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THE ASCENT OF ACONCAGUA AND TUPUNGATO.

By STUART VINES.

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THREE years ago I had no more intention of climbing high mountains in the Andes of Argentina than of making a trip to the moon. In June 1896 Mr. FitzGerald was debating in his mind the advisability of taking a third man with him on his forthcoming expedition to South America, when I met him at lunch, and he did me the honour of asking me to join him. So it came about that a few months later I found myself in the heart of the Andes, within twenty miles of the giant slopes of Aconcagua.

I propose to-night to tell you how I made the ascent of Aconcagua and Tupungato. But first let me try and give a sketch of their position and of the geography of the country.

The mountain of Aconcagua is situated roughly in $32\frac{1}{2}^{\circ}$ S. latitude and 70° W. longitude of Greenwich, over 2,000 miles south of the equator and of the scene of Whymper's triumphs in 1880. It is one hundred miles from the Pacific coast in the province of Mendoza, in Argentina, its highest peak being over seven miles east of the water-parting and of the boundary which divides that country from the republic of Chile. Therefore all the ice and snow that melts on this colossal peak, that rears its head 23,000 feet above the sea, eventually finds its way into the South Atlantic Ocean, seven hundred miles to the west. The great white peak of the mountain can be seen on a clear day from the harbour of Valparaiso, some thirty leagues distant, and the rugged features of this huge mass of crumbling stone and ice are familiar to all those who travel along the Pacific coast.

Our actual work commenced in December 1896, and continued till the end of June of the following year. A summary of the work of the expedition has been given in the form of a paper read by Mr. FitzGerald before the Royal Geographical Society; it therefore only remains for me to-night to dwell upon that part of the work which comes under the head 'Alpine.'

Mr. FitzGerald's party consisted of Mr. Arthur E. Lightbody, Mr. Alan de Trafford, Mr. Philip Gosse, and myself; Mattias Zurbriggen was our guide; Joseph and Louis Pollinger, Joseph Lochmatter, Nicola Lanti, and Fritz Weibel, our porters.

At Punta de las Vacas, the furthest point reached by the Transandine Railway, we were first compelled to confront the serious subject of transport, for we had with us several tons of luggage. We therefore hired and bought mules and horses, and engaged *arrieros*, or mule drivers. From this place FitzGerald made a reconnaissance up the Vacas valley, running northwards, and gained a first view of the great peak. He deemed it advisable, however, to move some ten miles up the great pass road westwards to the mouth of the Horcones valley. Our base camp was eventually fixed about two miles from the mouth of this valley, close to Puente del Inca (the Inca Bridge), near the main road which crosses to Chile by way of Cuevas and the Cumbre Pass. Our subsequent attacks on the mountain were all made by way of the Horcones valley.

I must not neglect to say a few words about other attempts to scale this monarch of the American continent. In 1883 Dr. Paul Güssfeldt, the celebrated German climber and explorer, arrived in Valparaiso with Alexander Burgener, with the intention of climbing Aconcagua. The guide suffered from 'Heimweh,' and, too ill to accompany him, returned to Europe. Güssfeldt pushed on with such native aid as he could procure, and made a gallant attempt to scale the mountain from the N. side, crossing over the Boquete Pass from Chile, and attacking it by the valley known as the Cañon del Volcan. He was obliged to turn back, overtaken by night, while yet some distance from the summit. His account of this, and also of his successful climbing of Maipu,* is, no doubt, well known to us all.

There have been of late years some attempts made upon the mountain by the German Turnverein of Santiago. In

* *Reise in den Andes.* 1889.

1897, the year we were out there, they sent a large party to climb the mountain. They followed the route taken by Güssfeldt, but bad weather forced them to retreat at a spot not far from where he had been compelled to turn in 1883. As they had no encampment at a high altitude, and their time was limited, they were obliged to return to Chile. This year they made another attempt on the mountain, with a more elaborate and better equipment sent out from Europe, but were again unsuccessful.

