

THE
ALPINE JOURNAL.

AUGUST 1899.

(No. 145.)

CLIMBS IN THE ANDES IN 1898.

By SIR MARTIN CONWAY.

(Read before the Alpine Club, May 2, 1899.)

I PROPOSE to-night to describe very briefly certain ascents made in the latter half of the year 1898 in the central Andes. Before doing so it will be best to give a brief description of the arrangement of the mountains. The Cordillera Real, which is the backbone of Bolivia, is a long, straight range, almost continuously snow-clad, culminating at its northern end in Mt. Sorata, and in the S. in Illimani. Half-way between the two rises a very fine peak, named Cacaaca. The N. end of the range abuts on Lake Titicaca, a great sheet of water, fourteen times as large as the Lake of Geneva, and lying at an altitude of 12,600 ft. above the sea. From this lake there spreads S.W., along the foot of the range, a high plateau, almost desert (except during the rainy season), called the Puna. About two-thirds of the way along the range this plateau suddenly gives place to an extraordinary valley, which drops away by an almost precipitous cliff from the level of the Puna. In it lies the town of La Paz, the capital of Bolivia. La Paz was our natural starting-point. We reached it from the sea by landing at Mollendo, and ascending over the outer Cordillera by a remarkable railway, which at its highest point attains an altitude of 14,666 ft. The railway debouches on Lake Titicaca, and a steamboat conveys the voyager, generally sea-sick and mountain-sick at one and the same time, to the Bolivian port of Chililaya, whence a good road leads to La Paz. The two mountains of which I immediately decided to attempt the ascent were naturally Illimani and Sorata. I took Illimani first, being strongly attracted to it by its extraordinary

beauty, whether seen from the Puna or from La Paz. La Paz, indeed, is more intimately connected with this mountain, which looks into the windows of most of its houses, than is any other town that I know with any of the great mountains of the world.

After a few days' delay we started from La Paz with our caravan and made for Illimani. The route we followed need not here be described in detail. It lay down the wonderful valley of which I have spoken: a valley for the most part desert, save where artificial irrigation quickens it into extraordinary fertility: a valley bordered by rugged water-cut slopes, and occasionally flanked by earth pyramids of astonishing size and complexity. The further we went down this valley the more difficult was the way, and the hotter was the atmosphere. At last, after passing through a gorge of great magnificence and truly tropical temperature, we commenced ascending our mountain from the side opposite to La Paz. We chose this route because—though I think it might be possible to make a successful ascent from the N. side—there is little doubt the way would be difficult, for the glaciers are long, steep, and very crevassed (resembling the Glacier de Bossons on Mont Blanc in general appearance), whilst the upper slopes appear to be frequently swept by avalanches. What the other side might be like we, of course, did not know; but such information as could be obtained at La Paz suggested that a high level might be attained there without any great difficulty. Moreover, it was certain that the snow did not come down so far on that side as on the N. This point was one of importance to us, seeing that we were dependent for portorage upon Indians, who cannot be induced under any circumstances to venture into the regions of perpetual snow.

Our first steps up the lower slopes carried us through a beautiful little valley, whose sides were decked with canes and vines and fruit trees of various sorts. Further up came orchards of peach trees—at that time in full blossom—and beyond them an agricultural country still lying in the bonds of winter. We were hospitably entertained at the farmhouse or *hacienda* of Cotaña, a most beautiful place, buried in eucalyptus trees and surrounded by orchards. The sight of the snowy summit of Illimani beheld through the blossoming peach trees was one I shall never forget. From Cotaña, accompanied by Señor Ezekiel Guillen, jun., we rode to a higher farmhouse, named Caimbaya, where we were enabled to enlist the unwilling services of four or five Indians. With-

out the help of Guillen this would have been impossible, for the Indians not only talk no language but their own impossible Aymara, but have a rooted suspicion of Gringos, if not an antipathy to them, and that we were Gringos was obvious to the meanest intelligence. Moreover, like almost all uncivilised mountain folk, they regard the mountain region above the level of cultivation as particularly uncanny. There abide the demons that they fear; there roam the spirits of the departed. To go into such company is the last thing an Indian desires.

