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SKI-TRACKS.

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THE ALPINE SKEE AND MOUNTAINEERING.

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(Read before the Alpine Club, May 5, 1903.)

TODAY the exhaustion of the Alps is a trite story. Freshfield and Conway have discussed the future of the Alpine Club, and as much as owned that the work at home is done, that the excitement of new discoveries, of unclimbed summits, has to be found across the seas. The ambitious ones have no grand, simple tasks before them, and must be satisfied to enjoy the mountains without the subtle charm of virginity. The opportunities to enjoy nature, to train the body, to develop the mind, are still there, but the Alps have lost something, and *we* cannot hide under a coat of whitewash the footsteps of Saussure, Kennedy, and Whymper. The great, the obvious problems are gone, and we are thrown upon new means to find new results. Tobogganing and cycling are such means, among others, but the intensity of the movement is more than compensated by the limitations of locality. There is, however, one instrument which has come as a revelation, which bids fair to rejuvenate the Alps, and that is the Norwegian snow-shoe, the skee. It enables one to take an entirely novel view of familiar scenes, to collect new impressions on old playgrounds. Besides that, nobody is too old to learn—let me tell them so at once. Furthermore, the best time for this new form of Alpine sport is winter, when cheap trippers are hibernating. The skee has begun to promise new life; it will keep that promise beyond our most hopeful expectations.

With the history of the skee I cannot detain you long—I have too much to say about the present and the future. Nansen's book was probably the first which made people speak about snow-shoes. Our President has increased that knowledge in England, Continental climbers have made Alpine expeditions, and of late magazine articles on skeeing have begun to appear. The Bernese Oberland has repeatedly been crossed on skee, and skeeing accidents are now a regular item on the yearly list. If, in addition, you have read, somewhere or other, of the marvellous skill of the Norwegians, of the jumps at Holmenkollen, I may safely assume to have sketched an outline of the information which ninety per cent. of our members possess on snowshoeing.

What is the Norwegian skee? It may be briefly described as a long, narrow board fastened to the foot by straps. Its object is to prevent the foot from sinking into the snow and at the same time to insure an advantageous rate of progress. One may say that on the level skeeing is even faster than dry walking. Three and a half to four miles is, I think, the average. As to racing, the Norwegian record is eight miles an hour over a distance of thirty-two miles.

Gliding over the plain or climbing a moderate slope are knacks easily acquired, but the art of coming down hill properly is difficult, and therefore absorbs by far the largest share of attention alike of learners, writers, and reformers. This glissading is the source of the greatest and most characteristic enjoyment skeeing can afford. Moreover, mountaineering involving descents, as it generally does, prescribes by its unwritten rules that the components of a descent, such as its direction, speed, and checks, be under the control of the descender, who should not therefore become a descendeé; in other words, he must let himself down, not be lowered by the force of circumstances over which he has no control. Unfortunately the Norwegian skee of the old pattern is not a docile instrument—that is to say, for us; it requires a lifetime to obtain full mastery of it. This difficulty has up till quite lately prevented us mountaineers from taking a near view of the skee; our notions thereon were very hazy. We imagined that the skee was only to be looked upon as a local means for keeping up communications interrupted by the winter: we thought that our kind of snow would not do either, and that slouching over a meadow was poor fun. Lastly, and this is the most salient point, we were under the firm impression that skeeing as a sport was only imaginable in the shape of competitive athletics, for which we could never hope to obtain

the necessary natural conditions and sufficient practice. To the Alpine climber the skee seemed a very cumbersome and artificial implement.

Not long ago I asked Mr. Dent if I might contribute a chapter on skeeing to his Badminton volume. The answer was, 'Yes, providing it dealt with that form of locomotion as applicable to mountaineering.' Now this answer shows that Mr. Dent is without prejudice against skeeing, but also that he imagines it to be a mere auxiliary. His idea is probably your idea, the popular idea, of weary plodding over snowy wastes, of break-neck descents, of Norwegian feats, long jumps, and hairbreadth escapes. You look upon skeeing as something that on rare occasions might possibly be used in mountaineering. My view is different. To develop it to you let me first try an entirely harmless *reductio ad absurdum*. If I had wished to read a paper on walking, your President, to follow the example of Mr. Dent, would have to ask me to treat that form of locomotion only as applicable to mountaineering. But what can he exclude, seeing that no member of this Club is likely to give undue prominence to athletics and level-walking?

