

Valley crossing the Blue Ridge a little to the north of here. Showers occurred about here from 5 till 8 p. m., but could not see them on account of fog.

July 23.—8 a. m., 69°; 2 p. m., 77°; 10 p. m., 62°. Partly cloudy in a. m., with showers in p. m. From 5 till 7 p. m. a succession of ill-defined showers moved down the Shenandoah Valley. Fog obscured many of their movements; east winds prevailed.

July 24.—8 a. m., 66°; 2 p. m., 75°; 8 p. m., 68°. Partly cloudy, with moderate temperature and southeast winds. About 4 p. m. a shower developed to the south-southwest of here and moved north-northeast down the Page Valley. It was a light shower, with no thunder.

July 25.—8 a. m., 70°; 2 p. m., 79°; 8 p. m., 66°. Partly cloudy and slightly warmer, with east winds. It turned cooler at night. About 4 p. m. a shower with some thunder formed to the south of the gap and moved northeast with great rapidity, crossing the ridge immediately to the south of here; the northern edge passed over camp.

July 26.—8 a. m., 62°; 3 p. m., 68°; 8 p. m., 65°. Rain and fog in a. m., fair in p. m.; light south winds.

July 27.—8 a. m., 61°; 3 p. m., 69°; 8 p. m., 65°. Partly

cloudy, with brisk east winds in a. m.; east winds diminished, with fair weather in p. m.

July 28.—8 a. m., 63°; 3 p. m., 73°; 10 p. m., 64°. Fair; north to northeast winds.

July 29.—8 a. m., 64°; 2 p. m., 71°; 10 p. m., 64°. Fair in morning. Increasing cloudiness, with rising southeast winds in p. m. Light rain fell in the night.

July 30.—8 a. m., 64°; 3 p. m., 78°; 8 p. m., 68°. Cloudy in early morning, clear during the day; southwest winds prevailed, with slightly warmer weather. About 4 p. m. a shower formed to the north of the gap and passed southeast over camp, after which it dissipated.

July 31.—8 a. m., 68°; 3 p. m., 81°; 8 p. m., 69°. Partly cloudy and quite warm, with fresh southwest winds.

The gap spoken of is New Market Gap, 12 or more miles west of this place. Since June 16 the lightning has struck three times at this place, within an area of 100 acres, seemingly attracted by the wire fencing. The drought in the Page Valley was broken on July 19, but rain is very much needed now in this region. The general trend of thunder-showers is down the Shenandoah Valley, or northeastward toward of Riverton.

NOTES BY THE EDITOR.

ELECTRIC PHENOMENA IN THE EUPHRATES VALLEY.

On page 286 we publish an interesting letter from Mr. Ellsworth Huntington relative to lightning flashes passing between several of the mountain peaks bordering the wild gorge of the Euphrates 20 or 30 miles south of Harput (Charput). The Editor has endeavored to find a satisfactory map of this gorge, on which to locate the peaks referred to by Mr. Huntington, but the best that he has access to fails to mention them. He has, therefore, published with Mr. Huntington's article a copy of a portion of Kiepert's map of Asia Minor as reprinted in Petermann's Mitteilungen, Ergänzungsband 4, 1867, the latest edition of this map being inaccessible to him. On this map (see page 286) the reader will perceive the gorge or canyon, that extends, with many rapids and falls, for 40 miles above Telek and 20 miles below that place. The locations of Mr. Huntington's peaks and of other points given on his sketch have been transferred to this map as well as we were able to do. On either side of the gorge the country is an elevated plateau, 5,000 feet above sea level. The peaks numbered and named by Mr. Huntington are undoubtedly the remnants of the harder rocks left by the river as it cuts its channel deeper and deeper. The Lake Geuljik is believed to have an underground outlet and to be the head water of the great spring north of Telek, at which the river Tigris begins.

We need not apologize for refraining from attempting to find the correct explanation of the mysterious lightnings and thunders here recorded. It is well known that lightning passes between cloud and cloud or cloud and earth, but we have not yet any well authenticated case of its passing from peak to peak, although the poets describe it as "leaping from crag to crag." Byron is quite true to nature when he (in *Childe Harold*, Canto III, stanza 92), describing a thunderstorm on Lake Lemn, says:

Far along
From peak to peak, the rattling crags among,
Leaps the live thunder.

There are peaks in the Rocky Mountains on which almost continuous electric discharges have been observed, but they pass off into the air quietly, like St. Elmo's fire, never in great flashes from peak to peak. During eruptions of

Vesuvius, the lightning passes from the mountain to the clouds of steam that have risen from the volcano, but not between neighboring peaks. In general, the air ordinarily offers such a resistance to the passage of electricity, while the earth is such a good conductor of electricity, that it would be easier for two electrified peaks to discharge through the earth than through the air. We can not, therefore, think of a lightning flash passing between two neighboring peaks. On the other hand, a cloud or a mass of electrified air that has not quite attained the cloudy condition may lie between two peaks, and flashes may proceed from it simultaneously to the two peaks in such a way as to lead a careless observer to say that one peak discharged over to the other. If this is the approximate explanation of the Euphrates phenomenon, then it will happen only when the wind is in certain directions, such as to cause the formation of an incipient cloud and thunderstorm between the two peaks, and this wind direction will depend upon the relation of the peaks to the course of the river valley below. But when we remember how easily myths spread and become common property, so that the same error is believed by everyone, generation after generation, until some scientific investigator probes it to the bottom and dispels the illusion; when we remember that Asia Minor has been the nursery for all the myths and wonders and miracles that fill the literature of Arabia, Greece, Rome, and modern Europe; when we remember that Mr. Huntington has not seen this phenomenon, but describes it on the authority of numerous credible natives, who state that it was seen by others years ago, we must be allowed to express the wish that he will continue his researches in that neighborhood until he has seen it and can describe it from personal experience. If it is a thunderstorm phenomenon, it can not be so very rare; but if it is a myth, based upon some historical event or some misinterpretation of ancient names, the explanation will be most interesting to students of history and philology.

NOTABLE LIGHTNING.

In connection with the preceding note Mr. Heiskell, of the Weather Bureau, sends the following description of two interesting cases of lightning: