

paper by Mr. C. W. Patchell, who has condensed into ten pages a capital description of many notable adventures. This gentleman has, as the result of many successful campaigns, gained an intimate knowledge of the wild Norsk *fjelde*, with which few men can vie. There is another English paper which treats of the Gjeunalund district, also one in Norsk on the same subject.

The reader is introduced to much comparatively new ground, such as the weird recesses of Lyngen fjord, the mountain-tops of Nordmör, and the wild *terrain* W. of Snehatten. Herr Carl Hall has, as usual, enriched the book with the addition of several short papers. Very many persons will be delighted to see that at last the Tourist Club have made the path from the valley of Olden towards the Olden skar, a most necessary connecting link for pedestrians.

Amongst the list of so-called first ascents made in 1895 is that of Kjölaastind, or Gluggentind. It is pretty certain that a 'first ascent' of this lovely peak has been made on three different occasions, viz. in 1876 by the present writer, who would not, however, take his oath upon it, as the mountain was enveloped in clouds when he was on it; next by two Norsk students in 1880, and lastly in 1895. Cannot some man make a fourth first ascent? This mountain is one of the most beautiful in Norway, and is the scene of many a wild legend.

W. C. S.

PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall on Tuesday evening, February 2, at 8.30. Mr. H. Pasteur was in the chair in the unavoidable absence of the President and Vice-Presidents.

The following candidates were balloted for and elected members of the Club: Messrs. K. F. Kingdon, H. V. Reade, E. G. Tatham.

The CHAIRMAN stated that Dr. Albert Heim, of Zürich, had accepted the honorary membership which had been offered to him by the officers and committee of the Club.

The accounts for 1896 were then presented.

The CHAIRMAN considered that the Club might congratulate itself on the accounts being so satisfactory, especially with regard to the cost of the 'Alpine Journal.'

Mr. J. H. WICKS, the Treasurer for 1896, said that he had stated twelve months ago that the total deficiency of 558*l.* 2*s.* 10*d.* would probably be paid off in the course of three years, and it was a great satisfaction to find that in the past year it had been reduced to 285*l.* 15*s.* 10*d.* For the present year, 1897, it would be necessary to calculate on a smaller income from entrance fees to the extent of some 50*l.* to 60*l.*, as the number of new members was likely to be below the average, probably on account of the very unsatisfactory weather in the Alps last season, which prevented the usual number of candidates from qualifying. He explained that, owing to the fact that almost the whole of the Club's income

is paid in the first few days of January, whereas the expenditure is spread over the whole year, and many of the accounts are not presented till after the end of the year, he had been able to repay the loan of 350*l.* which the Club had to borrow. The only item in the expenditure account which he thought called for special mention was that of the 'Alpine Journal,' the total cost of which was only 42*l.*, as against 112*l.* in the preceding year. The reduction in the cost of printing and publishing was almost entirely due to two causes; of these the principal one was that the new paper, which it had been decided to use after the completion of vol. xvii., in order to obtain better illustrations in the text, cost much less than the old description of paper. The other cause was that there were about ten per cent. fewer pages. The illustrations cost less, and though fewer in number were vastly improved in quality, and he thought that the Editor was deserving of great credit for this much-desired improvement. He would like to see the sales of current numbers increase instead of remaining stationary, as they had done. The sale of back numbers, however, and also the number of advertisements showed a satisfactory improvement, and so reduced the total net cost of the 'Journal.'

The accounts were then unanimously passed.

Mr. E. J. GARWOOD then read a paper entitled 'Across Spitzbergen with Sir Martin Conway,' which was illustrated by numerous lantern slides.

SIR MARTIN CONWAY said that the part of Spitzbergen in which he and his companions had spent most of their time was not a region of fine mountains. In Spitzbergen, however, there were many really fine, though of course small, mountains. They are situated along the north part of the west coast; they are extremely precipitous and needle-pointed, and it was from them that Barendsz named the island. He recommended them to the consideration of the rock-climbing members of the Club. They were easy of access from the sea, and involved no bog-wading to get at. A party with an open whale boat for base could easily make themselves comfortable at the foot of any of these peaks, and would find no discomfort in moving from one to another. July was the best month for weather, sunshine prevailing during about half the month, or even more. Prince Charles's Foreland also consisted of a fine range of unclimbed peaks. The only mountaineering ascents of any importance made by members of his party were Garwood's ascent of Mount Starashchin and Garwood and Trevor-Battye's ascent of Mount Hedgehog, or Horn-Sunds-Tind. The latter was a very fine mountain to look at, tower-like in form as seen from a distance, and double the height of the hills about. Standing as it did near the South Cape, it was seen in fine weather by every ship approaching Spitzbergen, and so had gained a considerable reputation. The glaciers of Spitzbergen could not fail to interest any intelligent mountaineer. They were very different from Swiss glaciers, being for the most part of gentle slope and great width. The inland glaciers usually bulged over at the snout in a very remarkable

