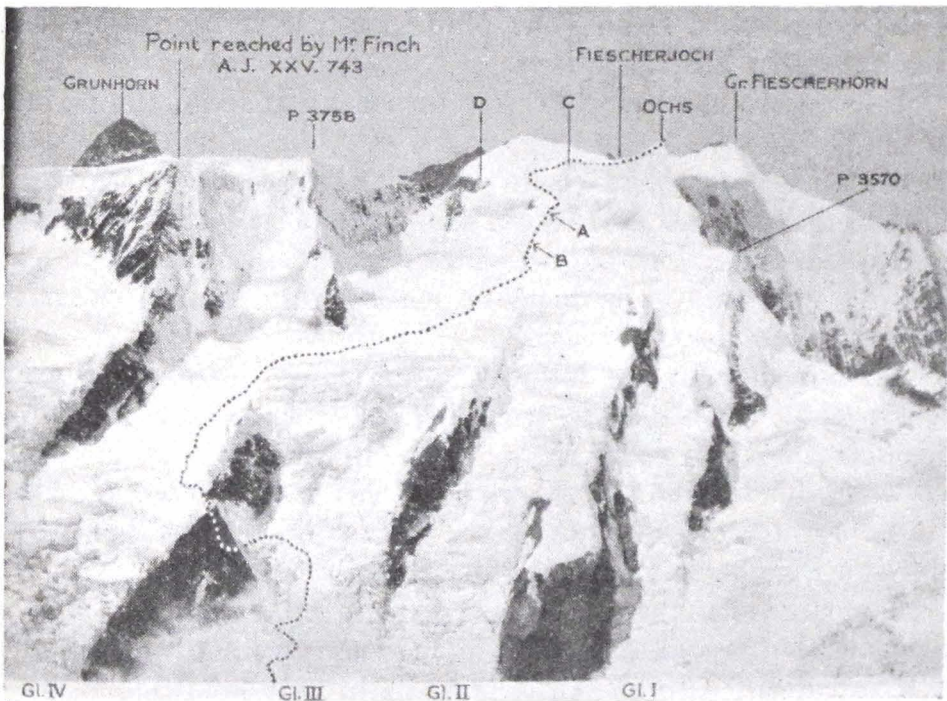
² [See *A.J.* 25, 743, for route taken by Max Finch to Pt. ca. 3700, E. of 3758. M. Finch is almost as competent a mountaineer as his brother George and his note usefully supplements this letter and deserves careful study.—F.]

'It is indeed a bold man who questions the accuracy of Mr. Coolidge's Guide, but I can see no other explanation than that the guide-book is in error regarding this point. . . . I do not possess an Aeby, to which reference is made in the C. & C. Guide. Since you are one of the pioneers of this very ascent and can, no doubt, authoritatively answer the question, I should greatly appreciate hearing from you, if it is not too much trouble.

'As a matter of interest, I have marked . . . the extensive snow-slope, whose surface peeled away in an avalanche to within some twenty feet of the arête when we were about at B, soon after having turned back at A because of the avalanche condition of the snow: a very narrow escape, I think.' [The slope is on the right or N. flank below A-B.]

My reply, June 3, 1921, read :

'I was very much interested to receive your letter of May 13. So many climbers simply follow the heels of their guide that



FROM THE STRAHLEGGHORN.

it is particularly refreshing to find one with such a keen and accurate topographical bent.

'Strange to say, as long ago as 1897 I went very carefully into the history of this N.E. face of the Kl. Fiescherhorn, and had quite a long correspondence with Mr. Coolidge upon it. I have turned up the papers and send them enclosed.

' There is a further note in "A.J." 25, 743 [see note 2]. If you look at Stephen's "Playground," new edition, 1894, p. 160, you will see that the col which he crossed was between the two points of the Kl. Fiescherhorn, *i.e.* between the highest point and the snow knob at the top of the arête just N. of the word "Ochs" on the Siegfried map. Certainly, a little higher, he refers to the col as being on the S. side of this knob, but the one he crossed was as stated, and is the one, I believe, usually crossed.

' A col is, of course, not necessarily the lowest point in the ridge, *e.g.* the Sesiajoch crosses the shoulder of the Parrotspitze.

' The statement in the "Climbers' Guide" is incorrect. Mr. Coolidge mistook, or rather failed to notice, the small but very well-marked snow or ice ridge immediately to the N. of the word "Ochs" and which bears no *côte*, and by which the ascent is made.

' The ridge leading to point 3758 is quite far away, and to my knowledge has never been done, nor has, *I think*, the E. face of the col marked D on your photograph ever been ascended. [See note 2 re Finch's ascent.]

' I do not remember that, on our ascent in 1897, the E. face of the Ochs, *i.e.* to the right hand of your ridge AB, was so broken up as it appears to be in your photograph. We traversed right under this, so as to gain the ridge at about the arrow-head beside B, and I am quite sure we should not have done so had the wall above us been as threatening as it appears to be now.

' On our descent we followed practically the exact line of your ascent. We had no trouble whatever, except in getting through the rib of rocks through which you passed. Here the ice was a bit broken. Otherwise, it was a simple walk.

' Your ridge of ascent is better shown in a map which came out as a Beilage to vol. xxi., "S.A.C.J."

' I meant to make the ascent by the final N.N.E. arête of the Ochs, but it looked so prodigiously steep when we got under it that I decided to cross the level plain to your ridge BAC.'

The following pages, with slight enlightening additions, are substantially the same as submitted to Mr. Coolidge in 1897. He was, during the greater part of his life, the authority to whom we all turned for information and confirmation, and none of us will ever fail to remember with appreciation the meticulous care which he bestowed on the voluminous correspondence inflicted on him.

ANALYSIS OF ROUTES.

*Northern Approach.*I. To Coolidge-Foster's Ochsenjoch.³ (3080 m.)

(a) from N.

Foster, 1868 ; Whitwell, 1878 ; Dübi, 1888.

(b) from E.

Anderson, 1886 ; Farrar, 1897.⁴

II. From Ochsenjoch 3080 to snow peak 3570. ('Firnrollen' of Dübi, 'S.A.C.J.' xxiv. 14.)

(a) by N. arête or close to it.

Foster, 1868 ; Whitwell, 1878 ; Anderson, 1886 ; Dübi, 1888 ; Farrar, 1897.⁴

III. From 3570 to summit 3905

(a) by N.N.E. arête.

Whitwell, 1878 ; Anderson, 1886 ; Dübi, 1888.⁵*North Eastern Approach.*

IV. From Ober Eismeer to 'Firnhochebene' of Fellenberg, Das Hochgebirge von Grindelwald (*Plate P. 125*): 'level plain' of Stephen's 'Playground,' 2nd edit. 156 (= to say the snow summit 3570) at foot of E. face of Kl. Fiescherhorn.⁶

Stephen, 1862 ; Fellenberg, 1864 ; Coolidge, 1874 ; Burkhardt, 1890.

³ Coolidge's *Bernese Oberland*, ii. 8-9. This Col is seen in the picture $\frac{3}{4}$ in. vertically below the figures 3570. It leads from the Zäsenberg and crosses the ridge running N. from the summit of Ochs to the Pfaffenstöckli, just S. of the latter. As a Col it is useless, as the glacier to right of Gl. 1 in picture is a much better approach.

⁴ Farrar stopped short rather below the actual col, made a long, as it turned out unnecessary, traverse to the S. in hard ice, involving much cutting, and joined N. arête about half-way up to 3570.

⁵ It is curious that Schlegel who had done it with Whitwell made no remark when Peter Baumann said the whole N.-N.E. arête was impossible. *S.A.C.J.* xxiv. 113. They did it all the same! Jossi was not to be denied! Dr. Dübi's whole article is very instructive.

⁶ This plateau or fairly level snow plain stretches right across the foot of the final ice wall of Ochs, from 3570 to foot of ridge A-B. It is almost better seen in the cut in Smythe's paper, p. 220. The route taken was either that marked or up to right of Gl. 1.

V. From 'Firnhochebene' to summit 3905 by the E. snow arête leading to Fiescherjoch.⁷

Stephen, 1862; Fellenberg, 1864; ? Coolidge, 1874 (*see note 7*); Burkhardt, 1890; Farrar, 1897.

VI. From the same to same. Direct by E. ice face.
Foster, 1868; ? Coolidge, 1874 (*see note 7*)

As to Foster's direct route by E. ice face: cf. 'A.J.' 4, 155, and Mr. Coolidge's note 'A.J.' 13, 267-8. To Foster's Ochsenjoch it is clear.

From here he bore 'to left over snowslopes, and ascended some steep rocks'—these slopes are, I consider, those to E. of the part of the N. arête stretching from point 3080 to 3360, and were also followed by Dübi (cf. 'S.A.C.J.' xxiv. 114), and are the obvious route. The rocks are referred to by Anderson, 'A.J.' 13, 122, 'bad rocks' and were also climbed by my party. They are just below the snow dome 3570. I think Mr. Coolidge's par. (2) 'A.J.' 13, 267, refers to Foster's route from this point 3570, not from 3080 to 3570—as up to 3570 he was bound to keep very close to, indeed at places on, the N. ridge—we were on it 1 hour 30 minutes). [In this paragraph (2) Mr. Coolidge seems to overlook the mention by Foster ('A.J.' 4, 155) of having 'ascended some steep rocks.' No doubt from his Ochsenjoch, gained from the N., Foster made a more or less long excursion on the S. flank of the bit of the N. arête 3080 to 3360, but he must then have returned to the N. arête on which the 'steep rocks' are. My party, though approaching the Ochsenjoch from the E. side, turned left or a bit W. of S. before we reached the actual Col and cut up very steep ice under an enormous ice bulge plainly seen in cut p. 220 and so gained the N. arête and followed it for 1½ hrs. over the 'steep rocks' to 3570, practically Foster's route, of which I then knew nothing.] He then at about 3570 reaches a 'small snow plain' after which he spends 6 hours on the last ice-slope. This ice-slope must be wholly above the Plateau (= Fellenberg's 'Hochebene,'

⁷ In a letter Nov. 2, 1897, Mr. Coolidge writes: 'From the plain [at foot of steep N.E. face] I think we [Aug. 5, 1874] went up Foster's ice face, *not* the usual snowy spur.

a. I remember the slope was very steep.

b. From point on final ridge reached, only 22 min. up to Ochsenhorn. Yet a *slow* party (*sic*). Foster took ¼ hr. and you 22 min. (*fast*).'

Stephen's 'level plain,' Foster's 'small snow plain')⁸ as the plateau breaks the continuity of the E. face and the lower slopes.

Now the regular Fiescherjoch route is by the E. ridge and could not be called a slope. We took by this route—i.e. from 3570 to Fiescherjoch—constant step-cutting after the first short-bit 2·35. Fellenberg (P. 125, Hochgeb.) inferentially takes say 3½ hours. Stephen—a large part—inferentially, 3 to 4 hours ('Playground,' P. 158–160).

Foster then states he took 15 minutes to the summit of Ochs from the point where he struck the main S.E. arête of Ochs arête. They had had many hours of work and Mr. Coolidge refers to them (? or his own) as 'a slow party' (note 7).

Now my party took for the part of the arête from the Fiescherjoch to Summit 22 minutes fast going.

I draw the conclusion therefore that Foster's party did not follow the old Fiescherjoch route by the E. snow arête, but cut right up the N.E. face of the Kl. Fiescherhorn, which would account for the longer time, and struck the main arête rather nearer the Ochs, which would account for the short time on the arête.⁷ [I drew his route in red on a photo.]

[Mr. Coolidge marked 'yes' against this par.]

Thus his route is new throughout and has never been followed in its entirety since, tho' Bowyear with Old Almer came down a bit of the E. face 'A.J.' 15, 310, and in their lower route may have followed Fellenberg's ascent.

It is easy to be misled by Stephen's account on p. 159; you could conclude that the top of the Pass is the summit of the 'rounded knob' but (p. 160) it is tolerably clear that they branched off to the right and traversed to the Col leaving the knob on their front. As did also v. Fellenberg. [Mr. Coolidge again marks 'yes.']

My party quitted this E. arête close to its top and traversed to S.S.E. arête and so reached the level of the summit plateau. Thus we went to the left instead of to the right, but what Stephen calls (p. 156) the 'actual col' is still further away to S.E. and is too steep on its E. face to be practicable.

Moseley and Craven descended the Fiescherjoch with C. Inäbnit and P. Rubi, neither of whom, so far as is recorded,

⁸ This plateau or fairly level snow plain stretches right across the foot of the final ice wall of Ochs, from 3570 to foot of ridge A-B. It is almost better seen in the cut in Smythe's paper, p. 220. The route taken was either that marked or up to right of Gl. 1.

had crossed this little-done Pass. They would probably take the same line as we did as it is that which can be best followed with the eye and is all right as far as we could see. We only had difficulty in getting off the spur of rocks at foot on to the open Glacier. [Our line of descent from the Col coincides with that marked on Mr. de Villiers-Schwab's photograph.]

The Ochsenhorn routes in Mr. Coolidge's 'Bernese Oberland,' vol. ii. 7-9 (1904), and in Dr. Dübi's 'Berner Alpen,' vol. iii. 26-27 (1909), which is, for this mountain, an exact translation, will be seen to need some revision.⁹

The arête from Ochsenjoch 3080 to snow peak 3570 runs N. to S., but after 3570 the arête turns a bit W. of N., *i.e.* becomes rather a N.E. arête or any way N.N.E.

It will be necessary to classify Foster's ascent by the E. ice face which, above the plateau at foot of this ice face, starts where Smythe's did, but soon diverges to the left. The difference in condition is noteworthy, Foster's party cutting for hours, Smythe's kicking steps over not dissimilar terrain.

'B.O.' p. 9 (1904) credits Foster only with the ascent to the Ochsenjoch and then makes him proceed to the Fiescherjoch as indeed he himself is 'inclined to think' he did ('A.J.' 13, 267). Anyone sufficiently interested can follow my argument against his having done so and for his having kept more to the right up the ice face. The great master had overlooked my argument with which he was, at the time, in agreement, and had gone so far as to say he thought that his own party followed more or less the same route (*see note 7*). Foster's actual route on the final wall starts at foot of N.N.E. arête of Ochs, which foot is well seen in cut, p. 220, and then bears diagonally to the left to strike the main arête slightly to left of the summit. It is a poor route as the direct ascent of the N.N.E. ridge was within their grasp and would have demanded less time and less work. His guide Hans Baumann was a glutton for ice-work. Old Almer,—Col Dolent, Col du Tour Noir, Brenva!!—could be the same, and Christian Jossi loved it.

⁹ The reference in *B.O.* ii. 8 to 'Pioneers' should be p. 29 (1887 edit. 12 $\frac{5}{8}$ × 10).

OVER THE AIGUILLE BLANCHE DE PEUTERET TO MONT BLANC.

BY P. v. SCHUMACHER, ACAD. A.C., BERNE.

ON August 27, 1926, W. H. Amstutz and I reached Courmayeur. We intended to start next morning for our last year's bivouac at about 3700 m. on the E. face of the Aig. Blanche. But a glance out of the window showed us a clouded sky, so we went to sleep again. We spent the rest of the morning in learned discussions of the 'Highs' and 'Lows' of the barograph, but when after lunch the last cloud in the sky had vanished, my friend's plea for an immediate start carried the day. By the time we had made up the sacks and found a porter it was 3.30 P.M. We had to catch up the delay, and stepping out well we attained in 3 hrs. the plateau about 2700 m. on the left bank of the Brenva glacier. Dismissing the porter and dividing his load between us, we roped and put on the crampons and took to the glacier. Most of the numerous crevasses were, in this snowy summer, bridged with good bearing snow. Close to the other bank, however, long, wide-open crevasses forced us to long detours, wide jumps or short passages along narrow ice ridges and steep steps. As dusk came on, say 50 minutes after we had taken to the glacier, we reached its right bank. One must conclude from earlier descriptions that the glacier has altered considerably in the course of years, for even last year, when the crevasses were not covered with snow, we had no considerable difficulties.

The tolerably steep ice slope which followed demanded a number of steps, while some transverse crevasses looked at first as though they might stop progress until, after a little search, bridges were, in every case, discovered.

By now it had got quite dark, so step by step, carefully probing for crevasses, we set to work to cross the slope, now snow, bearing to the left. By 8.30 P.M. we had reached the little rocky plateau covered with scree (about 2800 m.) immediately below the Dames Anglaises.

In the dull lantern-light we experienced the well-known romance of a bivouac. The hours flew with cooking, eating, smoking and chat, and it was 11 P.M. when, wrapped up in a goodly lot of English newspapers, we crawled into our common sleeping-sack. Thanks to our warm bivouac material, we slept

as well as in our beds at home. When the alarm went at 2.30 neither of us heard it. When we awoke, the slender crescent moon was still high in the heavens. After a capacious breakfast we left the friendly spot soon after 3 A.M. We had soon climbed the rocks above us and reached a steep, hard frozen névé field. It was a delight with our sharp Eckenstein crampons to mount between the crevasses and séracs. Only the last bergschrund held us up a bit as its upper lip was about 10 m. nearly vertical above the lower, and good footsteps and handholds were indispensable. Then we traversed away to the right over easy snow and rock slopes.

When, at about 3200 m., we passed the great boulder which has sheltered for the night many a Mont Blanc climber, it began to get lighter in the east. The next névé field was furrowed with several 2 to 3 m. deep runnels caused by falling stones. However, not even the smallest stone was stirring, so we crossed these without any danger. We were soon once more at the rocks, which we climbed, always mounting diagonally to the right. The slope here is steep and demands constant care by reason of the extraordinary untrustworthiness of the rock, but offered not the slightest difficulty. The rocks are well stepped and practically free of snow, which, however, increases their untrustworthiness. By 7 A.M. we reached the steep rock arête which mounts in a straight line from the Brenva glacier to the summit of the Aig. Blanche. Here, at about 3700 m., where, a year ago, we had bivouacked, we sat down to breakfast. My friend was very uncomplimentary about his sack, in which, besides many good and indispensable articles, were the heavy sleeping sack and a mighty bundle of newspapers—for our second bivouac. As I harboured the secret hope of reaching the Vallot hut that night, I did not demur when he abandoned half of the newspapers. The same fate overtook the other half a few hours later on the Col de Peuteret.

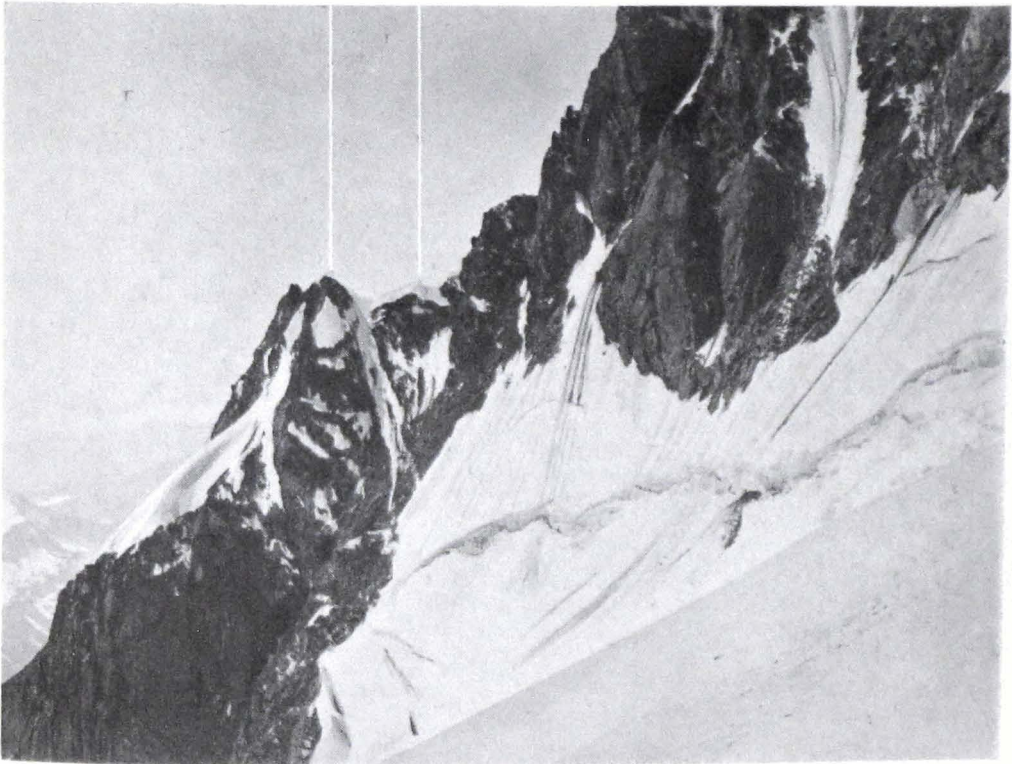
With renewed energy and rather lighter loads we started again in half an hour. Here, where Güssfeldt and Blodig found a névé arête, the rocks were nearly clear of snow. For a moment we considered whether it were not better to traverse direct across the steep névé fields to the Col de Peuteret. This direct route seems difficult, but is certainly not impossible; but then the splendid summit of the Aig. Blanche would escape us, and that were a pity, so we continued up the increasingly steep arête, the rock becoming much firmer. While I stuck to the arête, which gradually became more difficult, Amstutz discovered more to the left a much easier ascent. At the point



Ridge between Mt.
Maudit and Tour
Ronde.

LOOKING ACROSS BRENVA FACE
from Col de Peuteret.

PIC ECCLES.
COL ECCLES.



Phot. W. H. Amstutz.

PIC AND COL ECCLES
seen from Col de Peuteret across head of Fresnay Glacier.
(Brouillard Glacier not in view.)



Phot. W. H. Amstutz.

where the rock arête joins the snow cap of the Aig. Blanche we joined up again, and reached the summit at 9.30 A.M. We were much astonished to discover in the soft snow half-melted but still readily recognisable steps of an unknown party¹ of about a fortnight earlier.

We sat down in the warm sun for half an hour's rest. We had already seen with the telescope from Entrèves that the whole upper slope (Germ. Hang) of the M. B. de Courmayeur, crowned with a mighty cornice, consisted of blue ice. This was now confirmed.

Although the descent to the Col de Peuteret is not difficult we put on the rope, and kept it on till the Vallot hut. We followed at first a sharp névé arête which led us to a fine nameless gendarme. After the next gendarme² we left the arête, which became slabby, and descended the S. face of the gendarme to a steep névé slope. A short traverse in ice leads to a névé arête, which soon brings us to the Col de Peuteret (11.20). Here we found a little water, which gave a welcome excuse for a $\frac{3}{4}$ hr. rest, used mostly to transfer as much as possible of the contents of our sacks into our always hungry stomachs.

In consequence of the enormous ice and rock masses which fell down on to the Brenva glacier six years ago, the topography of the Col has changed somewhat. Not only is the Col lower, but the névé arête which led, on the other or M.B. de C. side, up to the rocks of the big corner bastion (Germ. Eckpfeiler) has disappeared, and in its place is a perfectly smooth rock fall, which, however, can be turned easily on the left flank over névé and ice. A pretty climb puts one on the arête about 50 m. above the Col, but already in a quarter of an hour we leave the arête again and climb the almost snow-free but rotten rocks of the S. flank direct towards the last gendarme on the arête (4341 m.). The flank is throughout well stepped, and notwithstanding the considerable angle is in no case really difficult. The risk of falling stones is not great, although the midday sun is hot, as everywhere is good cover. At 2.30 we sat down on the uppermost gendarme for a rest. From here the last bit of the ascent, in spite of the foreshortening, can be clearly judged. A narrow snow arête forms the continuation of the rock arête.

¹ [An Italian party, Si. Albertini and Mattiola. It is understood three bivouacs were made.]

² [There are two big ones: the first is turned on its right, the second traversed.]

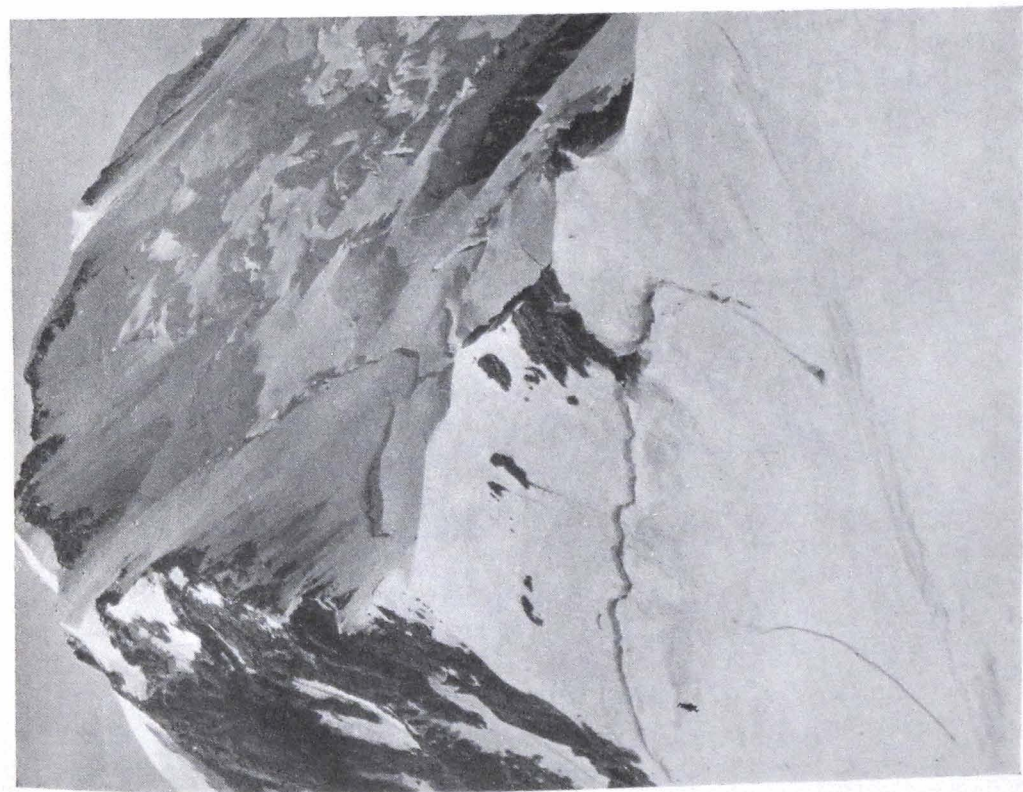
Higher up it bends to the left and loses itself gradually in the final, nearly 40°, ice wall. In place of the good névé we encountered, after about 150 m., hard blue ice. We could follow for a bit with the glass the melted-out steps of our predecessors, but higher up, where the snow covering ceases, no sign of the steps could be discovered. For a moment we considered whether it were not more prudent to make a second bivouac at P. 4381, for the idea of a bivouac on the ice wall or the steep side slopes was not very inviting. But the aspect of the moderately steep wall and faith in our sharp Eckenstein irons decided us. Rapidly we cut upwards, steps not too small but as far apart as possible. Amstutz, whose legs are shorter than mine, complained at first bitterly, but soon resigned himself to cutting an intermediate step. To gain time we finally took to the edge of the ice wall along the edge of the rocks. Sometimes climbing, sometimes cutting, we gained height rapidly. Contrary to expectations, the cornice offered no difficulty, a little snow arête on the left reaching almost to its top.

At 6.30 P.M. we stood on the broad névé back of the M. Blanc de Courmayeur (4758 m.). The last 400 m. had taken us 3½ hrs. In the golden evening light we strolled over to the summit of M. Blanc, reached in ¾ hr. While we walked down the high road to the Vallot hut the daylight slowly vanished.

We did not have too good a night in the hut. Everywhere the icy N. wind blew through the badly fitting joints. It was only when one party after another from the Grands Mulets stopped for breakfast in the hut that we thought of getting up. We set out about 9 A.M. and strolled comfortably in an hour over the Dôme to the Aiguille de Bionnassay, reached the Col de Miage at 11.30 A.M., and were back in Courmayeur late in the afternoon.

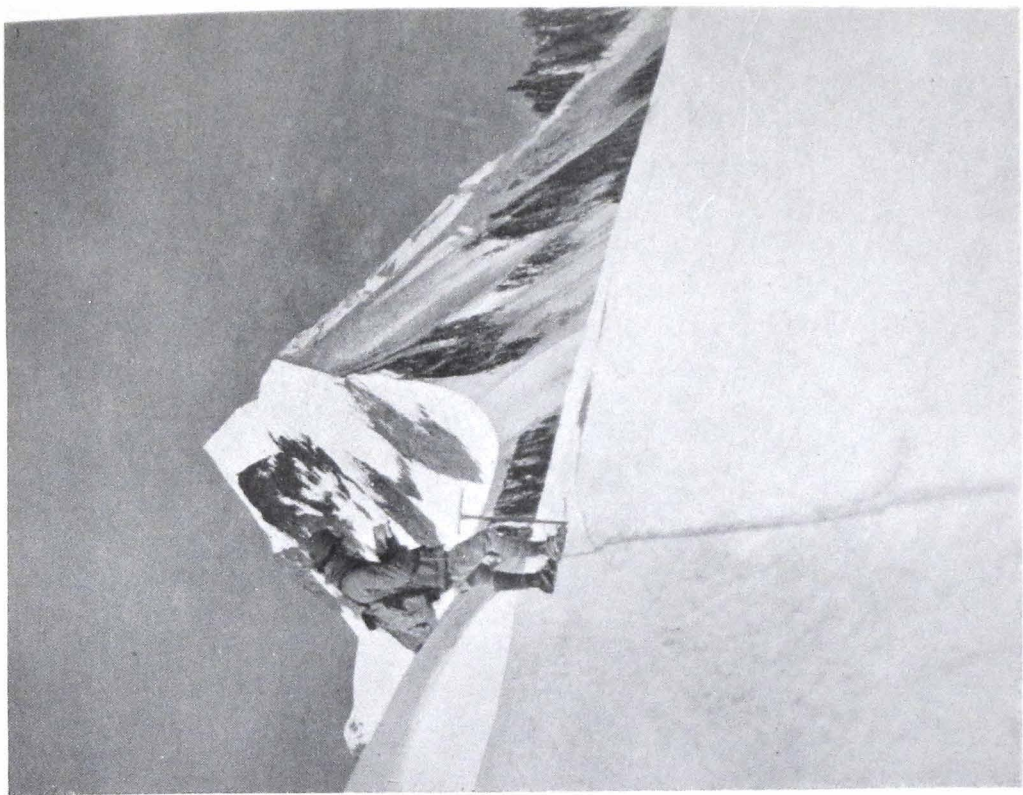
In answer to the paper in the last JOURNAL on 'The Aiguille Blanche de Peuteret,' by J. P. Farrar, Mr. P. von Schumacher writes as follows [the notes in square brackets are Capt. Farrar's]:

'Under this title appears in the last number an article from the competent pen of Captain Farrar. The author as well as the veteran guide Chr. Klucker express therein the opinion that our party of August 10-11, 1925, established their bivouac too high. I submit that there can be a perfectly legitimate differ-



Phot. W. H. Amstutz.

DOME DE MIAGE
from above Col de Miage.



AIG. DE BIONNASSAY
from Dôme du Goûter.



LOOKING TOWARDS MT. BLANC
from Col de Miage.



ence of opinion on this point. The parties Maischberger-Pfannl-Zimmer in 1900³ and Blodig-Compton in 1905 chose the same bivouac, while others like Güssfeldt-Klucker-Rey and Farrar-Maquignaz in 1893 bivouacked lower down. I may be permitted in the name of my party to express our view on this question.

‘According to our experience the ascent of the *Aiguille Blanche* is endangered by stonefall at two points: (1) in the snow couloir divided into several little branches on the right above Farrar’s bivouac,⁴ and (2) in the couloir to the left of (1) in which Richardet was killed. The rest of the route is relatively not dangerous as cover can be taken nearly always in case of stonefall.⁵ In good and not too warm weather even the two couloirs, in the early morning and late in the afternoon, can be crossed without great danger as the whole N.E. face of the *Aiguille* is in shade after 2.30 P.M. Actually during our ascent, between 2 and 5 P.M., in August 1925, only once was slight stonefall experienced. If, as occurred to us, mist and rain compel a descent [from the higher bivouac] it is tolerably indifferent at what time of day this is undertaken, as in bad weather stonefall does not cease even at night. If you bivouac where Güssfeldt and Farrar did, on the rocky arête at about 3000 m.,⁶ you have still in case of a descent to cross the lower couloir, where we were surprised by stones in the thickest mist, but you avoid the upper, much steeper, couloir, and this is an advantage of the Güssfeldt-Farrar bivouac.

‘Our reason for choosing the 3700 m. bivouac, notwithstanding its drawbacks in this respect, was that we hoped to complete the ascent to the *M. Blanc de Courmayeur* without a second bivouac, which would, without a doubt, considerably reduce the danger, for, in case of bad weather, retreat from the *Col de Peuteret* or further advance would entail the greatest danger. Farrar thinks it hardly likely that, even from the 3700 m. bivouac, we should have made the summit of *M. Blanc* in the day. At the same time his times as well as those of guideless

³ [*A.J.* 24, 691 seq., and Mr. Compton’s admirably clear paper *A.J.* 23, 115 seq., which gives a picture of the bivouac.]

⁴ [*A.J.* 38, 109 (illustr.), and 23, opp. 116 (illustr.).]

⁵ [I do not agree with this. There is another or even two stone couloirs considerably higher up, quite 2 hrs. above our bivouac (*A.J.* 33, 54). It seems to have been one of these which held up Compton and Blodig (*A.J.* 24, 692).]

⁶ [I do not think it was over 2800 m.—see p. 109, note 1.]

parties ⁷ show that it is possible ⁸ even with none too good conditions.

‘In conclusion I should like to identify myself with Captain Farrar’s remark that the repetition of the ascent ought not to be discouraged owing to Richardet’s death. As Captain Farrar remarked to us in Courmayeur directly after the accident, safety on a mountain is always relative; at no time can one rule out danger entirely; on fashionable mountains like Matterhorn stones can fly about one’s head very disagreeably. The Aig. Blanche fatality occurred through a chain of unfortunate circumstances. In good condition the ascent can surely not, by far, be so dangerous as one would conclude from Dr. Blodig’s terrifying description.⁹ The threatened bits are neither very long nor very steep, and in fine weather it should not be difficult for climbers, unroped and with crampons, to dodge any stones.

‘P.S.—On August 29, 1926, when these lines were already written, Amstutz and I made the actual ascent from a bivouac 1½ hrs. below Güssfeldt’s and Farrar’s, reaching the summit of M. B. de C. in 15½ hrs., with 2 hrs.’ rests [described in detail above]. Now that I know the route better my opinion is that, in good conditions, well-trained mountaineers would do better to use Farrar’s bivouac and start early with light sacks. They would be pretty certain to reach the summit the same day. In less favourable conditions I still think that the upper 3700 m. bivouac is warranted.

‘Berne, 4 Sept. 1926.

‘P. v. SCHUMACHER.’

⁷ Dr. Pfannl’s guideless party left the 3700 m. bivouac at 2 A.M., and notwithstanding many rests and heavy cutting in hard ice reached the summit of M. Blanc at 5.15 P.M. Farrar and his guides, from the 3 hrs. lower bivouac reached the summit at 0.05 midnight, partly by moonlight [and much delayed by continuous step-cutting and fierce gale].

⁸ The conditions on August 10, 1925, appeared to be splendid. Fine warm weather had cleared off the new snow which a fortnight earlier had hindered the party Welzenbach-Allwein, while, so far as one could tell with the telescope, there was no ice either on the Aig. Blanche or on the M. B. de C.

⁹ [I have stated, always and often, that ‘there is nothing of great interest about the ascent, nor any difficult rock-climbing . . . the members of the party had *better* be very fit, and the weather *ought* to be without reproach’.—F.]

GARTER TRAVERSE—LLIWEDD.

[This climb was invented by Mallory in 1919.]

BY H. E. L. PORTER.

NO account of this fascinating traverse of the East Buttress of Lliwedd seems yet to have been published. The account given below is that written by Mallory in the Pen y Pass Climbing Book, and the illustrations were taken by Pye and myself last Easter.

‘Proceeding from the Bowling Green the party traversed the East Peak to the East Gully. The first objective was the top of the Route II slab. To reach this it was necessary to ascend after crossing the Shallow Gully to a conspicuous “bollard-crowned bonkin”; thence to descend the rib immediately beneath it for about 15 ft. until the climber can peer round its eastern edge into a right-angled corner below him (No. 1). The approach to this is sensational: it is necessary to grasp a small square bracket on the wall with both hands and make a clear swing (No. 2). Once he has arrived and recovered his dignity, the climber finds a convenient leaf for his left hand, which renders his position unexpectedly comfortable, and by turning his body until he can use this with his right hand, he finds himself ready to start along the traverse, which is guarded by another excellent belay at its further extremity. (*The leaf is clearly visible on the left of Nos. 1 and 2 immediately to left of crack. The traverse is a hand traverse along a line of arrow-headed flakes, of which the first two are seen in the lower left-hand corner.*) The slab of Route II was now descended, and the slab of the Roof Route ascended until a convenient point was found to cross the eastern edge of it and make towards a delectable grassy shelf under overhanging rocks. (No. 3. *Pye near top of Roof Route slab; Reade at foot of Route II slab: taken from in front. No. 4. Myself at belay at top of Roof Route slab, Elliott reaching top of slab: taken from behind. No. 5. Elliott now at belay of No. 4 and myself approaching the delectable grassy shelf on the Central Chimney Route. No. 6. At the delectable grassy shelf.*) A straightforward traverse on a steep wall now led directly to the Sickle, and a descent of 6 ft. to the grassy stances, which crown the Avalanche Rib. (No. 7.

Myself reaching the grassy stances.) The chimneys of Route I were now crossed and a short ascent made to "Paradise." A steep but not difficult crossing was next made to the Horned Crag rib, which was descended a short distance to a conspicuous knob. (*No. 8. Elliott crossing the steep wall from "Paradise"; myself on the Horned Crag rib.*) From here to the East Gully it was necessary to descend some grass and then work gradually upwards round the corner on to a ledge overhanging the gully, from which an easy descent was found on its far side.

' G. MALLORY
' C. A. ELLIOTT
' D. R. PYE
' R. MALLORY.'

This climb is peculiarly typical of Mallory, and bears witness, perhaps more than any other of his discoveries in Britain, to his fertility in invention and his resourcefulness in action. The standard almost throughout is severe, and the first pitch, which is of unique character, is exceptionally severe. On this pitch the leader is protected during the swing into the crack by his second on the 'bonkin' above, and the real onus is on the last man. On the rest of the climb the belays are up to the usual Lliwedd standard, and no long run-out is necessary. The rock is clean and sound throughout.

The whole climb is remarkably attractive, and in the opinion of those who know both, far superior in interest to the original Girdle Traverse.

The history of the climb, as far as I know, is as follows :

First ascent : G. H. L. Mallory, C. A. Elliott, D. R. Pye, Ruth Mallory. April 21, 1919. Time, 4 hours.

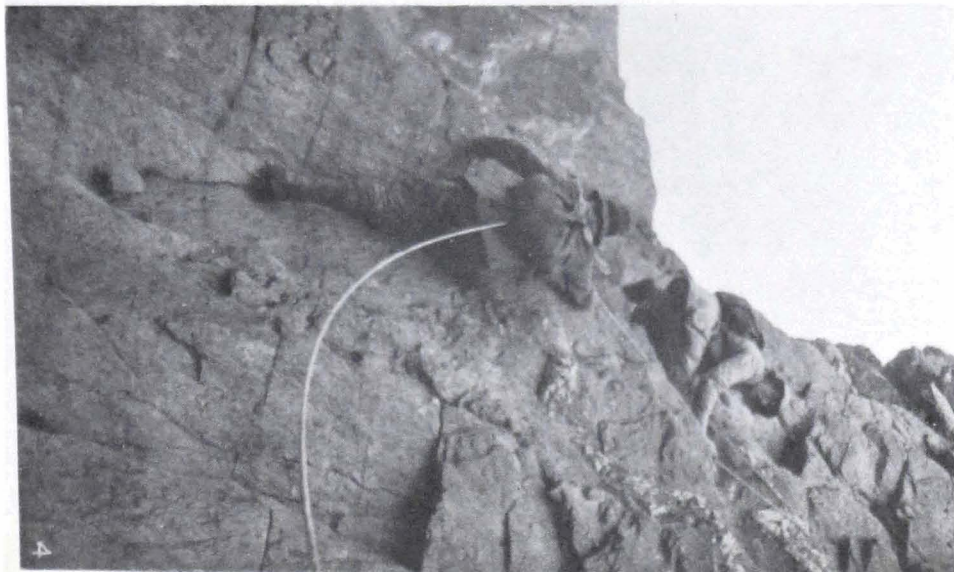
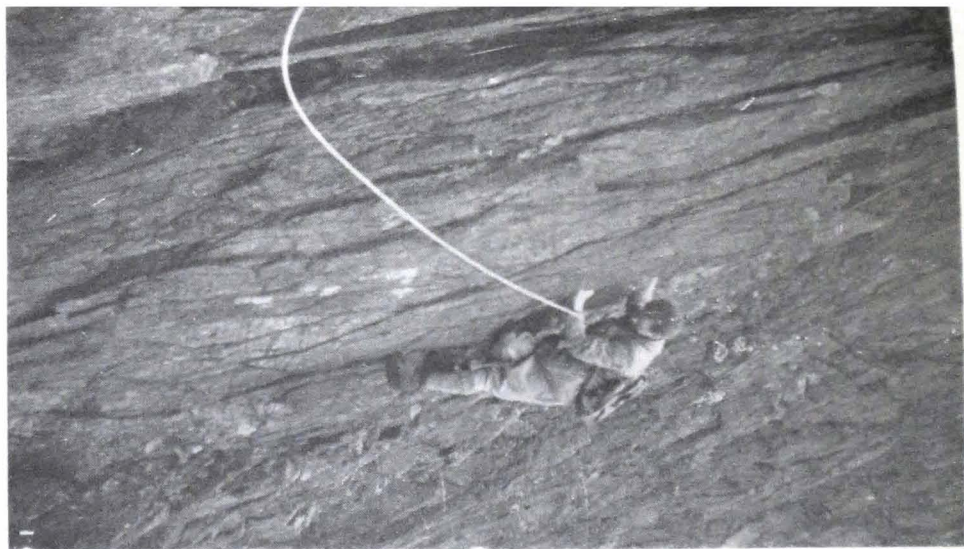
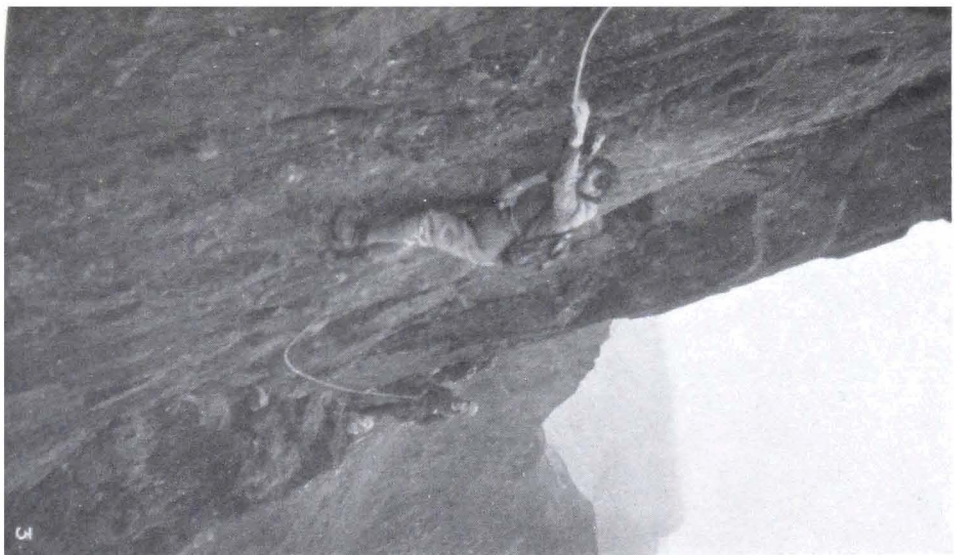
Second ascent : C. A. Elliott, H. E. L. Porter. April 22, 1919. Time, 50 mins.

