40 mins. had been spent on the ridge. We descended by the ordinary way to the top of the moraines in just under 1½ hours. Mr. Davidson, having to catch the afternoon train for London, hurried on; I allowed myself another 1¾ hours to Zermatt.

Now that the W. side of the Triftjoch is 'out of bounds' for sensible people, a good way to Zermatt from the Mountet is to traverse the Trifthorn, descending the S. ridge to the top of the pass. This could very pleasantly be combined with the traverse of the Wellenkuppe as described above, without making the day a long one.

H. V. READE.

ALPINE NOTES.

'BALL'S ALPINE GUIDE.' VOL. I. 'THE WESTERN ALPS.'—Copies of the new edition (1898) of this work, price 12*s.* net, can be obtained from all booksellers, or from Messrs. Stanford, 12 Long Acre, W.C.

'BALL'S ALPINE GUIDE,' THE CENTRAL ALPS. PART I.—A new edition (1907) of this portion of 'The Alpine Guide,' by the late John Ball, F.R.S., President of the Alpine Club, reconstructed and revised on behalf of the Alpine Club under the general editorship of A. V. Valentine-Richards, Fellow of Christ's College, Cambridge, is now ready, and can be obtained from all booksellers, or from Messrs. Stanford, 12 Long Acre, W.C. It includes those portions of Switzerland to the N. of the Rhône and Rhine valleys. Price 6*s.* 6*d.*

'BALL'S ALPINE GUIDE,' THE CENTRAL ALPS. PART II.—A new edition (1911) of this portion of 'The Alpine Guide,' by the late John Ball, F.R.S., President of the Alpine Club, reconstructed and revised on behalf of the Alpine Club under the general editorship of the Rev. George Broke, is now ready, and can be obtained from all booksellers, or from Messrs. Stanford, 12 Long Acre, W.C. It includes 'those Alpine portions of Switzerland, Italy, and Austria, which lie S. and E. of the Rhône and Rhine, S. of the Arlberg, and W. of the Adige.' Price 7*s.* 6*d.*

THE ALPINE CLUB OBITUARY.—Amphlett, G. T. (1911). King, S. L. (1906). Minto, Rt. Hon. the Earl of (1866). Osbourne, J. S. (1872). Pryor, P. A. L. (1893). Caddick, A. (1879).

THE NEW PRESIDENT OF THE ROYAL GEOGRAPHICAL SOCIETY.—We offer our hearty congratulations to Mr. Douglas Freshfield on his election to the Presidency of the R.G.S. in succession to our Honorary Member The Rt. Hon. Earl Curzon of Kedleston.

D. UND Œ.A.V.—The total income of this great Association for the year 1913 was as follows :—

	Mark.	
Members' subscriptions (100,934, including 2434 new members)	682,134	
Interest	7,296	
Various sources	6,317	
Advertisements	19,154	
	714,901	= £35,745

The expenditure was as follows :—

'Zeitschrift' (*c.* 98,000 copies)	242,420	
'Mittheilungen' (*c.* 98,000 copies)	129,215	
Huts and paths	220,422	
Management	38,640	
Expenses in connexion with guides	27,397	
Central Library	15,000	
Alpine Museum	20,000	
Accident Fund and rescue organization	22,048	
Other objects	13,884	
	729,026	= £36,451

It will be noted that the Verein spends on its publications, the annual 'Zeitschrift' and the bi-monthly 'Mittheilungen,' about 49½ per cent. of its total income. The total funds of the Association amount to Mark 340,279 = £17,014, exclusive, of course, of their other assets, such as huts, &c.