If any of you were to select a rocky shelf or a crevasse in order to jump it repeatedly, that would not be called mountaineering. Jumping, racing, and gymnastics are not necessities in our climbing education. The same must be said of skee-running. The jump has so far been in the foreground as a popular show, but it plays no rôle whatever in Alpine climbing. Therefore, when speaking to climbers, I say, 'Skeeing is mountaineering.' We are all the more justified in doing so, as the communications in the plains of Central Europe are practically never interrupted by climatic conditions, for roads and railways are kept open, so nobody will think of substituting skee in their stead. Above all, the members of this Club never so much as think of plains if they can help it. So the level expanse need not be brought into our discussion under any pretext. What remains but the hill, the mountain?

So with your permission we lay this down as an axiom—skeeing, for us, is mountaineering. It is the best, the most reasonable method of mountaineering in the snow. We sacrifice so little—only a few rocks and icefalls—and we gain so much, that in the near future we shall take it as a matter of course that mountaineering in the winter is not worth while without skee.

If for us it is legitimate to merge one conception into the

other, not so for the world at large. There it would be folly to proclaim it without an explanation and a warning. The skeester who is neither a utilitarian nor a gymnast, but a tourist, will surely ascend hills, and with that comes the craving for greater heights, which is in human nature. If he had mountaineering experience *before*, well and good. If he only began as a skee-runner, the danger is that he will attempt things which are easy according to Baedeker—in the summer—but which during bad weather or in bad snow offer all the perils of the celebrated summits, to which our unsuspecting friend looks up in awe. In January the Rigi can kill like Mont Blanc in July. Thus you will understand that above all mountaineers are predestined to become skeesters, for they have the *general* knowledge, to which they only add a speciality. The greater the number of climbers who take up skeeing, the better for the reputation of this youngest form of sport. Alpine mountaineering was born in fear and trembling—it began with distrust and with native guides. Skeeing mostly begins at home, and may lure the enthusiast abroad with a treacherous over-estimation of his powers and experience. The parallel case, familiar to all of you, is the athlete, who steps out of his gymnasium thinking that every peak is but a magnified array of physical appliances.

Therefore, beware how you interpret to the uninitiated my words: skeeing is mountaineering.

The rise of the sport in Germany and in the Alps does not date back much further than ten years. There had been fitful attempts before that time, but they were given up in despair. Now the two important centres are in the Black Forest and near Vienna. In the former the skee has already become for the native what it always was in the country of its origin—a means of communication for church and school and business. It is safe to predict that in the not very distant future the skidding-boards will be used in every mountain valley of Central Europe. But that side of the question I shall not enlarge upon, for our attention is riveted on skeeing as a pastime, as the wintry aspect of *our* pastime.

The first great Alpine success on skee was in 1897, when Dr. W. Paulcke and his party crossed the Bernese Oberland. Since that famous and historical expedition many peaks, passes, and glaciers have been crossed, and skeeing accidents occur with regularity. The number of those who employ the swift planks for pleasure is difficult to estimate, but this year there were about a thousand spectators on skee to witness the races on the Feldberg. Counting all the

categories—sporting, professional, and military—there may now be, in and around the Alps, about 10,000 persons who will put a pair of skee under their feet during next winter. It is a very crude guess, but I do not think that it is beyond the mark. The military have promptly seen the value of the snow-shoes; and the troops of Germany, Austria, and especially the Alpine battalions of Switzerland, France, and Italy, are being trained in their use. Could not something of the kind be done in India? One of our members has taught the Goorkhas ice-craft, and thus to move where other natives fear to tread. How about sweeping down upon Afridi villages during winter when the lively occupants are buried in snow to their necks? As a curiosity I may mention that there is one region outside Europe where skeeing is intensely cultivated, and that is Australia, of all places. In the Cooma district, near Mount Kosciusko, the inhabitants seem to look upon it as a matter of course, the children go to school on the long boards, and at Kiandra races are held every year. Messrs. Richards and Kerry, of Sydney, have skeed up Mount Bogong. It is true that I have read that in the 'Wide World Magazine,' but the landscapes look fairly genuine. According to the description, the Australian heights are by no means tame in the cold season, and if, as is to be gathered from one of the illustrations, the members of the expedition have formed an Australian Alpine Club they are welcome to the name.

