

Indians, who inhabit the foothills, the geology, and the glaciers of the range. The mountains contain the greatest single area of snow and ice in Colombia. The leader of the whole expedition was David Stoddart. The members of the glaciological party were John Rucklidge, who climbed in British Columbia in 1957, David Dare and myself. We left our base on the western side of the range and established a camp at 13,500 feet in order to carry out a series of observations on one glacier in particular, the San Pablin Glacier. We spent most of our six weeks in the field there, though, in the intervals between work John Rucklidge and I crossed other glaciers and climbed two peaks. At first, work on the glacier was delayed by a lack of acclimatization and bad weather. Acclimatization appears to be a peculiarly trying problem in equatorial regions; with regard to the climate, January is apparently the best month for visiting the mountains of Colombia. However, our work was only held up temporarily. We were able in the end to complete a plane-table survey of the glacier and to measure its velocity, the accumulation of snow and the melting of ice on its surface. Our data and observations may prove useful to those who try to understand the complexities of tropical glaciers. Mountaineering had to take second place to the scientific work. All the major peaks of the range had, in fact, been climbed and could be reached in a day from a camp below the snow line. Furthermore the rock was rather poor, so that from various points of view there was little scope for first-class mountaineering. Rucklidge and I did complete two ascents and made various traverses in the vicinity of the San Pablin Glacier. One of the peaks climbed was Picacho (17,100 feet), first ascended by a previous Cambridge expedition. For a week, we joined the geologists on a trip to the south of the range where we climbed Toti (16,600 feet). We completed this excursion with a new high-level traverse back to the San Pablin Glacier. We reunited at the base at the end of August and shortly afterwards all except Brian Moser, who remained to work for an American oil company, returned to England.

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### **Peru**

*Swiss Expedition to the Cordillera Vilcabamba and the Cordillera Blanca.* The Swiss left Mollepata on May 20 to climb in the Cordillera Vilcabamba in two different groups. Ernest Reiss, Seth Abderhalden, Franz Anderrüthi, Dr. Hans Thoenen and Erich Haltiner reached Base Camp in the Pumasillo group on May 25. They made the first ascents of the following peaks: Kaico (17,275 feet), Pucapuca (17,880 feet), Paccha (17,060 feet), Cho-

quetacarpo (18,110 feet), Eugenio (16,735 feet), Redondo (17,225 feet), and Cabeza Blanca (19,520 feet). The Peruvian porter, Eugenio Angeles joined the Swiss on Kaico and Eugenio. Taking only a day and a half for the climb, on June 7 Reiss and Haltiner made the second ascent of Pumasillo (19,915 feet). The next day Abderhalden and Anderrüthi repeated this climb. (All altitudes are those given by the Swiss. It will be noted that Pumasillo's height is less than has previously been given, but this is more in accord with the thoughts of members of the 1956 American expedition, which first explored this region.—*Editor.*) Meanwhile the other members of the party had in a ten day march crossed five 15,000-foot passes to penetrate into the Panta group and to operate there. The most difficult climb they made there was Camballa (18,765 feet), whose summit they likened to the blade of a knife. This mountain was climbed on June 7 by Jean-Jacques Asper, Marcel Bron, and Roger Habersaat and two days later by Hans Frommenwiler, Eugen Steiger, and the leader of the whole expedition, Ruedi Schatz. They climbed the north face of Panta (19,160 feet), the highest in the group, as well as Chaullauccassa (16,735 feet), Soirococha (18,175 feet), Kuima (18,210 feet), Artision (17,880 feet), and Runasayoc (17,715 feet). The other members of the 14-man group, Dr. P. Fischer, geologist, Ernst Spiess, topographer, and Prof. Charles Terrier, botanist, also carried out studies in this region. Both groups found the climbing of the most severe difficulty. The snow and ice slopes up to 70° were covered with rotten, porous ice, and on the shaded slopes the powder snow was deep and unconsolidated. Enormous cornices added to there difficulties. They reported that the Cordillera Vilcabamba's peaks might be lower than those in the Cordillera Blanca but equalled them in size from valley to summit and in difficulty.

The whole expedition moved its activities to the Cordillera Blanca at the end of the first week of July and climbed there in two different groups for ten days. One group made its base at the Luguna Parón. From there, on July 10, Reiss and Schatz climbed Huandoy (20,981 feet) by the north face, a new and difficult route. Anderrüthi and Steiger repeated this ascent the next day. Anderrüthi, Reiss and Steiger made the first ascent of incredibly steep and difficult Aguja Nevada (19,312 feet) on July 15. Frommenwiler and Haltiner climbed Aguja Nevada Chica (18,045 feet) the next day. The other group attempted Cayesh (18,770 feet), farther south. (see photograph *A.A.J.*, 1959, 11:2, opp. p. 175.) They had about 1000 feet of nearly continuous class 6 climbing. Abderhalden, Bron and Habersaat reached the highest point in an attempt which involved a difficult bivouac. They think the mountain is possible with two weeks of steady

work. This group also climbed Chopiraju (17,900 feet) while reconnoitering Cayesh, making a new route.

*Brazilian Expedition to the Cordillera Blanca.* Domingo Giobbi, founding president of the Club Alpino Paulino with Eugenio Angeles, the Peruvian porter, climbed Paulista (18,045 feet) in the Caullaraju-Tucu group on September 26.

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*Austrian Expedition to the Cordillera Blanca.* Under the leadership of Hannes Gasser, the Austrians entered the southern end of the Cordillera Blanca. Albert Zangerl came down with pneumonia and had to be evacuated to Lima. From a 16,750-foot camp, Gasser, Horst Pattis and a Peruvian porter, Donato Solano, climbed Tuco West (17,838 feet) on June 4. On June 10 Gasser and Solano ascended Raria South (18,145 feet). Moving their high camp to the Caullaraju group, on June 21 Gasser, Pattis, Klaus Keplinger and Fräulein Ulla Staudacher climbed Caullaraju West (18,383 feet). The next day Gasser, Pattis and Solano ascended Caullaraju North (17,815 feet). They changed their field of activity north to the Quebrada Yanganuco, where their attempt on Pisco failed at a bergschrund some 300 feet from the top. On July 14 Gasser and Pattis climbed Yanapaccha (17,914 feet) the only peak which was not a first ascent, while Keplinger, Fräulein Staudacher and the now recovered Zangerl climbed Yanapaccha North (17,650 feet).

*New Zealand Expedition to Quebrada Yanganuco, Cordillera Blanca.* The inevitable problems of organization overcome, our party, John Tothill, Don Mackay, Jean and Michael Nelson, arrived in Huaraz on July 10. There we picked up our porters and hired a truck to take us to the Yanganuco lakes (12,600 feet). The following day, with eight laden donkeys to assist us, we established our Base Camp at 13,100 feet. We spent four days in this camp, making short excursions to the Portachuelo de Yanganuco and to the head of the valley in order to inspect the impressive south face of Chacaraju. On our fifth day in the valley we moved into a high camp (15,800 feet) on Yanapaccha. (First ascent on June 23, 1954 by Ayres, Creswell, Irvin, Matthews, Michael, and Ortenburger. *A.A.J.*, 1955, 9:2, pp. 27-28—*Editor*.) This snow peak of 17,914 feet dominates the valley when viewed from the lakes at the end of the road. On July 18 Tothill and Mackay led off across the broad glacial shelf which crosses the west face of the mountain, then cut steps directly up the face, reaching the north-west ridge about 400 feet below the summit. They were on top six and a