

absorbing interest. In 1776 he returned to France as chief gardener to the Comte de Laraguais (afterwards Duc de Blacas) and remained in that country in the service of various princes and nobles during the rest of a long life. He was employed by the Comte d'Artois (afterwards King Charles X) to lay out the beautiful garden at Bagatelle which now forms part of the Bois de Boulogne. The Duc d'Orléans (Philippe Egalité) consulted him about his garden in Paris, which is now the lovely little Parc Monceau. He saw Louis XVI 'dressed almost like a country farmer, a good rough stout man about 25,' and discussed gardening with Marie-Antoinette, 'a beautiful handsome woman,' and the unfortunate Princesse de Lamballe. He knew Voltaire, Benjamin Franklin, Madame Vigée-Lebrun, the Grand Duke Paul (afterwards Emperor Paul I of Russia), and a host of other celebrities of the time. From a terrace facing the Tuilleries he witnessed the massacre of the Swiss Guard, and was instrumental in saving the life of a soldier of that famous regiment. After the Revolution he observes in his Diary with true Scotch shrewdness :

'Some of those deluded people beleaved that the whole of France would be divided amongst them and that they should all become gentlemen so was there ignorance of what they called Liberty but as all the peoples heads seemed to be turned there was no reason to be had.'

Although ruined by the fall of the old régime he continued to live in France, a loyal and devoted retainer to the last. During the Restauration he received a modest pension from the Duc d'Orléans (afterwards King Louis-Philippe I), the son of his patron Philippe Egalité, and at last he died in his house in the Rue des Vignes in Passy on July 19, 1834, in his eighty-eighth year, after an eventful, but one fears not a very happy, life.

IN THE CORDILLERA BLANCA ; THE 1932 D. & OE. A.-V.  
EXPEDITION.

BY PHILIP BORCHERS.

(*Translated.*)

CONSIDERING the various parties sent to the mountains of Asia, it seemed advisable to the D. & Oe. A.-V. not to neglect the South American Andes. In 1928 a Club expedition was sent into the Cordillera Real of Bolivia, while the 'Alpine'



background of Santiago, Chile, was visited in particular by many Germans resident out there who have formed a local Chilean section of the D. & Oe. A.-V. All the more was it enticing to explore the northern mountain chain of the Andes. After carefully studying Andean literature, I came to the conclusion that the exploration of the Cordillera Blanca in Peru would prove a particularly interesting object. So indeed it proved, far surpassing our most sanguine expectations.

The Cordillera Blanca, extending on both sides of 9° of southern latitude from N.N.W. to S.S.E., covers some 130 km. in length by about 30 km. in width. It is bounded on the W. by the Santa River : to the E. it slopes downwards over foothills to the MARAÑON, the head-waters of the Amazon. Towering to the W. towards the coast lies the Cordillera Negra, with passes up to 4000 m. and peaks as high as 5000 m. To the E., towards the feeding streams of the Amazon, lies the Eastern Chain of about similar height to the Cordillera Negra. The Cordillera Blanca is a steep, lofty and extremely glaciated granite wall with a whole series of peaks exceeding 6000 m. The highest point, HUASCARAN, measuring 6765 m. (= 22,182 ft.), is doubtless the highest summit in Peru. With the exception of the crossing of two passes and the travels of Miss Peck and Herr Kreuz, the actual mountains have remained untrodden by any white person up to the present day.

The plans of the expedition, following D. & Oe. A.-V. traditions, were both scientific and 'Alpine.' As a complete scientific exploration, like a clean sweep of all peaks, is quite impossible for an expedition entering mountain terrain for the first time, we were obliged to confine ourselves to what appeared strictly necessary. From a mountaineering point of view these premises included the ascent of the most prominent peaks, while from a scientific standard it necessitated the contriving of a geographical general survey-station as well as a base for further studies, including mapping. Moreover, there was the question of measurement of cosmic rays.

Consequently the expedition was composed as follows : Dr. Kinzl (geographer, Heidelberg) ; Herren Lukas (surveyor, Munich), H. Hoerlin (physiologist and mountaineer, Stuttgart), E. Hein (mountaineer, Santiago), E. Schneider (mountaineer, Tyrol) ; Dr. Bernard (medical officer and mountaineer, Tyrol) ; Dr. P. Borchers, leader of the expedition (Bremen).

Supported by exemption from customs duties and other conveniences provided by the Peruvian Government, as well



as by many friends, and especially the firm of Gildemeister, the expedition landed on May 2 at Casma, a small harbour in North Peru. We crossed the Cordillera Negra and inaugurated our headquarters at Yungay in the Santa valley at a height of 2500 m. We were ready for action by the middle of May 1932.

I need not explain to my excellent fellow-members of the Alpine Club the scientific objects of the expedition, nor how these were more difficult and took much longer time to prepare than the mountaineering part of the undertaking. I far prefer to describe our 'Alpine' experiences. Concerning the scientific side, just briefly I would say that our geographer, Dr. Kinzl, penetrated nearly every one of the many glens of the Cordillera Blanca. He especially studied the mountain structure, the existence of former glaciation and the phenomena of the present ice formations, as well as collecting data for a full description of the country. He made a very particular study of the ruins of towns and canals extant both before and during the Inca period. He rode, moreover, right out of the beat of the expedition towards the east and across the Marañon, climbing the principal peak of the Eastern Cordillera in that region, the NEVADO DE ACROTAMBO, some 4800 m. high. The method employed for mapping was photogrammetry. Hein and Lukas also assisted in this work. About 500 topographical photographs were taken in an area of 5000 square kilometres, adapted for a map on a scale of 1 : 100,000. We also obtained accurate pictures of the country by means of numerous photographs, while Hoerlin and I took some 5000 m. of film. The third scientific object, also Hoerlin's job, was the study of cosmic rays, a development of exploration to which much attention has been drawn recently by Professor Piccard's balloon ascents and Professor Regener's pilot-balloon flights. But this study had, of course, nothing to do with the exploration of the Cordillera Blanca, although the expedition had splendid material and personal opportunities of studying this important line. It was our intention to obtain cosmic 'measurements' in the tropics up to a height of 6000 m. Hoerlin, on the journey from Bremen to Peru, and on the return through the Straits of Magellan, was able to work ceaselessly, while Dr. Bernard took the opportunity of continuing his physiological studies.