manner. The whole inland ice sheet was at present unexplored and presented many problems of importance for solution.

Dr. GREGORY also referred to his experiences in Spitzbergen.

The CHAIRMAN thanked Mr. Garwood for his interesting account of a little-known country, but he expressed a doubt whether other members of the Club would feel much tempted to share the bog-wading experiences of the party. The glaciers, being higher at the sides than in the middle, had a strange appearance to an eye familiar only with the glaciers of the Alps. The explorers had done good work in mapping the interior of the country.

A hearty vote of thanks to Mr. Garwood for his paper was unanimously passed.

A number of sketches by Mr. H. E. Conway, and some by Mr. Trevor-Battye, illustrating the paper, and two maps surveyed and drawn by Sir Martin Conway, were shown at the meeting.

A GENERAL MEETING of the Club was held in the Hall on Tuesday evening, March 2, at 8.30, Dr. G. H. Savage in the chair.

Mr. F. A. Satow was balloted for and elected a member of the Club.

The CHAIRMAN mentioned that the two water-colours by Mr. McCormick, 'The Ice-fall of the Tiu-Tiun Glacier' and 'Twilight, Soldash,' which he had presented to the Club, had been accidentally omitted from the list of gifts to the Club published in the last number of the 'Alpine Journal.'

The maps and photographs in the possession of the Club had been re-arranged and re-catalogued by Mr. J. T. Wills, and it was proposed to purchase additional maps to bring the Club's collection up to date.

The collection of photographs was very incomplete in some districts, and it was intended to publish in the 'Journal' a list of deficiencies, in the hope that members who had taken photographs in these districts would present copies of them to the Club.

The Club was also making a collection of lantern slides, but so far Mr. P. A. L. Pryor and Signor Sella had been the only contributors.

Sir MARTIN CONWAY exhibited two paintings in oil, representing the 'Grands Mulets' and 'A Crevice in the Glacier de Tacconay.' He said they were painted by A. V. C. Fielding (b. 1787, d. 1855), a prolific water-colour artist, who occasionally painted in oil. As he retired and gave up painting for many years before his death it is probable that the pictures in question were painted before 1851, the year in which Albert Smith made his ascent of Mont Blanc. Nevertheless there is an obvious connection between these pictures and those of the same subjects in Albert Smith's diorama. It is probable, therefore, that the painter of the diorama used these pictures, amongst other material, in designing his work. Fielding does not appear to have made an ascent of Mont Blanc; he probably, therefore, painted in this case from sketches supplied to him. Sir MARTIN CONWAY said he would be glad if any member

would give him information about the pictures, which were on view in the Club rooms.

Mr. CHARLES SLATER read a paper on 'The Altels Avalanche of 1895,' which was illustrated by lantern slides.

The CHAIRMAN thought there were many points worth noticing. Similar falls had taken place in past ages, both here and elsewhere in the Alps, though their only record was in folklore. A good instance was that of the myth of the Blumlisalp, which was once a very fertile alp, where it was said the cows were milked three times a day, and every pail of milk was a pail and a half, so excellent was the pasturage. But once a father visited his son and daughter there and was not made a welcome guest, and the curses which he uttered on leaving brought down an avalanche which destroyed the valley. Another point was the effect of wind. He believed that in battle it was not uncommon for soldiers to be stunned by the wind caused by a cannon ball passing near them; so in the case of an avalanche it was important to recognise the enormous amount of damage done by the wind current it caused.

