

The Ascent of Aconcagua.

BY E. A. FITZGERALD.

The first account of how Mr. E. A. Fitzgerald's party climbed the highest peak ever yet ascended. Photos. by Mr. Lightbody, the photographer of the expedition.

I.



HE great peak of Aconcagua naturally presents a most attractive field for the climber and explorer; partly because it is the highest mountain in the world outside of the great ranges of Asia, and partly because it is a prominent feature seen from the coast, its lofty peak being clearly visible some twenty leagues inland from the harbour of Valparaiso. To climb this giant of the Andes, that had so long defied the attempts of those who had tried to conquer its virgin snows, was the ambition of my life.

Accordingly, during the spring and summer of '96, I spent my time organizing an expedition to these regions. It would be difficult to convey an adequate idea of the thousand and one petty difficulties and worries that assail the man who undertakes such an enterprise.

It is impossible to over-estimate the importance to an expedition of the commissariat; the merits of each article of diet must be weighed—jam, gooseberry jam, or marmalade, would 156lb. be enough? Biscuits—*whose* biscuits and *what* biscuits? The strength of a chain is that of its weakest link. At great altitudes the appetite becomes capricious, and it would therefore be disastrous if at a critical moment some necessary extract of beef were to run short. Moreover, there are such hundreds of various compressed and condensed foods, that a judicious selection is difficult. The whole equipment of the expedition had to be collected in a large shed; there packed into several hundred great packing-cases, while a complete and

methodical list of everything packed is kept, so that at a moment's notice any article, from a theodolite to a packing needle, can be found without disturbing the general order of things. Prior to our departure we spent some six or seven weeks in Switzerland for the purpose of testing our equipment and a number of instruments at various altitudes.

I sailed for Buenos Ayres early in October, accompanied by my three colleagues, Mr. Stuart Vines, Mr. de Trafford, and Mr. Philip Gosse, who was to act for us as naturalist. Mr. Lightbody joined us later

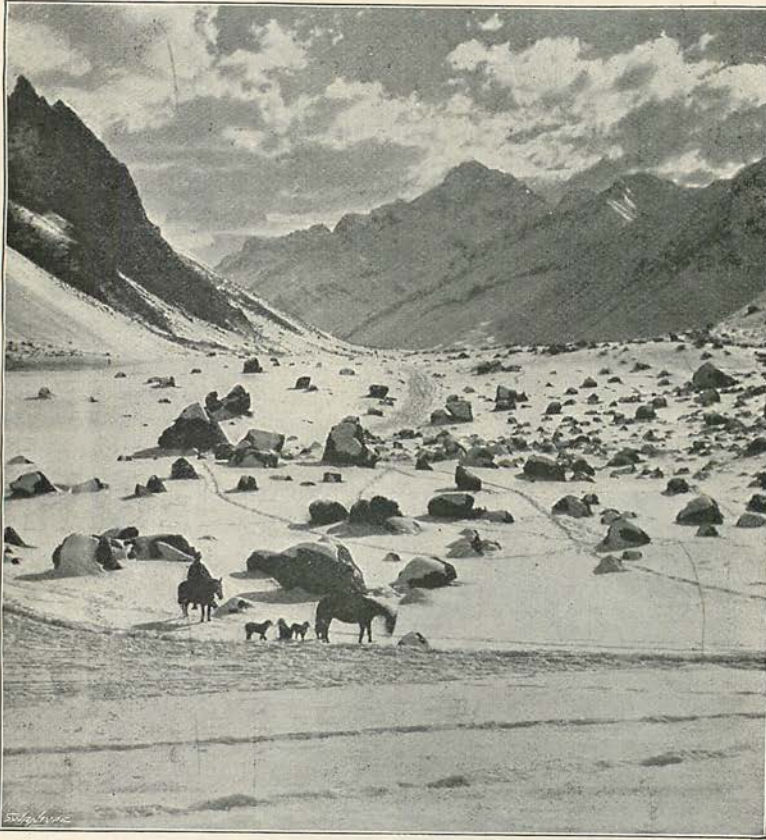
on. We had with us Mattias Zurbriggen, my old guide, who accompanied me in my expedition to New Zealand; as well as five porters from Switzerland and Italy. We did not remain long at Buenos Ayres, but pushed on as soon as possible to Mendoza, first, however, visiting the Government Observatory at Cordova, to adjust and regulate our various instruments. Thence we travelled up to Vacas in a few days, and pitched our camp near to the railway station.

After a couple of weeks spent in examining the different available approaches to the mountain, I decided to make my

first attack by way of the Horcones Valley. We had now formed a base camp, depositing in it all our luggage, near to Puente del Inca, about eleven miles from Vacas, and close to the mouth of the Horcones Valley. We had fair pasturage for our mules, and also fresh and wholesome water—a most important point in these regions, as we discovered later on to our cost, for many of the Andine streams are so charged with chemicals that they produce acute dysentery.



From a Photo. by MR. E. A. FITZGERALD. [Elliott & Fry.]



EN ROUTE FOR THE MOUNTAIN : MAIN VALLEY BETWEEN INCA AND VACAS, LOOKING WEST—
CERRO DEL TORLOSA IN BACKGROUND ; SITE OF THE BASE CAMP.

Zurbriggen and I, with four porters, twelve mules, and a native arriero, started on the morning of December 23rd, with the intention of fixing a camp as high up as possible on the slopes of Aconcagua, to serve as a base from which to ascend the mountain. I had sent Zurbriggen up the Horcones Valley some days previously, and he had reported to me favourably on the possibilities of getting mules up to about 14,000ft. He thought it would be possible to reach the north-west face of the mountain, from which side we knew that it could be ascended, as it was from here that Dr. Güssfeldt had attempted the climb and had taken some excellent photographs. The valley we found extremely rough, and the animals suffered much from the rolling stones on the moraine heaps we were repeatedly obliged to traverse. Frequently we were compelled to make great détours to avoid the steep, narrow cañons, made by the river, where the banks seem to rise up almost perpendicularly from the stream. In such places we were obliged to seek the slopes

above. Later on we constructed a fairly direct track, though even then we had some unpleasant accidents, and lost much of our luggage from the mules slipping and rolling down the precipices into the water below.

There is some sort of legendary belief, in which the English tourist is carefully inoculated, to the effect that mules are absolutely sure-footed, and pass along the crumbling verges of precipices as though suspended by an invisible string from Paradise; to the man who has travelled in the Andes, and lost his best camera, or even his breakfast, through the reckless shuffling of a mule among loose

boulders, this faith is no longer tenable. As a matter of fact, my experience is that horses are the more trustworthy animals.

Now for the first time we got an experience of what later on proved one of the most dangerous parts of our work. This was crossing the swollen mountain torrents. Our animals were mostly small, and what with the rush of water and the insecure footing the river bed afforded, it being mostly composed of loose, round, rolling stones, we ended in many cases with disastrous accidents. The animals were frequently swept down many yards by the torrent, totally unable to get footing or to stem the stream, so that when they at last crawled out upon the opposite bank they were terribly cut about the knees and hocks.

In the afternoon we reached the head of the valley, fortunately without accident or loss of luggage. As it was not yet four o'clock, I determined to continue forward on foot, and to pitch my camp as high as possible that night. We were at an altitude of about 14,000ft., and were obliged to

abandon the mules, as our path lay over the steep snout of a glacier. I accordingly picked out what part of the luggage I thought we should require for our immediate wants, leaving the rest to be brought up on the next favourable opportunity that should present itself. We climbed up to the glacier, and turned our steps towards the saddle that lay to the N.-W. side of the mountain, where I hoped to form a permanent camp for future operations. As it was already late in the day, I called a halt when we had reached an altitude of about 16,000ft., and decided to camp for the night. The sun was just setting over the hills towards the Pacific, and night was coming rapidly on us. The cold was intense as soon as the sun left us, and as we were much fatigued we decided not to pitch the tent, but to simply crawl into our sleeping-bags for the night. No one had the energy to make for himself a smooth place on which to lie. We sought shelter under a friendly overhanging rock, huddled as close to one another as possible for the sake of warmth, and tried to get what sleep we could. During the night one of my Swiss porters, a great, powerfully built man—Lochmatter by name—fell ill. He suffered terribly through the night from violent nausea and faintness, which I was powerless to check. Towards morning he seemed better.

As soon as the sun tinged the peaks of the opposite mountains we crept from our bags, miserable and cold, our attempts at sleep having been in most cases a failure. We tried to prepare some coffee, but our cooking apparatus, which was worked with spirits of wine on the principle of the Russian furnace, struck work, and it was with great difficulty that we were able to melt some soft snow.

We made some tepid coffee, but it was poor stuff at best.

It was some time before the sun caught the slope we were on. The giant cliffs and crags of Aconcagua towered above us to the east, a great mass of rock rising like the battlement of some stupendous castle. The varied coloured stratifications, running in straight, regular lines along its face, gave it the appearance of some structure piled up by the hand of man, but that its vast proportions, bewildering to the pigmy onlooker, suggested infallibly a mightier agency. The thought passed more than once through my mind while amongst these mountains that the mass of rock strata must have been actuated by living passions; must have fought and boiled and been torn in flame and lava; must have stridden, and writhed, and crumbled along in frozen glacial majesty—that here, in such places as the amphitheatre of peaks and valleys round Aconcagua, was one of the arenas of that early word-drama,



THE BASE CAMP.

eons and eons ago; here the tragedies and high moments of the greater actors.

