THE CORDILLERA REAL

By EVELIO ECHEVARRÍA C.

HE lovely ranges of Southern Peru slope gradually down to the shores of Lake Titicaca, but this is not their end; to the east of Carabaya knot springs another ridge, which enters Bolivia and reaches its maximum elevation and magnificence in the Cordillera Real of the latter country.

The name Cordillera Real was given by the Spaniards as homage to a range of royal dignity; it is located in the north-west of Bolivia, between 15° 40' and 16° 40' S., running roughly north-west to southeast for an approximate length of 100 miles. This range was termed by Austrian mountaineers 'der Himalaya der Neuen Welt'. Although this honour may now be disputed by several Peruvian cordilleras, it contains nevertheless mountain scenery of Himalayan grandeur; six twenty-thousanders and scores of lesser peaks are found in the region between Illampu (20,873 ft.) and Illimani (21,201 ft.), the mighty pillars of each extreme. The Cordillera Real is a snow and ice range; it forms a lovely background for that remarkable high plateau, the Bolivian Altiplano, and is in full sight nine months a year. The white peaks, the steppe-like plain and the empty, blue skies have given to this part of Bolivia a Tibetan air that many travellers have noticed; and the Mongolian features of the Aymara Indians, stolidly facing the chill winds, reinforce this opinion.

General description

In the north and in the south the Cordillera Real rises over deep mountain basins; peaks like Illimani soar well above the wooded hills of Coroico and Inquisive, towns only 4,700 ft. above sea-level, offering a view often compared to the celebrated one from Darjeeling. However, the mist that rises almost daily from the subtropical valleys, or yungas, soon conceals the memorable sight.

On the eastern side there is a system of parallel *yungas* draining down to meet the mighty El Beni river, while the country surrounding the range on its western side, the Altiplano, is a veritable desert, varying in height between 12,000 and 15,000 ft. It is a desolate, wind-swept and treeless land; the little mountain communities eke out a living from the cultivation of barley, potatoes and quinoa, an indigenous cereal that needs brilliant sunshine and frosty nights. In the sheltered valleys or *quebradas*, and also by the shores of Lake Titicaca, a few trees can be grown. The city of La Paz itself, the highest capital of the

world, is located in a sheltered basin; although its main streets and avenues are some 12,000 ft. high, trees and flowers do well. The favourite flower of Bolivian gardens is the *cantuta* (*Cantua buxifolia*), on account of its fame as the floral emblem of the Incas and because the red and yellow of its drooping trumpets and the intense green of its leaves are the colours of the Bolivian flag.

Most of the streams born in the Cordillera Real descending to the west run across the Altiplano and empty their waters in the Titicaca; the higher valleys are bleak, but some diminutive gentians, nototriches and dwarf Compositae thrive near the glacial lakes and the streams; higher still, only the steppe grass called *ychu*, and the hardy *yareta*, (Azorella yarita) climb the barren slopes almost to the snow-line.

Regarding animal life one cannot think of this region without associating it with the llama, which, together with the alpaca, was the only beast of burden known to the Incas. Two other animals of the same family, the guanaco and the vicuña, are sometimes also found; both are wild and the latter is nearly extinct.

Besides the mountain region itself, the main attraction to the traveller is the Indian population, which once formed part of the conglomeration of races of the Inca empire. The dominant race of the area is the Aymara, which, although forced to mix with the Quetshua, retained its language; thus, the tongue spoken today in the Bolivian highlands differs somewhat from that used in Peru.

The Inca kingdom was essentially a mountain civilisation; one cannot but wonder at the energy and will displayed by the Incas in order to organise and rule four or five regions utterly different, geographically, from each other and populated with some twenty million subjects of varied ancestry. The sole fact that such an empire existed in spite of the environment is a proof of its greatness.