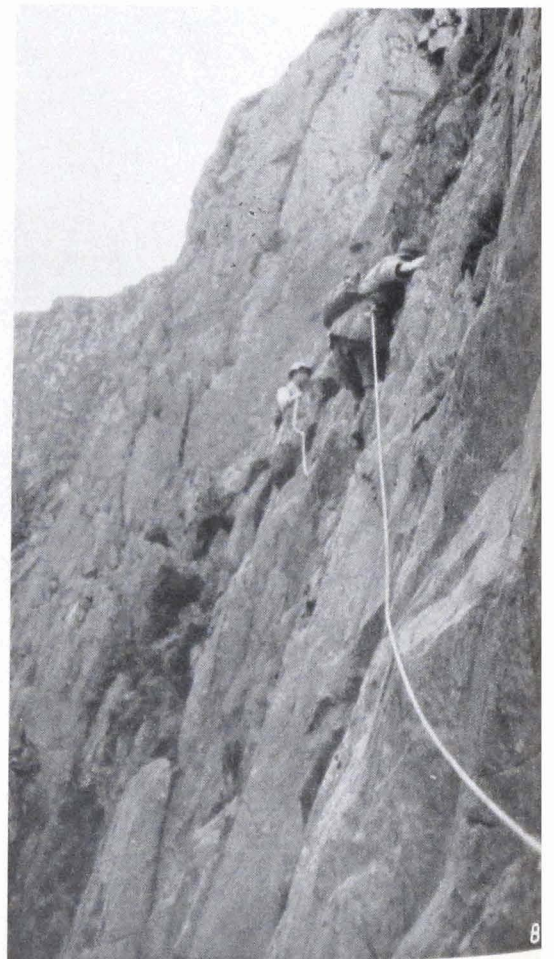
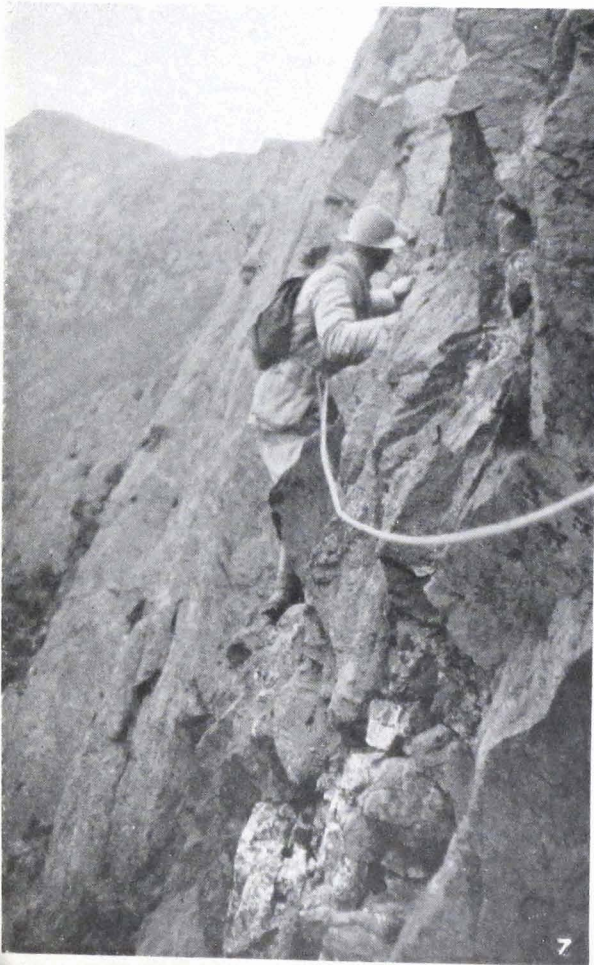
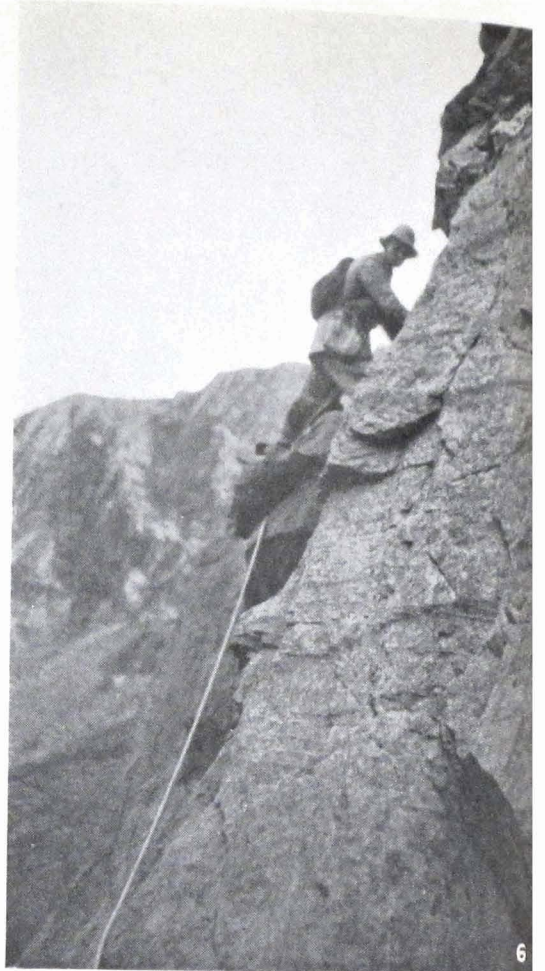
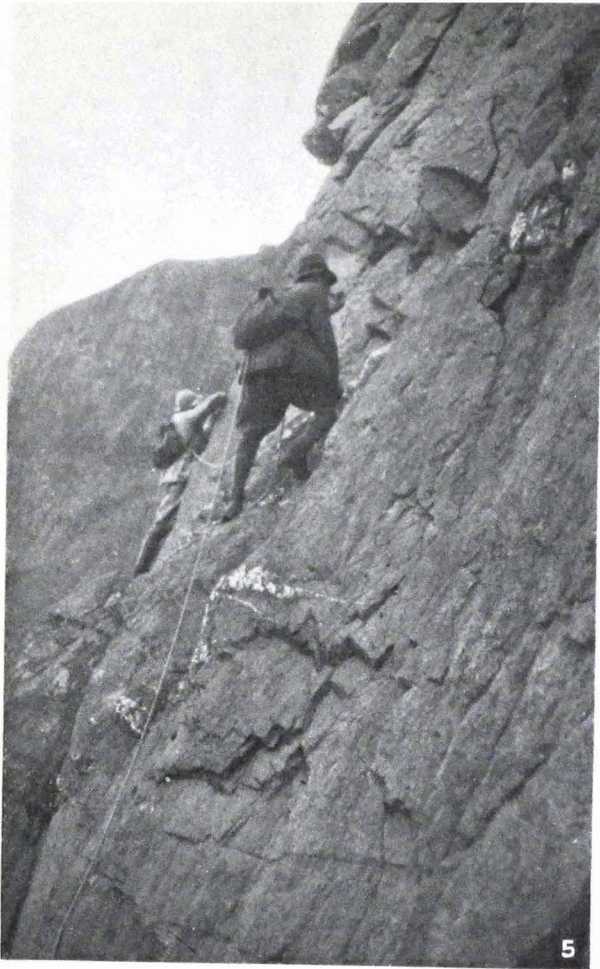
Third ascent : H. E. L. Porter, C. A. Elliott, D. R. Pye, H. V. Reade. April 6, 1926. Time, 1 hr. 50 mins.

BONNEVAL AS A WINTER CENTRE.

BY C. F. MEADE.

THERE has recently been completed round Bonneval-sur-Arc an elaborate system of club huts which make this village an admirable ski-ing centre for those who can dispense with the frivolities provided by luxurious hotels.





To English people Bonneval is exceptionally accessible, for Modane is its railway station situated on the Mont Cenis main line at the French mouth of the tunnel. An electrobus runs between Modane and Lanslebourg throughout the winter in about two hours, and sledges can do the distance between Lanslebourg and Bonneval-sur-Arc in about three hours (avalanches permitting).

By the courtesy of Monsieur Joublot of the Section Lyonnaise, I have been able to obtain the following particulars as to wintering in the huts round Bonneval-sur-Arc :

- (1) Refuge d'Avérole, 2300 m. : one room can be opened. Key with Monsieur Thermignon at the village of Avérole (25 minutes). Straw mattresses and blankets. Wood stove and probably an oil stove.
- (2) Chalet Refuge des Evettes, 2660 m. : a room open on ground floor. Straw mattresses and blankets. Wood stove and oil stove. (Improvements announced for 1927.)
- (3) Refuge du Caro, 2700 m. : same accommodation as Refuge des Evettes.
- (4) Hôtel du Col d'Iseran, 2660 m. : same accommodation as Refuge du Caro.

From these huts the following ski expeditions can be done (information by Pierre Blanc).

- (1) From Refuge d'Avérole (3 hours from either Bessans or Bonneval-sur-Arc) : Croce Rossa, Ouille d'Arbéron, Albaron, Ciamarella (by Col de Collerin).
- (2) From Chalet Refuge des Evettes (4 hours from Bonneval-sur-Arc) : Pointe Tonini, Pointe Francesetti.
- (3) From Refuge du Caro (6 hours from Bonneval-sur-Arc) : Levanna Occidentale, Aiguille Rouse, Ouille Pers, Ouille noire.
- (4) From Hôtel du Col d'Iseran (4 hours from Bonneval-sur-Arc) : Pelaou Blanc, Ouille Pers.

All these mountains are from ten to twelve thousand feet or more. Only those suitable for skis have been mentioned, and many as good or better climbs can be done on foot.

Pierre Blanc suggests a fine high level route (either on ski or foot) which has not yet been done and would consist in combining all the four refuges, sleeping at each in the order named. The tour throughout would never lie below hut level and the

winter climber's only care would be the organization of transport for food or fuel.

As to accommodation, Bonneval-sur-Arc is nearest to most of the huts. Pierre Blanc would give any particulars of rooms in the village, and there are inns open at Bessans.

THE ALPINE DISTRESS SIGNAL.

BY H. G. WILLINK.

MR. UNNA'S article in the May JOURNAL must not be left unanswered. He kindly let me see it in proof, and although I cannot agree with him in most of his courteous criticisms I am not sorry that he has published them, because it is well that attention should be called to the whole subject. Whatever system we have, the more it is talked about the better. Members will find the original Report and paper and discussion in vol. 17. And there is an excellent article by Clinton Dent in the *Badminton Magazine* for 1895, p. 109. They will see that the question was fully considered in all its bearings. And the adoption of our signal by so many clubs should protect it from hasty condemnation. Personally, I consider it to be quite good, though possibly the 'instructions' might be simplified a little.

Let us examine what Mr. Unna has to say.

In the first place he does not go so far as to assert that in definite instances it has been tried and has failed; but only, in general terms, that 'after a trial of over a quarter of a century . . . experience has shown it to be of little practical use.' He admits that 'climbers are rarely in situations where they can make [the signal] seen or heard,' but he gives no specific cases of unsuccessful attempts to use it; nor does he quote anyone as having found fault with the system.

So far as this alleged non-use may be due to want of opportunity, it would seem to be incapable of remedy. So far as it arises from climbers' ignorance or forgetfulness of the signal, it may be met by more efficient publication. It can hardly be of much value as a ground for condemnation of the system.

But he goes further and attacks the system itself upon several definite points.

To begin with, he says that in one important matter the

instructions are not clearly intelligible. I confess, however, that when he complains that an instruction requiring a sign to be made six times a minute, at equal intervals, is ambiguous because six intervals can only be demarcated by seven signs, the complaint leaves me rather cold. Why should he count intervals when we tell him to count signs?

Then, taking his numbered 'defects,' he says (1) and (2) that continuous watching will be necessary for at least three minutes. My own experience as a signaller satisfies me that with anything but a formalized and unusual signal, some delay is sure to occur. To pick up and recognize a signal may very well take much longer. The senders may have to continue for hours before attracting attention, and it is important that the process should not be fatiguing. (3) and (4) and (6). Regularity is of course essential, but only such regularity as is clearly seen to be regular. The precise duration is immaterial; some normal pace must be prescribed, and a fairly practical one was chosen, viz. alternate periods of a minute, as near as may be, one minute with six signs, one with none, and so on. It can be done by counting aloud,—the familiar method of timing photographic exposures. No watch is necessary, so there is no strabismic risk. Of course attention is needed, why not? (5) It is easier to read flashes than to read dark intervals. There will probably always be more or less difficulty if successive obscuration and revelation of a *fire* or blaze is the method employed: but there are many ways in which a *lamp* can show a winking light. Improvised heliographs will scarcely be possible. But heliostat work might well be done.

Lastly, he takes the general objection that our signal is not simple enough. I am afraid I cannot agree with him. Simplicity, indeed, is essential, but a distress signal must be something more than simple, and excessive simplicity may defeat its own object. We had no doubt that such a signal, whether visible or audible, and whether by night or day, must be useless unless, besides being simple, it is unusual, unmistakable, deliberate, well marked, regular, steadily repeatable, easily made and easily read or counted.

Mr. Unna suggests that a constant repetition of groups of three signs, the groups being separated by intervals of arbitrary length just sufficient to enable them to be definitely distinguishable, would be better than our system. I do not think so. I think that in some cases it would easily be taken for the mere 'waving' of exuberance. If made with a flag or any

extemporized substitute, it would soon become fatiguing, and would tend to irregular intermittency. It would, of course, be better than nothing, and it has good points.

But we believed that our proposals possessed *all* the qualities which were requisite. The club agreed with us; and other clubs have followed suit. Unless and until good and sufficient evidence of actual trial and failure has been produced, I submit that the present system should be left as it is.

P.S.—Of course I agree with Mr. Unna that all possible steps should be taken to disseminate the instructions, which might be printed in all guides' 'Books,' with the Rules of their Association. And as regards night signalling his suggestion that a steady light should be shown during any periods of cessation is valuable and might well be incorporated in our Instructions.

Mr. Willink is good enough to send me an advance copy of his paper. I will confine my remarks to the undue length of period, two minutes, of the present signal, as this is the fundamental defect, in my opinion. I gave my reasons in the May JOURNAL; and, in preference to repeating them, will show how they are confirmed by the procedure followed in ordinary signalling. The Alpine Distress Signal has to fulfil two functions: it acts as a general call sign, which conveys the message "I wish to communicate with anybody within range"; and also implies the special meaning "I require assistance." In the Morse code the general call sign has the shortest of all possible periods. The period would be less than one second, even with the slowest practicable rate of signalling. This compares with two minutes. Owing to the special meaning also attached to the Alpine Distress Signal, the general call sign would not be suitable; and I therefore suggested a sign with quite a short period, distinctive from the former, and not involving a knowledge of Morse. It would not be fatiguing to send, because, as I pointed out, the odds upon its being picked up would be nearly as great if it were sent occasionally, as if it were sent without cessation.

P. J. H. UNNA.

GLACIER LASSITUDE.

THE effects of glacier lassitude, 'a peculiar sapping of energy, a weakness of the legs, and a disinclination to move . . . not a breathlessness due to exertion, but a loss of muscular power . . . a profuse sweating . . . something like the oppression experienced when marching through a hot, moist jungle in the rains,' described by Major Hingston ('A. J.' 37, 22 seq.) as one of the physiological difficulties experienced upon the 1924 Everest Expedition, have been investigated and simulated for experimental purposes by Professor Leonard Hill and Dr. Argyll Campbell at the Medical Research Council's National Institute for Medical Research at Hampstead. Their results appeared in the *Lancet*, May 2, 1925, p. 939 (in the A.C. Library). Major Hingston's further statement, that 'the lassitude appeared immediately after stepping on to the glacier' and 'was quickly relieved on again reaching rock or moraine,' shows that the symptoms were such that the possibility of their being encountered should not be lost sight of whenever a climbing expedition affords a choice in route or camp site. The question appears to affect route rather than camp site, unless the camp is to be inhabited by day, as Major Hingston remarks that the lassitude was only noticeable during the middle part of the day. The question is one which does not appear to be confined to high altitudes or glaciers, for, as every climber knows, it is easier to climb a hill by a ridge than by a corrie; and the difference can scarcely be attributed entirely to the psychological effect of the more varied views obtainable from the former. The experiments, which will now be described, appear to bear this out.

Professor Hill and Dr. Campbell, after stating that Major Hingston does not give the pulse rates of those suffering from glacier lassitude, continue: 'We know already that ordinary discomfort due to overheating is accompanied by an increase in pulse rate; in fact, it is generally agreed that pulse rate is the best indicator of discomfort due to overheating. . . . Altitude itself, as is well known, increases the pulse rate while at muscular work. Here again pulse rate is considered a good indicator of distress.' They commence their investigations with this

knowledge to start with. Experiments, with consistent results, were made upon two subjects, viz. :

'D. S.,' who was in good training for football, and wearing ordinary winter clothing.

'C. P.,' a healthy, active person not of athletic habit, who was lightly clad.

An altitude of about 18,000 or 20,000 ft. was simulated by making the subjects breathe air only containing about half the normal amount of oxygen.

Conditions tending towards glacier lassitude were simulated by making the subjects work in a room heated to 68° F., in which the cooling power of the air, measured by dry kathermometer, was 5 millicalories per sq. cm. per sec. Opposite or bracing conditions, with which the effect of the relaxing ones was compared, were satisfied by making the subjects work in a wind tunnel at 46° or 50° F., and ventilated with a large fan, the cooling power in this case being about 32.

Work was done on a work-measuring machine of the bicycle type at the rate of 2170 ft.-lb. (300 kgm.) per min. at 70 r.p.m. ; or by walking on a revolving platform at 4 or 5 miles an hour. Each method gave similar results. In order to convey some idea of the work done by bicycle it may be mentioned that the net output of a man, weighing with his equipment 180 lb., would theoretically be equivalent to 2170 ft.-lb. per min. if he were climbing at the modest rate of 725 ft. per hour. It may incidentally be noted that quite a lot of investigation of the circumstances of mountain sickness is being carried out both in this country and in America by means of work-measuring bicycles¹ ; and much information of interest from the climbing point of view could be obtained if the data necessary for converting the rate of output of work into terms of feet climbed per hour were determined. These data would have to be found experimentally, as the efficiency of the human body as a climbing engine may be different from its efficiency when driving a cycle.

All the experiments were carried out about 3 hours after breakfast. The duration of work was adjusted so as to give definite evidence of mountain sickness—faintness, giddiness, headache. D. S. worked for only 10 minutes., while C. P. worked for two periods of 10 minutes separated by a resting interval of 12 minutes. In each experiment the pulse rate was measured for the last minute of work.

¹ See for example *American J. of Physiology*, Oct. 1925.

Both sets of high altitude experiments—those under bracing and those under relaxing conditions—were repeated under sea-level conditions ; that is, while normal air containing 20·9 per cent. of oxygen was breathed. Thus there were four distinct sets of conditions, dependent upon the state of the air breathed and the air surrounding the body, under which the observations were taken :

- | | |
|------------------------|----------------------------|
| 1. Sea level—bracing. | 3. High altitude—bracing. |
| 2. Sea level—relaxing. | 4. High altitude—relaxing. |

Normal pulse rate would be at sea level—resting. The effect of work would be to increase this pulse rate. Such increase would be least under combination 1, and any further increase would be due to high altitude or relaxing conditions, or to the two combined. This further increase was determined by comparing the pulse rates between five of the six possible pairs of 1, 2, 3, and 4 ; and the average results worked out as follows :

Sets Compared	With	To Determine the Effect of	Average Increase in Pulse Rate	
			D. S.	C. P.
1 & 2	High oxygen supply.	Relaxing conditions	12	24
3 & 4	Low do.	do.		
1 & 3	High cooling power.	High altitude	14	11
2 & 4	Low do.	do.		
1 & 4	—	Relaxing conditions and high altitude together	23	36

It will be noticed that the two observed values in the bottom line are approximately equal to the sum of those above, as they should be theoretically.

The conclusion arrived at is that under conditions such ' as glacier lassitude as experienced on Mt. Everest, produced by combined effects of overheating of the body and of breathing oxygen at low tension during light muscular work, the heart beat is markedly increased in rate owing merely to summation of the effects of each factor upon the heart. The pulse rate is an excellent guide to discomfort and distress of the heart during such conditions, a rate of 140 per minute being considered the limit of safety in the subjects under the conditions specified.'

P. J. H. U.

THE DENT DU MIDI LANDSLIDE.

BY J. W. WYATT.

THE eastern slopes and precipices of the Cime de l'Est are drained by the St. Barthélemy torrent, which flows into the Rhône a little above Lavey-les-Bains. This torrent is divided into four distinct portions, a knowledge of which helps to appreciate both the causes and the results of this disaster.

On leaving its source, the outlet of the Plan Névé glacier, at about 8500 ft., the torrent falls down a very precipitous gorge with a drop of about 3000 ft. in a length of 1 km. Thence it has cut its way in a deep V-shaped trough through the alluvial and moraine-like soil of Jorat d'en Bas, falling a further 1500 ft. in $1\frac{1}{2}$ kms. Here it enters a very narrow and precipitous gorge which it has carved for itself in the rocks for a distance of about 2 kms., with a fall of 2000 ft., to where it enters the valley proper at La Rasse. From this point it has, in the course of ages, spread out and formed a large river cone, known as the Bois Noir, roughly $2\frac{1}{2}$ kms. long, with a fall of 700 ft., diverting the Rhône in a big bend from the Valais to the Vaudois side under the rock buttresses of the Dent de Morcles massif. A short distance above its junction with the Rhône both the railway and road bridges cross the torrent.

The primary cause of the disaster at first was thought to be a large pocket formed in the Plan Névé glacier, which finally burst and caused the slide; this, I think, has been disproved, as the snout of the glacier looks quite normal and the gorge below it is free of debris. On Friday, September 17, two days before the first great slide, large falls of rock were heard coming down from the Cime de l'Est, and a heavy cloud of dust was observed rising from the valley; it is surmised that this rockfall caused a barrage somewhere in the bed of the torrent till the water burst through and brought down an enormous volume of mud, detritus, and boulders. This swept through the Bois Noir, broke the road and bridge at La Rasse, carried away the trees by hundreds, and formed a lake of mud and boulders, in some places 300 to 400 yds. wide, and estimated from 20 to 50 ft. deep. This time it passed safely under the road and railway bridges, but filled up so much of the bed of the Rhône as to reduce it to half its proper width. Some of the blocks were as large as a small cottage or shed.

On September 25 we had thirty-six hours of heavy rain, which caused the second and much more serious disaster of the 26th. The flooded torrent completely carried away the railway bridge, broke the electric current, and embedded an engine and two carriages of a train caught by the mud stream owing to the cutting off of the power. It filled up the whole bed of the Rhône to a depth of 40 to 50 ft., thus diverting the river, then in flood, in the form of a huge inverted D; this carried away the high road to Morcles for a distance of 100 to 150 yds., as well as trees, meadows, a portion of the promenade of Lavey-les-Bains, and damaged the pumping station of the baths. I went up there the following day, and the scene was a remarkable one; the old bed of the Rhône looked like a flow of molten lava; there was no trace of railway or bridge, and the mass of mud and boulders was piled up in front of the train as high as the roof of the carriages; from time to time trees and soil were falling into the river, which was a raging torrent. Fortunately the road bridge was then intact, and passengers were transferred by a fleet of Government motor-buses and lorries, the through traffic being diverted over the Lötschberg line.

In about a week, by working night and day under the search-lights of the forts of St. Maurice, they were able to clear a single line, to erect a temporary bridge, and to run temporary steam trains. The larger blocks floating on the mud were blasted; but an attempt, by blasting, to cut a way for the Rhône failed completely.

Then, in the early morning of October 10, after more heavy rain, the mud stream started for the third time and broke this time the main-road bridge, but the temporary railway bridge was saved by a great mass piled up above the remains of the road bridge to a height of 9 to 10 ft. and fully 20 ft. deep to the torrent bed.

The stream has now cleared a deep channel for itself, which they are improving, and, granted reasonable weather, they may be able to cope with the situation without further disaster till the melting of the snows in the spring. Meanwhile parties of climbers, engineers, and experts are exploring the whole gorge and the slopes of the Cime de l'Est to see what can be done.¹ With colder weather the Rhône is not likely to give further trouble.

¹ Their detailed report is to be issued later under the auspices of the Groupe de St. Maurice of the Monte Rosa Section of the Swiss Alpine Club.

I have been up three or four times, once to the foot of the Gagnerie at Jorat d'en Haut under the outlet of the glacier, and also up the gorge itself from La Rasse so far as it was safe or possible to go.

So far as I am able to form an opinion, I think the first cause was a barrage formed by the rockfalls from the Cime de l'Est, thus blocking the stream somewhere along the trough of moraine detritus near Jorat d'en Bas, and possibly also lower down in the gorge itself. When I was up there on October 4 the snout of the glacier looked quite normal, but the deep trough in the second portion had evidently been freshly cut into; the depth of the trough I estimated at from 100 to 150 ft., and boulders and detritus were falling down the sides the whole time, and on my way up, before leaving the wood, a very large avalanche went down the bed of the torrent below me with a noise of thunder. I could distinctly see two large light-coloured patches under the arête of the Cime, at a height of roughly 9000 ft., where presumably the falls had taken place, and small stonefalls were even then coming down now and again.

The causes of the second and third disasters seem fairly obvious and due to the stream, swollen by the rain, bringing down the mass of mud and rock spread throughout the Bois Noir.

The flowing mass, when it came down the first time, must have been a remarkable spectacle, for, when I went up the bed of the gorge, the remains of debris and mud were to be seen on the rocks, and on the bushes and trees on the edge of the ravine to a height of quite 30 to 50 ft., and even more in places. Also the forest high above the gorge on both sides was coated thickly with a white dust like dirty hoar frost.

The mud is now settling down or has been partly washed away by the rain, and the scene down the Bois Noir is an indescribable wilderness of boulders and silt, with broken and splintered fir trees sticking out in all directions, which the peasants are now digging out for firewood.

The weather during August, and especially September, has been exceptionally dry and warm, and I never saw the Dents du Midi with so little snow upon them; such conditions, I think, often cause rock and stone falls.

Gregory of Tours and Bishop Marius both record in detail similar disasters from this torrent dating as far back as the sixth century, and a peasant at La Rasse told me he remembered in 1877, as a lad, a bigger landslide than the present one, which carried away all the bridges but then stopped and did not recur. He also said there was a much smaller one twenty years later.

SOME FIRST ASCENTS IN THE NORTHERN CANADIAN ROCKIES.

[Mt. Fryatt, Lapensée, Pt. *ca.* 9800 ft., Throne Mountain, Castle Mt. (E. face).]

By J. W. A. HICKSON.

IN accordance with a plan evolved the previous year, Mr. Howard Palmer and the writer met at Jasper, Alberta, on the morning of July 4 last, and were camped the same afternoon 14 miles from that town on the W. bank of the Whirlpool River, an important tributary of the Athabaska. The pack train, consisting of fifteen horses and three men, was supplied by the well-known outfitters Otto Brothers of Jasper, some of whose men had already prospected, under given directions, the route to the main objective of the trip, Mount Fryatt (11,026 ft.), south of, and visible from, the town and the highest unclimbed peak in the Park, glacier-clad on several sides. The Swiss, Hans Fuhrer, who had for the last dozen years been taking parties up Mount Rainier, was the mountain guide.

On the third day the party reached the fording place across the Whirlpool, to find that it was impracticable, owing to unusually high water caused by the warm weather. On several days as late as 8 p.m. the thermo registered 75° F. at 3600 ft. A raft had to be constructed, the horses unloaded, and after arduous exertions men and baggage were got across the enormously swollen river, in the course of which operation the alpine ropes saw their first use. Late in the afternoon of the fourth day the party made camp at approximately 6600 ft. between two lakes at the head of Divergence Creek, an eastern tributary of the Whirlpool and in sight of the W. ridge of Mount Fryatt, and remained for almost a week. It is improbable that any human beings had been here before.

From this camp after some preliminary activities on neighbouring ridges from which a probable route up the peak was reconnoitred, an attempt was made to climb it on the 10th, the weather still being fine. Although the start was made immediately after daylight at 3.45 a.m., yet the approach to the mountain was so circuitous and long, that it was 11.30 a.m. before an altitude of some 9600 ft. was attained, whence the more interesting and difficult part of the climbing began on

the steep S.W. side of the peak, on which no glacier descends. Here there was fresh snow which was rapidly melting, and a sharp lookout had to be kept for falling stones. Higher up and about 600 to 700 ft. below the summit, according to the variation in the depth of the band, there is an encircling vertical belt of yellow rock which caused the party some anxiety. Fortunately a way was found up through it at its place of least height, some 200 ft., by means of a series of quite difficult chimneys and cracks. The ascent of these, requiring an hour and a half, brought one to easy climbing a couple of hundred feet below the summit, which was reached at 4.50 P.M.

Hardly had the party had time to look around from this point of vantage when an electric storm encircled the mountain. Vivid lightning and loud peals of thunder, accompanied by an atmosphere that sizzled intensely, suggested to the climbers, who were unwilling to leave the summit without obtaining further views, making their bodies as 'absent' as possible, which they did by flattening themselves face downwards on the rock. In twenty-five minutes the storm passed with very little rain. Some determinations of altitude having been made and the usual cairn erected, the descent was commenced at the rather late hour of 5.40 P.M. Considerations of safety led to an alteration of the route below the belt of rocks, and this demanding more time, it was beginning to be dark when the party regained the ridge at some 9600 ft., where the rope could be taken off. After a slight halt for food, very little having been partaken of since noon, it was decided to remain here until daybreak rather than attempt a descent by an unknown route in the dark, with the likelihood of falling stones. On the way up it had become apparent that the return to camp could be considerably shortened. Disagreeable as it was, owing to a chilling wind, threatening skies and a lack of sleep, to remain more or less inactive for nearly six hours, none of the party suffered more than temporary discomfort. Next morning camp was reached in fine weather at 8 o'clock.

Two days later the whole outfit was transferred to a neighbouring valley a little to the S.W., and camp established in a lovely Alpine meadow at 7000 ft. The scene was quite Tyrolean. From here a first ascent was made of a pinnacled rock peak Lapensée (10,190 ft.), named from an early victim of the waters of the Athabaska. It was climbed mainly by two steep couloirs at right angles to one another, in which there was still considerable snow and some ice. Looking up from the beginning of the first, the summit is almost vertically above you.

On this peak there were some vertical cliffs to work up, and the danger of falling stones was also constantly present. Fortunately the party was camped near to the mountain, so that the trip was completed in fifteen hours. Three days afterwards, the weather having in the meantime broken, the first ascent of an unnamed peak, *ca.* 9800 ft. over a pass to the S.E. of the Lapensée Meadow Camp, was effected and return made in twelve hours. Its S.W. ridge afforded some pleasant rock work without the rope. A heavy snowstorm overwhelmed the climbers next day. So soon as the weather cleared, the party made haste to descend to the Whirlpool, which could now be crossed easily on horses, and reached Jasper again on the evening of July 22.

On the 25th Palmer and the writer set out again with a lessened train and with Jean Weber of Chur in place of Fuhrer, who was required at the A.C.C. Camp in Tonquin Valley, which they also were heading for. Travelling by way of the Astoria River, a westerly affluent of the Athabaska, they managed *en route* to make the first ascent of Throne Mountain (10,144 ft.), immediately S.W. of Mt. Edith Cavell, which is situated in the south angle between the Astoria and Whirlpool. It was a long tour, and the last 800 ft. were fairly difficult, the climbers having to come down part of the way on the rope. The party had another experience of a night in the open, fortunately where it was possible to make a fire. From the A.C.C. Camp, Palmer and the writer reconnoitred the unclimbed Mt. Redoubt (10,200 ft.), one of the precipitous Rampart Group on which an unsuccessful attempt had been made a few days before, and formed the opinion that, owing to fresh snow, it was not in a favourable condition to climb.

During the latter half of August the writer was at Lake Louise, and thence carried out with Edward Feuz what he had planned to do the previous season: the ascent by the hitherto unclimbed E. face of the S.E. tower of Castle Mountain, not far from the Canadian Pacific Railway track, and situated half-way between Lake Louise and Banff. It proved to be the hardest piece of rock work which he had undertaken in the Canadian Rockies since ascending Mt. Louis in 1921; and bits of it compare favourably as regards technical difficulties with anything presented by Mt. Louis or any other Rocky Mountain peak known to him. The party left Lake Louise Hotel by motor at 7.30 A.M., and after proceeding 19 miles began walking at an altitude of approximately 4700 ft. No time could be lost, since there were some 5000 ft. to climb.

The motor had been ordered to return at 8 P.M. Quick going through the lower woods and a long and rapidly executed traverse around the walls of the peak to the E. led in some three hours to stiffish rock climbing. The final 900 ft. of vertical cliffs and chimneys, with overhanging rocks, required two and a half hours to surmount and still longer to descend, since four ropings-off, for which the rocks had to be tested, were necessitated. Extra ropes, slings and rope-soled shoes were carried and used. The main road was reached again at 9 P.M., and Lake Louise an hour later.

The weather this last season was on the whole favourable for mountaineering, more especially in the earlier part of the summer; but there is usually some drawback. Smoke was prevalent even throughout July, curtailing on many occasions the extent of the view, and rendering photography more than usually difficult.

THE MOUNT LOGAN EXPEDITION.

[The two following articles are reprinted for the information of mountaineers, since the equipment and food reports of the Everest Expedition have not been made available.]

FOOD.

BY A. H. MACCARTHY.

(Reprinted by permission from the 'Canadian Alpine Journal,' 1925.)

A SHORT word of only four letters, but a significant word, on which, perhaps more than anything else, depends the success or failure of a difficult undertaking; for it is not in battle alone that men fight on their stomachs; almost every vigorous, gruelling, long-sustained effort by its final victory reflects the efficiency and sufficiency of the food supply.

With a record of scores of ambitious mountaineering campaigns resulting in failure, due to lack of sufficient or proper food supplies, the Mount Logan Committee has put on notice that a failure of the Logan Expedition on account of miscalculation in this essential requirement would stamp across the record of its work the significant word 'Cultus.'¹ Therefore,

¹ Chinook jargon—'No good.'

after a most thorough investigation of the hazards of the undertaking and the possible long delays that might be encountered in the attack on Mount Logan, the Committee decided that provision should be made for a possible three months' campaign from railhead, and it accordingly authorized the purchase of an outfit for that period. Later events clearly justified the decision on the part of the Committee, and the responsibility for any miscalculation that may have been found in the food supply must rest upon my shoulders, for I undertook the work of determining the quantities and character of provisions and supplies for the trip as well as the methods of putting up the same.

In settling these questions four major features entered as determining factors: a long, difficult approach to the base of the massif; long, difficult work at high altitudes; exposure of the entire supply to freezing temperatures; and the possibility of many weeks of sustained effort without fresh food of any kind.

The long and difficult route from railhead and the consequent heavy transportation expense made it imperative that, as far as possible, a selection of light-weight foods should be made and also that it should not include items requiring heavy or bulky containers. Consistent with the supply of essential elements the list was divided into three types—food of a normal heavy quality to be used along the line of approach and at the advance base camp, little or none of which would require further transportation after being cached during the winter; next, a supply of concentrated and light-weight foods that must be relayed by back-packing along the upper reaches of the massif, where every ounce of weight would be vitally important; and, finally, an ample supply of emergency or 'iron' rations always to be carried and available during work at high altitude for use if storm-bound away from camp.

As virtually the entire outfit of equipment and supplies had to be taken in during the winter when transport work could best be done over the ice stretches, and there, at several points, cached for many weeks until the climbing party arrived in May, it was reasonably probable that a certain percentage of it would be spoiled by dampness or because of repeated freezing and thawing; also it was possible that some of the caches in or near the limit of timber might be destroyed by wild animals. Hence it seemed advisable to make a reasonable allowance for such contingencies, and the supply was finally figured out on a basis of four pounds per man per day, this being considered

liberal because of the concentrated strength and light character of many items of the list. Thus, figured on the basis of a party of ten men for ninety days, it resulted in 3600 pounds of food, with forty per cent. added for containers.

With the prospect of being many weeks on the trail without fresh provisions and the possibility of being storm-bound for many days at a time in camp, it was very necessary that, at least in the heavier foods, there should be a good variety in order to afford a frequent change of diet and thus help to keep appetites normally strong. While a long list of food may seem to increase the difficulties of the commissary, in fact the difficulties are more imaginary than real provided care is taken to have commodities put up in systematic convenient form; and had our expedition been checked with many days of inaction and consequent lack of exercise, I am sure the great value of our large variety of meats, vegetables, cereals, fruits and beverages would have been more patent than was brought out by our few well-distributed days of enforced rest.

In order to facilitate the handling of foods during the campaign and also to afford them the best protection from bad weather conditions all commodities such as sugar, flour, corn-meal, rice, salt, cereals, dried fruits, dehydrated vegetables and the like, were put up in three and five pound bags, and these were then assembled in from fifty to sixty pound lots, which were then packed in heavy paraffined bags, with an outer cover of heavy canvas bags, on which was stencilled the bag number and its contents. This method of double bagging was also used to protect the bacon, boned hams and the two-day caches left along the line of approach.

As far as possible all other commodities were provided in small unit containers suitable for one meal for one man or for one meal for the party, thus avoiding the trouble of carting half-used packages.

Caches along the line, where stops of several days were to be expected, were made up of heavy solid foods, with a supply of flour for biscuits and bread in order to afford a change from the hardtack which served us so well while on the trail and during high elevation work. One other excellent substitute for the bread ration, and a relief from the hardtack, was a good supply of flapjack flour, which was used with much satisfaction as far up the route as 'Windy Camp.' A sourdough pot was not practicable because of the scarcity of fuel and no proper camp facilities to keep it from freezing.

After making provision for a party of ten for ninety days and

eaching food at the various points on the basis of these figures, the party that actually set out on the campaign from Trail End consisted of eight men, thus giving us an extra margin in our food supply, this percentage of gain being repeated on the plateau when, after having made provision for eight men, two turned back and subsisted on the food left as reserves in the chain of camps below.

With these occurrences in our favour and but two days' delay in our schedule on account of bad weather, we had an abundance of food at all stages of the advance as well as the retreat; excepting when a bear or wolverine destroyed our two small caches at the beginning of timber, where it really made little difference to us. There was no need at any time to put the party on limited rations, so no data were kept as to the actual consumption per day, nor was any check made of the food abandoned at the various camps during the retreat. I think, however, it was evident to all that the four-pound allowance per man would have been ample for considerably more than the ninety days for a party of ten as originally figured upon.

In reverse order of their use and attractiveness the following are the list of items for each group of food supplies :

Emergency or Iron Rations :—Lump sugar, hulled walnuts, raisins, pitted dates, sweet chocolate, cheese, and Vita-Food.

High Altitude Food :—Bacon, sausage, boned chicken, and veal loaf; butter, cheese, dried eggs, dehydrated potatoes, and carrots; hardtack, ginger snaps, flapjack flour, erbswurst, rolled oats, klim, and brown sugar, tea, cocoa, ovaltine, bovril, and vegex, salt, pepper, nutmeg, cinnamon, and dried horse-radish.

Heavy Food for Bases and Caches :—Bacon, boned ham, corned beef, veal loaf, sausage, and dried eggs; dehydrated potatoes, carrots, onions, and string beans; baked beans, butter, cheese, minced meat, and plum pudding; flour, cornmeal, macaroni, hardtack, rice, rolled oats, wheat flakes, white sugar, klim, evaporated and condensed milk, tea, coffee, cocoa; pickles, mustard, sauces, salt and pepper; curry powder; jam, marmalade, and dried fruits, extracts and flavourings, etc.

For convenience in transporting, using, and keeping account of the supply of provisions during the advance on high levels, all rations, other than the meats, were assembled in two-day lots for eight men and packed in one paraffin bag with a total weight of 35 pounds each; the meats were put in white canvas bags, each bag containing bacon 6 pounds, sausage 8 pounds, and boned chicken 24 pounds, giving a total of 39 pounds;

thus each of these bags made a compact comfortable pack for one man to handle.

The two-day allowances were as follows :

Bacon	2 pounds	Ginger snaps	1 pound
Boned chicken	4 „	Erbswurst	$\frac{1}{2}$ „
Sausage	2 „	Klim	1 „
Dried eggs	1 „	Vegex or bovril	1 „
Dehydrated		Cocoa or	
potatoes	2 „	ovaltine	1 „
Dehydrated		Tea	$\frac{1}{2}$ „
carrots	1 „	Salt, pepper,	
Butter	2 „	nutmeg,	
Cheese	2 „	cinnamon	$\frac{1}{2}$ „
Oatmeal or rice	4 „		—
Sugar	5 „		41 $\frac{1}{2}$ „
Dried fruits	4 „	Bag	1 $\frac{1}{2}$ „
Jam	2 „		—
Hardtack	5 „	Total	43 pounds

There was also a liberal supply of sardines in oil for use at luncheon time, which was easy to carry and a sustaining food.

While the lists of articles to be issued on the various stages of the expedition were not especially difficult to compile, the question of the quantities of each was a matter of considerable speculation, and in some instances resulted in a compromise or surrender to individual tastes ; for instance, a penchant for cocoa and a feeling that it was absolutely essential to success made one climber almost refuse to join the party for fear he might find lacking that particular beverage to carry him over the top ; another felt that it was jam that was the prime requisite ; ham was advocated above bacon, while two others agreed as to bacon but disagreed as to the proper way to serve it ; one felt certain that bacon cooked to a crisp would ensure success, while his 'buddie' extolled its virtues when thoroughly warmed through—and so on down the list.

In despair, but with a hope of satisfying all tastes, I adhered to my original lists but added a more liberal supply of condiments : black pepper, celery salt, cinnamon, nutmeg, curry powder, horse-radish, Worcestershire and H.P. Sauce, Gulden's Mustard, and suggested to each man that he must be satisfied with what the cook served or choose his own 'pizen' ; I added a supply of malted milk, Jamaica Ginger, and brandy to the medical chest as palliatives against indiscretion.

This method apparently proved effective, for at no time was there any complaint about the menu and the supply was more than ample for every demand made upon it.

If an expedition is at all worth while, certainly, above all else, it warrants an ample supply of proper food, the vital need in dumb brute and human life that has carried society on from year to year in its conquest of the world about us.

NOTES ON EQUIPMENT.

BY H. S. HALL, JR.

(Reprinted by permission from the 'Canadian Alpine Journal,' 1925.)

IN describing the equipment used on the Mount Logan Expedition it will be well first to record briefly the conditions prevailing while the party was in the field.

During the first week, after leaving McCarthy on May 12th, the weather and travel conditions were not unlike that of the Canadian Rockies in June: temperature ranging from 32° to 50° F. between night and day; the ground was wet and often marshy in the woods; streams were low, and weather generally fair; all at an altitude of 1500 to 3000 feet. The second week's travel in varying weather was over the moraines of the Chitina, Walsh, and Logan Glaciers, up the main ice stream of the last, which, at first bare, was buried above 4500 feet by snow; and then up the snow-covered Ogilvie Glacier. By this time the night temperatures were from 10° to 20° F., with the days fair to snowing. By the end of the third week winter conditions prevailed, except that the reflected heat of the sun on the snow was still considerable on clear, still days. The temperature gradually dropped and the severity of storm and winds increased as higher altitudes were reached, until minimums of more than -30° were encountered with a mean temperature for the twenty-four hours of well below zero. On the return journey in the lower valleys, normal summer conditions prevailed. In the brief period of two months the party experienced a range of weather and travel conditions varying from spring to winter and back to summer. Equipment had to be provided to meet these extremes.

*Personal Equipment.*¹

In the valleys below the glaciers personal equipment approximated that used on a summer trip in the Canadian Rockies, with the exception of the footwear, which varied from ordinary walking boots to shoe-pacs. The latter were preferred by several of the party because of their adaptability to almost any marching conditions. Once the glaciers were reached, and particularly above 5000 ft., the special equipment required for an expedition of this kind was used. It was about as follows, although each man's personal outfit varied somewhat to suit his particular requirements :

Footwear:—(1) Shoe-pacs or 'barker boots' as they are known in New England, consisting of a rubber foot-piece with leather upper, the whole about twelve inches high and secured by lacing, ordinary or rawhide. An inner sole of felt, hair, leather, cork, or some combination of these, was generally used inside the shoe-pac. Above the altitude of day-melting the shoe-pac was displaced by the dry-tanned (2) Indian moccasin. The moccasins, to be effective, had to be of a size to allow at least four and sometimes five pairs of socks (3). In the shoe-pacs two pairs of socks were the average.

The socks used varied from different weights of wool to the so-called Eskimo socks, consisting of an outer knitted wool and an inner fleece-like lining which, by setting up friction, increased the circulation in the feet. Socks were changed from day to night, even at the highest camps, as a more effective means of combating the cold. The greatest difficulty experienced with the socks was to obtain pairs which would go well over one another so as not to bind and thus restrict the circulation by the time the fourth pair was put on. This is a matter which requires careful planning at home (4).

Underwear:—Some members of the party who habitually wear the light cotton B.V.D. type continued to do so during the earlier stages of glacier travel, but later changed to light wool, then to heavy wool, and finally to two pairs of heaviest wool at the higher altitudes. Two-piece were preferable to union suits (5).

Shirts:—These generally varied from the light O.D. wool of the familiar army type to Woods (Ottawa) kersey cloth, or its equivalent, a heavy rough wool cloth used by lumbermen. As many as three shirts were sometimes worn at one time (6).

¹ See notes at end.

Trousers :—Two principal types used were either the water-proof or windproof canvas of the 'Duxbak' pattern or the mackinaw or other wool cloth. The Duxbak proved the most satisfactory under all conditions and were worn by some of the party throughout the trip. It was a luxury to change to wool trousers at night when this could be managed (7).

Gloves :—(8) Until wool was required by the cold, a cotton glove with leather palm proved very satisfactory as a means of protecting the hands against wind and sunburn and general rough usage. Later, one or two wool mittens with leather outer mittens and, in extreme cold, a large windproof outer mitten with longer gauntlet were generally worn (9).

Headgear :—Canvas or felt, with brim, at lower altitudes ; one or two woollen helmets, at least one of the Balaclava type for wear higher up (10).

Outer Clothing :—(11) Drill cloth 'parkas' with hoods and extending to, or below, the knees were worn over all as protection against wind and storm often at the middle and, nearly always, at the higher altitudes. These were invaluable. Sweaters were sometimes worn just inside the parka, if not nearer the skin. No furs were used.

Snow and Wind Glare Protection :—(12) Snow glasses of several types were employed. The light aluminium frame of the so-called Chamonix glass was perhaps the most satisfactory. Smoked, amber, fieuzal and Crookes glass were tried. After a fair trial of all these types, under varying and particularly severe conditions, I personally found amber the best. More light is admitted through amber than through either dark smoked or dark fieuzal, but I found it a restful light and one which did not tire my eyes or cause the slightest blindness. I had no eye trouble of any kind. Others of the party used smoked or fieuzal glass exclusively with varying success. Experience of many expeditions has shown a lack of agreement as to the best type or shade of snow glass. Personal experience is the most important factor and should govern each case.

(13) A dark-stained mosquito head-net was found to be very effective as a protection for the face and neck from the sun's glare and, to a lesser degree, even from the wind. It seemed to lessen the glare by fifty per cent. For such sunburn as was unavoidable lanolin rubbed into the skin at night was found to be effective (14). The use of grease during the day on portions exposed to sunburn was at best of questionable value and, in some cases, positively harmful.

Snowshoes :—(15) The snowshoes used were of three types : (1) the ordinary Canadian shoe with simple attachable leather foot strap. These proved fairly satisfactory ; (2) the Alaskan shoe with thong foot attachment. Except that the foot not infrequently slipped from the thong, these seemed generally satisfactory ; (3) bearpaw shoe with strong leather toe-piece and heel-strap, the whole attached by an articulated metal hinge to a metal bar in the shoe (16). This type of snowshoe seemed by all odds to give the least trouble to its wearer and to be the most efficient for all the uses to which it was put, such as walking in hard or soft snow with or without packs, uphill or on the level, as well as for sled pulling. For trail breaking in deep powdery snow the long snowshoe is better. I do not think a bearpaw shoe can be equalled for climbing. The hinged toe-piece made by Sprague in Boston is the best I have ever seen.

Crampons used were generally the Swiss. The web straps froze and gave trouble in the zero temperatures (17). Heavy felt soles had to be used as an insulation against the cold metal. Another type used, not strictly a crampon, consisted of a flat-soled leather foot-piece to which were clamped tempered steel sharpened spikes, four on the ball and four on the heel of each foot (18). A strap across the toes, one across the instep and one from a heelpiece just below the ankle bone held this contrivance firmly on the foot. It was much more easily put on and taken off than the Swiss crampon in cold weather, but it was considerably heavier and more awkward to carry.

Other Equipment.

Packboards, packsacks and packstraps were used for back-packing. The Duluth or Poiré packsack was preferred by some members of the party for carrying their packs, whether light or heavy (19). For the heavier packs of sixty pounds and upwards the packboard was generally used, the type with slightly curved frame to fit the back being preferable to the straight back (20). A packstrap consisting of a chest harness with ropes to which backpacks of almost any size and weight in bag containers could be fastened was tried, but did not meet with unqualified success.