I sent one of the men down to the lower camp by the snout of the glacier to bring up a further supply of provisions, while the rest of us collected our luggage and pushed on.

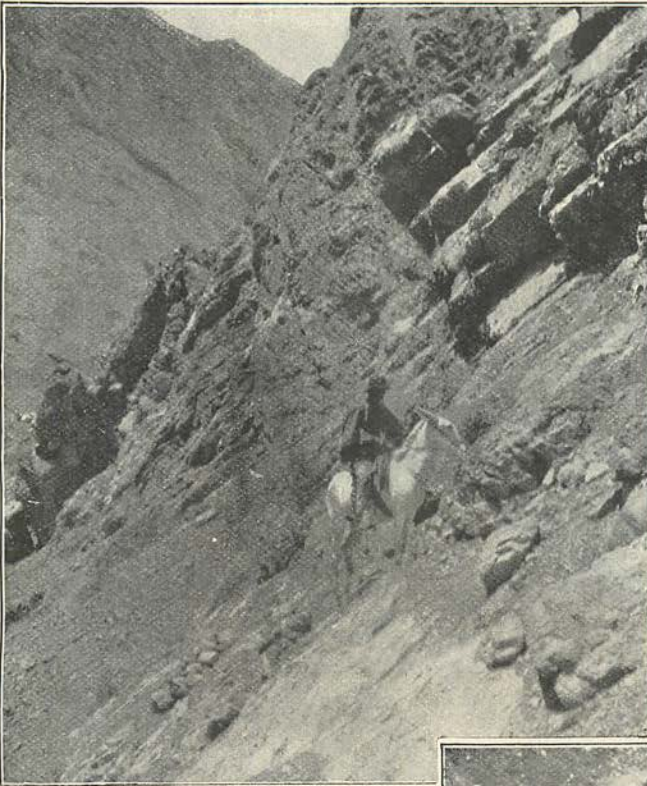


MOUTH OF HORCONES VALLEY, SHOWING FIRST VIEW OF ACONCAGUA.

We were all feeling very ill and weak that morning, and I soon came to the conclusion that it would be impossible to reach the saddle we had in view. We had reached one of those great slopes composed of small loose stones of which we saw so much afterwards, and were by no means pleased with our first experience of it. Every step we took we slipped back, sometimes half the distance, sometimes more than the whole distance we had originally risen. We straggled up this slope, each man taking a line for himself, but I noticed that we were all steering straight towards a small patch of snow that lay in a gully above us. We were repeatedly obliged to make long halts, sometimes for as much as half an hour. Towards mid-day we reached the head of this gully filled with snow, and I saw, both from my own condition and that of the men with me, that it would be unwise, if not impossible, to think of climbing higher that night. Lochmatter was getting very pale and ill again, so I was obliged to send him down with another man to our lower camp by the glacier, telling him to remain there till he was perfectly recovered. We were very eager to

have our tent comfortably pitched, as the recollection of the last night spent in the open was far from pleasant; so set to work at once to make an encampment on a flat bit of ground, fairly sheltered by a large boulder. Pitching the tent was something of an undertaking, as it had fourteen guy-ropes, all of which had to be fixed to large loose stones, the ground being too hard to admit of anything like a peg being driven into it. I had suffered acutely during the afternoon from nausea, and from an inability to catch my breath, my throat being so dry from the continual breathing

through my mouth, that at times I was obliged to cough. This momentarily stopped my breathing, and would end in an unpleasant fit of choking. There were four of us sleeping in the tent—Zurbriggen, myself, and the two porters. I was unable to sleep, partly because of the difficulty I had in breathing, and partly on account of the dreadful noise the men made snoring. They would begin breathing heavily, and continue on in an ascending scale till they eventually ended in a severe fit of choking. This would usually wake them up, and they were quiet generally for ten minutes or so, when gradually I would hear the whole thing recommence with the regularity of clockwork. Our tent was a small one, about 6ft. square, ending in a peaked roof 3ft. 6in. from the ground. The floor of it was securely sewn to the sides, so as to prevent the wind from getting under it. The drawback of this was that towards morning it got extremely stuffy inside, but the cold outside was so intense that we dared not open the flap of the tent. We crawled out of our tent after the sun was up. The day was not a promising one. Great clouds were banked up

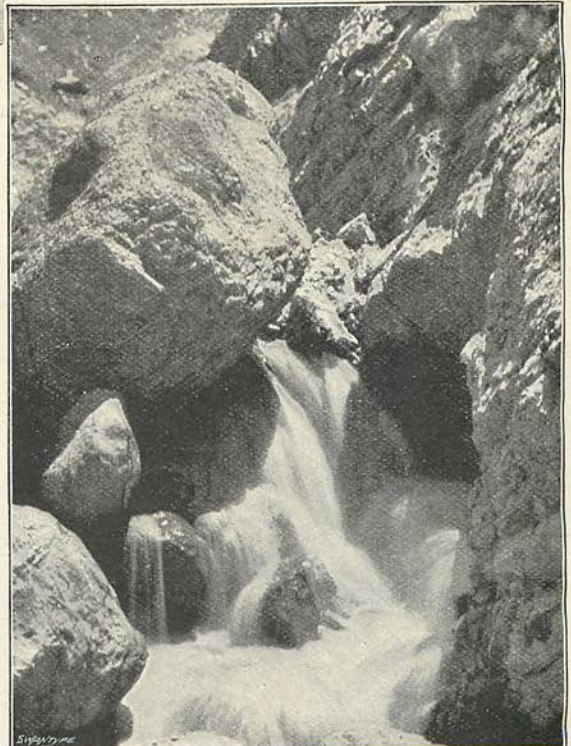


PASO MALO.

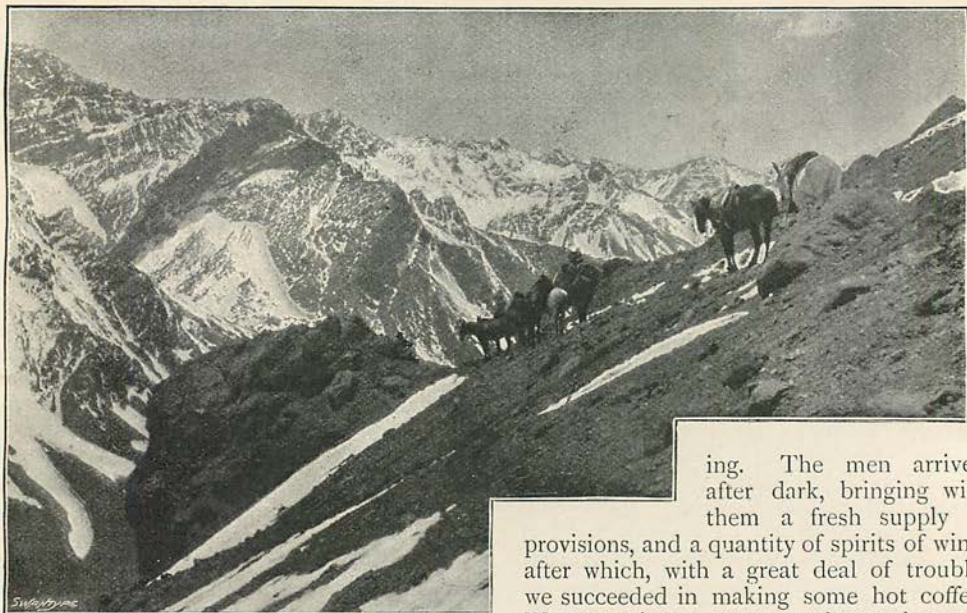
to the north-west, and the wind was blowing heavily. I saw the hopelessness of any serious attempt being made till a suitable provision of wood was brought up. What one requires at these altitudes is light, nourishing food, such as is given to invalids or people recovering from severe fevers. Still, I was determined to fix our camp on the ridge before turning back, if possible.

I sent a couple of porters down to bring up fresh provisions, and in the afternoon, as we were beginning to feel slightly better, Zurbriggen and I started out to reconnoitre and try to find a suitable camping-ground on the shoulder of the ridge above us. The weather had greatly improved since morning, the clouds dispersing as the wind subsided. We were feeling distinctly weak about the knees, and were obliged to pause every dozen steps to catch our breath. After about two hours and a half we reached the shoulder, and climbed to the top of a small mound at about

19,000ft., whence we got a magnificent view of what was practically the peak of Aconcagua, though it was a point, as we afterwards discovered, about 150ft. lower than the actual summit. It was therefore some 4,000ft. above us; but at the moment it looked so close that Zurbriggen said he would walk up to it in the morning while the men were moving the camp up to the ridge, and see what lay behind. For we then thought that the peak itself must lie some distance beyond, and much higher. It was not till afterwards that we discovered by bitter experience the fact that it was a good eight to ten hours' climb. Our idea at the time was that it could be reached in two or three hours. The view out towards the Pacific was obscured by clouds, for the



TORRENT BELOW PASO MALO, WHERE MULES AND BAGGAGE WERE LOST.