The subject of pack and riding animals (mules) worked out to our satisfaction, although of course there was a certain amount of trouble at first. The same was also the case with the ancient question of porter trouble; this appeared in no way





*Expedition photo.]*

HUASCARAN, S. PEAK TO RIGHT.

*[To face p. 36*



to have diminished. We had to start a corps of porters—which work lasted for weeks. However, little by little we obtained suitable people who had complete confidence in us. When once properly equipped with climbing clothes, tents and sleeping-bags, they soon became free of their terrors of ice and snow ; they acquired understanding and joy in our work and, in short, rendered quite admirable services. Hoerlin and Schneider consider them the equals of the ‘Dyhrenfurth’ Himalayan expedition’s porters.

Our first approach was to the N. of the chain, where in the mysterious Quitaracsa valley we came on interesting remains of the pre-Inca period. Unfortunately, up to the end of June we were much hindered by rain and snow. In consequence, Hein, Hoerlin and Schneider were hindered in the exploration of CHAMPARÁ, the most northerly of the ‘Six-thousanders.’ They spent a day and two nights in a small tent, then encountered danger of avalanches from fresh snow, nevertheless attaining a peak of 5000 m. on the main ridge. In our vain efforts to find a better access we climbed two other peaks of 5000 m., while Hein and Hoerlin made the ascent, more or less as a consolation, of the beautiful *Nadelhorn*, 5600 m. Nevertheless, it was good that we were delayed there, as Dr. Bernard was summoned on a long ride to attend a well-known *hacienda* owner who was lying at death’s door from spotted-fever. Bernard’s skill was able to save his life—a lucky event for all concerned, including the wife and small children, all of whom displayed extraordinary gratitude. The fame of our doctor spread like a grass fire far and wide, and wherever we went we were received as honoured and most welcome guests.

In the Ulta valley to the S. of Huascarán, where we paid a visit in the meanwhile, we again had nearly all our plans spoilt by rain and snow. Among other attempts, we tried the ascent of YANA-RAJU (Contrahierbas), *ca.* 6100 m. In the middle portion of the ascent we encountered at a height of some 5400 m. very steep and difficult ice walls which cost much time. Kinzl and Schneider were wise enough to retreat in the afternoon to the highest camp, while the Hein and Hoerlin rope, as well as my own with Bernard, relying on full moonlight, continued to tramp up endless snow slopes under a blazing afternoon sun. Towards evening a snow-storm suddenly broke ; the steps of the preceding party vanished altogether, shouts were equally futile, and there was no possibility of us four men coming together again. Each ‘rope’ dug itself into the snow there where it stood, spending the night in that spot. This bivouac



at nearly 6000 m. was by no means the worst I have experienced. Hoerlin and Hein continued in the morning towards the not distant summit, but a breaking cornice—which luckily took only an ice axe with it into the depths—as well as danger from avalanches, compelled a retreat.