Two or three days were spent in reconnoitring the mountain from different low points of view. From one side it was clearly impossible; all the way round from the summit to a lower peak, which I call the Pico del Indio, there falls a precipitous cliff of rock, overhung for the most part of its length by the broken edge of a glacier, which casts down from time to time enormous avalanches. No line of ascent that can be safely followed is to be found anywhere upon this wall. It was necessary, therefore, for us to go round to the back of the Pico del Indio, where we were informed that a broad, steep gully led high towards that summit. Our mules carried us to near the base of this gully; from that point we had to climb without their help. We camped one night at the foot of the gully, and the next day the real ascent began. It was difficult to urge the Indians to any activity. They were the slowest porters I have ever employed. It was not that their burdens were very heavy, or that the ground was difficult; it was stony and rough ground, no doubt, fatiguing to ascend, but that was all. Yet upon this slope we found it impossible to advance more than 2,000 ft. a day, so that in two days we had hardly gained 4,000 ft. This sufficed to bring us to the base of a fine wall of rock, up which a route was discoverable. The following day we started to climb this wall. All the Indians deserted us except two, an old man and a boy of 16. They yielded to the temptation of large bribes, and undertook to come further with us. The ascent of the wall was by no means easy. It was steep, and presented some points of real difficulty. At each of these difficulties, as they came, the Indians wished to turn back, and it was only by standing at the top and holding out small silver coins for them to climb for that I was able to tempt them forward. In this somewhat unusual fashion we slowly advanced until some two-thirds of the wall had been successfully climbed. Then there came a vertical gully filled with ice, in which steps had to be cut, and there the Indians absolutely declined to proceed; they threw down their burdens, turned tail, and

descended. An hour or two later we heard the loud shouts of glee with which they announced their arrival at our deserted tent platform. Fortunately, we were not very far from the edge of the snow-field above, and the guides, by burdening themselves with monstrous loads, succeeded in raising all our baggage on to the snow-field, along which we advanced for a short distance to a convenient place well sheltered by rock, where we pitched our highest camp. What the remainder of the route would be like we had not the faintest idea, but we knew that we had now passed above the great wall of cliff which surrounds the whole of the mountain on this side, and above which there was every reason to believe that the slopes would be of a relatively easy kind. We were, in fact, close to the right bank of a glacier which descended, not from Illimani itself, but from the watershed a little further S. This glacier broke off at the edge of the rock wall I have described, and cast its shattered fragments down the wall into the gully, up which we had ascended, where they reformed and made the glacier's snout.

It was still early in the day when camp had been pitched and breakfast eaten. We spent the rest of the time in wandering about and attempting to gain some view of the route we must follow on the morrow. Guillen now manifested himself a born mountaineer. In his inexperience he cared nothing for hidden crevasses, and he wandered about in the most perilous, reckless fashion, in and out amongst schrunds and over snow-fields that to experienced eyes looked far from safe places for a solitary traveller. But no ill-luck occurred to him, and the only time he ever fell into a crevasse was on the following day, when he was securely roped with the rest of the party.

After a good night's sleep we set forth, at 2 A.M., to try issues with the final ascent. Following the glimmer of a single candle, we felt rather than saw our way up the glacier, in and out amongst great crevasses, and finally up a long undulating snow-field firmly held in bonds of frost. Thus, while it was still night, though the last crescent of the waning moon now dimly illuminated the weird scene, we stood upon the watershed at the head of the glacier.

On one side was the snow-slope we had come up; on the other a cliff furrowed by snowy couloirs dropped 10,000 ft., with that look of sheer abruptness which every mountaineer will understand, to a low valley of fertile Yungas. The crest that divided these very different regions stretched up on our left hand towards the Pico del Indio. We determined to

ascend by that. The first steps were far from easy, for a great lump of ice, round and smooth, in size like a walrus, stuck out of the ridge and had to be climbed. It was the most slippery ice conceivable, and even when big steps had been cut in it my sensations, as I stood in them in the darkness, were far from pleasant, for a slip on one side would have sent me into the bergschrund, whilst a slip on the other would have scattered the fragments of me all over Yungas. Above this came some quite difficult rocks—at least they were quite difficult to ascend in the still prevailing night. They were followed by a snow-slope, fairly steep and very hard to cut into. The snow-slope led under a great overhanging cornice with a vertical ice face fully 30 ft. high. We tried to get round this, on one side and the other, and then to climb it, but all attempts failed. It was, as a matter of fact, fortunate that they failed, for we afterwards found that that line of ascent would not have led us in the direction we ought to have followed. Thus stopped, the only thing to do was to turn to our left and traverse horizontally the steep face of the peak, going, in fact, back in the direction from which we had come, but at a much higher level. For 2 hrs. we were upon this face; it was a snow-slope to begin with, but it soon turned to ice, fortunately covered with a thin coating of hard snow. Step-cutting here, at an altitude of 20,000 ft. above the sea, was a very arduous process, in which Maquignaz and Pellissier took turns. There was an overhanging cliff of ice below, and the slope down to it was appallingly abrupt. For 2 hrs. we advanced across this face; then at last the slope somewhat diminished, and we were able to tread steps up to the ridge that bounds the mountain on the other side. In fact, standing on it, we were just at the edge of the great cliff visible from Caimbaya. We struck this ridge at a little saddle with a hump of rock on one side, and 100 ft. or so of narrow snow arête leading up to the Pico del Indio on the other. And now for the first time the final cone of Illimani came into view. This great mountain has a coronet of summits which surround a high plateau of snow, and differ from one another in altitude to a very slight extent. If we had not known by distant inspection which was the highest, we could not have discovered it from this point. As it was, there was no doubt; the peak lay right over against us, separated from us by an undulating snow-field toward which a gentle slope led down from our feet. At the far side another gentle incline sloped up to a saddle at the foot of the final cone, giving access to it by what