But, tempting as it is, I must return from the general survey to occupy ourselves with the instrument. A friend has sent one of his skee to show you the Norwegian model, and I have placed beside it the most modern evolution, the 'Alpine skee,' or, as it is sometimes called, the 'Lilienfeld skee.' You will observe that it is comparatively complicated, though really the principle is very simple. You will ask the reason and justification for this new-fangled idea. To begin with, let me tell you the interesting history of the invention. Some ten years ago Herr M. Zdarsky, an Austrian, bought a small estate near Lilienfeld, in Lower Austria, and settled there to think and write. His house is in a small sub-Alpine valley, about a mile from the nearest village and railway station. During the summer months there was no difficulty about his supplies, but one especially severe winter he was nearly starved. Only after a desperate struggle of many hours did he reach the village, wading and wallowing in snow up to his waist. It was then that he remembered reading about skeeing, and forthwith he ordered himself a pair of

skee from Norway. Nobody was there to show him their use, and he began to teach himself. He soon came to the conclusion that the Norwegian fastening did not admit of that precision which the steep mountain-side demands. Then he tried to remedy that defect, and set to work with a will. The first improvements were failures as regards practical use, but they showed the way. Our friend was not to be beaten by rebuffs; try again and again, he said to himself, as he threw one design after the other into the lumber-room, not, however, without keeping something as the starting-point for further progress. Six years, winter after winter, he thus worked and practised with a dogged determination; six years he furrowed the snows of his lonely valley with those curves which ever grew in grace; and nobody disturbed his peace, nor did he set eyes upon skee-runners of any kind. And after those six years he had made the Norwegian skee into what you see before you now; and then there was no man on the face of the earth who could have followed in Zdarsky's track with impunity. One day some visitors came, one of whom was induced to try the skee, and then for the first time in his life he saw a skee-runner, and he made him his first pupil. This seclusion, this absence of outer influence during the experimental stage, explains the peculiar and entirely original features of the invention, given the man to make it.

When, presently, Zdarsky set forth to give his idea to the world he encountered much violent opposition, but now he has prevailed, and two thousand or more use the Alpine skee. Many hundreds of pupils have passed through his hands; he teaches for the love of the thing, and without any thought of recompense.

I am forcibly reminded of an analogy in British sport which could not possibly be closer. It ought to appeal to you with tenfold force, because your nation furnishes the best oarsmen in the world and your country is the birthplace of the sliding seat. Need I remind you of the revolution worked by this improvement and of the scornful disdain which it encountered on its first appearance? To quote the Badminton volume: 'Even bad sliding secures sufficient advantage to beat fixed-seat rowing, and good sliding completely distances fixed-seat performances.'

Exactly the same holds good of the Alpine skee as compared with the old Norwegian model.

After this we might have a look at the mechanism. A steel plate revolves round an axis in the centre of the skee, and a spiral spring keeps it pressed against the wood.

This arrangement can be strapped to the foot like a skate. The fundamental principle which Zdarsky had in his mind can be summed up in the words accuracy and rigidity. Consciously or unconsciously, it has been recognised by others, mostly after Zdarsky had given the cue, and this is shown by the many patterns which have since cropped up like mushrooms. If the underlying idea was simple, the putting into practice was beset with endless difficulties. An enumeration of some of the disadvantages in the original model will show the points which had to be considered, avoided, and overcome in the evolution of the perfect instrument. First of all, the strapping on of the old fastening is bothersome, and special boots have to be used with it; whereas the Alpine skée will fit any kind of footgear, specially the hobnailed mountain-boot. In the old pattern the heel cannot be freely raised, and at the same time is allowed too much freedom towards the sides; furthermore, snow-clods form under the soles and heels, and in sticky snow the whole gets hopelessly clogged. All this makes skéeing really enjoyable only on moderate slopes and in dry snow. The advantages of the Lilienfeld skée are the ease with which it can be put on and the full mastery it gives to the skéester. The foot is never squeezed or strained, and if a little snow collects under the heel-plate it can quickly be removed. So much freedom is allowed in bending forward that one can kneel on the skée without the slightest discomfort. But, above all, there is no 'side-slip—that is to say, the longitudinal axis of the foot is always exactly and firmly identical with the longitudinal axis of the skée. This means that the skée is absolutely in one's power, and that one always feels in close touch with it. It becomes part of oneself. If the heel is moved sideways a quarter of an inch, no matter how massive the snow, the point will surely describe the corresponding arc of an inch or so. Contrast with this the old-fashioned fastening, the lateral working of which contains a margin of uncertainty of about an inch or more each way, measured at the foot. To overcome and correct this unprofitable factor in steering, this wobbling of the heel, greater efforts have to be made to guide the skée steadily and unerringly over difficult ground or to change the direction at a moment's notice. These efforts show themselves in strained attitudes of the foot and body, vehement antics in the air, undignified positions, and frequent falls. I speak, of course, of ordinary people, of the majority, not of the rare experts. It means that, to avoid all this as much as possible, greater agility and

