

West, J.B. "Human Physiology at extreme altitudes on Mount Everest." *Science* 223: 784-788, February 24, 1984. (This is a non-technical summary article for general scientists.)

West, J.B. and S. Lahiri (eds.) *High Altitude and Man*, Washington, DC: American Physiological Society, 1984. (This monograph contains several summary-type articles describing scientific findings of the expedition.)

A full account of the scientific findings of the expedition in non-technical language will be found in *Everest—The Testing Place* by John B. West, published by McGraw-Hill, June 1985.

If any reader would like a complete list of scientific papers from the expedition, write to John B. West, M.D., Ph.D., Department of Medicine, M-023A, University of California San Diego, La Jolla, CA 92093.

JOHN B. WEST, M.D., PH.D.

Nuptse Northwest Summit, Northwest Ridge. A French expedition led by Raymond Renaud climbed Nuptse Northwest (7720 meters, 25,328 feet) by the northwest ridge from the south, a new approach to the ridge. They had four high camps. The French gave climbing instruction to the Sherpas every afternoon. A total of eight Frenchmen and six Sherpas got to the summit. On October 15 Jean-Marie Perrier, Sherpani Nima, her husband Lakpa Norbu and Sherpa Ang Kami got to the top. Nima, inexperienced before this climb, holds the altitude record for Nepalese women. On October 19 Yvan Estienne, René and Rémy Roux and Pierre Cinquin reached the summit. On October 20 and 21 Vionnet, Pailheret, Dr. Dantoine, Renaud and three other Sherpas got to the top. No attempt was made to continue to the main summit, which was very far away over an exposed ridge in high winds and for which they had insufficient climbing gear.

MICHAEL J. CHENEY, *Himalayan Club*, and ELIZABETH HAWLEY

Pumori, Southeast Face to Northeast Ridge. Our multi-national team of friends consisted of Australian Geoffrey Bartram, Englishman Chris Curry, Americans Peter Getzels, Steve Amstutz, Robert Schreiber and me, and Nepalese Narayan Shrestha. Our route was to scale the icefall beside the rock spur on the southeast face and to follow the northeast ridge to the summit. Our route lay left (south) of the American winter ascent of 1981. We left Jiri on April 4 and established Base Camp at 5200 meters on April 16. Advance Base was placed in the séracs of the southeast face at 5915 meters on April 20. A higher cache was located at 6100 meters, but daily storms piled two feet of snow on the glazed blue ice of the face and forced a retreat to Base Camp on April 27. Curry and Schreiber, who remained at Camp I, narrowly escaped disaster the next day when a massive avalanche swept the route. Advance Base was moved up to 6100 meters in one climb from Base Camp and occupied by all climbers on May 2. Two days later, after struggling with several steep ice cliffs, daily snow-

PLATE 59

Photo by Michael André

PUMORI.





storms and nagging coughs, Bartam, Getzels and Shrestha bivouacked beneath a rock cliff at a notch on the northeast ridge at 6400 meters. They reached the summit at 1:45 P.M. on May 5 and descended to the bivouac to join their four teammates who had moved up for an attempt the next day. Amstutz and Curry surmounted the top at 12:30 P.M. on May 6 and were followed by Schreiber and me at 12:45. Lingering on the summit, we two were enshrouded by cloud in a sudden storm with minimal visibility, which delayed our descent until sundown, when it subsided. We spent three more days clearing the route and finally left Base Camp on May 11. Shrestha's ascent was the highest elevation reached by a Newari climber.

MICHAEL ANDRÉ *Unaffiliated*

Pumori Attempt. Six climbers of Korean ancestry, although two are American citizens and one a Canadian, were led by Kim Ki-Hwan. They attempted the first-ascent route on the northeast ridge. After a three-week struggle on the east face, they gave up on September 22 when Kim and Young Chu pitched their fifth high-altitude camp at 6260 meters at the top of the face on the ridge. They found that their plan to climb hard ice was useless when the ice was actually soft and broke easily. They had to climb very difficult rock and used up all their own and some Dutch rock pitons to gain the ridge, only to find another rock obstacle for which they had no pitons or rope.

MICHAEL J. CHENEY, *Himalyan Club*, and ELIZABETH HAWLEY

Pumori Ascent and Tragedy. Dan Fox, Rich Pierce, Richard Wilson, Kevin Murray, John Taylor and I wanted to make the winter ascent of the south ridge of Pumori. Andy Randall was Base Camp manager. We lost Taylor and Murray to illnesses before reaching Base Camp. Taylor returned to the U.S. but Murray could rejoin us later. We established Base Camp on December 1 and Camp I at 18,500 feet on December 4. Camp II at 20,210 feet was occupied on the 7th by Wilson and Pierce who spent the 8th fixing the two rock towers just above 20,000 feet. December 9 found five of us (Murray had arrived at Camp I on the 7th) conferring atop the ridge. Fox and I had decided to return to Base, both affected by violent coughing spells. Murray was not sufficiently acclimatized and returned to Base as well. Wilson and Pierce went on alpine-style and climbed to their first bivouac at 21,000 feet on the 10th and their second at 21,800 feet on the 11th. On December 12 they established a bivouac at 22,900 feet, possibly without sleeping bags. They reached the summit at ten A.M. on December 13 in high winds. After ten minutes on top, they descended to their last bivouac site on a rock outcrop 500 feet below the summit. We never saw them again. We can only assume that they had been overcome by the cold due to prolonged exposure.

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