Most interesting is to learn something about the attitude of the Incas towards their mountains; they adored them, paying tribute with the denomination of Apu Taitay (Great Lord) given to the higher or more striking peaks like Illampu, Illimani or Cacca Aca. As Sir Martin Conway remarked, the Indians did not only apply general names to the ranges, but also to most of the peaks individually. Important regional features such as streams and glacial lakes are seats of Indian tradition and legend. According to Incan mythology, life is said to have sprung into being on the shores of Titicaca, and there the energetic kings erected huge stone fortresses that challenge earthquakes even today. Once Titicaca had only minor outlets; the big Desaguadero river, born in the lake and running along the western face of the Cordillera Real, was created by an unknown force. As legend goes, the Andean hero Thunupa rebelled against the absolutist Inca, demanding more freedom and the right to seek knowledge for all the

inhabitants of the machine-run state. The despotic Inca decreed the execution of Thunupa, who was firmly tied to a raft and this was impelled against the rocky shores of Titicaca; but when the raft was about to crash the rocks opened and the waters, running freely along the Altiplano, created the swift flow of the Desaguadero, carrying with them the Andean Prometheus to eternity and immortality.

The higher region was, and still is, the dwelling place of some unknown forces like the one that freed Thunupa; one of them is Hualapichi, or Ghost of the Snow, which is much feared in some districts of the Cordillera Real, particularly around Illimani, and prevents the Indians from climbing above the snow-line. Hualapichi may be said to be a sort of Abominable Snowman, only more elusive, as he has never been tracked down, nor even observed. Besides, the Indian population pays much reverence to other sub-divinities such as Kon, the Thunder-God, or to mighty ghosts such as Rucu Hirca, who dwells in the lakes and tarns. Four centuries of christianising effort by the Catholic church have absolutely failed; usually the Indian, after attending services in the little village church, strolls to some hidden place where he has erected an apacheta (cairn) and prays to Vira Cocha, the god who emerged from Titicaca to bring order and prosperity to mankind. Often tourists notice that the Indians place a cross on top of the pointed roof of their huts, or that they wear icons with the image of Saint Bernard hanging around their necks; this must not be attributed to Christian zeal, but to the Indian belief that the cross deviates lightning, while the appeal of the icon is based upon the fact that Saint Bernard is often pictured herding a flock of sheep-an important factor in Indian economy. In general, the Indian of this part of the Andes may be described as apathetic, emotionless and suspicious; among his more admirable characteristics he has been found to be stoic, a hard worker and, above all, a hard walker, reputedly indeed the best mountain infantryman of the world. Mountaineers who are planning to operate in the Cordillera Real will undoubtedly be confronted with Indian and porterage problems: good advice for expeditions to Southern Peru, given by Dr. Godfrey Francis,¹ may be useful for mountaineering in the Cordillera Real as well.

Mountains and mountaineering

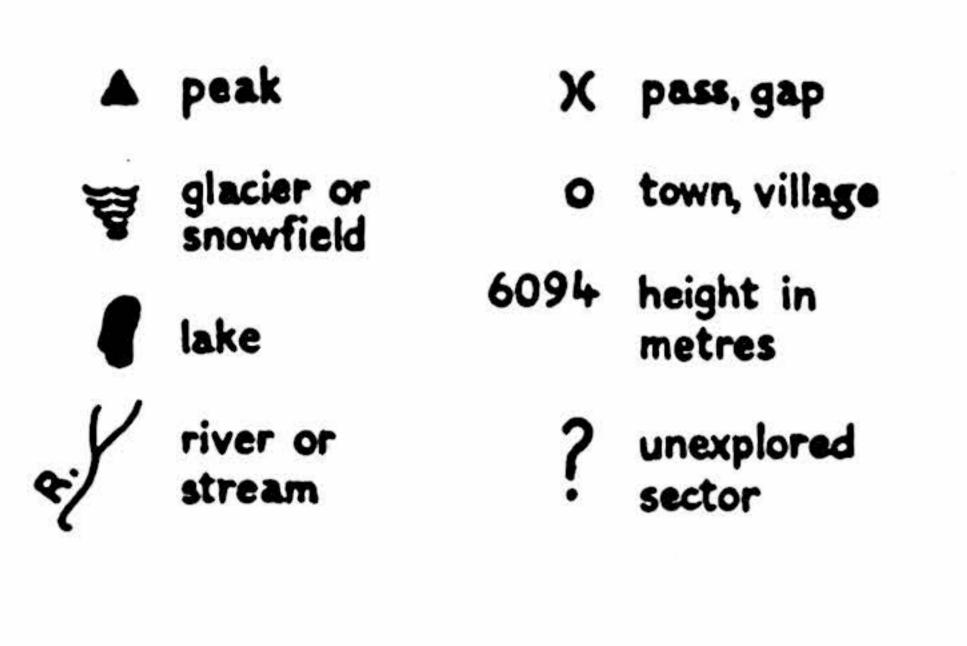
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Mountaineering in the Cordillera Real begins only above the snowline, at about 18,600 ft.; this figure may be somewhat lower in the more glaciated basins or higher on the slopes exposed to the sun, which are usually oriented to the north-east. The glaciers are typical of the tropical Andes, resembling compact ice caps on more or less gentle ${}^1 A. J. 60, 280-4.$