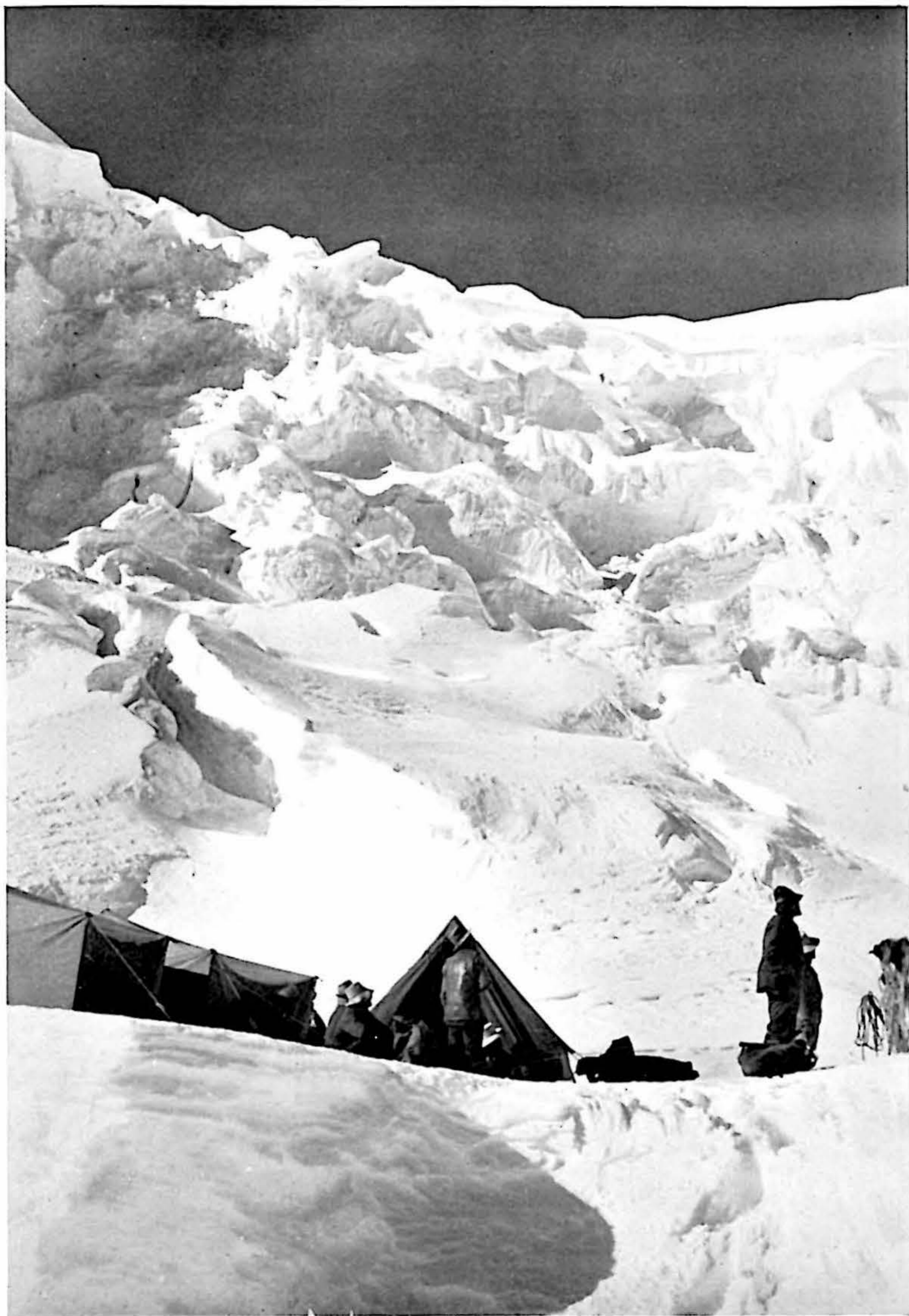
At last fine weather set in on July 1. It remained perfect up to the middle of August and then, despite many temporary breaks, continued on the whole reliable. We now set about with all available hands on what seemed the most important and proper task, the helping of Lukas with his photogrammetric labours. We were waiting, moreover, for the dangerous snow conditions to settle down.

On my first visit to Lima, in May, I had already experienced a riot. A serious revolution now broke out in North Peru, whose repercussions reached even into the peaceful Santa valley. We Germans were, of course, in no way involved and could all the more readily start for Huascarán. I will, if I may, describe the ascent of this mountain a little later.

HUASCARAN does not lie on the watershed of the Atlantic and Pacific but projects out to the W. like many other high peaks of the Cordillera Blanca. Its spurs start in the Santa valley itself, whence it rears itself upward in one tremendously steep swoop to 6765 m. It bears a double top ; the S. peak, completely ice-covered on this side, is about 100 m. higher than the N. peak, which latter shows also towards the W. a lofty, steep and rocky summit-wall. Between the two peaks lies the *Garganta* (hollow), a small névé, some 6000 m. high. The entire remaining flank is glaciated down to some 4700 m. Towards the remaining compass points the mountain presents a totally different appearance. To the N. plunges a gigantic rock wall nearly 3000 m. in height. Towards the E. again the N. peak has the appearance of a broad, black tower with ice streaming downwards towards the *Garganta* side. The S. peak consists of similar steep rock walls, of rather broader appearance, like a giant's shovel. From the S., the summit—which conceals the N. peak—has the appearance of a nobly shaped ice pyramid.

From a mountaineering point of view the mountain already possesses a *dossier*. After many attempts, Miss Annie Peck of the U.S.A. announced that in 1908 she had climbed Huascarán with two Swiss guides. She computed its height as far above 7000 m. (23,200 ft.), perhaps even above 8000 m. (26,200 ft.), and claimed for that reason to have obtained a lady's 'altitude record.' Mrs. Bullock Workman, the distinguished and well-