AUSTRIAN ALPINE CLUB (Ö.A.C.).—The annual accounts of this Club show the following position :—

Receipts.	K.	
725 members' subscriptions	10,870	
Various sources	2,455	
Receipts at and rent of their three huts	22,185	
Advertisements &c.	3,826	
Sale of publications	8,834	
	48,170	= £2010

Expenditure	K.	
'Die Ö.A.Z.'	11,563	
Upkeep of huts	10,670	
Management	6,792	
Premium to guide	190	
Library	337	
Publications	9,595	
Other objects	45	
	39,192	= £1630

It will be noted that this Club spends on its very admirable bi-monthly Journal 60 per cent. of its subscriptions, or 24 per cent. of its total income.

The annual report is, as usual, very interesting. Herr Hans Biendl has completed his tenth year of presidency, and is to be congratulated on the high and well-earned position occupied by his Club.

During the year the Club brought out a very exhaustive guide to the chain of Mont Blanc, already reviewed in 'A.J.,' and a translation of Dr. Coolidge's 'The Central Alps of the Dauphiny.' The 'Zeitung' continues, under the able editorship of Herr Hans Wödl, to be one of the best informed and most readable of Alpine publications. The Wienerhütte on the Hochfeiler has been completely rebuilt. Among the losses by death are numbered Dr. von Lendenfeld, the well-known explorer, and the fine mountaineer, Eduard Wagner.

Schweizer Alpen-Club.—The published accounts to December 31, 1913, give the following interesting information :—

Total members (including 1371 new members)	13,720
Total income, inclusive of the subscription to the 'Jahrbuch'	fr. 147,130 = £5885
The principal items of expenditure are :—	
New huts	12,090
Repairs to huts ; furniture, assurance, and paths	11,626
'Alpina,' after deduction of proceeds of advertisements, &c.	17,041
'Jahrbuch,' vol. xlviii.	56,230
Instruction and assurance of guides	10,820
Rescue arrangements	2,140
Various subventions	5,879
Publication of guidebooks	7,072
General expenses	13,082
Instalment to building fund of the Swiss Alpine Museum	7,000
	fr. 142,980 = £5720

The total funds of the Club amount to fr. 74,180 = £2967, exclusive of balances standing to the credit of various special funds, and of their property in huts, &c.—'Alpina,' April 1, 1914.

Obligatory Insurance of Members of the S.A.C.—The final decision has been referred to the meeting of Delegates which takes place in the autumn, so that for this year the proposal will not take effect.

New Huts of the S.A.C.—The Bovalhütte and the Sustlihütte

are to be completed this year, and repairs and additions made to the Bertol, Saleinaz, Mountet, Hörnli, and some smaller huts. The total cost is expected to reach £800.

MONT BLANC FÜHRER DES Ö.A.C.—It is interesting to note that 1860 copies of this excellent guide, reviewed in the last JOURNAL, were printed, of which 850 copies had been sold by January. The cost of the book to the Ö.A.C. was very nearly £500.

THE HUTS OF THE Ö.A.C.—The reconstructed Johannhütte on the Gross Glockner is now in full working order. The Zsigmondy-hütte in the Sexten Dolomites has been enlarged and improved. The Wienerhütte on the Hochfeiler has been completely rebuilt, and will be ready for this summer.

All these huts are now 'bewirthschaftet' by capable *gardiens*.

WEATHER IN THE COURMAYEUR DISTRICT.—Towards the end of March heavy snowfalls occurred and much damage was caused to the chalets in the Val Veni and the Val Ferret by avalanches. One enormous avalanche fell from near the Col du Géant, traversed the snout of the Brenva Glacier, and mounting right on to the high moraine of the further bank completely destroyed the restaurant and Mont Blanc relief and museum of M. Joseph Proment.

DR. DE FILIPPI'S HIMALAYAN EXPEDITION.—The following extract from a letter dated March 22 from Leh (Ladakh, Kashmir) has been published :—

'I have been here ever since March 2, fighting with many obstacles and endeavouring to forward an enormous accumulation of stores; no easy task, as a pass of over 18,300 ft., the Chang La, has to be crossed to get into the Shyok Valley. I have employed about 60 men, with as many yaks, to beat a track in the deep snow, with, of course, fresh snow falling all the time and undoing my work. Fortunately I began early, and things are getting on with the advancing spring.

