

more of a fatigue than a help. My descent had taken 6 minutes and the hour is 13.40.

Madame de t' Serclaes had literally just avoided strangulation by the *climbing-rope*. At each swing the said rope twisted itself round the spare rope, and she saw herself soon brought to a complete full stop. When I heard her call out, my actions, owing to the said frapping motion, had ceased to have any effect on the rope: of this I had had but little doubt. The knot never tautened when I began to pull hard. Thanks to this fact, Madame de t' Serclaes contrived to undo it and also, owing to the luck of the 29 m. overhang being nearly finished, her feet could be pushed at right angles against the vertical rocks, thus relieving her when almost at the last gasp.¹⁵

Below us the face now appeared broken and less steep. A steep spiral rib led us out on to a boss, flanked to the left, N., by gently sloping slabs. We had here once again to use the spare rope on account of sopping snow clinging incoherently to the smooth slabs. Instead of continuing the now uninteresting descent to the barren Comba Rosse and its dreadful stones, we pulled out more to the N. along slippery rocks and snowy ledges, attaining a snow couloir down which streamed much water. Ten minutes later, having scaled the couloir, we reach well-known ground at the N. foot of Pointe Beaumont.

[Figures 1, 2, 3 were drawn, very kindly, by Mr. H. G. Willink from photographs and material supplied by M. Blanchet.]

THE N.W. FACE OF THE ŠKRLATICA IN THE JULIAN ALPS.

BY STANKO TOMINSEK.

THE Triglav is king of all the adjoining mountains including the Škrlatica (*Scharlachwand* = Scarlet Crag), which, although slightly lower, is in no other respect much inferior. The Triglav arrogantly displays its superior height, while the Škrlatica conceals its beauty, surrounded as it is by an array

¹⁵ Armand Charlet considers the *rappel* made by him and me on the Corne Sud de Chamois de Tenneverge, 2526 m. (October 4, 1925, *A.J.* 37, 365-6, with an illustration), as the most difficult he has made. But it bears no comparison to that of Pointe Beaumont.