The tents used were of two types. The Alpine tent with sewed-in floor was about eight feet square at the base and rose, supported by a single sectional metal pole (21), to a seven-foot peak. At the rear was an eighteen-inch wall (22). The entrance was funnel-shaped and could be drawn together and

securely tied with pucker strings. There was a mosquito bar of the same design. The metal pole was supported by a number of guy ropes attached either to pegs or at higher altitudes to ice axes or snowshoes. There were two ventilators in the rear wall and one just below the peak. These tents withstood well the severest storms (23). Two tents of slightly smaller and lighter fabrication were used, being supported by a bamboo pole with a two-foot crosspiece at the peak. They weighed ten pounds and accommodated three men, while the larger tents housed four. They did not stand the high winds quite as well as the Alpine tents, but were more easily carried.

The sleeping bags made by the Woods Manufacturing Co., of Ottawa, consisted of two eiderdown quilts, a camel's hair blanket, a waterproof cover and a ground cloth. The outer cover was joined at the edge by clasps. Each of these bags could be unclasped, laid out flat, and a similar bag clasped into it, making one double bag. One such bag was about six feet wide over all. Four men slept in it for twelve days, above 14,000 ft. This arrangement gave added warmth but allowed less than normal relaxation. The single bags weighed twenty-four pounds complete (24). Only about sixteen pounds were taken.

Air mattresses were used under the sleeping bags for the six weeks spent on the snow and ice. Without them above the base camp with the aim of reducing weights, it would have been difficult to have kept warm, so persistent is the chill emanating from an icy bed even through the waterproof tent floor (25). These mattresses weighed eight pounds and were filled by means of a bicycle pump.

(26) Cooking was done on gasoline stoves: Coleman No. 2 as far as the base camp at Cascade; and Primus, roarer type, above this. Both these stoves caused some trouble but were, on the whole, satisfactory. The gasoline was carried in gallon tins, our consumption being about one gallon per day at the lower camps and decreasing to half a gallon per day above King Col, where the exigencies of transportation made it an extremely precious commodity.

[The following valuable additional comments were made by Captain MacCarthy when lately in London, and at my particular request.—J. P. FARRAR.]

(1) Ordinary climbing boots proved less satisfactory at all stages of the trip than the shoe-pacs and the moccasins. I had a pair that in 1925 I wore but *one hour*.

(2) No oil, hence porous and warm.

(3) And a thick felt insole worn *inside* the last pair of socks.

(4) And each size should be of a different colour, so as to be easily sorted out and put on in proper order.

(5) As they give added protection around the abdomen, and also one pair can be changed when needed without changing all.

(6) Several light-weight shirts were more convenient and efficient than one heavy one, because more easily adjusted to changing conditions and more efficient because of the air spaces.

(7) Pant legs were left long and the bottoms tied tight *outside* of boot tops around the ankles, thus keeping out snow.

(8) Piece of wolverine fixed on thumb very serviceable on which to *wipe nose*.

(9) Mittens slung with tape around the neck to protect from loss and to save time when on march.

(10) *Heavy* golf cap with fur-lined ear-flaps proved very serviceable, which, with helmet pulled over it, in extreme weather was most satisfactory.

(11) Parkas should be long enough to go *well below* knees.

(12) Halloram, the new glass that cuts the light but does not discolour, is by far the best for *me*. Did not have them on Logan but used them this year in Alps.

(13) Have inconvenienced myself for years with the exasperating head nets and veils, but now that I have found the Sechehaye paste I can see no real need for nets or veils.

(14) Did not know about the Sechehaye paste at that time.

(15) The Alaskan Tracker snowshoe was supplied in order to serve for *trail breaking in winter* with the dog teams, as well as for the summer trip.

(16) These bearpaw were somewhat larger in area than the Swiss raquettes and also were fitted with two short spikes to assist on crusted snow and ice surfaces.

(17) Leather straps by far better.

(18) These leather-soled crampons also turned badly on the foot on side slopes, and so did not give very secure footing. Swiss type with *leather* straps the best.

(19) And frequently a halt had to be called in order to let the wearer *fix* his pack. They seemed to me to give a great deal of trouble or offered excellent excuses for stopping to *get frequent rests!*

(20) The ordinary rucksack was most unsatisfactory for any kind of a load.

(21) Pole to be in three sections of tube steel.

(22) On the four sides around base of tent was a canvas strip, on which snow could be packed and freeze to hold tent in position, and thus ice-axes at corners could be pulled out in morning for use, leaving tent standing without them.

(23) With the winter freight we took in three wall tents. One remained at 'Turn' Camp, and served as kitchen, dining and store room. Two were used, and finally abandoned at Cascades Camp, one as a store room and the other as kitchen and dining room. These added greatly to our comfort at both camps. They were about $10 \times 12 \times 3$, and weighed about 30 lb. each, and so were too much of a burden to take to higher levels. Without bottoms and with only flap entrances, they would not have been serviceable at high levels.

(24) These bags had two silk-covered eiderdown quilts, the inner one of $5\frac{1}{2}$ lb. detachable if not wanted, also ground sheet was separate.

(25) These air mattresses were real life-savers, and *invaluable* to our party.

(26) Fuel in pint, quart and gallon screw-top tins.

WITH THE G.H.M.

By GEORGE S. BOWER.

Lorsqu'elle entra dans la ca-ba-ne
 Les habits trempés jusqu'aux os—
 Cette héroïque ca-ra-va-ne
 Avait l'air de sortir de l'eau.
 Ah! Comme c'est tris-te!

—*Song of the Pack.*

A COMPANY with such a war song could not but appeal to an English Jonah, and, thanks to the tolerant kindness of MM. Morin and de Ségogne, being equipped with the necessary thousand marks, I found myself, early this year, elected to membership and trembling under the shadow of an invitation to join their revels at Chamonix, with Morin as M.C.

My first expedition was made from the Couvercle, with Mme. and M. Damesme and Morin. We went to the Arête des Rochassiers, which is one of Morin's oyster beds. No pearls were found, but we opened to traffic the camel-shaped Pte. 3640 S. (Pte. Damesme in future). It was climbed, without

difficulty, on the side remote from the Aig. Mummery. The blade-like dromedary's head appeared rather precariously perched, so we merely hand-traversed along it, patted the head paternally, and returned. Rope engineering was not required for the descent. The return over interminable snow slopes below the Aig. Mummery was a lengthy and tiresome process. The hut was more than crowded : as I sank into the allotted gap in the company on the floor my neighbour murmured ' C'est juste ' !

Our next venture, or rather speculation, was to go to the Requin Cabane with four days' provisions. All the shepherds' warnings were displayed next morning, so Morin and I, joined by Mlle. Morin, confined our activities to the ordinary route up the Requin, with variations on the final tower, including a deeply delved chimney followed by a seductive open crack, and finishing with a one-step on the summit slab, taking off from a lively block. We were very soon joined by a well-known editor, with MM. Chevalier and de Gigord. A joyous party assembled for feeding purposes on the shoulder after the usual conversational strain of the descent of the Fontaine chimney. It was pleasing to observe how editors readily conform to the gallant customs of the country !

For some time the air had been full of a dry mist, such as one might encounter on Scafell on a fine summer morning, but by the time we had descended low down on the glacier, snow began to fall. It fell all night, and it fell next morning, and we fell to on our 3 days' provisions and, after a colossal collation, fled down to the Montanvert, to extend the ring of gloomy grumblers around the glowing grate.

Everything was white and hopeless, so next day I went with Mr. and Mrs. Chorley and their guide to get some ski-ing practice on snow slopes above the Lognan. The most poignant memory of that trip is the walk up to the Montanvert from Chamonix late at night. Morin lent me a lantern, but I tried to dispense with it until I fell off the path into some prickly herb, whereupon I lit it, and re-lit it, and staggered on, now resting my ski-strained limbs on the friendly wayside boulder, now calling for milk at the wayside chalet, and finally effecting an entrance into the locked hotel by means of English imprecations.

For our next attempt, Morin and I were reinforced by Fallet, who had a day or two previously, with another member of the G.H.M., attempted the Charmoz by way of the very steep and forbidding hanging glacier which faces the Montanvert and, stopped by storm when near the top, had actually

descended this terrible slope with only one axe, the other having been lost—and returned safely, after a remarkable exhibition of fortitude. But we were rained off at the Nantillons Rognon and Fallet had to return home. So that was that. Next day I went twice to the P.D.A.¹, to revive hope and faith, and rebuild shattered ideals with the richly vitaminous productions of that establishment.

The following day the christian hour of 10 A.M. saw Jacques de Lépiney, Morin and me, accompanied by a diminutive but very willing young porter, setting forth for the Nantillons Col. The process seemed strange, and an inversion of sleep-walking, but our loads were very real. We sent the porter back from the Rognon and, the snow being mercifully tough, arrived at the Col at about 3 P.M. The purpose of all this? We thought at the time that it was to make another attempt on the Aiguille du Roc, or 'Crag on the Grépon' of Mummery's great book, but, looking back with the sense of perspective and historical values given by time, it appears to me that we were catspaws, dupes and puppets of a certain editor, who had invested in a Zdarsky tent-sack and, it seems, wanted it testing, so, with the art which disguises artfulness, he offered to lend it to de Lépiney for the purpose of this expedition. Anyhow, we dumped this invention and most of our other gear in a snowy combe at the foot of the Blaitière, and then Morin and I followed far away in the wake of de Lépiney up the S.W. ridge of the Grépon. We caught him up temporarily at the Brèche du Bec d'Oiseau, and looked down the gully leading to the foot of the Aig. du Roc. Like Robinson Crusoe we were horrified to see footsteps—in the snow at the base of the Aiguille!

We discussed at some length their probable origin and termination, to the great amusement, as we learned some days later, of their manufacturers, who were within earshot.

De Lépiney forged ahead again with his usual effortless speed, and waited for us at the Pic Balfour Gap. He then led us up the Pointe Balfour (second ascent), without performing the Indian fakir rope trick, and everybody, like Puss, wearing boots. The 'lisse' fissure of 6 m. yielded to the sweetly persuasive posture now internationally known as the lay-back. It was delightful sitting up there in the evening sunshine with no need to hurry away before the menace of night; these periods of calm, cow-like contemplation come too rarely in the

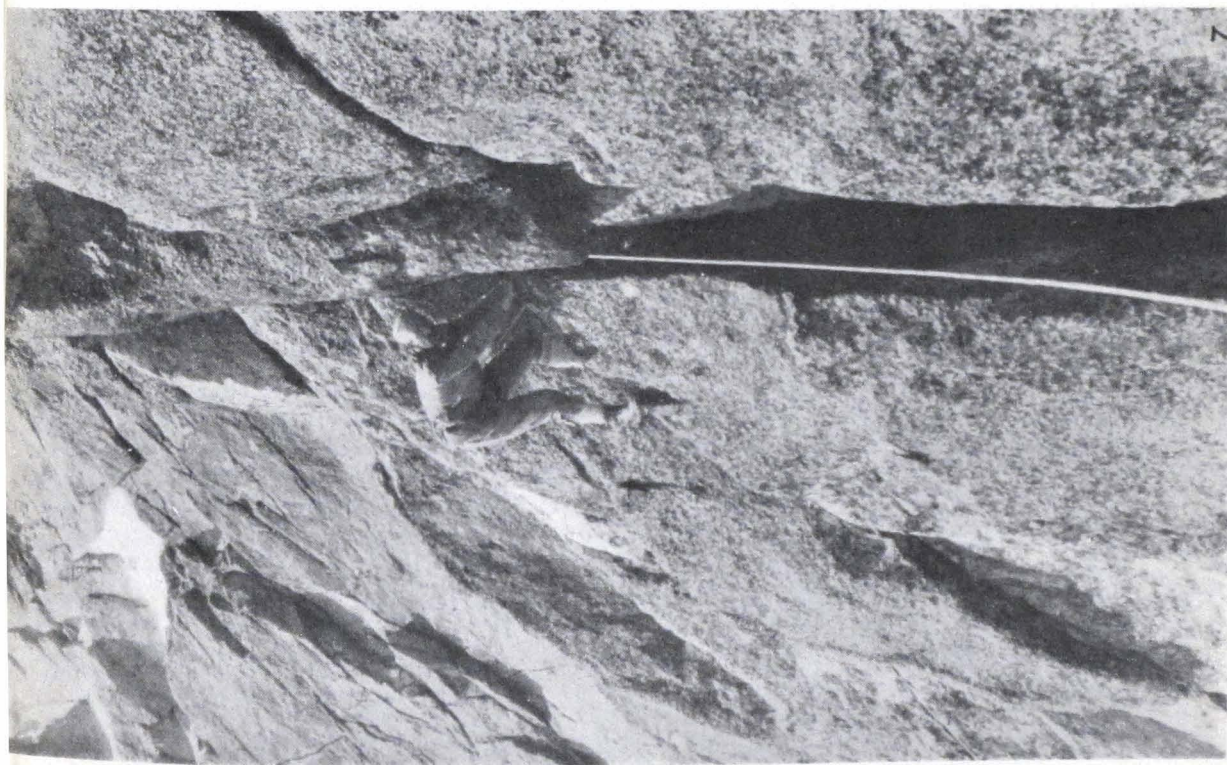
¹ [Pâtisserie des Alpes !]

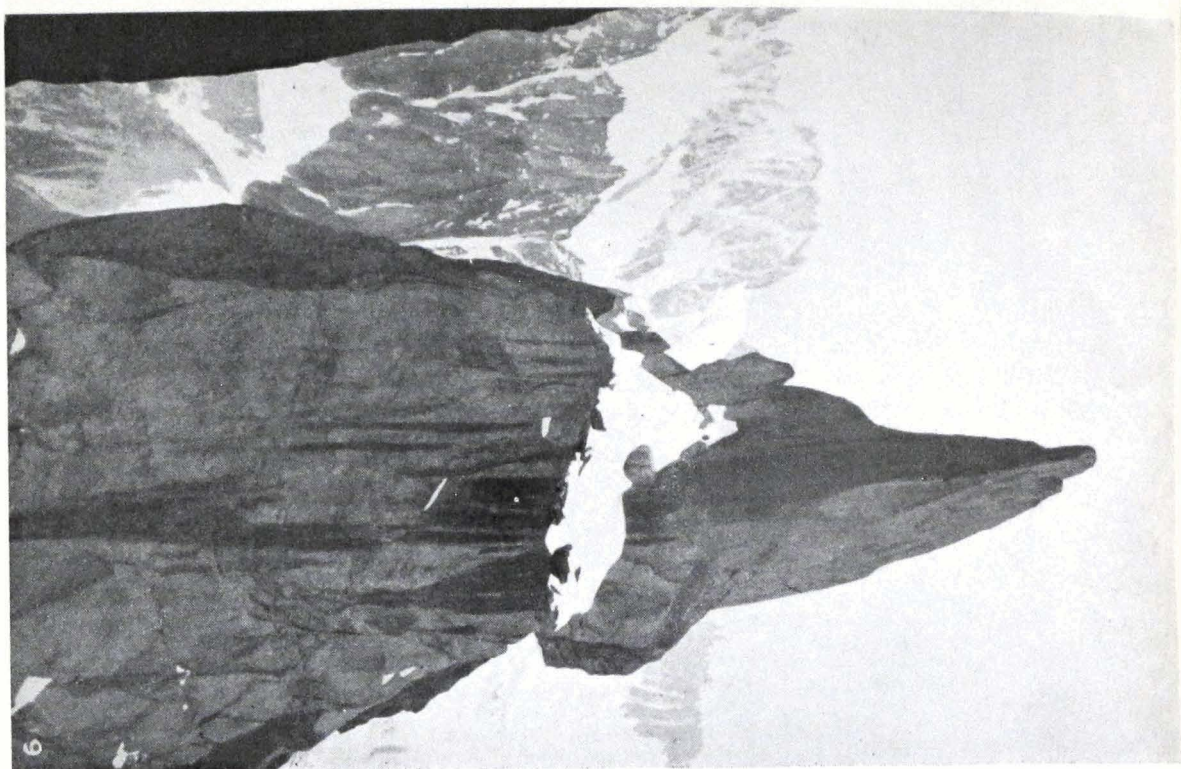
Alpine lives of most of us, and are all the more precious when they *do* come.

On our way down the lower part of the ridge to the Col we searched for possible rock emplacements for our sack, but all were rejected owing to the risk of falling out of bed, so, by a process of elimination, we arrived back at our snow combe just as the evening glow was on the snow and Jack Frost coming out for the night. We crouched side by side in the bag, facing the opening, and, as successive brews of tea, soup, and chocolate warmed our veins we chuckled: 'This is the life!' and agreed that this was the twentieth-century form of bivouac with the sting taken out. Then we lay down for the night, side by side, the Blaitière and a star showing eerily through the small celluloid window.

Now I have no pretensions towards being a 100 per cent. full-blooded, hairy he-man, the sort of creature who, as Pigott says, lives on a diet of iron filings and who sleeps between tin sheets. No, I had brought a sleeping-bag as well. Even so, my feet were cold, probably owing to the fact that I kept my boots on. The others slept for a time, and then came remarks such as: 'J'ai froid aux pieds,' and 'Quelle heure est-il?'—the latter query being many times repeated. The air was full of body, and the walls streaming with condensation water. For the vigil before a difficult climb the sack is not to be recommended, but as a life and frostbite safeguard on a lengthy expedition necessarily involving a bivouac and the possibility of bad weather—its intended *métier*—it should be regarded as almost indispensable.

We left it at 6.30 next morning—without regrets—just as the guides were going to work on the Grépon. At the Bec d'Oiseau Gap we fixed about 60 m. of rope and line, and first Morin and then I abseiled the whole length of it down the unfriendly gully, with its steep bed lined with flour-like snow. Any other process but abseiling would have been unthinkable. We had no more rope available for this work, and were only about half-way down, so Morin and I dissuaded de Lépiney from coming down to join us, relying on the cold wind to which he had been exposed for some time to make him accept our advice. Getting up again was hard work for all of us, and we felt *claqués* even if not *dégonflés*, and in no fit state for anything very stiff. After Morin had done some useful pioneering work, I went up the Grépon *via* the Lochmatter chimney and the ordinary terminal crack, whilst the others came up the Knubel crack with the safeguard of a rope from above, and found it very stiff indeed. After abseiling down the ordinary final





crack we climbed the elongated gendarme between the summit and the Grand Diable (an unroped first ascent). Roping down the Dunod chimney, we soon arrived back at our camp at the Col, where no one suggested spending a second night.

Two days later Morin and I walked up to that hut of huts the Rifugio Torino, lunching en route at the Restaurant du Requin. All that evening he made my blood run cold with bivouac stories, until I was almost afraid to go to bed. Next morning we started at 2.50, and arrived about dawn at the foot of Mt. Blanc du Tacul, led by our vagrant ambition, materialised in Morin. The ground showed abundant signs of the awful avalanche. With some difficulty a small rock buttress was gained and followed for an hour or two. Then, rounding a snowy corner, we were scandalized by the sight of a stretch of normally easy slabs almost covered with transparent ice. Our movements on such a chess-board were about as rapid as those of the pieces in a championship game, and on the farther side of the slabs it was found to be almost impossible to make our way down to the rocky bank of a huge couloir which seemed the only hopeful line to take. This couloir was an impressive sight, with its snow avalanches roaring and rushing continuously, like water, down a groove on its farther side. The weather was turning rapidly worse, so we decided to retreat, and escaped off the lower rocks in a flurry of snowflakes to the tune of distant thunder.

On the lower peaks it was raining and not snowing, and, to my eternal gratitude, Morin persuaded me to stop a night at the Requin hut, instead of returning in ballast to the Montanvert. It rained during the night, but was fine next morning when we set out at 6.30 A.M. for our previously planned route up the Requin. Available descriptions of the lower portion of Mayer's Route,² by the E.N.E. Ridge, seemed very obscure when compared with orographical facts, and preliminary exploration a week or so previously had led us to believe that the start of this route from the Glacier du Requin really *was* by the preposterous-looking gully with church-like chockstones, although we were loath to admit it even to ourselves. Morin on that occasion suggested cutting this out by ascending the E. face overlooking the cabane and joining the E.N.E. ridge very high up, and this, in effect, was what we now proceeded to do.

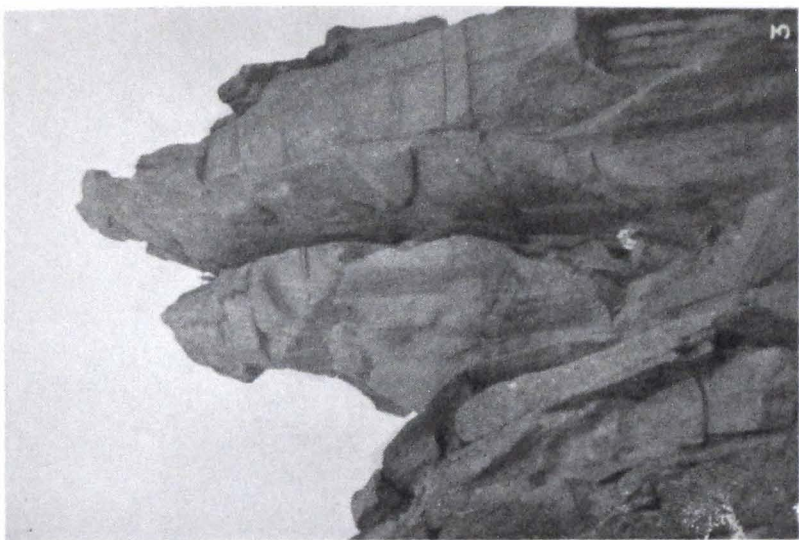
We took to the rocks almost at the left-hand (facing the slope) upper extremity of the little Gl. du Requin about an hour

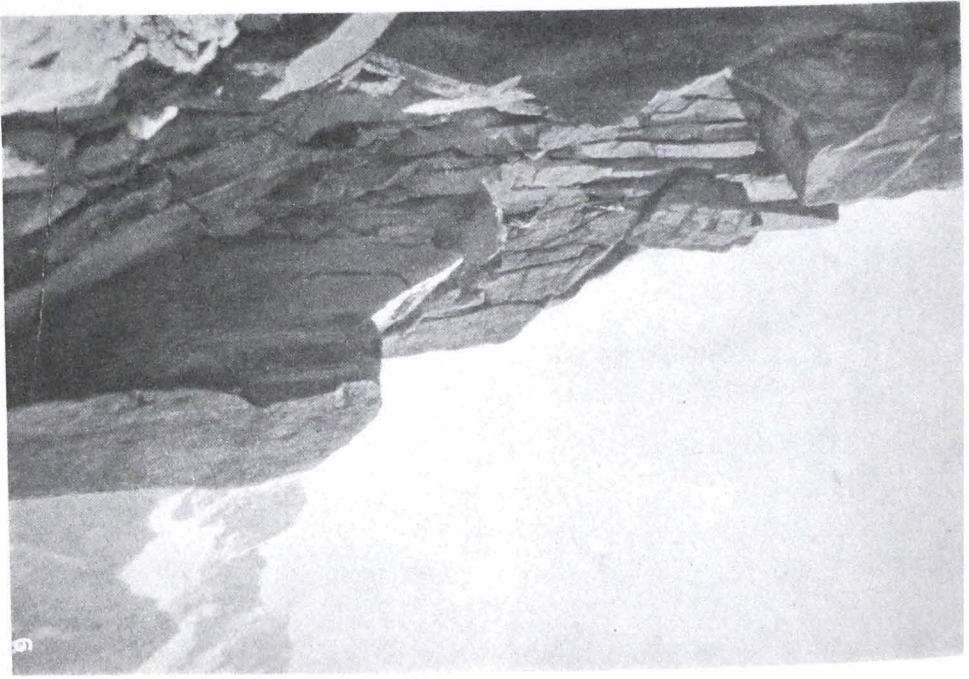
² Cf. Vallot's *Les Aiguilles de Chamonix*, p. 181.

after leaving the cabane, and were immediately struck by the contrast with our expedition of the previous day. Then everything was grim and hostile. To-day butterflies fluttered among the flowers in the crevices of the friendly red rocks, the sun shone, we were fit, and life was very good. We moved upwards to the right for some distance to a terrace on the right (always facing the mountain) of a wide and shallow slabby couloir descending from the E.N.E. ridge near the summit. We kept to the rocks on the right of this without serious difficulty up to the ridge, and along this for a short distance as far as a sizable gendarme, where my ration of leading was exhausted and Morin took over. It was necessary to climb up a short crack and through a compressive cleft on to the other (the Plan) side of the ridge. Here things looked unpleasant. On this flank was a number of shelving, snow-covered ledges, which Morin thought had been traversed by Mayer, presumably in more agreeable conditions. In front, on the ridge, we were faced by a steep tower, so, reluctant to leave the sun and embark on an Arctic-like adventure, we turned our attention once more to the E. face.

I let Morin down a very steep chimney; he ascended an easier one on the other side of a gully and reported hopefully, so I joined him after roping down the steep chimney, an operation in which my coat took a leading part and caught, as coats do in novels, on a projecting rock, with dire results. After traversing some distance, expecting but still not quite certain of a happy ending, we were able to rise again to the crest of the ridge, a short distance from the finish of the ordinary way. The summit was reached at 1.15 P.M., and we basked and fed there for an hour, listening to the exhortations and conjurations of a guide, who was apparently afraid that his charges were hobnobbing with Morpheus in the luxurious recesses of the Fontaine chimney. During our descent of this cleft Morin's sling broke and he lost his axe. The sequel came during the descent of the glacier, when not Morin but *I* slipped in descending a steep snow slope. The guided party following behind (but fortunately out of sight) did the same thing, and when they joined us at the cabane, and asked Morin how we got down, were nonchalantly informed: 'Oh, we glissaded there.'

The following day I took a party up the Doigt de Trélaporte, and the next, after a final visit to the P.D.A., challenged my spare ropes (travelling by Grand Vitesse) to a race home. So far I have won by three months.





NOTES ON PICTURES.

PICTURES OF REQUIN :

- (1) Attractions of the Requin hut ! (Phot. G. S. Bower.)
- (2) Attractions of the Requin shoulder ! (De Gigord standing on left, Chevalier sitting on right, Madame Damesme behind him, Cordier leaning against rock.) (Phot. G. S. Bower.)
- (3) The Fontaine chimney on the Requin. The difference in height between the summit and the man standing at the top of the chimney is about 30 ft. The chimney itself to the snow patch at its foot is about 120 ft. and is done by two rappels, as there is a second starting place about half-way down. The chimney is *said* to have been ascended, but no account appears to be available. From the bottom of the chimney a descent is made down the slab so as to turn the *colonnes* or stone pillars seen in the right-hand bottom corner. (Phot. M. Y. Cordier.)
- (5) The man traversing on the Vire is at the bottom of the above slab. The men in the next chimney are doing the first pitch of the rock climb proper and their companions above are on a good platform, from which steep, short cracks lead to a sort of stomach traverse not shown, which is clearly seen on
- (6) under the uppermost, apparently detached, rock. The upper climber in this picture is just below this traverse. (Phot. M. Y. Cordier.)
- (7) Morin on traverse high up on Requin on new or variation route by E. face and E.N.E. ridge.

PICTURES OF GRÉPON :

- (8) Lochmatter chimney (on left of picture). It shows Morin finishing his abseil of the Dunod chimney. The severe portion of the Lochmatter chimney is just to the left of Morin. It is a double move. First, using a small horizontal finger crack on slab to left of Morin and exactly level with top of his head, the feet are swung over to the sloping foothold on the intermediate raised portion or rib, marked by a dot. Further finger-holds, rather low down (not seen in picture), permit of a second swing into the crack in the corner, which is not seen in the picture except as a line. The continuation of the crack is not hard. The traverse is the only, but *sufficient*, difficulty. (Phot. G. S. Bower.)
- (9) The Aiguille du Roc (= Mummery's 'Crag on the Grépon'). The height above the snow patch is estimated to be about or approaching 200 ft. The Aiguille has not been climbed, although several attempts were made this summer. (Phot. G. S. Bower.)
- (10) Jacques de Lépiney (on right) facing the final tower of the Grépon. The Venetz chimney ending under the block on the summit is well seen. (Phot. J. A. Morin.)

THE SEASON OF 1926 IN THE MONT BLANC GROUP.

BY J. P. FARRAR.

GENERALLY speaking, the weather was very unsettled until mid-August. From then it improved, and September is reputed to have been very fine. There was a vast amount of snow remaining from the spring. This rendered difficult rocks like the Drus unapproachable until quite late in July. On the other hand, snow and ice faces were generally in magnificent condition. Even the Brenva was ascended with hardly any step-cutting, while the conditions alone probably rendered reasonably safe the very steep N. face of the Aig. de Bionnassay, a carefully nursed project of Mr. R. W. Lloyd, ascended by him with the Pollingers, and repeated with a slight variation by Mr. Edmund Oliver with the Aufdenblattens. The expeditions are the subject of Mr. Lloyd's paper at the December meeting. The mountain was also ascended a few days earlier by M. Langlois, a young French climber, with two guides, by a route commencing on the N. face and completed by the Tricot arête—in effect somewhat by the original 1865 route. To come now to particulars:

M. Jacques de Lépiney, one of the founders of the well-known G.H.M., and generally accepted as the foremost exponent of French mountaineering, to the present intensive development of which he and his colleagues have so largely contributed, was on leave from his post as entomologist in the French service in Morocco.

As a start Mlle. Morin, M. de Prandières and he, defeated by weather on the Crocodile, completed the day by ascending, with M. Jacquemart, the Aig. du Plan and the Requin.

On August 6, after waiting three days at the hut on the Jardin d'Argentière, MM. de Lépiney and Lagarde crossed the rather desperate Col de l'Aiguille Verte, the first repetition since crossed by the Guglierminas in 1901. Such were the conditions that the party, with their sharp Eckenstein crampons, leaving the rimaye at 4 A.M., were on the watershed at 8.5 A.M. They 'galloped' a bit owing to threatening weather, finding the rocks fairly easy, with good holds, and the snow excellent, only very few steps in hard ice being needed. They gained the point 3818 at the side of the actual Col 3796. The vertical height from the rimaye is about 800 m. of steep ascent, the

second half rather steeper, but the difficulties are stated to be not serious, presumably in the then conditions. The objective dangers were absent except during the passage of the rimaye dominated by séracs, which took a good quarter of an hour. The Couvercle was reached at 12.30 midday. The original party were held up all day by step and handhold cutting in steep hard ice and were compelled to bivouac, only gaining the crest in $3\frac{1}{2}$ hours next morning.

Attempts on the Droites by MM. de Lépiney, Lagarde and de Ségogne, and by MM. de Lépiney and Lagarde, on the Courtes, both from the Argentière side, were defeated by bad weather and bad conditions; the second at a considerable height by a snowstorm in addition.

On August 13, MM. de Lépiney, G. S. Bower and J. A. Morin, from a bivouac on the Col des Nantillons, after making what is probably the second ascent of the Pte. Balfour (the first without rope-throwing), involving a *jolie fissure*, from the Brèche Balfour-Grépon, ascended next day the Grépon, Bower 'leading admirably' up the Lochmatter chimney, while the other two climbed the Knubel crack with the rope held by Bower as a precaution. They also made the first ascent of the gendarme 3473 above the route à bicyclette, described as not difficult.

An expedition which the conditions rendered extremely arduous and dangerous was made on August 17 by MM. de Lépiney, Bregeault and Migot, the objective being to traverse Picco Luigi Amedeo and descend the whole Brouillard arête to the Col du Brouillard, starting from the Vallot hut. The sky at 5 A.M. was clear, and after a very fine sunrise M. Blanc was reached at 6.45 and the descent of the arête at once entered upon, no difficulty being met with until the Innominata contrefort junction. The arête then becomes sharper, rocks succeeding elegant crests of snow at intervals. They arrived at a sort of summit crowned with snow. A consultation was held. There were ominous signs of bad weather, while the mountain was not in good enough condition to allow the desirable speed, since to avoid the possibly great danger they would need to attain the Punta Barretti before the storm. They knew from their experience in 1923 ('A.J.' 36, 154) that they could safely descend from there in bad weather and fog. They decided to continue the descent, but progress was not fast; the steepish rocks encumbered with snow compelled traverses on the flank, where the axe found ice under a thin covering of snow. The rocks are also rotten and require care.

At times on the arête, at times on the Brouillard flank, progress was continuous, but demanded constant attention. A short ascent brought the party to the summit of the Luigi Amedeo (10.15). They remained only 15 minutes, the weather being so threatening that they decided to retrace their steps. The first two hours went well and put them above the steeper passages. But then the hail and the thunder commenced, axes and rocks singing loudly, and the eyebrows standing out, the hair being held fast by the passe-montagne. After ascending a snow slope in these disquieting surroundings, they halted for a moment under the lee of the arête, when M. de Lépiney received a violent shock, throwing him over backwards and causing him to roll down about 10 metres, until he was pulled up by the rope, passed round a rock and held by M. Bregeault, but losing axe and sack. The damage was limited to a few cuts. The thunderstorm stopped, and they started again in mist and falling snow. All went well till near the M. Blanc de Courmayeur the storm broke out afresh, but, as they were a distance from the arête and lay down, the danger was less. They then pushed on, notwithstanding the difficult orientation, to the top of M. Blanc, when a third storm broke out, with the previous symptoms, the lightning striking close to them. They again lay down. The storm was followed by a tourmente of snow and a very cold S.W. wind, while in the white mist they hardly saw their feet and from time to time a few metres ahead. They were able with difficulty to find the Bosses arête, the powdery snow at one point giving way and causing a glissade, fortunately soon stopped. It was the last assault, and this very competent and very valiant party reached the Vallot hut at 5.30.

Mr. E. G. Oliver, with Adolf and Alfred Aufdenblatten, made the third passage of the Col du Tour Noir and a passage of the infrequently done Col des Hirondelles, as mentioned in the present number. The latter was *descended* next day by Messrs. Carslake and Markbreiter with Evaristo Croux.

The Aiguille Blanche-Peuteret route was done mid-August by two Italian mountaineers, Si Albertini and Mattiola, with two or three bivouacs. The expedition was repeated at the end of August by MM. v. Schumacher and W. H. Amstutz, the well-known Berne Akademiker. With the advantage of fine weather, perfect conditions, their own fitness and great climbing competence, they reached the M. Blanc de Courmayeur from a low bivouac in about 15 hours. The expedition is described in the present number.

M. de Ségogne's expeditions are described in the present number. His leave unfortunately hit the worst of the weather, which much interfered with his plans.

MM. Lagarde and de Gigord of the G.H.M. ascended the Brenva face in such extraordinarily good conditions that, armed with crampons, they hardly cut a step.

MM. Paul Fallet and R. Tézenas du Montcel made an attempt on the great Montenvers ice-face of the Charmoz but were driven back by bad weather. The descent in such weather required absolute steadiness.

The Aiguille Verte was distinctly easy, the couloir in perfect condition, and must have been ascended over 25 times—one party descending to the Couvercle in little over an hour!

The Périades, in the doubtful weather, received many visitors, and the ascent of all the points on the arête is now probably completed.

It is rumoured that an attack was made by Italian mountaineers on the N. face of the Jorasses. Details fail.

The new Requin hut was in great request. It will hold comfortably about forty people, but on anything like decent days was packed with anything up to one hundred, indeed on one night about thirty are reported to have been forced to sleep outside. It is well run, so far as the crowd permits, by my old friend Joseph Demarchi, in his day a fine guide. The Requin from this hut is now a job of about 6 hrs., and is climbed almost every day in anything like weather. A new (?) route, right up the rocks of the S. face as far as the foot of the summit itself, was reported to have been done by two young Norwegians.

The Drus resisted until the end of July, but from then ascents were of frequent occurrence. M. E. R. Blanchet and Armand Charlet, both fleetest of foot, made the ascent of the Petit Dru from the Charpoua hut in 3 h. 40 m. The traverse to the Grand Dru took 45 min. and the whole journey, hut to hut, 8 h. 45 m. *Conditions admirables*, but they must have been moving! He and M. Chaubert, with the same guide and Jean Devouassoud, made the first ascent of the Aiguille médiane, the last to be climbed of the four Aiguilles du Diable, all over 4000 m. Particulars will be found elsewhere in this number.

The brilliant young guide, Armand Charlet, finished his season on September 22 by the ascent of the Aig. Sans Nom from the Brèche du Pic Sans Nom, and then traversing to the Verte.

What will he do next?

The difficult aiguilles, Mummery and Ravanel, were climbed by two English ladies, Miss Marples and Miss Barnard, with Alfred Couttet. They also ascended the Aig. du Peigne and the Grépon. It was not an uncommon sight in decent weather to see a dozen or more people on the Grépon every day! They also climbed the Requin by the S.E. rock face as far as the Epauale, which avoids the usual tedious snow walk. This summit was also in great favour.

Another climber, Miss M. O'Brien, a New Englander, after doing several difficult expeditions with the Dimais in the Dolomites, including, it is reported, a new route on the Col Rosa, did the Aiguilles Mummery and Ravanel, traversed the Drus and made an attempt on the so-called Roc du Grépon (Mummery's 'Crag on the Grépon') which is the latest objective of the élite. Her guide was also Alfred Couttet.

Captain A. H. MacCarthy, the leader of the Mt. Logan expedition, was over for a couple of months, and made the ascents of the principal summits in the Oberland, the Zermatt district and the Mont Blanc group. He is reported to have ascended in under 50 working days over 100 summits. Such a record, in such a season, or indeed in any season, must surely be without parallel, but when one remembers his two preliminary journeys for the Mt. Logan expedition, one in mid-winter, followed immediately by the final expedition, which he led to the summit, one would find it hard to be surprised at anything he does. His energy and determination are unrivalled. He himself served in the U.S. Navy, but, not so far back, his ancestors were Ulstermen of that Irish-Scotch blood that brooks no denial.

Herr Welzenbach, the President of the Akad. A.C. Munich, a body which includes many young, very capable and daring mountaineers, and his comrade, Dr. Allwein, were in the southern part of the Group, but their plans were much hampered by the absence of weather which the expeditions of the kind they undertake demands. Climbers who have been on the Fauteuil des Allemands will remember the S. or left-hand arête of the Aiguille Noire de Peuteret. The vertical height above the Col des Chasseurs is 750 m., over 2400 ft. It is one series of huge towers. It looks so hopeless, or anyway as demanding so much time, that hitherto only two attempts on it are known, the first by Dr. Paul Preuss, reputed the most daring climber of his day killed the following year in Tirol; the second by Dr. Guido Mayer with the best Dolomite guide of the day, Angelo Dibona, both well known as equal to the most difficult

work. Dr. Preuss gained the first tower, named Pic Gamba, 2700 m. The second party gained a higher tower *ca.* 3000 m. Herr Welzenbach and Dr. Allwein in 8 hrs. of extremely difficult work gained the tower, 3420 m. This tower is cut off from the final massif by a great vertical gap, about 300 feet deep, which would need several rappels if, indeed, such could be arranged. Bad weather compelled them to turn here, and the descent, as might be expected over such ground, required as much time as the ascent.

This is the kind of 'Problem' which young mountaineers like these set themselves, and the present party, it must be admitted, have given such proof of their judgment and capacity that one hesitates to suggest that they may try themselves too high. It is idle and ridiculous to suggest that danger on any mountain is absent. It is simply a question of the permissible degree, and the factor applicable to any party varies of course enormously. What is relatively safe for one is the maddest folly for another.

English climbers were, unfortunately, seldom in evidence. One sorely misses the young English climbers of old days. There are still to be seen men in the thirties or early forties, usually with competent guides, who undertake the biggest expeditions in a thoroughly workmanlike manner. There are also semi-veterans who have not forgotten the great game. The young French, Swiss, Italians, even Germans are more numerous than formerly in the Western Alps, while the Italians, Austrians and Germans are in an overwhelming majority in the Eastern Alps.

Two young members of the Oxford Mountaineering Club, Mr. Busk (Hon. Sec.) and Mr. Hart, led by the superb pair, Armand and Georges Charlet, from the Charpoua traversed the Grand and Petit Dru in 7 hrs. 45 mins., excluding halts, or 9 hrs. 15 mins. in all. Hart and Armand, from Montenvers, traversed the Grépon, all in, in 7 hrs. 45 mins.! They recall the great and unforgettable days of Geoffrey Young. Still such pace on a mountain introduces a factor of uncertainty very undesirable. Our young friends will get sensible with a few years over their heads. We have all been young.

The feature of these times, especially in this great Group, in which the most strenuous ice climbs, the most difficult rock climbs, and, generally, expeditions fit to test the endurance and skill of the strongest parties, are to be found, is the intensiveness brought to bear not only on the work itself, but on the elucidation of the smallest point of topography. The labours of the MM. Vallot have had much to do with the latter.

The degree of skill and judgment exhibited by the young French mountaineers, who are naturally, in the majority here, is most remarkable. There are many of them capable of leading the hardest climbs, and two ladies, Mme. Damesme and Mlle. Morin are admittedly, hardly inferior to the best of them. To be led by such men, instead of by guides, makes the term guideless, for the led one absurd.

With very few exceptions the young French mountaineers rely on their own efforts and do not take guides. Their relations with guides, especially with the well-mannered young guides, some of whom as rock-climbers are not excelled, of whom Chamonix has good reason to be proud, are, nevertheless, the very best and are based, evidently, on feelings of mutual respect and goodwill.

The welcome which we veterans get from the guide-friends of our generation such as Alfred and Ernest Simond, Joseph Ravanel, Demarchi and others warms one's heart.

The Couttets of the famous hotel have not forgotten their English friends, but the demand is such that they require longer notice to reserve rooms than the ex-centric mountaineer, dependent on weather and conditions, can, at times, afford to give. The crowd in Chamonix High Street on Saturday evenings is like Piccadilly, and the latitude allowed, at all times, to hooting motorists is scandalous. It is short-sighted policy on the part of the authorities.

Climbing in the Group has become very onerous owing to the terrible overcrowding in the huts, but the mutual forbearance and the give and take exhibited, especially by our French comrades and the guides, mitigate the unavoidable discomforts and are delightful to witness.

Verily in the Alps one's lines are cast in pleasant places.

THE AMERICAN MEMBERS OF THE ALPINE CLUB.

Minutes of Meeting held May 8, 1926.

THE American members held their Spring Dinner on May 8, 1926, at the Harvard Club in Boston.

Those present were Professor Charles E. Fay, *Chairman*, and Messrs. Allston Burr, Allen Carpe, J. Ellis Fisher, Henry S. Hall, Jr., J. W. A. Hickson, Albert H. MacCarthy, Howard

Palmer, H. B. de Villiers-Schwab, and Dr. W. Hunter Workman. The guests were Messrs. T. D. Cabot, S. Prescott Fay, Robert Morgan, Marcus Morton, Jr., Alonzo Weed, George M. Weed and George N. Whipple.

Immediately after dinner the entire party adjourned to the lecture hall of the Massachusetts Institute of Technology in Cambridge, where Allen Carpe showed his Mt. Logan film before the Appalachian Mountain Club.

At 9.30 P.M. the members reassembled at the Harvard Club and proceeded to elect the following officers for the ensuing term: Chairman, Allston Burr; Vice-Chairman, J. W. A. Hickson; Second Vice-Chairman, W. Hunter Workman; Secretary, H. B. de Villiers-Schwab.

Dr. W. Hunter Workman then gave us 'Some Himalayan Memories.' After describing such things as the native Zak (pigskin raft) and the Jhula (rope suspension bridge of braided willow twigs), he passed on to his explorations of the Chogo Lungma Glacier in 1902 and 1903. Successive slides illustrated the glacier's well-defined sérac belt, the nature of the icefall above, and various views of the ascents of Mt. Chogo (21,500 ft.), Mt. Lungma (22,568 ft.), and on Pyramid Peak up to 23,394 ft. Regarding his expedition of 1912, Dr. Workman showed slides of a number of remarkable pointed peaks and concluded with an account of the accident to his porter, César Chenoz, who fell into a crevasse on the Bilaphond Glacier and died shortly after his rescue had been effected.

Mr. J. Ellis Fisher introduced another subject new to our meetings when he gave an illustrated talk on some of his recent 'Winter Climbs in the Alps.' These included ascents of the Aiguilles de Floriaz, de Glière, du Belvédère and de l'M, together with sundry climbs amongst the Aiguilles Rouges as well as ski trips over several Cols. Some of the accompanying slides were very fine.

The next dinner is due to be held in New York early in December.

8 Bridge Street,
New York.

H. B. DE VILLIERS-SCHWAB,
Hon. Sec.

IN MEMORIAM.

THE REV. W. A. B. COOLIDGE.

1850-1926.

THE death of the Rev. William Augustus Brevoort Coolidge, which was briefly recorded in our last number, removes from the Club-list the name of one of the last and most remarkable of the pioneers of Alpine travel and exploration, of one who as a writer was recognized both in this country and on the Continent as a supreme authority on all subjects connected with the Alps and Swiss history. Coolidge combined in an unusual degree the energies of a climber with the interests and the accuracy of a scholar. As an Alpine explorer he was for thirty years even more ubiquitous than F. F. Tuckett, whom he claimed as his model; while as an author he added to the untiring industry which was one of his distinguishing qualities the great advantage of having always at hand the unique Alpine library which he had collected and conveniently housed in his Grindelwald home.

I am now called on as one of Coolidge's earliest friends and colleagues in the Club to furnish our members with a fuller and more adequate account of his services to the mountaineering community than was possible six months ago. I am asked to supply an estimate of his achievements as a climber and of his accomplishments as an author, and at the same time—what is less easy—to attempt an outline of an eccentric temperament and character which will be recognized as a sympathetic sketch rather than as a complimentary portrait. Such an attempt seems the more called for since its subject having outlived two generations of Victorian Alpine Clubmen had, in the twentieth century, become to the third a legendary hero—or a name on the back of a guidebook.

It was in 1872 on my taking over from Leslie Stephen the editorship of this JOURNAL that I first made the acquaintance of the lad of twenty-two who was already known in the guide-rooms of Alpine resorts as 'the young American who climbs with his aunt and his dog.' At that moment the Club was suffering from a temporary depression and the JOURNAL, abandoned by its late captain, who had embarked on the larger venture of 'The Cornhill Magazine,' seemed in some danger of becoming a derelict. Its editor's drawer was almost empty! It was mainly due to the energy in securing papers and articles of my colleague, the newly appointed Honorary Secretary, A. W. Moore, that we were able again to feel the wind in our sails. But the situation was critical and an anxious and inexperienced editor hailed gladly any recruit who gave promise of developing into a frequent contributor. And thus it happened



(about 1890).

that Coolidge and I became intimate fellow-workers, that I learnt to appreciate his ability and enthusiasm for the Alps, and that our Committee, eight years later, felt no hesitation in selecting him as my successor in the editorship. The following testimonial from our then President, Clinton Dent, may serve as evidence of how well Coolidge performed the task. Dent in 1889 wrote in these pages (vol. xv.):

‘I should be ungrateful were I not to acknowledge the extraordinary accuracy and thoroughness which have characterised the *JOURNAL* throughout its late editorship. For more than nine years Mr. Coolidge has with unremitting industry and most conscientious labour been slowly piling up a monument of which the credit is too much apt to be absorbed by the Club. No comparisons are permissible or needed, but this much I may say, that we have never had an editor who better deserved the grateful recognition of the Club.’