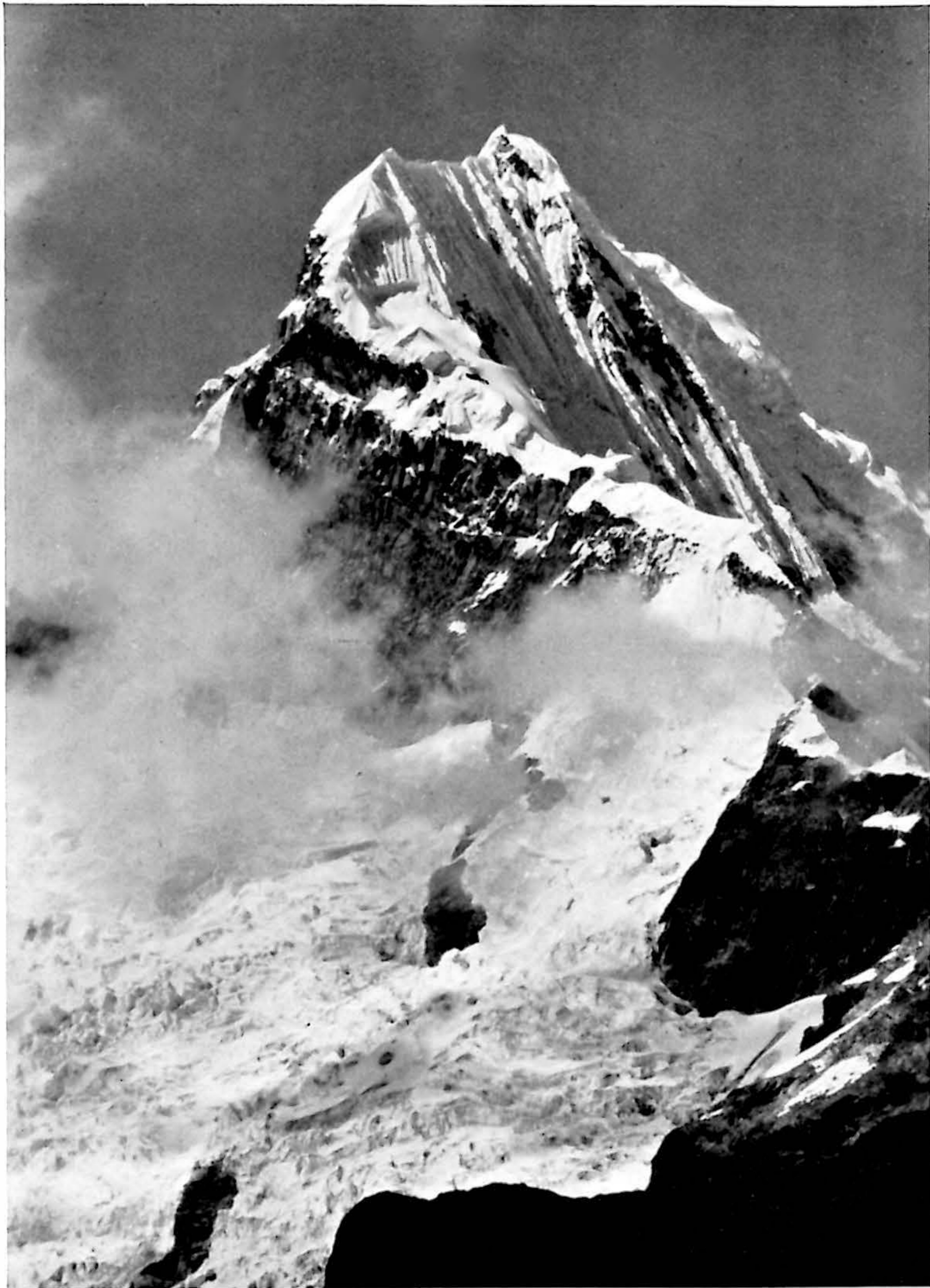




*Photo, H. Hoerlin.]*

ON HUASCARAN, CAMP AT 5500 M. UNDER THE 'GARGANTA.'





*Photo, H. Hoerlin.]*

TSHOPI-KALKI, *ca.* 6550 M., FROM THE N.E.  
Peak was ascended by right, E. ridge.



known Himalayan explorer, the only lady who has depassed the 7000 m. level, accordingly sent out an expedition under de Larminat, which measured the S. peak as 6763 m. and the N. peak as 6650 m.<sup>1</sup> In short, it becomes more and more certain that Miss Peck, who claimed the N. peak as her own, never set foot on either of the two summits. This was confirmed by the inhabitants of Yungay and by the doctor who at that time had treated the frozen limbs of Miss Peck's two unfortunate guides.<sup>2</sup> As for us, Miss Peck's 'ascent' did not

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<sup>1</sup> *Cf. A.J.* 25, 281-2.

<sup>2</sup> So far as we are aware, only one of the guides was *severely* frostbitten. Rudolf Taugwalder lost his hands, we understand, through having chivalrously handed over his spare clothing, together with his *gloves*, to Miss Peck. Gabriel zum Taugwald escaped almost unscathed.

In fairness to Miss Peck and her claims, we would state :

(1) The ascent of the N. peak of Huascarán—or at least Miss Peck's claim to it—is recorded by Mrs. Bullock Workman in *A.J.* 25, 281.

(2) Our U.S.A. member, Mr. Kenneth A. Henderson, writing on March 16, 1933, states :

'It has been accepted generally that Miss Peck climbed the lower *North* summit, 21,812 ft., but did not climb the higher *South* summit, 22,182 ft. The German party of 1932 can therefore claim the real *first ascent* of the peak, although to Miss Peck must be awarded the credit for the working out of the route and the ascent of the slightly lower N. summit.

'The rather fantastic claims made at the time about the altitude of the mountain caused an acrimonious controversy. . . . The details of this affair can be found in *Appalachia*, vol. xii, pp. 32, 55, 59, 162 *et seq.* . . . Despite all this, however, Miss Peck's claim to the first ascent of the N. summit (not ascended by the German party) has never, to my knowledge, been disputed and, in the absence of definite proof to the contrary, it would seem but right to reward her energy and perseverance by according to her the credit for the first ascent of the N. peak, which the Peruvian Geographical Society of Lima has named *Cumbre Ana Peck* in her honour. In her book *High Mountain Climbing in Peru and Bolivia* she expressly states on p. 358 that she ascended the N. summit and that the S. peak was 300 ft. higher. On p. 344 there is a picture of the N. peak from the summit of the S. peak. . . .

'No one has questioned her veracity on questions of actual fact. . . .'

We have always understood that the doubts concerning the authenticity of the ascent of the N. summit arose from (alleged) statements by the Swiss guides, and—not least—from the obviously irresponsible nature of Miss Peck's book.—*Editor.*



really interest us at all, all the more because we had climbed the S. peak. I only mention the matter for the sake of regularity.