It was on December 23, 1896, that FitzGerald started for the mountain. He took with him Zurbriggen and four porters, together with horses, mules, and a large quantity of provisions. He ascended the Horcones valley and established a camp at 12,000 ft., this being the last place where pasturage was obtainable. The valley after this point becomes a vast wilderness of sand and rock, blocked in places by remains of great moraine heaps. He continued further to the head of the valley, and at 14,000 ft., the way being blocked by glacier, he sent his animals back and made a third camp. The party pushed forward to an altitude of 16,000 ft., where they spent the first night in the open, being too tired to put up a tent. The next day, December 24, was spent in moving camp and provisions 1,000 ft. higher. On Christmas Day, continuing the ascent, they found a sheltered spot under a hollow rock at the height of 18,700 ft., where they formed a final camp from which all subsequent attempts to reach the summit started. On this day Zurbriggen, ascending some 2,000 ft. above this camp, discovered a small stone-man, built of reddish rocks. He found at its base a tin box, in which were Dr. Güssfeldt's card and a small Andine flower. It was at this point that the well-known German explorer, night coming on and the cold being intense, was obliged to turn back, literally to save his life. Two more attempts were made on December 30 and January 2. In the first Zurbriggen got his feet severely frost-bitten, and was with difficulty carried back to the camp. In the second FitzGerald was obliged to turn back, owing to extreme weakness and mountain sickness. Therefore a retreat was made to the pasture camp, in order that all might have the benefit of rest and good food. They returned to the attack on January 5, and made a determined effort to reach the summit. On the 14th they attained a height of 21,500 ft., where Zurbriggen was sent on. FitzGerald struggled to 22,000 ft., when he found it was absolutely impossible for him to proceed further. Zurbriggen arrived at the camp in the evening, and reported that he had reached

the summit, but was unable to get any view, as a snowstorm raged over the peak during the afternoon.

Hitherto my time had been fully occupied at Puente del Inca in keeping up communications by heliograph and supplying those at the high camps with provisions. Zurbriggen, having injured his shoulder when crossing one of the fords in the Horcones valley, was suffering from rheumatism and from the hardships he had undergone in the ascent of the mountain. FitzGerald, therefore, sent him down to Mendoza to recuperate, and called upon me to make the attempt with him.

We started from the 14,000 ft. camp on January 21. After about 1,000 feet we reached the foot of a couloir which is partly filled with a peculiar formation of snow and ice, which we frequently came across in the Andes, called by the natives 'penitentes,' or 'nieve penitente.' The deep snows of winter, cut by the wind and dust, and melted, had formed a mass of ice pinnacles, varying from a height of 3 to 8 ft. A thousand ft. up this couloir and 2,000 ft. trudging over the exposed *débris*-covered side of the mountain brought us to the high-level camp at 4 in the afternoon. We had been $6\frac{1}{2}$ hrs. doing the 5,000 ft. During the last 2,000 ft. our breathing was loud and laboured, not unlike that of a broken-winded horse. It was too cold and stormy to do anything that night, so we crawled into the tent at once. I tried vainly to sleep, but my night's rest was spoilt by intense headache. We woke on Saturday, January 23, to find the whole mountain covered with snow as far as the eye could see.

The following incident will perhaps give you some idea of my enfeebled state after my first night at this altitude. FitzGerald set to work to cook breakfast, which consisted in inducing the fire to heat a little water to make coffee. I undertook to fetch the water, so arming myself with a biscuit tin set off for suitable snow and ice 10 yards away on the other side of the tent. The tent being placed on a narrow ledge I had to cross its numerous guy ropes in order to reach the snow. I stepped over the first rope with one foot and waited to get my breath and gain strength. I then dragged the other foot after the first, and thus proceeded until I reached the snow. I was 10 min. on the first journey, and brought back only enough ice and snow to wet the bottom of the kettle.

It began to snow hard at 10 o'clock: it snowed all day. Louis Pollinger came up at midday with a little wood and

provisions, and went down again in the afternoon. We spent a wretched night. The snow came steadily down and the wind rose, causing it to drift. We got no sleep, as we were practically being buried in the snow. We spent the hours after sunset thumping the roof of the tent, in order to keep the snow from collecting and crushing it in. At 9 I burrowed my way out and brought in the ice axes and boots, to be ready for emergencies. It was a miserable and exciting night, and by morning we were quite worn out. It began to snow again at a quarter past nine, so we made a bolt for the valley.