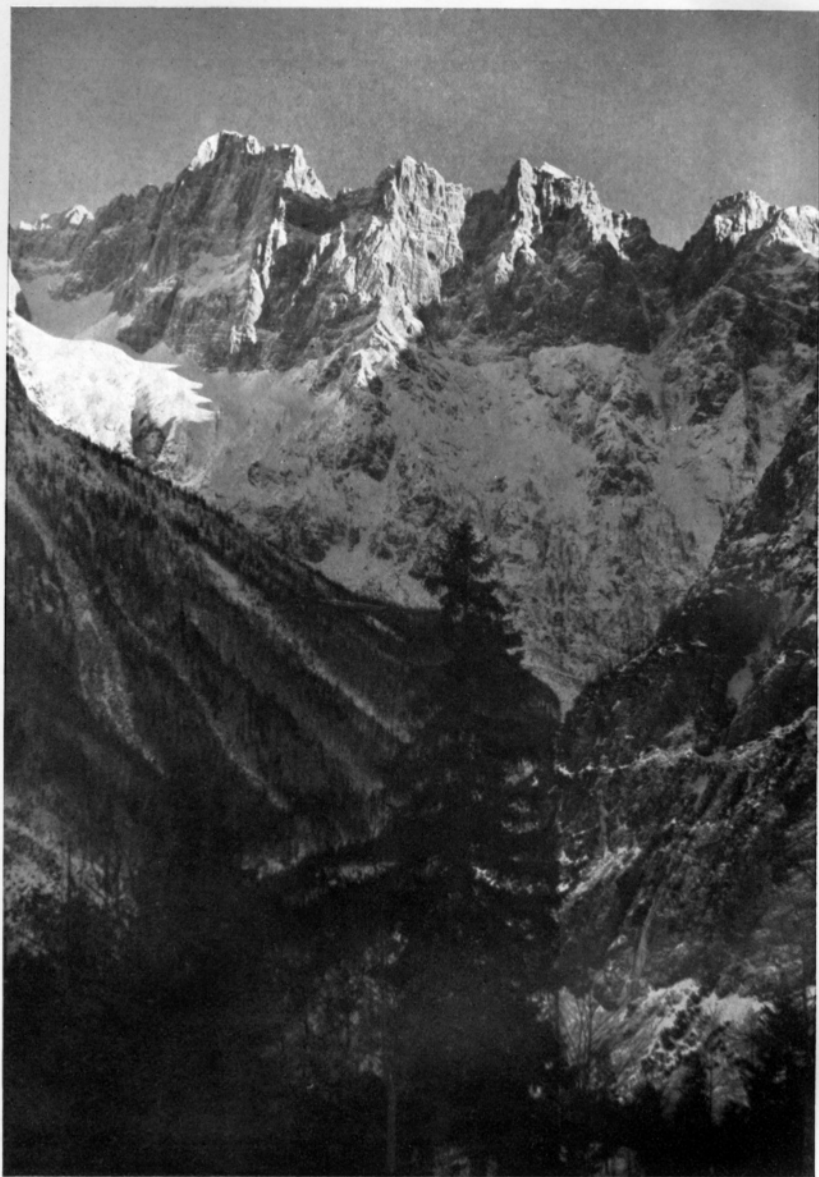
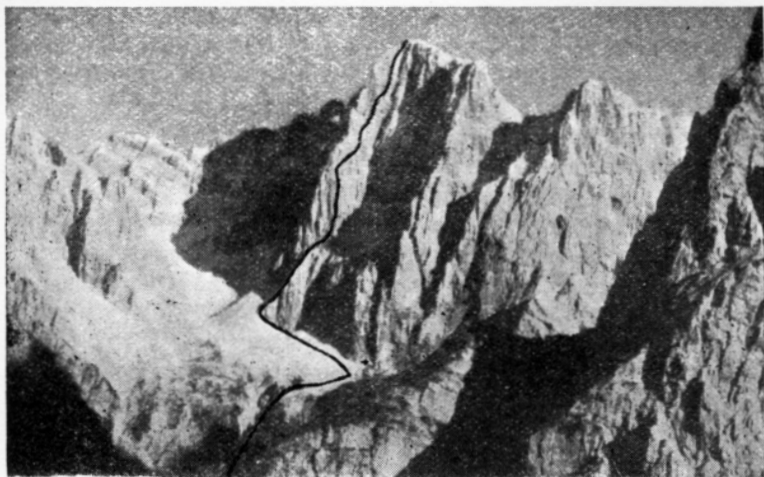


Photo. E. Planinsek.

ŠKRLATICA.
N.W. face.

of satellites. Towards the N. lies the rugged Martuljek group ; towards the W., Rogljica (*Little Horn* ?), Križ (*Cross*) and Stenar (*Stonewall*). Only from the Vrata (*Gates*) and Krnica Valleys does the Škrlatica stand revealed in all its grandeur. Majestic and forbidding, this mountain defied all human approach until Dr. Julius Kugy, with his admirable guide Andrej Komac, succeeded in reaching the summit. The many failures, bivouacs and troubles this victory cost them have



Photo, S. Tominsek.]

N.W. FACE OF ŠKRLATICA, SHOWING 1927 ROUTE.

been described most delightfully by Dr. Kugy in his book 'Aus dem Leben eines Bergsteigers' (p. 40 *et seq.*).

The Škrlatica looks finest from the N. Years ago, as I studied the N.W. face from the neighbouring Visoka Ponca (*Great Noon*, in the Martuljek), I was seized with the desire to achieve its ascent by this face. I looked long and carefully but without coming to any conclusion. In dizzy perpendicular slabs the peak rises from the Alpine glen called Velika Dnina (*Great Dene*). There are no ledges visible to the eye, only smooth rock with here and there small fissures. They might be chimneys or cracks, perhaps only shadows of corrugations in the rock ; it was impossible to make it out from a distance. Most notable are two perpendicular buttresses rising from Velika Dnina to the summit ; the left ends just below the summit, the right merges into the W. arête of the Škrlatica. It looks as if these buttresses were an architectural contrivance

of nature, supporting the peak lest it should topple over. So far as I could judge, the greatest difficulty would lie in finding a traverse across the lower part of the face to the scree in the face between these buttresses. Time and again, summer and winter, I studied the face from Vršič, whence you obtain the best view of the Škrlatica, but I was unable to decide beforehand upon any route up it.