On July 16, 1932, Bernard, Hein, Hoerlin, Schneider and I, with nine porters and two mule-grooms, set out to attack Huascarán by its W. slope. We contrived to bring our mules up to thickly bush-covered moraine, some 3750 m. high. On the following and very hot day we penetrated with swollen rucksacks through scrub and thorn, followed by great boulders and granite slabs, to some 4750 m., where the 'dry' zone extends its utmost limits into the broad névé covering. On the third day the route led over easy névé to a height of about 5500 m., where we bivouacked on a fairly roomy ice terrace still safe from any falling séracs. The fourth day brought serious ice work ; in front, or rather right above us, lay the steep icefall, through and over which we had to hew our way to the *Garganta*, the saddle between the S. and N. peaks. Schneider and Hein led off, hacking such large ice steps that the porters, still in their novitiate, were able to mount easily. A proper staircase had to be cut, as we three others had three porters apiece roped to us and in our charge during the ascent. The icefall was extremely steep, and broken up into savage walls and séracs. It was not easy to find a way through. For instance, Schneider and Hein cut through one thin wall, but as soon as they had crawled through the tunnel, appearances became too ghastly and all the work was wasted. Still, we really had luck : not only did we find a way through this ice labyrinth, but of all the crumbling séracs, deep ice grottoes and rotten snow bridges not one ever collapsed, while two porters who had slipped out of their steps could be held on the rope. In the evening a camp of three tents was pitched on snow about 100 m. below the *Garganta*. On the fifth day, July 20, the issue was settled. The nine porters remained in camp, while we five Germans broke ground against the S. peak. The way led first over broad crevasses towards the *Garganta*, which provides comparatively high-reaching patches of névé ; then to the right, over steep snow, wearing crampons, where many crevasses furrow the often *very* steep slope. Our times were good—with no cares about the porters, the ascent was a pleasure. This, however, soon changed for the worse. The summit cap with its endless and continuous slope was still 400 m. distant. The snow had not settled here, or perhaps the great height causes it to be always powdery ; only a finger thickness of firm snow lay thereon—beneath this crust it was like flour. When a foot was placed on it the upper surface held for a bit, then one broke



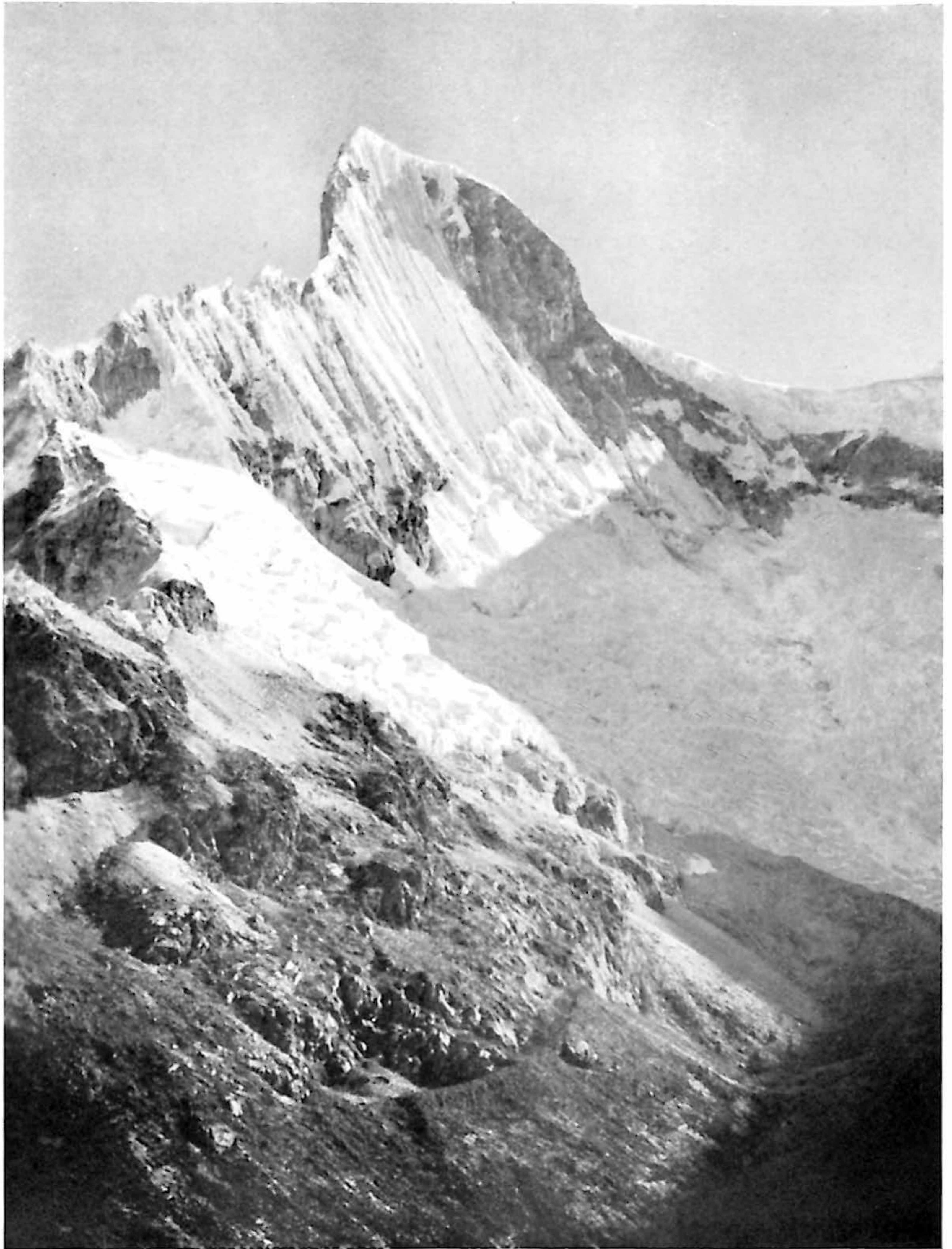


*Photo, E. Schneider.]*

HUANDOY FROM A NOTCH IN THE W. ARÊTE.