was evidently an easy snow arête. It only remained to cross this snow-field, reach the saddle, and climb the ridge; nor was there a single difficulty in the way, save only that permanent impediment which diminished atmospheric pressure provides for all climbers at altitudes of over 20,000 ft. above the sea. The snow happened to be in splendid condition; it was as hard as a board. We descended merrily enough to the flat part of the plateau. Thence the long slow ascent began; and however long it may have been it seemed infinitely longer to our wearied and panting frames. We did not halt but went steadily, however slowly, forward. One hour passed after another and still the saddle seemed to maintain its distance; but such trials ultimately come to an end. When we were almost despairing of success, the distance intervening between us and the col seemed suddenly to vanish, and, before we knew, we were upon it, and the slope on the La Paz side was dropping away at our feet. A halt of five minutes, a little food, and we were off once more, climbing the easy round snow-ridge, which alone intervened between us and the top. Of that ascent I have hardly any recollection. It seemed endless though it was short. In somewhat less than an hour I was, as it were, awakened from a dream by hearing Maquignaz invite me to take the lead and be the first upon the summit. For the moment we had no sense of joy; none of that delirious satisfaction which used to overwhelm the Alpine climber in the days of Alpine conquest. All we knew was that our great toil was at an end and we could sit down, take breath, and regain the control of our functions. But in five minutes the pain was past and we felt (so long as we did nothing) little otherwise than as if we had been at sea-level. The view, of course, ought to have been magnificent. As a matter of fact, clouds enveloped the greater part of the horizon. The splendid snow-cliffs and ice-cascades of the mountain itself, upon which we stood, part concealed and part revealed by the wandering clouds, were perhaps the most splendid features in the scene. Towards the great Bolivian plain there were large clear areas, and the eye could follow to its remotest margin the great desert expanse that stretches to the S. All the mountains of the Cordillera itself were hidden from view. La Paz was under a cloud-roof, so that our little Union Jack, which waved from a cane flagstaff we had carried up for it, was not seen through the telescopes ready for it in the town. Before clear weather returned it had fallen, being implanted only in snow.

The descent of the mountain requires little description. Its most painful part was the long re-ascent involved by the

interposition of the Pico del Indio between our plateau and the glacier below. By neither flank could the peak be turned ; it was absolutely essential to climb over it. After greater toil than any we had thus far experienced, we regained the little saddle and cast ourselves down upon the rocks. My hand fell upon something soft and clammy, the last kind of substance one expects to meet with in the regions of eternal snow. I picked it up and found it to be a rotting piece of Indian goathair cord. The fact of its presence where I found it was proof that an Indian had been there, probably many years ago. There is a legend at Caimbaya that an Indian, many years ago, declared he would visit the abode of the gods up aloft, and that he was last seen by the people of his village in the neighbourhood of the point where now we sat. But he never came back again, for, as they say, the gods turned him to stone. That this was his fate we saw no proof, but the presence of the piece of rope confirms, at all events, the first part of the tale.

We did not now return across the face, but descended straight down the slope at our feet, leaving far to the left the overhanging cliff, above which we had traversed on the way up. The slope we descended was exceedingly steep, but was covered by snow in good condition lying upon hard ice. We advanced with great care, very slowly, moving only one at a time, and carefully paying out the rope. Again it seemed as though the bottom would never come, so slowly did the broken ice-avalanches that lay about upon it seem to approach ; but just as the sun was setting we passed by a lucky bridge over the wide bergschrund, which was only there to be traversed, though this was a fact that we did not realise until a mere good fortune had actually brought us to the bridge. We picked our way amongst the fallen ice-blocks and so came into a region of enormous crevasses, far larger than any I have ever seen in any other part of the world ; yet with some difficulty a way was found through them before the twilight was far advanced, and a few minutes later we rejoined our upward tracks and regained camp without further difficulty. Next day we descended to Caimbaya, and rode back to La Paz by another and more interesting route than that by which we had come.

