what had happened in the Callejón de Huaylas and elsewhere; in fact, not until we crossed the pass again to look for Jim Jolly and found him coming up the Santa Cruz valley with an American now resident in Chile, Steve Milard. Jolly was in the Hotel Ancash in Huaraz when the earthquake occurred and was very lucky to survive. He spent several days in relief work, including some time in the Llanganuco near the Czechs' ill-fated campsite. We did not learn until much later that Pip Buchanan, the wife of an expedition member, and her friend Jeni Williman, had also miraculously escaped in the canyon of the Quebrada Santa Cruz. (See article on the earthquake.) Despite the earthquake and more bad weather than expected, we climbed five peaks and narrowly missed climbing a sixth. All were by new routes and three were traversed. The ascents follow. (New routes are marked by an asterisk.) Jancarurish (18,537 feet) on June 6 by Wilson, Stanton via north ridge; on June 12 by Gough, Glasgow via south ridge\* and descent by north ridge; Tayapampa (18,620 feet) on June 13 by Wilson, Stanton via east ridge\* and descent by south ridge; Pucahirca Oeste (c. 19,685 feet; first ascent) on July 16 by White, Gough, Glasgow, Wilson, Stanton via west buttress\*; Pucarashta (c. 18,200 feet) on July 4 by Buchanan, Wilson, Milard via northeast glacier and snow face\*; Alpamayo (19,510 feet) on July 6 by Jolly, Stanton, via north face\* and descent by north ridge. Jolly and Wilson also attempted the unnamed virgin peak between Pucahirca and Pucarashta but were turned back 100 feet from the top owing to lack of time. The dates given are when the summit was reached. We used alpine-type methods, as in New Zealand; that is to say we used almost no fixed rope and made natural bivouacs such as schrunds rather than carrying tents. We spent a cold night on Tayapampa 200 feet below the top. On Alpamayo we had three such bivouac sites. On Pucahirca Oeste we finally slept in a natural ice-cave at 18,300 feet on very spectacular flutings. The earthquake affected the mountains considerably. Pucahirca Oeste lost its summit cone. The continual aftershocks sometimes made us wonder if further difficult climbing was justified. We made studies of the geology, botany and insect fauna of the region.

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Alpamayo Norte. On Huascarán Norte, Glen Bryden, John Hodsdon, Terry Thomas and I were turned back some 400 feet short of the summit by excessively deep snow on April 29. It would seem that there is usually too much snow on Huascarán in April for pleasant climbing. The major icefall below the Garganta in late April was not very dangerous and there

were at least two good routes up it. Very large avalanches from Huascarán Sur covered almost the whole area of the Garganta, indicating the desirability of camping on the far northern side for climbs on either peak. We then drove to the eastern side across the northern Cordillera Blanca to about six miles beyond Palo Seco. From there we set out with four horses on May 4 for the Laguna Safuna camp of the Corporación Peruana del Santa, about 21 miles to the west, under the spectacular northwest faces and ridges of the Pucahirca group. The following day we took the horses to Pucacocha and commenced backpacking gear onto a prominent moraine-covered ridge which gave easy access to the northeastern glacier of Alpamayo above the largest icefall. The next two days were spent in bad weather establishing a route through some large creavases and setting up two successively higher camps on the glacier, the latter almost directly beneath the col on the north ridge of Alpamayo. A steep snowfield leads straight up from the glacier some 650 feet before ending in the cliffs that extend around from the north face of Alpamayo. We climbed this to reach a rock chimney on the northern edge of the snowfield. Fixed ropes were set up from the base of the chimney for 200 feet to a point where we had access to a steep and hazardous couloir, presumably the one mentioned by the 1968 party. (A.A.J., 1969, 16:2, pp. 420-1.) Nine inches of snow tenuously attached to the badly honeycombed ice made the climb of some 350 feet up this couloir in bad weather most difficult. We camped on the north ridge col and made an unsuccessful attempt the following day, in a snow storm, on the north ridge. This was terminated by waist-deep snow and dangerous cornices. On May 10 Hodsdon and I ascended the northwest face in almost a direct line up to the centre of the face for 600 feet to a large schrund which crosses nearly the whole face. We then followed its rising line to the upper flutings, snow not ice, which we traversed onto the upper section of the unstable west ridge, which was often less than a foot wide and with three feet of soft snow. We climbed the west ridge some 250 feet to the north peak of Alpamayo. (Their route was similar to the German route of 1966. See A.A.J., 1967, 15:2, pp. 388-9. – Editor.) No attempt was made to traverse to the slightly higher south summit. The descent was both interesting and exciting as the snow storm in which we had been climbing since about 11:30 had reduced visibility at most times to 30 feet and had wiped out all our steps. We reached camp at 8:15, nearly two hours after dark.

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