Since observation from a distance failed to reveal any possible line, I decided to study the face at close quarters, from Velika Dnina, and, supposing I were to find a feasible access to proceed with the climb. It was clear, however, that the face was going to prove a very tough proposition.

So on July 16, 1927, at 6 A.M. we set out on the road from Kranjska Gora to the Krnica; Miss Pavla Jesih, Jože Čop, Danilo Martelanc and I. Certainly four is too many for a difficult climb, but the Škrlatica was at stake and every one of us was anxious to be present in the first ascent of its N.W. face. In order to give each one of us his chance we agreed to take it in turns to lead. This arrangement would also render impossible any eventual insinuations that some member of the party had climbed the face merely because of the presence of an excellent leader!

As far as I am concerned, I do not care whether I lead or not. For a difficult climb all must be first-class, especially in tackling unknown ground, each climber having his own special allotted task. As a party of four is bound to be slow, especially on difficult rocks, we decided to bivouac in Velika Dnina, close under the mountain. We stepped out briskly along the highroad leading to Vršič. At the second bridge we took the cart track leading up the Krnica Valley. The path follows the course of the Pišnica (*Pishnitsa*), gurgling and murmuring as it hurries down to the Save. Vršič receded on our right, and, on our left the Proklete or 'Ferdamane' (*Accursed*) Ledges and the Špik. Suddenly the Škrlatica hove into sight from behind the Gamšica on the left. We stood still and admired it. Above the sombre green of the forest rose the Škrlatica, glowing crimson in the light of the sunset, scored with shadows of deepest violet. It looked like the magic abode of mountain spirits.

Time pressed. We did not know the way up the Velika Dnina, we only knew that it had been marked years ago and that the marks had worn off. The path winds slowly upwards through the woods. At last, as we neared the scree under the Križka Stena (*Cross Crag*), we divined, rather than saw, our

way turning off to the left. It was all grass-grown. Within 10 minutes we came to a very primitive wood-cutter's hut. Now we knew that we were on the right way, for this was the so-called 'Villa Griža.' It is neither pretty nor comfortable. Its furniture consists of a shelf covered with fir branches by way of bedding. At a pinch one could spend a night there, but we were anxious to get on.

A little way past the hut we lost the path. We were now in the dry bed of what is sometimes a torrent descending from below the Mala Ponca (*Little Noon*). We wasted no time in hunting for the path, but followed the watercourse upward. The going was far from pleasant; innumerable spates have piled up enormous boulders in the watercourse and we had to make our way between them. We had to keep to the watercourse as the banks are densely wooded on both sides. As we got higher the trees became more sparse. On the other hand the banks became steeper, turning gradually into precipitous cliffs. It was getting dark. We were glad when we again found traces of the marked path, which we then followed. After a while it bore to the left, towards the Lipnica. So we got back into the gully. The Špik and Mala Ponca loomed indistinctly above us in the dusk; from under the pass between them a steep snow-filled couloir stretched towards us like a monstrous tongue. Our gully was between cliffs; on the right the spurs of the Gamšica, on the left the cliff marking the junction between the Velika Dnina and Krnica Valleys.

Presently we reached the snow. We made quicker progress there than among the boulders. But how to get into Velika Dnina or to reach it over the cliff? We had neither crampons nor axes¹ and therefore did not care to tackle the couloir because of its extreme steepness. The cliff presents a sheer face of something over 100 metres, so we stuck to the snow till the rock on the right appeared a bit more accessible. We approached it over a ledge. We were in luck as we got on to an easy bit of rock and made quick progress. In a little while we were among dwarf pines.