Our next undertaking was, of course, the ascent of Mt. Sorata. We had seen this mountain from several points of view in coming to La Paz, first from Lake Titicaca, where it rose in marvellous splendour, apparently from the waters ; again from the Puna, whence it was almost continuously

visible until we approached La Paz. It has the appearance of a great rounded wide-spreading mass, enveloped by large glaciers, which slope down towards the S., whilst on the N. they tumble over tremendous cliffs to the deep valley in which the town of Sorata lies. The north was clearly not the side by which to attack it. From the south we had looked upon one glacier in particular, which, though infested with ice-falls, seemed to offer a possible route to a high plateau, round which stood several summits. If this plateau could be gained, we knew that we could climb high on the highest pyramid, though whether the last part of the ascent would be possible we could not say, for the distance from which we examined the mountain was 20 to 30 miles at the least. Our worst problem, of course, was the universal problem of portage. We hoped to ascend beside the glacier along rocks and moraines to a considerable height, but when once it became necessary to take to the ice we knew that the Indian porters would forsake us. As the upper slopes leading to the plateau were relatively unbroken in appearance, I decided to have a sledge made, and to attempt dragging our kit up on it. Maquignaz had acquired experience in sledging while accompanying the Duke of the Abruzzi up Mt. St. Elias in Alaska, whilst I, of course, had had plenty of sledging in Spitsbergen. The best sledge La Paz could produce was rather a crazy affair, but it sufficed.

The nearest village to the glacier we had determined to attack was named Umapusa. It is situated on one of the tracks leading from La Paz to Sorata, and it contains a wretched mud-hut which serves the purposes of an inn to the few drivers of caravans who go that way. This hut was our headquarters. We were again fortunate enough to obtain the services of an intelligent Bolivian, Caesar by name, who enlisted some Indians for us—far better mountain men, as they afterwards showed themselves to be, than those we had had on Illimani. We now commenced to ascend towards the mountain by long, gentle slopes, which in their lower part produced miserable crops, chiefly potatoes, whilst higher up were grazing grounds for llamas. A day's ride up these slopes carried us to the top of the outer range of hills, behind which, at the foot of a steep cliff, we were surprised to find a secluded valley. Into this valley the glaciers of the mountain descend, and they once extended down it several miles further than where they now end. In their retreat they have left lake-basins behind, one still occupied by a large sheet of water, but the others already silted up and turned into grassy meadows. We descended from the crest of our



Sir W. Martin Conway, photo.

MIDDLE CAMP ON MT. SORATA.

Susan Electric Engraving Co.

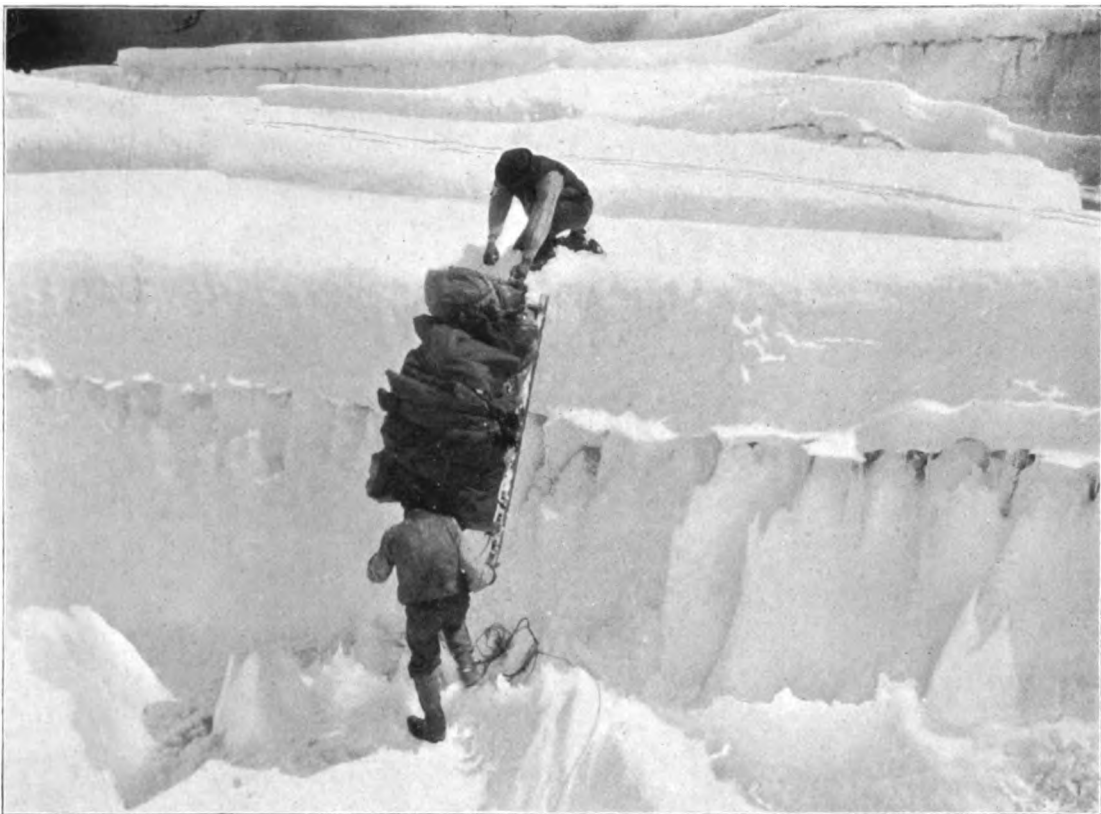
hill into the highest of these old lake-basins, and there left our mules to graze, whilst we carried up our baggage a few hundred feet further to an excellent little camping ground close to the foot of the glacier and near an abandoned gold mine, named Isca Aucania. This was about 16,000 ft. above the sea. I must here explain that the Aucania glacier and its great neighbour to the E., which I call the Ancohuma glacier, spring from a common snow-field, but are divided from one another at and below an altitude of about 18,000 ft. by a rocky ridge. It was on the slopes of this ridge and the moraine at its foot, the left moraine, that is to say, of the Aucania glacier, that we ascended next day. We made our higher camp at the point where the dividing ridge emerges from the ice. Just there is a secluded rocky hollow in which we pitched our tents and where we collected our baggage. The Indians left us at this point, and returned to the camp by the gold mine. Next day we loaded up the sledges and started on. At first the snow-slopes were not difficult, though they were rather steep for sledge-hauling. For some hours we made steady if slow advance, and then came to where great crevasses split the snow-field across. These crevasses were very wide and doubtless very deep, but it fortunately chanced that we always found in those we had to cross bridges spanning the chasms, generally at a depth of from 10 ft. to 20 ft. below the upper edge of the crevasse. How these bridges are formed, and why they should be planted at this lower level, was a problem for which I could find no solution. There, at any rate, the bridges were, and they were our salvation. We had to cross seven of them in all, at an altitude of somewhere about 19,000 ft., and the labour of hauling the sledges on to the bridge, of climbing down the almost inevitable vertical wall which had to be descended, of conveying the sledge across the uneven and pitted surface, of climbing up the other side, usually mounting by each other's shoulders, and finally of hauling up the sledge on to the level of the snow-fields beyond, was naturally very great. These seven crevasses kept us busy for about 4 hrs. When the last of them was left behind there followed a very steep slope of snow, quite even, and fairly hard, up which we hauled the sledge by fastening the whole length of our rope to it, advancing to the end of our tether, and then drawing up the sledge to the point we had attained. By repetition of this process we ultimately gained the less steep region. A sheltered hollow was found between a big sérac and a wall of ice, and we decided to camp.