longer experience are necessary. Too much is left to personal ability, and only if this be of the highest order can it secure a reasonable amount of elegance and accuracy. None but the pick of our Black Forest men would dare to follow a moderate Alpine skeester on difficult ground. The secret of the Alpine skee is rigidity without loss of elasticity and freedom of foot; it gives the runner a command over his implement which allows of the nicest calculations. The difference between the new style and the old is as between a steamer and a sailing vessel. Many similar models—and there are scores of them—such as those invented by Hoek, Schuster, Schottelius, and Paulcke, are excellent steps in the same direction. They represent a progressive series of solutions of the problem by aiming at the same principle.

One of the many objections of the old school—almost the only justifiable one—is that the Lilienfeld skee cannot be easily repaired during an expedition. Breakdowns do occur, it is true, but they do not outweigh the advantages. And what prevents the skeester from putting a small hammer, a punch, and a few rivets into his rucksack? So in the end we find a mass of undeniable advantages, and only one disadvantage—the occasional breaking of the plate—which is, however, on the point of being reduced to a minimum or altogether abolished by further improvements on which Herr Zdarsky is actively engaged.

But the inventor has not only given us the instrument of precision, he has also given us a perfect method to work it. While developing his invention he learnt the way to use it in the most efficient manner possible. Thus he produced simultaneously a scientific theory of the sport. This, of course, does not mean that his skee works only with his theory, for one may work it any way one chooses, Norwegian or otherwise, but by Zdarsky's system one obtains the greatest effect with the least expenditure of energy and time. A definite theory does not supplant practice, but accelerates and intensifies it. You cannot place an unsuspecting man in a racing boat and tell him to row. Indeed, before you can tell him anything he will be too wet and too full of revengeful thought to listen to anything you may have to say. Similarly, do not tempt him suddenly with skee on a high mountain, or you may regret it afterwards. But a proper understanding, coupled with a little patient and graduated practice, will work wonders. The beginner will soon find out that with either of these appliances he has nothing to do but to follow the theoretical rules conscientiously and accurately.