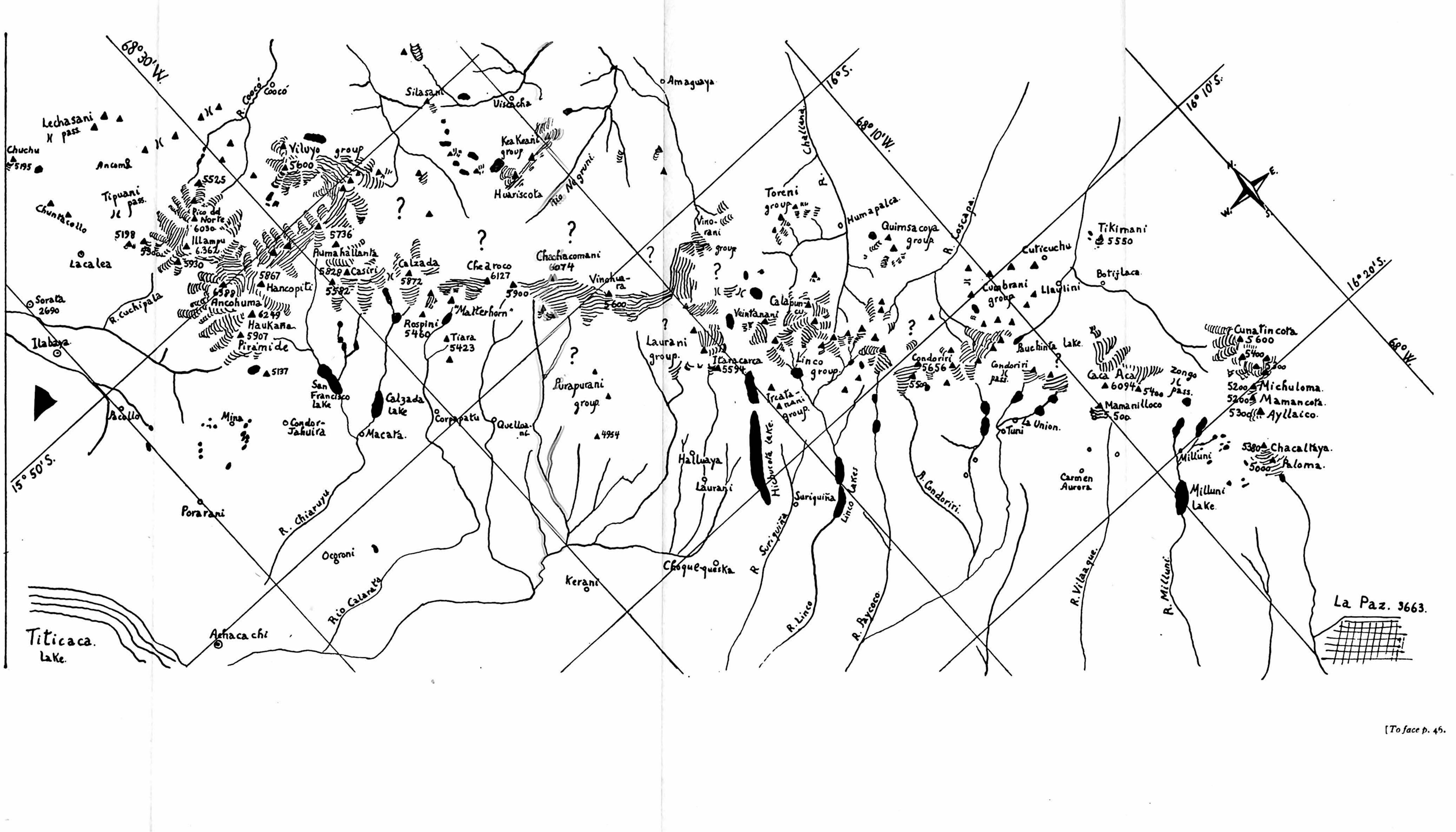
Cordillera Real, Bolivian Andes.