Soon after sunset a violent storm sprang up. The tent

boomed and flapped and the wind whistled in the tent-ropes. It almost seemed as though we might be blown away. The storm lasted throughout the night, and there was a plentiful fall of new snow round us when we looked out in the morning. Of course, under these circumstances, to continue the ascent was impossible. About the middle of the morning the clouds broke and the sun shone faintly. We seized the opportunity to visit the great plateau and examine the approach to the foot of the final peak. An hour's walk brought us well on to the plateau, which, however, instead of being flat, sloped steadily up to the peak. The last face that we should have to climb was wreathed in clouds, which opened fitfully here and there, revealing at one time or another practically the whole route. We concluded that, though there doubtless would be some points of considerable difficulty, yet on the whole the ascent was practicable. We returned to camp, intending to spend another night there, but the storm broke again, so I gave the word to descend to the base of the mountain to await a settlement of the weather.

It was fortunate we did so, for regularly bad weather set in and lasted about a fortnight, during which interval I visited the town of Sorata and other places. Ultimately we returned again to the same high camp, found it practically as we had left it, set up the tent once more and ensconced ourselves for the night. A great change had taken place in our absence, and it was one that was destined to prove fatal to our hopes, for an immense amount of new snow had fallen, and there was no prospect of its removal before the coming on of the rainy season. The climbing season in Bolivia, it may be observed, is very short, commencing as it does only towards the end of August and ending at the end of October. Next morning, before 2 o'clock, we started with a lantern and retraced our steps to the plateau, where several large crevasses were met with and were turned as they came, more by feeling our way round them to possible bridges than by sight. But as we approached the final peak the crescent of the waning moon lifted itself for a moment above the horizon, then vanished behind a dense mass of clouds, so that we reaped little advantage from its light. The higher we came the softer was the snow, but I think we made fairly rapid progress, and at last, still before the advent of the morning twilight, we found ourselves at the foot of the steep slope. From our previous examination we knew where to start up the slope, and we accordingly commenced the ascent.

