Exhilaration Isn’t Always Fun

To those who are fascinated by oddities of ancient history, early beginnings of human culture, mystifying fragments of archeology and awe-inspiring, spectacular beauty of Nature, the majestic sight of Cuzco, Machu Picchu and their environs makes it worth going to South America. Cuzco, the City of Legendary Splendor, the City of the Sun, Capital and Sacred City of the Incas is two hours by air from Lima, Peru. It lies in a funnel-shaped valley of the Andes Mountains at an altitude of 11,444 feet. The massive array of ruins of great temples, large palaces and assortment of other structures offer an unforgettable sight. There are the relics of a magnificent Inca bath, an exquisite fountain, an enormous amphitheater and other surprising attractions. Nearby stands a fortress protected by a 1200 foot wall. The latter was built of giant-sized blocks of granite. One of its buildings is 38 feet long, 18 feet high and 12 feet thick. Even stones used for the construction of buildings, hewed out of the surrounding mountains, weigh several tons. These huge units were moved to location without the use of wheels, undiscovered by the Incas, and fitted together with inimitable precision, without the aid of pulleys or mortar. Their astonishing structural strength is attested by the fact that they have withstood the devastating ravages of severe earthquakes. The secret of this amazing perfection of Inca craftsmanship still has not been solved by modern engineering science. In the outskirts, terraced, cultivated mountainsides, orchards and gardens exhibit a prodigious mixture of sumptuous colors. Machu Picchu is only 75 miles from Cuzco, situated in a valley at an altitude of slightly over 6,000 feet. Ruins of this ancient citadel of the Inca empire represent a truly thrilling apocolypse. The puritanical simplicity and silent dignity of widespread megalithic ruins awaken visions of strivng culture of ancient days. Attractive as these sights may be, it is well to keep in mind that arriving by plane from Lima, Peru, only 500 feet above sea level, to Cuzco (11,444 feet) is literally a breath-taking experience. Physiologic and pulmonary function studies reveal interesting findings in individuals after abrupt tranportation from near sea level to high altitudes. There is lowering of arterial oxygen tension and decrease in arterial Pco2, (respiratory alkalosis with increased pH of the blood). The vital capacity of the lung is decreased and its residual volume is increased. Initially, hyperventilation is brought about by hypoxia through the aortic and carotid chemoreceptors. As the result of hyperventilation there is some increase in oxygen consumption. In susceptible persons, particularly under the influence of physical or emotional strain, after a heavy meal or on exposure to cold, evidence of pulmonary edema may be noted on physical and x-ray examination. Due to peripheral vasoconstriction, the central venous pressure is increased. There is pulmonary hypertension. According to authoritative views, the latter as well as pulmonary edema are brought about by postcapillary venuconstriction. Also, electrocardiographic evidence of right ventricular overloading has been recorded on the first day in subjects ascending to high altitudes, even without demonstrable pulmonary edema. Simultaneously, disturbing or very serious symptoms may develop in subjects following sudden ascent to high altitude. These include headache, restlessness, vertigo, undue fatigue, muscular weakness and/or inadequate coordination, drowsiness, chest pain, precordial discomfort, palpitation, nausea, vomiting, dyspnea, tachycardia, cyanosis, cough, interference with menstruation, disorientation. Some of the pertinent comments of Cherniak and Cherniak (Respiration in Health and Disease, Saunders, Philadelphia, 1961) are worth quoting. “When a person becomes acutely hypoxic, he may exhibit either somnolence or lassitude or a sense of comfort, well-being and self-satisfaction, which is often associated with outbursts of hilarity or obtrusive pleasantness. Judgment may become impaired to such an extent that the entire clinical picture resembles one of drunkenesse.”

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