Our one worry was now where to find a suitable place for a bivouac. After some search we hit upon a ledge about a yard wide under the shelter of a small rock. We doffed our sacks and set about collecting dry brushwood, no easy matter, as we were on steep terrain where every bit of our fuel had to be climbed for. All the same, the four of us succeeded in

¹ (?) see later.—*Editor.*

getting together sufficient dry stuff to last the night. We then prepared our bivouac, widening and levelling our ledge with stones at the place where we proposed to light our fire.

Then Jože built the fire. His efforts were soon rewarded, and high leaping flames cast their fitful mysterious light over our surroundings. It would have been jolly to sit round the fire so as to enjoy its warmth equally. But that was impossible, with the cliff on one side and a steep drop on the other. Pavla fared best, as she sat on a convenient stone and leaned against the cliff which happened to have a rounded dent there which just fitted her back. The rest of us were not so well off. A projecting bit of rock poked me in the back, Danilo's long legs dangled over the precipice, Jože sat on the brushwood. After supper each of us settled down.

The night passed and day dawned slowly. The outlines of the mountains grew more distinct, the grey light increased until, finally, morning conquered darkness. We rose and stretched our stiffened limbs. An unpleasant surprise awaited us. Over night the sky had become overcast and clouds were growing denser. As we made ready to start it actually began to drizzle. A fine beginning; and our spirits sank. Climbing in the rain is no fun and dangerous to boot. The most dejected of us was Pavla when we discussed the advisability of merely studying the face in case of bad weather. To give us courage, she produced from her sack a flask of brandy meant for consumption on the summit and handed it round. We drank it all, but became none the more enterprising.

We made a sluggish start, no one feeling enthusiastic. We got back among dense dwarf pines. Slowly we wrestled through it, sleepy and cross. Within half an hour we were on the big scree under the face. Now it began to rain; we sought shelter under a leaning boulder lying isolated on the screes.

We employed our enforced rest in studying the face. From here you can see only the lower part, as the upper part recedes. This lower part is smooth and sheer, seamed from top to bottom by three chimneys. As the rain soon stopped we examined these at close quarters. The first, right hand, chimney is wide and quite red—a sure sign of rotten rock. It is too wide for wedging tactics. The second rises from above a little snow slope. Sound rock, but smooth and very few holds. Some 50 m. up, where the chimney begins to overhang, it looked as though a ledge might lead off on to the face. As a matter of fact, you see nothing but a straight

line, but as we noticed a dead larch tree on it, we deduced a ledge, albeit a very exposed one. Between the snow slope and the face yawned a deep chasm; if we found no better access elsewhere we might try our luck there. The third chimney proved inaccessible.

In this way we skirted a good bit of the face. Suddenly the clouds broke and the sun shone out. This put new life into us and we went on, still examining the rock. At last we were near the blending of the N.W. face into the N. face, close to the foot of the left-hand buttress. Perpendicular up to this point, the rocks form here a series of steeply inclined slabs. From a distance they looked smooth and impassable, but at close quarters appeared so promising that we tackled them at once.

We started on the face at the level of the ridge leading from Gamšica into Velika Dnina. We climbed all together and in boots, advancing with amazing speed. Each chose his own route; the slabs were seamed with little chimneys, holds were good and sound, so that not even the short overhangs which we had to pass gave us any difficulty.

We began by climbing straight up and then diagonally to the right to a small ridge and by that to a convenient débris-covered ledge. There we all met again. We had climbed a good 100 m. As we looked round to the left, the face towered above us, an unbroken cliff of pure red crowned with well-marked pinnacles. To the right the face leads into a fairly steep ridge. We put on *Kletterschuhen* and traversed to it. The ridge rises to the left above the wide and steep bank of débris in the middle of the face. From there we perceived that there was still a stretch of smooth and impassable rock above the chimneys already described.