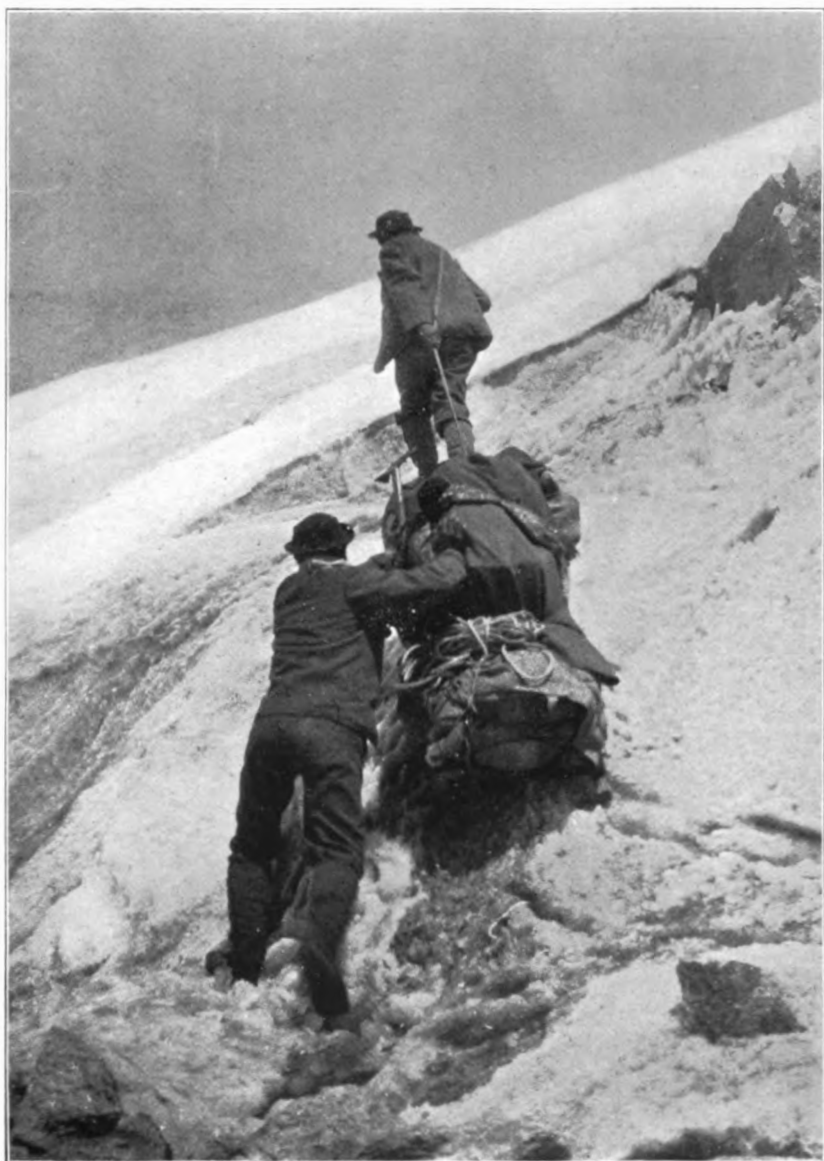
The snow was in a most powdery state, hard frozen, the



Sir W. Martin Conway, photo.

DRAGGING SLEDGE AT 19,000 ft., MT. SORATA.

Swan Electric Engraving Co.



Sir W. Martin Conway, photo.

Swan Electric Engraving Co.

DRAGGING SLEDGE AT 19,000 ft., MT. SORATA.

temperature being probably many degrees below zero Fahrenheit. If it had not been possible to mount straight upwards, we should not have dared to attack this slope at all, for it was in an essentially avalanchy condition, but the bergschrund at the bottom was filled up, and there was little danger of coming to any harm. But if, in this part of the ascent, the danger was not great, the labour was excessive, for the steps gave way under the feet, and had to be trodden and re-trodden and trodden again, and even then they did not hold. The snow became deeper and deeper, and, if possible, looser and looser, so that our advance naturally grew to be continually less rapid. The dawn, when it came, brought no diminution of cold, and the feet of both my guides were frost-bitten. After climbing in this fashion for over 2 hrs. we were high up on the face, when we came to the edge of the last bergschrund. This was a very wide chasm, stretching away far to the right, whilst to the left it soon gave place to a great ice-precipice, some 100 ft. or perhaps 200 ft. in height. The summit was now close at hand above us to the left. In order to reach it, it would have been necessary, after crossing the bergschrund, to mount the slope diagonally, first above the bergschrund itself, and afterwards above the cliff. As the slope was buried in loose snow, such as that we had mounted over, it was obvious that any such traverse could only be made, if made at all, at the cost of an extreme risk. I decided that the risk was unjustifiable, and I turned back at this point. We may, perhaps, have been as much as 300 ft. below the top. Assuming this to have been the case, the altitude of the summit of Mt. Sorata, as determined by an observation taken with a mercurial barometer at this point, and an almost simultaneous observation at La Paz, was 24,255 ft., which agrees almost exactly with the altitude given—I know not on what authority—in the 'Encyclopædia Britannica,' and practically agrees with the altitude marked on Raimondi's map of Peru (the Government map). Unfortunately for me, the careful triangulation which I afterwards made from the Puna, and connected by levels with the known level of Lake Titicaca, gives for the mountain an altitude of only 21,710 ft., so that instead of being, as at that time I imagined, higher than Aconcagua, it is, I think, undoubtedly lower than that peak.