MULES AT 13,000FT.

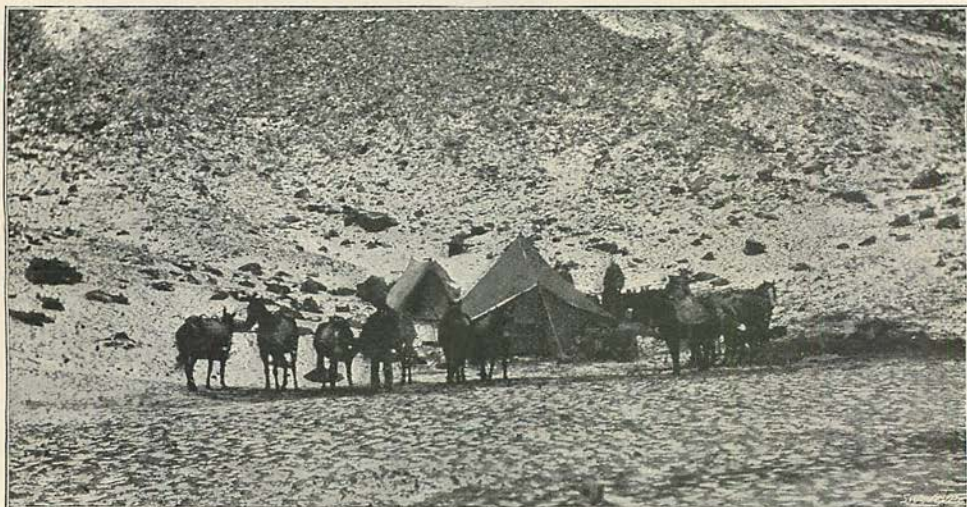
wind had sprung up again, and was blowing heavily from the north-west.

I was attacked with several severe fits of nausea here, and as it was late, and the weather threatening, we thought it advisable to return at once. On our return we noted a suitable spot to make a camp at about 18,700ft. It was in the cleft of a great rock more or less sheltered from the north and west wind, while the mass of the mountain itself more or less sheltered us from the south. I was completely done up that even-

ing. The men arrived after dark, bringing with them a fresh supply of provisions, and a quantity of spirits of wine, after which, with a great deal of trouble, we succeeded in making some hot coffee. We crept into our tent early, as the cold at this altitude seems absolutely unendurable after sunset. I have seen our men sit down and cry like children, so discouraged were they by the intensity of the cold; their circulation was so poor, that they really seemed unable to resist it.

The nights that one spends at these altitudes are the most terrible part of the work. It is very difficult to sleep for more than a quarter of an hour or twenty minutes at a time without being awakened by a fit of choking.

Another discomfort lay in the fact that our



THE SECOND CAMP, BENEATH SLOPES OF MOUNTAIN—11,500FT.



HORCONES VALLEY, SITE OF THIRD CAMP—12,500FT.

tent was so small, and we were wedged so tightly in, that it was impossible to turn round without waking up everybody.

On the morning of the 26th I decided to push our encampment up to the saddle north-west of the peak of Aconcagua. We accordingly spent the day in moving our tent and provisions up to the spot Zurbriggen and I had selected the previous day. The men made two journeys, and were extremely exhausted by the evening. Zurbriggen went out to find a route towards the peak we had seen the day before. He started from our camp at nine o'clock in the morning, and returned to our new camp late in the evening, completely exhausted. He reported that he had gone about 2,000ft. above our high camp, and that from here the peak still looked as far off as ever! On returning he was attracted by a small heap of stones that had the appearance of

having been built by someone. Upon closer investigation he found a small tin box, and on opening this he discovered Dr. Güssfeldt's card. It was here then that the great German explorer, accompanied only by a young lad, found it necessary to turn back owing to the intense cold, and the fact that night was nearly on him. He turned literally to save his life, and left this signal on the highest point that had ever been reached by any previous party upon Aconcagua. On the card



SERACS HEAD OF HORCONES VALLEY—BASE OF ACONCAGUA ON LEFT.



HORCONES GLACIER AT SUNSET—15,000FT.

was written: "A la Segunda Entirda del cerro Aconcagua. Maerz, 1883."

At night we tried to heat some coffee with our Russian furnace, when the whole concern blew up with a loud report, sprinkling us

a cooking-stove for wood, and, if possible, some fresh vegetables. Above all, he had orders to bring the best fresh meat procurable. We followed soon afterwards, and as we reached our camp at the foot of the glacier,

with boiling spirits of wine, and nearly blinding us. We were obliged to content ourselves with cold fare that night.

We all felt extremely ill, owing to the impossibility of procuring warm food. I determined therefore to beat a retreat next morning and return to our camp in the Horcones Valley at 12,000ft., where there was plenty of wood.

I sent young Pollinger down early with instructions to get to Inca as soon as possible, and return with a further supply of provisions, wood,



N.-W. SIDE OF ACONCAGUA—SITE OF 16,000FT., 17,000FT., AND 19,000FT. CAMPS.

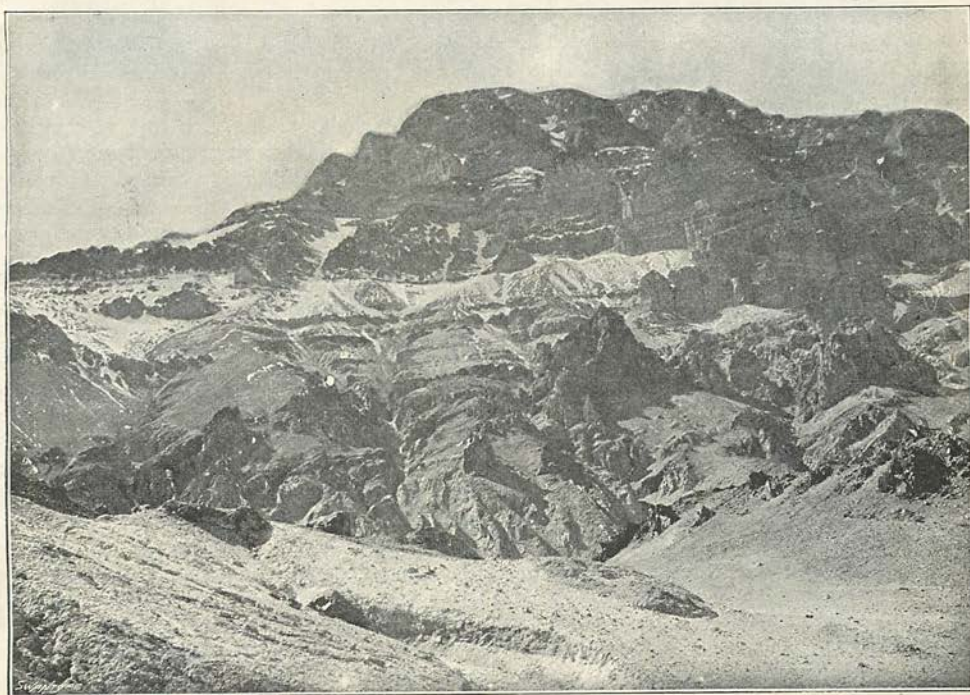
we felt completely restored, and were able to walk down to our camp at 12,000ft. Here, as there was plenty of wood, we were able to build a large fire and prepare a suitable meal, of which we were in great need.

We spent a couple of days recruiting our strength, and it was not till December 30th that we started out to renew our attack. We had sent for our horses and mules, and were thus able to ride up to our camp at the end of the glacier, which we reached at about 11 a.m., and started almost immediately for our high level camp, taking with us an abundant supply of wood and fresh meat.

The rest had evidently done us much good,

minimum for the night. We rose early on the morning of the following day before the sun had risen, and prepared some hot coffee. We left our camp at 5.45; the day being fine, we had great hopes of success. We walked gradually up over the loose, crumbling rocks in a direct line for our peak, and zig-zagged up the slopes where they were steep, so as not to exert ourselves more than was absolutely necessary, as we wished to husband our strength for the last part.

I noticed that Zurbriggen was going very fast, and I was obliged to call to him several times to wait for me, as I did not wish to be hurried for the first few hours. It is unusual

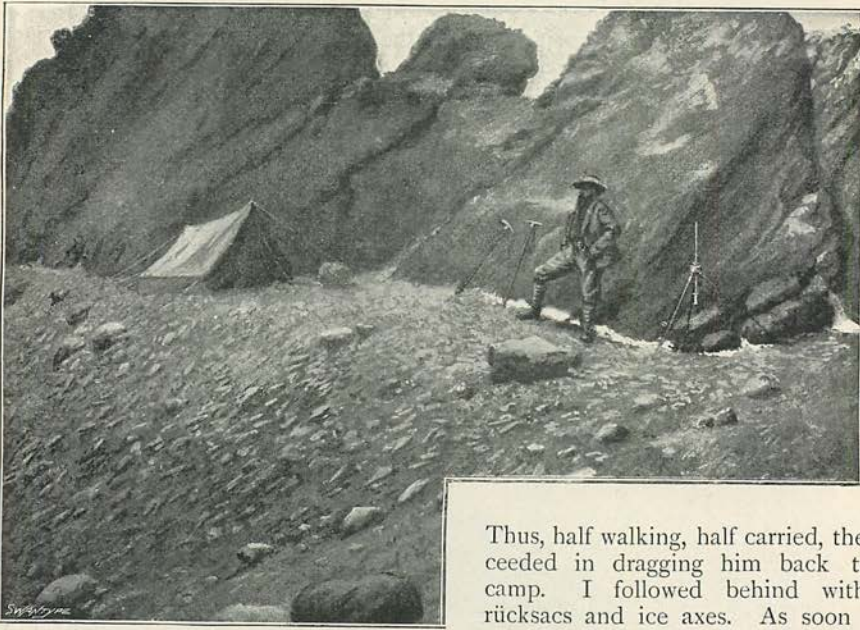


WESTERN FACE OF ACONCAGUA.

for we reached our camp at 18,700ft. towards sundown, and though we were much fatigued, we had, on the whole, done the journey with much less effort than on the previous occasion.