Mr. C. T. DENT thought it was a good thing to have had a scientific paper. The interest that the Club professed to take in science was too rarely shown. Mr. Slater had given them a lucid and valuable paper on a very remarkable physical phenomenon. It was curious to note that the fallen mass of ice had up to the present altered very little, and the ice was so covered with soil and débris that it was unlikely to alter for a considerable time. When the outer zone of fine ice dust had melted the true proportions of the fall could first be judged. The mark on the Uschinengrat due to the melting of the ice was probably the same in size now as when first observed. The most curious result was the wind effect. It might have been expected that the projection of the mass through the air would have created a vacuum, and all the trees would have fallen towards the avalanche; but the trees had, on the contrary, fallen away. It was evident that the wind was generated by the compression of the air as the mass fell over the Tatelen edge, and that the resulting rebound of the air had led to the destruction and blown down the trees. He disagreed with Dr. Savage as to the possibility of wind percussion by cannon balls. In the case of the avalanche it was a (comparatively) narrow current of air which blew down the trees. As the mass of ice fell vertically it created an up draught, carrying ice dust, and a shower fell some miles off from a clear sky.

Dr. MARCET mentioned that Professor Colladon, of Geneva, having observed the upward movement of the water particles on the upper surface of the Pissevache waterfall, accounted for the phenomenon by an upward draught, due to an after effect of the compression of the air in a downward direction. This observation led Professor Colladon to propose a theory for the formation of hail which was adopted by many meteorologists. According to this distinguished physicist 'hail' is produced by an upward draught, due to the compression of air of a heavy shower; this

current of air holds the frozen particles in suspension. They are now attracted and repelled by electric power, becoming larger and heavier until they fall to the ground. The power of the wind was shown in the Altels avalanche by its displacing great rocks up the opposite side of the valley.

Sir MARTIN CONWAY said he had studied the contemporary accounts of the avalanche that fell at Elm about twenty-five years ago. There were certain points of similarity between that and the one on the Altels. It made no difference in the case of any very large avalanche what it consisted of, for with 2,000,000 tons of anything falling in a close mass, the friction inside the mass becomes insignificant compared with the momentum, and the whole falls as a liquid would. The rocks referred to by Dr. Marcet had been carried by the avalanche, and left behind by it; they were not carried by the wind. With regard to the timber of the chalets lying on the top of the avalanche, at Elm a wind preceded the rock avalanche by a few yards, and this lifted the chalets into the air, while the avalanche flowed on underneath, and the chalet ruins fell down on the top of the avalanche when it came to rest. Little side wind was recorded at Elm; the avalanche cut chalets in half, and the wind had practically no lateral effect.

Mr. GARDINER said that he had noticed in Hinchliff's 'Summer Months' that when he ascended the Altels in 1856 he remarked to Melchior Anderegg that the glacier looked dangerous. Anderegg replied that it fell only once in a hundred years, and that it fell last sixty years ago. That was in '56, which makes it very nearly a hundred years from the last fall to that of 1895. He did not know if there was any record of a fall in an earlier century.

Mr. FRESHFIELD thought it was scarcely possible to calculate from so bad a season as the last the time it would probably take for the avalanche to melt. In all accounts of similar catastrophes the effect of the wind accompanying the fall was described as very considerable. Mr. J. A. Symonds, in his 'Our Life in the Swiss Highlands,' told several stories of the 'Lawinen-Dunst,' for the accuracy of which he personally vouched. He described houses being carried bodily for some distance through the air, and an old woman on her way to church being blown off the road into the top of a neighbouring pine which grew on the slope below.

Dr. BOWLES remarked that in the case of a gunpowder explosion neighbouring windows fell outwards. This was owing to a vacuum caused by the up current, and the consequent pressure exerted by the normal atmosphere on the inside of the windows.

Mr. A. J. BUTLER did not think it likely the ice would melt so soon as Dr. Heim had stated in his book. In 1874 in the Oetzthal he found blocks of ice left by the glacier during its last previous advance, which was at least twenty years before. A lump of hard ice covered with a little dirt was well protected and melts very slowly.

A hearty vote of thanks was accorded to Mr. Slater for his paper.

Mr. PUCKLE asked the Hon. Secretary a question about the subscription rate, but the CHAIRMAN pointed out that such a matter could not be brought before the Club without proper notice being given.

The proceedings then terminated.

A GENERAL MEETING of the Club was held in the Hall on Tuesday evening, April 6, at 8.30, Mr. Charles Pilkington, *President*, in the chair.

Mr. SYDNEY SPENCER read a paper entitled 'The Dom in January,' which was accompanied by lantern slides.