Of my ascent of Aconcagua * I do not propose to speak to-

* Left Valparaiso December 1; crossed the Andes to Baths of Inca, December 2. December 3, rode up Horcones valley and

night, for, as everybody knows, that mountain was ascended by Mr. Vines and Zurbriggen, members of Mr. E. A. FitzGerald's expedition in 1897. Mr. FitzGerald was an old

camped at the head of it, about half a mile below FitzGerald's 14,000-ft. camp. December 4, sent baggage up to site of FitzGerald's 16,000-ft. camp. December 5, ascended to 16,000-ft. camp. December 6, ascended to about 18,500 ft., and camped near the south edge of the great north-western slope of scree. We thought this was FitzGerald's top camping-place, because we found an old duster there, but it must have been brought by wind. December 7, started at 8.30 A.M. up the scree, following thenceforward a line of ascent different from FitzGerald's. At 7 A.M. Pellissier turned back ill. Between 9 and 10 A.M. reached foot of second or third gully (counting from north-east to south-west) in the highest rock-wall. Climbed this gully to the summit ridge, which was struck about midway between the highest peak and the lowest point in the summit ridge. Turned to the left (north-east) along the narrow snow *arête* towards the highest point, and climbed over several undulations to the top of a peak near, and not many feet lower than, the highest peak. It was then about noon.

There was absolutely no difficulty between this point and the highest peak, though the ridge thus far had not been easy. All difficulties being thus overcome, and the ascent not being a first ascent, I decided to descend, for two reasons: (a) because it was advisable to get back to Pellissier as quickly as possible; (b) because Vines, when he ascended Aconcagua, made a record for altitude, and I thought it likely that, if I reached his peak, I should be accused of mere jealousy, whereas if, after overcoming all the difficulties of the mountain and being within ten minutes of, and at the very outside 50 ft. below, the highest point, I turned back, I could not be so accused.

At noon exactly we turned back and went down the way we had come. Reached top camp in $2\frac{1}{2}$ hours. Found Pellissier badly frost-bitten, and realised that it was essential to get him down to mule-level at once. Descended with all baggage in forty minutes to middle camp; packed that up, and descended in forty minutes to foot of slope, fifteen minutes to FitzGerald's 14,000-ft. camp, fifteen minutes to our base camp, which was reached at 6 P.M. December 8, descended with all baggage to Inca. December 9, sent off baggage for Valparaiso. December 10, started at 5 A.M., crossed the Cordillera, and reached Valparaiso at 11 P.M.

The above account shows that to call my ascent of Aconcagua an 'attempt,' as I see was done in a daily paper on May 4, is to use a misleading phrase. If I had conceived such a statement to be possible, I would have gone to Vines's peak and stood on the top of Zurbriggen's cairn; but such pedantry in the mountains is ridiculous. Mine was a simple ascent in which all the difficulties of the mountain were overcome. The reader may apply whatever qualifying adjective he pleases.

friend of mine. I had followed his proceedings with the deepest interest, read all he had written on the subject, and conversed with him about the mountain before leaving home. He had urged me to make the ascent, and had given me all the information possible to facilitate it. My ascent of Aconcagua was not a scientific, but a merely sporting expedition. The mountain had been measured by FitzGerald with greater accuracy and care than any other high mountain in the world has ever been measured. He had also fixed its position astronomically with great exactitude, and had mapped the peak and its neighbourhood most beautifully. When his book comes out the public will learn, as they do not yet know, how excellent was the work done by the FitzGerald party. When I returned from my ascent, after only 10 days' absence from Valparaiso, the opinion of uninformed persons was that I had in some fashion surpassed the exploits of my predecessors, who spent 7 months or more on or about the mountain. This was not true. To begin with, had they not preceded me I should probably have wasted the best part of a month in searching for the way, which is by no means obvious. Again, the time actually spent by them on the ascent was but little longer than that taken by me. Each of their camps was a well-fitted observatory; at each they made long series of observations; the mere determination of the position of the Inca Hotel, from which they started, as I did, took them a month or more. They made a complete examination of the geology and natural history of the neighbourhood. Thus my climb cannot be compared with their expedition in any way, and I am the last to desire any comparison between the two to be made. If hereafter the summit of Mt. Sorata is attained by some more lucky climber than I was, he will owe to me the same recognition that I gladly render to FitzGerald.