From here we could overlook the whole of the N.W. face of the Škrlatica. To the right of the left buttress the rocks fall away to the scree below in smooth, rounded and quite impassable overhangs. The same applies to the right hand buttress. The left hand buttress, on which we were standing, looked more promising. To the left, the rocks were sheer and smooth, but straight ahead a long and narrow chimney appeared most promising. This chimney leads towards the summit and ends in a little notch between the face and a small pinnacle. We entered the chimney. It was narrow and shallow, but had so many reliable holds that we climbed easily and independently. The length of this chimney is about 100 m. There are several steps and a few short, not

difficult, overhangs. In places we had to wedge, which was unpleasant because of our sacks. Under the notch the chimney was blocked by a chockstone. With difficulty we took to the face on the left and hoisted ourselves over it. Above the chockstone the chimney eased off, ending in the notch connecting the face with the pinnacle on the right.

According to my aneroid we were now at a level of 2140 m. Our notch was scarcely half a metre wide and a few metres long. It springs straight from the buttress, merging in a low pinnacle; on both sides the rocks fall away almost perpendicularly. We had climbed up from one side; on the other it meets the *débris*-slope already referred to, in the middle of the face. Above us, the buttress was vertical, but broken up by a series of short chimneys. The buttress itself finally merges into the face proper, forming an obtuse angle at the junction. This junction is marked by a long narrow chimney ending below the red summit-cliffs of the Škrlatica. This chimney might be reached by a narrow little ledge, but not being able to make out whether there was any practicable egress from the chimney, we decided in favour of the series of chimneys above us. Before quitting this point we built a little cairn.

The series of chimneys above us were inaccessible direct from the notch. To reach them we had to cross a smooth boulder some 10 m. high. As the rock was sound, and holds although scanty, were good, we soon climbed it. We were now in a chimney set at a dizzy angle. All these chimneys were of the same type as those below the notch. They were from 10–30 m. high, separated one from the other by little shelves.

We had climbed some 90 m. in this fashion when the last chimney, smooth and overhanging, compelled us to take to the face on the left. After a few metres of open rock we reached a small scree patch at a height of 2240 m. There we halted just long enough to build a cairn. The angle of the face now eased off a little; by an easy chimney and partly by a crack we reached a second scree. To the left a pinnacle stood out sharply against the sky; to the right the face was split by two long narrow chimneys. To the west the view was glorious. There you see Škrlatica in all its rugged beauty; a vast mass of smooth, often rounded and overhanging slabs. Out of the piled-up rocks on its W. ridge nature has created the semblance of a monstrous rhinoceros climbing upwards.

From the scree we passed by a steeply-inclined crack to a

new part of the face. We entered a long red chimney of brittle rock. For fear of falling stones we had to climb this one by one. The chimney ended in a pointed rock jutting out straight from the face, further progress being barred by a smooth slab inclined at an angle of over 70°. A foot-wide fissure led up it and, as the edges of the fissure offered no apparent holds and was much exposed, we roped, Danilo leading.

Progress proved easier than anticipated. There *were* good hand-holds and we could wedge our feet firmly. After some 10 m. of this we stood on a scree just under the crest of our buttress. Above us was an array of little turrets of all sorts of shapes and sizes. The entire crest bristles with them. It would have been an easy matter to climb the buttress; but there would have been no point in doing so as it soon splays out into the vertical face proper of the Škrlatica.

To the right above us rose the final wall of Škrlatica. At first glance it was clear that the worst of our task was yet before us. Apparently there were scarcely 100 m. between us and the summit; but my aneroid gave us an altitude of only 2440 m., so that we had something like another 300 to climb. On reporting this to the others they kindly advised me to chuck the barometer over the cliff so as to prevent it pulling our legs! The rock was most forbidding: to the left perfectly smooth, overhanging in places—one gigantic slab. Progress was possible only on the right by a series of chimneys seaming the lower part; these, however, soon end in a rocky recess. The character of the face is the same as that of the Špik, N. face.

To reach the chimneys we traversed to the right under the ridge to a crevice, not specially steep, but brittle rock. This led us to a steep, equally rotten, chimney. After climbing some 50 m., we traversed to the left to another chimney where the rock appeared sounder. It certainly was, but, to make up for it, holds were so small and scanty—scarcely sufficient for one's fingertips—that climbing became a very slow business. A little above us the chimney branched. I chose the right-hand branch, which ended presently in an overhang barring my further progress. So I traversed the exposed face back to the almost vertical and rotten left-hand chimney. It had this advantage, that at intervals it widened out into dark platforms providing good places for rest and anchorage. All the same it proved very difficult to negotiate because of the overhangs under these platforms and lack of holds; moreover, it was too wide to wedge. At the second platform I noticed a

projecting rock on the right. It seemed to be a good place whence to survey our prospective route; I accordingly climbed it, crossing some very exposed ground to do so. The others followed. This promontory proved just large enough to accommodate us comfortably.