But I must not allow old personal reminiscences to lead me to delay any longer in setting out briefly the main facts in Coolidge's life. He was born in the neighbourhood of New York in 1850. His father's ancestors were Bostonians, his mother was a member of an old Dutch family long settled in the States. His maternal grandfather seems to have been a man of intelligence and wealth: he owned part of the ground now occupied by Broadway, a property which, had it been held long enough, must have brought his descendants a large fortune. Desiring for his children a European education, Mr. Brevoort placed his two sons at the well-known school at Hofwyl, near Bern, and his two daughters at the Convent of the *Sacré Cœur* in Paris, then in fashion as a place of education. The parents finally joined their children in Europe, spending their winters in Paris and their summers in Switzerland. They made Alpine excursions and Coolidge had in his possession a document proving that his grandmother had as early as 1835 ascended the *Faulhorn*. It may be claimed, therefore, that his love of climbing owed something to heredity as well as to subsequent environment.

On their parents' deaths the two sisters, W. A. B. Coolidge's mother and Miss Brevoort, returned to New York, where in 1849 the elder married Mr. F. W. Coolidge. After her husband's lifetime Mrs. Coolidge continued to live with her unmarried sister. The mother being a confirmed invalid, it fell to the aunt to take the principal part in the boy's bringing-up: she in a sense adopted him; it was to her, as he acknowledged in the dedication of his first book, that ‘he owed his love for and his knowledge of the great mountains.’ Miss Brevoort's was an anxious task, for the future mountaineer was—to quote his own description of himself—‘a delicate lad of frail health, whom his doctor recommended to seek a European climate.’ The party accordingly crossed the Atlantic and hired an apartment in Paris. Here the nephew unfortunately caught typhoid fever and was consequently ordered to spend the following winter

1864-5 at Cannes. Judged too weak to share Miss Brevoort's excursions in the Esterels he consoled himself and showed his literary bent by a project to write upon the story of the Îles de Lérins. When summer came, the trio crossed the Mont Cenis and settled at Thun where Coolidge's health must have improved rapidly, for by July he was able to climb the Niesen, while in September he crossed with his aunt the Strahlegg, the St. Théodule, and the Col du Géant, and ascended the Cima di Jazzi. All these expeditions were carried out within a fortnight: a creditable record for any boy of fifteen! He was, however, forbidden to share in Miss Brevoort's ascent of Mont Blanc, which she accomplished on the late date of October 3 in the same year.

After a sojourn at Elizabeth College, Jersey, Coolidge in 1869 went up to Exeter College, Oxford. Having gained a first-class in the History School and a second in Jurisprudence he, in 1875, obtained a Fellowship at Magdalen College. This, having been elected in Pre-Commission days, he was able, despite his residence abroad, to hold till his death. In 1882 he was ordained and served for twelve years as curate of South Hinksey, an Oxford suburb. But his main purpose in life was settled. As the years went on he became more and more engrossed in Alpine exploration and historical studies. In 1896, finding his health suffered from the damp of the Oxford climate in winter, he made the bold resolve to give up his college rooms and to establish himself at Grindelwald with the store of books he had accumulated. There he bought a chalet in which he lived, his household arrangements being in the charge of the son of his constant guide, Christian Almer. At a later date (about 1909) finding his library inadequately housed, and young Almer's family increasing, he leased a more roomy and comfortable home at the lower end of the village, in which he lived for the remainder of his days. But his health, despite the change of environment, gradually gave way. His last ascent, the Ortler, was made in 1898. After a serious illness and operation he became more or less a prisoner among his books, and his outings were limited to rare drives among the lowland towns of Eastern Switzerland.

Coolidge was elected a Member of the Alpine Club in 1870, and became an Honorary Member in 1905. He received the distinction of being appointed an Honorary Doctor of the University of Bern, and was an Honorary Member of the American, French and Italian Alpine Clubs.

Such are the leading general facts and dates in Coolidge's life. It remains for me to indicate the extent of his activities as a climber and explorer, and to estimate his literary services to our Club and the mountaineering confraternity. I must return to the point in his Alpine career at which I left off. His fortnight among the glaciers in 1865 had excited in the lad of fifteen a longing for further adventure which was encouraged by Miss Brevoort's enthusiasm, and further stimulated by the perusal during the next winter, spent at Florence



1875-1880.



1916.

MR. COOLIDGE.

of the lately published volumes of 'Peaks, Passes and Glaciers.' In the following summer his desire was gratified by the accomplishment of the High-level Route from Chamonix to Zermatt, and in 1867 he climbed the Strahlhorn, crossed some high passes and conquered several new peaks in the Grisons. In these expeditions he had the services of François Dévouassoud, whose visit to the East and the Caucasus with me in 1868 broke the connection, and led to Coolidge's long employment of Christian Almer.

Coolidge's mountaineering career may be held to divide itself into two sections. In the first, up to 1876, he enjoyed the company of his devoted aunt. In the second, after Miss Brevoort's death, he went on assiduously piling up the stupendous score of his expeditions—a catalogue only rivalled by that of his friend Frederick Gardiner. Those who care to follow in detail the list of his climbs may be referred to Mr. Mumm's admirable Alpine Register, in which they are fully set out, year by year. Coolidge went on from strength to strength. In 1870 he first visited Dauphiné. In 1871 he attacked the great Swiss peaks; his bag included the Dent Blanche, Weisshorn and Matterhorn, the Wetterhorn, Jungfrau and Eiger. In 1874, with Miss Brevoort he made the first winter ascents of the Wetterhorn and Jungfrau, and in 1879, alone, that of the still more formidable Schreckhorn. In 1876 he travelled east to the Adamello group and the Dolomites. In successive summers he thoroughly explored the glaciers and crags of the Dauphiné and in 1878 crowned his exploits in that region by the second ascent of the redoubtable Meije. He left unvisited no crest or corner of the then little-known Cottian and Maritime Alps. These were his favourite haunts; but he constantly varied his field of action, returning from time to time to the great Zermatt and Oberland peaks, or making excursions into Eastern Switzerland. Central Tyrol, Carinthia and the Bavarian Alps, were, I believe, the only parts of the Alpine region not included in his wanderings.

By his own confession Coolidge preferred snowpeaks to rock-climbs, and, though he scaled the Aiguilles d'Arves the Meije, and the Matterhorn, he left alone the needles and pinnacles on which the more athletic climbers of to-day display their hazardous agility. He invariably employed guides whose companionship he enjoyed and of whose technical help he felt no scruple in taking full advantage.

I must now turn to Coolidge's labours with the pen. In 1912 he printed a complete list, extending to some 220 items, of his literary productions up to date; in this are included translations and books or articles to the authors of which he had rendered substantial help.

No reader who undertakes to study and form an estimate of Coolidge's output can fail to be struck by the minuteness and extent of his topographical knowledge, the breadth of his literary research, and his untiring exactitude in putting it to account. These qualities were coupled with a passion for exhaustive thoroughness in supplying references to his authorities. Whatever he wrote

was crowded with information from the most various sources—German, French and Italian as well as English. Nothing that had been printed on the mountains from the days of Gesner and Simler to the last *Zeitschrift* or *Annuaire* of some Foreign Club but was at his finger-ends. In his pages tables of peaks and passes, of heights and ascents, jostle with historical details and incidents of travel. Bent on completeness, he was incapable of compression, as editors were wont to find to their cost! He was born to be an expert both in mountain craft and in book lore: the combination is rare. But in dealing with his material he lacked both the talent for selection and arrangement and the literary touch that gives charm to some of our earlier Alpine books. Coolidge was overburdened by the weight of his own knowledge; and he did not carry the burden lightly. Consequently his books, though valuable as works of reference, have made no wide appeal to the Alpine public. It is a pity, for they are a store of curious knowledge, local, literary and historical, and contain many chapters that may serve to entertain as well as instruct an intelligent reader.

The most important work Coolidge has left us is a monumental volume of 943 pages published at Grenoble in 1904 and entitled *Josias Simler et les origines de l'Alpinisme jusqu'en 1600*. In this he reproduced the text of Simler's famous treatise *De Alpibus* (1574) with a French translation, elaborate notes, and an essay on the early literature connected with Alpine peaks and passes. On this foundation he planted a number of passages from old writers relating to climbs from the time of Philip of Macedon to the ascent of the Rochemelon in 1588. This unwieldy but fascinating work concentrates a mass of information otherwise difficult of access, and well deserved the honour it gained of a Silver Medal from the French Geographical Society.

Coolidge was a born critic and commentator and his unrivalled acquaintance with Alpine literature and cartography led to his being invited to re-edit more recent classics such as Forbes' 'Travels through the Alps' and Tuckett's 'A Pioneer in the High Alps.' Needless to say, he performed his task with characteristic thoroughness and a microscopic eye for figures. Some readers—it is averred—to whom the original works had been familiar friends have been known to be ungrateful enough to look on the editor's abundant comments and corrections as in places superfluous, or at least meticulous!

Next in rank among Coolidge's contributions to Alpine literature we may reckon the three volumes in which he brought together a number of his articles and essays from various periodicals. These were, in order of publication, 'Swiss Travel and Swiss Guidebooks,' 1889, 'The Alps in Nature and History,' 1908, and 'Alpine Studies,' 1912. The first consists of an account of the earliest works provided for the use of Swiss travellers, followed by a sketch of the history of Zermatt before it became a mountaineering centre. The second is in substance an expansion of an Encyclopaedic article on the Alps,

dealing with their political history, their topography, their recent exploration, their people, and the rise of mountaineering as a sport and a form of travel. 'Alpine Studies' includes narratives of some of Coolidge's climbs, including his remarkable winter ascents in the Oberland; an account of the origin of the names of Monte Rosa and the Matterhorn; the early history of the St. Théodule Pass, and some short sketches of travel in the Swiss lowlands. All the volumes combine much information of a general character with tables and catalogues useful to students and experts.

Coolidge's love of detail and exactitude, if it was some hindrance to him as a popular writer, served him well in another branch of his literary activity. Supplemented by his wide interests and sound historical knowledge it made him an ideal editor of handbooks and compiler of 'Climbers' Guides.' In his first book, 'Swiss Travel,' he had written:

'Murray writes for the leisurely, cultured traveller whose mind is filled with poetical and historical reminiscences. Bädeler is strictly practical and modern, while Ball represents the advance in natural science as well as the assault on the mysterious iceworld. Yet, though there are so many Swiss Guidebooks of such great though different degrees of merit, I venture to think there is room for two more, which might be roughly described as a revised Murray and a revised Ball.'

Coolidge lived himself to perform the double task. His editions (1898 and 1904) of Ball's 'Western Alps' and Murray's 'Switzerland' are planned for educated and intelligent travellers whose interests go beyond hurried sight-seeing and who are not content to be carted over the Regular Round in a train or a charabanc under the charge of a bellowing conductor. They are books the old mountaineer loves not only to turn to on his travels but to study by his fireside. For they serve to remind him of discoveries to which they once led him, the waterfalls of Val di Genova, the towers of the Cima Tosa, or the cliffs and chestnuts of Bignasco; and they may still suggest fresh beauties to explore, even if it may only be in a motor-car!

The 'Climbers' Guides,' initiated by Coolidge and Conway, had a different aim. The object of the editors was to furnish climbers, in the form of a small pocket-book, with the exact topographical information they needed on the spot. The first volumes supplied an obvious want and their success was at once assured. To the growing band of 'Climbers without Guides' they render an indispensable service, and the yearly issue by various publishers and in different languages of booklets covering fresh districts is the best proof of their usefulness.

I must again refer readers to Coolidge's list of his publications. For it is impossible here to do more than roughly classify the perpetual flood of papers and pamphlets that flowed year after year from his hermitage at Grindelwald. They were very various in character. Weighty essays on 'The Saracens at Saas,' on the 'Inter-

course in old days between the Vallais and Grindelwald,' or on the 'History of the Col di Tenda,' alternated with monographs dealing with the Legend of Mont Iseran or the story and ascents of particular peaks or passes. One of the most attractive papers, reprinted in 'Alpine Studies,' is a biography of Coolidge's beloved dog, Tschingel, who was for several years his companion in many of his ascents, and after accomplishing thirty-six peaks and thirty passes reached a peaceful old age and died and was buried at Dorking.

Coolidge was also at one time a frequent and valued contributor to encyclopaedias and dictionaries. His work in this direction might have been more extensive had not his exigencies often proved a serious stumbling-block. The unlucky editor who found himself compelled to condense or curtail Coolidge's contribution drew on his head a volley of vigorous protests. Always bent on having his own way, whether as to the dimensions of an article or as to details such as the orthography of local names, Coolidge was apt to be very difficult to deal with.

In correspondence Coolidge could on occasions be found impossible, even by his most intimate friends. He would take up some contentious point in the annals of mountaineering and assert his own view with an obstinacy and a force that were deaf to argument and sometimes even to fresh evidence. His opponent was apt to find himself denounced in terms that—unless he knew Coolidge well—made him shrink from pursuing the controversy. These moods were a form of self-indulgence which grew on Coolidge during the ill-health and seclusion of his later years. I was myself more than once the victim of his temporary wrath. As long as he was resident at Oxford I was able to make my peace by telegraphing that I meant to come up and spend the next week-end with him in his delightful rooms at Magdalen. I never failed to find a genial host looking for me on the railway platform! In later years after Coolidge's move to Grindelwald I was at times driven to meet the situation by sending him a Latin *Panegyric* or a few *Encomiastic Rhymes* after the Elizabethan fashion. These he welcomed and even cherished, and sooner or later the postcard arrived which announced the term of my excommunication.

One of Coolidge's most intimate climbing companions once summarised him as 'a fiery lamb.' The paradox was not without its point. In sympathetic company Coolidge was the ingratiating yet frisky lamb; it was not till he sat down at his typing machine that his pugnacity showed itself, that fiery retorts and angry arguments were shot out in quick succession at the absent antagonist. Then the quiet recluse became like Horace's description of Achilles:

'Impiger, iracundus, inexorabilis, acer.'

But it was only in his language that he recalled the irascible Greek warrior.

In person Coolidge, in his later years, suggested the man of letters rather than the mountaineer. His figure, never that of an athlete, might readily recall to his visitor some contemporary print of a Renaissance scholar, sheltering beneath his crowded bookshelves. Short in stature and sturdy of frame, in his old age he became unwieldy and grew a venerable beard, while his bad sight compelled him constantly to use glasses. On first meeting strangers his manner was shy, and his sentences frequently interrupted by a short laugh—a sign of his nervous temperament. But in travel he proved a cheerful and unselfish companion, and in his own home he was an assiduous and agreeable host, who delighted to pour out for his visitors' benefit memories and tales of his adventures in the remote fastnesses and among the primitive people of the French Alps. I may record here an unexpected testimony to his conversation. On one occasion when Mr. Gladstone was on a visit to Magdalen, Coolidge was placed next to him, at dinner. The statesman told his hosts afterwards that he had greatly enjoyed talking to a mountaineer who not only took interest in the peaks he had climbed but in the people who lived under their shadow. I relate the incident on the authority of Dr. Hogarth, who was present.

Coolidge, however, was in talk, as he was in action, the *Homo unius montis*. It was difficult to induce him to take interest in any range beyond the Alps; even the assault on Mount Everest failed to stir him. He would lament over the backsliding of those of his fellow-climbers who were in the habit of wandering off to distant lands. Conway and I in particular used to be held up as shocking examples of dissipated energy. Coolidge was also intolerant of any attempts at picturesque description, such as were prevalent in the Ruskinian era. They tended, he held, to looseness in topographic detail. My crimes in his eyes were in this respect manifold. On one occasion he wrote to me: 'It is notorious, my dear friend, that your accounts of your climbs are *frightfully vague*; you care more for aesthetic impressions than accurate topography.' I ventured to retort by a quotation from the *Mikado* concerning a certain character of whom it is asserted that 'his taste exact for faultless fact amounts to a disease.' Not that Coolidge was himself insensible to the beauties of Alpine landscapes. He revelled in the sunset view from the Besimauda, a green spur of the Maritime Alps to which I led him on a cloudless midsummer afternoon, and he was so enchanted with the stately seclusion among its chestnut woods of the Certosa di Pesio, to which we descended in the gloaming, that he subsequently spent the whole month of October in the old Convent Hotel.¹

Coolidge by his assiduous labours with the ice-axe and the pen has rendered immense service to all true lovers of the Alps; he has added largely to our knowledge of the mountains and to our opportunities for their enjoyment. Future generations of climbers will

¹ See *Alpine Studies*, pp. 25-7.

agree that he has fully earned for himself a permanent place beside John Ball in the list of Alpine Worthies. His literary feuds—to a great extent the safety-valves of an abnormal constitution—will soon be forgotten. But his name will hold its place in our annals as one of the last of the Alpine Pioneers, and for a few years his surviving friends will remember affectionately not the eager controversialist, but the retiring scholar who delighted to welcome them among his books, or to spend the summer evening out of doors in ‘talking mountains’ under the shadow of the Eiger.

The villagers of Grindelwald were right to crowd to Coolidge’s funeral. For he represented the early type of mountaineer to whom his guide was not only a constant and indispensable companion but a lifelong friend. The names of Coolidge and Almer will, like those of Leslie Stephen and Melchior Anderegg, remain inseparable in the traditions of the Bernese Oberland. By devoting himself to the exploration of the mountains and the study of their people, by making these the ruling passions of a somewhat detached and solitary life, Coolidge succeeded in living up to the motto carved on the rocks of the Niesen, the first climb of his youth, by some unknown scholar of the Renaissance:—

ὁ τῶν ὀρῶν ἔρωσ ἄριστος.²

D. W. F.

Coolidge as a controversialist was indeed difficult to deal with, but at Magdalen he was a delightful host. When we were preparing the ‘Climbers’ Guide to the Mountains of Cogne,’ I worked with him from Monday till Thursday without going out of college. That and other visits are still very pleasant memories.

In 1885 I spent August 7 to 21 with him in the Cogne District. He had with him young Christian Almer, and Séraphin Henry accompanied me. August 7 to 10 furnished a fairly severe test of temper and adaptability to circumstances, for we spent successively one night at the chalets of Monei, two at La Muanda di Tellecio, and the fourth at La Bruna—almost the last word in discomfort. I remember two occasions on which there was a slight flash of the ‘fiery lamb,’ but the net result was good-natured laughter. Our last expedition was the Grand Paradis in a snowstorm, when, although unwell, he showed great pluck and determination.

In 1888 I was with him from August 5 to 16. Coolidge brought with him the guides young Christian Almer and his brother Rudolf. It was a terrible season, but we happened upon a fortnight of glorious weather.

² I have elsewhere mistakenly stated that it was on the Stockhorn that Benoît Marti found this and other inscriptions. Marti scaled both summits about A.D. 1557. See Coolidge’s *Josias Simler et les origines de l’Alpinisme*, pp. xlv and 227.

Amongst our new expeditions were a descent of the Grand Paradis to the Col de l'Abeille, the Cresta Gastaldi, the descent of the Col de l'Abeille to the Noaschetta glacier, the Bec de Noaschetta, the Tête and Col de Valnontey, and the descent of the Col de la Lune to the Noaschetta glacier. Our last expedition was the ascent of the beautiful Bec de Monciair and the crossing of the Col du Charforon to Ceresole. We began the campaign with forebodings of failure owing to our distrust of the weather, but finished it in high spirits. Coolidge as a climber was uniformly good. As Mr. Freshfield says, he preferred steep ice to steep rocks. His surefootedness and endurance were quite exceptional. I never knew him slip even slightly. He was, as in 1885, the cheerful and welcome companion alike in discomfort and success.

G. YELD.

I STOOD in a somewhat different relationship to Mr. Coolidge. I was his disciple. I learned much from him. The 'historical method' which I am credited with introducing in the 'A.J.' was learned entirely from him, Mr. Freshfield, Dr. Dübi and M. Ferrand, to mention only the great names, who had been its exponents long before. My 'researches' were founded mainly on material and old documents got together from many sources by my friend Montagnier, my own contribution consisting in tolerably complete personal knowledge of the particular mountain whose history was being investigated.

Be that as it may, my writings and actions were apt to be visited by the Alpine historiographer with periodical denunciation and excommunication, followed by eventual receiving back into grace. When my master treated with dead silence opinions which I expressed in articles on the early ascents of the Finsteraarhorn, and, in conjunction with Dr. Dübi and Montagnier, on the early ascents of Monte Rosa, I felt convinced that silence meant assent, possibly unwilling, and rejoiced accordingly. Once I remember his forbidding me even to mention his name in the 'A.J.' My reply was that I might as well attempt to write a treatise on Theology and omit the Almighty. This answer was literally correct, for no name will, I think, ever recur so often in Alpine history as that of Coolidge. I seem to remember that, soon afterwards, I was restored to grace.

At times, however, my periods of excommunication embarrassed the despotic recluse, for it was reported to me that he said, on one occasion, with some impatience, 'I wish Farrar would not stay so long in Grindelwald. It makes it awkward

for me to go out. I might meet him, and if I did I should make it up, and I don't want to.'

The admirable notice in *The Times* contained one inaccuracy. It said he was an adept in the gentle art of making enemies. But we steadily declined to be his enemies. He was to us the Great Master. We felt that his knowledge of the practice and his even greater knowledge of the history of mountaineering, his indefatigable work in the interests and for the convenience of mountaineers, gave him such a claim to general recognition that if he chose to indulge occasionally in violent polemics it was for us to hold our peace and to wait till the clouds rolled by. Eventually they were sure to do so, and the sun shone out once more, for the time being, in a cloudless sky. Two or three of his friends seemed to escape, notably Fred Gardiner and Dr. Poole the historian, his colleague at Magdalen. I once asked another somewhat militant but exquisitely ingenious and tactful friend how he had managed to avoid friction. 'Oh,' he answered, 'I first carefully found out what our friend had made up his mind to do, and then strongly advised him to do it.'

The Times added that he had no idea of burying the hatchet. But he kept it out of sight up his sleeve, and when it fell with a resounding whack on the pate of a less fortunate mortal there was vast amusement among those whose turn had been and was yet to come. So it was all for the good, especially for us writers and editors who worked warily, very warily, with eyes all round our heads on the valley of Grindelwald and its most watchful and militant inhabitant.

Once indeed the hatchet fell on the Club itself and he resigned his Hon. Membership. Again we waited for the cloud to pass, and then re-elected him, with some trepidation lest he should not accept. We are glad that he died one of us. Such double election to Hon. Membership was some testimony to the Club's feeling for him and appreciation of difficulties of temperament due no doubt in part to illness and loneliness.

Mr. Coolidge's services to the Alpine Club were indeed numerous and of a character to call for our warm appreciation and gratitude. He was for several years an able and indefatigable Editor of its JOURNAL, forbearing and helpful to young contributors. I remember well his assistance with my first contribution five and forty years ago. He put out a series of admirable Climbers' Guides, collecting from every source carefully edited details of ascents. They have done much to foster mountaineering and to develop the minute and systematic

exploration of the Alps. But his great work for the Club was his new edition (1898) of the already famous 'Ball's Western Alps,' undertaken quite gratuitously. For many districts covered by this work there existed at the time no other guidebook. He enriched his edition with great stores of his own knowledge so as to double its value and to render it even to-day a fascinating and accurate companion, right away from the Mediterranean to the Simplon. He told me that it had taken him two years of hard work, that he had been snowed under by it. Few of us at the time appreciated what he had done.

His other contributions to Alpine literature were very numerous and of great value. He was an indefatigable worker notwithstanding his sufferings from ill-health for many years.

I should like, in conclusion, to bear warm testimony to the indefatigable care and attention paid him by his attendant, Albert Hürzler. He understood how to manage his somewhat restive master by a combination of command and persuasion that was very instructive. His care without a doubt lengthened Mr. Coolidge's useful life and did much to ensure its quiet, painless ending.

J. P. F.

C. H. R. WOLLASTON.

1849-1926.

CHARLES HENRY REYNOLDS WOLLASTON was born on July 31, 1849, at Felpham Rectory, Sussex, the eldest son of the Rev. Charles Wollaston, rector of that parish. He was sent to school at Lancing, and proceeded thence to Trinity College, Oxford, where he matriculated as a Commoner in October 1869. At Michaelmas 1870 he was placed in the second class in Classical Moderations, and in the same year he became an Exhibitioner of the College. But his University career was then interrupted by the death of his father. He took a Pass School and his degree in 1871.

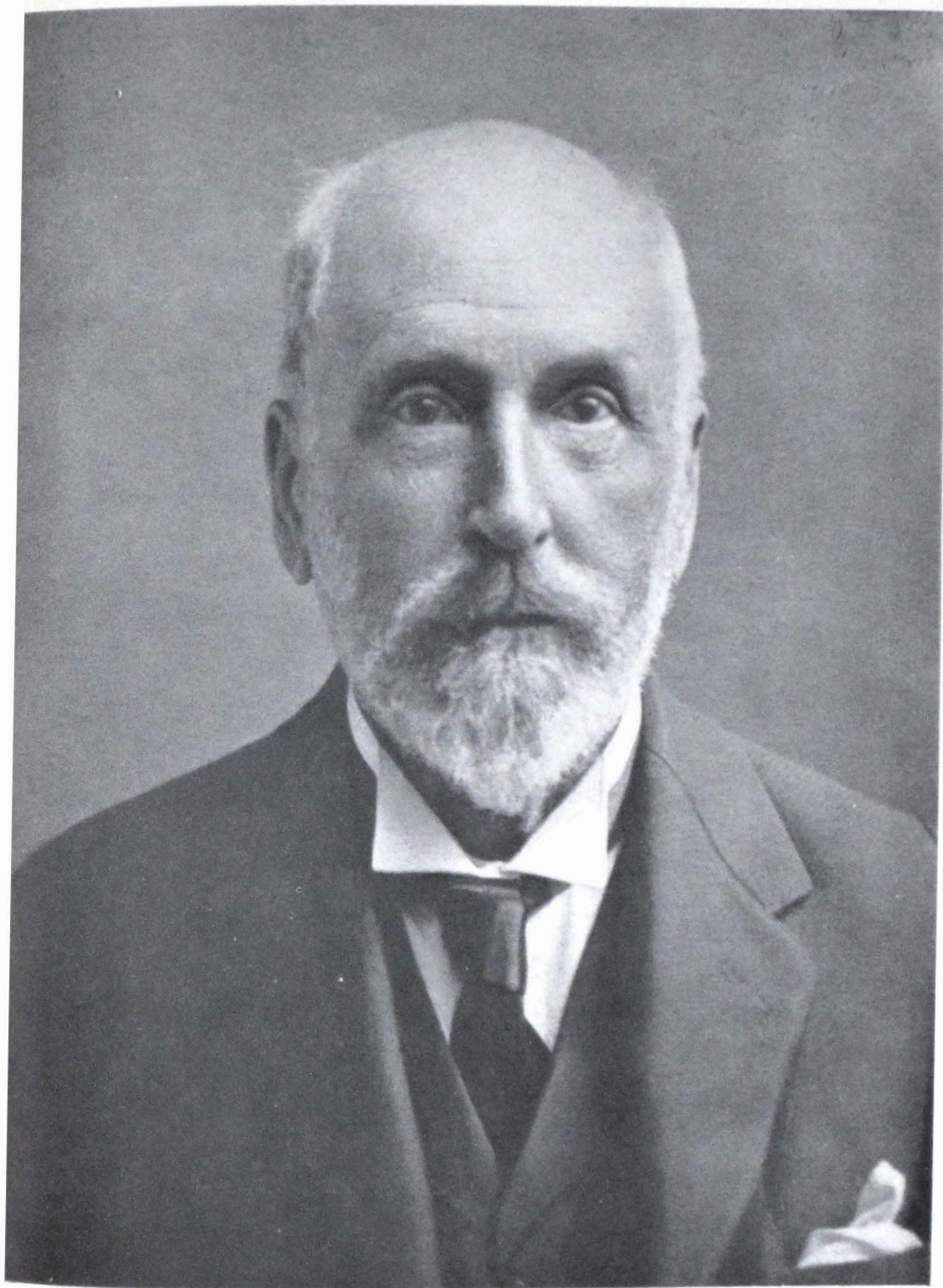
He then came up to London, was articled to Messrs. Kirby, Gedge & Millett, and was admitted a solicitor on June 12, 1875, but he never took out a practising certificate. In 1878 he was appointed Assistant Secretary to the Union Bank of London. He was promoted to the Secretaryship in 1885, and on his resignation of that office, in 1898, was elected to the Board of the Bank. He remained a Director of that institution until 1902, when it was transformed into the Union of London and Smith's Bank, on the Board of which, and of the National Provincial Bank (with which it was in turn amalgamated), he served during the remainder of his working life.

As a young man Wollaston was a keen cricketer. He was a slow but reliable bat, and at times, when the condition of the ground suited him, a very useful slow right-handed bowler. He played on occasion for the Gentlemen of Sussex, but his principal cricket was in connexion with holiday touring clubs, an active association with one of which he continued until 1890.

At Association football he attained considerable distinction. The Inter-Varsity matches were not inaugurated until 1874, and he, therefore, never had the opportunity of playing for his University. But, after going down, he played for England *v.* Scotland in 1874, 1875, 1877, and 1880, and for the South *v.* the North in a trial match in the last-named year. He was also associated with the famous Association club of those days—the Wanderers—and was their captain in 1880. He is said to have been very quick on his feet, and he remained until almost the end of his life very nimble and sure of foot, even when advancing years had rendered him in other respects slow. His curious tripping gait will be long remembered as one of his principal physical characteristics. It was also characteristic of him that he never in after years spoke of his athletic achievements, and many of his most intimate friends never suspected that he had attained the honour of four International caps.

Wollaston appears to have paid his first visit to the Alps in 1889, and then began what was to be, with the Bank, one of the two main interests of his life. He was elected to the Alpine Club in 1892, being proposed by J. A. Luttmann-Johnson, who had been an undergraduate with him at Trinity and was in those years his chief Alpine counsellor, and seconded by F. O. (now Sir Felix) Schuster. He joined the Committee in 1906, and became Secretary in 1912. His term of office as Secretary came to an end in 1916, but his successor was engaged on military duties, and Wollaston performed all the functions of the office as Acting Secretary until 1919—an unexampled period of service—under the presidencies of Edward Davidson, William Pickford, and Captain Farrar. In 1918 the Club conferred upon him the honour of the Vice-Presidency. Until the war, Wollaston never failed to visit Switzerland in August and scarcely missed some stay, however short, in every year at Zermatt. For many years after he became a Director of the Union Bank he was the last visitor to leave the Monte Rosa Hotel when the season closed, and the village could hardly settle to its winter sleep until he had helped the hotel servants to fold up the blankets and had seen the door locked. When peace was restored he resumed his former habits. But in 1925 failing health rendered the journey too dangerous for him. He died at his house in Belgrave Road on June 22, 1926.

It rarely happens that a man who commences mountaineering at the age of forty attains any special skill or pre-eminence. Wollaston was no exception to this rule. And, in addition to the handicap of age, he suffered from the liability to sudden and violent attacks of a



CHARLES H. R. WOLLASTON

1849-1926.

malady, in the nature of mountain sickness, agonising in themselves and most distressing to witness. They usually came on after a long hut walk, and often rendered him wholly incapable of movement on the succeeding day. With undiminished courage, however, after a day's rest in the hut, he would resume the enterprise which he had undertaken, and the fear of a fresh onset by his enemy would not deter him, after another day's rest in the valley, from further expeditions. When free from these attacks he was, though a slow walker, absolutely sure and safe both on rock and ice. His knowledge of the limits of his own powers deterred him from attempting modern rock climbing in its extreme form, and as years went on he more and more avoided very long or difficult expeditions. No one who knew Wollaston in the Alps could think of him apart from his two old friends and companions—A. Gentinetta and Josef Biner. Together the three made a perfect combination, for each understood exactly the physical and mental powers and limitations of the other two. Gentinetta, as is well known to many members of the Club, was worthy to take rank, if not among the greatest of all guides, still in the next and very high class. His gigantic strength and his great instinctive knowledge of the mountains were united with a genial wisdom and a shrewdness and coolness of judgment which made him a delightful companion and an excellent leader. This is not the place to speak of Josef Biner, who is still alive. As for Wollaston himself, his sweetness of temper, his joy in every incident of the day's march, and his cheerful acceptance of bad fortune as of good, made the partnership as happy as it was successful.

Above all, Wollaston was endowed with a love of the mountains and of mountaineering and with an indomitable perseverance. Thus equipped and thus accompanied, he was able to accomplish an amount of work in the Alps which in its range and variety was not only surprising for so late a beginner but remarkable in itself. He set himself to learn the craft gradually. His first season, which was spent at Zermatt and Saas, with an expedition to Macugnaga and a short visit to Grindelwald, comprised no summit or pass of the first or even of the second class. In 1890 he made the low tour of Mont Blanc and again visited Zermatt and Saas, but his best expeditions were the Wellenkuppe and Portjengrat. 1891 was spent in the Oberland, and in that year he ascended the Wetterhorn, Eiger, Oberaarhorn, Finsteraarhorn, and Jungfrau, and crossed several of the usual Oberland Passes. In 1892 he walked from the Val de Bagnes to Arolla by the Col de Seilon and the Ruinette, climbed the Dent Perroc, and then made his way by grass passes to Zermatt, where he ascended the Rimpfischhorn, Ober Gabelhorn, Zinal Rothorn, and Matterhorn. This was a memorable year for Wollaston and his friends. He completed his qualification for the Club. Happy chance caused the renewal of an old friendship with Pickford, founded in undergraduate days and built up on the cricket field, but interrupted by Pickford's residence at Liverpool.

J. A. Hamilton (now Lord Sumner) was also at Zermatt; Davidson at the Riffel Alp; and Wollaston performed the first of a long series of kindly acts to him who has now the mournful privilege of writing this memoir. Bad weather had involved me in a late start for a big expedition and a correspondingly late return. When I reached Zermatt I found that Wollaston had spent a long afternoon in calming my over-anxious relatives and in encouraging them to view with favour my continuance in mountaineering. Age and memory deceive one. But he appeared to me almost to the end much as he looked on this, my first introduction to him. I remember clearly, as I saw him then, the clear-cut upper features, the pointed beard (already, I fancy, a little grizzled), which did not conceal his expression, half shy, half humorous, even his clothes, the curious gesture of his well-kept hands, the odd little wooden cigarette-holder which, if ever it was worn out, was replaced by another so like it as to be indistinguishable, and a hundred little tricks and mannerisms, too slight to be reproduced, which made up in the whole his bodily presence.

Wollaston did not keep any diary or other climbing record, and, although his Alpine wanderings extended over the whole chain of the Alps from Monte Viso to Maloja, details (except those within my own experience) are lacking. In 1896 I had two or three walks with him at Saas. In 1901 I joined him at Pontresina, intending to make a series of expeditions on the Italian side. We went up the Schwestern for a training walk, and I was delighted to note how well he went, and formed high hopes. But bad weather and illness conspired to disappoint us and we did practically nothing in company. In the glorious August of 1906 we were more fortunate. We crossed the Lys-joch to the Gnifetti hut, walked up the Lyskamm, and slept on the Signal-kuppe; and then climbed over the Zumsteinspitz to the Höchste Spitz and so back to Zermatt—an expedition made more laborious than usual by the illness of one of the party (not Wollaston) who, continuously from the Regina Margherita hut to the Bétemps, expressed in moving terms his desire to be left behind and die. We then crossed the Alphubeljoch to Saas, climbed the Nadelhorn and walked down to Stalden in appalling heat. At Zermatt Wollaston took two days' rest, and then hustled me, comatose from a long expedition and two broken nights, off by train to Chamonix, where we celebrated Pickford's retirement from mountaineering by a grand combined expedition—five amateurs and five guides—of Mont Blanc from the Tête Rousse. This short but delightful season must have been one of his best. He went steadily, and only once suffered from any approach of his old enemy, a threat of which compelled us to forgo the ascent of the Südlenzspitz.

The year 1907 was as energetic but less fruitful. We crossed the Col de Valpelline to Pra Rayé and proceeded thence to Cogne. Here we were again and again hampered by bad weather, but we managed to accomplish the Herbetet, Grivola, and Grand Paradis

before a final break drove us to return to Switzerland by rail through the heat and thunder of the Italian plain.

This was the last of our Alpine expeditions. In 1912, with Edward Broome, J. J. Withers and R. A. (now Mr. Justice) Wright, we passed a pleasant Whitsuntide at Macugnaga. And, in the very short time which I was able to give to the Alps that August, we had some days together at Zermatt. He walked at least as fast as I desired, and a great deal faster than Edward Davidson. But, so long as I was there, he was unwilling to undertake any substantial expedition.

It was in keeping with Wollaston's character that he should never have been photographed except for the purpose of his passport, and the presentment of him which accompanies this memoir was obtained from this source. Indeed, one of his most distinctive marks was a shrinking—so excessive as to be almost morbid—from any form of public appearance, or anything which he regarded as savouring of self-advertisement. Thus he never spoke in public or semi-public except when literally compelled to do so by the necessities of business, as, for example, on the rare occasions when the Secretary is forced to address the Club. He did not indulge in the vain habit of self-depreciation, but he avoided it by never speaking of himself at all, and no one would have suspected, when the conversation turned on Alpine subjects, the width and depth of his Alpine experience and knowledge. Though he was called to high office by this Club, by the Bank which he served so long, and by the United University Club on whose Committee he acted (being its Chairman during two separate years), and though these employments were pleasing to him, both because others wished him to undertake them and because he enjoyed the work, he never sought for these or any other marks of recognition. To all these institutions he gave unstinted labour; and his scrupulous spirit made him ready at any time to sacrifice employments which had become dear to him, upon the least suspicion that his period of usefulness was approaching an end. No one was ever less aggressive or easier to 'get on' with, or more capable of inducing others to get on with one another by arts which were none the less effective because they were concealed. Though he was generous and indeed lavish in his hospitality, his friendship and his charity, he had no liking for general society and his pleasantest hours were spent with small groups of old and intimate friends. Yet he could be almost equally happy when wandering—sometimes for weeks—in the companionship of his guides among the districts of the Alps where his countrymen were rare.

It must not be supposed, because modesty and amiability were the chief notes of his character, that he was weak or negative in his feelings. He had strong affections, for his family, for certain chosen friends, for the hills, music and the sea; he had also hearty hatreds. Of his affections he did not speak. The best evidence for them is the feeling which they in turn inspired among those who

knew him best. On his hatreds he was, at times, eloquent. For particular men and particular kinds of men, and particular manners of life and particular kinds of food, he had aversions which were as violent as they were sometimes whimsical and prejudiced. But, as with many men of his type, the persons whom he disliked most were usually those whom he knew least, and his prejudice against them faded if, through some fortunate chance, he was thrown into their company. He was firm of purpose and determined to the verge of obstinacy. He had no doubt about what was right and what was wrong, and followed unswervingly, both in small things and in great, that which he believed to be right.

His later years were saddened by rapidly failing health and by bereavement, though he was soothed by remembrances of a long and happy life, and he awaited the end without any touch of bitterness. He survived a large family of brothers and sisters. Luttmann-Johnson had died in 1904, and from that time on his closest friends were William Pickford (Lord Sterndale) and Sir Edward Davidson. In a society such as ours, whose associations are often all but life-long and are knit together by memories of much that has been enjoyed and suffered in common, death falls with a heavy hand on those who outlive their contemporaries, and the blows become harder to bear as the might lessens.

‘ Like clouds that rake the mountain summits,
Or waves that own no curbing hand,
How fast has brother followed brother,
From sunshine to the sunless land.’

Gentinetta was the first to go. Then in succession departed Davidson, Pickford, and finally Gerald FitzGerald—the last survivor at the Riffel Alp, as Wollaston was down at the Monte Rosa, of the little company of veterans, whose welcome made the return to Zermatt a true home-coming and whose forms will, for us, linger for ever among the glens and streams.

He was then glad himself to go, and he died mainly because he had no wish to live.

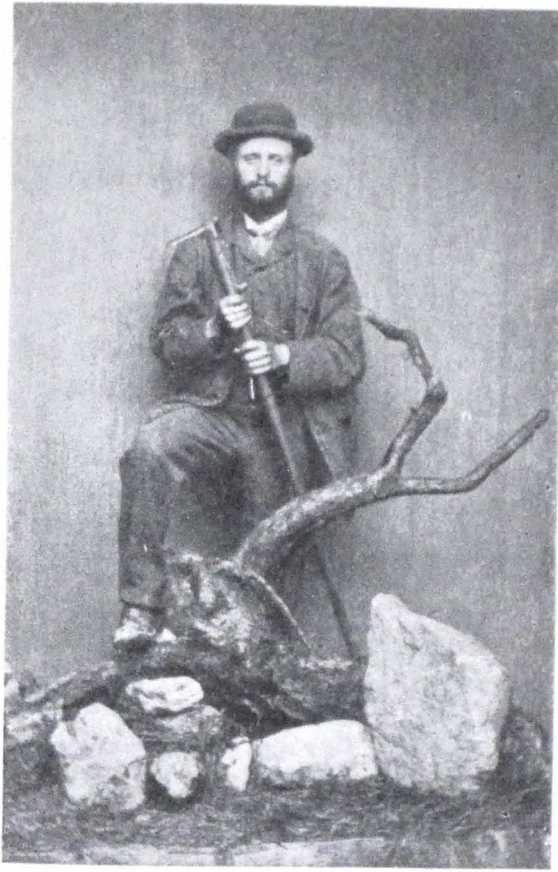
C. S.

THOMAS HOWSE.

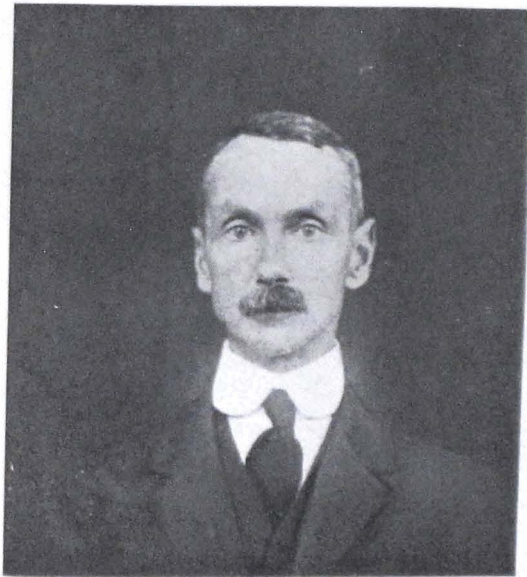
1834–1926.

BORN in 1834, Mr. Howse was educated at Ramsgate, Paris, and Neuwied. He was formerly a partner in Howse and Co., St. Paul's Churchyard, but retired in 1866 and, assisted by his wife, devoted himself to geology and botany.

Elected to the Alpine Club in 1864, Mr. Howse, at the time of his death, was senior member. He contributed to ‘A.J.’ xxxi. a paper on ‘The Exotic Granites of the Habkerthal.’



THOMAS HOWSE.



RALPH TODHUNTER.

I suppose I am the last person alive with whom he ever climbed, and that was thirty-two years ago, when he was over sixty and, owing to a badly set ankle, could only manage passes. He was able even then to get over a good deal of ground at a good pace. His staying powers were remarkable. He used to say that he practised mountaineering solely as a means to study geology and botany. He was associated for many years with Mr. C. Packe, the great authority on the Pyrenees, formerly Honorary Secretary of the A.C. Of him he often spoke to me, and they had much common interest in botany. He belonged to several botanical societies in France and England, and nearly poisoned himself in his anxiety to prove that so many forms of fungi were eatable. He was very proud when, in his old age, the Alpine Club asked him to arrange their botanical specimens.

He was an F.R.G.S. and an F.L.S., and contributed to the *Field*. He married in 1864, but lost his wife and only son, a great friend of mine, in 1920. He was a very interesting personality and of a lovable disposition. He retained his faculties to the end, and was in his usual good health the day before he died. His daughter-in-law, almost his only connexion left, was with him at the end.

J. A. B. B.

RALPH TODHUNTER.

1867-1926.

TODHUNTER was a man of brilliant gifts and of concentrated interests. A nephew of Isaac Todhunter, the famous mathematician, his own life and pursuits appeared to reflect a like balance, lucidity and precision of purpose. A mathematical Scholar of Clare College, a Wrangler, and later elected to a Fellowship, he remained throughout his life a valued advisor of that Foundation, of which the Alps have taken heavy toll in his death, following upon that of his close friend and colleague, H. O. Jones. After leaving Cambridge he became a Fellow of the Institute of Actuaries, and a member of the Council. He acted as official tutor to the Institute, made some valuable contributions to its proceedings, wrote one of its text-books, and for many years edited its Journal. In former years he was assistant Actuary to the National Mutual, and afterwards became Actuary to the University Life Assurance, a post which he held until his death.

He was very widely read, a lover of music and of literature; but in all that affected himself personally he was reserved to the point of reticence and modest almost to a fault. His one relaxation was mountaineering, his enthusiasm rock-climbing. His Alpine record covers many years, and includes a very large number of ascents. It also illustrates his love of breaking new ground. Probably his best season was in 1911 when he made, with Josef Knubel, a new ascent of Monte Gruetta, and took part in the third ascent of Punta

Margherita and Punta Elena and in first ascents upon the Ecrins, Grandes Jorasses and Grépon, climbing in addition the Aig. Noire de Peuteret, Aig. de la Brenva and Aig. du Géant, and traversing the Meije, Mt. Blanc and a number of passes. Of the Mer de Glace ascent of the Grépon he wrote a delightful account in the *Climbers' Journal*. He looked upon it as his finest expedition; and his comrades on that day could never forget the accomplished ease with which he dealt with its prolonged severity. His skill and nerve upon rock were quite exceptional. For many years he devoted himself to exploring the Welsh cliffs, and was an indefatigable collaborator in the production of the series of Welsh climbing guides, to the last of which—just about to appear—he contributed greatly, with his own invariable efficiency and self-effacement.

Probably he was little known, even in the Club, except to those actively engaged upon the same fields. To those who knew him he stood for a model of gallant enterprise, good comradeship, and good climbing. It is characteristic of his finished style, equable courage, and disciplined physique that in his 60th year he should have been leading the ascent of a very difficult rock climb. It is equally characteristic of the strenuous and chivalrous spirit which ruled his conduct of life that he should so, also, have died; unwilling to concede to time the indulgence which he would never concede to himself in the pursuit of a good purpose.

G. W. Y.

MISS GERTRUDE LOWTHIAN BELL.

1868–1926.

THE death of Miss Gertrude Lowthian Bell at Baghdad, during the night of July 11–12 of this year, removed from the world a figure of distinction and importance: to the British Empire her death signified the passing of a great Englishwoman. It was due to that rare complex of qualities of mind and soul which goes to the making of a great Englishwoman that Gertrude Bell was able to enter into the mind and soul of the Arab peoples, to win their confidence, to conquer their respect, and so to lay the foundations of an understanding of East and West in Irak which was the culmination of her career and the end to which the last years of her exceptionally full and active life were devoted. She was happy in her death in that it came to her at Baghdad among those she had worked for and who trusted and loved her.