*[To face p. 40.]*





*Photo, H. Hoerlin.]*

S. PEAK OF HUANDOY FROM E.



through to the thigh, while those behind sank still further in. It was terribly fatiguing and monotonous. Thin clouds drifted about us, concealing more and more the scenery below us. Where the surface formed into little hollows, the atmosphere was perfectly still, and there the tropical sun fairly blazed. The wind worried us much, for each time that a gust arrived the temperature became icy, not so much from cold ( $-10^{\circ}$  C.) as from its all-penetrating blasts. At last, rather later than 4 P.M., we reached the summit. We planted the 4-m. pole which we had carried up and hoisted the Peruvian flag as a mark of courtesy to our hosts. It was later on recognized by telescope from Yungay. Wind and cold, together with the approach of darkness, hurried us off. 'Go down as quickly as you can' were my orders to the first rope. The dark, tropical night overtook Bernard and me on the *Garganta*. After one quite harmless fall of mine into a crevasse, we waited, content but shivering, for four hours until the rising moon once more lit up the tracks. In the camp below the storm had also been fierce: the steel poles of the porters' tent had been smashed, as well as sundry cooking apparatus and a porter's sleeping-bag blown into the abyss. The descent into the valley took two more days.

The spell was now broken; two weeks later, on August 3, we reached the summit of TSHOPI-KALKI, *ca.* 6550 m. It is a very fine ice pyramid, steep and not easy, but, conditions being good, the ascent proved delightful. We pitched our last camp very high up and had only some 700 m. to climb to the top. Hoerlin and Schneider accomplished this in  $2\frac{3}{4}$  hours—surely one of the quickest ascents on record at this altitude.<sup>3</sup> Hein, hampered by my presence, and I took  $3\frac{3}{4}$  hours. We did not require, as on Huascarán, to call carefully on our reserves of endurance, but arrived fresh and in the best of form on the top. Psychologically, it was perhaps the high-water mark of the whole expedition.

The different tasks of each member now separated us more and more. Hoerlin devoted himself exclusively to his scientific labours, Lukas and Kinzl had long ago begun to work alone. Poor Dr. Bernard had unfortunately to lie up sick in Yungay: the diagnosis being *Verruga Peruviana*, a terrible local disease. As there seemed little hope of any improvement, he was obliged to return home to Germany at the end of August. Lukas accompanied him.

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<sup>3</sup> = *ca.* 1300 ft. per hour—at over 20,000 ft.—*Editor.*



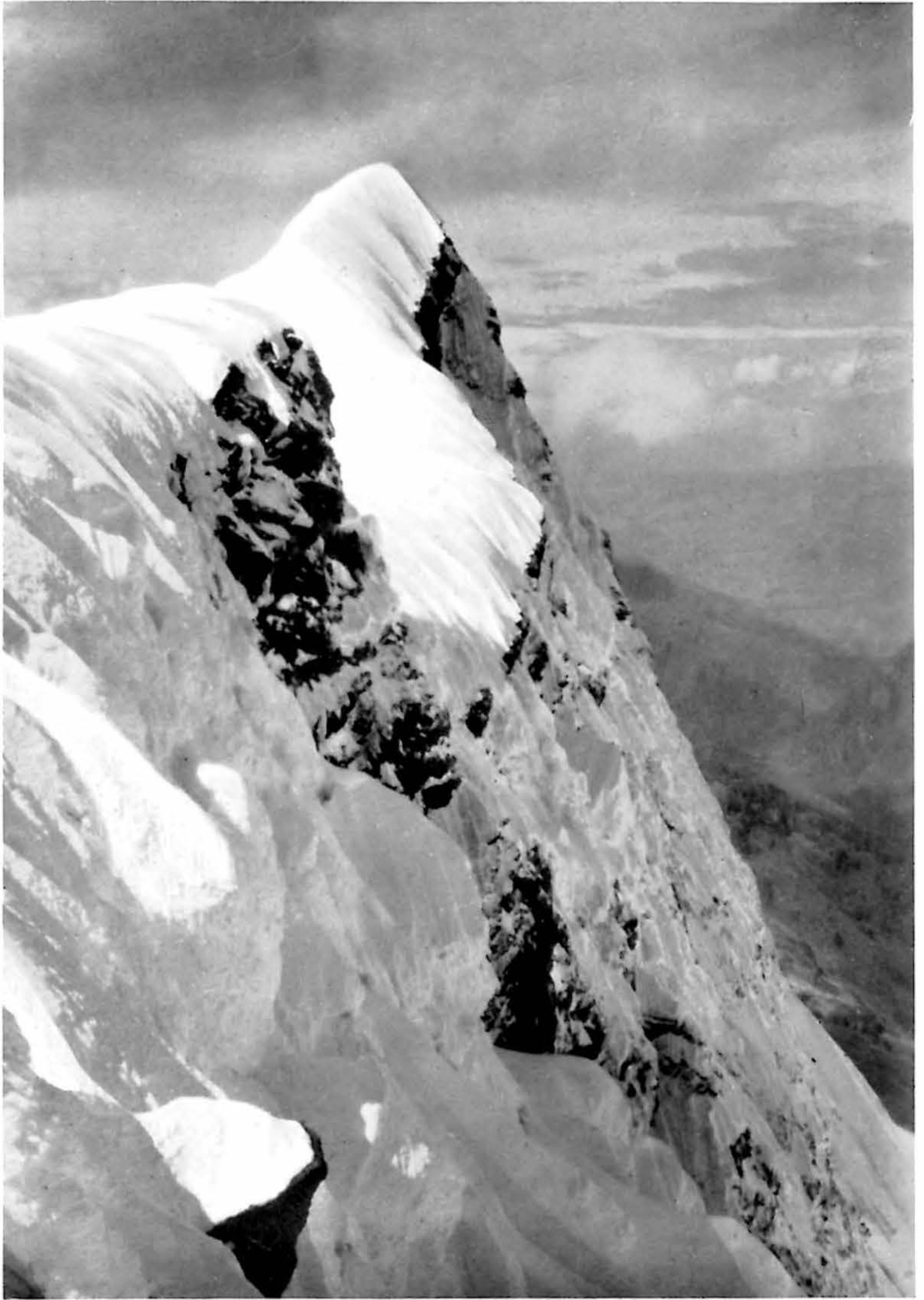
For actual mountaineering there remained but Hein and Schneider available. They climbed ARTISON RAJU, *ca.* 6200 m., on August 19, and HUANDOY, roughly 6400 m., on September 12. Huandoy proved quite remarkably difficult and dangerous. It was attempted vainly from three sides for a month before it succumbed.