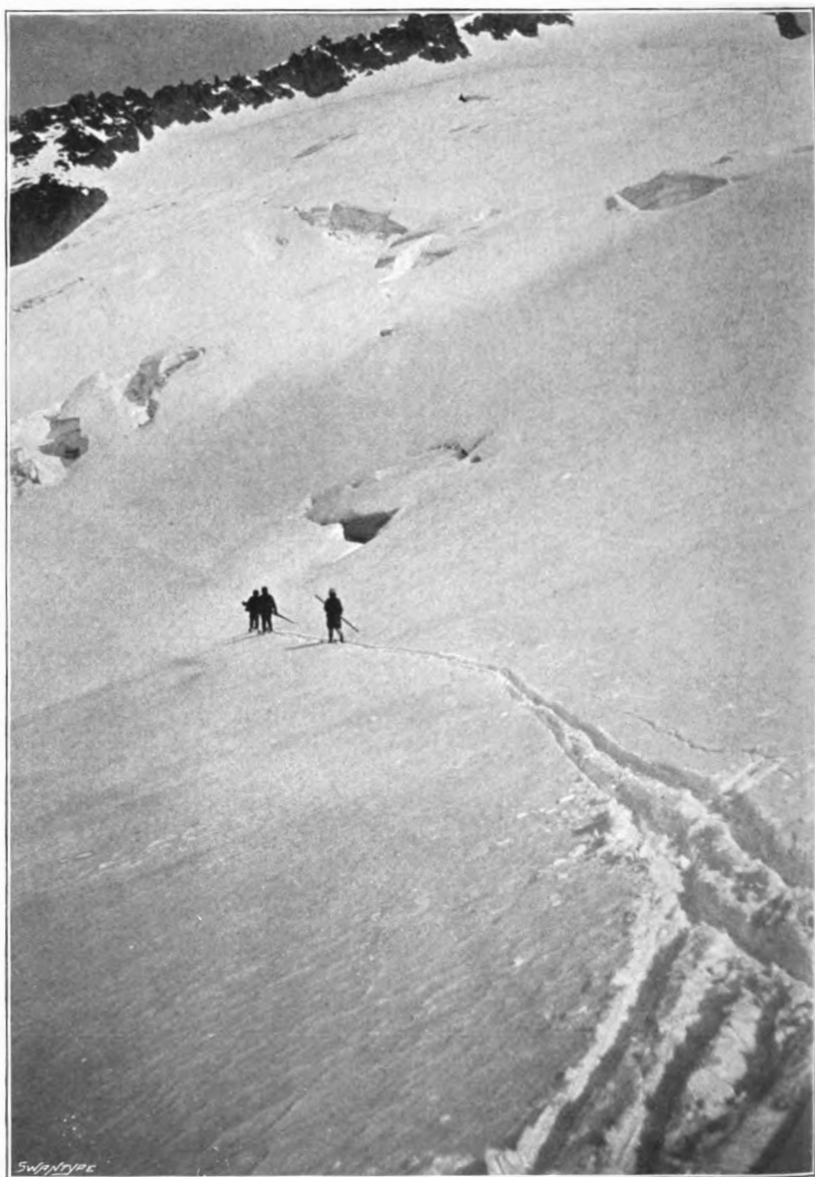


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DESCENDING FROM THE CIMA DI ROSSO.

He sees that every correct or false movement carries its reward or punishment with mathematical certainty. In those who use the primitive instrument the efforts to keep or re-establish the balance are more apparent, and the instinct of equilibrium under trying surroundings takes far longer to acquire. The twisting of the body and the flourishing of the limbs remain very conspicuous. On the other hand, the beginner on Alpine skee soon passes the frantic stage of fits, starts, and jerks. Becoming steady, he proves that his snow-ships obey the slightest touch, respond to the faintest sway. Of course, I am speaking of ordinary individuals in each case. We have not all of us a lifetime to spare for practising skee-running. There are exceptionally skilful men who can do with the ordinary Norwegian snow-shoe apparently anything which the Lilienfeld tiro is able to do on his, but then not all men are born acrobats.

Some day I hope to bring out an abbreviated English version of Zdarsky's book. The ambition of his pupils is to run safe and true wherever they venture; falls must be the outcome of unforeseen accidents only. As little as a mountaineer may slip on an ice-slope, as little may he fall when skeeing in awkward places. Let me remind you again, to avoid misunderstandings, that I am not speaking so much of the Norwegians, the originators of the skee, but of those thousands of Germans, Swiss, and Austrians who will place a pair of Norwegian skee under their feet next winter. At the same time, I have cogent reasons to believe that even fair Norwegian runners will not be able to follow my lead in specially difficult places; and remember that I am only a beginner in his third season. In beginners the fundamental differences of the two styles are best studied. Such words as friskiness, agility, nimble pluck, daring, describe the Norwegian style. One word distinguishes Zdarsky's Alpine style—deliberation. That, gentlemen, is the watchword of the mountaineer. It does not mean sacrifice of speed, as you well know, for it is he who arrives home after the least number of little mishaps, with the least expenditure of energy, with the greater store of safe enjoyment, who has lost the smallest amount of the time devoted to pleasure. On some skeeing expeditions I have not had a single spill throughout the day—*e.g.* on the Forno Glacier and Cima di Rosso.

It is hardly possible within the scope of this paper to give you more details about the theory and technical advice how to use the skee, but I shall illustrate by a few examples what can be done with them.

