The evening concluded with a first showing of Mr. Carpe's film of his 'Attempt on Mt. Fairweather,' made with Dr. Ladd and Andy Taylor the past summer. They were up to his usual high standard of excellence and graphically illustrated the difficulties encountered.

The next dinner is to be held in Montreal next May.

Alpine Accidents.

THE winter season of 1926–27 has been disastrous in loss of life and in injury. The newspapers publish almost daily accounts of fresh tragedies, many exaggerated, some even imaginary. Nevertheless, the total is very startling. The number of winter visitors to the Alps has increased by thousands, most of whom ski, while perhaps one per cent. have the faintest knowledge of snow conditions or mountaineering. This ignorance, unfortunately, applies principally to our countrymen. The Swiss, the Austrians, the French, the Italians and the Germans have, by their environment, learnt something of the perils of the Alps. British expert ski-runners mostly spend their time in sports known as 'slaloms,' while the non-expert slide about on slopes, trodden to adamantine hardness, at the back of hotels. Yet both kinds often start for an expedition immediately after or during a fall of fresh snow. 'It will be perfect to-morrow for ski,' was the remark made to us by a well-known ski-runner, when after 60 hours of storm and continuous fall of snow he proposed to set out on a big expedition. He and his two companions returned safely, principally because, having no map, they were unable to leave the main valley! They saw many avalanches and they had an 'interesting' day, but the conditions were 'disappointing.' Many more accidents may occur before these young skiers learn the rudiments of winter mountaineering. The pioneers waited for days, even weeks, before the conditions appeared safe; these later-day 'experts' wait hours, sometimes not even that. The British and other Ski Clubs issue sensible advice and warnings, but the toll of accidents appears to qualify considerably the statement by a great ski authority that:—

'. . . the ski-runner . . . may claim with justice to be a specialist in one important branch of mountaineering, for he has contributed far more than the foot climber to the science

of snow craft. Snow-craft was, indeed, a rudimentary science until ski-runners began to climb. Guides, like *Christian Almer*,[1] who were credited by their employers with possessing an infallible knowledge of snow conditions, made the most elementary blunders, blunders that a ski-runner who had crossed no pass higher than the Scheidegg would instinctively avoid. . . . Even the most casual of ski-runners interested only in tests and races soon picks up more snow-craft than is within the knowledge of the average mountaineer.'[2]

It is hard to estimate the baneful influence caused by remarks such as these, but, *si monumentum requiris, circumspice*; the ski accidents of this winter bear irrefutable witness, for few were due to any cause except the neglect of the first principles of snow-craft and elementary mountaineering.

We publish a short account of one of the more disastrous of these accidents; of a later catastrophe which occurred in the Samnaun Valley, near the Munschuns, 2700 m., we have been unable to obtain authentic particulars. These accidents, as well as the Rocher de Naye avalanche, all involved great loss of life.

An avalanche which buried ten persons, seven of one party and three of another, occurred in the Pazieltal on January 1, 1927. Only two were dug out alive. One party consisted of two brothers Lehr with a professional from Zürs, of whom Dr. F. H. Lehr was rescued; and the other of seven British, only Miss Woodward surviving. These two parties, and at least two other parties, or from seventeen to nineteen persons in all, had left Zürs, 5600 ft., to climb the VALLUGA, 2811 m., 9222 ft. Two members of the British party, who happened not to be taking part in this particular expedition, recounted some of the circumstances in a letter to *The Times* of January 17, 1927. The Editor of the 'A.J.' is indebted to Mr. Oswald Cox, who was similarly situated, for evidence collected from actual eye-witnesses.

The parties involved were at, or just above, the spot-level marked 2360, shown between the slopes of the Trittkopf and the terminal moraine of the Pazielferner on the D. & Œ.A.V. 1 : 25,000 map. They were following a track which zig-zagged upwards in three tacks, the German party being on the top tack and the British on the lowest one, or about 15 minutes behind. This track traversed the lower slope of

[1] The italics are our own.