1:150 000.

Based on works by the D.und Ö. H.V. 1928 expedition, with a few corrections and additions by E.Echevarria. 1958.



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slopes; huge cornices clinging to some ice-fluted faces are a common sight above 18,000 ft., mostly on the south-western side of the peaks, where a heavier glaciation is observed.

Much has been said and written about the height of Illimani and Ancohuma, which were believed to be—and indeed still are believed to be, particularly by the natives—no less than 7,000 metres high. However, after the Conway and Troll surveys we have a good idea of their true height and also an accurate identification of the different groups of peaks that form the range.

Starting from the north is the Sorata group, named after the mountain town on its north-west slopes, displaying unquestionably the biggest concentration of peaks and also the largest glaciation. Ancohuma (20,958 ft.) and Illampu (20,873 ft.) reign over hosts of lesser peaks, many of them of unknown height. Illampu, the northernmost, a striking ice pyramid, is connected by a ridge to an unnamed 19,456-ft.high snow peak rising above the farms of Cotaña. Illampu's eastern slopes fall to the Coocó basin, which is encircled also by the peaks of Hancopiti (19,250 ft.) and Humahallanta (18,811 ft.) to the south, and by the ill-surveyed tangle of the Vilujo group (18,500 ft.) to the east; nineteen glaciers flow down to the Coocó basin. Illampu is connected with Pico del Norte (19,784 ft.) and with two lesser mountains to the north, and with Ancohuma to the south; Ancohuma is linked to Haukaña (20,503 ft.), thus named by Sir Martin Conway after the gold mine on its south. Other neighbours of Ancohuma are Pirámide (19,380 ft.), on the west, and many others, mostly unnamed, in the opposite direction. At the head of San Francisco valley there are two remarkable ice mountains: the northernmost is Casiri (19,112 ft.), an Aymara word for 'the very glaciated one'; Calzada (19,265 ft.), the other, is no less glaciated and of even more striking outline. Around the higher peaks of the different groups are arrayed, of course, lesser ones, few being below 18,000 ft.

The mountains rising at the head of the next three valleys to the south of Calzada are somewhat difficult to identify; several names were given to the two 'sechstausenders' of the group before the Troll-Hein survey found out the proper ones. Chearoco (20,102 ft.) is the correct name of 'Corpapatu', of the La Grange expedition, and 'Chachacomani' on Sir Martin Conway's map. Conway's 'Chisel Peak' now bears the official name of Chachacomani and is 19,927 ft. high; together with Chearoco it is located in a very interesting area, wholly unexplored to the east. In the west there are many fine peaks, one of them being Quelhuani, some 19,300 ft. above sea-level. The peaks grouped between Chachacomani and Condoriri are much lower, but are located in areas where only one or two ascents have so VOL. LXIV—NO. CCXCVIII far been made. Vinohuara (18,400 ft.) is closely followed by others, almost as high, in the unclimbed Halluaya, Laurani, Vintanani and Linco groups; glaciers and glacial lakes are abundant.