Sir Martin Conway is an authority on skee, but being also a prudent mountaineer I know that with Norwegian snowshoes on his feet he would not venture down a slope of 50° which is unsafe lower down. Of course, if the snow be deep and firm one can manage by treading sideways, but that compares with the safe gliding of the Alpine man as step-cutting compares with glissading. Do you believe that with my skee I can stand and safely move up or down on snow as hard as bone and at an angle of 45° and even more? You know the kind of névé which you have met with on many a fine morning on leaving the hut. At 35° or thereabouts is the limit where one may walk without the help of step-cutting or crampons. I climb it with these skee feeling as safe as with spikes 2 in. long under my sole. I have traversed hard snow at an inclination of 50° , measured, of course; and to the uninitiated mountaineer, who knows a thing or two about snow-slopes, this experiment always comes as an astonishing revelation, especially because the spoor is almost invisible. The explanation lies in the long stretch of rigid edge which cannot be beaten by three hundred hobnails set in a row.

In the 'Strand Magazine' Sir Conan Doyle describes his crossing of the Furka Pass from Davos to Arosa by the aid of skee. He was accompanied by the two guides Branger. In two instances the skee were taken off, first during the ascent where the snow was hard, and then during part of the run down to Arosa. The tour is highly creditable; it is one of the pioneer skeepings expeditions, and was eminently successful when one considers all the disadvantages under which these skeesters laboured. But let me assure Sir Conan Doyle that if he had used Alpine skee he need not have taken them off once between his hotels in Davos and Arosa. He would have saved himself the greater half of the falls which he so graphically describes. Probably he would also have done the journey in much less time if so minded.

Quoting from my own experience, I shall briefly refer to our trip to the Gross Venediger. From the orthodox point of view it was not a success because we did not reach the summit, but I can confidently treat that as a secondary matter without fearing the taunt of 'sour grapes.'

We started from the Pinzgau Valley a party of nine, and on the following day all of us reached a height of 8,000 ft. in the Obersulzbachthal, but were turned back by darkness, impassable glacier, and bad weather. After this first attempt most of the gentlemen had to leave for home, and only

Zdarsky, my wife and I remained. By forcing a passage, always on skee, between the glacier and the rocks we reached the Kürsinger Hütte. At one corner the clinometer showed 56°. From the hut, where we stayed several days, we made two attempts to reach the summit, but got no further than the col between the Gross and the Klein Venediger, where crevasses drove us back. By roping and walking we would naturally have reached our goal with perfect ease, but that mode of progress did not interest us at the time, as we had come on a skeeing expedition. Not once throughout the climb did we allow the slender furrow of the skee track to alternate with the dots and dashes of trampling feet. The journey affords food for moralising. I have said that walking and skeeing unite into the common conception of mountaineering as soon as the plain is left. Likewise, however, pure skeeing and mountaineering diverge, forming two separate branches, as soon as the badly crevassed glacier is trodden. Then comes the *vital* question in the grimmest sense of the word. Skeeing with a rope loses its chief attraction, its most exhilarating features, and becomes in mountaineering a mere aid and appliance. As to myself, I dismiss this question by a simple rule: I avoid the climbs which involve the putting on of the rope or the taking off of the skee. For me those mountains do not exist in winter. Skeeing on dangerous glaciers without a rope becomes a sport entirely of its own, with its own risks and penalties, for we, as mountaineers, will have none of that. For us the crossing of treacherous glaciers without the rope is not, cannot be; by that rule we stand or fall, as does the Church by its fundamental dogma.

No doubt one can cross almost any snow-bridge, however frail, when coming down at even a moderate speed; but what if one happens to fall? The idea is too uncanny, though, on the whole, it relates only to very broken ground. A glacier such as the Roseg, well plastered up with snow, may be looked upon as practically safe, and especially for the user of *Alpine skee*, for he can dodge suspicious places with marvellous precision and rapidity. Dr. Paulcke, of Freiburg, is one of the few who from the beginning have used, and insisted upon using, the rope in doubtful places, even in the descent. This proves that the opposite opinion—that it cannot be employed—is wrong; and if further proof be wanted, the accident on the Grenzletscher is there to furnish a sad example. Whether one will always be able to use the rope efficiently is another question, which I shall not discuss in detail. The conditions of foothold are peculiar; the man