Mr. DENT said he could not speak of the difficulties of climbing the Dom or any other of the higher peaks in winter, as he had confined himself to the lower mountain regions in winter; with these he was fairly familiar. Certainly the beauties which lay in the sub-Alpine districts, which even in summer are far too much neglected, were well worth seeing, especially in regard to colour, which was very wonderful and could be looked at without smoked glasses. In regard to winter climbing he thought that climbers handicapped themselves with regard to their feet. The difficulties were low down, directly after leaving the highest chalets, and on the lower parts of the glaciers; and it was a mistake to go there shod in winter as in summer. Till some satisfactory foot gear was invented the difficulties of winter mountaineering would be exceedingly great. Last year there had been an extraordinary snowfall, which would have rendered any other place as well as Zermatt unsuitable as a winter resort. The depth had, he thought, been understated by Mr. Spencer, for in places it reached 45 ft. Saas Grund had been nearly carried away by an avalanche a fortnight after he left. That was the kind of thing which gave variety to winter travel in the Alps. He congratulated Mr. Spencer much on his photographs. He had himself some experience of the difficulty of interesting guides in photography even in summer, and of how winter increased the difficulties; and he considered Mr. Spencer's results were very admirable.

Mr. FRESHFIELD considered the question of foot covering a most important one in regard to winter climbing. He thought something might be learned from studying the Arctic experiences of Nansen and of others. Foot covering was a matter of great importance also with regard to the successful climbing of the highest peaks, which depended greatly on the prevention of frostbite; and winter climbing would probably afford useful experience for very high climbs. He had not climbed the high peaks in winter, but he knew how attractive the sub-Alpine region was at that season. He had once spent ten days in Switzerland in winter with Mr. Stephen, and three scenes were still clearly before him. One was in the valley of Lauterbrunnen on a thawing day, when the waterfalls, which had taken the form of icicles, began to melt and to thunder down like cannon. Another was the view from the top of the Faulhorn; the whole valley of the plain of Switzerland was covered with a grey mist, except the

lakes, which shone out as blue patches, like an inverted sky. The third scene was on the Lake of Brienz, to which sea gulls from the North Sea flock in winter. The wind was driving the snow from the mountain-tops, and a halo had formed round each peak, and against this background the gulls crossed to and fro.

Mr. MUMM wished to know whether what he had observed in winter was common in summer. He was standing well in the shade, and the sun was shining on a slope on his left, and the reflected light from it was strong enough to throw his shadow on the snow on his right, a secondary shadow in the shade.

Mr. WILLINK said he had seen the same appearance in summer, though only slightly.

Mr. DENT had often seen it in winter.

The PRESIDENT thought, with reference to foot covering, that the difficulty of *ski* was the weight for carrying, though they would save much trouble if properly used. In the Tyrol round snow shoes were used, which were easy to carry. As to keeping the feet warm, well greasing the boots with fat was a great help. Mr. Spencer seemed to have met with an unusual amount of ice. The first time the Schreckhorn was climbed in winter a shovel was carried to remove the snow. He was sure the Club would thank Mr. Spencer for his interesting paper and very excellent photographs.

This was unanimously agreed to.

THE RETAIL SALE OF THE 'ALPINE JOURNAL.'

AN arrangement has been made with Messrs. Longmans, Green, and Co. whereby Mr. Stanford, of Cockspur Street, Charing Cross, will keep a stock of the numbers of the 'Alpine Journal' for the current year, and will sell these both to members and the general public at the price marked on the cover.

It is hoped and expected that, since Mr. Stanford's is undoubtedly the most popular centre in town for obtaining books of travel and maps, this arrangement will be found a convenience both by members and the public, and lead to an increase in the sale of the 'Journal.'

A new plan will be adopted in the packing of this and future numbers of the 'Journal' for delivery by post—namely, the insertion of a piece of millboard inside the wrapper. It has been thought advisable to adopt this plan, notwithstanding the increased cost of postage, owing to the fact, which has been recently brought to the notice of the publishers, that the photogravures and plates in the 'Journal' are often considerably damaged by being bent and cracked when the postman forces the package into the letter box.

It seems a pity that the photogravures, which are expensive to produce, should not be efficiently protected. If, after this new method of packing has been adopted, damage still occurs, the Honorary Secretary would be glad if members noticing it would kindly communicate with him.