So long as Hoerlin could load his scientific apparatus on mule-back, transport questions caused no trouble, but difficulties began when it became necessary to carry instruments, tents and food to the summit ridge of HUALCAN of the southern massif (Pampa Raju), *ca.* 6200 m. Of course we had chosen for this purpose the easiest of the high peaks, nevertheless it was steep in many places and not devoid of difficulty. The ray-measuring apparatus and stand alone weighed some 300 kg. Naturally, for carrying purposes it dismantled into loads of 25 to 30 kg. apiece. The assembled *élite* of our porter column had by now become a most excellent help and transport of our terribly heavy loads was possible, if risky, for during a sudden snow-storm six of our porters lost the deep-trodden tracks and wandered about for two days and two nights. However, thanks to their skill they held out and were rescued finally. Hoerlin remained at work entirely alone for two whole weeks on a snowy point of 5500 m., and a whole week at 6200 m. for cosmic ray purposes. This is an extraordinary example of how scientific work can be combined with bodily exertion. The S. peak of Hualcan was climbed once by Hein and Kinzl, while Hoerlin, Schneider and I, as well as the porters, climbed it several times.

Meanwhile we found ourselves well advanced into October, and were obliged to consider our work in the Cordillera Blanca as practically at an end. The members of the expedition had climbed, all told, five summits of over 6000 m. and fourteen peaks, as well as two high passes, of between 5000 and 6000 m. Hoerlin, however, remained several weeks for the prosecution of his measurements in the Santa valley and on a summit of the Cordillera Negra ; while Kinzl explored some more glens in the Cordillera Blanca and subsequently travelled in the Andes district right down to Southern Chile, until March 1933.

Schneider and I decided to return home *via* Valparaiso-Buenos Aires. In the meantime, to put in the time before the departure of the next German steamer, we made an attack on ACONCAGUA, the highest summit of the New World, together with Herr Maass, a German resident in Santiago. Of the