It was now about 1 P.M. Although we had eaten scarcely anything, we turned against food. We did not stay long, using our rest for observation. We were again placed before an alternative: we could either continue by the chimney on the left (which, however, inclined to the right above us) or follow a narrow little ledge down into the other chimney apparently blocked at its top. I rather preferred the right-hand chimney, but my friends decided in favour of the route we had been following.

So far I had led, but now yielded my place to Pavla whose turn it was to become leader.

Our left-hand chimney bent gradually to the right, so that the upper part was directly over our heads. Pavla endeavoured to gain it by climbing straight up. Just above us the rock overhung and there being no holds within reach, Pavla used Danilo as a ladder. Standing on his shoulders she at last succeeded in reaching a hold; with considerable effort she swung herself up over the overhang and disappeared from view over the edge. There she must have encountered considerable difficulties, because she made very slow progress. Presently she informed us that she could get no farther, as she could find no holds and could barely cling to the rock. She asked Jože to support her feet. With Danilo's help, Jože was presently close below her and supported her feet with his hands. But as the rock is all but vertical and holds were diminutive, Jože had to drive in a piton for his own safety. He then supported her, and, with this reliable foothold she was able to get over the danger spot. Still her difficulties were not over, and Jože had to support her feet with his² axe when beyond the reach of his hands. At last she reached a little ledge where she could take breath after her efforts. She deserved it, because her performance on this step was a veritable work of art. From the ledge she secured Jože and then went on ahead, belayed by him in turn.

Danilo, the sacks, and I remained below. We could not even see the leaders because they were hidden by the overhang.

² See, however, *ante*; presumably the short ice-axe used in the Dolomites.—*Editor*.

Only the rope, slipping yard by yard through our hands, told of their progress. They had already used up nearly two-thirds of Jože's 50-m. rope when they called to us to send up the sacks. To save time, we tied all these together, except mine, and then fastened our spare rope to the sacks. This we did so as to be able to steer the sacks from below in case they got caught. It was a slow business hoisting them up; every moment they would catch and have to be dragged up or down in order to free them. At last the sacks were up and Danilo could follow.

I was now alone with my sack, from which I refuse to be separated ever since the day when, being hauled up the Prisojnik, it had clattered down the precipice with all my food and boots. Being the last, I had nobody to help me across the overhang. As it is not my habit to rely on the rope and I always climb as if I were unroped, it took some time before I could get over that step with the help of imaginary holds. Above the overhang the rock eased off a little, compared to the bit just passed, but the angle was still something like 80°. Small holds made climbing possible. Another 10 m. took me to the little ledge where Pavla had first halted. From there I traversed on the face to the concavity into which our chimney merged. Here the left face meets the right at such an angle that the distance between them is more than a metre. This concavity continues straight on thence towards the summit. Before reaching it, an icy rain began to fall quite unexpectedly. What that means in rock-climbing, everybody knows. Even when dry, difficult rocks take up a mountaineer's attention and energy; how much more so, when it is wet and with sodden climbing-shoes on slippery stones! The rain took us absolutely by surprise. While climbing, we had not had time to notice the weather, all our attention being given to the rock. I hurried so as to catch up the others. There were still some 10 m. between me and the concavity and I was pretty wet when I reached it. We were disappointed in our hope that the ground beyond would prove easier. At the place where two faces meet there is usually some sort of fissure replacing holds; here there was nothing and we had to climb as if on open rock. At last the face eased off, forming a horizontal downward sloping ledge. Beneath it the rock bulged outwards. The ledge ended in a small inclined recess affording good anchorage if you could brace yourself into it. Here my friends waited for me, seeking shelter of sorts from the rain.