'. . . Most of the existing ideas as to the construction and geological history of the Upper Indus Valley will be considerably changed. A large number of splendid photographs have been taken by the photographer, as well as cinematograph films, which I hope will prove very interesting.

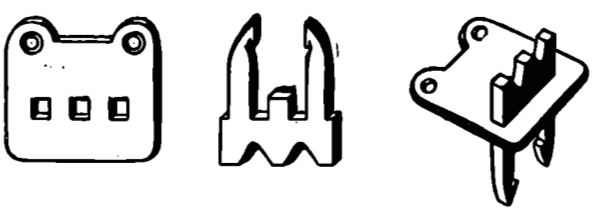
'During April some of us will go to the Rupshu Plains for the purpose of making gravity observations; Dainelli will wander off towards Spiti in search of fossils; and I shall cross over to Shyok to start the transport on to the Depsang Plains. By this arrangement no time will be lost.'

Corrigendum, 'A.J.' xxviii. 116. In the fifth line from the top for 'Hannibal' read 'Hadrian.'

AKADEMISCHER ALPEN-CLUB, ZURICH.—We are officially informed that the following is the constitution of the Committee for the summer semester :

Präsident . . .	L. A. Hürlimann.
Aktuar . . .	B. Lauterburg.
Quästor . . .	E. Hauser.
Bibliothekar . . .	H. Morgenthaler.
Projectionswart . . .	B. Lauterburg.

THE TRICOUNI BOOTNAILS.—It will be seen from the sketch that this is a built-up nail. It is claimed that it can be fixed nearer to the edge of the sole than the ordinary wing nail, that the edge will remain sharp much longer, and that a boot thus nailed is much lighter. No doubt the platform also to some extent protects the soles. They should be planted round the edge of the sole right up into the waist of the boot at about 1-inch intervals; thus a sole



will take about twelve nails. Along and quite close up to the front edge of the heel it is best to set three of the nails with their broad faces parallel to the front; one nail on each side of the heel and two planted closer together at the back of the heel suffice. Thus a set for a pair of boots is about forty.

For the flat of the soles of the boots they would appear to be too high, and it will probably be found better to continue to use six or eight hobnails for each sole. But for the edges, if they will stand reasonable wear, they must prove excellent, especially on ice and steep grass, as well as on rocks.

The following instructions are given by the makers :

MODE OF FIXING THE 'TRICOUNI' NAIL.

In order to make the driving in of the nail easier it is advisable to let the soles of the boots stand in water for about 45 to 90 minutes, according to the quality of the leather. Then mark the places for each nail on the soles about $\frac{1}{4}$ in. from the edges and drive them in on a last with a flat-headed hammer, but only until the platform reaches the sole; every additional stroke will only weaken its grip in the now soft leather. When all the nails are in, fix each one by driving in two wire tacks.

If old boots are being shod with the 'Tricouni' nails, first remove the old nails and fill the holes with wooden plugs.

The agent in England is Wm. Stern, 40 Brazennose Street, Man-

chester, and the price of the kind illustrated (D pattern) is 4*s.* 6*d.* for fifty nails. Reports of users vary considerably. Mr. H. V. Reade used them last year and thinks very highly of them. Cf. also *The Climbers' Club Journal*, 1914, The Tricouni Nail.'