It was useless attempting further climbing in such weather, so our next start from Inca was not made until February 7. On the 9th Lanti came down to the 14,000 ft. camp and reported that the route was getting more difficult every day. We were about to start on the 10th, when an *arriero*, or mule driver, arrived with a couple of dozen very fine onions, which had been sent up for our use by a gentleman in Mendoza as a sure remedy against the effects of high altitudes. In spite of being in possession of such luxuries the high camp seemed to lack an air of comfort; tent, wood, provisions, and instruments being covered with ice and snow.

The next morning a tremendous wind rendered all work impossible, the snow being blown about in all directions, and we were forced to remain in the shelter of the rock above our tent. In the afternoon, to make a trial of my powers, I went up and inspected Güssfeldt's stone-man. I must have ascended nearly 2,000 ft. It took me nearly four hours altogether. As I felt very tired and done up after this short trip, FitzGerald proposed that we should rest the next day.

Lanti came up about noon on the 12th, and we made every arrangement for the ascent on the morrow; for the weather at last looked promising, and we were conscious of the fact that we were losing strength daily.

Owing to the intense cold, and our vitality being so low at these altitudes, we found it impossible to do much work before the sun came on the tent in the morning; but Lanti undertook to wake us at an early hour, so that we might all have a good breakfast before starting. Unfortunately, being unable to sleep at night, we slept soundly in the morning, and Lanti only roused us at twenty minutes past seven, just as the sun struck the tent. It was a bright, clear day, with a cold wind. From the position of our 19,000 ft. camp it was impossible to see the actual summit of Aconcagua, but the couloir leading to the last thousand

feet, by which Zurbriggen had made the ascent, was straight in front of us, about 3,000 ft. above us. It looked absurdly near, but one would be too much exposed to the wind by this route, and the going consisted of the rottenest *débris* imaginable. Our intention was to follow the route which gave the least abrupt ascent, and avoid the loose surface as much as possible. To our left was a more or less broken line of cliffs, running north from the summit of Aconcagua. We determined to make for the base of these, in order to follow their line to the couloir to the W. of the summit.

After an hour up a gentle slope leading towards these cliffs FitzGerald turned back, being too ill to proceed.

We had a short rest, and I took the lead over some steep snow leading to the base of the cliffs. The condition of the mountain had much changed since the previous month. Zurbriggen had ascended Aconcagua almost without putting his foot on snow; now, owing to unprecedentedly bad weather for this time of year, the snow lay in large patches all over the north-western side of the mountain. At 10.40 we reached the base of the cliffs. I picked my way over the solid rock as much as possible, for we slipped back at every step where the ground was loose. Five hundred feet, with sometimes rock and sometimes *débris*, brought us on to the steep snow slope again, up which we zigzagged until at 11.30 we reached Güssfeldt's stone-man. We had now been going 8 hrs.

From this point I took the direction due E. I noticed that our pace was gradually decreasing; I feared this must eventually stop us from reaching the summit. However frequent halts were necessary. At midday we reached a flat desolate spot, about 30 yards across, closed in on two sides by sharp-pointed rocks, and on the third by a great wall of cliff descending from the summit. It was here that, on one of the earlier attempts on Aconcagua, the whole party attempted to prepare hot tea, to strengthen themselves for the last 2,000 ft. Either the tea was bad or their digestions were out of order; anyhow it made them all very sick. They had left two rucksacks, containing instruments, provisions, and wood. We prepared to take a long rest before the final effort. To all appearance it was an ideal place to make a fire; but there was just enough protection to make it the most draughty spot in the world. We worked hard for half an hour, striking about fifty matches, but were quite unable to ignite the wood; so our hopes of a hot lunch were frustrated. I had brought with me a flask containing port