We were able to light a fire and cook ourselves a good meal, which went a long way towards cheering us, and we crawled into the sleeping-bags that night with the impression that we were going to sleep soundly and awake ready for an attempt on the mountain next day. In this, however, we were doomed to disappointment, for we suffered more than ever that night. We had the greatest trouble in breathing, and suffered much from the cold, the thermometer registering 6deg. as a

for him to hurry at the commencement of a climb. His maxim is always to begin the day very slowly, and gradually to increase the speed. This unusual action on his part surprised me very much, and set me thinking. I soon discovered the reason for it. He was apparently suffering from the cold, which was intense, the sun not having yet risen high enough to reach us over the brow of Aconcagua. I promptly asked him if his feet were cold, and he answered that he had no sensation left in them at all. He tried for a few minutes by kicking about and dancing to warm them, but this proved useless. The two porters we had



ZURBRIGGEN AT 19,000FT. CAMP.

with us had been lagging behind, unable to keep up, as Zurbriggen had increased his pace. They soon, however, overtook us as we stood talking, and I directed them to take off his boots, and rub his feet. This they did at once, and I then realized for the first time what immediate danger he was in, for though they rubbed as hard as they could, he apparently had no sensation in them. I then got seriously alarmed, and we started working on him all together with increased force, to see if we could not bring back the lacking circulation. Fortunately, with another five minutes of sharp work he began to feel the effects of the rubbing, and complained of sharp pains. This encouraged us to redouble our efforts, and as the blood slowly came back to the frozen parts the agony he suffered was intense. He rolled over and over, screaming, cursing, and writhing in his agony; but we, knowing that his only chance of salvation lay in this continued treatment, went on without taking any heed. Finally we were compelled to absolutely hold him down, as he got so violent that he tried to stop us forcibly.

The sun rose over the top of Aconcagua, and with it came a marked change in the temperature. We now stopped rubbing, and gave him a strong dose of brandy. Still he suffered intense pain. We wrapped his feet up in bandages, and succeeded in getting him upon his feet between the two porters.

Thus, half walking, half carried, they succeeded in dragging him back to the camp. I followed behind with the rucksacs and ice axes. As soon as we reached the tent he wanted to lie down and be left alone, but here we recom-

menced rubbing his feet again, as during his descent they seemed to have got cold, and we did not leave him until we had completely restored the circulation. As the sun had now risen, the atmosphere was fairly warm in the tent, and he gradually went off to sleep; when he awoke later on in the afternoon, he affirmed that he felt perfectly well again, and, in fact, he was able to get up and put on his boots and take a stroll about outside the camp.

He was very much depressed during the day, and kept on muttering that it was the first time he had ever turned back from a climb owing to illness. He got so well towards night, that we decided to make another attempt next day; this attempt was frustrated by a furious and icy wind.

The weather turned out bad during the ensuing week, and it was not till the 9th of January that I started out again with Zurbriggen and the men. On the following day we reached our high level camp. The weather was extremely bad during the night, and we suffered intensely from breathlessness in consequence. The minimum temperature during the night was 1deg. above zero. As we had not succeeded in getting any rest during the night, we did not attempt anything that day, but spent our time in resting, sheltering ourselves under the rocks from the cold winds, and occasionally getting some sleep in the sun. On the next morning I made another attempt

on the mountain. I was not able to go far this day, and had to turn back about 2,000ft. above the camp, completely doubled up with pain and nausea. Zurbriggen, who seemed in good health that day, went on to see if it were not possible to select some easier route. He came back late extremely exhausted, and reported that by bearing somewhat to the left of the ridge of rocks leading to the summit, it was possible to shelter oneself from the wind, and at the same time the route was not so steep. On the following day, January 12th, we rose early, and made another attack upon the mountain. Our breakfast proved rather a failure, owing to some of the condensed milk we put in the coffee proving sour. This rather upset our digestion at the start.

We struck directly up towards the north ridge at the spot where Dr. Güssfeldt turned back. The day promised well, and there was little wind, while the sun rose in a cloudless sky. We had not gone more than two hours when I again fell ill, and was obliged to stop. I rested for over an hour, but it was no use, and at a little over 21,000ft. we were obliged to turn back. The porters suffered terribly during the morning from cold, and I feared at one time they would get their feet frost-bitten, and that we might have a repetition of the performance of Zurbriggen a few days previously. In the afternoon I felt so much better that I was able to climb up to the spot where Dr. Güssfeldt left his card. From here I got a marvellous view of the Pacific Ocean, and the great ranges running far out towards the sea in Chile. We turned in to rest at seven that evening, determining to make a desperate attempt to reach the summit next day.

On the morning of the 13th we commenced at about half-past five,

making preparations for the day. This time we tried the plan of taking a hot breakfast, including some grilled meat, and then resting for about an hour or so, to give time for digestion. As soon as the sun struck the tent we started; it was then half-past seven.

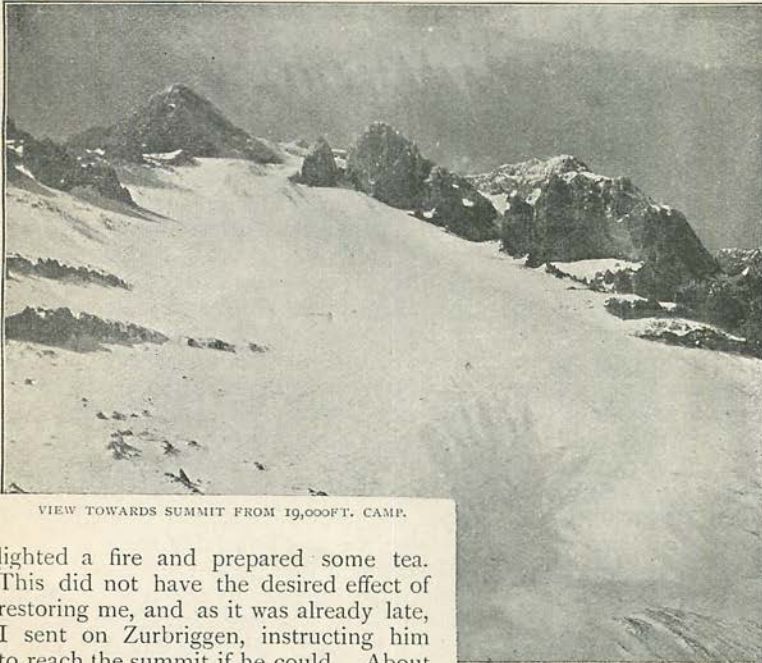
The party consisted of Zurbriggen, the younger Pollinger, Lanti, and myself. We were in good spirits that morning, the weather being fine and still. We walked slowly up towards the spot which Dr. Güssfeldt had turned back from. This spot was reached in two hours and a half. We sat down here and rested for a few moments, as the route had been extremely steep, and we were decidedly tired and puffed, owing to the fact that we slipped back almost half a foot for every foot that we advanced. From here onwards, however, the route lay over gentle slopes, and as we were still all feeling in good condition, we were hopeful of success.

We continued on under the shelter of the north ridge, keeping to the east of it till about mid-day, when we reached an altitude of about 21,000ft. Here it was that I first began to feel acutely the effects of the altitude, and had great trouble in breathing.

We rested here for a while, and as we had brought a small supply of wood with us, we



ACONCAGUA FROM THE EAST.



VIEW TOWARDS SUMMIT FROM 19,000FT. CAMP.

lighted a fire and prepared some tea. This did not have the desired effect of restoring me, and as it was already late, I sent on Zurbriggen, instructing him to reach the summit if he could. About three-quarters of an hour after he had left me I again struggled on, and managed to reach the base of the great cliff which rises to the summit of Aconcagua. It is necessary to skirt along the base of this till the small couloir is reached by which the final ascent is made.

Here, at an altitude of 22,000ft., I was completely disabled, and was obliged to lie flat down on my back and gasp for breath. I saw that it would be impossible for me to reach the summit that day, so I was again obliged to turn back, this time at about 1,000ft. from the summit. I was so weak in the knees that I was unable to hold myself up for more than a few paces at a time, and I continually fell forward, cutting myself upon the sharp stones that covered the mountain side.

