In several other places in Northampton County there are suggestive evidences of similar adjustments of the minor streams. It is a fascinating subject for investigation and should receive further consideration. The writer believes that there is an old buried valley extending eastward from Green Pond, another one in the same direction southeast of Nazareth, and possibly others. Geophysical work is now being planned to supplement the data obtained from well borings, with the hope that some of these suppositions may be either proved or disproved.

**Water Gaps of Kittatinny (Blue) Mountain**

A water gap is a short, narrow, steep-sided pass or gorge by which a stream cuts through a hard, resistant rock ridge. A wind gap is an abandoned water gap or notch in a ridge cut by a stream that was later diverted or captured. Examples of wind and water gaps are numerous throughout the folded Appalachians of Pennsylvania; those partially within Northampton County are especially noteworthy.

These gaps afford such excellent stratigraphic and structural sections that the writer requested Dr. Bradford Willard, who has made detailed studies of these phenomena, to prepare the sections and descriptions which are published in a separate chapter of this volume. His descriptions supplement this discussion. His sections extend beyond the confines of Northampton County but this seems advisable for the benefit of geologists visiting the regions.

The origin of these gaps has long received the attention of both the traveler and the geologist. Many are the descriptions that have been published. A few extracts are quoted.

**Delaware Water Gap**

The great geological phenomenon bearing the above expressive though not very euphonious name, is one of the most striking scenes in our country, and is a subject upon which volumes might be written. The chain of mountains known in general terms as the Blue Ridge, ranging nearly parallel with the Atlantic coast, and having its rise in New Hampshire and terminating in the extreme Southern States, has, in each State through which it passes, some distinguishing feature, as the White Mountains in New Hampshire, Green Mountains in Vermont, Catskill in New York, Harper's Ferry in Virginia, and the Delaware Water Gap in Pennsylvania and New Jersey.

The waters of the Delaware at this point approach the mountain with a gentle current, and gracefully sweeping from the north toward the east, turn suddenly and pass through the Blue Ridge, cutting it to the base, while its rugged, sloping sides towering up to an elevation of 1,600 feet, frown down upon the river as it calmly pursues its course toward the ocean.

Whether this immense chasm has been caused by one mighty eruption, or by a gradual yielding of stratum after stratum, by the immense pressure of the waters of a lake thousands of acres in area, down to the present bed of the river; or by the active dissolution of the material upon which the

---