Looking back at her career one feels that all the years of ceaseless activity (for she was one who was never idle) and great achievement in travel, in archæology and in scholarship were but a preparation for the ten years during which she in no small measure moulded the destinies of Irak. Into those last ten years of unremitting work were concentrated in a most vital manner all that

tenacity of purpose, self-sacrifice, idealism, and cheerful endurance which were hers by right of birth, for she was typically English, one may almost say typically Yorkshire, as befitted the daughter of a great Yorkshire iron-master, Sir Hugh Bell.

Soon after leaving Oxford in 1888 she began her Eastern travels by a visit to her uncle, Sir Frank Lascelles, in Teheran. This journey probably determined the course her life was to take by imbuing her with that love of the East which became her master passion. Two brilliant books, 'The Desert and the Sown' and 'Amurath to Amurath'—published in 1907 and 1911 respectively—record the experiences of her travels in the deserts of Syria and Mesopotamia. These journeys, in spite of their important contribution to archæology, were but a prelude to the adventurous undertaking which she carried out in 1913, a journey to Hayil, the little known capital of Ibn Saud, which was accomplished in spite of the opposition of the Turkish authorities and the suspicions of the inhabitants of that remote and almost unknown kingdom of the Rashidi Emirs. Then came the war, and with it Gertrude Bell's opportunity to place at the service of her country her remarkable gifts of character, capacity and intimate knowledge of the politics and personalities of the Arab tribes among whom we were soon to be involved in operations against their Turkish rulers. What this meant during our campaign in Mesopotamia is illustrated by this story which is too good not to be true. During our operations against Kut in 1916 it became important to ensure the neutrality of an Arab tribe which was in a position to threaten our long-drawn-out line of communication. Miss Bell was sent to a secret meeting with the Chief of the tribe to endeavour to persuade him not to throw in his lot with our enemy. At the interview she emphasized the Chief's duty to his tribe and asked him to weigh carefully the difficulties of his position if the Turks were victorious after he had thrown in his lot with us, and pointed out that he, in conversation, had exaggerated the strength of our force, which she gave him correctly, telling him, at the same time, to send emissaries to estimate the Turkish strength in guns and men (which she knew he had already done) before coming to a decision. Her completely detached attitude—so unlike the eager appeals for help, alternating with threats, with which she knew the Turks had already overwhelmed the Sheik—impressed the astute Arab with the might and power which must be at the back of a negotiator who could display such restraint and integrity at a moment of obvious difficulty for her own side. It is said that on returning to his tribe the Sheik, having assembled his elders and recounted the course of the negotiations, said 'And this is one of their women! Wa'lla hi, what must their men be like!' He came in on our side.

The work which came to her demanded courage and steadfastness of purpose, qualities of soul which she had developed and strengthened in her days of Alpine climbing. Her achievements

in other fields of her active life have had justice done to them elsewhere, but in this JOURNAL it is fitting that more detailed reference should be made to Gertrude Bell as a mountaineer.

R. P.-H.

I do not know when Miss Bell commenced her mountaineering career, nor when it closed. It was, however, in the first years of this century that her ascents attracted attention, and about the period 1901–1903 there was no more prominent lady mountaineer. Everything that she undertook, physical or mental, was accomplished so superlatively well, that it would indeed have been strange if she had not shone on a mountain as she did in the hunting-field or in the desert. Her strength, incredible in that slim frame, her endurance, above all her courage, were so great that even to this day her guide and companion Ulrich Fuhrer—and there could be few more competent judges—speaks with an admiration of her that amounts to veneration. He told the writer, some years ago, that of all the amateurs, men or women, that he had travelled with, he had seen but very few to surpass her in technical skill and none to equal her in coolness, bravery, and judgment.

Members of the Alpine Club have read, in a letter to Mr. V. A. Fynn, Fuhrer's generous tribute on what was probably the most terrible adventure in the lives of all those concerned.¹ . . . 'You who have made the climb will perhaps be able to correctly appreciate our work. But the honour belongs to Miss Bell. Had she not been full of courage and determination, we must have perished. She was the one who insisted on our eating from time to time. . . .' The scene was high up on the then unclimbed N.E. face of the Finsteraarhorn, when the party was caught in a blizzard on that difficult and exposed face and were out for fifty-seven hours, of which fifty-three were spent on the rope. 'Retreat under such conditions, and retreating safely, was a tremendous performance which does credit to all.'² The date was July 31 to August 2, 1902; the occasion was a defeat greater than many a victory. 'When the freezing wind beats you almost to the ground, when the blizzard nearly blinds you, half paralysing your senses, . . . when the cold is so intense that the snow freezes on you as it falls, clothing you in a sheet of ice, till life becomes insupportable . . .,' then, indeed, was Miss Bell pre-eminent.

The Lauteraarhorn-Schreckhorn traverse was probably Miss Bell's most important first ascent, July 24, 1902. It is related that she and her guides, meeting on the ridge another lady with her guides making the same ascent from the opposite direction, were

¹ *A.J.* 34, 385–7.

² Thus Mr. G. Hasler, who with Amatter made the first ascent of this face, *A.J.* 34, 270.



MISS GERTRUDE LOWTHIAN BELL.

not greeted with enthusiasm. In the seasons 1901–1902 Miss Bell was the first to explore systematically the Engelhörner Group, making with Fuhrer many new routes and several first ascents. An extract from a letter of the chief Alpine authority, dated December 10, 1911, may be quoted. . . . ‘You ask me for some notes on Miss Bell’s ascents, and I send all I have . . . she was not one to advertize, and yet, or probably because of it, they tell me that she was the best of all lady mountaineers. . . . (Signed) W. A. B. Coolidge.’

The notes contain the following, all relating to the different Engelhörner and all new routes or first ascents :—

Simmelstock,	August 30, 1901.	
King’s Peak	} August 31, 1901.	
Gerard’s Peak		
Vorderspitze	} September 3, 1901.	
Gertrude’s Peak ³		
Ulrich’s Peak ⁴		
Mittelspitze		
Klein Engelhorn	} September 7, 1901.	
Gemsenspitze		
Urbachthaler Engelhorn		
Klein Simmelstock,	July 8, 1902.	

For the reasons stated above, it is difficult to name her other expeditions in the Alps, but a well-known climber has stated that his most vivid recollection of an ascent of Mont Blanc was the effort required to follow Miss Bell.

Such, briefly and inadequately rendered, are some of the Alpine qualifications of her who must ever be regarded as one of the greatest Women of all time.

E. L. S.

THE DEATH OF MR. LEROY JEFFERS.

MR. LEROY JEFFERS, a member of the Alpine Club since 1915, was killed by the crash of an aeroplane at Wawona, California, July 25, 1926. He was flying from San Francisco with Dr. Sterling Bunnell, president of the San Francisco branch of the National Aeronautic Society, for the purpose of viewing the Sierra Nevada Mountains from the air. For twenty years he had been connected with the Purchasing Department of the New York Public Library, but he had travelled widely through the scenic regions of the United States

³ Named by Fuhrer.

⁴ Named by Miss Bell.

and Canada. His principal climbs had been made in the Canadian Rockies, the Selkirks, the Cascade Mountains, the Sierra Nevada Mountains, and the Teton Mountains, where he made the first ascent of the N.E. peak of Mt. Moran. His book 'The Call of the Mountains,' published in 1922, narrated his climbs and travels. He made many contributions on mountaineering, travel, psychology, and library economics to technical and popular magazines. He also lectured on the natural wonders of the United States, Canada, and Mexico. He was 48 years old.

In 1916, when the Bureau of Associated Mountaineering Clubs of North America was organized, he became the secretary and conducted it successfully for ten years. At the time of his death it numbered sixty-three organizations devoted to mountaineering and various out-of-door interests, including the preservation of natural scenery. He was a member of the National Institute of Social Sciences, and of the California Academy of Sciences, and a Fellow of the Royal Geographical Society.

Since 1916 he served as librarian of the American Alpine Club. In this capacity and as secretary of the Bureau of Mountain Clubs he performed a valuable function in bringing diverse interests into contact and association with one another. The annual Bulletin of the Association, which he conducted for ten years, was a unique enterprise, and afforded a wide distribution of interesting information about mountaineering and conservation matters. Through the instrumentality of the Bureau, the libraries of the constituent clubs were built up to an extent that would not otherwise have been likely.

HOWARD PALMER.

MORITZ INDERBINEN.

1856-1926.

MORITZ INDERBINEN died last May, aged about seventy. Though the number of members of the Club with whom he had actually climbed was small, he had been a familiar figure at Zermatt for many years past, and will be missed there by many acquaintances, and by a small circle of very warmly attached friends. In his younger days and in his prime he had no opportunities of developing to the full his powers as a climber or a master of ice-craft, and he was lacking in the commanding qualities necessary for great leadership. I have no wish, therefore, to claim for him a place among the eminent guides of

his generation, but his career was an unusual one, so curiously different from that of any of his colleagues that I think it deserves to be recorded in some detail.

When little more than a boy he crossed the Atlantic with three or four of his Zermatt contemporaries to try his fortune in Canada. They soon scattered, and after a few months' trial he decided to abandon the experiment. He had just enough money to get home, and, after a very narrow escape from being shanghaied and robbed in New York, arrived at Visp one morning with only a few centimes in his pocket and walked home to breakfast.

Not long afterwards Dr. Montagu Butler was at Zermatt, and employed Moritz to help in carrying his invalid wife on short excursions in a chaise à porteur. Moritz was an engaging youth and could speak a little English, and Dr. Butler invited him to come to England and take the position of 'general utility' man in the boys' part of his house at Harrow. Here Moritz spent several years, only once failing, by a few minutes, to ring on the very stroke of 6.30 or 6 o'clock, the bell with which he roused the household to the life of a new day. He of course spent his summer holidays at home, and must have learned his business as a guide during this period.

When I first encountered him, he was in London, in the service of Mrs. Lewis Balfour, whose son, Mr. Henry Balfour, had just emerged from his Final Schools at Oxford.¹ I do not know how this translation was effected, nor can I say what brought his later engagement to an end; it was certainly not any lack of good-will on his side or on that of his employers, for shortly afterwards he returned to Switzerland with Mr. Balfour and Charles Cannan, A.C., and the three had rather a rollicking season together, finishing at Zermatt with ascents in very rapid succession of the Weisshorn, Monte Rosa and the Matterhorn.

In 1886 I accompanied Cannan to the Alps, and we took on Moritz as a matter of course. Towards the end of our time we met at Zermatt Mr. Adolphus Turner, then Solicitor-General for Jersey, who told us he knew nothing of mountaineering but wished to make a start; could we recommend him a good, reliable guide, who could speak English? We handed him over to Moritz and went our way.

Mr. Turner, too, succumbed to Moritz's engaging manners and efficiency, and carried him off to Jersey, on the understanding that they would return to the Alps every summer and that Moritz was to be his butler and valet during the rest of the year. This association lasted, I think, for eleven years, but it was a pathetic business. Mr. Turner, aged then about forty, had set his heart, with tragic intensity, on qualifying for membership of the Club, but his physique was entirely unequal to the demands made upon it by ascents of even moderate length and difficulty. He persevered with great tenacity,

¹ Mr. Balfour is now a distinguished member of the University, and, amongst other things, Curator of the Pitt Rivers Museum.

but finally abandoned the struggle, and Moritz, who, in the meantime, had married an Englishwoman, returned to Zermatt, where for about ten years he pursued the calling of a guide on ordinary lines, while his wife acted as English letter-writer for half the guides in the valley.

In 1905 I had the good fortune to join Mr. Freshfield in a visit to Ruwenzori, and acquired the taste for distant travel. Moritz was with me then, and also subsequently in the Himalaya (1907) and the Canadian Rockies (1909-10-11, 1913). He was immensely popular in Canada, both at the Club camps of the A.C.C. and with the packers when we were travelling in the mountains 'on our own.' I think he enjoyed these trips as much as I did, but he told me that he would not have gone with anybody else, and I am not at all sure that I should have persevered in them so long without him. There was one more visit to the Rockies in 1920, when he seemed nearly as capable as ever, but the following year in the Alps he suffered severely on one occasion from difficulty in breathing, and our subsequent programmes were very unambitious. In thinking of him I dwell with peculiar pleasure on our last season, 1924. Except during a fortnight at Pontresina, he was my sole companion, but I enjoyed to the full such modest walks and climbs as the weather permitted, and never for a moment felt the loss of other society. 'Good old Moritz.' So his friends thought of him. I have known very few people so lovable, not one of such angelic temper.

A. L. M.

DR. EMIL BURKHARDT.

1846-1926.

THE death took place at Bâle on August 23 of this veteran member and Hon. Member of the S.A.C., one of the best known of the older generation of mountaineers. He commenced his climbing career in the 'sixties, his earlier guides being Hans Grass and Peter Egger, and later the well-known Christian Jossi, whose great ability and enterprise he was the first to recognise.

He had travelled wide in the Swiss Alps and had done nearly all the principal ascents in the Oberland, Zermatt, and Bernina districts, and possessed a good acquaintance with many expeditions in other parts. He published very little but was a most acceptable lecturer to his Bâle friends. For some years he had suffered much from ill-health. His name, as a great pioneer, will not be forgotten.

J. P. F.

PROFESSOR GOTTFRIED MERZBACHER.

1846-1926.

WE much regret to note the death at Munich on March 16 of Professor Gottfried Merzbacher. He was born at Baiersdorf near Erlangen, Bavaria, in 1846, and played a considerable part in the opening up of the Dolomites of S. Tirol, where, served by the guides of the day, he could claim many first ascents. In Switzerland he had done the Bernina Scharte and the traverse of the Cervin among other climbs.

In 1891 he paid, with Purtscheller and two Kals guides, a long visit to the Central Caucasus, climbing Tetnuld, Janga, Gimarai Khokh and other mountains.

The same autumn he went to the Thian-shan, but did very little, so returned in 1892 through Turkestan to the Eastern Caucasus, where he was joined by two other Tirolers and was able to carry out many expeditions.

He published in 1901 two stout volumes on his two journeys, and the book, especially on the less known E. Caucasus, is of considerable merit.

Subsequently he devoted several seasons up to 1908 to the exploration of the great group on the borders of Siberia and Chinese Turkestan which attains in Bogdo-Ola 6500 m. He turned his activities, however, to exploration as distinguished from mountain climbing, which played a subsidiary part. His first Thian-shan journey was described in the 'Zeitschrift des D. u. Oe. A.-V.,' 1906. The later journeys are fully recorded in the elaborate book 'Die Bogdo-Ola,' published by the Bavarian Academy.

[From an article in the 'Ö.A.Z.,' by Professor Dr. Karl Diener, the well-known geographer and mountaineer, formerly Hon. Member of the Alpine Club.]

A. DE REGGI.

1906-1926.

JUGOSLAV Alpine climbers—and this means above all the small community of Slovene mountaineers—have sustained a great loss by the death of Mr. Aloys de Reggi on Sunday, November 7. Mr. de Reggi was climbing by himself on the Grmada (Beacon) about four miles from Ljubljana, when he fell some 40 m. on to the scree below, apparently part of an entire ledge having collapsed. These rocks are a favourite training ground and Mr. de Reggi knew every inch of them. They may have been affected by the recent heavy rains and thunderstorms. Mr. de Reggi was generally considered the most promising among the younger generation of mountaineers; he was a good all-round athlete, one of the best long-distance runners in all Jugoslavia. His loss to Jugoslav Alpine

climbing is not to be measured by his years (he was only 20 when he died), but by his personality. He was a true sportsman, honourable, generous, chivalrous, perhaps too modest. He was always ready to help those less expert than himself, and when he undertook the trouble and responsibility of acting as guide on climbing expeditions—no small matter in a region where professional guides are practically unprocurable—he was cautious and considerate. At the University of Ljubljana he had already shown exceptional gifts. Had he lived, his name as a mountain lover and naturalist would certainly have extended beyond the borders of his own country.

F. S. COPELAND.

NEW EXPEDITIONS.

Le Dauphiné.

BARRE DES ECRINS (4100 m. = 13,448 ft.¹) DIRECT FROM THE GLACIER NOIR. July 31, 1926. MM. R. Toumayeff and J. Vernet.

The first party to make the ascent from this side was Dr. Paul Güssfeldt with Alexander Burgener on June 18, 1881. Making use of the slopes of the little secondary glacier des Barres they gained the snowy plateau to the E. at the foot of the Barre Noire and inaugurated the passage of the Brèche des Ecrins.² This is not the place to praise the qualities and the beauties of their route, which has fallen into oblivion. Relatively easy, it is, all the same, on a higher plane than the regulation 'great classic,' like the Meije, but it presents certain dangers from stonefall. It was repeated on July 15, 1926, by MM. Jean Costé, Roubène Toumayeff, and Jean Vernet.

On August 9, 1893, M. A. Reynier, with Maximin Gaspard and Joseph Turc, from the same starting place as Dr. Güssfeldt, attempted to climb diagonally the S.E. face of the Ecrins direct to the summit.³ He had been misled by an appearance which misleads everybody. Up to 3600 m. everything went marvellously, but his caravan was then under the necessity of forcing a passage to the E. arête, describing

¹ This is the altitude given in M. Helbronner's *Description Géométrique des Alpes françaises*.

² Full particulars of Dr. Güssfeldt's passage with Alexander Burgener of the Brèche des Ecrins will be found in his book *In den Hochalpen* (1892), p. 209.

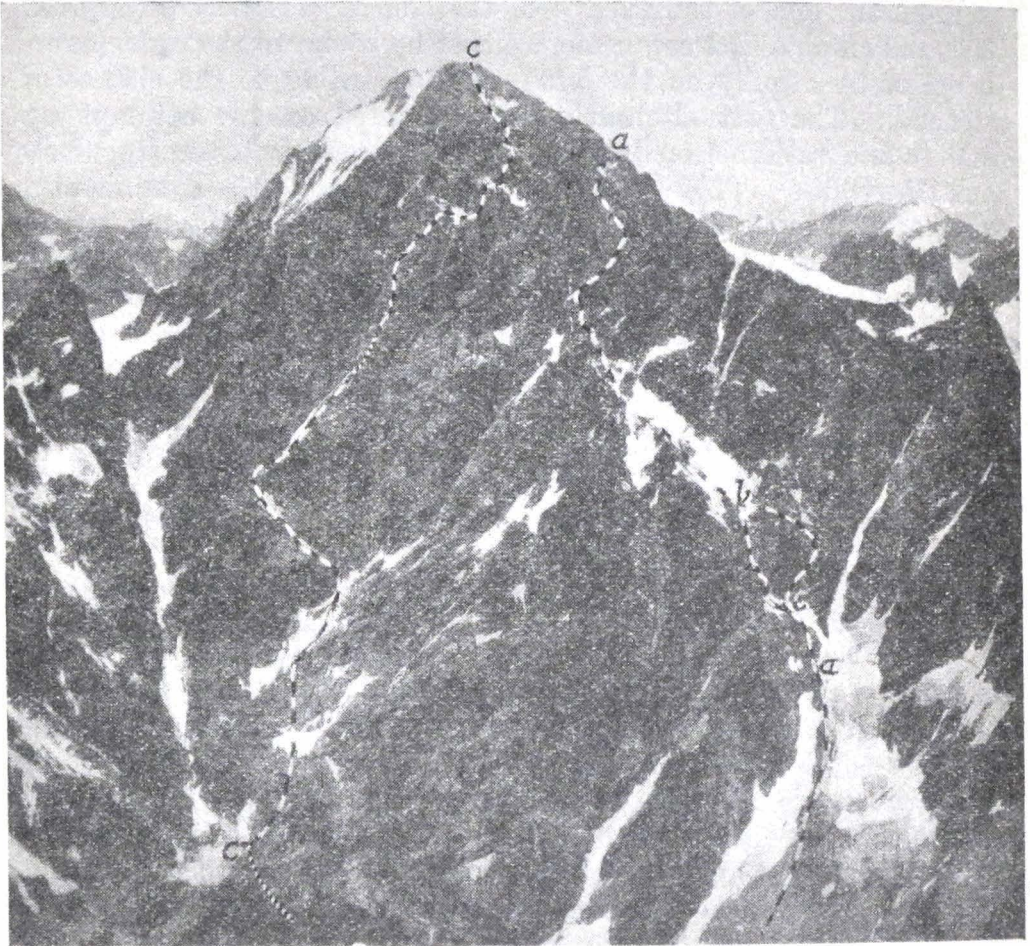
³ Details of M. Reynier's ascent are given in *A.J.* **17**, 136-7, where it is stated that the whole of the route can be followed on Signor Cav. Sella's photograph No. 522 from the Pelvoux and No. 507 from the Pic Coolidge. There is a paper on the expedition in *S.T.D.* 1893, pp. 91 and 105-24, by M. Reynier himself.

'great oscillations round about the vertical' [*décrivait de grandes oscillations autour de la verticale*] along a face extremely abrupt. They gained the E. arête at point 3932 m. Reynier's route was repeated on August 11, 1924, by MM. Georges and Jean Vernet. The following are the details :

From the end of the rimaye of the Glacier des Barres (approx. 3000 m.) climb a first escarpment either by a vire to the right (overhang) or by a gully on the left (slab), according to the chance of stonefall. The first alternative was adopted on the attempt by MM. G. and J. Vernet on July 21, 1923, by a route between Reynier's and Güssfeldt's. This attempt failed. Ascend to the summit of a vast inclined terrace bearing W. (approx. 3550 m.). Having passed the rimaye at 7.15 and utilized the gully above mentioned, the caravan of 1924 made a short halt (8.55-9.10). Then climb on the right a ravine 30 m. high, very steep, making use particularly of the slab of the left bank. Maximin Gaspard managed to emerge from this ravine by following its overhanging Thalweg or bottom, which seems to be an extraordinary *tour de force*. It is probably preferable, as did the second caravan, to climb out on the right up a face rather smooth, vertical and rotten. Then in a few brief minutes the summit of a little snow crest, very short, forming a shoulder, is gained. From this point the climb, already very fine, becomes quite aerial. One climbs to the N.E. a uniform vire inclined at 45°, which ends in a vertical chimney and comes out near a scanty platform ; one climbs a little slab and follows a second vire or cornice forming two vertical fissures and projections, none too solid. From the extremity of this cornice (11.25-11.55) one resumes a N.E. direction ; one climbs a high and very dizzy slab by following an alignment of detached rocky leaves, at one point overhanging. The holds, far apart and very scanty in the upper part, are of doubtful solidity. One arrives on the edge of a *vallonement* or couloir with an E. direction as you look down. One ascends the slope to the point where it becomes vertical at the foot of a big tower with a light-coloured cravat, well seen from the Glacier Blanc as well as from the Glacier Noir, and situated at about the height of the Couloir Whympfer. One emerges on the arête more to the E. on the right (13.20) by a chimney. All the times indicated are those of the 1924 expedition. The top was reached at 14.15. There was no verglas on the rocks at the level of the big tower.

On July 31, 1926, R. Toumayeff and J. Vernet succeeded in ascending direct to the summit from the Glacier Noir. They left the glacier at the point where the rimaye of the couloir des Avalanches meets the rocky flank of the Ecrins (approx. 2700 m.) (5.10). They climbed a little wall and gained up moderate, partially snow-covered slopes, the height of 3000 m. at the foot of the upper precipice (6.50-7.30). They gained another 200 m. in height by effecting a turning movement by the W. on the ledges of gullies, of terraces covered with snow, and by a vire, without meeting any obstacles.

Having cut a few steps at the extreme base (8.15), they climbed the lower part of a great couloir by its left bank, bearing N.E. over *roches moutonnées* offering several steep bits and much exposed to stone fall. Halt at end 9.0-9.10. By means of a névé, in which



THE S. FACE OF LES ECRINS.

a—o Route Reynier.

b—b The two variations for the passage of the first escarpment on the Reynier and Güssfeldt routes.

c—c Direct route Vernet-Toumayeff.

The - - - parts are those visible.

The . . . parts are those hidden.

they cut steps, they penetrated the low part of the middle (*moyenne*) gorge of the Grand Couloir, of which the extraordinary escarpment, barred by smooth, overhanging rocks, appears impassable. They bore immediately to E. towards the arête which bounds the gorge. There were 20 m. of verglas-covered slabs followed by several little gulleys, very steep, with rare and often vanishing holds. This climb, with no resting places, led on to the arête at the level of a little narrow terrace (10.25-10.40). The arête is then followed. It offers first a pitch, pretty smooth and rotten, then a bit extremely steep,

about 100 m. high formed by two walls, red coloured, very sharp, and superposed. The obstacle is surmounted by a very giddy climb by descending little oscillations and attacking, successively, three little vertical slabs, separated by fissures and short traverses, and a gully with one or two overhanging bits. Below the third slab is a narrow platform, where one can rest (12.10–12.30). One thus reaches the point where the arête merges into the vertical rock wall (13.25, the leader's sack and the axes had been hauled up on the red arête). One climbs, once more in a N.E. direction, a pretty rock *écharpe* of considerable inclination. Then having arrived at about 3800 m. at the level of a vast snow-covered balcony (14.30–14.50) the climbers descended a little on its E. side, which they traversed, cutting steps, and climbed, always to the N.E., a rocky edifice offering some cracks, to a second snow-covered balcony (15.35). One bears still a little to the E. One climbs a new escarpment, rather shorter but steeper, of which the notable passages are a little open chimney with flat bottom, and an overhanging crack (16.30–16.50). Up a slab less steep but rendered dangerous by tired fingers, the climbers arrived on a third snow path (*ligne*). They steered now definitely N.W. for the summit. At the end of the snow path (*ligne*) they had to turn the head of a deep, vertical ravine; then followed a diverting narrow crack of 15 m., climbed on the outside, and a very short traverse on a horizontal fracture or crack in the vertical head of the ravine. At 4000 m. one gains at its base the *vallonement terminal*, situated to the E. of the summit, by which the climb is completed without trouble at 18.15. The climbers had time to reach the level part of the Glacier Blanc by 19.30, when the storm, which had threatened for some hours, broke out.

[Literally translated from a memorandum prepared by M. Jean Vernet obtained at the kind instance of M. Jacques Lagarde.]

It is understood that this superb expedition is the crown of seven previous attempts by the two brothers Vernet, who reside at Nice. To succeed where Alexander Burgener and Maximin Gaspard, at the zenith of their great powers, failed, is a tribute to the patience and ability of these young climbers. One of their merits is that they realized that, by the other two routes, the strata force the climber always in the direction of the E. arête. Their line minimises this tendency. The ascent is evidently very severe.—J. P. F.

Mont Blanc Group.

AIGUILLE D'ARGENTIÈRE (3907 m. = 12,819 ft.), BY THE N. FACE AND N.W. ARÊTE. August 2, 1926. MM. J. Lagarde and H. de Ségogne.

From Lognan the party crossed the Col du Chardonnet and attained the foot of the N. face at about 3100 m. They began the

ascent about 4 A.M. towards the centre of the said face. It was in doubtful condition—bare ice covered in places with quantities of lightly adhering powdery snow. They climbed at first straight up, but on meeting great icy streaks, kept to the right, W., and climbed a steep rock rib which brought them to a shoulder on the N.W. arête at a height of about 3700 m. (3½ hours from the base). Thence the ordinary route was followed to the top (¾ hour).

JACQUES LAGARDE.

(From *L'Annuaire du G.H.M.*)

AIGUILLE DU PLAN (3673 m. = 12,051 ft.), BY THE N. FACE. (Second ascent with variation.) July 24–25, 1926. MM. J. Lagarde and H. de Ségogne.

Party left Plan de l'Aiguille at 1.30 A.M. on July 24. They mounted very slowly towards the little Blaitière hanging glacier, which was reached by a ledge on its right bank. The extreme ice fall of this glacier was bad this year and gave great trouble, compelling a frontal attack. It took about 3 hours from the ledge to the rimaye which separates the hanging glacier from the lower slopes of the Col du Caïman. Here they abandoned the 1924 route, and, to attain the Brèche du Caïman, took a route more to the left (E.), separated from the former route by the N.E. buttress of the Caïman; this route is distinctly more difficult than the other.¹ Having crossed the rimaye, the party, despite crampons, was obliged to cut steps in bare ice. Then followed iced rocks and broken slabs which were climbed towards the Col du Caïman. Next came a difficult and exposed traverse to the right which led the party to the left bank of a remarkable ice couloir about 100 ft. wide. With his feet resting on the narrow end of a gradually narrowing rocky platform, the leader, after squeezing himself round a little rocky spur and attaining, by a kind of upward spring, a good handhold, secured himself.

As the banks of the couloir were formed of impassable slabs, it was necessary to take to the bed of the couloir itself, formed of black ice, down which flowed a thin stream of water. The angle was appalling,² access to the couloir being nearly vertical, and particularly exposed. The couloir was climbed for some 80 m. and then traversed after 5 hours' uninterrupted cutting. At last, in another ½ hour, a very moderate bivouac place was attained on the crest of the Caïman's N.E. buttress (7.30 P.M.). A threatening thunderstorm did not, fortunately, quite materialize, and, starting again at 5.15 A.M. the next morning, the party mounted straight up towards the Brèche du Caïman amidst ever-recurring snow flurries. After attaining the said Brèche (3½ hours), the party followed the

¹ *A.J.* 36, 394–7, with sketch of route.

² M. Charles Vallot fixes the angle at 64°. M. Lagarde considers it one of the worst places in his experience.

1924 route, traversed the N. face, attained in 4 hours the foot of the Aiguille du Plan's summit monolith, and reached the summit itself at 1 P.M.

JACQUES LAGARDE.

(From *L'Annuaire du G.H.M.*)

AIG. DU DIABLE MÉDIANE No. 3. (4097 m. Vallot = 13,438 ft.). July 23, 1926. MM. E. R. Blanchet and J. Chaubert, with Armand Charlet and Jean Devouassoud.

From the Col du Diable turn the two Aig. du Diable inférieures and descend (3 short rappels) into the great S. couloir to 40 to 50 m. below the gap (4007 Vallot), at which it ends, then climb up it in 2 hours. The couloir is very dangerous (iced and rotten rock) and extremely steep. A gendarme is planted in the gap.

A chimney about 60 m. high seams the face, dominating the gap of the Aig. Médiane. Climb the first few easy steps of the chimney, then at about 20 m. traverse to the right to a little shoulder of the arête bounding the face to the right. In a very difficult crack climb the almost vertical arête to a second minute shoulder. By a vire and good vertical rocks of the N. face gain a third shoulder. Traverse to left, and with an enormous stride cross the top of the chimney. Climb easily to the left-hand tunnel (there are two parallel) to pass over on to the opposite side of the aiguille, the summit of which is gained in a few minutes (2 hours from the gap to the top). Descend same way with a rappel of 28 m.

'Without offering passages as difficult as l'Isolée, the Médiane is more tiring on account of the accumulation of difficulties. It is infinitely more difficult than the Drus and the most dangerous of the five Aigs. du Diable.'

Both the present climbers have now ascended all the five aiguilles.

Times: Géant inn, 1 A.M.; Gap, 8.15; summit, 11.15; Montanvers, 9.30 P.M.

The first ascents were as follows:

No. 1, L'ISOLÉE (4114 m.), by M. Blanchet with Armand Charlet and Antoine Ravanel in 1925.¹

No. 2, POINTE CARMEN in 1923 by MM. J. de Lépiney, Chevalier and Bregeault.

No. 3 as described above.

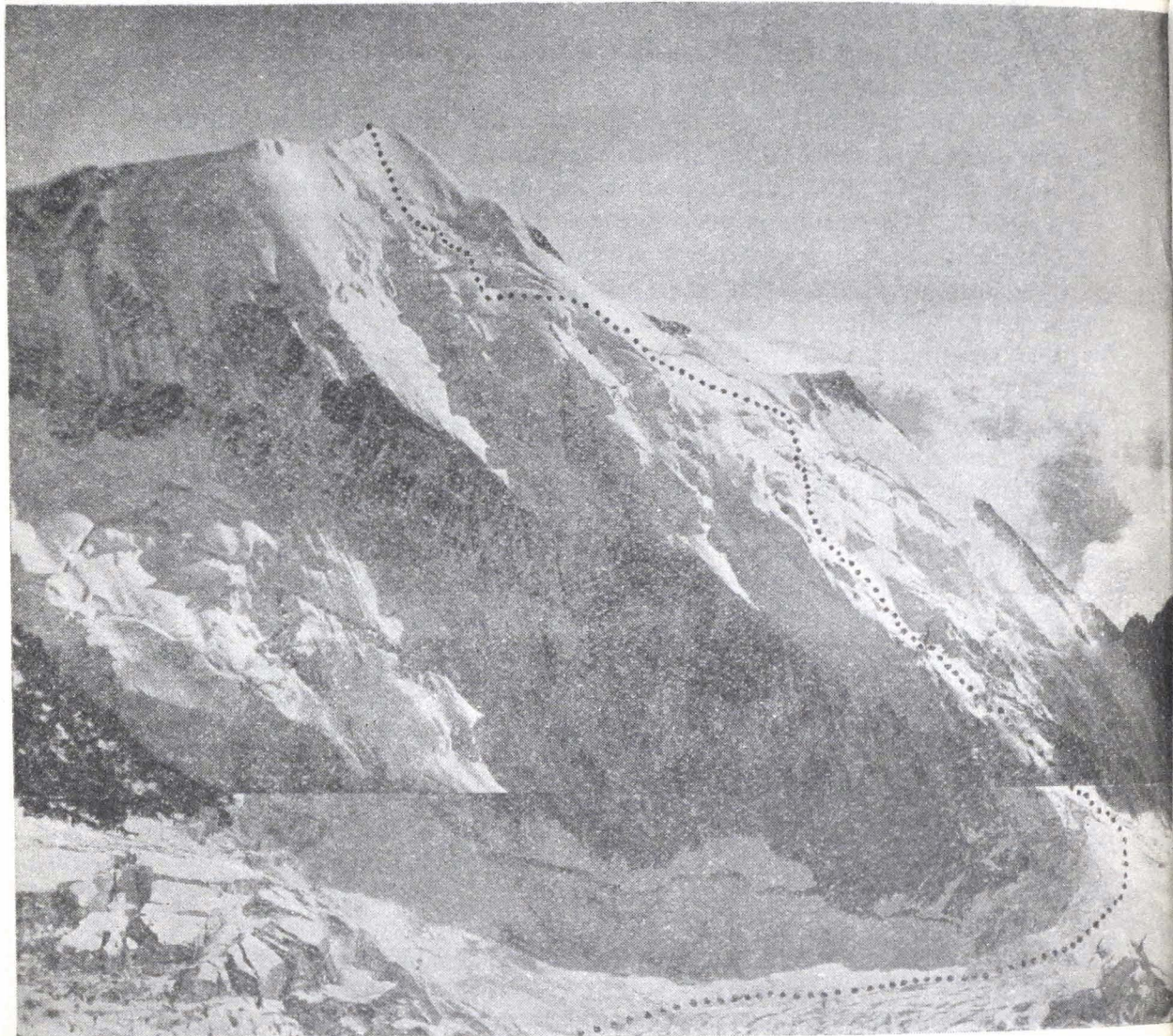
Nos. 4 and 5, POINTE CHAUBERT and L'ANONYME (? 4074 m. and 4064 m.), by M. J. Chaubert with the same guides as No. 1, in 1925.

AIG. DE BIONNASSAY (4066 m. = 13,341 ft.). Direct ascent by the N. face. July 18, 1926. Mr. R. W. Lloyd, with Josef and Adolf Pollinger.

Left Tête Rousse 2.50. By 8.25 the party gained, without any halt, the top of a sérac directly under the summit. From this point

¹ See *A.J.* 37, 361-2, with illustration.

the final face seemed almost perpendicular, easing off slightly towards the top. They estimated that $\frac{1}{2}$ hr. would see them on the summit. Snow was, however, very bad and powdery, so that big deep steps had to be cut. Towards the end the powdery snow became



thinner and steps had to be cut in the underlying ice. The summit was reached at 10.10 (nett time, 7.20).

The line, marked by Josef Pollinger, will be seen in the picture, and full details will be given by Mr. Lloyd in his paper at the December meeting.

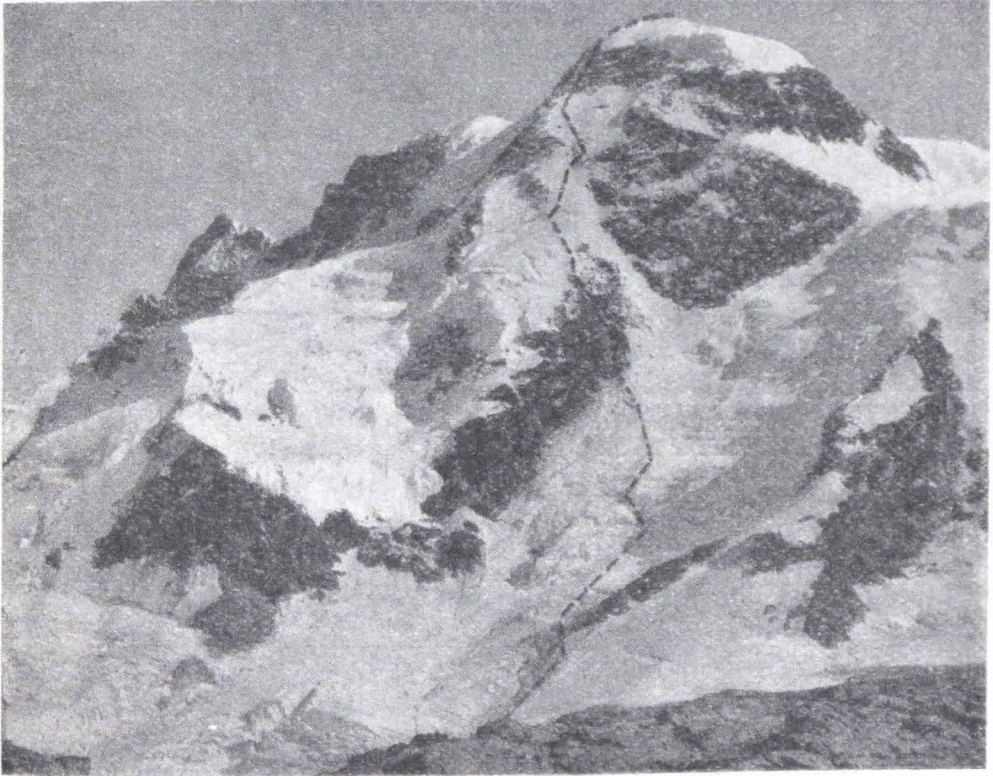
The ascent was repeated one month later by Mr. E. G. Oliver, with Adolf and Alfred Aufdenblatten, when the Tricot arête was gained very high up and followed for about 10 minutes to the summit.

Pennines.

BREITHORN (4071 m. = 13,353 ft.) DIRECT BY THE N.W. FACE. August 1, 1926. Herren F. Bachschmidt, F. Rigele, and W. Welzenbach (President A.A.K., Munich).

Height of face from Lower Théodule glacier, 1200 m.; time, 7 to 9 hrs.; according to condition very, to extremely, difficult.¹

In the lower half of the N.W. face is a steep crevassed glacier bounded on either side by well-defined rocky ridges. The upper face is a slabby wall crowned by hanging séracs. The ascent is made up the glacier mentioned and then over the left upper end of the N. boundary-ridge. From this point steep ice faces and a final rock wall lead to the top.



FROM GANDEGG.

From Gandegg cross lower Théodule glacier to the foot of the face, then mount steep ice for about 300 m. in the line for the summit. Bear left to gain rocks of right proper bank of a steep ice

¹ The route followed on September 3, 1919, by Herr D. v. Bethmann-Hollweg with Oskar and Ottmar Supersaxo 'from W. & N.' would seem, according to *S.A.C. Jahrbuch* 54, not to be identical with the route now described, as it apparently turns the actual N.W. face by a swing to the left to gain the summit eventually from the N.

couloir. These rocks are climbed with difficulty to their extremity. Then follow moderately steep névé and ice slopes to a bergschrund, crossed with difficulty, and then gain the upper icefields and make for the rocks emerging about the middle. After ascending these the upper ice slope is crossed, bearing to the left to the foot of the final stepped rock wall, which is ascended without particular difficulty to the top.

POINTE DE ZINAL (3806 m. = 12,487 ft.), BY THE N. FACE. August 3, 1926. M. E. R. Blanchet, with Caspar Mooser.

This face, which is some 1800 ft. high, is composed of ice, all except its last 220 ft., which consists of a very steep rock wall. Good snow and crampons enabled its ascent to be made, which in a dry year would be a very formidable undertaking.

From 6.50 to 8.50 A.M. there was a zone of séracs, ice walls, crevasses, and a 50-ft.-high ice chimney; then a broadish ledge of ice some 80 ft. long brought them above this torn and very steep terrain. There followed very easy and gentle slopes (whence the Col Durand or Col de Zinal could be reached easily). At 9.30 the slope steepens to a rimaye, close under the final rocks. Passage from the ice to the rocks very difficult (10.0). The rock wall is dangerously loose and was much glazed in addition. Summit attained at 11.0.

BRUNNEGGHORN (3846 m. = 12,619 ft.), BY THE W. FACE. July 27, 1926. M. E. R. Blanchet, with Caspar Mooser.

This face, the base of which was attained from the Brunneggjoch, is about 800 ft. high. It is much less steep than the N.E. face, which was climbed with much difficulty by the same party in 1925.¹

Perfect snow enabled the face to be climbed without step-cutting in 1 h. The descent by the same route was effected in 35 m. Crampons *de rigueur*! This face should never give trouble save at end of season in dry years.

BREITHORN (4171 m. = 13,685 ft.), BY THE W. FACE. August 16, 1926. M. E. R. Blanchet, with Caspar Mooser.

This face is opposite the Klein Matterhorn and dominates the plateau, 3688 m., S. map.

Leaving the Riffelberg at 4.30 A.M., the party, taking the 'Prothero' route of the 'Klein Matterhorn Pass,'² frequently impossible, arrived without any trouble on this wide plateau, 9.35, and started at 10.0 the attack of the face.

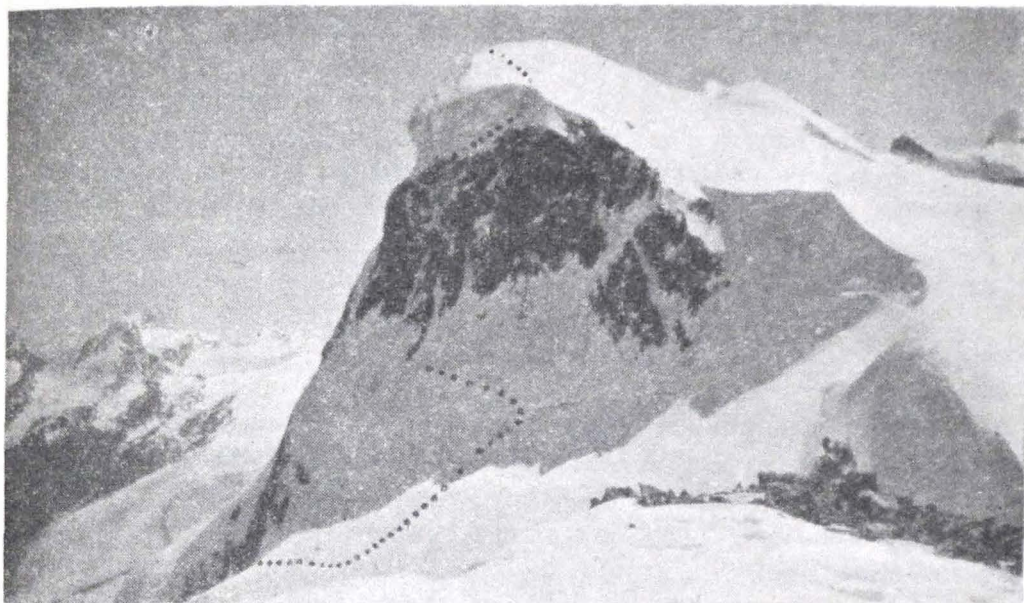
This face is composed of three sections:

(a) A bare ice slope with often a gaping rimaye; 1½ h. of step-cutting necessary to attain, by bearing a little to the left, N., a rocky rib some 130 ft. long, barely emerging from the ice and very easily climbed to:

¹ *A.J.* 37, 370.

² *Alpes Valaisannes*, III. 9.

(b) A rock wall some 800 ft. high of increasing steepness. A twisted, very steep rib seams the wall from top to bottom, this rib being the continuation of the aforementioned one climbed after leaving the ice. The wall is climbed by alternately utilising the easiest parts of the rib and its adjoining couloirs. The rocks, at first rough, soon become increasingly smooth and very steep. Although frequently glazed, they are very firm. A chimney overhanging



[Photo Blanchet.]

W. FACE OF BREITHORN FROM KL. MATTERHORN.

close to the top was, however, dangerous from rotten rocks. The sacks had to be sent up on the rope. At 2.5 P.M. the party reached :

(c) An overhanging ice slope crowning the wall. Follow its base towards the right under dangerous icicles. Step and handhold cutting very laborious. Towards the S. end the ice wall is less high, and here the party turned straight up a short slope of at least 70°, followed by a gentler tongue of ice, covered with snow in a very dangerous condition, whence they attained a little snow cornice, 3.55. This was easily and quickly cut through, and the final plateau reached at 4.0, and the summit, by the ordinary route, at 4.12 P.M.

This route is threatened by ice-fall and is very dangerous. It is far harder than that of the N. face, climbed 3 days later with Mooser so as to compare the two routes.

The times up the N. face were :

Zermatt (by Gorner Grat Railway), dep. 7.55.

Rothenboden, dep. 9.00.

Summit, arr. 18.45.

Zermatt, viâ Gandegg, arr. 24.00.

E. R. BLANCHET.

PIGNE D'AROLLA (3801 m. = 12,471 ft.) BY THE UPPER ZIGIORENOVE GLACIER. August 13, 1926. This route, a small part of which is new, joins the ordinary route by the Pas de Chèvres and the Seilon glacier at the Col de Zigiorenove (Col de Chesière Neuve in the 1923 edition of the 'Guide des Alpes Valaisannes,' I. See map, p. 234.)

The direct ascent of the Zigiorenove icefall may be possible; it is certainly too dangerous to be attempted. It has been turned by the lower Zinareffian rocks, but these are difficult and there must be danger of stones falling. The upper part of the glacier, whence easy slopes lead in half an hour to the Col, was reached by our party in $4\frac{1}{2}$ hours. We followed the usual route for the N. face of the Pigne to the top of the snowy shoulder 3356 m., viz. the lower Torgnon glacier under the Loitecondoi, then up a steep snow couloir and the N.E. ridge or face of the shoulder. From there we cut down and across the lower part of the N.W. face of the Pigne, crossing the bergschrund about 200 ft. below the top of the shoulder. Almost everywhere there was a layer of good, hard snow on the steep ice of the face, so the 400 odd steps we had to cut took only about an hour and a quarter.