behind can throw himself down, but what of the man in front, if an unexpected stage effect happens to the last? We have at present on this point more theoretical surmises than practical experience, and it will be wiser to wait for the data, which the experiments of the future are sure to furnish. It is perfectly possible for a trained team of Alpine skeesters to wriggle down a steep slope with a rope between them. Dr. Schuster and I tried it successfully; but the objections are too numerous. The temptation, therefore, to go without a rope is very great; one has more than enough to carry anyhow on winter expeditions, the often spurious sense of security, the joy of roaming freely over the wide glacier, perhaps the late hour of the day, which bids us hurry—all may be excuses for avoiding a duty which, after all, as some of the party may think, is possibly quite useless. Think of breaking through and getting jammed into the chasm, head foremost, the large planks efficiently stopping every struggle for freedom, and—maybe you are the man whose rucksack contains the only rope. No, thank you, I do not think it good enough. I may be prejudiced; and I certainly admit that it is a matter of taste; but I make a distinction between boot mountains and skee mountains. Skee mountains are always also boot mountains, but not the other way round. Likewise all summer mountains are not winter mountains, at least, to my mind. Owing, perhaps, to defective ambition, or exaggerated fear of avalanches and frostbite, or laziness, I confess that the Matterhorn or the Weisshorn do not tempt me very much in winter. I think the charm of winter mountaineering is this—that the high regions come down to us, that snow and crisp, bracing cold descend to mingle with the forest and with the nearer view of human dwelling-places. To give my personal impression, a proper skee mountain ought to be one which can be done entirely, or almost entirely (say, nine-tenths), on skee. It goes without saying that all sorts of combinations are possible, and that one can use the skee as the easy means of approach to a place where climbing begins. For instance, a winter climb of the Matterhorn would thus be done on skee as far as the Schwarzsee. A very brilliant example of the kind is Mr. Hoek's ascent of the Finsteraarhorn in November 1901. He crossed the Oberland from the Grimsel to Fiesch, and, leaving the skee at a height of 12,000 ft., reached the summit scrambling over the rocks. In cases of that kind one comes back to the spot where the skee have been left, just as one returns to the carriage roads or railways of the valley. But I cannot feel

any enthusiasm whatever for excursions where the state of intermediate sections of the route obliges one to carry the long things over one's shoulder. They cannot, by any pretext, be classed as portable instruments to be pocketed for emergencies. Keeping this in mind, it is the Alpine skee which reduces the restrictions to a minimum, and admits of the largest number of possible skee excursions in a given district; it increases the number of skee mountains to a wonderful extent.

A pure skee mountain in the Alps will generally not be much higher than 9,000 or 10,000 ft. To most of you, however, the use of the skee as a means of approach will appear more important—at least, till you have tasted the joys of the adept. It enables one to overcome the fatiguing grind through deep snow with comparative ease, and to save the bulk of one's energy for the hard and exciting work below the summit—say, for the last rocks and ice of Bernina, Finsteraarhorn, Eiger, Monte Rosa. The last-named mountain, for instance, can be done on skee as far as the saddle. After returning to the skee, the descent into the valley is mere play, whereas to the walker it may mean another night in the hut. Supposing that, after leaving the summit, one reaches the sleeping-place of the night before at 3 in the afternoon, the experienced skeester has ample time to regain his headquarters before dark. To give examples, Dr. Schuster, my wife, and I crossed the Diavolezza from Pontresina to Pontresina very leisurely within a comfortable day. We drove in a sleigh as far as the Bernina Häuser, whence we took 3 hrs. in the ascent to the Diavolezza Pass. The run down to the Morteratsch Restaurant was more than 2 hrs., but the level stretch to Isla Persa and crevasses have to be reckoned with. From the summit of Griatschoals to the road between Zuz and Scans, 4,000 ft. vertically, I took 36 min., the snow being fairly bad. During the six weeks which we spent at St. Moritz our party visited about fifteen peaks and passes, hardly one of them under 10,000 ft. The busiest of us all was Dr. Oskar Schuster, who in some expeditions was accompanied by my wife only, who also took part in most of the other climbs, without ever complaining of over-exertion. She was a trifle slower than the rest, but did not call for special help, which shows that the skee opens out a wide field for ladies. The finest expedition was Dr. Schuster's crossing of the Bernina Range along the route Fuorcla Fex-Scerscen, Capanna Marinelli, Piz Glümels, Roseg Glacier, Pontresina. His companion on this and some of the other trips was

Christian Klucker, whom he had instructed in the use of the Alpine skee. Among the climbs in which the skee were used up to a certain height only are Piz Julier and Piz Lagrev. Others, such as the Cima di Rosso, were approached to within 100 ft. of the top.

