ascent next day. A ride of six or seven hours over a steep but fairly good road for horses takes one to a cave, at an elevation of about 13,700 feet, where camp is usually made for the second night. The work of the third day is severe, and preparations should be made for a good breakfast and an early start. These items must be looked after by the tourist himself, as the guides are in no hurry, and an ordinary Mexican breakfast would not do for an American or Englishman who has a day of hard work before him. Starting early on the third morning, one rides to the foot of the moraine, near the 16,000 feet level, above which the slope is too steep for horses and the real work of the ascent begins. (See *A*, Fig. 1.)

The ascent from this point is made along a ridge which forms the eastern boundary of the glacier. In the dry season the tourist climbs slowly upward over rock and ice without danger, except such as may arise from severe exertion in the rarified air of such great elevations.

In the wet season the rocks and ice are more or less thickly covered with snow, which necessitates precautions not called for during the dry season. The eyes should be protected by colored glasses, and the face by a thick veil from the heat and light reflected from the snow, and the feet should be wrapped in coarse cloth to protect them from cold and to prevent slipping on the crusted snow. The chief guide leads the party, cutting steps in the snow for himself and followers. One might miss his footing and slide to his death on the rocks below, but the danger is not great if the instructions and example of the guide are followed carefully. It requires considerable exertion to climb steep slopes at low elevations, but when the elevation is so great that nearly or quite half the air is below, the least exertion is exhausting.

FIG. 6.—The Peak from the west at the 10,000 ft. level.

The lungs can get oxygen enough to supply the system when at rest, and one may ride from the sea-level to the 16,000 feet level without discomfort from light air. Above 16,000 feet, one not accustomed to the air of such elevations can climb but a few feet before sinking down in utter exhaustion, gasping for breath, with palpitating heart, oppressed brain, and possibly a qualmy stomach. After a brief rest the unpleasant symptoms pass away, then a little climb, then a rest, and so upward, the climbs getting shorter and the rests longer till at length the summit is reached. Some can climb faster than others; a good rule is to climb so far as possible without opening the mouth to breathe, then rest. On the average, one does well to climb 500 feet an hour.

Edward Whymper speaks of a "mountain sickness" which affected him and his assistants while exploring among the high Andes. Some of us had a little nausea, but we did not attribute it to the rarified air, and Mr. Bunsen had a severe headache while on the summit, which passed away soon after the descent began, but none of the party was affected with the mountain sickness of Whymper. No other locality on the globe affords such a full and comprehensive panoramic view as does the eastern slope of Citlaltepetl, whether seen from shipboard some 20 or 30 miles at sea, or from the summit of the mountain. The view from the summit is clearest during the forenoons of the wet season when the air is free from dust and usually clear. During the dry season a dust or haze pervades the air to an elevation of 9,000 or 10,000 feet so that objects below that elevation cannot be distinctly seen.

The descent is made to the cave or to Chalchicomula for the night, and Vera Cruz may be reached on the fourth day; thus practically making a journey from the tropical to the polar region and return in four days. Nowhere else on the earth can this be done as easily, quickly, and safely as on the eastern slope of Citlaltepetl, the Star Mountain of North America.

NOTES AND NEWS.

IN October, 1891, Thomas George Hodgkins, Esq., of Setauket, New York, made a donation to the Smithsonian Institution, the income from a part of which was to be devoted "to the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man." With the intent of furthering the donor's wishes, the Smithsonian Institution now announces the following prizes to be awarded on or after July 1, 1894, should satisfactory papers be offered in competition: 1. A prize of $10,000 for a treatise embodying some new and important discovery in regard to the nature or properties of atmospheric air. These properties may be considered in their bearing upon any or all of the sciences — e.g., not only in regard to meteorology, but in connection with hygiene, or with any department whatever of biological or physical knowledge. 2. A prize of $2,000 for the most satisfactory essay upon (*a*) The known properties of atmospheric air considered in their relationships to research in every department of natural science, and the importance of a study of the atmosphere considered in view of these relationships. (*b*) The proper direction of future research in connection with the imperfections of our knowledge of atmospheric air, and of the connections of that knowledge with other sciences. The essay, as a whole, should tend to indicate the path best calculated to lead to worthy results in connection with the future administration of the Hodgkins foundation. 3. A prize of $1,000 for the best popular treatise upon atmospheric air, its properties and relationships (including those to hygiene, physical and mental). This essay need not exceed 20,000 words in length; it should be written in simple language, and be suitable for publication for popular instruction. 4. A medal will be established, under the name of the Hodgkins Medal of the Smithsonian Institution, which will be awarded annually or biennially, for important contributions to our knowledge of the nature and properties of atmospheric air, or for practical applications of our existing knowledge of them to the welfare of mankind. This medal will be of gold, and will be accompanied by a duplicate impression in silver or bronze. The treatises may be written in English, French, German, or Italian, and should be sent to the Secretary of the Smithsonian Institution, Washington, before July 1, 1894, except those in competition for the first prize, the sending of which may be delayed until Dec. 31, 1894. A principal motive for offering these prizes is to call attention to the Hodgkins Fund, and the purposes for which it exists. Suggestions and recommendations in regard to the most effective application of this fund are invited. It is probable that special grants of money may be made to specialists engaged in original investigation upon atmospheric air and its properties. Applications for grants of this nature should have the indorsement of some recognized academy of sciences, or other institution of learning, and should be accompanied by evidences of the capacity of the applicant, in the form of at least one memoir already published by him, based upon original investigation. To prevent misapprehension of the founder's wishes, it is repeated that the discoveries or applications proper to be brought to the consideration of the committee of award, may be in the field of any science or any art without restriction; provided only that they have to do with "the nature and properties of atmospheric air in connection with the welfare of man." Information of any kind desired by persons intending to become competitors will be furnished on application. All communications in regard to the Hodgkins Fund, the Hodgkins Prizes, the Hodgkins Medals, and the Hodgkins Fund publications, or applications for grants of money, should be addressed to S. P. Langley, Secretary of the Smithsonian Institution, Washington, U.S.A.