THE EFFECT OF ALCOHOL ON MOUNTAINEERS.—The February number of the *Rivista Mensile* of the Italian Touring Club publishes some interesting particulars of researches into the effects of alcohol on mountaineers, carried out last summer in the Monte Rosa district. The experiments were undertaken by a group of young Italian and American scientists, under the leadership of Professor G. Galeotti, at the suggestion of Professor Benedict, of the Carnegie Nutrition Laboratory of Boston, U.S.A. The well-equipped laboratory at the Col d'Olen (2900 m.) served as their base of operations, which lasted from July 21 to August 11. During this period numerous expeditions of varying length and mostly above the snow-line were undertaken, the longest being a 15½-hour day on the N. arête of the Corno Bianco. Most of the routes were repeated twice under conditions varying from total abstinence to indulgence in measured quantities of cognac. The tests were very carefully made with up-to-date instruments immediately before and after each day's march. Among the chief results it was found that, after exact allowances had been made for food, drink, etc., there was a considerable net falling off in the weight of the body during mountaineering, the chief cause being moisture given off in respiration and perspiration. The body's internal temperature was found, as a rule, to increase, the figures obtained varying from 0·1 to 1·2 degrees centigr. When cognac had been used on the march the increase in temperature was slightly greater than without it. Great differences were found in the pulse action after an expedition. Not only was the pulse faster (in some cases 30–40 beats more to the minute), but the form as shown by the curves on the sphygmogram was different. Pulse and other comparative diagrams are given in the T.C.I. paper. The pulse was found to resemble that associated with typhoid or other infectious disease. When alcohol had been only sparingly partaken of on the march, it seemed rather to improve the pulse—the contrary when taken in larger doses. Blood-pressure in the arteries was less after an expedition, but if spirits had been used this diminution was less pronounced, and in some cases there was an increase. Considerably increased frequency in the number of respirations per minute, and modifications in the type and rhythm of the breathing, were invariably noted after mountaineering. In all cases these phenomena were influenced by the use of alcoholic stimulants, indicating impaired excitability of the nerve centres governing the breathing organs. Muscular power was, generally speaking, found to be greater after than before an expedition, but this increase (which is distinct from that produced by training) was merely temporary and disappeared after

rest. It was probably due to the brisker blood-flow set up by recent exertion.

The practical conclusions arrived at embraced the following: (1) No stimulants of any kind—not even tea or coffee—are necessary to the mountaineer in full training. Suitable food, sparingly partaken of, is all that he requires. (2) The effects of alcohol on the system during exertion vary so greatly in different individuals, and even in the same person at different times, that it is impossible to lay down any law with regard to them. (3) Small doses of cognac have a beneficial effect on *some* persons. In emergencies, therefore, it may prove useful in quantities of, say, 10 to 15 cub. centim. (4) Alcoholic stimulants in large quantities invariably do harm, especially to persons unaccustomed to them. The more tired the climber, the worse the effect on him—moral and physical. (5) The action of alcohol at high levels is exceedingly transitory—much more so than at ordinary levels; this is especially true of the excitement stage, and not so marked as regards the depression stage, which always follows, intensified as it is by fatigue.

NOTES ON THE CAUCASUS.

Mr. Raeburn's 1914 Expedition to the Caucasus.—A further expedition has been planned for this summer. Any member wishing to join can get all information from Mr. Harold Raeburn, 1 Belhaven Terrace, Edinburgh.

Afanasieff's Climbers' Guide to the Caucasus.—Attention was drawn in 'A.J.' xxvii. 105 to this very valuable compilation. An appendix has now been issued by the author, and can be obtained gratis by owners of the volume from Lindauer's Buchhandlung, Munich.

Travelling in the Caucasus.—Dr. Oscar Schuster, who has made several journeys to the Caucasus, of which particulars have been published in this Journal from time to time, publishes in the Ö.A.Z. 1914, 40–44, 60–64, 78–81, a very valuable paper of advice to travellers. The titles of the chapters are as follows:

I. Before and during the journey to Russia. Preparations before starting into the Mountains.

II. Other hints and useful remarks.

III. European guides and porters.
Dr. Schuster does not on the whole recommend taking Alpine guides to the Caucasus, especially as the climbers who undertake an expedition possess, as a rule, sufficient experience.

IV. Clothing and outfit.
This chapter deserves very careful study, and includes a list of requirements that appears to be very complete.