wine and egg, a mixture we found both sustaining and palatable. We were obliged to content ourselves with a few sips of this and a kola biscuit, and started again at 1 o'clock. Now, in order to reach the mouth of the couloir leading up to the summit, we had to cross a portion of the steep slope of *débris* which forms the greater part of the north-western side of the mountain, and our patience and endurance were tried to the utmost over this rotten stuff. We stopped every 10 yards for rest; in fact, at this period we spent far more time in resting than advancing. We were in that condition when the slightest rebuff damped our spirits and made us wish to sit down and rest, and rebuffs were frequent. Every stone, however firm in appearance, crumbled beneath us. We could rely on nothing, so that instead of going straight across the *débris* we had to keep on ascending, in order to maintain the right level. Every minute either Lanti or myself slipped down as much as a couple of yards, all the rocks, sand, and stones coming down with us, and we were frequently thrown on to our hands and knees. At last we arrived at the mouth of the couloir, some 1,500 ft. from the summit. Our progress became appreciably slower, until at last twenty steps were all we could manage after each halt. Our rests lasted from 30 seconds to a minute, sometimes longer, and if a slip occurred it was sufficient excuse for an extra rest. As we entered the couloir we were to a great extent sheltered from the wind. This was more of a hindrance to us than anything, for when in that couloir—and, in fact, in all sheltered places up to the summit—we found the labour of breathing greatly increased. After about 300 ft. the couloir widened out into a huge amphitheatre filled with broken red rocks. In front was the rock arête between the western and eastern peaks. To the left a great mass of cliff ran out from the summit to where we stood, while to the right great cone-shaped masses of rock and aiguilles towered high above us. Scrambling over the chaos of broken rocks at 22,000 ft. was exhausting work, but after frequent halts we reached the arête at 4.30. I crawled to the edge of the arête and looked over; the side of the mountain ran down to the valley beneath in a great precipice of rock, snow, and magnificent icefall, a distance of 10,000 ft. But we had not time to stop. I at once turned eastwards along the arête, which at first we had no difficulty in negotiating. The surface was composed of loose stones, with a little fresh snow. It was difficult to tell how far we were from the summit, or whether it would take us an hour or

less. I perceived an easier route by turning more to the N., and leaving the arête, which becomes precipitous and very crumbly at this point. In half an hour we reached a cliff, 10 ft. high. I soon scrambled to the top of it, and to my astonishment saw FitzGerald's ice axe, planted in the stone-man by Zurbriggen in January, not 20 yards from me. A few steps more and we stood on the summit of Aconcagua. It was two minutes past 5 o'clock.

There was no time to be lost; night would be soon on us, and clouds were rolling up from the north-west. I crouched near the stone-man and wrote upon my card, 'Made the ascent with Nicola Lanti, miner, of Macugnaga, Italy. FitzGerald expedition, England.' Also I enclosed the following note: '8 hrs. 23 min. from 19,000 ft. camp. Saturday, February 13, 1897. I am leaving here my ice axe, and maximum and minimum thermometers in box.' On reaching the top I had read my aneroid. It had reached the limit of its markings, and stood at a pressure of 12 in. The temperature was 7° F. I set the maximum and minimum thermometers, placed them in their box, and wedged them between two stones at the base of the stone-man, and then cut my name in large bold letters down the shaft of my ice axe, and put it in place of FitzGerald's. With 25° of frost, and the wind blowing the snow from the western peak in great clouds over us, it was not possible to remain quiet very long.

The top of the mountain is a square plateau, which proved on measurement to be 75 paces each way, sloping down towards the south-east at an angle of 7°. Not the slightest vestige of the ancient crater of Aconcagua remains. Some 2,000 yards from me rose the snow-clad western peak of the mountain; the arête by which I had ascended led to it, growing narrower until where it sloped up towards the highest point its edge became knife-like.

The sky to the west was still cloudless, and the South Pacific Ocean, a brilliant blue line in the setting sun, stretched far away in the dim distance to the N. The base of Aconcagua, on its northern side sheltered from the north-west winds, and the head of the great Cañon del Volcan, stretching far away to the N., the valley by which Güssfeldt had approached the mountain, were filled with snow fields and glaciers. Forty miles beyond lay the mountain of Mercedario, dwarfing all the heights around, quite the largest mass of mountain in this part of the Andes. To the S. the clouds were lying in the Horcones valley, fortunately not high enough to cut off

the magnificent dome of Tupungato and the great range to the N. of it.