Glancing back on our route, it looked as if we might have found a way over steep snow through some ice cliffs to the level glacier immediately below point 3356 m., losing more height but possibly gaining some time. The 5 hours' actual going to the Col de Zigiorenove is not slow time. This might be a useful variation for a party who found the upper part of the route up the N. face in too dangerous a condition.

R. L. G. IRVING.
H. A. HAWORTH.
G. S. P. HEYWOOD.

ZINAREFFIAN ROCKS, N.W. SUMMIT (3307 m. = 10,847 ft.) FROM THE COL DE ZINAREFFIAN. August 17, 1926.

A small affair, but there is no mention of its ascent in the 'Guide des Alpes Valaisannes,' I. 246. It is a face rather than a defined ridge that rises from the Col. We followed very near the skyline seen from the lower part of the Pas de Chèvres path. For an experienced party there is nothing difficult that cannot be turned. Those of our party who were not lazy were inexperienced, and we took 3 hours from the Col to the N.W. summit. A thunderstorm easily dissuaded us from continuing along the crest to the further summits. The Seilon glacier may be reached without difficulty from several points on the main crest.

R. L. G. IRVING.
H. A. HAWORTH.
G. S. P. HEYWOOD.
R. L. HURST.
R. BELOE.



Phot. Wehrli-Kilchberg

N. FACE OF JUNGFRAU
from a balloon.

Bernese Oberland.

JUNGFRAU (4166 m. = 13,669 ft.), FROM WENGERNALP. Sept. 12, 1926. MM. H. Lauper, A.A.C., Berne and Zurich, and P. v. Schumacher, A.A.C., Berne.

[Strictly speaking, this is the first *direct* ascent of the N. face.]

On September 11 P. v. Schumacher and I gained, in about 3 h. from Wengernalp, a sleeping-place (1 on marked illustration) just below the glacier at the N.E. foot of the Silberhorn at a little less than 2000 m. (slightly W. of 2004, Siegfried).

We broke camp at 2.50 A.M. next day, got on the glacier in a few minutes, and ascended it in a S.W. direction. At 4.0 we mounted a first rocky step (2), and at 5.0 a second step, which gave access to the névé that leads below the rocks of the Silberhorn over to the middle part of the Giessen glacier. We crossed this névé in an oblique direction and reached the end of a huge icicle which hangs down from the western bank of the Giessen glacier. At 5.35 A.M. we got around its sharp pointed end over on its N. side by easy rocks. Turning back W., we cut steps up to the crest of this icicle. Over its ridge, its steepness compelling us now and then to cut a step in spite of our crampons, we gained at 6.17 A.M. the Giessen glacier.

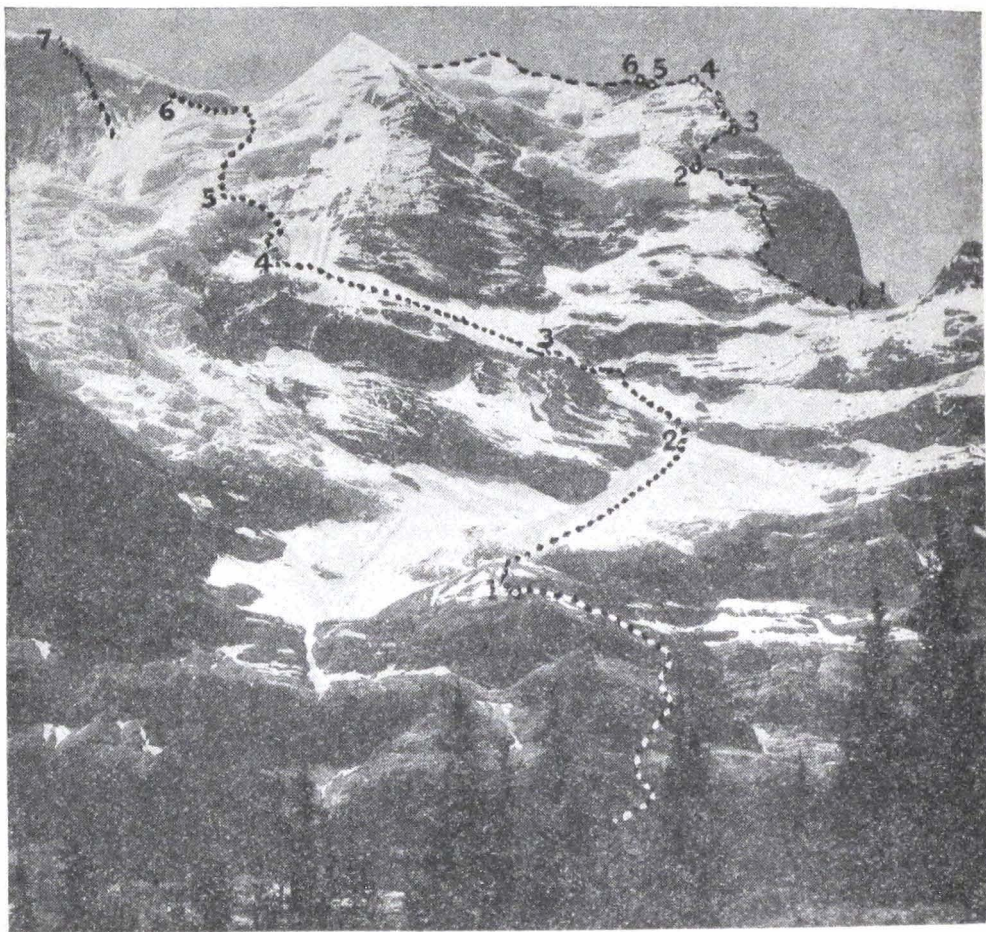
Leaving at 6.30 A.M. after breakfast, we aimed at what seemed, from our standpoint, to be the saddle between Gross and Klein Silberhorn. The snow was in perfect condition. In spite of some impressive séracs and huge crevasses, we managed to advance without either much step-cutting or any considerable deviation from a straight course. Finally, we traversed over to the left, and gained the Klein Silberhorn at 8.30 A.M. (6), the top of which hardly emerges out of the glacier plateau beyond.

As we were in no hurry, it was not until 9.30 A.M. that we started again. We crossed the ordinary Guggi route at right angles, and soon gained the foot of the well-defined rocky spur which, slightly W. of the Wengern-Jungfrau (4060, Siegfried), disappears in the ice of the Hochfirn. At first our way led us easily up a sort of natural staircase. Gradually the ridge became steeper and more exposed. Two characteristic red towers afforded two or three pitches of really delicate climbing on account of their steepness and of the snow, which made handholds slippery and cold. The view over on Mönch and Eiger, and on the gendarmes of the N.E. arête of the Jungfrau close at hand on the left, and of the séracs of the Hochfirn on the right, was very fine, as was also the view back over Silberhorn, far below already, and into the green trough of the Lauterbrunnen valley.

At about 3900 m. there was an awkward step; the rocks were covered with ice, like a frozen waterfall. Easy rocks followed, and ahead of us we could see the snow of the Hochfirn quite near. A narrow gully, which widened like a funnel as we ascended, brought us

on to the Hochfirn just W. of the Wengern-Jungfrau (7). Fifteen minutes later we reached the crevasse directly under the cairn on top of Jungfrau.

A nasty, cold wind made a halt more advisable here than on the very top. The weather became worse and worse, and when, after



N. FACE OF JUNGFRAU.

..... Lauper - v. Schumacher route. - - - Gertsch-Fuchs route.

twenty minutes, we attacked the summit rocks and reached at 2 P.M. the top of Jungfrau, it was quite obvious that a storm was brewing. We had accordingly to abandon our plan of descending to the Rottal, so at once began the descent towards the Jungfraujoch, which, from the Rottalsattel on, was made in fog, rain, and snow.

This route from the Wengernalp, so far as we know, has not been made before, except possibly for the last 400 to 500 m. over the rocky spur from Silberhorn to the Hochfirn. We have heard of some such rumours, though we know of no recorded ascent.

We were favoured with the best conditions possible, the times being :

Left bivouac (ca. 2000 m.), 2.50 A.M.
 Giessen glacier, 6.17 to 6.30 A.M.
 Kl. Silberhorn (3550 m.), 8.30 to 9.30 A.M.
 Hochfirn (4000 m.), 1.20 P.M.
 Halt under summit rocks, 1.35 to 1.55 P.M.
 Top of Jungfrau (4166 m.), 2 P.M.
 Jungfraujoeh, 3.35 P.M.

H. LAUPER, A.A.C.B., A.A.C.Z.

[It is quite as hard nowadays to trace out a new route as to do it. There is no man better qualified to do both than Dr. Lauper. He is to be congratulated on this great expedition, planned by him three years ago, which has been looking us all in the face so long. It is the first *direct* ascent of the N. face, as the Guggi route simply traverses the N. face from E. to W. and only turns N. at the Silberlücke after being crossed at right angles by this new route. The way up to the bivouac from the wild Trümletental is alone interesting. It starts from the Biglenalp (Siegfried), crosses the Bandlauri and Giessenlauri, on the immediate W. side of which the bivouac was made at about 2000 m. Dr. Lauper points out that Dr. Dübi with Fritz Fuchs in 1880 *descended* by this route from the gap between the Rotbrett and the Rotbretthorn after ascending the latter. It is wild country (cf. Coolidge, 'Climbers' Guide to Bernese Oberland—Gemmi to Mönchjoch,' p. 113). The party which made in August, from the Rotbrettsattel, the first more or less direct ascent of the Rotbrettgrat, made use of a somewhat different route to their bivouac on the Sattel as mentioned elsewhere. It would be an easy day from Wengernalp to take this route to the Sattel and descend on the W. side—by the Katzenwegli. if you like, *ibid.* 113—to Stechelberg. I know no way of studying so easily and effectively the magnificent N. and W. faces of Jungfrau and Silberhorn.—J. P. F.]

ROTBRETTGRAT (lower part of N. arête of Jungfrau). August 23, 1926. Herren Ernst and Eduard Gertsch, with Fritz Fuchs, all of Wengen. The party bivouacked close to the Rotbrettsattel (1), reached from the Wengernalp by the route indicated in the note at foot.

The first great pitch of the arête they turned by moderately steep, very smooth, tile-like, wet slabs, which but for crampons would have been difficult. After an hour they came on ice too thin to cut steps in. About 10 they reached a steep névé-field. Twice they made fruitless attempts to get on to the arête. There was nothing left but to cut across to a couloir bedded in the rocks. Fuchs was cutting for full three hours. At 13 they entered the couloir (2) which was narrow and steep, but offered a certain way to the arête. At first it was hard black ice, but in the upper half good compact snow which allowed rapid progress. In an hour they gained the arête and welcomed the sun and a halt, the first for

9 hours. A stone-man was built and a red handkerchief left. Unfortunately the rocks were rotten, not one reliable. They had never seen a ridge so shattered by lightning and weather. They kept right on the arête except at one point, where for 20 min. they cut up steep névé, regaining the arête at the shoulder [die Schulter] (4) at 15.45, where they halted 15 min., carried away by the impressive view.

The next bit of arête was easy, until at 16.30 they reached the foot of the great step in the arête which the Fellenberg-Mathews party, led by Melchior Anderegg, ascending from the Strählplatten side, failed to force. The step is 10 metres high, overhanging and not climbable direct. Fritz suggested naming it the Drei-Esels-Grat. They tried standing on each other's shoulders, driving in pitons and throwing a line over to haul up the rope—all to no purpose. On the N. side was a very impossible, terribly steep, very long and hard slope of névé.¹ So only one way out remained—to the S. Fuchs pointed to a rocky ledge which descends a little, at first nice and wide, but soon gets precariously narrow. One of them in stockinged feet, well secured by the rope, tried the ledge. The rope, however, was too short, and had to be renounced. But it went, and climbing the other side [Auf der andern Seite hinauf] he soon stood on the top of the step. Letting down a line, the rope and sacks were hauled up, and the others followed on the rope. It was 19 o'clock, but the rest of the road was no longer unknown, the weather is fine—no wind—'What more do you want?' At the worst a bivouac in the Silberlücke, but that won't matter!

They continued along the arête, often astride, but the rock was good and sound. In the fading light they cut across the snow summit to the right of Silberhorn, and as they approached the latter the moon rose. They reached the Silberlücke at 23, the moon lighting up summit on summit, ridge on ridge. They made tea in the lücke, waiting for the moon to rise higher. At 0.30 they started again, reached the top of Jungfrau at 3, and the hotel on the Joch at 5.

¹ [This was the side on which on Sept. 24, 1887, Ambros Supersaxo, leader of Sir Seymour King's party, did actually turn the step. Sir Seymour wrote in *A.J.*: 'As it was quite hopeless anywhere on the side by which we had ascended, he roped himself, and insisted on being let down the northern face of the mountain. With great skill he managed to work himself along the face for the full length of the rope, and the first 100 feet being exhausted, a second of eighty feet was tied to it, and this again paid out to its utmost length; still he could find no way up to the ridge. He thereupon demanded that the rope should be let go, and he pulled it in, slung it on his back, and proceeded. For half an hour we neither saw nor heard anything of him. Suddenly we heard a shout from above, and the next minute he was peering over the point where we had been stuck.']

[Attention should be paid to this interesting ascent as it forms a new link in an ascent of the Jungfrau from the N. The Rotbrett itself is the great triangular rock face of the lower picture, 'A.J.' 31, opp. 216. The Rotbrettgrat is the left-hand edge of this face. This face is also shown in the upper picture, and its left-hand edge is the left skyline. The face is numbered 1 in the picture opp. 217. The Rotbrettjoch is at the extreme left bottom of the lower picture opp. 216, and its other side at 1 in the sketch accompanying this note. The new bit starts at the foot of the Rotbrettgrat and goes over the top of the Rotbrett as far as the junction of route 2-3 of picture opp. 217 with the main arête. This is the point reached in 1863 by the Fellenberg-Mathews party, and next in 1887 by Sir Seymour King's party. The first party stopped here through inability to overcome a vertical step. The second turned this step by a traverse on the N. side and continued to the summit of Jungfrau, their contribution to the route being the bit from the foot of the step as far as or nearly to the Silberlücke, where the older Guggi route comes in.

The position is set out in detail in an article 'The Rottal Face of the Jungfrau,' in 'A.J.' 31, 210-17. The route-marked sketch, marked by the brothers Gertsch themselves at the instance of my good friend Dr. Lauper, the eminent member of the Acad. A.C. Berne and Zurich, shows the route followed. It will be seen that they were forced off the arête and only joined it at 3. This was, no doubt, in a measure due to conditions. Viewed in face from the Rotbretthorn, on the immediate N. side of the Sattel of that name, the lower step looks hopeless. I understand the two brothers Gertsch, who reside at Wengen, with their guide-companion Fritz Fuchs, a good man and the son of a famous guide, intend to repeat the expedition either ascending or descending, and they will then doubtless make sure whether the actual arête can be followed more closely.

It is eminently satisfactory that a first-class expedition like this, which has been discussed for quite a time, and indeed tried, should have fallen to these active and able young men who live at its foot. They had waited for three years to ensure (1) good conditions from the Sattel to where they could gain the arête, (2) absolutely certain weather, (3) full moon. I had once to show¹ how small a share in the conquest of their own mountains and passes in the early days fell to the men of the Lauterbrunnen valley. Their descendants are making good!

Their approach to the Rotbrettjoch from the Wengernalp is of much interest and differs from Dr. Lauper's, whose objective did not extend so far. Dr. Lauper has been good enough to let me see Mr. Edward Gertsch's letter to him.

Dr. Lauper's route follows the upper band or ledge and only

¹ *A.J.* 30, 315.

crosses the Bandlauri and Giessenlauri, on the bank of which he camped. They followed the lower band or ledge and crossed the Bandlauri² and Giessenlauri, considerably lower as the further W. Lammlauri cannot be crossed at the level of the upper terrace.

The Lauper route is doubtless shorter, but the Gertsch route is more interesting.

After crossing the Lammlauri they traversed over steep grass slopes and rocks to the 'roten Balm,' a natural shelter formerly used by chamois hunters, but now only two or three times in summer by the garde-chasse. There is said to have been a faintly marked path years ago, but now the terrain is very worn and smooth. From here they ascended about 100 m. to the left, and then crossed to the right to the Mönchslamm, another great gully, in which they ascended for a further $1\frac{1}{2}$ hrs. As it is very steep they gained height rapidly. The rock is smooth but very sound. Once they were threatened by stones displaced by chamois above and were glad to quit the gully. Mounting further up rocks and steep grass, they traversed to the left to a fine large grass plateau. Water invited a 2 hrs. rest, while the cowbells on the Mettlenalp could be quite well heard. They soon after gained a not very steep avalanche bank up which they again won height, involving once quite a decent bit of climbing. They took 10 hrs., including halts, to the Rotbrettsattel,³ but estimated that 5 hrs. would suffice for Lauper's route.

From the Sattel they reckon with good snow they ought to attain in 5 hrs. the couloir by which the arête is gained. The slope is steep and faces N. and will probably always give trouble. The couloir is always a good access to the arête, say in 1 hr., unless the upper part is iced. The arête itself needs care, as it is shattered and exposed, and takes $1\frac{1}{2}$ hrs. from the lower to the upper shoulder. The foot of the big step is gained in $\frac{1}{2}$ hr., and is turned *on the S. side*, not on the N. side as Ambros Supersaxo, leader of the King party, did.⁴ I am much pleased to hear that the old-fashioned bottle deposited in 1863,⁵ a sacred relic, was religiously respected. From the big step to the Silberlücke takes 4 hrs. The arête for about $\frac{1}{2}$ to $\frac{3}{4}$ hr. is very sharp, but the rock is good; then comes firn and a steep ascent to the false Silberhorn, or so-called Golden Horn, as at certain seasons the sun lights it up like gold. From the Silberlücke to top of Jungfrau reckon 2 hrs., or altogether from Rotbrettsattel bivouac in good conditions about 14 hrs. For

² All shown on Siegfried 'Finsteraarhorngebiet.' Lauri denotes the gorge through which a glacier avalanches.

³ *A.J.* 36, 84-5.

⁴ Mr. Gertsch thinks that possibly when Supersaxo turned the big step the névé field may have reached higher against the rock face, thus shortening the necessary stretch to attain decent holds on the rock face.

⁵ *A.J.* 31, 215.

the descent, which has already been done from the summit to the big step,⁶ 8 to 10 hrs. is estimated, but much depends on the condition of the couloir or slope when one quits the arête.

It might be argued that crossing all these avalanche shoots might be dangerous, but Dr. Lauper points out that the passages are very short, and the noise of an avalanche would give plenty of notice to take cover. Johann Lauener when hunting is supposed to have been killed by an avalanche in the Giessenlauri.⁷ Possibly the glacier was more advanced and dangerous in those days. These N. slopes, below the ice region, are still the haunt of numbers of severely preserved chamois, and Dr. Lauper reports their regular paths and trails on the shelves. It has been known for a man to be sent up there to drive the chamois over from the W. face to the N. face, so as to sell a look at them through the glass to the visitors to the Wengernalp. Shades of Tartarin!⁸]

J. P. F.

[I am indebted for this vivid account (translated) of a very gallant adventure to my friends Dr. Lauper and Mr. Othmar Gurtner, one of the higher officials of the Jungfrau Railway. It clears up an old and interesting problem.

The marked photograph will help to elucidate the route.—J. P. F.]

Bernina (W. Wing) Group.

CIMA DI ROSSO (3371 m. = 11,060 ft.) FROM THE N. August 13, 1926. Professors Dr. K. Gruber and Dr. A. Grünwald, A. S-Club, Munich.

This is a variation on the upper portion of the Klucker-Rey-Rydzewsky route described in Rütter's 'Bündner-Alpen,' p. 12, route d. After crossing the bergschrund at the foot of the final wall, the present party left Klucker's route up the steep N.W. ice face, and bore to the left to gain the N. arête, which they followed over ice and rock direct to the summit. The angle of the ice was at times considerable. Time from Forno hut, 5½ hrs.

MONTE ZOCCA W. PEAK (3179 m. = 10,427 ft.) BY THE N. ARÊTE. August 19, 1926. The same party.

This is again a variation towards the top of Klucker's route of 1891 described in Rütter's book, pp. 76 and 79, route a. Instead of gaining the gap between the main and W. summits, the present party, at the foot of the last slope, bore to the right and gained the upper

⁶ *A.J.* 31, 214.

⁷ *A.J.* 30, 286, note 15, and 36, 85.

⁸ This supplementary note was written before I had received the account of the expedition printed above it. However, it can stand.

bit of the N. arête at a snow saddle. The rocky arête leading to the summit is easy but rotten. Time from Albigna hut, 5½ hrs.

PIZ BADILE (3311 m. = 10,863 ft.) BY THE N. ARÊTE. July 18, 1926. MM. F. L'Orsa and A. Roch.

Particulars of the first ascent by this route will be found in 'A.J.' 37, 141 seq., and in 'Die Alpen,' 1925, 6 seq.

These two young Swiss climbers have now made the ascent by a route which appears to be a variation of the Risch-Zürcher route. It is described fully, with an illustration, in 'Die Alpen,' 1926, 377 seq., and the following is an abstract (fairly close translation): They left the Sciora hut at 3.30 A.M. A rotten couloir led to the N. arête below the first slabby step in the arête rather lower than Risch's *Einstieg* as the short snow slope leading to it seemed not quite safe, and, indeed, next day, the upper half was seen to have peeled off (see illust., 'Die Alpen,' 1925, 7).

They soon reached the spot where Risch-Zürcher gained the arête and where the rope of the Italian film expedition still is. L'Orsa now donned *Kletterschuhe*, while Roch retained his nailed boots all day. The shoes and both axes were packed in one sack and taken along. Up to a height of 3000 m. their route is to be found easily. It means: remain on the arête and do not be forced off in any circumstances on to the N.W. or N.E. face. At first the advance is easy. Then follow slabs and the holds get small. You then reach a well-marked place, viz. a 30 m. long slab bounded by a little overhang. Holds are hardly present, but the roughness of the rock offers sufficient hold to the *Kletterschuhe*. The overhang is small, but its upper edge without hold. The leader has to advance another 30 m. to gain a place where he can secure his companion. He moves on the N.E. side of the arête, never more than 2 or 3 m. from the crest. The scanty holds are found parallel [Fallinie des Grats] to the arête.

The security spot is a roomy step on the arête, which swings upward rather steeper. The first 40 m. are rotten, then the rock gets better again, and the arête still steeper. One observes a kind of *Karrenbildung*.¹ Little gulleys run parallel to the arête and offer somewhat doubtful hold. One gains by an exposed climb a crack between the arête and a broken-off block (good security place). Back up on to the arête again, and so reach the foot of a steep gendarme (ca. 3000 m.). This is turned by a steep *upward* traverse on the W. side. The arête now changes its character completely. It offers exacting gully climbing and overhangs, but one is no longer so much exposed. After a few rope-lengths the arête is regained, but one is forced out afresh on to the W. face. After a further 100 m. the arête is regained at a gap. From here a ledge leads about

¹ Professor Garwood is good enough to inform us that this means "a mode of formation of cirques."

10 m. out on to the *N.E.* face to the foot of a chimney which leads once more without difficulty to the arête. This chimney is not visible from the gap.

The next part of the arête resembles its commencement. It is slabby, with poor holds. The lichen which covers the rocks in thick layers is unpleasant, and plays havoc with the finger-tips.

Nearing the *W.* summit the arête gets steeper. They got there at 12.30 noon, 9 hours from the hut, of which 7 hours were spent in climbing the arête.

They descended by the ordinary way, and got to the Badile hut at 4.30 P.M.

'There is no danger from stones. Pitons are absolutely unnecessary. Good security places every 20 to 40 m. (at one place 60 m.)'

Eastern Alps.

GROSSGLOCKNER (3798 m. = 12,458 ft.) BY THE *N.* FACE. Sept. 19, 1926. Herren W. Welzenbach (President A.A.K., Munich) and



Karl Wien. Height of wall from Innerglocknerkar 650 m. Time from Bergschrund 8 hrs. The *N.* face is bounded on the left by the *N.E.*, improperly termed *N.*, arête and on the right by the *N.W.*

arête. The lower two-thirds of the face consist of a broad ice couloir about 52° at the Bergschrund and gradually steepening until it joins the *ca.* 70° smooth final rock wall.

Time in the ice couloir (danger of stones), $4\frac{1}{2}$ hrs. from Bergschrund; height about 450 m. to foot of final rocks.

The ascent is made up the ice couloir tolerably straight for the summit and then up a rib on the W. side of the usually iced final wall.

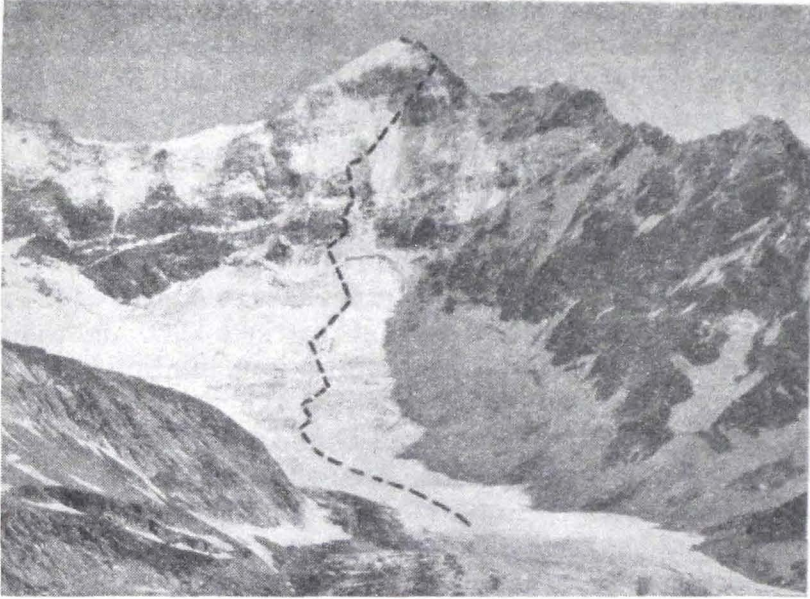
Then follow the rib for about two rope lengths, until it ends in smooth, impassable slabs. Rope down diagonally to left into the ice couloir on E. of rib. Follow its flank over ice and slabs for 25 metres until you can regain the rib above the pitch. The steep rib is then climbed direct until it eases a bit to névé steps. This leads to slabby rock climbed diagonally to left to a narrow ice couloir, the continuation of the ice couloir lately used. On the other side of the narrow couloir keep to left, and so gain the N.W. arête about 40 metres below the summit, gained thence in a few minutes. 'Ö.A.Z.,' Oct. 1926. The illustration was kindly marked by Mr. Welzenbach.

The same party made on Sept. 1, 1926, the first ascent of the **Glockerin** (3425 m. = 11,234 ft.) from the Mooserboden in the Kaprunthal by the N.W. face. Height from Glockerinkees, 1000



to 1200 m. Time, 8 hrs. 'A very hard mixed rock and ice climb. The mightiest face in the Group.' The picture marked by Mr. Welzenbach shows the line of ascent. Details will be found in 'Ö.A.Z.,' Oct. 1926.

The same party made on Sept. 3, 1926, the first ascent of the **Eiskögele** (3439 m. = 11,280 ft.) by the N. face. Height from level Ödwinkelkeës, 840 m., or from last Schrund 550 m. Time, 7 hrs.



'Exceedingly difficult.' The picture marked by Mr. Welzenbach shows the line of ascent. Details will be found in 'Ö.A.Z.,' Oct. 1926. 'Rotten rock, steep slabs, glassy ice and scant means of securing require a perfectly reliable climber.'

Maluti Mountains, South Africa.

THE Maluti Mountain Ridge, extending N.W. from the Drakensberg at Mt. aux Sources, in forming the dividing line between the Orange Free State (O.F.S.) and Basutoland, preserves the characteristics of the main Drakensberg range, which runs S.E. from Mt. aux Sources. Thus, whilst the ridge rises quite gradually from the Basutoland side in grassy slopes, on the other hand it falls away very steeply in a wall to the O.F.S., corresponding to the steep Natal face of the Drakensberg.

The main difference between the steep face of the Malutis and that of the Drakensberg is, that in the former the precipices are on the whole on a much smaller scale, and afford more possibilities of ascent than in the latter. The fact that the main Maluti summits in the region covered by the following expeditions had been ascended by surveyors from the Basutoland side, but had apparently escaped the attention of mountaineers on the O.F.S. side, furnished a reason for making the following expeditions.

PEAK BETWEEN POINTS 9704 AND 9930 (Colonial Survey, O.F.S., Witzieshoek¹).²

This seems to be the point at which the ridge running in a direction slightly W. of S. from the former peak suddenly changes direction to S.E.

Messrs. H. H. Pilcher, W. Hagen, G. A. Van Oordt, F. A. Knight, and Dr. O. K. Williamson, having crossed the Goodoo Pass from the National Park Hotel to the cave of the Namahadi Police Outpost, where they passed the night, left the cave at 7 A.M. on July 20, 1923, crossed the Elands River, ascended steep grass slopes leading up to a subsidiary grassy ridge which ascends approximately in a S.W. direction. They ascended this ridge, and traversed on the W. side of it below a rocky wall, and climbed back to the ridge itself close to the point where it abuts upon the face of a peak of the Maluti ridge. (This is apparently the point marked 9930 on the map.) They traversed along steep grassy slopes immediately beneath the wall of this peak, rounding the head of the valley, of which the subsidiary ridge forms the right-hand boundary, and ascended to the head of the subsidiary ridge which forms the left-hand boundary of the valley immediately below a striking detached rocky wall. Still keeping close under the mountain wall the next valley to the W. was reached (hereabouts there were steep rocks below), and beyond the peak a narrow couloir of snow crossed, and soon afterwards a gully reached, the ascent of which took the party to the main Maluti ridge, and a minute or so up the very easy slopes of the Basutoland plateau led them to a point on the ridge at 11.20 A.M., where a cairn was erected (this is the next peak N.W. of the one below which the party had traversed). At 11.45 A.M. the four last-mentioned members of the party proceeded along the ridge, which here runs approximately N. and S., and ascended the next two peaks, the first of which exhibited a small cornice, and both of which were crowned by cairns. The most N. one reached by an easy rock scramble at 12.50 P.M. seems to be the point having the height 9704 on the above-mentioned map. Leaving this peak at 1 P.M., the way back was effected by the same route, and the cave reached about 4.45 P.M. Total halts during ascent to and descent from the ridge, 25 min. There was some rock and grass scrambling in the course of the traverse of the steep Free State slopes, the upper portions of which were covered with fresh snow, and there were several inches of snow on the Basutoland plateau.

¹ Africa, Sheet $\frac{\text{South H-35}}{\text{E-IV}}$, scale 1 in. = 2 miles, obtainable from Stanford's. 3/.

² The expedition recorded below is described in a paper by G. A. Van Oordt, 'The Maluti Mountains: Basutoland.' (The Annual of the Mountain Club of S. Africa, 1924.)

PEAK (probably that marked 10295 ft. on above map). First ascent from O.F.S. side.

This is the Peak which is prominent in views from near the National Park Hotel, Mt. aux Sources, and is often designated 'The Pope's Nose.' Seen from the 1926 Camp of the Natal Mountain Club (which seems to be near Pt. 6114 on above-mentioned map), it appears to have two summits, the right-hand one being evidently the higher. Both these summits fall away in vertical rock walls on the O.F.S. side, the right-hand wall being perhaps about 700 ft. in height, the left one about half that elevation. These precipices diminish in height towards the middle of the wall connecting the two summits so that they nearly disappear, in which region the wall appears to be easily accessible.

On July 12, 1926, Mr. R. G. Kingdon and Dr. O. K. Williamson, having left the camp at 7.10 A.M., ascended towards the peak in a S.W. direction. They reached a well-defined grassy ridge which, as seen from the camp, rises towards the cliffs of the lower peak, tending towards the right. This ridge was left at a point where it becomes rocky; the party traversed to the right and ascended a rocky wall interspersed with grass perhaps 20 or 30 ft. in height. Easy slopes led to the vulnerable point between the two summits. An easy scramble here led to the main Maluti ridge at 10.55 A.M. Turning to the right the gentle Basutoland slopes then led them to the top at 11.11 A.M., where a small cairn was found. Leaving at 12.5 the descent was made to the well-marked gap between the mountain and the next one to the S.E. Thence they descended by an easy gully, marked by a Kaffir track, between magnificent precipices, and so reached the grassy ridge used for the ascent, and camped at about 3.30 P.M. Total halts during ascent and descent, 1 hr. It was subsequently seen that the only real climbing during the ascent could have been avoided by a traverse further to the right.

PEAK ON MALUTI RIDGE NEXT TO S.E. OF 'POPE'S NOSE.' (Probably point marked 9925 on above map.) First ascent from Orange Free State side.

This shapely peak is by far the most attractive object to mountaineers in the view from the 1926 Camp of the Natal Mountain Club.

On July 16, 1926, Dr. O. K. Williamson, alone, having left camp at the discreditable hour of 9.20 A.M., ascended a grassy ridge (as seen from the camp to the left of the ridge used in the ascent of the 'Pope's Nose'). At the foot of a rocky tower rising from the ridge he descended to the gully on the true left of that ridge. A rock chimney, 6-8 ft. high, followed by a few short and easy rock pitches, brought the climber to a point where further ascent in the same direction is barred by the precipitous wall of the peak. It was here necessary to turn sharply to the right nearly at a right angle, just above the rocky tower on the ridge, and to continue the ascent by a

grassy gully at a moderately steep angle, the gully, except in its upper portion, somewhat resembling that used in the ascent of Mont aux Sources from the 'Sentinel Cave.' The upper part of the gully steepened, and terminated in a chimney of rock and grass about 30 ft. high, crowned by a chockstone, and bounded to right and left by precipitous walls. This brought the climber at 1.5 P.M. on to the ridge of the peak on the main Maluti crest, probably at the point on the map marked 9863, the ascent from the foot of the lowest rock chimney having occupied $1\frac{1}{4}$ hrs.

After erecting a small cairn, the climber turned to the left up the easy Basutoland slopes, and reached the summit at 1.30 P.M. Here a cairn, evidently erected by surveyors, was found; it contained no records. The peak was obviously higher than all the neighbouring Maluti summits, including the 'Pope's Nose,' probably about 10,400 ft. in height. Leaving the top at 2.15 P.M., the gentle Basutoland slopes, which reach right up to the jagged crest of the ridge, were followed to the well-defined gap between the peak and the 'Pope's Nose,' reached at 3.15 P.M., and from here the same route as that taken on the descent from that peak was followed, camp being again reached at about 4.45 P.M. Total halts during ascent, 15 min., during descent, 5 min. The actual route taken had been planned on a previous reconnoitring expedition, and much time thereby saved. The chimney at which the main Maluti ridge was reached, which strikes that ridge just to the right of a rock needle, is at the point where in following the ridge from the gap between the peak and the 'Pope's Nose' it abruptly changes direction from approximately S.E. to E. The rock wall to the true right of the gully of ascent (probably here some 1500 ft. in height) is even steeper than the one on the left. The rock scenery, both during the ascent and also that seen from the summit ridge, was magnificent.

On July 19 the second ascent by this route was effected by Dr. and Mrs. O. K. Williamson, Miss W. E. Beale, and Miss R. C. Hodges. Camp was left at 7 A.M., and regained at about 5.30 P.M., the same line of descent being followed as on the 16th. The climbers were troubled on the descent by a very strong and cold wind.

POINT ON MALUTI RIDGE NEXT BUT ONE TO E. OF PEAK ASCENDED ON JULY 16, 1926.

On July 21, 1926, Mr. R. G. Kingdon, Miss B. M. Evans, and Dr. O. K. Williamson left the Natal Mountain Club Camp (see above) at 7 A.M., crossed the grassy ridge which runs approximately in a N.E. direction from the peak which was ascended by the last-mentioned on July 16, then traversed over several subsidiary grassy gullies and ridges and the slopes below that peak. They then crossed the well-marked gully which descends from the main Maluti ridge between the above-mentioned peak and the next one to the E. A short ascent on the E. side of the gully brought them to a grassy ledge at the foot of the vertical rock wall (here perhaps 50 to 100 ft. high) leading to

the main ridge. Along this they turned to the left. A chimney in the first gap in the wall which they reached (counting from the above-mentioned gully) defeated them, the second gap was discarded owing to its evil appearance, but the third led them without difficulty (a variety of easy chimneys) to the main ridge at 11 A.M., and turning to the left a few minutes brought the party to the flattened top, where a small cairn was erected. An intensely cold wind precluded a longer halt than ten minutes. The way down was made by a variation from the morning route, camp being regained at 2.5 P.M. Total halts during ascent and descent, 50 min. The point ascended, although rising perhaps only 50 ft. from the gap, is well defined, and dome-shaped, as seen from the camp. It would appear to be about 10,000 ft. high.

VARIOUS EXPEDITIONS.

Mont Blanc Group.

COL DU TOUR NOIR (3541 m. = 11,618 ft.). August 2, 1926 (third passage). Mr. E. G. Oliver with Adolf and Alfred Aufdenblatten. We left the Saleinaz Hut at 5.30 A.M., two hours later than we intended, and proceeding up the Saleinaz Glacier reached the foot of the steep wall leading to the Col at 7.30, finding the glacier much less crevassed than in 1925. After a halt of about three-quarters of an hour we crossed the Bergschrund, without undue difficulty, just to the right of the largest mass of rocks which emerge from the steep ice wall leading to the Col. Traversing to the left, we got on to these rocks, and climbed to the top of them. Thence proceeding straight up very steep slopes of snow and ice, and using a few projecting rocks where possible, we reached the Col at 1 P.M. After an hour's halt we descended by the Glacier des Améthystes, and, finding the snow in good condition, reached Lognan at 3.45.

The conditions were, undoubtedly, favourable. We took $4\frac{3}{4}$ hrs. to climb the wall on the Swiss side, against $6\frac{1}{2}$ hrs. taken by each of the two previous parties. We found some hard ice, especially near the top, but much less than we expected.

It will be remembered that the first passage of this Col was made by the Rev. H. B. George and Mr. H. J. S. Macdonald, with Christian Almer and Melchior Anderegg, on July 22, 1863, but in the opposite direction, and by mistake for the Col d'Argentière, the party being deceived by the then existing maps into going up the Glacier des Améthystes instead of the Glacier du Tour Noir.

The descent of the steep wall on the Swiss side has been considered one of the most remarkable of Almer's many wonderful ice achievements. The adventures of the party are graphically described by

Mr. George ('A.J.' 1, 274-288). They were benighted on the Saleinaz Glacier, and took 31 hrs. from Argentière to Orsières.

The second passage of the Col was made from the Swiss side on July 26, 1890, by Messrs. H. G. Fordham and John Jacottet, with Justin Bessard, Henri Aulet and Joseph Bessard.

The ice wall is, undoubtedly, very steep, and is worthy of comparison in this respect with the Col du Lion, or the Col du Mont Dolent. Ball's 'Western Alps' (1898, Coolidge edit., p. 389) says: 'This passage must be reckoned one of the greatest tours de force ever made in the Alps.'

We tried it in August 1925, but were obliged to give up the attempt after crossing the Bergschrund in three different places. The wall was then a solid mass of hard ice.

The height of the wall from the level glacier is about 400 m.

The Col is wrongly described as Col *de la* Tour Noire in Mr. George's account. No doubt the masculine form is correct, and I cannot sympathise with Mr. George's protest against it expressed in 'A.J.' xv. 498.

I much regret that the loss of my notes prevents me from giving more details of our line of ascent and the times.

EDMUND G. OLIVER.

M. BLANC (4810 m. = 15,782 ft.) BY THE BRENVA.¹ August 14, 1926. MM. J. Lagarde and E. de Gigord. The times and route were as follows: Montenvers, 5.5 P.M.; Requin hut, 7.15-10; Col Est de la Tour Ronde, 2.15-2.45 A.M.; snow saddle at foot of the buttress [see 'A.J.' 28, 307, sketch], 3.45; ice arête, 6.45; halt, 7.20-8.15; foot of séracs, 10.20-11; N.E. arête at about 4450 m., 1.10 P.M.

The Requin hut is thus a possible starting place, but the Torino hut on the Col du Géant is shorter when the overcrowding allows it to be made use of, as the passage, by night of the séracs from the Requin hut, can be very tiresome except with a full moon. The Col du Géant route should be kept to as far as the foot of La Vierge, and turn then to the right in the direction of the Aig. de Toule for about 700 m., then keep at a level parallel to the frontier arête. After turning the Tour Ronde rejoin direct the foot of such Col of the frontier arête by which one decides to descend to the Brenva glacier.

M. Lagarde actually crossed the Col Est la Tour ronde (3627 m.

¹ [M. Lagarde, a brilliant member of the G.H.M., published in *La Revue Alpine*, 1922, No. 4, 'Notes sur le versant de la Brenva du M. Blanc.' They formed by much the most important contribution to the subject that has appeared. (See also *A.J.* 35, 229-30.) It is very satisfactory to read the following account of his own ascent by this route, which can be more readily followed by a reference to his paper and the sketch therein given.]

Vallot), but found the long traverse on steep slopes on the S. side in the dark disagreeable.

He considers much more direct the Col de la Fourche de la Brenva (3682 m. Vallot), between the Mont Maudit and La Fourche de la Brenva, first crossed by Messrs. Oliver and Courtauld in 1919.

MM. Lagarde and de Gigord followed Moore's route [practically that in sketch 'A.J.' 28, opp. p. 307]. After gaining the snow saddle X M. Lagarde recommends, instead of mounting close to or on the arête, to cross the saddle and descend about 100 m. on the S. side. You then find yourself at the foot of several couloirs, which reach diagonally upwards to the ice arête (9 in sketch).² Mount these couloirs of moderate slope to the crest. This route was followed in 1893 by Capt. Farrar's party.

From 'La Revue Alpine,' xxvii. 145.

[The present party appear to have encountered the marvellous snow conditions that were the feature of the season and report no difficulties such as were encountered by earlier parties. Shod with sharp Eckenstein crampons they cut no steps except high up at the séracs. It must not be forgotten that the present party was eminently competent and fast, and that it is far more likely that the older ice and snow conditions will obtain than those in this remarkable year.³]

COL DE L'AIGUILLE VERTE (3798 m. = 12,457 ft.). August 6, 1926. MM. J. de Lépiney and J. Lagarde. Second passage, the first having been made by MM. Joseph and Baptiste Gugliermina with Joseph Brocherel on July 24, 1901. See 'Vol. C.A.I.' xxxvii. 296 (sketch), and the valuable details and remarks in the Vallot Guide 'L'Aiguille Verte' (1926), p. 54.

The party finding magnificent snow conditions, climbed the N. side by the Gugliermina route in 4 hours from the rimaye to the watershed, and descended to the Couvercle in 3 hours.

From 'L'Annuaire du G.H.M.'

COL DES HIRONDELLES (3465 m. = 11,369 ft.). August 27, 1926.

Mr. E. G. Oliver with Adolf and Alfred Aufdenblatten; Mr. Eaton Cromwell with Alois and Karl Pollinger. Left Monteners 2.40. Made for a broad couloir of ice which descends from the wall close to the Grandes Jorasses. Crossed a very large crevasse which cut across the whole glacier, and gave some considerable trouble before

² [This terrain is well seen in the photograph, from the Col de Peuteret looking across the Brenva face, accompanying Dr. v. Schumacher's paper. The approach is not subject to any danger of falling ice and is much to be preferred to the direct approach to the ice-arête A.J. 28, 307, which is certainly exposed.]

³ [For ice conditions cf. A.J. 26, 173, par. 5.]

reaching the bergschrund. Crossed the bergschrund well to the left of the above-mentioned couloir, involving a considerable amount of step-cutting in ice (8.30 to 9.15). Then made for the rocks above the bergschrund, working rather to the right and up by a rib of steep and extremely rotten rocks. Reached Col 12.40. The rocks were extremely rotten, and there being two parties more than an hour must have been lost from these causes.

Started down 13.35. Alfred explored and reported bergschrund away to the left impassable. Therefore descended to right over steep snow on ice (step-cutting), séracs and rocks, working gradually to the left until reached easy slopes of glacier some distance below bergschrund (15.15) Descent laborious and not easy. Much rotten snow. La Vachey, 17.0. The pass proved more difficult than we expected, but it was done late in the season.

The line on the French side seems to be much the same as Leslie Stephen's in 1873, but the conditions on that occasion seem to have been more favourable.

MESSRS. W. B. CARSLAKE, C. G. Markbreiter, with Evaristo Croux of Courmayeur, *descended* the Col des Hirondelles from Italy to France on August 26, following the trail of Mr. Oliver's and Mr. Cromwell's party of the previous day. 'The rock is rather loose and disintegrated except on the steepest part, rather over half-way down, which afforded the only rock-work of any difficulty; the rest needed merely care. Fifty feet or so from the bottom of the rib we traversed across the band of snow in the narrow couloir [immediately on our right] and so across the bergschrund by the steps of the previous day's parties.'

Time from top till across bergschrund, 3 hrs. 10 mins. The party started from the Italian shelter (see p. 136) on the site of the old Fréboutzie bivouac near the glacier snout. 'The route to it is blazed in red, but it is better to bear right up mixed rock and grass ledges when near the snout of the glacier, thereby avoiding the slabs by the snout which are blazed.'

Bernese Oberland.

SCHRECKHORN, BY THE S.W. RIDGE. Aug. 24, 1926. Mr. E. V. Slater, with Rudolf Almer II and Quirin Zurbriggen.

So far as I have been able to discover, this is the first time that the ridge has been climbed by a guided party. The first ascent was made by Messrs. Wicks, Bradby, and Wilson in 1902,¹ and by Messrs. Bell and Smythe in 1925²; descended by Messrs. Raeburn, Ling, and Greenwood in 1906.³

After crossing the bergschrund at the foot of the Schreckhorn wall at 5.30 we proceeded up what this year was a snow and ice

¹ *A.J.* 21, 269.

² *A.J.* 37, 300.

³ *A.J.* 23, 437.

couloir between the main mass of the Schreckhorn on our right and a subsidiary arête running apparently N.W. and S.E. on our left. We should have saved time, I think, by crossing diagonally to the true right of the couloir and striking the subsidiary ridge about half-way up. Unless I misunderstand their accounts, this was the course followed by the first parties on the ascent and descent; but Messrs. Bell and Smythe appear to have taken approximately the same route as we did. We got out of the couloir on its true left, and made our way over easy rocks to the main ridge, not far from the col at the head of the couloir, which point we struck at 7.30.