One of the finest peaks of the range, Cacca Aca (19,996 ft.), is found before reaching the basin of La Paz. It is a glorious ice pyramid, offering an imposing appearance when seen from the north-west or from the Milluni mine camp, to the south; it rises prominently over the Altiplano, shadowing all the lesser peaks nearby, even Condoriri itself (18,548 ft.), a bold ice-needle.

East of La Paz runs the watershed ridge with minor elevations, until the Cordillera Real comes to an end with Mururata and Illimani mountains. Mururata is linked to an Indian tradition; once it was a superb pyramid, proud of its bold shape. It even looked down contemptuously on the Inca himself, who, finally, with a shot from his catapult knocked the top off and into the far-away desert; a Herculean task indeed, as the slashed top became Sajama volcano, Bolivia's highest mountain (21,391 ft.). Since then Mururata has borne its peculiar flat-topped shape that makes it so conspicuous from the Altiplano, even with Illimani showing by its side.

Illimani is the highest peak in the range; it is, rather, a high ridge, with three culminating points, of which the southernmost is the highest. Conway calculated its height as 21,015 ft., but since then new figures have been produced; these, together with their respective authorities are:

Bolivian Boundary Commission (1905): 6,462 m., or 21,201 ft. Chilean Boundary Commission (1904): 6,458 m., or 21,191 ft. American Geographical Society (1922): 6,487 m., or 21,277 ft.

Unfortunately, the Troll survey of 1928 did not cover the area south of La Paz; however, in a very narrow triangulation, the northermost peak of Illimani was measured by the Austrians as 6,442 m., or 21,135 ft. Herrn H. Ertl and G. Schröder made its first ascent and claimed it to be the highest of the mountain, reading 21,260 ft. with the use of the hypsometer; but this claim may be discarded in favour of the Austrian figure, which is slightly but definitely lower than the three written above for the southern peak.² It would be fair to mention that Indians were not reluctant to attempt the ascent of some of the more accessible summits before the Spanish conquest; thus, we have the tradition of an Aymara shepherd who rose on the flanks of Illimani never to return. Some of the lower peaks just above the snow-line may have been ascended or attempted by the natives, for whom, it has been proved, only technical obstacles or lack of proper outfit would have been a deterrent to success.

² The doubts expressed in A.J. 60, 173, concerning Lord Conway's ascent are now definitely set at rest. The 'true conquest of Illimani' took place in 1898.



THE BOLIVIAN ALTIPLANO FROM THE SLOPES OF NEVADO MAMANILLOCO.

[To face p. 48



THE NORTH-WEST FACE OF NEVADO ČACCA ACA, 19,995 FT., SEEN FROM THE SLOPES OF NEVADO MAMANILLOCO.

For the mountaineering world, however, the first enterprises worthy of mention are those of Charles Wiener, a Frenchman, who attempted Illimani with a few Indians in May 1877, and of Senéchal de la Grange, who, in 1878, explored the upper valleys west of Chearoco.

To Sir Martin Conway was left the privilege of being the first to scale the highest peak of the range, Illimani, in 1898, and to survey part of the region, in 1900. Afterwards, climbing activity gradually increased among Europeans resident in La Paz, particularly Germans, who were very active in the years of the First World War.

In 1928 a most important event took place; an Austrian expedition led by Herr Hans Pfann and including among its members the German geographer Herr Carl Troll, visited the Cordillera Real, conquering three 'sechstausenders' and a dozen lesser peaks. Herr Troll, assisted by the redoubtable mountaineer Erwin Hein, surveyed the occidental slopes of the range and part of the area east of the watershed; the good map produced, the best so far in existence, was published seven years later. Incidentally, this expedition was the first in mountaineering history to make use of llamas for transportation. Isolated parties operated in the range between 1928 and the years of the Second World War. In 1942 the Club Andino Boliviano was founded, an institution that has also introduced ski-ing to the country. In 1950 and 1951 a German party under Herr Hans Ertl accomplished a number of ascents and also did some scientific work. Herr Ertl stayed in Bolivia after his expedition was over and managed to achieve, among others, the second ascent of Illampu. After Herr Ertl's exploits, activity decreased; Himalayan and Peruvian enterprises left the Cordillera Real in undeserved abandon. Small parties, however, did some minor climbs or repeated ascents of some of the higher peaks near La Paz; since 1950, the Chileans have been sending light groups, sometimes joining forces with Bolivian mountaineers. A tentative survey of the first ascents so far made in the Cordillera Real follows; chronological order is used; names of mountaineers are arranged in alphabetical order, irrespective of leaders; dates of ascents are given whenever possible; no references are included, but in the bibliography at the end can be found information for most of the

expeditions listed below.