I had now been more than an hour on the summit, and poor Lanti was nearly frozen to death. Clouds were gathering more thickly round the western peak; it was too late to remain longer. As it was, we should have to rely on the moonlight for a great part of the way to the camp. At 6.20 I gave the word to Lanti to pack up, and in 5 min. we began the descent. During the time we had been on the summit I felt no ill effects from the height; it was only the intense cold that we seemed to suffer from. We retraced our steps to the couloir, and then made straight down the great slope of *débris* on to the snow, and here we tried to glissade. The snow was in bad condition, and I had not the energy or strength to support myself with my axe. The way seemed never-ending, and I was frequently forced to halt to regain breath and strength, but the moonlight helping us our direction was good, and at last we heard the voices of the two Pollingers, whom FitzGerald had sent from the camp to meet us and bring us in.

TUPUNGATO.

The mountain of Tupungato lies about 60 miles to the S.S.E. of Aconcagua, on the great chain which forms the water-parting and the frontier boundary between Chile and Argentina. I started on March 25 from Vacas up the Tupungato valley, with Zurbriggen, Lanti, and an *arriero* of the name of Fortunato. We took with us mules and horses, equipment, and provisions for a fortnight. In three days we reached the foot of the mountain. At a point a little above 10,000 ft. all vegetation ceased, so that we were forced to make our base camp at a very low altitude. We managed eventually, as our portorage was scarce, to force a mule and two horses up to nearly 13,000 ft. It was impossible to take them higher.

We bivouacked in the open at 14,000 ft. on March 28. The next day, not really appreciating the immense distance that separated us from the summit, we made a rather late start, and at once began the ascent of the longest stretch of ice needles, or 'nieve penitente,' that we experienced in the whole of our work. These were higher and larger than we had seen hitherto, and careful attention had to be given to our steps, as their sharp points were not fashioned to break a fall. They ascended at a steep angle, and the steps were very high, hardly ever less than 2 ft. We had nearly 3 hrs. of this kind

of work, and ascended over 2,000 ft. At ten we reached the summit of the cliffs above. Before us stretched a wide field of ice and snow to the foot of the great spur which runs out from the dome of Tupungato several miles northwards at a height of 18,000 to 19,000 ft. We crossed the snow field, and, leaving Lanti, Zurbriggen and I ascended over rotten *débris* to the summit of the great spur, and then turned sharp to the south, and made our way along it towards the dome. As with the north-west side of Aconcagua, the surface on the top of this ridge was free from snow. We had hardly reached the foot of the dome at half-past three when the clouds which had been gathering in the north-west collected round the summit and burst in storm. We beat a hasty retreat, and the next day returned to Vacas for more porters, provisions, and equipment.

On April 3 the same party started from Vacas, with the addition of Joseph Pollinger and Lochmatter, and on the 6th made a second attempt from the 14,000 ft. bivouac. The cold was intense; otherwise the weather was everything that could be wished for. We reached the snow field at 8.45 (16,800 ft.). Here we halted for breakfast, to which I alone did justice; the guides were content with a sip or two of wine and a few raisins. Instead of crossing the snow to the foot of the great spur we turned to the south, and ascended by rocks, using the rope, a much better route than by the crumbling side of the ridge. The weather still continued bright, though the cold, in spite of the sun and the good pace we were making, was very bitter. A rest was taken on the top of the rocks, whence looking back we beheld for the first time the Pampas or great plains of Argentina lying at our feet to the east. At 11.30, after cutting steps for a short distance, we reached the top of the spur. There were a few fleecy clouds over the Pacific, but we felt confident we were in good time, and would reach the summit before the inevitable storm came on; so little idea had we of the long climb that lay before us.