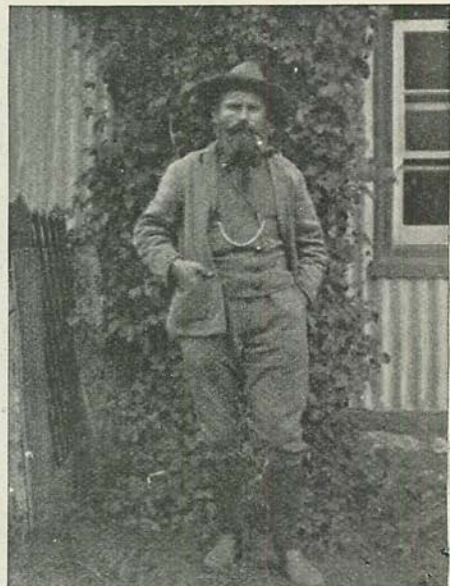
I crawled along in this miserable plight towards a long patch of snow that extended down the slope, and, overcome by sheer exhaustion, I was obliged to lie down and roll down the mountain side. I reached the camp at about five in the evening with one of the most severe headaches I have ever experienced.

Zurbriggen returned just after sunset, in a terribly exhausted condition. So weary was he that I was unable to get any information out of him beyond the bare fact that he had reached the summit. On the following day he said that after leaving me he had con-

tinued up to the base of the mountain, reaching it at about three in the afternoon. From here in about two hours he had reached the summit by way of the small couloir that leads up to the saddle between the eastern, or highest, and the western peaks. He was unable to see anything from the top, as he was enveloped in clouds, and snow fell heavily for part of the time. He reported the wind to be something terrible. He was immensely fatigued coming down, and

was indeed scarcely able to stand up part of the time. The next day we returned to our camp at Inca, whence we telegraphed home the news of the ascent of Aconcagua.

The next article will deal with the subsequent ascent, and with the observations taken on the summit.



MATTIAS ZURBRIGGEN, CHIEF GUIDE: THE FIRST MAN TO STAND UPON THE SUMMIT OF ACONCAGUA.

The Ascent of Aconcagua and Tupungato.

BY E. A. FITZGERALD.

The first account of how Mr. E. A. Fitzgerald's party climbed the highest peak ever yet ascended. Photos. by Mr. Arthur E. Lightbody.

II.



IX days after the ascent of Aconcagua by my guide Zurbriggen, I started with Mr. Stuart Vines to make another attempt on the mountain. Zurbriggen was temporarily disabled by the hardships he had undergone on Aconcagua, and by an accident sustained in crossing one of the fords in the Horcones Valley, owing to his mule falling with him. I had, therefore, sent him down to Mendoza to recuperate. After two unsuccessful attempts we reached the high level camp on Aconcagua, at 18,700ft., on the 22nd of January, in very bad weather.

At these altitudes the digestive organs are not in a state to allow of indulging in a hearty supper, and we felt a craving for hot food at an early hour the following morning. It was Vines's first experience at 19,000ft. He spent a restless night, and on getting up did not seem fit for much. It was impossible to rise early, or when up to move about and do things quickly, so that it was not until nine o'clock that we began to prepare breakfast. Coffee was our staple food, but there was no means of obtaining water except by melting snow and ice.

I undertook to light the fire, no easy task at this altitude, where it requires almost superhuman efforts to induce the wood to ignite. Vines went with a biscuit-tin to collect suitable snow and ice for water ten yards away on the other side of the tent, and, crouching down by the fire, I gave myself up to the exhausting work of persistently blowing the smouldering wood, thereby filling my lungs, which were craving oxygen, with smoke.

I looked up to see what had become of Vines. He stood a few yards from me, apparently doing nothing in particular.

The tent being perched on a narrow ledge, under the shelter of a rock, he had to cross its numerous guy-ropes in order to reach the snow. I watched him slowly raise one leg over the first rope, and stop breathless and exhausted. He then wearily dragged the other

leg after the first. Thus he proceeded until he reached the snow. It was about ten minutes before he returned, with hardly enough ice and snow in the tin to wet the bottom of the kettle. I noticed, during the time I spent at this high camp, that the ropes of the tent always needed re-adjusting. The reason was not far to seek, for we were continually kicking them as we passed, no one having the energy to raise his feet high enough to clear them. Under these circumstances, it is not to be wondered at that we did not get our breakfast until long after ten. It seemed to restore Vines at once to comparative activity, but had a contrary effect on me, for I was attacked by indigestion and retired to my sleeping-bag for the rest of the morning.

I intended to rest the first day, and if possible make the ascent on the

next. It began to snow at ten o'clock. It snowed all day. A porter came up during the morning with some wood and provisions, and descended late in the afternoon. In spite of the snow Vines and I intended to hold on as long as possible. When the day was too far advanced to make a descent possible, about five o'clock in the afternoon, the snow increased in volume



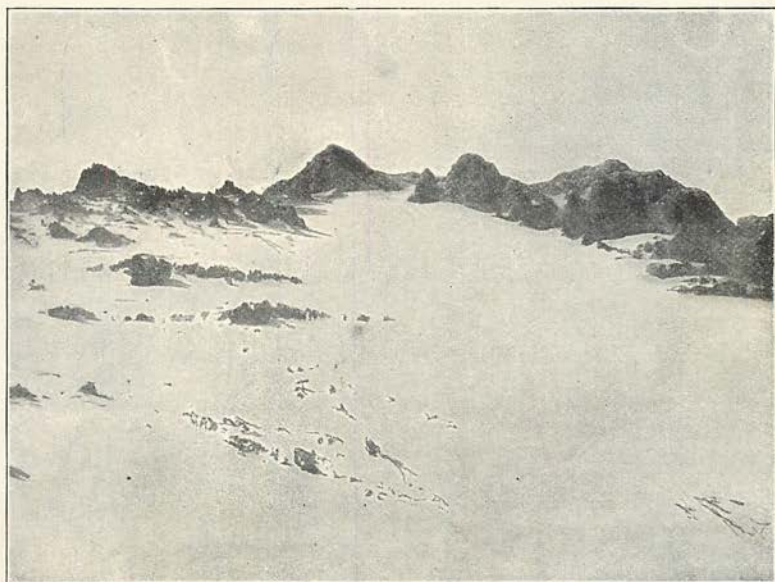
MR. STUART VINES.
From a Photo. by Mr. Arthur E. Lightbody.

and the wind rose, causing it to drift. Huddled in our little tent we anxiously watched the turn of events. We closed the fastenings of the tent, and tried to sleep. But it was not a night for rest. I soon began to realize that we were being buried in the snow, for the corner under the shelter of the rocks where the tent was pitched was filling up with one great snowdrift. At nine o'clock we seriously discussed the state of affairs. We must either keep the snow clear of the tent, or retreat to the valley. The latter course we feared would be impossible. On such a night we could never find our way down the great, exposed slopes of Aconcagua. Vines burrowed his way out of the tent, and with difficulty found and brought in the boots and ice-axes, so that we might be ready for the worst. From time to time we beat upon the roof of the tent in order to prevent a mass of snow from collecting and crushing it in. Sleep was out of the question. It was a miserable and exciting night, and by morning we were quite worn out. Snow began to fall again at nine, so we made a bolt for the valley.

It was useless to attempt further climbing in such weather. Our next start from Inca was therefore delayed till February 7th. We reached the 14,000ft. bivouac at the head of the Horcones Valley, and sent porters up to report on the condition of the mountain and the high camp. They came down on the following day with a story that was not encouraging. Owing to the continued snowfall, the difficulties to be encountered in the ascent of the mountain would be greatly increased, and sleeping at the high level camp was becoming more uncomfortable every day.

I started with Vines on the 10th, and on reaching the camp soon realized that the description given by the porters was only too true. Tent, wood, provisions, and instruments were covered with ice

and snow. The few cooking utensils were covered with frozen grease. To thaw these things out and clean up was no easy task, and the difficulties of preparing hot food, so necessary to us, were greatly increased. However, on the 12th the weather looked promising, and we determined to prepare for the ascent on the following day, for we were not gaining strength by remaining at this altitude. Lanti came up in the evening, for as he had proved himself less susceptible to the surrounding conditions than the other porters, I wished him to make the ascent with us. He undertook to wake us at an early hour, that we might all have a good breakfast before starting. Unfortunately, we were unable to sleep at night, and as usual made up for it in the morning, so that it was only when the sun came on the tent at 7.30 that Lanti roused us. So slow were our movements that we did not make a start until after 8.30. Our packs were equally divided, and contained a bottle filled with a mixture of port wine and egg, a bottle of red wine, a flask of brandy, and some Kola biscuits, besides the various instruments and extra clothing, in the shape of gloves, helmets, and sweaters, about 17lb. to each man. I may here mention that the port and egg was almost the only nourishment taken during the day. The aspect of the mountain had changed considerably since Zurbriggen's ascent. He had reached the summit almost without putting his foot on snow: now great fields of deep snow spread over the north-



VIEW TOWARDS SUMMIT OF ACONCAGUA FROM 19,000FT. CAMP.