Returning to England by way of the Straits of Magellan, I stopped for a few weeks at Sandy Point, where by the kindness of the Chilian Government a small steamboat was placed at my disposal to enable me to attempt the ascent of Mt. Sarmiento, the highest mountain on Tierra del Fuego, or indeed anywhere near the southern extremity of the continent. The frequent bad weather that infests that part of the world rendered it most unlikely that on any particular day we should be able to make the ascent. But I determined to take my luck and see what could be done. After 60 miles steaming from Sandy Point we reached the foot of the mountain, but all its upper part was heavily enveloped in

cloud. A great glacier descended down its northern face, and another down its W. face, and both curling round the lower slopes almost reached the sea, from which they were cut off by a forest-clad belt of moraine. By which of these glaciers we should commence to ascend was a problem that could not be solved until the mountain was disclosed. Both glaciers below the cloud level were broken up by almost continuous ice-falls. The western glacier gave access to a snow arête, which was practicable as far as we could see it; but presently a cloud opened and disclosed its upper portion, a crest of precipitous pinnacles densely packed over with icicles similar to those encountered by Mr. Garwood and me on Mt. Hedgehog in Spitsbergen. They were absolutely unclimbable. We therefore decided to try the northern glacier, and it is fortunate we did so, for that is the right way. A day was devoted to a preliminary reconnaissance, finding a way through the dense forest belt, then over an area of rough ground from which the glacier has retreated in recent times, to the foot of the actual ascent. The next day, starting at 2 A.M., we rowed ashore and returned to this point. I was accompanied only by Maquignaz and a Chilean sailor on this occasion, for Pellissier was in hospital at Sandy Point, suffering from the serious effects of frost-bite received on Aconcagua. The climb began immediately. A wall of glacier-smoothed rocks, very steep, but hidden by trees growing in chinks and crannies, had first to be mounted. We climbed it by the trees, not without considerable difficulty, for all the branches seemed to be rotten, and many of them broke off when they were required to support our weight. Above the forest came a bog, then a short grass-slope, and finally snow. The snow-slope narrowed to a ridge, which soon became a rocky crest. Scrambling over the rocks, we made good progress, and when we halted for breakfast we were on the top of a little peak about 4,000 ft. above sea-level. From this point the view was magnificent; the great lower basin of the glacier was spread out at our feet, and we saw how, filled with ice to the brim by the supply pouring down the N. face of the mountain, it trickled over in glacier tongues, protruding E. and W. and N. respectively. Fine mountains were in sight on all sides; broad sounds, dotted with islands and broken by many a headland, stretched themselves away towards the horizon in different directions. Magellan's Strait was visible far in the N., Cockburn Channel to the W., and I know not what other multitude of snow-clad and uninhabited islands were sprinkled all round. The

summit of the peak was now about 3,000 ft. above our heads. We were separated from the slope leading up to it by a level snow-saddle reached by a descent of about 200 ft., which might have been avoided if, instead of climbing the summit of the little peak, we had traversed round its slope.

Thence the upward route led through a very broken *névé*, up continually steepening snow-slopes, where the way is by no means easy to find. But we were never destined to reach the top of these slopes. If we had done so, we should have then come to the foot of a pinnacle of rock 200 ft. or 300 ft. high, apparently very abrupt and plastered over with icicles. I only saw this pinnacle twice, both times from a relatively low level, and I cannot therefore speak of it with certainty; but I do not think it was climbable, from the two sides from which I saw it, in the icy state which is probably its permanent condition. There may, however, be a snow-slope or some possible line of access behind. At all events we were never able to try conclusions with it; for, before we gained the level of its base, there swept down from the N. such a storm of hail and wind, and such a blackness of all-enveloping cloud, that further progress was rendered quite impossible. All we could do was to hasten down with the utmost rapidity, in hopes to escape to safer regions while the route was still discoverable. In five minutes we were ourselves plastered over with ice and rendered quite unrecognisable. It was not until we got down to the level of the glacier below that the hail and snow turned to rain, which soaked us to the skin. We reached the shore after a very fatiguing expedition, and that was the end of my mountaineering in *Tierra del Fuego*, for the fine weather never returned until I had left those waters for home.

I cannot conclude without returning my heartiest thanks to the Governments of Bolivia, Peru, and Chile for the facilities they gave me, without which I could have accomplished nothing. I must likewise acknowledge very cordially the merits of my guides. Antoine Maquignaz is, beyond question, one of the few really great guides capable of leading anywhere where a man can go. Like many other guides he loves climbing better than travel, but, once on the mountain-side, he is as good a companion as a man can desire. Louis Pellissier was the very perfection of a second man, an excellent traveller, a sound mountaineer, a man of perfect temper, unflagging cheerfulness, and a natural kindness of heart which makes his society always enjoyable. To their help the success of my mountain expeditions was chiefly due.