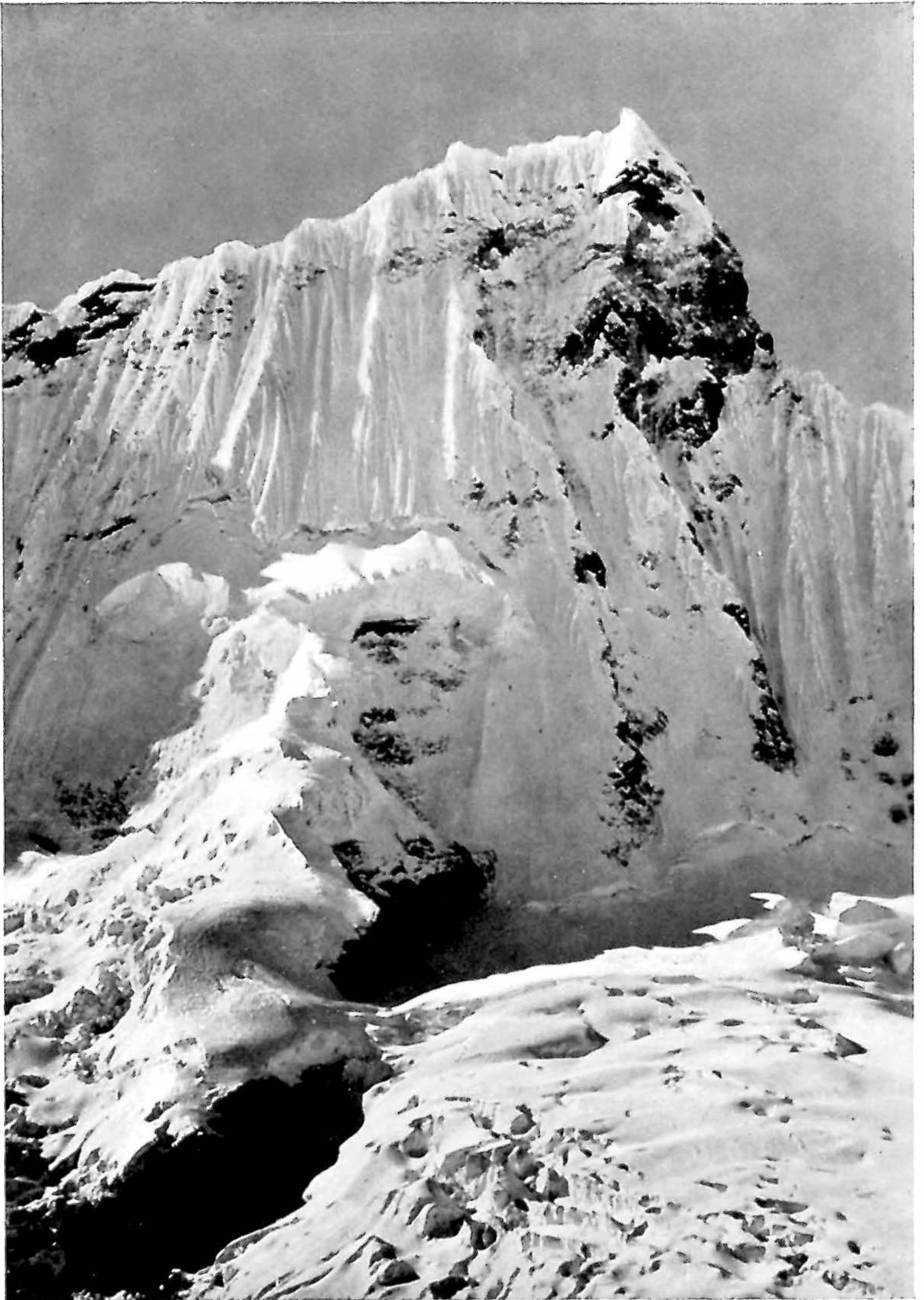


*Photo, H. Hoerlin.]*

THE TOP OF HUALCAN, S. PEAK, *ca.* 6250 M.  
Arrow indicates the place of Hoerlin's cosmic ray station, 6200 m.

*[To face p. 42.]*





*Photo, H. Hoerlin.]*

ZARRA RAJU, E. PEAK, *ca.* 6000 M.  
(Considered inaccessible by the party.)



different height measurements attributed to it, we consider the 23,080 ft. figure (7035 m.) of the Fitzgerald expedition as the most likely, not only because very carefully worked out, but also because three members of that party reached the summit and knew consequently which of the many teeth on the great ultimate crest was measured by theodolite. Our ascent was the sixth,<sup>4</sup> and required from Puente del Inca but six days there and back through the Horcones valley. We were very lucky, despite the fact that our two Argentine porters went on strike and we had ourselves to pitch our highest camp at a height of only 5500 m. The storms which appear to rage ceaselessly there blow from the N., and we had consequently the wind at our backs for the ascent of the shelterless N.W. slopes, which, although at the end of winter, were marvellously free from snow. We reached the summit on November 4. Thirty hours later the weather broke completely and fresh snow covered everything deep down in the valley. During the ascent we had found at a height of some 5000 m., in a little level platform between scree and some rocks, a completely weather-worn rucksack. It contained much tinned food but nothing else, and we supposed that it belonged to the Englishman Basil Marden, who perished there in July 1928.<sup>5</sup>

At this stage I should like to express again my warmest thanks to two British gentlemen : Mr. Munro, who brought us in his car from Puente del Inca to Mendoza (traffic over the trans-Andean railway had ceased), and with whose wife and friends we spent a delightful day ; as also to Mr. Brown, a director of the Pompei mine on the eastern slopes of the Cordillera Blanca, who most generously threw open his house to us just when the mishap to our porters on Hualcan had been happily rectified.

It was most instructive to us to view the neighbourhood of Aconcagua, especially with the opportunity of comparing it with the Cordillera Blanca. It then became obvious how geographically complicated and technically difficult, as also how marvellously beautiful a country is this Cordillera Blanca with its cosy valleys, sea-green and blue lakes, which no white man had visited previously. Its meadows, its forests—so rare a phenomenon in the Peruvian Andes—its vast glaciation and

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<sup>4</sup> Previous to the departure of the party for the attack, *The Times* announced that the mountain had never previously been climbed or attempted!—*Editor*.

<sup>5</sup> *A.J.* 40, 418, 425-6 ; 41, 238-9.



lonely ice pictures all carved out by a tropical sun, together form an unforgettable image (the illustrations of the 'Mountains of the Moon' in the JOURNAL<sup>6</sup> bear a striking resemblance with the corresponding ice formations in the Cordillera Blanca). According to what we have read of America, what Hein has related concerning the Cordillera Real and what I myself have seen, I must pronounce the Cordillera Blanca as the most beautiful and possibly also the most interesting mountain-massif in the Andes. Its peaks are, I think, as regards beauty and difficulties (not height), to be considered as almost equal to the mountains of Asia.

THE NORTH FACES OF JUNGFRAU, MÖNCH AND EIGER.

BY HANS LAUPER.

(Read before the Alpine Club, December 12, 1932.)

I HAVE been a sufficiently assiduous reader of the ALPINE JOURNAL to know that an invitation from the Honorary Secretary to read a paper before the Alpine Club could not well be refused. I cannot express adequately how much indeed I appreciate this great honour. But at the same time I cannot help feeling grave doubts as to whether I am the right man in the right place to-night.

Can I relate anything which might be of interest to an audience composed of 'la crème de la crème' of mountaineers? Never in my life have I realized how many pitfalls there are in the English language. And so I must begin my paper with an excuse: If I do not come up to your expectations,<sup>1</sup> I am not the only one to blame, but a good deal of the responsibility rests on the shoulders of our committee.

(1) *The North Face of the Jungfrau.*

If I am to talk of the N. face of the Jungfrau I shall have to go right back to the Golden Age of Mountaineering. The history of this face of the Jungfrau is part of the history of our incomparable Club, and therefore I need not go too much into details.

<sup>6</sup> *A.J.* 44, 94-5.

<sup>1</sup> The paper proved one of the most successful ever read before the Club.—*Editor.*