western slopes as far as the eye could see. We trudged over it for an hour, when at a height of 20,000ft. I was forced to turn back. I begged Vines to go on and make the ascent if possible, taking Lanti with him. He followed practically the same route that had been taken on the previous attempts, clinging to the protection afforded by the base of the cliffs running down from the summit to the north. It was absolutely necessary to keep on the solid rock or hard snow, and avoid as much as possible the soft, broken surface caused by thousands of years of denudation. In ascending by the line of cliffs they reached at mid-day a spot—21,500ft.—where on our first attempt we had left some provisions and instruments. Here their further passage towards the summit was barred by a precipice, so that they were forced to cross the face of the mountain to the west in order to reach the couloir ascended by Zurbriggen. In doing this they had to pass over the rotten *débris* which covered the whole of this side of the mountain. Their patience and endurance were sorely tried, for they were now at an altitude of nearly 22,000ft., and the fatigue caused by slipping and falling on the unreliable surface was very great. At each step the whole side of the mountain seemed to give way, and they were continually thrown down on to their hands and knees, sometimes slipping down several yards. It took

them over an hour to cross this slope to the couloir. Not that the distance was very great, but they were forced to halt every few minutes. Their legs seemed incapable of working for more than twenty steps at a time, and the difficulty of breathing seemed to increase at each step. At 2 p.m. the couloir was reached, and after an ascent of some 300ft. they entered a vast amphitheatre filled with masses of broken red rock. The opposite wall of this was formed by a great *arête*, which joined the eastern and western peaks of Aconcagua, and which ran from one end of the mountain to the other. To the left of them rose a huge bastion of rock on which was the actual summit. To the right, cone-shaped rocks and *aiguilles* towered into the clouds above. Not a vestige of snow was to be seen within this vast inclosure. They were nearly 22,500ft. above the sea, and in no mood to cope with the frequent petty annoyances which occurred while scrambling over the great rough stones and boulders now blocking the way. An almost irresistible desire to turn and descend, and the longing for some stimulating nourishment, seemed to overwhelm them. In halting they found there was only one position for rest and recuperation. The overpowering lassitude that seized their lower limbs after sitting or reclining made this mode of rest out of the question, and instinct soon taught them



GREAT SOUTHERN PRECIPICE OF ACONCAGUA, AT TEN MILES' DISTANCE.

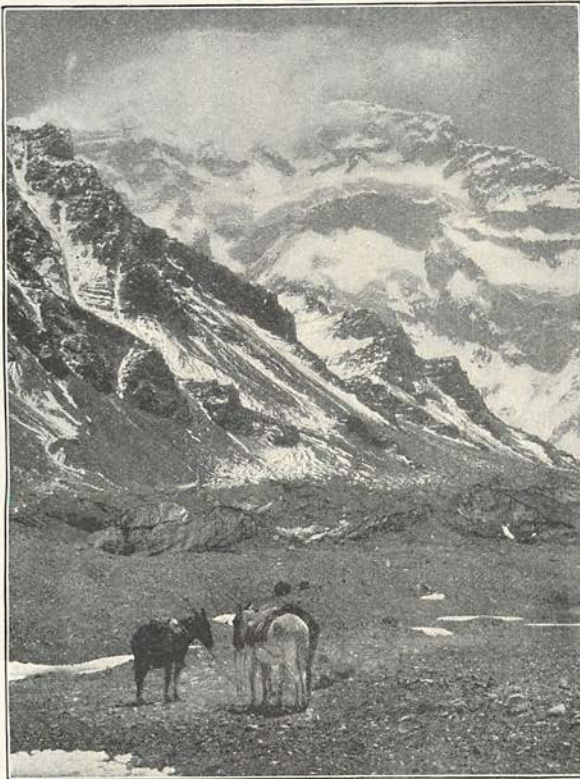
to stand with legs wide apart, the body thrown far forward, the hands grasping the head of the ice-axe, and the forehead resting low on the hands. Ten or a dozen violent respirations brought the breathing back to its normal state; the legs gradually regained power, and they were able to advance a short distance. So they proceeded, until at 4.30 the great *arête* that joined the eastern and western peaks was reached.

Vines crept to its edge and looked over the southern wall of Aconcagua. An immense distance separated him from the glacier below, the difference between 23,000ft. and 13,000ft. Looking down this dizzy precipice he saw spurs of the mountain flanking the glacier beneath to the right and left, giving it the appearance of a huge amphitheatre. The sun was not now far off the horizon, and did not penetrate into this vast pit. Great masses of vapour were moving about in it far below; it looked like some giant caldron, of which the bottom was quite invisible two miles vertically below where he stood.

But no time was to be lost; it was late, and it was hard to tell how far the actual

summit might be. They turned along the *arête* to the east, until its rotten condition and its steepness compelled them to leave it. As a cliff in front barred the way, and shut out the view ahead, the excitement of the climbers became intense. Vines scrambled up the cliff; once level with its edge, all was made clear. Here was the actual summit right before his eyes; and not 20yds. from him was Zurbriggen's stone man, and the ice-axe planted in its centre. A few steps more, and they stood on the summit of Aconcagua in silence, the feeling of triumph too great for words. There was no more need to *stand* and rest. They flung themselves down by the stone man, crouching close on its leeward side, and Lanti produced the bottle of wine. They neither of them cared for the chilled, sour stuff, and poured it as a libation over the stone man, in order to use the bottle for the record.

A square plateau about 75yds. across, quite clear of snow, formed the summit of the mountain; inaccessible on all except the western side, where the *arête* joined it with the western peaks. But for a few clouds that had been coming over towards the mountain all the afternoon, and hovering round the southern and western slopes, the sky was clear. Vines was quite overwhelmed by the vastness of the panorama that lay beneath him. Innumerable ranges of mountains stretched away to the east to the Uspallata plain and the Pampas of Argentina. These ran to a great height, maintaining an average of about 13,000ft., so that it was not possible to see the Pampas except far to the north, where a break in the mountains gave a glimpse of the distant plains. Most of these great brown mountains were capped with white, the result of the unusually heavy summer snows. Within ten miles, surrounding the base of Aconcagua, lay the heads of the Vacas and Horcones Valleys; and to the north, the Penitente Valley, by which Güssfeldt had approached the mountain. Wide, bleak wastes of grey stones, bounded by red and brown slopes, and ending in glacier. Clear above the low clouds, lying in the Horcones Valley, stood up the mighty dome of Tupungato. Vines scrutinized its outline carefully. For, Aconcagua once con-



MULES BENEATH THE PRECIPICE OF ACONCAGUA : 13,000FT.

quered, the scaling of Tupungato would be our especial care. Not far to the north of it rose the ice-peaks of Pollera and Navarro, and the lofty glaciers lying beneath the rugged cliffs of Juncal. Nearer still,

upon the water could be distinctly seen, so that it seemed quite near to them, and it was difficult to believe that the distance was so immense.

But the setting sun warned them that it was



GREAT VACAS VALLEY, SEEN FROM SUMMIT OF ACONCAGUA.

the Twins and Torlosa on either side guarded the Cumbre Pass over into Chile. Turning to the north, the eye travelled over vast fields of ice and snow lying at their feet, down the Val Penitente and the Val Hermosa, to the giant slopes of Mercedario, forty miles away, and far beyond over innumerable peaks and ridges. All around on these three sides was a sight whose desolate grandeur defied description. But there was beauty as well as grandeur in the view to the west. Beyond the two white western peaks of Aconcagua, to right and left, lay the Pacific. A hundred miles away the mighty ocean glittered in the evening sun. Far down to the south, and away some fifty leagues to the north, it stretched in a great blue line. The sun lay low on the horizon 160 miles away, and the whole surface of the ocean between the point of vision and the sun became suffused with a ruddy glow. The shimmering of the light

time to descend, unless they would be overcome by night at this great altitude. It was nearly half-past six, and should clouds obscure the moon, the descent would be perilous. Nearly an hour and a half had been spent on the summit, nor had the time seemed long. For to take in all its details and appreciate that vast scene was a herculean task in so short a time. They felt no ill-effects from the altitude while thus at rest. Yet the summit of Aconcagua was no spot on which to stand still and rest, with the wind whirling great clouds of snow from the *arête* up into their faces, and the thermometer at 7deg. Fahr. With great reluctance Vines gave the word to pack up and descend. They had looked upon one of the grandest sights ever beheld by man, and would never perhaps look on anything again to equal it. Down once more over the chaos of red rocks they crossed to the mouth of the couloir, and then, having no more reason to avoid the

loose *débris*, descended by the great north-western slope in a straight line for the camp.

When the summit was left behind, the sun dipped into the Pacific, a great ball of fire, leaving a wonderful after-glow. Then began a series of magnificent changes of colour. The whole Pacific Ocean, from north to south, together with the sky above, was lit up with a fiery red glow, which changed slowly to purple, and then to blue. They were not, however, in darkness, for soon after the sun had set, the moon rose and shone brightly, revealing everything with wonderful distinctness in the clear air, while for at least half an hour the wonderful glow remained on the horizon of the Pacific, a great red line of subdued fire high in the air, and darkness between. Nothing simpler in theory could be conceived than the descent down the great slope to the camp. But for men in such an exhausted condition it was no easy task, and the two hours seemed more like six, as with heavy, weary steps they floundered down the steep snow, or broken stones, from time to time attempting to glissade, in their anxiety to reach camp by the quickest means. Too exhausted to support themselves with their axes, and with the snow in bad condition, they had to give this up. Vines had continually to call a halt in order to gain breath and strength. The way seemed never-ending, but the moonlight helping them, their direction was good, and soon they heard the voices of the two Pollingers whom I had sent out from the camp to meet them and bring them in.