I need not enumerate the countless excursions and promenades from St. Moritz, which were chiefly opportunities for teaching beginners. In spite of the competition of other sports, and the aversion of the hotel population to more than gentle exertion, I had quite a fair number of tiros under my wing. Some of them turned out very well indeed. I also had the honour of meeting Mr. E. C. Richardson, who has spent many winters in Norway, and who is one of our greatest authorities on skeeing. To him the cause of the sport in Davos owes the great impetus which it has received of late. As Mr. Richardson is probably the best English skee-jumper, and seeing that I have said so little about jumping in this paper, I cannot do better than quote from one of his letters: 'There are in every country many hills where a little jump may be built in a few minutes with the aid of a shovel and some sticks or fir-branches. The feeling of satisfaction after landing *in proper style* over even a small jump must be felt before it can be appreciated. Not everybody has access to Alps, whereas most people have access to suitable jumping hills. After a heavy fall of snow high mountaineering is out of the question, but jumping may be practised at almost any time. There are many days when touring is an unpleasant and dangerous labour, which would be much more agreeably spent in jumping.'

From these few hints of Mr. Richardson's you will perceive that the skee even provides amusement for the off-days. So, looking at it from every side, we find that the skee offers splendid chances for an increased enjoyment of the mountains in winter. The variety of expeditions at one's disposal is enormous, and the most miserable hillock becomes interesting. Every valley-side offers a great choice of routes, it has a fascinating selection of possibilities, it bristles with new problems. A rich store of new sensations, of freshness, of conquests is in store for you. Therefore I say—Go and skee.

As to warnings, there is not much to say to mountaineers. Know your business, look before you run, be cautious, and above all remember the avalanche. A special admonition is: do not descend a slope which you or your companions do not know, or by which you have not come up, if it be at all steep. In the twilight, or in glaring sunshine, snow-slopes lose all

detail, and, seen from above the 100 ft. rock wall gives no indication of its presence. Everything looks smooth and continuous. Skeeing in the dark is, of course, more dangerous than walking in the dark, and to be familiar with a locality one ought to know it as a skeester, not merely as a walker.

These hints will suffice, for the main thing is that you should go and try for yourselves. Gentlemen, I can promise unspeakable delights to every one of you, be he ever so young or ever so old, but then an A. C. never does grow old. Skeeing by the method which I have set forth is an accurate sport, where every movement has its rule and works without a hitch. It combines the deliberate progress of the climber with the brisk excitement of tobogganing, with the grace of skating or dancing. The rough hill with its hot and stony mule path becomes a vision of smoothness and coolness. Once on the top, the work, if any, is done, and unadulterated pleasure begins. There is plenty of time to enjoy the view at leisure. Then the skeester descends like a bird, now gliding softly, now rushing with a whizz, now circling calmly. Indeed, he is a bird, as sure of his fleet runners as the eagle is of his wings. He feels the delightful sensation of flying. Skeeing of that sort is the acme of elegance, the summit of physical joy.

What I have told you is not a nightmare, but the sober truth. I shall be only too happy if you will during the next winter give me an opportunity to prove it by coaching you either in Adelboden, or Davos, or in the Black Forest, or Scotland. And I make bold to say that those who accept this invitation will be the first to forgive me for having been so talkative to-night.

P.S.—The Ski Club of Great Britain has just been formed.

All inquiries on skeeing matters will be gladly answered by E. C. Richardson, Esq., 38 Earl's Court Square, S.W., and Mr. W. R. Rickmers, Radolfzell, Germany. Gentlemen who wish to take lessons (from amateurs) ought to apply not later than the beginning of December.

W. R. R.

THREE DAYS AT THE PIANTONETTO HUT.

BY W. T. KIRKPATRICK.

A FORTNIGHT in Dauphiné, the Aiguilles d'Arves, and then a high-level route to Chamounix, was the idea we had in our minds when we left home in July last year. Our party consisted of R. P. Hope, J. H. Wigner, and the writer,