Illimani (South or main peak); 6462 m. (21,201 ft.)—W. M. Conway, A. Maquignaz, L. Pellisier; Sept. 9, 1898.
Cacca Aca (Huayna Potosí); 6094 m. (19,996 ft.)—R. Dienst, O. Lohse; 1919.
Ancohuma: 6388 m. (20,958 ft.)—R. Dienst, A. Schulze; June 11, 1919.
(Probably the first ascent and traverse of Haukaña, 20,503 ft., was also made by the same, *en route* to Ancohuma.)
Pico del Norte: 6030 m. (19,784 ft.)—E. Hein, A. Horeschowski, H. Hortnagel, H. Pfann; May 20, 1928.

Cerro Rojo: ca. 17,500 ft.—A. Horeschowski, H. Hortnagel; May 28, 1928. Illampu: 6362 m. (20,873 ft.)-E. Hein, A. Horeschowski, H. Hortnagel,

H. Pfann; June 7, 1928.

Casiri: 5828 m. (19,112 ft.)—F. Ahlfeld, A. Horeschowski, H. Hortnagel, H. Pfann; June 19, 1928.

Chearoco: 6127 m. (20,102 ft.)-A. Horeschowski, H. Hortnagel; July 25, 1928.

Hichucota: ca. 17,300 ft.—E. Hein; July 7, 1928. Llaullini: ca. 17,600 ft.—E. Hein; July 7, 1928. Vinohuara: ca. 18,400 ft.—F. Ahlfeld, E. Hein; Aug. 15, 1928. Mururata: 5775 m. (18,947 ft.)-V. Pizzotti, J. Quispe; 1937 (?). Taquesi: ca. 18,100 ft.—probably by Germans from La Paz; 1940 (?). Condoriri: 5656 m. (18,548 ft.)—W. Kühm; Apr., 1941 (?). Mamanilloco; ca. 18,000 ft.—possibly by personnel of La Unión mine; before

1943.

Ayllaico: ca. 17,300 ft.—F. Ahlfeld and four Bolivians; 1944 (?). Cunatincota: ca. 18,400 ft.—G. Buccholtz, F. Fritz, D. Moore, G. Moller,

I. Paz, G. Sanjinez; July, 1945. Chachacomani: 6074 m. (19,927 ft.)-G. Buccholtz, S. Liggenstorfer, D. Moore,

M. Pahud, G. Sanjinez; Aug. 1, 47. Pico Negro: ca. 18,000 ft.—H. Blindhuber, F. Fritz; 1950 (?). Aceromarca: ca. (17,000 ft.—H. Blindhuber, F. Fritz; 1950 (?). Chicani: 5435 m. (17,830 ft.)-P. Dauelsberg, D. Moore; Sept. 15, 1940. Coronado: 5305 m. (17,405 ft.)—P. Dauelsberg, E. Schicler, C. Wlack; 1950 (?). Illimani (North Peak): 6442 m. (21,135 ft.)—H. Ertl, G. Schröder; May 6,

1950.

Unnamed (Illampu group): ca. 17,400 ft.—H. Ertl, A. Hundhammer; 1950. Unnamed (Illampu group): 18,760 ft.—H. Ertl, A. Hundhammer; 1950. Laramcota: 5840 m. (19,160 ft.)—H. Ertl, A. Hundhammer, Sept., 1950. Mamancota: ca. 17,200 ft.—E. Simon and five Bolivians; 1952 (?). Hichuloma: ca. 17,200 ft.—P. Faulesberg, E. Echevarría, R. Gutiérrez; July 15, 1953.