Wrapped in all the available clothing, I awaited them at the camp. The thermometer had run down to 12 deg. at sunset, and was still falling. As they came slowly over the snow towards me in the moonlight, I was able to realize by their appearance and gait that their task had been severe. They both looked exhausted, more especially Vines, a desperately pitiable object, with beard and moustache a mass of ice frozen hard to the helmet. He did not seem to appreciate my greetings or congratulations, but crawled into the tent, hardly having the strength to pull his sleeping-bag about his shoulders.

The next day we returned to Inca. I found it necessary to give everyone a rest, for we were all a good deal worn out by the hardships we had suffered. Vines's face had got frost-bitten, and he was in great pain at times. We therefore crossed the Cumbre Pass into Chile, and spent a few days on the shores of the Pacific.

On our return the high camp on Aconcagua was again visited for the purpose of further observations. It was getting late in the season, and the weather considerably interfered with our work at the high camp.

I had heard so much from the people of Mendoza about the Mountain of Tupungato and the difficulties surrounding it, that I particularly wished to see it ascended. I took, therefore, the first opportunity the weather gave to send Vines to the south to attempt the mountain, while Lightbody and I confined ourselves to the measurements of heights and traverse work in the high valleys leading to Aconcagua.

Tupungato is a mountain nearly 22,000ft. in height, on the great chain which forms the watershed and at the same time the frontier boundary between Argentina and Chile. It is sixty miles to the south of Aconcagua, fifty miles east of Santiago, and 120 from the Pacific coast.

On the 25th of March Vines left Punta de las Vacas with Zurbriggen and Lanti and a caravan of mules and horses, under the charge of an arriero of the name of Fortunato. A mile along the pass road brought the caravan to the first ford at the confluence of the Tupungato and Mendoza rivers. It was yet too early in the morning for the ford to be difficult. The morning was fine and their hopes ran high, in spite of warnings uttered by the people of Mendoza, of storms that raged round Tupungato. Thirty miles to the south their mountain lay glistening white in the morning sun. There was not a cloud in the sky. Fortunato had orders to press the pace as much as possible so long as the road lay over the wide, flat plain at the junction of the valleys. A little higher up the valley narrowed. Great masses of rock-fall, descending from the heights above to the water's edge, made a very bad place for the animals, with but the scantiest sign of a track over the great sharp stones. All were forced to dismount and watch the loads. The mules proved wonderfully clever in wriggling with their panniers past the boulders to the left and right. At last the valley widened out into a great flat plain, over whose surface, covered with rounded stones, the river ran riot. Far away to right and left the hills rose up in brown, red, and purple slopes, bare and bleak enough, their monotony relieved only by the green banks of long grass which waved at their base. Here and there, where the slopes were broken by some mountain torrent, a giant talus had forced itself far into the centre of the plain, thickly covered with

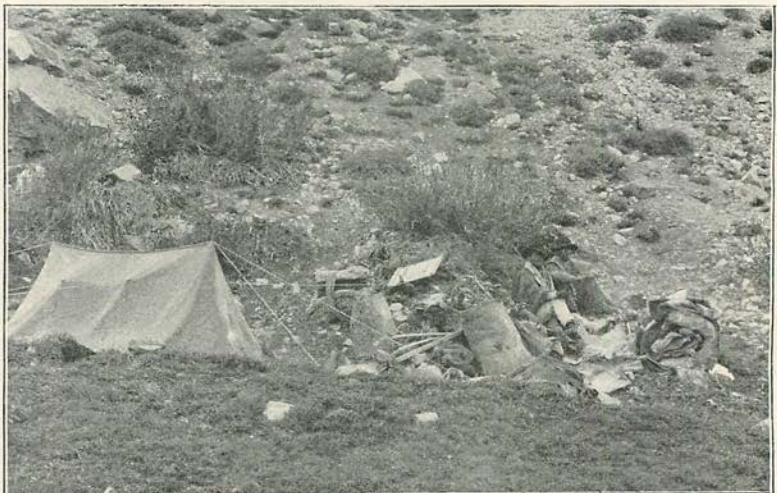
"yareta," the ubiquitous thorn bush of the Andes, whose root is indispensable for fire-wood to the shepherd and pioneer. This great valley has a grandeur and beauty entirely its own, enhanced by the white peak of the Mountain of Pollera, whose



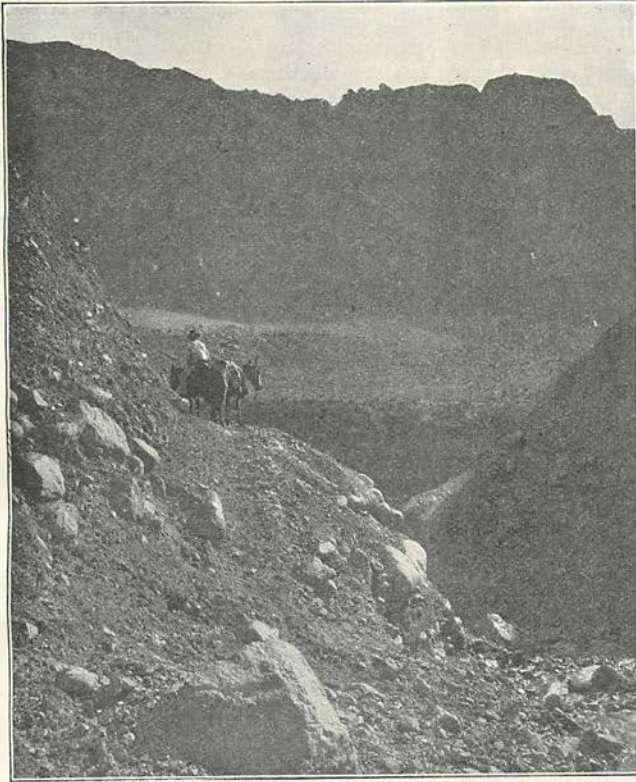
EN ROUTE FOR TUPUNGATO—THE GREAT TUPUNGATO VALLEY AND THE MOUNTAIN THIRTY MILES TO SOUTH : 9,000FT

majestic pinnacle of ice and rock stands as a barrier across the far western end of the valley. On the second day of the journey Fortunato pointed out a narrow gorge to the left, which he assured them would take them to the south, and eventually to Tupungato. But he warned them to be prepared for the worst, for he had known many animals to get lost on the path which they must follow. All dismounted, girths were tightened, loads re-set and adjusted, and the most valuable packs placed upon the strongest mules. It was impossible to proceed by the narrow river-bed in the gorge, so the caravan zig-zagged up the mountain side for 1,500ft. They

found that Fortunato had not over-estimated the difficulties. The horses indeed were wonderfully sure-footed, and showed not the slightest sign of nervousness. But with the mules it was different. They had barely room to tread on the slippery rock sloping down to the gorge on the right, and



A CAMP IN VALLEY, EN ROUTE FOR TUPUNGATO.



EN ROUTE FOR TUPUNGATO.

rising in precipice on the left, and had to consider the panniers, which kept catching on the rough surface of the inside rock. It is exciting enough to watch a mule laden with your most precious belongings struggle along these uncomfortable places. After some hours of hard and anxious labour they came to one spot which seemed too much for the animals. A dried-up torrent bed of great depth crossed the path. The descent into it was accomplished without mishap, but the animals could not be induced to make the ascent of the opposite

cliff. Every means was tried, and eventually by forcing the horses up first, the mules were induced to follow. When almost at the summit, however, the last mule lay down and gave up the struggle entirely. It turned over on its side, fortunately by the movement unhooking its packs, and then quietly rolled down the steep slope over and over some 50ft. Anxious faces watched it from above. Then there was a struggle, and an attempt to arrest its progress, when it suddenly disappeared from view. Vines sent Lanti down to secure its harness, and dispatch it if not yet dead, but, to his surprise, Lanti soon returned leading the animal, which, although terribly cut in almost every part of its body, did not seem the worse for the accident, and, lightly loaded, continued to work for the rest of the day.