From the col to the summit is an excellent climb on steep, sound rocks, just hard enough to be pleasant, without any passages of real difficulty. We got to the top at 10.45—easy going, for the day was hot.

Undoubtedly a much pleasanter route than the ordinary way (by which we descended), but I doubt if it would ever be quicker. It is, I think, a better climb than the Anderson grat, besides being much more accessible; and it is, therefore, extremely difficult to understand why (1) it hasn't become more popular, (2) no guide has hitherto set foot on it—if that is indeed the case.

E. V. SLATER.

ALPINE NOTES.

THE ALPINE CLUB OBITUARY :	Date of Election
Howse, T.	1864
de Nicolay, Comte Joseph	1867
Wollaston, C. H. R.	1892
Thorold, A. B.	1896
Stein, J. W.	1905
Todhunter, R.	1912
Foster, V. Le Neve	1914
Jeffers, Le Roy	1915
Ferrand, Henri	1918

'BALL'S ALPINE GUIDE,' THE WESTERN ALPS.—The edition (1898) by Mr. Coolidge covers the Maritimes, Graians, Dauphiné, Mt. Blanc group, and Pennines to the Simplon. With maps of each district, 1 : 250,000, and a general map. Price 10s., or 10s. 4d. post free. Obtainable from any bookseller or the Assistant Secretary.

'BALL'S ALPINE GUIDE,' THE CENTRAL ALPS. PART I.—The edition (1907), by Rev. A. A. Valentine-Richards, covers Switzerland and N. of the Rhone and the Rhine. With nine maps, 1 : 250,000, and a general map. Price 5s., or 5s. 4d. post free, or unbound 2s. 6d., or 2s. 10d. post free. Obtainable as above.

'BALL'S ALPINE GUIDE,' THE CENTRAL ALPS. PART II.—The edition (1917), by Rev. G. Broke, covers the Alpine regions S. and E. of the Rhone and Rhine as far as the Adige, *i.e.* the Lepontine, Grisons, Rhaetian (including Bernina), Ortler and Adamello groups. With nine maps, 1 : 250,000, and a general map. Price 5s., or 5s. 4d. post free, or unbound 2s. 6d., or 2s. 10d. post free. Obtainable as above.

'GUIDES DES ALPES VALAISANNES.'—

Vol. I. Col Ferret to Col de Collon, by M. Kurz, 10s.

Vol. II. Col de Collon to Col Théodule, by Dr. Dübi, 9s.

Vol. III. Col Théodule to Weisstor, by Dr. Dübi, 8s.

Vol. IV. Col Simplon to Furka, by M. Kurz, 8s.

At Stanford's, Long Acre, W.C. 2.

'GUIDE VALLOT.' Vol. I. LES AIGUILLES DE CHAMONIX.—Par J. de Lépiney, E. de Gigord and Dr. A. Migot, with 39 route-marked illustrations and 2 outline maps. Paris : Fischbacher, 33 rue de Seine. 1925. 20 fr., or from the Assistant Secretary, 23 Savile Row, 6s. post free.

This admirable Climbers' Guide is a complete monograph of the Aiguilles and may be said to be a much enlarged and more elaborate 'Kurz' or 'Mont Blanc Führer.'

'GUIDE VALLOT.' Vol. II.—L'Aiguille verte, par Henry de Ségogne, E. de Gigord, J. de Lépiney, J. A. Morin, with 34 route-marked illustrations and 5 maps. Paris : Fischbacher, 33 rue de Seine. 1926. 25 fr. Or from the Assistant Secretary, 23 Savile Row, 5s. post free. See Review.

A CLIMBER'S GUIDE TO THE ROCKY MOUNTAINS OF CANADA.—By Howard Palmer and J. Monroe Thorington, published for the American A.C. by the Knickerbocker Press, N.Y., 1921. This very useful summary, with several maps, of what has been done in the Rockies to 1921, can be obtained from the Assistant Secretary, 23 Savile Row, price 7s. 6d.

THE 'CLUBFÜHRER DURCH DIE BÜNDNERALPEN.'—Vol. IV., covering the Bregaglia and the Disgrazia group, by H. Rütter, with the assistance of Christian Klucker, can be obtained from Sauerländer and Co., Aarau, Switzerland.

LES ALPES DE SAVOIE.—Vol. VI., Part I., by Commandant Emile Gaillard, M.C. (Dardel, Chambéry, 27 fr. 50 post free), covering the groups Trélatête, Bionnassay-Goùter, M. Blanc, Brouillard-Peuteret, and Maudit-Tour Ronde, with skeleton maps of each group and several marked sketches, has just appeared. It follows generally

the plan of the Kurz guide, and includes the full information of all recent climbs.

Part II., covering the groups of the Chamonix Aiguilles and the groups of the Grandes Jorasses and the Talèfre will appear very shortly and can be subscribed for at 22 fr. 50 post free from the Assistant Secretary.

The full series is as follows :

Vol. I. Le Massif entre l'Arc et l'Isère (new edition).

Part I. N. of Col de la Vanoise, 27 fr. 50 post free.

Part II. S. of Col de la Vanoise, 22 fr. 50 post free.

Vol. II. La frontière entre la Seigne et le Thabor, 22 fr. 50 post free.

Vol. III. Les Massifs entre la Savoie et le Dauphiné, 24 fr. 50 post free.

Vol. IV. Les Massifs de Beaufortin et Les Bauges, 27 fr. 50 post free.

Vol. V. Les Massifs entre le Lac d'Annécý et le Léman (to appear in 1927).

Vol. VI. Le Massif du M. Blanc.

Parts I. & II. as above.

The volume of Commandant Gaillard's 'Les Alpes du Dauphiné,' Part II., covering the Massifs of the Meije and Ecrins, is announced for 1927 and can be subscribed for later.

These guides have full sets of skeleton maps and many route-marked sketches, so that the French Alps are now very well off for guidebooks.

Commandant Gaillard will issue early in 1927 a new coloured map of the M. Blanc group, scale 1 : 50,000, with all the most recent nomenclature.

THE JOURNAL OF DE SAUSSURE covering his sojourn at Chamonix in July and August 1787, with an introduction and many notes on little known details by Commandant Gaillard and Mr. Henry F. Montagnier, and heliogravures, was published recently, with the authorisation of the family. It shows his preoccupations and hopes and finally his unmixed joy at the success.

Subscriptions can be sent direct to Commandant Gaillard, M.C., Barberaz, Savoie, France. Edition de Luxe, 4to, 105 fr., ordinary 4to, 45 fr., post free.

MR. A. O. PRICKARD completes this year his sixtieth year of membership of the Club. He retains all his old interest in mountain-eering matters.

He is good enough to point out the following instances of confusion of the names of the late Rev. T. H. Philpott, of 'Hornby and

Philpott,' and Mr. J. S. Phillpotts, formerly Fellow of New College, and for 28 years Headmaster of the Bedford School. Mr. Phillpotts was in the 'sixties and 'seventies a very active mountaineer, and made in 1872 the first passages of the Col de Zinal and of the Col Sup. du Rothorn de Zinal, both with P. Knubel. Mr. Phillpotts never joined the A.C. He retains much of his former great strength and activity, although now over 87, and is well known as the writer of vigorous letters in *The Times*.

Corrections.

' A.J.' 2, 152-3 : for Rev. J. Philpotts read Mr. J. S. Phillpotts.

„ 6, 436-7 : „ T. S. Phillpotts „ „ „

„ 9, 172 : „ „ „ „ „ „

The same error is copied into the 'Zermatt Pocket Book,' p. 107.

' A.J.' 32, 227 : The entry July 23 should read, on the authority of Mr. J. S. Phillpotts himself : James Robertson, H. J. Chaytor, and *J. S. Phillpotts*.

THE A. C. AND ITS HISTORY.—In December the Club completes its sixty-ninth year.

We can already show in the Wills family, three generations, viz. (1) Sir Alfred Wills, (2) J. T. Wills and Dr. W. A. Wills, (3) J. H. Norton and E. F. Norton, grandsons on their mother's side of Sir Alfred.

By the election of Mr. F. J. Morse, son of the President and grandson of Charles Morse, a member from 1863 to his death in 1883, and of Mr. H. W. Pasteur in 1924, and of Mr. F. M. Pasteur in 1926, sons of Mr. C. H. Pasteur and grandsons of Henri Pasteur, a member from 1873 to his death in 1909, and sometime Vice-President, the third generation is further extended. We have already members of the second generation, and it is interesting to note some expeditions of others who, in time, it may be hoped, will qualify for the Club, viz. :—

Sons of Mr. R. L. G. Irving :

F. G. Irving (16) : Pigne d'Arolla, M. Collon.

R. A. Irving (12) : Tête Blanche, Pigne d'Arolla, Roussette (from N.), M. Collon (by N.N.W. arête, quite long from the hotel direct).

Sons of Mr. R. P. Bicknell :

Peter (19), Claud (16) : High level route—Chamonix to Zermatt, Mt. Collon, Zinal Rothorn, Finsteraarhorn, Kingspitze, Wetterhorn.

Son of the Rt. Hon. L. S. Amery :

Amery minor (14) : Piz Bernina.

Son of Major Basil Williams : Several minor ascents.

Similar information will be interesting.

A NOTABLE JUBILEE.—A party of Norwegian and English climbers got together by Mr. H. Tönsberg of the Norsk Tinder

Klub and Mrs. Eleanor Winthrop Young made an ascent of Store Skagastöltind, the highest peak in the Horunger and Jotunheim, on July 21, the fiftieth anniversary of Mr. Cecil Slingsby's dramatic first ascent.

The party included, in addition, H. Tönsberg, Junr., and Ola Furnsett, Norwegians, Gustave Gamms, French Canadian, Dr. and Mrs. Adrian of Cambridge, Mr. H. M. Kelly and Mrs. Eden Smith.

Ole Berge, the proprietor of the two hotels at Turtegrö—one of Mr. Slingsby's mountaineering companions in the seventies—organised a fête on the evening of the 21st, when Mr. Tönsberg read to the large company assembled his account, specially written for the Norwegian 'Aften posten,' of Slingsby's and Mohn's adventure, ending, as Mohn thrillingly describes, in Slingsby's completing the ascent alone.

A week later Dr. and Mrs. Adrian, Mrs. Eden Smith, Mrs. Eleanor Winthrop Young, with Mr. H. M. Kelly leading, followed the original route to the summit by way of Slingsby Brae and Mohn's Skar. The mountain was covered with ice and snow, so the expedition proved more interesting than usual.

This first ascent of Norway's finest mountain in the early seventies led the way to many expeditions in that country and helped to bring about the very real friendship between Norwegian and English mountaineers that has existed ever since.

THE CLIMBERS' CLUB held its Summer Meeting at Fionnay during the first fortnight of August, under the management of the Hon. Secretary of the Club, Mr. H. R. C. Carr, who has now a considerable experience of gatherings of this kind. Several members of the A.C. were present; among them were Mr. Gale Gotch, who had visited the valley fifty years before, Mr. Haskett-Smith, and Mr. J. C. Morland. The President of the Geneva Section of the C.A.S. was also present. The O.U.M.C. held its Alpine Meet jointly with the Climbers' Club, and together they collected over forty people, Eight ladies attended as guests.

In spite of broken weather the Meet was a great success. The ascents made included the Grand Combin, Ruinette, Mont Blanc de Seilon, Mont Collon, Dent Blanche, Petit Combin and Combin de Corbassière, besides several minor peaks. The Pointe d'Otemma was conquered by an entirely feminine rope. During the second week a migration *en masse* was made to the Saleinaz Hut, a feat requiring not a little organization, for the party, which spent two nights in the hut, numbered 32. Though this expedition was begun in beautiful weather, it ended in a complete defeat, for there was a bad break in the early morning of the second day, and even an intrepid quartet who attempted the Petit Clocher de Planereuse were defeated by a thunderstorm and torrential rain. The only successes of this excursion were the Grand Clocher and the Col du Chardonnet, taken by a rope, which stayed a third night.

Fionnay is a charming base for a large gathering. The Hôtel Exquis-Carron was most comfortable; there was excellent bathing

in the lake and plenty of exercise was discovered on the adjacent boulders. There is, however, a somewhat inconvenient lack of short and interesting excursions feasible from the village.

Next year, besides winter and spring Alpine meetings for ski-runners, the Climbers' Club proposes to hold a summer meet at Ferpècle and Arolla.

MR. W. KROPF of Chaux-de-Fonds section of the C.A.S., with the Zinal guides Marcel Savioz and Jean Genoud, *descended* on September 10 and 11 the N. arête of the Dent Blanche. This practice of *descending* a hitherto unascended route has no mountaineering value whatever, and is to be condemned. The ascent is known to have been on the agenda of several mountaineers and had indeed been tried. Guides should be discountenanced in any such expeditions. The guideless climber is too good a sportsman to need it.

THE MITTELLEGI ARÊTE OF EIGER.—Permanent ropes have now been fixed for this ascent. Three guides descended from the summit and fixed auxiliary ropes to assist in the fixing of the permanent ropes. The work was done under Amatter's superintendence, and on September 19 the second *ascent* by this route was made by Fräulein Klara Amatter and Herr B. Tännler of Grindelwald with the guides Fritz Kaufmann, Almis and Peter Inäbnit. The party took from the new Mittellegi hut to the Eigergletscher Station 10 hrs., including halts.

THE LAKE OF SILS.—Attempts have been made from time to time to obtain from the authorities a concession to use the water of this lake for power purposes. Agreements with the interested Communes have now been completed and the report is now before the Cantonal authorities. The proposal is to put the power station in the Bregaglia and to canalize the Inn in a new bed. The question is the subject of an energetic protest by the veteran guide Klucker in 'Die Alpen.'

VISITORS TO THE HUTS OF THE S.A.C. IN 1923.—

Bétemps	743	Hohtürli	2059
Matterhorn	395	Gspaltenhorn	541
Schönbühl	648	Mutthorn	1447
Dom	189	Baltschieder	932
Weisshorn	166	Oberaletsch	¹
Mountet	512	Finsteraarhorn	628
Bertol	725	Strahlegg	428
Chanrion	430	Gleckstein	767
Panossière	289	Clariden	748
Orny	1010	Fridolin	416
Dupuis	1071	Boval	510
Britannia	1561	Tschierva	411
Solvay	569	Forno	624

¹ Reserved for workmen on new hut.

THE Topali hut of the Geneva section C.A.S. at the E. foot of the Distelberg, S.W. of St. Niklaus, was opened on September 12. The altitude is 2679 m.

THE new Valsorey hut, replacing that burnt down, to serve the Grand Combin, Col du Sonadon, etc., was opened in July.

NEW HUTS. The following are proposed :

- Rohrbachhaus (Wildstrubel), alongside the present hut.
- Cabane Bordier, at the foot of Bigerhorn to facilitate the passage of the Riedpass to Saas.
- Cabane Dufour, val de la Neuvaz.
- Cabane Corno, in the upper Val Corno.
- Cabane Glatta, Val Muotta.

A NEW hotel at Cogne, the Bellevue, was opened this summer. It is situated about 400 yards S. of the village at the entrance to Valnontey. The proprietor is very anxious to do all he can to secure a British *clientèle*, and his hotel affords in every way very satisfactory accommodation. It opens about June 25 for the season.

MR. CHARLES MEADE'S daughters, aged 11 and 9, and their nurse ascended the Ciamarella from the Gastaldi hut with their father and Pierre Blanc.

WE regret to note the death at Berne on Oct. 10 of Madame Wolter, the well-known very kindly owner of the Pension Wolter at Grindelwald, one of the most comfortable of the smaller hotels. Madame Wolter had very many friends among the English visitors, and will be much missed. The hotel will be continued by the family.

WE note with much regret the death on January 2 last of Jakob Rumpf, the Kiental guide and caretaker at the Gspaltenhorn hut. He was a fine climber and had led the ascent of the Rothe Zähne besides other expeditions, while he was a model of a hut-keeper. He died in poor circumstances. Any small subscriptions would be useful.

THE Aiguille Blanche and the Peuteret arête were ascended mid-August by Si. Albertini and Mattiola. It is understood that three bivouacs were made.

MR. E. R. BLANCHET has completed this summer the ascent of the last of the 49 Swiss summits surpassing 4000 m.

DR. M. GILBERT of Geneva, with Antoine Georges and Jean Follonier, made the first complete traverse of La Sengla from the Col du Blancien to the Col de la Reuse d'Arolla.

THE BELALP.—There is an appreciative article on this fine centre by H. Zenhäusern in 'Die Alpen,' 1926, 322 *seq.*

THE S.A.C. and OVERSEAS MOUNTAIN EXPLORATION.—A movement is on foot, at the instigation of Dr. Jenny, the able Editor of 'Die Alpen,' to widen the theatre of operations so as to meet the aspirations of the many competent young Swiss mountaineers in the Swiss Club. It is proposed to raise a fund for the purpose.

THE A.A.C. BERNE.—The following are the officers for 1927: President, K. M. Oesterle; Secretary, A. Gassmann; Treasurer, R. Bürgi; Librarian, Dr. Chervet; Superintendent of Huts, W. Amstutz.

PROFESSOR E. J. GARWOOD is nominated Member of Council of the Royal Society.

THE Mayer-Dibona ascent of Meije by the S. face on July 28, 1912, was repeated on August 13, 1926, by two Viennese, Hans Jara and L. Grazer, in 14 hrs. in difficult conditions.

THE N.W. ARÊTE OF ÖDSTEIN.—This is one of the hardest climbs in the Ennstal. It was first done in 1910 by Dr. Mayer with Dibona. In 'Der Bergsteiger,' March 26, 1926, will be found a detailed account by Mr. Alfred Horeschowsky, the well-known Viennese mountaineer, of his ascent in 1920. A fine route-marked sketch accompanies the article. See also 'Hochtourist,' II., p. 158.

THE Rotbrettgrat of Silberhorn was climbed on August 25 by MM. Eduard and Ernst Gertsch with Fritz Fuchs, all of Wengen. This ridge is shown 'A.J.' 31, opp. 216 (lower picture), and is the left-hand one of the great triangular face. For details see p. 317.

CAPTAIN HAROLD PORTER, M.C., and M. MARCEL KURZ left early in October for a climbing expedition in the New Zealand Alps.

THE LEASOWES ('A.J.' 34, opp. p. 4).—According to Major Basil Williams's 'Life of William Pitt, Lord Chatham,' the place belonged about 1750 to the poet Shenstone, and Pitt, who was a great landscape gardener, would often ride over, when staying at Lord Lyttelton's at Hagley, and 'confer with Shenstone on his summerhouses and walks.'

GRIVOLA BY THE N. ARÊTE.—When making the ascent this summer, going 'perfectly straight to summit from Trajo glacier without touching any arêtes, admirable conditions and very easy,' Lt.-Col. Strutt found the remains of a bit of paper at junction of N. and W. arêtes recording his ascent in 1895 by the N. arête, hitherto unpublished, reading: 'August 10, 1895, E.L.S. with César

and Salomon Knubel, Grivola by N. arête, 7 $\frac{3}{4}$ hrs., including halts . . . (illegible) . . . from Noménon Huts. Good conditions.'

A PERILOUS EXPEDITION.—Dr. Lauper writes to Captain Farrar as follows :—

Last Friday [Sept. 17] I met Schumacher again in Berne and also Amstutz, who had just arrived from England. We drove down to Vevey and the next day over Grand St. Bernard to Courmayeur. We went up to the Sella hut. On Sunday [Sept. 19] v. Schumacher and I did a bit of scouting of the way over the Mont Blanc glacier.

On Monday (Sept. 20) we left the Sella hut at 1.40 A.M. We had the light of a full moon until we got to the ice fall of the Glacier du Mont Blanc. From here we had to make our way in the dark, the moon disappearing behind the Trélatête. Just below the first bergschrund we heard some stones falling down the Col Emile Rey couloir. In spite of our being away out on the right some of these stones came right toward our party. They did us no harm, but we were scared a bit and decided to wait in the shelter of the bergschrund. We did not have to wait more than a few minutes before a large avalanche fell down right over our heads. We were well covered by the overhanging upper lip of the rimaye, but nevertheless were deeply impressed. We stayed there for about 2 hrs., and quite a few stones came down during that time. It was only towards 6 A.M. that, for a while, we had not heard anything fall. So we decided to start again. We climbed the gully, which is pretty steep, by means of our crampons, and got up to Col Emile Rey at 8 A.M. Very soon it became clear that we were too late for Pic Luigi Amedeo because the whole S. face was lively from stone fall.

Even the Col Emile Rey itself was not free from danger. One avalanche went as far as the Col Supérieur de Fresnay [Eccles] the large rocks being hurled straight through the air from halfway up the wall.

Under these conditions we did not care to enter the well-known gully leading from the Col on to the main arête. So we traversed Mt. Brouillard and Punta Baretto and took the crest which runs down to Pt. 2384 on the Glacier du Miage italien.

We should have liked to stay on the Col until the sun was off this face of Mt. Blanc and then proceed towards Pic Luigi Amedeo, but could not afford the time. Anyway this trip gave us some more information about that tremendous face of Mont Blanc.

After being turned back on Fresnay some years ago, and after this retreat, I hope the next time I get there I shall be more successful.

H. LAUPER.

Commenting on the same expedition, Dr. v. Schumacher remarks that the first stone salvo came from Pic Luigi Amedeo right down the couloir Emile Rey, a stone of the size of a man's head passing

between Lauper and Amstutz. While they were sheltering in the bergschrund another great stone avalanche came, this time from the Mont Brouillard, about $\frac{1}{4}$ hr. after the first and lasting two or three minutes. After that only single stones fell. After waiting for about 2 hours they ascended the couloir in 2 hours, unroped. It was rough white névé-ice. No stones fell. He goes on to say that he had observed once on the Aig. Verte that, also on cold nights, stonefall was apt to occur shortly before sunrise, and he explains this by the fact that, at that time, the freezing process is exercising its greatest expansive power, thus disturbing the stones in their seats. He says that the couloir to the left of Pt. 3313 by which they descended to the Miage glacier is absolutely easy. The 'Mont Blanc Führer' says it is very dangerous from stones, but none were observed; but this was possibly due to poverty of snow so late in the season. He estimates the couloir to the Col Emile Rey at quite 50° , and remarks on the many runnels caused by stones. On the whole he considers the Brouillard arête much more dangerous than the Peuteret. These remarks from a young and observant mountaineer, who has given many proofs of his capacity, are well worthy of consideration.

SNOW CONDITIONS IN 1926.—The Brenva route was done without cutting any steps until at the final séracs. The couloir of the Verte hardly required any step cutting. Skis were essential for getting about the Aletsch glacier in June, and would have served well in July. On the descent from the Finsteraarhorn a party glissaded from the Hugiattel to the hut in an hour. The E. face of the Dufour was so tame that Mr. Meade's party, who stayed three days at the Marinelli hut in August, reports 'nothing fell down the couloir while we were there save one avalanche during the heat of the day, and the stones were all quiet and harmless. . . . One evening Pierre Blanc walked across the couloir in 3 minutes. No need of steps. . . . To show what Monte Rosa was like Pierre sent his son Alphonse to glissade down the Marinelli couloir to fetch up fresh provisions.' The party spent two miserable nights in the hut, and unfortunately could not do the expedition. These reports are typical of the snow conditions that prevailed practically the whole season.

ICE PITONS.—Mr. Flaig, whose useful book on Eistechnik was reviewed on p. 147, has kindly presented one of the ice pitons referred to. It is made of duralinum, weighs under 4 ozs., and would certainly be useful for descending over a big rimaye. They can be had from Victor Sohm, Bregenz, Austria. Full particulars and photographs showing the use are at the Club.

CANADIAN AND AMERICAN NOTES.

MR. W. A. D. MUNDAY, Chairman of the Vancouver Section of the A.C.C., writes from North Lonsdale P.O., B.C., Canada, Sept. 14, 1926 :

' Having the good fortune in 1925 to see from a distance of about 50 miles the peak which the Geological Survey Summary Report, 1924, Part "A," described as exceeding 13,000 ft. in height, an exploration of the region was planned for 1926 and carried through, although the summit of the mountain was not reached.

' The party consisted of the writer, his wife, Mr. Thos. H. Ingram, Mr. E. A. Agur, all members of the Alpine Club of Canada, and a supporting party composed of Mr. R. C. Johnson and Mr. A. R. Munday, the latter also a member of the A.C.C.

' The route from the head of Bute Inlet was up the Homathko (or Homalko) River for about 30 miles. Flood conditions made water transport impossible and supplies were "backpacked" over difficult ground, Mrs. Munday doing a man's work. The route into the range lay up a glacier descending to within 1500 ft. of sea level, and approximately 10 miles in length, its two ice-falls being 2 miles in length. Camp was established at about 4500 ft. near the western end of the range barring the way to the big peak. Unsettled weather and persistent cloud on the higher levels, coupled with much fresh snow, proved a great handicap. On June 23 the five A.C.C. members left camp at 9 P.M., crossed two 9000-foot passes, and ascended to 10,000 ft. on an 11,000-foot outpost of "Mystery Mountain," as the big peak is popularly known—Mt. George Dawson is the name favoured by the Geological Survey. Elevations were checked by barometrical readings regularly recorded for the party at sea level at Bute Inlet, and there seemed no reasons for doubting the height attributed to the mountain by the Geological Survey. Camp was reached at 4 A.M., June 25, the party having been roped together for 24 hours out of 31. Short rations had been in force for over a week prior to the climb, and an immediate return was imperative. Flood water in the river and its huge glacial tributaries delayed the journey, all food being exhausted before a trapper's cache was reached.

' There are many peaks over 10,000 feet high on both sides of the river, and glaciers come to a very low level. Records of former ice levels abound, and on thorough examination will yield much interesting information. Well-preserved lateral moraines were observed 3000 ft. above existing glaciers. The formation is granitic in character. Geological specimens were brought back, and the writer is mapping the district, a camera fitted with cross levels, etc., having been carried. An attempt will be made to climb the Mystery Mountain next year by the writer.'

CAPTAIN A. H. MACCARTHY spent a couple of months in the Alps this summer. His power of endurance and capacity for leadership were proved in the preparatory summer and winter expeditions to prepare the way for the Mt. Logan attack and in the final expedition which resulted in its conquest. It would be hard to name any mountain expedition organized so thoroughly and carried out so ably. In about 40 working days in the Alps he was able to stand on about 100 summits, but was much disappointed that, owing to what, even he, was obliged to admit to be bad weather, several summits escaped his attentions.

He is to write for the *JOURNAL* a paper comparing his Alpine with his previous experiences, and a complete list of his ascents will also appear. He employed Feuz in the Oberland, P. J. Taugwalder in Zermatt, and Georges Charlet in the M. Blanc range, and they will have enough to tell, for some time, of their employer's tireless energy.

He was good enough to write a special paper on the Mt. Logan expedition which was read by Dr. Longstaff at the November Meeting.

DR. F. C. BELL of Vancouver has been elected President of the Alpine Club of Canada in succession to Professor J. W. A. Hickson.

THE camp of the Canadian Club in Tonquin Valley was very successful. Mr. A. O. Wheeler, who has now retired from the post of Director, which he has filled with great ability and tireless energy since the starting of the Club, was presented with an address and a purse.

DR. J. MONROE THORINGTON has presented to the A.C. a photographic copy of the rare Allen map of the Lake Louise District—the first map on which Lake Louise appears. The map was printed about 1893, but was never formally published. There was practically no distribution. On the original sheet the mountains and valleys are in yellow, glaciers green, and the Continental Divide in red.

MR. ALLEN CARPE and DR. W. S. LADD, Vice-President of the Am. A.C., with Andy Taylor, the famous packer and companion of Captain MacCarthy in all three Logan expeditions, made an attempt to ascend Mt. Fairweather in Alaska. They reached barely 10,000 ft. and were stopped by a great gap in the ridge. They have decided on another attempt, preceded by systematic cache-laying as practised for Mt. Logan.

MT. DAVID THOMPSON, CARIBOO RANGE.—Reverting to Mr. Allen Carpe's note on p. 137, the 'Can. A.J.,' 1925, pp. 129–132, now gives Mr. Munday's own account of his expeditions with Mrs. Munday, in July 1925, in the Cariboo range, and of their conquest of Mt. David Thompson (11,250 ft.). It is accompanied by two photographs and a sketch-map of the group.

SOUTH AFRICAN NOTES.

It will be remembered that the first ascent of the mountain, Kibo (Kilimanjaro), was made by Dr. Hans Meyer, accompanied by Herr Ludwig Purtscheller, the best mountaineer of his day. Mr. Londt, a young member of the Mountain Club of South Africa, made the ascent at the end of 1925, and, according to a possibly inaccurate newspaper interview, he proposed to rename certain of the points, and apparently claimed to have climbed a higher point on the mountain than any of his predecessors. He has now explained to his club that he found on the summit a book recording an ascent by Herren v. Salis and v. Ruckteschell in 1914 and brought it away, and that he was incorrectly reported in the published interview. His only claim is to have made the first ascent of the S. peak of Mawenzi, 16,700 ft. We are informed by Mr. K. H. Barnard, Hon. Sec. of the Club, that the book has since been taken back to the summit by Dr. D. V. Latham, a member of the same Club, and replaced in its original cover in the beacon. Dr. Latham found Mr. W. C. West's ice-axe left alongside the beacon on the summit in 1914, and also made observations on positions and heights.

ACCIDENTS IN 1926.

MM. JOHN GUINAND and L. DANOZ left the Schönbühl hut at 1 A.M. on August 16, but owing to bad conditions only reached the summit of Matterhorn about 7.30 the next morning, having bivouacked on the Galerie. On the descent, just below the Solvay hut, Danoz slipped on snow-covered ice and dragged Guinand down. The latter's desperate attempts to stop himself were fruitless. Two guided parties were close witnesses of the occurrence. The bodies were recovered, after much search, jammed in a narrow couloir about 200 m. away in the flank about at the altitude of the old cabane. M. Guinand is described as a first-rate mountaineer and skieur.

LIEUTENANT FRANTZ HUEBER and his sister made the ascent of the Aig. de la Persévérance on August 8 by the ordinary W. ridge. The route lies up an easy but steep couloir to the Col W. of the summit, whence a short not quite easy scramble leads to the top. After the ascent, while descending the couloir in snow and bad weather they were killed by stones. M. Hueber is described as a good climber and evidently the weather had most to do with the accident.

MM. J. COSTÉ and CH. CHAVANNET left the Promontoire hut in the early morning of July 27, and were seen from La Grave on the top of the Grand Pic de la Meije. Two hours later a very violent storm broke out. As soon as they were missed search was made, but was much hampered by weather. The bodies were only found on August 9 by a party of guides, several hundred metres below the Dalle des Autrichiens. They are supposed to have fallen when crossing the Dalle or possibly in descending the Pilkington-Gardiner route, as a rope in good condition was found hanging there some weeks later.

MM. CH. AUGSBURGER and E. FONTAINE of Geneva left the Couvercle at 0.30 midnight on August 30, and reached the summit of the Aig. Verte at 7.30 by the Whymper couloir, the snow in which was for the greater part of the season in perfect condition. In traversing the couloir on the descent the softened snow balled in their crampons. Augsburger slipped and dragged down his comrade. They were held up very soon by the snow, but Augsburger was dead. M. Fontaine was only slightly hurt and was rescued after 36 hours' exposure on a platform of rock.

The fatal accidents were numerous, but were in many cases due to obvious reasons, so that scant lessons can be learned from a detailed enumeration. Doubtless a reason was the very treacherous weather, but another is the lightheadedness with which half-trained tourists of scant experience undertake expeditions beyond their powers.

REVIEWS.

Les Alpes de la Haute Savoie. Par François Gos. Introduction de H. Bordeaux de l'Académie Française. Préface de H. Regaud, Président du Club Alpin Français. Librairie P. Pellissier, Thonon les Bains. 1926.

THE chief aim of the author of this attractive volume has been to instigate his fellow-citizens to cross the French frontier and spend their week-ends in visits to the neighbouring Fore-Alps of La Haute Savoie. It is to these, the limestone ranges that rise immediately south of the Lake of Geneva, that most of his pages and his pictures are devoted. We could wish that he had had the courage to confine himself to them. But he has been fettered by his title. It was no doubt difficult for M. Gos to give the play without Hamlet: in writing a book about the mountains of High Savoy to leave out Mont Blanc and its Aiguilles. Yet the Chamonix district has in the last few years been so amply dealt with and illustrated in numerous works that the necessarily imperfect references here made to it might, we think, well have been dispensed with. By this self-denial

M. Gos would have gained more space to deal with his main subject, the ranges of High Savoy below the summer snow line. It is a region full of natural charm that has been up to the present time little known to the travelling public. It has, moreover, the advantage of being accessible both in spring and in autumn: in the season of alpine flowers when the meadows of St. Gervais are blue with gentians and again when the beechwoods above Passy rival in colour the forests of Japan. 'The Route of the Alps' passes through Combloux, and the facilities for ski-ing draw winter visitors to Mégève, but Sixt remains free from the maddening crowd, and the Chartreuse of the Reposoir still shelters in almost undisturbed solitude under the pale cliffs of the Pointe Percée.

M. Gos writes of the region he has haunted in a light and pleasant style. He is at pains to enliven his abundant topographical detail with personal incidents drawn either from his own wanderings, or from the records of earlier tourists; we are glad to read again of the adventures of our old friend Toepffer of the once famous 'Voyages en Zigzag,' or of the Curé of Magland, who combined the duty of celebrating a monthly mass at a chapel two hours' climb above his village with a day's chamois shooting. M. Gos does not, as a rule, pay much attention to local history or customs, but he furnishes some agreeable specimens of peasant poetry.

His letterpress is interspersed with a great number of excellent photographs; in many of these dignity is given to the lesser ranges by picturing them while they still carry their winter snows. The majority of the views do justice to the scenery depicted. But in some cases the deep brown tint in which the plates are printed has an unfortunate effect. Compare for instance, the view of Sallanches (p. 89) with the eloquent description of the same landscape on the opposite page.

We must not fail to call attention to an Introduction which M. H. Bordeaux, of the French Academy, the well-known novelist, has furnished to M. Gos' volume. It does not, in our opinion, add to its value. M. Bordeaux has gone out of his way to endorse M. Coppier's preposterous attempt to identify Leonardo da Vinci's Mon Boso with Mont Blanc (see 'A.J.' xxxvii. 203). He has done worse; he cites as part of Leonardo's Note the words—referring to the sky—'il était d'un azur analogue à celui de la gentiane.' These have no place in the original passage as given in Dr. Richter's *Literary Works of Leonardo da Vinci* (Note 1060).

Further, M. Bordeaux is apparently unacquainted with the literature of the last twenty years, dealing with the ascents of Mont Blanc in 1786-87. It is a pity Dr. Dübi's 'Paccard wider Balmat' has not been translated into French or English, for it furnishes an exhaustive analysis of the evidence in the case, and its study is indispensable to all who take interest in the facts in dispute.

Finally, *Hector* de Saussure and *Griendenwald* are bad misprints!

Journal d'un Voyage à Chamouni et à la Cime du Mont Blanc en juillet et août 1787 : à Lyon chez Maudin et Comp. 1926.

THE publication in this country of the first complete 'Life of De Saussure' has had a natural reaction in inducing his fellow-citizens to consider how they might best join in rendering posthumous honours to the founder of modern alpinism. The plan preferred by his family may be reckoned fortunate. It has taken the form of a luxuriously printed, annotated, and illustrated edition of the MSS. Diary kept by their distinguished ancestor during his sojourn at Chamonix in 1787. In this are included the notes written during the ascent of Mont Blanc, a page of which is given in facsimile. The task of editing this interesting material has been put into very competent hands. Commandant Gaillard, M.C., is known in France as the translator of the works of Guido Rey and the author of several books on the Alps of Savoy; while Mr. Montagnier's name needs no commendation among English mountaineers, and he is, moreover, by his previous collaboration in Mr. Freshfield's recent work, specially qualified to deal with the subject in hand.

The volume opens with an Introduction of fourteen pages. In this the Editors give a condensed but very clear and lively account of the connection of De Saussure with Mont Blanc from the date of his first visit in 1760 to Chamonix, as an ingenuous youth collecting plants for Haller, up to his conquest of the mountain twenty-seven years later. The previous attempts made by natives of the valley are duly indicated, while the repeated adventures, or rather misadventures, of Bourrit—precentor, artist, author, and would-be mountaineer—are adequately and kindly dealt with. We are led to realise the pertinacity with which in 1787 he shadowed his illustrious rival from the moment of De Saussure's leaving Geneva, and how he persisted in endeavours to tack himself on to the Great Adventure, until he had to be warned off by a formal letter. Relations during the weeks of waiting must have been strained at times; yet we read of Bourrit being asked to dine with the De Saussure family circle, and, what is more, of De Saussure's offering him the use of any of his stores or equipment that might be left at his bivouac after his own return.

Even in its early days—the closing years of the eighteenth century—Chamonix was already entering on its career as an alpine centre. The two hotels and every available lodging in the village were crowded with 'Visitors to the Glaciers'; families from Geneva, scientific amateurs, or young English *milords*, who escorted gay companions in order to enjoy their shudders at the horrors of the Mer de Glacé. So great was the concourse that the Intendant of Faucigny, in reporting De Saussure's success to Turin, seized the occasion to express his hope that it might serve to increase the crowd of travellers 'who already bring a great deal of money into the Province.'

De Saussure himself sought help in passing the time by making excursions with his ladies; but he took small part in the social distractions of the place. He was too much engrossed in getting into

physical training and in arranging down to the minutest detail his practical preparations for the climb. Yet he found leisure to put aside his instruments and read Homer; and he took Horace up Mont Blanc in his pocket! No author, perhaps, has been taken to so many strange places as that familiar spirit!

The Introduction is supplemented by several pages of Notes, which deal with variations in local nomenclature, or throw light from contemporary sources on the events and incidents recorded in the 'Journal.' The daily life and amusements of De Saussure's family party during their long detention by bad weather are pleasantly illustrated by frequent quotations from the Diary of Bourrit's younger son, Charles, a lad of fifteen, who was proud to be the companion of the three gracious ladies—Mme. De Saussure and her sisters—in their daily walks and to provide them with nosegays of alpine flowers.

The events, great and small, of the summer of 1787 at Chamonix have been so fully gone into in more than one quarter within the last few years that the Editors have naturally found little new to give us. But the following amusing incident which they have dug out of one of Bourrit's many volumes may bear repeating:

Some of our readers may remember that Mme. De Saussure, when writing to her husband on Mont Blanc reported how she had been invited to prescribe for 'an Englishman who was suffering from fever.' Here we are given the rest of the story in Bourrit's words: 'Le jour avant l'ascension de M. De Saussure au Mont Blanc un Irlandais qui était à Chamonix tombe malade; il envoie le plus intelligent de ses domestiques à Genève pour emmener M. le Professeur Odier; cet homme parcourt la ville, rencontre M. Odier, l'invite à monter avec lui en voiture sans lui dire où on le menait, et ce ne fut qu'après avoir roulé longtemps qu'on lui apprend que c'est pour Chamonix. Les chevaux étaient bons, et ils purent arriver à Sallanches entre onze heures et minuit. Le lendemain M. Odier arrive au Prieuré en habit noir, son chapeau sous le bras, et ses cheveux poudrés à blanc comme il était parti de Genève, et au moment que M. De Saussure atteignit la sommité du Mont Blanc j'eus le plaisir de le rendre le témoin de l'évènement qui occupait tous nos yeux. Pensez donc M. le Professeur Odier se promenant à Chamonix en habit noir et poudré à frimas! Quelle distraction imprévue!' We are glad to think Bourrit had such a 'distraction' at a moment so painful to him that, as we learn elsewhere, he wept!

A further addition to our material with relation to the events of 1787 is furnished by two letters here printed for the first time. The more important, written by Jacques Balmat, on June 28, addressed to Bourrit, contains details of the failure of the writer's attempt to reach the top of Mont Blanc two days previously. It is obviously a duplicate—Balmat always had two strings to his bow—of the lost letter of the same date to De Saussure, referred to and quoted in the latter's Diary. It further substantiates the conclusion

arrived at by Mr. Freshfield ('Life of De Saussure,' pp. 214 and 219) that while in the first ascent, Paccard's, the climbers passed between the two Rochers Rouges, in the second and third ascents—those of the three guides and De Saussure's party—*another route* was taken up the slope to the right of and above both rocks. Balmat writes :

'J'ai été par un autre chemin qu'autrefois, et je l'ai trouvé encore passable, quoique j'ai trouvé de fort mauvais pas ; je compte cependant avec peine d'y parvenir . . . Je vous prie de vous rendre incontinent ici, nous tacherons pour lors de gagner le sommet du Mont Blanc par quelque autre chemin qui paraisse moins difficile.'

It may be pointed out that the *Journal de Lausanne* of the time contained a paragraph stating that the three guides took 'le même passage' as Paccard and Balmat. But the variation was not one of sufficient importance to attract the notice of a newspaper correspondent, and this assertion cannot be weighed for a moment against Balmat's definite statement. It follows that, in this respect, the line of ascent indicated on the plate of Mont Blanc, which forms one of the illustrations, calls for correction.

Less important is a letter, addressed to De Saussure by *Pierre Balmat*, his favourite guide, containing an account of *Beaufoy's* successful ascent. He gives our countryman's 'times,' which show that two hours and a quarter were spent in observations on the top, and that the party climbed and descended at a very good pace. When Paccard wrote of *Beaufoy* that 'he walked like a guide,' he was apparently better justified than many who have since used what has become an habitual compliment to raw climbers.

The illustrations are few but choice, and of exceptionally high quality. We find reproductions of the portrait of De Saussure at the age of 37 by *Juel*, the Danish artist ; a new portrait of *J. Balmat*, ascribed to *Baclar d'Albe* ; and very good examples of the well-known prints of snow scenes known as *The Ascent and Descent of Mont Blanc*, which, there is every reason to believe, represent the passage of the *Col du Géant*. Plates of some of De Saussure's instruments will interest scientists.

The volume as a whole fulfils its purpose : to furnish a worthy memorial to a distinguished Genevese from his fellow citizens.

Atlas der Alpenflora. Von Franz Fischer (Salzburg) und Fritz Hauser (Wien).

THIS book, which has been brought out in seven parts at five shillings each, is now complete. It consists of 600 paintings of Alpine plants reproduced by the three-colour process, with 100 pages of text descriptive of the illustrations. The great attraction of the book is that every plant described in the text is illustrated in colour, which is naturally a great help in identifying some doubtful specimen that has been collected.

On the whole the illustrations are exceedingly good, and some of the sheets are really beautiful from the artistic point of view without losing any of their accuracy, but this cannot be said of all—thus on

plate 66 *Androsace villosa* is poorly drawn, and the flowers are a washy mauve colour instead of the clear white with yellow throat of the normal flower. *Androsace carnea* on the same sheet is a dull colour, quite unlike the bright pink of the living plant. The three pages devoted to the Primulas are very distinctive and accurate, but *P. spectabilis* is represented as dark purple, whereas it is a rose-pink in nature, and the next picture, *P. latifolia*, is far too blue. The identification of the different Primulas is often difficult, and certainly these reproductions would tend to lead the novice astray. In one or two cases a life-size painting of a spray of a plant is shown, and below a much-reduced picture showing its habit of growth; this is helpful and might with advantage have been more extensively used—thus from the picture of *Eritrichium nanum* I am sure that no one unfamiliar with the natural plant would recognize it, the compact cushion growth being entirely lost.

On plate 55 the three Daphnes, *mezereum*, *petraea*, and *cneorum*, are all represented exactly the same colour, which they most certainly are not, and in the case of *D. petraea* the wonderful waxy appearance of the delicate pink tubes is quite lost, and the whole habit of the plant is missed. The number of printer's errors are numerous and annoying—thus, in the text *Anemone nigricans* is described, and you are referred to plate 20, which shows *A. montana*, a different plant with a different habitat. The pulsatillas are quite confusing enough without this sort of added worry.

On plate 36 figure 1 is termed *Saxifraga androsacea*, when it should be *depressa*. On the next plate figure 3, which is obviously a picture of *S. caespitosa*, the name is left out altogether, and in the text *S. caespitosa* is referred to figure 2, which is *S. exarata*. Then, again, we find a plant described in the text under one name and figured under a synonym, as *Primula spectabilis* and *P. Polliniana*, very confusing to the uninitiated. On plate 58 the name of figure 4 is left out, and there is no reference to this picture in the text.

In looking through the book one is struck with the numerous omissions of plants that one would expect to find there. For instance, five *Phyteumas* are figured, but *P. comosa*, the most beautiful of the group and one of the most striking of all alpine plants, is omitted. Then, although there are a number of Primulas figured, one looks in vain for *P. Wulfeniana*, *pedemontana*, *glaucescens*, *marginata*, and *officinalis*. Two forms of *Pyrola* are shown, but *P. rotundifolia* is absent. No mention is made of *Buphthalmum*, surely one of the most striking of the sub-alpine plants.

Despite these defects, the book is a very fine production, and would be invaluable to have with one in the Alps to identify the many plants collected. Some of the groups are very good indeed, and I should specially mention that difficult family of *Salix* or Willows, thirteen of which are figured; the *Artemesias*, too, are well shown, and, in fact, all the *Compositae* are good, and would be very useful in differentiating this difficult order.

There are a good many plants illustrated that I have never seen reproduced before, and some of them are beautiful, and it seems a pity that for the sake of a little more careful editing and a few more pages of prints the volume should just miss being the really reliable book of reference that it ought to be. The text is good, the description of the plants is, as one would expect, accurate, but not over-elaborated, and the geographical distribution, and the description of the situations where the various plants may be expected to be found, are thorough and helpful.

HUGH ROGER-SMITH.

C.A.I. Guida dei Monti d'Italia. Dolomiti di Brenta. By Pino Prati. Pp. x + 318. With numerous maps, photographs, and sketches. Trent, 1926. Price, 20 lire.

AN admirable guide-book, and quite indispensable for this fascinating group. Nothing gives a better idea of the elaboration of modern rock-climbing methods. The illustrations and route markings are as clear and satisfactory as can reasonably be expected, while the text is most excellently concise and always to the point. It is notorious that the principal difficulty of Dolomite climbing for amateurs is to find the way. Signor Prati has done wonders in explanation, and, so far as the reviewer's experiences are concerned, not the slightest error can be detected.

Two criticisms occur, and the first is a serious one. 'Passes' in the Dolomites are very different from what are known as 'passes' in the High Alps; still, they exist, and as such must be recognised and duly described in their proper topographical order in all Climbers' Guides.¹ Moreover, after fully describing a 'pass,' the writer of a Climbers' Guide has avoided endless repetitions in the text, and thereby saved weight in the mountaineer's rucksack. In this work, we regret to say, there is neither a description of a pass in the text, nor even a mention of them in the 'indice schematico,' although, quaintly enough, they appear sometimes by name among the illustrations. The author seems to imagine that when he has described the routes, starting almost from Bozen, Trent, or Brescia, to the Stoppani, Tuckett, and Tosa Club huts, he has done all that is necessary. Yet, the *glacier* passes, Bocce d'Armi and d'Ambiez—to mention only two examples—are of vital importance to the mountaineer.