It was now midday, and from this time on everything went badly with us. We met the full force of the wind, and, in spite of double helmets and gloves, it was impossible to face it. A halt was made at 19,000 ft., and we all huddled on the leeward side of a rock round which the wind whistled mercilessly. Zurbriggen began to feel very ill, suffering intense pain in his head and stomach. He struggled on somehow for another 30 min., when a halt was called, as we found that Lochmatter was lagging behind. Though the

slope was a gentle one, he was taking very short steps with his long legs. I called and asked him what was the matter. He replied, 'My legs will not work any more.' It was really ridiculous to see this great strong young fellow hobbling up the gentlest of slopes, and declaring his legs had struck work. But from my own experience of this aching in the legs I could quite understand that, intensified, it would entirely incapacitate a man. We sought shelter every 10 min., hoping that the weather would clear, and so for 2 hrs. struggled with storm and wind until it became madness to proceed or even delay our retreat. Exhausted and disheartened we reached the valley late in the evening. Fortunato, the *arriero*, gave his views of the situation—his very name seemed a mockery to us—declaring that no one had ever seen that storm cloud leave Tupungato; that it was now winter; snow would fall in a day or two and fill the valleys below us, stopping all chance of our ever reaching Vacas.

The great distance to be traversed, the effects of the altitude, and the shortness of the days made it impossible to ascend the mountain from so low a level as 14,000 ft. at this season of the year; so that after a few days' rest at the base camp a bivouac was made on April 8 at about 17,000 ft., at the foot of the great spur. I slept here with Zurbriggen and Pollinger. I will not enter into the details of the sufferings of that night spent on the ice. I will merely say that the wind rose to a hurricane, wrecked the tent, and left us exposed to the mercy of the storm, with the thermometer at zero, and that half frozen in the morning we retreated to the valley.

It was now so late in the season—April, corresponding to October in Switzerland—that the guides deemed it impossible to make the ascent. However after two days' rest they became more sanguine, and we slept again at the 17,000 ft. bivouac on April 11. On Monday, the 12th, I made a fourth attempt with Zurbriggen and Pollinger. The weather was perfect. A start was made at 6.30. We reserved our strength by avoiding as much as possible the broken, loose surface. The usual halt for breakfast was made at 9.30, at 19,000 ft. I ate well, while the guides took little or nothing. We bore round to the right, and scrambled for an hour and a half over the rocks overhanging the western side of the mountain. At 12.30 we began to ascend by a snow couloir the actual dome of Tupungato. At 20,500 ft. Joseph Pollinger, who had only suffered a little in the legs up to this point, threw himself down, complaining of pains in the

stomach. I divided his load with Zurbriggen, and, leaving what we could best spare behind, we continued the ascent. Pollinger turned to descend by the easy slope of the ridge to the high bivouac. We now imagined we had about half an hour's more climbing, and should reach the top at two, or a little later. We proceeded slowly, the sides of the couloir re-echoing with my heavy breathing. We were confident that the highest point was on this, the northern, side of the dome, and that our peak was now before our eyes. We directed our steps by an easy slope, which would lead us to it in 10 min. Suddenly Zurbriggen sat down, saying, 'Now it is impossible! I am finished! I go no further!' I looked for the cause of his depression, and saw looming up behind the imagined summit, far to the S., another point still higher. I did my best to persuade him, but to no purpose. He declared his legs would work no more, that the peak was more than an hour away. So there was nothing to do but leave him to rest, while I went on to the nearest peak to see how the land lay. Now, well free of the couloir, there was more life in the air, and I advanced more rapidly, so that in little over half an hour, shortly after 3 P.M., I reached the point observed, but only to be again disappointed. Further to the S., across a wide depression filled with snow, stood up a point still higher by some 100 ft. or more. There was nothing for it; I descended by a rock arête, ascended the steep broken sides of this peak, and found myself on the highest point of Tupungato at 3.45, where Zurbriggen soon after joined me.

My first thought was to construct a substantial stone-man. This was hard work with the light and rotten material that formed the summit. This completed, I made a record of the ascent, which Zurbriggen put in a bottle and placed securely at the foot of the stone-man on its southern side. The sky was cloudless, but a strong wind, with the thermometer at 13° F., rendered photography difficult. In fact, I got two of my fingers frost-bitten in the process.

On the summit of the dome of Tupungato is an undulating plateau, covering an immense area, from which rise three peaks, that to the far S. being the highest. The whole north-western side of the mountain, the great spur, and the plateau, open to the sun, and swept by the terrific N.W. gales, are almost entirely free from snow. I traversed the plateau from N. to S., but could discover no sign of a crater. In between two of the peaks lay a quantity of black volcanic scoriæ, of which I brought home specimens. The

summit rock has been declared by Professor Bonney to be a fine specimen of andesite, riddled with fulgurites, or tubes melted out by lightning.