We dared not linger ; Heaven alone knew what was still before us. It was so cold that sleet mingled with the rain. We had to be quick, lest sleet or snow should cover the rocks. Our recess opened out on to a narrow ledge merging into the face after a few metres. Above it was a rounded overhang some 4 m. high. This we had to get over ; not a hold of any sort ; no single person could negotiate this bit. So Danilo as the tallest³ stood up on the ledge. Pavla, as the next in height, climbed on his shoulders and tried to find a hold. Jože and I each held one of them from the recess. Pavla on her perch strained and clawed about, but without success. A critical moment followed : as she stretched she slipped, and already I thought she had gone and tightened my grip on the rope, but somehow she managed to get astride Danilo's shoulders and slide thence on to *terra firma*. It was a marvel that she did not lose her balance and fall backwards, in which case she would probably have dragged down Danilo in her fall. But she was in no wise discouraged by her mishap. On the contrary, she was all the more set on getting up. Again she climbed on Danilo's shoulders, and, as that did not suffice, on to his head. At last reaching a hold, she hoisted herself up over the overhang, Danilo supporting her feet ; as the face turns off to the left, presently we lost sight of her. After a bit she called out for Jože to come up and help her, as there were no holds. Like a cat Jože climbed up with Danilo's help and tried to assist her, but as his own foothold was so insecure that he could scarcely keep his balance, Danilo was obliged to follow.

Now we got into difficulties with the ropes. Pavla and Jože were at opposite ends of a doubled rope which I held by the middle ; in addition, I held Danilo by the other rope. As I could not have supported the double weight in case of a fall, I drove two pitons into the recess, connected them with a spring-hook⁴ and passed the rope through that. Now I had to make the third man secure ; I did not feel at all easy in my mind as I squatted in my recess. As each rope was doubled, I had six ropes in my hands. Gradually the ropes got so badly tangled that I could no longer tell which held which, and could only find out by giving a tug. On the top of all that it rained till the rocks streamed. At last Pavla and

³ Mr. Martelanc is about 6 ft. 6 in., Miss Jesih is exceptionally tall for a woman.

⁴ *Karabiner*, *A.J.* 37, 282.

Jože got over the bad step and Danilo came back to me to help me straighten out the ropes. Jože's rope grew too short and we had to eke it out with our spare rope. He and Pavla were certainly 50 m. above us before they found a place for the sacks.

From behind my back, where I had wedged them, I handed two sacks to Danilo who made them fast to a rope. Then followed the tiresome piloting of the sacks up the rocks. Once, as they got stuck, with Jože tugging with all his might, a sack—impossible to tell whose—came crashing down over our two heads, describing a fine arc in its fall. A nice business, but each of us hoped that it was not his! That the rest might not follow suit, Danilo climbed up the rope in order to direct them midway; but finding no suitable anchorage, he had to join the others. Here was I now alone with the two remaining sacks. The job had already taken an hour or so and I was stiff with cold. To save time, I shouldered both sacks, tied myself to a double rope and started up. I found the overhang most difficult. The double burden on my back dragged me down and as there were no holds, I seized the rope, braced my feet against the rock and went up hand over hand. It was the quickest way.

From the top of the overhang I saw my friends far above me. Between us lay some 40 m. of rock inclined at an angle of nearly 80°. In spite of my sacks I found holds good enough to climb up without using the rope otherwise than as a safeguard. This step was most trying; rain, mixed with sleet and snow, was falling steadily; my fingers were quite numb and it took me all my strength of will to keep them from relaxing. The most unpleasant thing of all was that at odd moments a stream of icy water would run up my sleeve and then down my body. Wet as a drowned rat I reached Jože, who had sought shelter in a biggish recess with a sandy bottom. Gasping, I slipped off my sacks. Now that the rucksacks were all together we realized that it was Pavla's that was missing. As it contained not only her boots, but her money, clothes and latchkey, its loss was tiresome.

We looked wonderful, huddled together like wet puppies, our faces green and haggard with the cold. It was a picture of an inverted Inferno. The heavens were weeping and our teeth were chattering; a keen wind got up, piercing us to the bone.