The second criticism is possibly frivolous; it consists in regrets that the nomenclature in the D. & Oe.A.-V. map (1 : 25,000) has not been preserved in its entirety, more especially as this map (1908) has strong claims to be considered as the best ever produced of

¹ Mr. Coolidge insisted on a full description of the Muretto Pass—a partly paved mule track on one side and a walk on the other—appearing in *both* volumes of the *Bernina Climbers' Guide*.

any mountain region.² The author's reasons for suppressing the name of the famous Guglia di Brenta and substituting Campanile Basso are unconvincing. The word *guglie* occurs several times in the text.

Every conceivable route and variation are fully described and sketched; e.g. the little Croz del Rifugio, close to and hardly 300 ft. higher than the Tosa Club hut, has no less than seven! The Croz dell' Altissimo, 2539 m. (and grass and scree on several sides), is described, as regards its S.W. face, as '*forse l'ascensione più difficile in tutte le Dolomiti.*' We wonder how often this expression has been employed. It is sad to find that Mr. Ball's ascent of the Cima Tosa on August 9, 1865, appears to have been only the third, the first having taken place on July 20. There is the inevitable confusion between the names Tucker and Tuckett. British names, except for those mentioned and those of Messrs. Freshfield and E. T. Compton, are conspicuously absent. Pierre Blanc is noted as the only French guide who has ever visited (twice) the region, and his desperate ascent, with Mr. C. F. Meade, of the Guglia di Brenta, remains, miraculously, unrepeatable.

One word more. Signor Prati has marvellously succeeded in avoiding political or ethnological questions. His good taste and common sense have triumphed over all difficulties. There is not one jarring note, and this is praise indeed.

We trust that the author's self-effacing labour will attract British mountaineers to what are certainly the most beautiful of all dolomitic peaks.

E. L. S.

Der Hochtourist in den Ostalpen. 5th edit. Vol. II.: Karwendel, Kaisergebirge, Watzmann district, etc. Vol. IV.: Rhätikon, Ötztal, Stubai, etc. Edited by Hanns Barth. Price per vol., 10s., post free.

THIS new edition was mentioned 'A.J.' 37, 417.

While repeating the praise, one must reiterate the great regret that the volumes contain so few route-marked sketches, viz.: Vol. II., 8; Vol. IV., 13. I suggest that the publishers look at the Vallot guide, '*La Chaîne de l'Aiguille Verte,*' for ideal sketches of this kind.

It is particularly desirable that the Dolomite and Julian Alps, Vols. VII. and VIII., be fully illustrated. One could quite well dispense with some of the '*Kammverlauf*' or skeleton map sketches. The editor of this edition and his assistants are well-known, competent guideless mountaineers, and should remember that the education of a young mountaineer is developed into independence more readily by route sketches than by very elaborate written instructions, which tend to make him read the book instead of reading the mountains.

J. P. F.

² *Karte der Brentagruppe*, by the '*Siegfried*' surveyors. It is, however, now unobtainable.

Adventures of Exploration. Sir J. Scott Keltie and S. G. Gilmour. London: G. Philip & Son. Maps and Illustrations. Six books (four published, remainder in the press). Price, 1s. 6d. to 2s.

THE purpose of these Readers for young people is to quicken their interest in geography by stories of adventurous travel and discovery. The fact that their joint authors are no other than the late Secretary to the R.G.S. and the Travel Editor of *The Field* is adequate assurance of the soundness and reliability of the series. Each of the great continents is dealt with in turn, and the stories of its discovery and exploration are told in language at once simple but extraordinarily fresh and vivid. The value of the work consists still more in the spiritual worth of the achievements of men inspired with worthy aims and ready, at all hazards, to persist in the tasks they had set before themselves. Brief though each little volume is, one closes it with the feeling that no lad of British blood can fail to be stirred and to have his imagination stimulated by the stories of courageous determination and perseverance in the face of difficulty and danger, and often of apparently insuperable obstacles, such as are here told of the men of his race. The maps alone are a real joy.

Besides the epic voyages of Drake and Raleigh and the rest, we are taken to the top of Aconcagua; with Bruce and Mallory and Odell and their comrades on Everest. From mountains and deserts in Central Asia we are transported to the Alps of New Zealand, and from the far-away northern heights of Mount McKinley we find ourselves struggling with Scott and his glorious band to the South Pole and to undying fame. It is in the company of gallant spirits such as these that young and old folk alike may learn something of the splendour of high endeavour and catch, it may be, a little of the divine fire that is passed on from those whose inspired examples are in themselves the most precious of all gifts which it is our privilege to inherit or, in however small a measure, to endeavour to bequeath.

La Chaîne de l'Aiguille Verte (Guide Vallot, Vol. II.). By H. de Ségogne, E. de Gigord, J. de Lépiney, J.-A. Morin. Paris, 1926. 25 fr.

THIS is the second of these admirable volumes compiled by the members of the G.H.M., one or more of whom have, in nearly every case, actual personal knowledge of the route described, while their command of the literature is very comprehensive. There has been nothing done in Climbers' Guides to equal the elaboration of the Vallot Guides. The present volume of 242 pages covers the whole chain on both flanks from the Aig. des Grands Montets to the plateau de Triolet. The descriptions are clear, and, what is much better, there are 34 illustrations on which the various routes are marked, beside 5 maps. Not only are all the known routes fully treated, but there is even a long dissertation with a picture upon the possibility of ascending the Little Dru by the N. face.

Copies can be obtained by giving notice to the Asst. Sec., Alpine Club.

British Ski Year Book, 1926. Edited by Arnold Lunn. King & Hutchings, Uxbridge. 10s. 6d.

MR. LUNN is quite indefatigable. Here is a volume of 650 pages, containing a series of articles often of great interest to the summer mountaineer as well as to the skier.

The principal papers are a monograph of the Meije by Pierre Dalloz, who knows it probably better than anyone; the Bietschhorn by the N. arête by Walter Amstutz; Notes on tours in 1926 by E. B. Beauman. The article *de fond* is, however, Mr. Lunn's own 'History of Ski-ing,' running to nearly 70 pages, and bringing the history right up to date. He has had, he tells us, the help of good men of the Swiss, French, German, and English schools, and the article may be taken to present the high-water mark of modern ski-ing.

Mr. Lunn's writing is interesting in more ways than one. He describes well and he interjects, from time to time, remarks that represent and recall the unconscious mental attitude of the mountaineer. 'Difficulties, artificial difficulties if you will, are invented in order that the game may continue, for a game in which one is assured of a walk-over would soon cease to find players,' is as good a statement of the present state of mountaineering as I have seen. His article claims attention as a skilful mingling of history, description, technicalities, experiences, and a sort of mountain philosophy. He is not a fanatic on ski-ing, but states candidly its limitations as an aid to mountaineering. It is a pity that an article of this kind should be buried in any year-book.

A feature of the book is the many excellent illustrations—particularly one of the Meije from the Râteau, which I never remember seeing; it shows well the arête from the Brèche de la Meije—and diagrams, while the numerous portraits are of great interest. The group of the Swiss team includes de L'Orsa, who led Badile N. arête this summer, Kümmerli the new, Amstutz the late, President A.A.C., Berne, and von Schumacher, a very brilliant mountaineer. The English, or must I say British, University group which held their own so well, includes Mackintosh, who, a little while ago, in one of the papers, described in a few eloquent words, the qualities of determination, quick decision, and courage demanded of the ski-runner over unknown ground.

The first winter ascent of the Ecrins by D. Armand-Delille, is a very graphic account of one of the boldest winter expeditions ever done. I ought to mention every paper. Delille looks as if he could stand some weather—he tries himself high! The portrait of Marcel Kurz, now on his way, with Captain Porter, to the New Zealand Alps, is very typical. Dalloz's descriptions and sketches show him to be as good a man with the pen as he certainly is on a mountain. His leave, this summer, coincided exactly with the fine weather after mid-August. We ought to hear of great doings in the Oisans!

This school of young French mountaineers, which has developed

since the War, is a most remarkable and fruitful feature of modern mountaineering. The section of the G.H.M. founded by J. de Lépiney and Paul Chevalier and Henri Bregeault includes, at the present time, men—many men—who bring to bear on difficult mountain problems a technical ability, a care and a talent for minutely accurate topography that, in my experience, are not excelled. In the present volume it is not the less instructive articles that emanate from this French school.

Mr. Lunn himself is the great liaison officer between mountaineering and ski-ing. He is a great apostle and has done much to develop the touring side of ski-ing and to advocate its use as essential means to winter mountaineering. With him it is no plaything but a great instrument of a great pursuit.

Bergsteigen im Winter. By Dr. Walter Hofmeier. Munich, 1925.

THE author is a prominent member of the Munich school of mountaineers and ski-runners, which in the Eastern Alps is predominant, while some of its younger disciples, following in the steps of an earlier generation of great German and Austrian mountaineers, have lately shown that they are perfectly competent to deal with the greater problems of the Western Alps, some of which, indeed, they have themselves discovered. They are entitled to speak with an authority that it would be folly to ignore. In technical equipment the Germans are noted for constant attention to possible improvements. They err, possibly, on the side of over-equipment. Still, a mountain can be a very deadly opponent, and one does well to be prepared. The book deals with the history of winter mountaineering, which, of course, started long before the introduction of ski, and states very fairly the influence of ski. It deals also fully with the special equipment for winter ascents.

It can be read with equal interest by the summer and winter mountaineer, if, indeed, it is not time to merge the distinction. The illustrations of winter landscapes are superb. The book is *not* printed in the old German *Schrift*, which, since the War, German individualism has re-inflicted on German youth, to the great benefit of the spectacle-maker.

The Epic of Mount Everest. By Sir Francis Younghusband, K.C.S.I., K.C.I.E.
London: Arnold. 7s. 6d.

THIS admirable book supplies a want. The three large volumes were too detailed for the general reader. The present work is not merely a précis of them, but is rather a new tale told with the literary skill for which the author is well known. He is able to speak about the great adventure from the objective point of view, whereas the narratives of the adventurers themselves told us often too little of their own doings. The three expeditions did not attain

their objective, but they taught us much and will remain as an example of splendidly unselfish team work.

It is a great book for boys. They will learn something of a pursuit that brings out qualities of enterprise, of endurance, of willing submission to hardship and often danger, which cannot fail to be of value in the formation of character.

Sir Francis omits one thing. He says little of his own part. But we of his earlier committees do not forget that he was the soul of the whole enterprise—that he it was who with tireless tact kept us all in line and set us such an example of devotion and energy that I may safely say that nothing was left undone that could help on the great endeavour.

He would, in my opinion, do better to be not quite so sure that the mountain will be ascended, eventually, without oxygen. Norton and Somervell, without oxygen, ran themselves to a standstill. Finch, with oxygen, but for an extraneous circumstance, probably would have got higher than he did. So far as I know, he still considers it indispensable for the last lap. I do not agree that the experiences have shown that oxygen can be dispensed with. What they have shown is that it need not be used so soon as was expected, and that, consequently, less is required. With time the instrument makers will evolve the apparatus all right. Norton has explained that the reduced porter-power limited its use in his command. That was reason enough. Sir Francis's objections to its use seem, in part, sentimental.¹ There is scant room for sentiment. The mountain has shown no mercy. We have nothing to give away.

As to acclimatisation it is, in theory, admirable. In time one could produce the ideal high altitude being. The experience of the last expeditions seemed to be that, with one notable exception, the energies and health of the party suffered by the prolonged subjection to the unwonted conditions. Are we likely to get better men? It seems to be assumed somewhat lightly that the next expedition will not be subject to those contretemps, such as the rescue of the porters, which affected so seriously the subsequent powers of the participants. It would be working on too narrow a margin to assume that even the best laid plans must run smooth. What we have to keep steadily in mind—and it is still more necessary after three great expeditions which have taken such heavy toll—is that there is one objective—and one only—and that is the top of Mount Everest.

Sir Francis makes one incorrect statement. He charges me with *compelling* the members of the A.C. to be 'extraordinarily generous.' I had no need. I sent a note to a good friend of mine to please start the fund with £250. A message with a cheque for the amount was waiting at my office next morning before I got there. Why should I not give his name—R. W. Lloyd—especially since

¹ My article 'Conclusions,' in *A.J.* 34, 452 *seq.*, dealt fully with the objections.

at any club debate—obstinate debater that he is—he is certain to be opposed to me and nearly as certain to be voted under the table! Two other old friends of my active days sent in moderate cheques. I explained to them—very modestly—what the cost was likely to be, when the one at once multiplied his cheque by 20 and the other by 10, giving good explanations why it was not also by 20.

Such was the *compulsion* that the Club needed. It was only I myself who was *compelled* by such responses and the general answer of the Club to double my own payment. I am not quite sure I liked such compulsion!

J. P. F.

Vette-Ricordi di esplorazioni e nuove ascensione sulle Alpi, nei gruppi del Monte Rosa, del Cervino et del Monte Bianco dal 1896 al 1921. By G. F. and G. B. Gugliermi and G. Lampugnani. 350 pp. 4°, and 50 full-page plates. Price to subscribers, L. 80, from the C.A.I. Sez. di Varallo (Novara), Italy.

THE authors are known as pre-eminently the great authorities on the Italian faces of Monte Rosa and Mt. Blanc, besides having made the first ascent of the Aig. Verte from the Glacier de Nant Blanc, the first passage of the Col de l'Aig. Verte on the French side of the chain. They are known as very artistic photographers, and the book should be very welcome to lovers of the Alps.

Akad. Skiclub, Munich, 1925-6.—This is the 25th anniversary of the foundation of the University Ski Club, and this beautifully got-up pamphlet, edited by Professor Dr. Karl Gruber, is a record of its activities during its existence and a pious remembrance of the sixteen members killed in action. The Club can claim the first ski traverse of the M. Blanc de Courmayeur. The record of expeditions shows that the members work hard in summer as well as winter. The four photogravures are superb. That of the Güssfeldt variation on the way up to the ice-arête of the Brenva is very striking, and will interest particularly M. Jacques Lagarde, the authority on that route and its most recent worshipper.

There can be no doubt of the great activity and enthusiasm of the Munich school of mountaineers, who have proved their enterprise and courage in every part of the Alps.

F.

THE ALPINE CLUB LIBRARY.

The following works have been added to the Library :—

New Publications.

- Alpi.** Nomi e limiti delle grandi parti del sistema alpino. In L'Universo, anno 7, num. 9. 9½ × 6½ : pp. 705-16 : map. Firenze, sett. 1926
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Pp. 18-20:

' During two summer vacations Melgund went to Switzerland, once with his friend Maclean, with whom he made the third ascent of the Schreckhorn; the journal records sleeping out on a ledge of rock in the snow, from which the top was reached in seven and a half hours. They also climbed the Wetterhorn and Monte Rosa, and traversed the Jungfrau with the famous mountaineer, Mr. Horace Walker, and his daughter, leaving Zermatt just before Mr. Whymper's first ascent of the Matterhorn, when Queensberry's brother was killed. High mountains are with the Elliots an hereditary passion, and as an Eton boy Melgund had begun his mountaineering career by ascending the Breithorn, the peak which his father had, thirty years earlier as an Eton boy, ascended with his father long before there was an inn at Zermatt, or the Alpine Club had been dreamed of. It is significant that the only extracts copied into his early journals are a poem by the Rev. Arthur G. Butler defending the assault on the Matterhorn, when Lord Francis Douglas was killed; . . . and the great speech of Claverhouse to Morton in Old Mortality. . . . His love of the mountains never left him, and his last climbing adventure was in 1900, when he delayed his journey through the Rockies at Glacier in order to ascend Mount Avalanche—to the amazement of the imported Swiss guides, who could not believe that the Governor-General would get out of his train after a prolonged official tour and spend eleven arduous hours climbing a mountain. He wrote in his journal: "Ascended Mount Avalanche: two guides. Started 6.30 A.M., reached the summit 12.30. Left again 1.30 P.M. and arrived Glacier House 4.40. Very hard climb. We came down roped together, and glissading down a severe slope came to grief and finished the glissade on our backs, but no damage done." He had taken the precaution of inscribing his name on a card which was placed inside a bottle and laid in the snow on the summit, on the chance of its coming to light as "the last message of the Governor-General" should anything untoward happen.'

Pp. 38-39, 1877.

' Lovely view of the Alps this morning after leaving Turin . . . made out Monte Rosa and the Lyzkamm distinctly and got a glimpse of the Matterhorn. I love the mountains, and this morning, when I found myself among them before arriving at Turin it gave me an

indescribable feeling of excitement. I suppose it is the recollection of the adventures I have had amongst them, and when I look back now I look upon them and the guides as old friends. There is no better man than a good Swiss guide, and Peter Bohren and Melchior Anderegg, and the Laucriers [? Laueners] keep jumping up in my memory.'

P. 315

'I was reared in the mountains and the mist, and have suffered from mountain madness all my life. Peaks, passes, and glaciers have a fascination for me. . . . You [Lord Morley] never think I don't share in your passion for hills and mist.'

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1924 u. 1925

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1926

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ill.

1926

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Articles : *S. Nakayama*, Ski sport ; *R. Kono*, Japan alps ; *K. Shimura*,

Harinoki range ; *R. Kogure*, Kurobe Valley ; *T. Etani*, Matterhorn ;

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Japan Walking Club, Nihon aruko kwai, founded 1914.

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Items.

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— **Otto Barth.** Führerparke auf den Ortler. 23 × 30. 1926

PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W.1, on Tuesday, May 4, 1926, at 8.30 P.M., Mr. John J. Withers, C.B.E., M.P., *Vice-President*, in the Chair.

The following candidates were balloted for and elected members of the Club, namely, Mr. William McNaught and The Rev. Lewis Penrice Penny, D.D.

The CHAIRMAN announced with regret the deaths of Mr. E. Harold Spender, elected in 1896, Mr. Henry Wagner, elected in 1869, and Monsieur Henri Ferrand, Honorary Member, elected in 1918.

The regulations governing the Winter Dinner were approved.

Mr. SYDNEY SPENCER, Hon. Secretary, was the recipient of a very cordial vote of thanks for his work in arranging the Exhibition of Alpine Paintings.

Mr. P. C. VISSER then read a paper entitled 'In the Unknown Karakorams,' which was illustrated by lantern slides, and after a few appreciative remarks by Professor J. Norman Collie, LL.D., F.R.S., and the Chairman, the proceedings terminated with the passing of a vote of thanks to Mr. Visser for his paper and the magnificent slides he had shown.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W.1, on Tuesday, November 2, 1926, at 8.30 P.M., Sir George H. Morse, *President*, in the Chair.

The following candidates were balloted for and elected members of the Club, namely, Mr. John Crowther Case, The Rev. William Thorburn Elmslie, Mr. Edwin Savory Herbert, Flight-Lieutenant Gordon Noel Humpreys, R.A.F., Mr. Francis John Morse, Mr. Ernest Vivian Oulton, Mr. Frank Mauris Pasteur, Mr. Alexander Bruce Roberts, Pilot Officer Francis Sydney Smythe, R.A.F., and Mr. Charles Hugh Wenham.

The PRESIDENT announced with regret the deaths of the following members, namely, The Rev. W. A. B. Coolidge (Hon. Member), elected 1870, Mr. C. H. R. Wollaston, elected 1892, Mr. Thomas Howse, elected 1864, Monsieur le Comte Joseph de Nicolay, elected 1867, Mr. A. B. Thorold, elected 1896, Mr. J. W. Stein, elected 1905, Mr. R. Todhunter, elected 1912, Mr. V. Le Neve Foster, elected 1914, and Mr. Le Roy Jeffers, elected 1915.

Dr. T. G. LONGSTAFF read a paper by Captain A. H. MacCarthy on 'Mount Logan,' which was illustrated by lantern slides. Admiration of the manner in which this difficult Expedition was carried out was expressed by members, and the proceedings concluded with the passing of a very cordial vote of thanks to Captain MacCarthy for his paper and slides, and to Dr. T. G. Longstaff for his admirable reading of the paper and work in arranging the slides.

INDEX

VOL. 38, NOS. 232 AND 233

ADDENDA AND CORRIGENDA TO VOL. 38.

P. 332 (S.W. arête of Schreckhorn), line 5 from bottom, *read* 'and was repeated by.'

P. 336, note re confusion of names of Philpott and Phillipotts.

P. 338, line 14 from bottom, *read* '1925.'

INDEX

Canadian Names—See under Canadian Alps.
New Zealand Names—See under New Zealand Alps.
Books Reviewed—See Contents.
Obituary Notices—See Contents.

- ABRUZZI, H.R.H. the Duke of the,
 Hon. Mem. A.C., 6
Abseiling, new method, 38
Accidents, 5, 108, 345, 346
Aermighorn, Ascent, 212
Afraz Gul, R.G.S. awards to, 131
Ailefroide, Central, Ascent by N.
 Arête, 118
Akad. A.C. Berne : Officers for 1927,
 340
 Skiclub, Munich, 358
Allbutt, Sir C. : death, 3
Alleghe, Lake of, 41
ALPINE CLUB
 Exhibition of
 Alpine Painting, 106
 Alpine Photographs, 103, 118
 Gifts to, 342, 346
 History, 336
 Library : Additions, 152, 358
 First Ascents recorded, 164
 Members
 American
 Association of, G. W. Young
 entertained by, 137
 Meetings of
 1925, 89
 1926, 276
 Deaths, 3-4, 5, 111, 123, 167, 168,
 170, 171, 278 *sqq.*, 333,
 364
 Dinner, Winter, 168
 Honorary, New, 6
 New, 166-7, 364
 Obituaries (*see also* CONTENTS,
 IN MEMORIAM), 123, 333
 President's Valedictory Address,
 2, 168
 Prickard's, Mr. A.O., Sixty Years'
 Membership, 335
 Three Generations in, 336
ALPINE CLUB—*cont.*
 Proceedings, 166, 364
 Resignations of the Joint Editors,
 Mr. Yeld and Capt. Farrar,
 175
 Resolution of Appreciation of the
 Services of Mr. G. Yeld,
 passed by, I, 169-70
 Rules, Alteration in, 168
 Alpine Distress Signal, The, 100, 240
 Alpine Fauna, 23, 24-5, 27, 55, 181,
 255
 Alpine Flora, 30, 46, 56-7, 71, 204 *sqq.*,
 207, 350
Alps
 Stray Memories of, 177
 Thunderstorms in, 91
American A.C., Officers of, 137
Angour, Djebel : First Ascent, 134
Anonyme, L' : First Ascent, 309
Appalachian Mountain Club, Jubilee
 of, 137
Ararat, Mt., Ascent of, in 1855, 128
Argentière, Aig. d' : Ascent, 185
 First, by N. Face and N.W. Arête,
 307
Arolla, Cambridge University Club
 Meet at, 130
 Pigne d', New Route by Upper
 Zigorenove Glacier, 314
BADILE, Piz : by N. Arête, 322
Balfour, Pte. : Second Ascent, 265
Barthélemy Torrent, The, 246
Beachcroft, Sir R. M. : death, 111,
 123, 168
Belalp, article on, 340
Bell, Miss G. L. : death, 296
Benson, A. C. : death, 167

- Bernese Oberland
 Expeditions in
 New, 315
 Various, 332
- Bernina, Piz : Ascent by the Scharte, 184
- Bernina (West Wing or Bregaglia Group), New Expeditions in, 118, 321
- Binn, 43 *sqq.*
- Bionnassay, Aig. de : Ascent by N. Face, 270, 309, 310
- Bivouacs, High, cold at, 266
 Newspapers as used in, 216, 231
- Blanc, Mt. : Ascent by the Brenva, 330
 Brouillard Arête, dangers of, 342
 Horace read on, 349
 Perilous Expedition on, 341
 Stone-falls on, 341
- Blanc, Mt., de Courmayeur, Ascent by Peuteret Arête, 121
 First Ski Traverse, 358
 Storm on, 272
- Blanc, Mt., du Tacul : Attempted, 267
- Blanc, Mt., Group
 Expeditions in
 New, 307
 Various, 121, 329
 New Map of, 335
 Season of 1926 in, 270
- Blanche, Dent, N. Arête : Descent, 338
- Blanchet, E. R., Ascents by, 339
- Blodig, Dr. K., book by, 4
- Bonneval-sur-Arc as Winter Centre, 238
 Huts near, 238, 239
 Ski Expeditions possible from, 238, 239
- Bonney, Prof. : death, 3
- Boso, Mon, of Leonardo, 347
- Bourrit, M.-T., 348
- Breithorn
 First Ascent by
 N.W. Face, 311
 W. Face, 312
- Brigelsrhörner, bivouac on, 172
- Brockedon's 'Passes of the Alps' *cited*, 52
- Brockman, Rev. R. T. : death, 167
- Brouillard, Mt., and Pta Baretta : Traverse of, 341
 Stone-fall from, 342
- Brown, F. A. Y. : death, 167
- Bruce, Brig.-General, book by, 5
- Brunneghorn : First Ascent by
 W. Face, 312
- Burkhardt, Dr. E. : death, 302
- CAIMAN, Brèche du, 308
- Cambridge University Club Meet at Arolla, 130
- Canadian and American Notes, 137, 343
- Canadian Alps
 Alpine Club of Canada : New President, 344
 Athabaska Pass, 152
 Autumn foliage, 71
 Avalanche, Mt. : Ascent, 360
 Bastion Peak : First Ascent, 63, 65, 90
 Bennington Peak (lower summit of McDonell), unclimbed, 56
 Brown, Mt., Happenings *en route* to, 90
 Named, 152
 Castle Mt., by E. face, First Ascent, 257
 David Thompson, Mt. : First Ascent, 137, 344
 Devil's Head, First Ascent, 63, 69 *sqq.*
 Expeditions in, Principal, in 1923-4-5, 7, 8, 9
 Fryatt, Mt. : First Ascent, 249
 George Dawson, Mt., 343
 Hooker, Mt. : Named, 152
 Jasper Park, Can., *Guide* to, 54 *n.*
 Lapensée Pk. : First Ascent, 250
 Logan, Mt., Expedition, *see* Logan
 Louise, Lake, District, Map of, 344
 Maccarib Pass, 55
 McDonell Peak : Ascent, 56
 Maligne Lake District, 90
 Marmot Mt. : Ascent, 55
 Minnewanka, Lake, 67
 Moat Lake, 63
 Mystery Mt., 343
 Paragon Peak : Ascent, 58
 Ramparts, The, 55
 Peaks in, unclimbed, 62, 65, 251
 Redoubt, Mt. (Ramparts group), unclimbed, 251
 Rockies, Northern : Some First Ascents, 249
 Serenity, Mt. : First Ascent, 142
 Simon Peak (Mt. Fraser) : Ascent, 56
 Throne Mt. : First Ascent, 251
 Tonquin Valley, Early Visit to, 53
 Turret Peak : Unclimbed, 62, 65
 Steepness of, 65
 Two Lesser First Ascents in, 63
- Carmen, Pte. ; First Ascent, 309
- Cengalo, Piz : Ascent by S. Arête, 118
- Cessole, le Chevalier V. de, honoured at Nice, 131
- Charlet-Straton, Jean, guide : death, 132

- Charmoz : Ascent by Montanvert
Face, 264
- Chaubert, Pte. : First Ascent, 309
- Ciamarella : Ascent by Mr. Meade's
children, 339
- Climbers' Club : Summer Meeting,
1926, 337
- Club Académique Français d'Al-
pinisme, 133
- Cockerell, Brig.-General, 9
- Cogne, New Hotel at, 339
- Coolidge, W. A. B. : death, 123, 170,
171 *sqq.*, 278 *sqq.*
Funeral of, 171
Dr. Dübi's Address, 171-3
- Cornier, Grand, Col du, Crossing of,
183
- Counterblast, A, Countered, 49
- Courtes, Les : Attempted, 271
Storm on, 182
- Cristallo, Mte. : Ascent, 39
- Cristaux, Col des : Passage, 122
- Curzon of Kedleston, Marquis : death,
4
- DAMESME, Pte. : Ascent, 263
- Dauphiné : Expeditions
New, 116, 304
Various, 118
- Davidson, Sir E. : death, 3
- Davies, Dr. W. M. : death, 167
- Delagoturm (Pichlriess), 38
- de Lépiney, Jacques, in the Great
Atlas, 134
- Diable, Aig. Médiante du, No. 3 : First
Ascent, 273, 309
- Diable, Aigs. du : First Ascents, 309
- Disraeli, on the Furka, 362
- Dolomites, The, in 1925, 31, 169
- Droits, Les : Attempted, 271
- Drus, Les : Ascent, 273
- Dübi, Dr., Address by, at Funeral of
W. A. B. Coolidge, 171
sqq.
- Du Faur, Miss, on Mt. Sefton, 17
- Dündenhorn : Ascent direct, by
N. Arête, 212
- ECRINS, Les
Ascents : by N.E. Arête, 186
First Winter, 125, 355
Attempted, 180
First Ascent direct from Glacier
Noir, 304
N. Face, hut for, 135
- Eiger, Mittellegi arête
Hut on, 136
Ropes on, 338
- Eiskögele : First Ascent, by N. Face,
325
- Everest, Mt., Expedition, 10
Lecture on : Brussels, 131
Oxygen used, 357
Photographs of, 104
- Expeditions
New, 6-8, 116, 304, 323
Principal, in 1923-4-5
Alps, 6, 7, 8
Canadian Rockies, 7, 8, 9
New Zealand, 6, 9
Various, 6 *sqq.*, 118, 329
- FAIRWEATHER, Mt., Alaska : At-
tempted, 344
- Farrar, Captain J. P., thanks to, 11 ;
resignation of Editorship, 175
- Fehrmann Kamin, Kleine Zinne, 34
- Ferrand, H. : death, 333, 364
- Fiammes, Pta. : Ascent, 37
- Fiescherhorn, Klein, N.E. Face of :
Ascent of, 218
the Ochs or, 223
- Fiescherwand, The, 215
- Finch, G. I., book by, 4
- Finsteraarhorn, N.E. Face : Attemp-
ted, 298
Tablet on, to R. von Tschärner, 132
- FitzGerald, Hon. G. : death, 3, 114,
167
- Fleischbank (Kaisergebirge), S.E.
Face : Ascent, 128
- Footwear, Rubber, in the Dolomites,
32
- Formazza, Val, 46
- Foster, V. Le Neve : death, 333
- Freshfield, D. W., book by, 4
- Fünffingerspitze : Ascent, 40
- GAILLARD, Commandant, Honour for,
125
- Galenstock : Ascent from Tiefen
Glacier, 188
- Gamba, Pic, 275
- Garwood, Prof. E. J., Honour for,
380
- Glacier Lassitude, 243
- Glaciers in Savoy, advance of, 132-3
- Glockerin : First Ascent, by N.W.
Face, 324
- Godley, Dr. A. D. : death, 3, 167
- Grächen, village, 130
- Grépon, Ascent from Mer de Glace,
296
Pictures of, Notes on, 269
Traverse of, from C.P., 127

- Grindelwald Glacier, Lower, Pictures of, 191
 Grivola : Ascent by N. Arête, 340
 Grossglockner : First Ascent by N. Face, 323
 Gspaltenhorn : Ascent, 213
 Guicha La (Sikkim) : Crossing of, 150
 Guide-books, 54, 123 *sqq.*, 133, 289, 333
 Guides, famous, 148
 Gujurab Pass, explored, 9
- HANNIBAL'S Passage of the Alps, Torr's book on, the critics and the author, 49 *sqq.*
 Hardman, Sir W., on an A.C. dinner, 161
 Hayden, Sir H. : death, 3
 Hechle, Miss, Alpine Pictures by, 107
 Hironnelles, Col des : Crossing, 331
 Descent, from Italy to France, 332
 Passage of, 272
 Hochbrunnenschneide : Ascent, 181
 Howse, T. : death, 294, 333
 Hunza, Upper, Visser-Hooft Explorations in, 9, 364
 Hutegg (Saas Valley), Path from, to St. Niklaus or Stalden, viâ Hannig Alp and Grächen, 129
 Huts, Argentièrre (moved), 136 ; Bietschhorn and Engelhorn, 136 ; Foot of Colle delle Loccie, 135 ; Foot of Weissmies, 136 ; Gamba (moved), 136 ; Gastaldi, 339 ; Gspaltenhorn, 213, 339 ; Hohtürli, 213 ; Marinelli, 342 ; Mittellegi, 136 ; Mt. Blanc Group (overcrowded), 276 ; New (proposed), 339 ; Noménon, 341 ; Refuge Ernest Caron, 134 ; Refuge du Fond Turbat, 135 ; Refuge de la Pilatte, 135 ; Refuge du Sélé, 135 ; Requin (new), 126, 273 ; S.A.C. (Visitors), 338 ; Søndmøre District (Norway), 128 ; on S.W. Ridge of Pic Coolidge, projected, 136 ; Italian Shelters, proposed, 136 ; Topali, 339 ; Triolet, 136 ; Vallée d'Entre-les-Aigues, 134 ; Valsorey (new), 339
- ICE Pitons, 147, 342
 Inderbinen, Moritz, guide : death, 300
 Innerkofler, Sepp, guide : death, 35
 Irvine, A. : death, 4
 Irvine, Mt., California, Named, 89
 Isolée, L' : First Ascent, 309
- JACOT-GUILLARMOD, C. : death, 4
 Jacot-Guillarmod, Dr. : death, 3
 Jägi glacier, 214
 Jalouc : First Ascent, 148
 Jeffers, L. : death, 299, 333
 Jorasses, N. Face : Attempt (rumoured), 273
 Jungfrau : First *Direct* Ascent of N. Face, from Wengernalp, 315
- KARAWANKEN, The, and Julian Alps, 203
 Ker, Prof. : death, 3
 Khunjurab Pass, explored, 9
 Kibo, *see* Kilimanjaro
 Kiental, In and out of, 211
 Mountain Names in, 213
 Kilimanjaro : Ascents, 345
 Kurz, M., book by, 4
- LAGO, Croda da : Ascent, 32
 Lassels' 'Voyage of Italy,' *cited*, 51
 Lauteraarhorn-Schreckhorn : Traverse of, 298
 Leasowes, The, 340
 Lister and Carr, Messrs., book by, on Snowdonia, 5
 Lliwedd : Garter Traverse, 237
 Logan, Mt., Expedition
 Aneroid Barometers, Tests of, 87 *sqq.*
 Appreciation of, 9
 Brocken Spectre, at summit of, 82-3
 Caches, Animal raids on, 181, 255
 Cameras used, 78, 79
 Cascade Camp, 73
 Chitina Glacier, 257
 Chitina Valley : Dust Storms, 83
 Cinematograph views of, 90
 Crampons : 260
 Equipment, Notes on, 257
 Features, Four major, 253
 Food, Notes on, 252
 Hall's account of, 142
 Capt. MacCarthy's testimony to Hall's action, 138
 Ice-blocks, Erratic, 81

- Logan, Mt., Expedition—*cont.*
 King Col, 72
 King Peak, difficulties of, 90-1
 Logan Glacier, 257
 Observations
 during expedition, 72 *seq.*
 by Carpe, 80
 Geological, Glacier, Snow and
 Meteorological Conditions,
 80
 Instrumental, 73
 Photographical, 78
 Physiological, 76
 Temperatures, 75, 84
 Topographical, 72
 Ogilvie Glacier, 257
 Walsh Glacier, 257
 Windy Camp, Altitude of, 74-5
 Luigi Amadeo, Picco : Summit
 reached, 272
 Lunn, Arnold, on the Funeral of
 W. A. B. Coolidge, 171
 Lyskamm, W. Summit : Ascent, 117
- MACCARTHY, Capt. A. H., Alpine
 Ascents of, 274, 344
 Maclay, J. : death, 167
 Mallet, Mt., N. Arête of, 126
 Mallory, G. : death, 4
 Mallory, Mt., California, Named, 89
 Maluti Mts., S. Africa, New Expedi-
 tions in, 325 *sqq.*
 Marianae, Fossae, 50
 Marinelli Couloir, 342
 Martino, San, Pala di : Ascent, 177
 Mason, Major K., R.G.S. awards to,
 131
 Matterhorn, Accident on, 345
 Carrel's 'galerie' on, 209
 Long Day on, A, 207
 Matters of Fact, article on, 43
 Mawenzi, S. Pk. of Kilimanjaro :
 First Ascent, 345
 Meije, Mayer-Dibona Ascent repeated,
 340
 First Winter Ascent, 126
 Grand Pic, Fatal Accident on, 346
 Mer de Glace, illustrations of, 191
 Thickness of, 133
 Merzbacher, G. : death, 303
 Midi, Dent du, Landslide, The, 246
 Minto, Earl of, Climbs of, 360
 Moran, Mt. (Teton Mts.) : First
 Ascent of N.E. Pk., 300
 Morgenhorn : Ascent direct from
 Ganchi-Lücke, 212
 Mulets, Grands, The, in Alpine
 Illustration, 189
 Shelters on, 192 *sqq.*
- Mumm, A., A.C. register by, 4
 World tour of, 6
 Mummery, Aig. : Ascent, 274
- NEVADA, Sierra, Exploration of, 359
 New Zealand Alps
 Abbot and Abbess Peaks : Ascent
 and Naming of, 12
 Alpine Paradise, 12
 Bannie, Mt. : Ascent, 22
 Climbers visiting, 340
 Conway, Mt. : Second Ascent, 13
 Darby, Mt. : Ascent, 22
 Defiance, 25
 De La Beche Peak, Ascent, 24
 Bivouac on, 13
 Douglas Rock, 28
 Expeditions in
 Principal, in
 1923, 6
 1925, 9
 Expeditions of Porter and Kurz, 340
 Franz Josef Glacier, 23
 Pace of, 26
 Haidinger, Mt., Ascent, 14
 Huddleston Glacier, 17
 Huts, &c.
 Almer bivouac, 24
 Ball, 12
 Sefton bivouac, 30
 Welcome Flats, 27
 Illustrations, Notes on, 29
 Malte Brun, First Guideless Tra-
 verse of, 14
 Moorhouse Range, 22
 Murchison Glacier, 12
 Ngakanohi Glacier, 16
 Nondekoote, Attempted, 10
 Nun's Veil, visit to, 12
 Priest's Cap, Traverse of, 12
 Rudolf Glacier, 30
 Sefton, Mt., and other Climbs in, 11
 Ascents of, and Routes up,
 15-16, 20, 169
 Opinions concerning, 16
 Tuckett's Col, reached, 18
 Waiho, 26
 Nicolay, Comte Joseph de : death, 333
 Nordend, N. arête of : Welzenbach's
 route, 127
 Norton, Lieut.-Colonel, book by, 5
 R.G.S. Founder's Medal awarded
 to, 131
- ÖDSTEIN, N.W. Arête of : Ascents,
 340
Oesterreichische Alpenzeitung, 133
 Ofenhorn, 45

- Olan, Pic d', Attempted, 178
 Traverse of, 114
 Ortler Group : Payer's Explorations, 145
 Oughton, F., 11
- PALA, Cimone della : Ascents, 41, 177
 Paravicini, M., Hon. Mem. A.C., 6
 Pèlerins, Aig. des : First Ascent by N.W. Face and S.W. Arête, 126
 First Ascent by W.N.W. Face and Traverse of, 126
 Pelvoux : First Winter Ascent, 126
 Pennine Alps, New Expeditions in, 117, 311
 Périades, Glacier des, 126
 Much visited, 273
 Persévérance, Aig. de la, Fatal Accident on, 345
 Petigax, Joseph, guide : death, 132
 Peuteret, Aig. Blanche de
 Accident on, 108
 Article by J. P. Farrar, 108 *seq.*
 by P. v. Schumacher, 231 *seq.*
 Ascent, 272, 339
 Bivouacking recommendations, 109, 234
 Aig. Noire de, attempt by S. Arête, 274
 Phillpotts, J. S., 336
 and T. H. Philpott, confusion of names, 335-6
 Pilkington, L., book by, 5
 Pitons for Ice, 147, 342
 Pius XI, Pope, book by, 4
 Plan Névé, glacier, 246
 Plan, Aig. du : Second Ascent by N. Face, 308
 Porter, Capt. H., and M. Kurz, Climbing Expedition of, to N.Z. Alps, 340
 Pourri, Mt. : Attempted, 179
 Pragser See, 43
 Prickard, A. O., 60th year of Membership of A.C., 335
- QUARAZZA, Val, 129
- RAVANEL, Aig. : Ascent, 274
 Reggi, A. de : death, 303
 Requin
 Ascent, 264
 by E. Face and E.N.E. Ridge, 267
 Pictures of, Notes on, 269
 Reviews (for full list see CONTENTS), 138, 346
- Rey, Emile, Col., 341
 Rhêmes, Val de, Inn in, 136
 Roc, Aig. du, 265
 Roces, Tofana di, S. Face of : Ascent, 36
 Rochassiers, Arête des, 263
 Roche Méane, Tour Carrée de, Ascent of, Monograph on, 125
 Ronaldshay, Earl of, book by, 5
 Rosso, Cima di : New Route up, from N., 321
 Rotbrettgrat (Jungfrau): First Ascent, 317 *seq.*, 340
 R.G.S. Grants, awarded for Work in the Himalaya, 131
 Medals, awarded to Norton, Mason, and Afraz Gul, 131
 Rumpf, Jakob, guide : death, 339
- SANS NOM, Pic : Ascent from N., 116
 Sass Maor, failure on, 177
 Saussure, H. B. de, Journal of, 125, 335
 Savoy, Glaciers of, article on, 132
 Schmadrijoeh : Passage of, 214
 Schrader, Dr. F. : death, 4, 167
 Schreckhorn : Ascent by S.W. Ridge, 332
 S.W. Arête, Thunderstorm on, 95 *seq.*
 S.A.C. and Overseas Mountain Exploration, 340
 'Scrabbling,' 98
 Sella, Sig. Cav. V., Hon. Mem. A.C., 6
 Sengla, La : First complete Traverse, 339
 Sevolière, La : chalets, 179
 Sils, Lake of, 338
 Skagastöltind, Store : First Ascent, Jubilee of, and other Ascents, 336-7
 Skala Club, Photography by, 105
 Ski-ing in Combination with Climbing, 141
 Snow-blindness, 181
 Snow Conditions, 1926, 342
 Søndmøre District (Norway) : New Hut, 128
 South African Notes, 345
 Spencer, S. (vote of thanks to), 364
 Spender, E. H. : death, 123, 364
 Stabeler and Delago-türme, 38
 Stein, J. W. : death, 333
 Stone-falls before sunrise, 342
 Sterndale, Lord : death, 3
 Strutt, Lieut.-Colonel E. L., Honour for, 131

- TATRA Group, 128
 Terglou, the, Julian Alps, 147
 Teton, Grand, problem of First Ascent, 142
 Teton Mts., Ascents in, 300
 Thorold, A. B. : death, 333
 Todhunter, R. : death, 295, 333
 Torr, C., book by, criticism on, reply and rejoinder, 49 *sqq.*
 Tosa Falls, 47
 Tour, Aig. du : Ascent, 182
 Tour Noir, Col du, Third Passage of, 272, 329
 Traversette, Col de la, 50
 Tscharner, R. von, Tablet to, on Finsteraarhorn, 132
 Tschingelmannen, bivouac on, 172
 Turlo Pass, 129
 Tutton, Dr. A. E. H., article by, on the Glaciers of Savoy, 132
- VALLOT, J. : death, 4, 167
 Vallot, MM., 275
 Van Noorden, S. : fatal accident, 5
 Verte, Aig., fatal accident on, 346
 Stone-falls on, 342
 Col de l' :
 Second Passage, 270, 331
 Visser-Hooft, M. and Mme., Explorations of, in Upper Hunza, 9, 364
- WAGNER, H. : death, 123, 364
 Waugh, H. D. : death, 115, 123, 168
- Wetterstein Group, Expeditions in, 133
 Wheeler, A. O., Presentation to, 344
 Whitney, Mt., California, 89
 Wills, Dr. W. A. : death, 3
 Winter Ascents, First, in the Alps, 125-6
 Mountaineering, 277, 355, 356
 Winterbotham, Sir W. H. : death, 132
 Withers, J. J., returned M.P. for Cambridge University, 131
 Wollaston, C. H. R. : death, 289, 333
 Wolter, Madame : death, 339
- YELD, G., Resolution, Congratulatory, *re*, 1, 169
 Resignation of Editorship, 175
 Young, G. W., book by, 4
 Younghusband, Sir F., book by, 5
- ZÄSENBERGHORN : bivouac, 216
 Zdarsky Tent-sack, 146, 265
 Zemu Gap : Ascent, 150
 Zermatt, April weather at, 1926, 132
 Zinal, Pte. de : First Ascent by N. Face, 312
 Zinareffian Rocks, N.W. Summit, First Ascent, from Col, 314
 Zinne, Kleine : Ascent, 33 *sqq.*
 Zocca, Mt., W. Pk., New Route up, by N. Arête, 321
 Zurbriggen, M., guide, on Mt. Sefton, 16

ALPHABETICAL LIST OF AUTHORS

AMERY, L. S., 207
Amstutz, W. H., 215

BAINBRIDGE-BELL, F. C., 115
Blanchet, E. R., 312
Bonacossa, A., 118
Bower, G. S., 263
Bruce, C. G., 2
Bruce, J. A. B., 294

CARPE, A., 72, 137
Collie, J. N., 151
Conway, M., 140
Copeland, F. S., 303

DE VILLIERS-SCHWAB, H. B., 276

FARRAR, J. P., 108, 114, 122, 127, 145,
146, 147, 223, 234-6 *n.*,
270, 287, 302, 307, 317,
318 *n.*, 319, 353, 356,
358
Farrar and Yeld, 175
Freshfield, D. W., 111, 138, 278,
346

HALL, H. S., Jr., 257
Harris, P. W., 122, 130
Hickson, J. W. A., 63, 249

IRVING, R. L. G., 314 *bis.*

KIRKPATRICK, W. T., 171

LAUPER, H., 315, 341
Lawford, B., 43
Longstaff, T. G., 150, 170

MACCARTHY, A. H., 252
Meade, C. F., 238
Mumm, A. L., 300
Munday, W. A. D., 343

PALMER, H., 53, 299
Patchell, C. W., 128
Pope-Hennessy, R., 298
Porter, H. E. L., 11, 169, 237

ROBERTS, W. M., 129
Roger-Smith, H., 203, 350

SCHUMACHER, P. v., 231, 234
Schuster, C., 289
Shadbolt, L. G., 31, 169
Smythe, F. S., 91, 218
Strutt, E. L., 298, 352

THORINGTON, J. M., 189
Tubby, A. H., 113

UNNA, P. J. H., 100, 129, 242, 243

WESTON, W., 211
Willink, H. G., 106, 240
Wyatt, J. W., 246

YELD, G., 286
and Farrar, 175
Young, G. W., 295

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