Three eighteen-thousanders of the Illimani Group were also climbed by the Germans W. Karl, H. Richter and H. Wirmer, in 1957.

The list above is by no means complete; much information about local climbs is published in La Paz newspapers, but these are seldom available.

On the average the peaks listed have been climbed once or, at the most, twice; the most favoured by mountaineers is Illimani, with thirteen ascents until 1952; Cacca Aca follows with five and Pico Negro and Ancohuma with four.

For climbing, the Cordillera Real offers a far easier approach than most parts of the Andes; only a day's march will be sufficient from La Paz to the snow-line, from which almost any peak may be attempted.

Since there are no railways to the climbing region, transportation is mostly by car or lorry; the best bet is to obtain from the well-disposed Club Andino Boliviano one of its buses or lorries, as well as one of its

servants, to be employed as camp-keeper. The Club Andino Boliviano is a most hospitable and friendly institution; some of its members may be useful in helping to purchase supplies at favourable prices. Stores in La Paz are well stocked and the local products are inexpensive, but imports are likely to be charged twice the original European or American value. Climbing outfit is difficult to obtain in Bolivia; mountaineers should be properly equipped before leaving their homeland.

Camping in the Cordillera Real is not a pleasant experience. Nights are rather cold, a temperature of three or five degrees below zero (Fahrenheit) being the average above 15,000 ft.; it must be remembered that the tropical night is eleven hours long. Water is abundant, but wood is scarce in the high valleys; pressure cookers at this height are an advantage.

Climbing itself usually begins well above the snow-line, rarely below. Crampons are essential; technical difficulties are reduced compared to other Andean ranges, unless mountaineers feel tempted to tackle some of the awesome ice-faces of high peaks such as Illampu or Cacca Aca, where artificial aids will be necessary.

Avalanches are not so much of a danger in the Cordillera Real as in most ice ranges. The ice is usually compact and even hard and polished. On the slopes exposed to the wind low temperatures are determinant in the solidity of the Bolivian ice. However, the danger of avalanches exists, as was proved by the fate of the two Germans who attempted to traverse the summits of Illimani in 1943, but whether a cornice gave way under their feet, or they were carried away by an avalanche has never been accurately established and perhaps will never be.

It is a common assumption to refer to the Cordillera Real as a range with little field for pioneer mountaineering. Mr. Ullman stated in *High Conquest* that only two or three peaks have been left unclimbed by the Germans; since his book was published there have been twenty first ascents from 17,000 to 21,000 ft. and those who have been in the range, like the writer, see enough opportunities in new summits and new routes for at least one generation.

Generally speaking, the Cordillera Real can be considered an ice problem; few of its peaks offer rock climbing, a remarkable one being Tiquimani, a massive bastion 18,209 ft. high, with a certain reputation of inaccessibility. Important technical problems are the traverse of the summits of Illimani, and the scaling of new faces on Illampu, Cacca Aca and others. As for exploratory mountaineering, the eastern slopes of Chearoco and Chachacomani are good choices; the highest unclimbed peak in the range is an unnamed 19,456-ft. ice pyramid, north-west of Illampu, while many unknown lesser mountains will provide sufficient challenge. Here, is an unbroken chain, one hundred miles long, of peaks and glaciers rising in a country of much historic interest; for those who understand that height alone does not mean everything there is practically no limit for mountain adventure in the Cordillera Real. Given the choice, this would be the Andean range I would revisit.

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Only books and journals with mountaineering interest are listed; there should be added, also, the five numbers of the *Boletin del Club Andino Boliviano*, published from 1942 to 1948, but unfortunately discontinued; everyone of these Boletines contains climbing articles on the Cordillera Real.

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MAPS

To the maps included in the Ahlfeld, Conway and Troll works should be added 'Mapa de la Cordillera Real, parte norte', taken directly from the Hein-Troll survey and printed 1954 by the Club Andino Boliviano. The accompanying sketch-map was reproduced from this Bolivian edition, with a few additions by the writer.