On the third day they once more came in sight of Tupungato, within ten miles' distance. Now came the great question as to how near they could approach the mountain with mules. The advantage of attacking a mountain of this height from

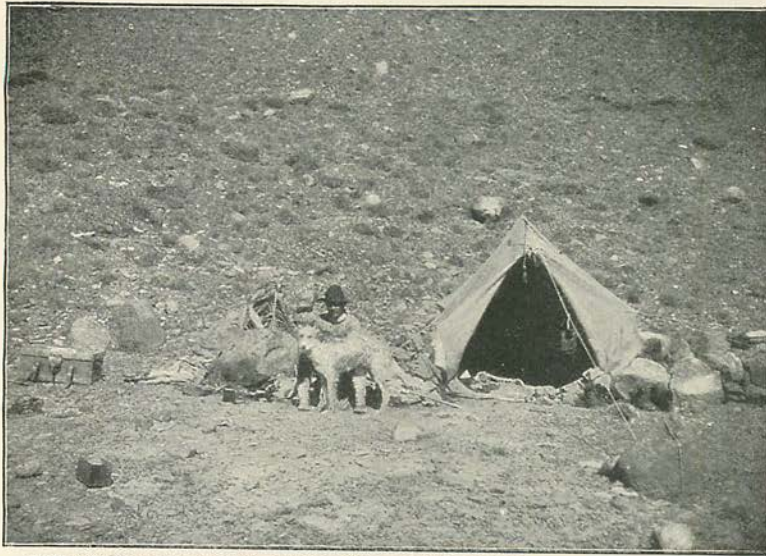


THE ASCENT OF TUPUNGATO—THE MOUNTAIN FROM THE EAST: 11,500FT.

a base camp at a high level cannot be over-estimated. Ten thousand feet can be ascended from sea level in a day, but it is a very different matter when one's *starting-point* is 10,000ft. above the sea. Vines hoped to take his pack animals to 14,000ft., bivouac there, and if possible make the ascent in one day from that height. Great was his disappointment to find that, even below 11,000ft., all pasturage ceased, and that the valley became impassable for animals above that point. This was a serious difficulty with only one porter to rely on. There was nothing for it but to form the base camp at a distance of over nine miles from the summit. However, on the next day, in spite of the protestations of Fortunato, two mules were forced up to 13,000ft.

of a formation of ice pinnacles brought them to a great snow-field, whence a magnificent view was obtained of Aconcagua, sixty miles away to the north. Crossing this, they reached the foot of the great spur that ran north from the dome of Tupungato. At a height of nearly 17,000ft. Lanti turned back. Zurbriggen and Vines continued, and reached a height of 19,000ft. They had been casting anxious eyes towards the Pacific as they ascended the spur, for storm-clouds had been rolling up towards Tupungato all the morning, and at 3.30 in the afternoon burst over the dome. They left an account of their attempt, and beat a hasty retreat, reaching the base camp in the valley late in the evening.

The next day they started for Vacas, now convinced that the stories which reached them from Mendoza of the difficulties to be encountered on Tupungato were no superstitious exaggeration. More tents and provisions would be required, and above all more porters. A few days later, therefore, I sent down what porters I could spare from my work in the Horcones Valley to join Vines at Vacas. Reinforced by Joseph Pollinger and



THE ASCENT OF TUPUNGATO—FIRST CAMP 11,500FT. ; GUANACO HOUND AND FORTUNATO.

Everything that could be dispensed with was left behind. Provisions for three men for four days, with sleeping-bags and coverings, a small cooking-stove, and a few instruments and other necessities, were all that could be taken without over-loading. The animals had a very hard time of it, but the work they did was invaluable, and Vines was able to bivouac with Zurbriggen at 14,000ft. With such limited portorage they had to dispense with a tent. They chose a spot protected on one side by a wall of ice, and on the other by a great overhanging boulder; and, crawling into their eiderdown bags, slept the night in the open.

Lanti joined them at daybreak, and a start was made soon after. A three hours' ascent

Lochmatter, the party reached the Tupungato base camp on the 5th of April, and next day Vines, Zurbriggen, and two porters slept again at the 14,000ft. bivouac.

They started early on the 6th—it was a bitterly cold morning—and reached the top of the great spur at mid-day. From this time forward everything went badly with them. No longer sheltered from the north-west, they met the full force of the gale. Rucksacs were taken off and opened, and every available stitch of clothing taken out. But in spite of double helmets and greaves it was impossible to face the wind, which beat them out of their course. Hoping that the weather would clear, they struggled on for two hours with storm and wind, vainly seeking shelter

every ten minutes. At last a rock was found which would afford some kind of protection, and it was agreed to wait beneath it in the hope that the wind would clear the clouds. At 2 p.m. it became evident that it would be madness to proceed, or even delay. The clouds were rolling in all around them, and even far below them. Once more they retreated, and reached the valley exhausted and disheartened late in the evening.

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 14,000ft. at this season of the year. So that, after a few days' rest at the base camp, a bivouac was

rest they became more sanguine, and slept again at the 17,000ft. bivouac on April 11th. On Monday, the 12th, Vines made a fourth attempt with Zurbriggen and Joseph Pollinger. The weather was perfect but for the cold north-west wind. After ascending the spur, they bore round to the western side of the mountain, and scrambled for an hour and a half up the rocks overhanging its western side, and after many disappointments and misfortunes found themselves on the highest point of Tupungato, at 3.45. A strong wind was blowing, with the thermometer at 13deg., and it was intensely cold work taking photographs and bearings.

On the dome of Tupungato is an undulat-



THE ASCENT OF TUPUNGATO—THIRD BIVOUAC, ON TUPUNGATO, 17,000FT.

made on the 8th of April, at about 17,000ft., at the foot of the great spur. Vines slept here, with Zurbriggen and Lanti. I will not enter into the details of their sufferings during that night spent on the ice. Suffice to say that the wind, rising to a hurricane, wrecked the tent and left them exposed to the mercy of the storm, with the thermometer at 5deg. Half frozen, they retreated to the valley in the morning.

It was now so late in the season—April corresponding to October in Switzerland—that they deemed it almost impossible to make the ascent. However, after two days'

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ing plateau, covering an immense area, from which three peaks rise up, that to the far north being the highest, attaining to a considerable height above the plateau. The whole of the north-western side of the mountain, the great spur, and the plateau open to the sun, and swept by the terrific north-west gales, are entirely free from snow in summer, and yet from the north and east the mountain appears robed in white from base to summit. Vines traversed the plateau from north to south, but could discover no sign of any crater. The sky was cloudless, and the view superb. About fifteen miles to



CERRO DEL PLATO, FROM THE SUMMIT OF TUPUNGATO.

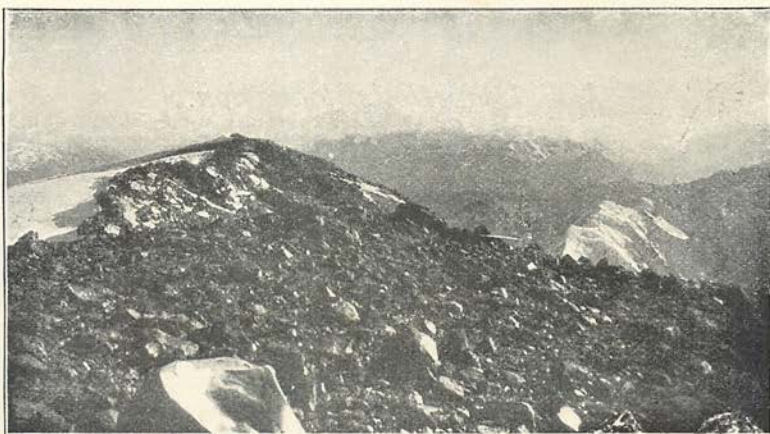
be distinctly seen. To the south the Cerro de San José and the volcano of Maipú ascended by Dr. Güssfeldt were the chief features. The great frontier boundary between Chile and Argentina, of which Tupungato and its northern spur form part, the

the north-east the Cerro del Plato stood up from a mass of high mountains. Turning further from the north, and looking due east, the Cerro became very low, and almost disappeared in the low hills sloping down to the Pampas or great plains 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 dim outline of the villages could

water-parting of the rivers to the Pacific and Atlantic, was clearly marked far beyond San José to the south, and fifty miles to the north, formed by the beautiful ice-peak of Pollera, nearly 19,000ft., the great pyramid of Navarro at least 500ft. higher, and beyond, the great peaks and glaciers of Juncal, 1,000ft. higher still. A vast sea of snow-capped peaks stretched away to the north, and out of it, nearly sixty miles away, arose the magnificent mass of Aconcagua like some great rock,



VIEW FROM 21,500FT., LOOKING NORTH TO ACONCAGUA OVER THE DIVIDE BETWEEN CHILE AND ARGENTINA.



VIEW OF ACONCAGUA FROM THE SUMMIT OF TUPUNGATO.

alone in its majesty. It was difficult to realize that many of the peaks around were higher than Mont Blanc, so small and insignificant did they appear beneath the giant slopes of the sovereign of the Andes. They had been an hour on the summit, and had been so busy that it seemed like five minutes. It was five o'clock, and so late in the season an immediate retreat was imperative. Vines had lost all feeling in two of his fingers while taking photographs in that icy wind, and feared a severe case of frost-bite. Zurbriggen seized his hand as they began the descent, and by dint of pinching and rubbing for the first 1,000ft. of

the descent, succeeded in restoring circulation. They reached the 17,000ft. bivouac in the moonlight at eight and could go no farther, so went supperless to bed.

Two days later Vines and Zurbriggen determined to start early and, if possible, reach Vacas before sunset. They chose the best of the animals, and started before daybreak on the 14th of April, relying on their horses in the darkness to find the way for the first hour, and without drawing rein for fourteen hours, except to water their horses at noon, reached Vacas the same day, a distance of nearly fifty miles over rough and dangerous country.



MR. ARTHUR F. LIGHTBODY, ASSOC. M.I.C.E., WHO TOOK THE PHOTOGRAPHS.