[2] *British Ski Year Book*, 1926, p. 613.

the Trittkopf, 2722 m., 8930 ft. Above this slope steep rock, with snow-filled gullies, extends to the summit of that mountain. The slope has a northerly aspect, and had been in complete shadow up to the time of the accident, 11.15 to 11.30 A.M. What is probably the most remarkable part of the whole affair is the fact that the three zigzags led up the débris of a smaller, but apparently not inconsiderable, avalanche which fell on the previous day.

On the morning of the accident the sky was clear. Thermometer readings at Zürs showed — 5° C. at 9 P.M. on the 31st, zero at midnight, and — 5° C. at 9 A.M. on the day of the accident ; so it is possible that the snow was cooling down just before it occurred. The 31st was fine ; but snow, estimated at from 10 to 18 in., fell at Zürs on the 30th. Drifting took place on the 31st and the 1st. Dr. Lehr estimates the avalanche field at 300 m. broad, 120 m. long, and in places 12 m. deep. Dr. Eitner, of Vienna, who was only just clear of the avalanche, estimates the general depth at 7 m.

The opinion of those on the spot seems to be that the avalanche started at a level of about 300 m. above the upper party. In any case the existence of avalanche débris of the previous day renders it improbable that the parties started the avalanche themselves. On the lower slope, where the parties were, the avalanche is described as an enormous snow slab, which developed into a 'ground' avalanche. Eye-witnesses scout the possibility of a corniche having collapsed in the first instance ; stating that not only was no corniche seen, but also that there was no place where it could form. As against this Mr. F. S. Smythe, who has crossed the Valluga four times, and who correctly located the site of the accident in contradiction to English press reports, which indicated the steepish slope leading from the Pazielferner to the S.W. ridge of the Valluga, states that before now he has had to negotiate the steep and less easy terminal moraine, rather than risk passing under the Trittkopf corniche.

Miss Woodward owes her life to the fact that she fell in trying to run clear of the avalanche, with the result that the tip of one ski was exposed, and indicated her position. This was seen by Dr. Hermann Beck's party, who effected her rescue. It was stated in the press that two men lay in the snow to form a bed for her while she was being revived—a device worth noting. Dr. Lehr, who was dug out by Dr. Eitner and others, has given an account of his struggles to keep clear. In spite of his ski, which were undamaged, he managed to

keep near the surface by means of a swimming action with his arms. He then pushed a hole clear for his mouth, and indicated his position by shouting. He states that three persons had to dig for ¾ hour before he was entirely free, although according to Dr. Beck he was not completely buried.

To say definitely whether the Valluga was a prudent expedition on the day in point or not must be left to those who were on the spot; but, at first sight, of the various causes of this accident, the primary one appears to be that the parties set out for a serious ascent almost immediately after a heavy fall of fresh snow. Speaking generally, however, steepness renders the avalanche question a more serious one round about the Arlberg early in the winter than it is in the average Swiss ski-ing resort; and this opinion is substantiated by the fact that the reason given as to why the Heidelberg is the only hut on the N. side of the Silvretta which is *bewirtschaftet* before the middle of February, is that it is considered too dangerous to maintain a regular service of porters earlier than this. As against slab avalanches which skiers are liable to start themselves, the elementary precaution is for individuals to keep well apart—not 15 yds. apart (as is often considered sufficient), but 150 yds. if necessary. On the other hand, separation of individuals or of parties will not reduce, in the long run, the total number of persons caught by avalanches which start of their own accord. It will, however, have material effect upon the number killed, because systematic open order tends to increase the ratio of those available for rescue work to those buried in any given instance; and the effect of such open order should not be nullified by one party climbing immediately below another one, however far the two may be separated as regards actual distance or time.

Another factor which must not be lost sight of when climbing in winter, is that all parties wearing ski are unquestionably more likely to start an avalanche than those wearing raquettes or boots. If a party is actually caught in an avalanche, it is obvious that those wearing ski are practically helpless.