Therefore, onwards we had to go. To the right of the recess was a perpendicular step some 4 m. high. Pavla

tackled it; for holds there were holes big enough to insert your hand; they gave an excellent grip and she went up as if by a ladder. Eagerly we waited to hear what sort of rock lay ahead. Beyond the step her first words were: 'Another overhang!' Danilo climbed up to her, Jože and I holding the ropes. Pavla climbed up to the overhang, but in spite of every effort failed to find a way past it. Danilo, who followed her, capitulated likewise. I wanted to hurry on next, because I was anxious to get rid of my sacks, but Jože, who was nearer, forestalled me. Seeing at once that the spot where our friends had tried was impassable, he made his attempt a little further to the right. He succeeded, and here, upon my soul, I should really like to praise our Jože, did I not know that he can stand anything except praise.

With a weary heart I once more took up my penance in the shape of the two sacks. The third I made fast to a rope. I climbed up close after it, so as to free it at once if it should catch.

Above the step the rock was rather like that below the recess. It ended in the overhang that had at first given us so much difficulty. But, as Jože had noticed at once, it had its weak point (or good point, for us) on the right side—holds, to wit. When we had surmounted it, we heaved sighs of relief. We noted with satisfaction that the face was less inclined. We were still some 60 m. from the summit, but they were child's play compared to what we had passed.

We stood on a wide bank of shale, girdled crescent-wise by cliffs. To the left were negotiable chimneys, so, without looking further, my friends started up them. But the chimneys were greasy and slippery with the wet, so that great care was necessary in climbing. To me the right side looked more promising, so I went to see what might lie beyond the edge of the face. And behold, I found a steep crack, with good holds in sight. I called my friends; we doubled our pace as we climbed; our goal was at hand. All weariness and depression left us when we saw that we should soon be on the top. Before long we stood on the ridge ending in the actual summit.

Our sodden *Kletterschuhen* were no longer necessary. We were glad to take them off and wring out our stockings. No sooner had we donned our hob-nailed boots than we fairly scurried over the ridge. We reached the summit at 5 P.M.; we had spent 9 hours on the face.

As it was still raining, with a bitter wind, we hurried down

the usual route and presently caught up with Pavla, who had gone on ahead since she had no need to change. Her boots were reposing peacefully under the cliff.

Two hours later we were at the Aljaž hostel in the Vrata Valley. We made haste, not for fear of being overtaken by darkness, but in order to get up a little warmth.

We gave Torkar, the hut-keeper, quite a scare. The water was pouring off us; he would have preferred to hang us up to drip! He produced all his own and his wife's wardrobe and we changed. Like carnival revellers we looked when we met again in the dining-room in appropriately high spirits. The chill damp of our victory over the Škrlatica we dispelled with mulled wine.

SOME PHYSICAL CHARACTERISTICS OF SNOW AVALANCHES.

By F. S. SMYTHE.

THE question as to whether or not a slope will avalanche is the most vital problem the ski-runner has to face. A considerable amount has been written on the subject, but avalanches are still regarded by the majority of winter visitors to the Alps as haphazard affairs only avoidable by good luck or attention to the warnings on the hotel notice-board. During several seasons' ski-ing experience I have only met one or two ski-runners who possessed any but elementary ideas on the subject of avalanches; yet avalanches are an exact science and one which to my mind is one of the most fascinating branches of mountain-craft.

Referring to winter-climbs only, avalanches do not affect the mountaineer on foot to nearly the same extent as the ski-runner. At the moment I can only recall the classic disaster resulting in the death of Bennen, February 28, 1864, while accidents to ski-ing parties flock into the mind. The reasons for this are:

1. That comparatively few climb on foot in winter.
2. That ski in themselves are definitely a more dangerous medium of progression than boots or raquettes.
3. That the man on foot necessarily follows a safer route than the man on ski. He instinctively follows the crests of ridges where the snow is usually hard and safe, while the man on ski naturally prefers smoother and more unbroken snow slopes where the risk of avalanches is considerably greater.