The view was superb. About 20 miles to the N.E. the Cerro de la Plata stood up from a mass of high mountains. To the E., the Cordilleras became very low, and disappeared in the *cerillos* sloping down to the Pampas of Argentina, which start seemingly from the base of Tupungato, and stretch almost without interruption to the Atlantic Ocean. The rivers winding through this great plain, and the outlines of the villages, could be distinctly seen. To the S. the volcano San José, and Maipu, ascended by Dr. Güssfeldt, were the chief features. The great frontier boundary between Chile and Argentina, of which Tupungato and its northern spur form part, the water-parting of the rivers to the Pacific and Atlantic, was clearly marked far beyond San José to the S. and 50 miles to the N., formed by the beautiful ice peak of Pollera, nearly 19,000 ft., the Weisshorn of the Andes, the great pyramid of Navarro, at least 500 ft. higher, and beyond the great peaks and glaciers of Juncal, 1,000 ft. higher still. A hundred and fifty miles to the W. lay the great blue line of the Pacific. But more magnificent than all was the view to the N., where, 60 miles away, Aconcagua stood up in all its superb majesty, like some huge rock out of a sea of lower mountains; alone, there was nothing to interrupt the eye.

It was 5 o'clock, and an immediate descent was imperative. I had been an hour on the summit, and had been so busy that it seemed like five minutes.

We were fortunate in again beholding the glories of a sunset from a great height, even more wonderful than on Aconcagua. In the twilight the far horizon of the Pampas displayed to our eyes a wonderful rainbow of ever changing colour, a sight of such surpassing grandeur, though my words can ill describe it, as will never pass from my memory.

We reached the 17,000 ft. bivouac in the moonlight at eight, and could go no further, so went supperless to bed.

I regret that time does not allow me to-night to tell you, beyond the few remarks I have made in the course of my narrative, the opinion we have formed of the effect of high altitudes on the human frame, either from our own varied experiences of mountain sickness or from careful observation of cause and effect amongst our men.

I cannot but add how much I regret that one of so little previous experience in Alpine work as myself should have been destined to reach these summits, how much I regret that

the one who so carefully organised, equipped, and led the expedition, who had to bear all the anxiety, who endured greater hardships than us all in making those careful observations at high altitudes so necessary for accurate work, how very deeply I regret that he is not in my place this evening. Had it been possible for Mr. FitzGerald to achieve that which his former brilliant record seemed to guarantee, or for me to have borrowed his eyes and experience, had I been only endowed with a portion of the spirit of Mr. Whymper or Sir Martin Conway, then you would have heard to-night, in place of the bald statement of facts I have given you, a brilliant and able disquisition on high mountain climbing.

THE WRONG SIDE OF SOME DOLOMITES.

By J. S. PHILLIMORE.

(Read before the Alpine Club, April 4, 1899.)

IT is one of the pleasures of making plans before the summer that you climb in forecast peaks which you will never realise, while you often achieve in the event what your forecast never included. Raynor and I accomplished our usual training walk from the Brenner line to Cortina, and proceeded to meet our guides by appointment at Sexten, without dreaming that our first expedition would be the Einserkofel. It is a mountain there are few to see and very few to climb. You pass it on the way down from the Zinnen hut to Sexten, showing a very handsome and unpromising face, of remarkable length if you consider the insignificant stature of the whole. Overnight on August 5 we were still doubtful what to do next morning; but had settled to attempt the Dreischuster from Innerfeld (which is said to be a fine rock-climb), when we were staggered by the news, volunteered by a local guide, Schwanzhofer, that he had two Herren bound the same way, and that two more, nominally guideless, were by agreement to follow closely in their tracks. Dolomites are not suited for parties of nine, but our misgivings so far produced only a resolve to give them a long start. They left at 4, we at 5, in the morning; but so little did we like the prospect that we readily fell in with Michel Innerkofler's idea of trying the Dreischuster from the Schusterplatte side. But we had not walked $\frac{1}{2}$ hr. up the valley before discontent became open mutiny. Was there no climb involving less than a 4-hrs.' grind over