River. Practically the entire area is well drained, although there are some localities within the limestone regions where there is no surface run-off. The water there flows underground in solution cavities. There are a few small swamplike areas in the slate regions, especially in the northeastern part of the county where the glacial deposits are especially prominent.

The streams of Lehigh County have been of great value as sources of water power and municipal water supply. Gordon's Gazetteer (1832) states that "there are 46 grist mills, 28 sawmills, 5 fulling mills, 6 clover mills, 2 oil mills * * * in the County." (pls. 4 and 5.) Numerous others were built in later years. Most of these mills have long since been discontinued.

**LEHIGH RIVER**

The Lehigh River, rising in the Pocono Plateau of Wayne County, is about 100 miles long. It receives the drainage of almost all of Lehigh County. In its upper course, above the Lehigh Gap, it is a rapid stream with high bordering hills, but in its course along and through Lehigh County it has a moderate gradient. From Slatington to Allentown, a distance of 17 miles, the river descends 113 feet, or 6.65 feet per mile. From Allentown to Easton, 16.5 miles, it descends 68 feet, or 4.12 feet per mile.

As it flows through the slate region to Northampton it has a rocky bed in many places. Thence to Easton it passes through limestone and has a deep fill of alluvial matter. A number of alluvial islands are present below Northampton. These islands are mainly covered with trees of considerable size, furnishing evidence of their age, although at times of high water the islands do undergo some modification by erosion and deposition. Small bungalows built on some of these islands can not be used permanently owing to overflow at times of high water.

At Bethlehem a thickness of forty feet of alluvium in the river channel indicates an over-deepening at one time. Part of the fill consists of very coarse material with boulders as much as two feet in diameter. It is possible that the Bethlehem portion of the county was warped upwards while the thick ice sheet in the Pen Argyl district, Northampton County, depressed that section. When the ice melted the former conditions were restored. As the Bethlehem area sank to its normal elevation, the deepened river channel was filled. In Lehigh County, Jordan Creek has similarly a fill of more than 62 feet of alluvium. It is hoped that more data of this kind can be secured; then more positive explanations can be offered.

Eight dams have been constructed across the Lehigh River between the Lehigh Gap and Easton in order to effect navigation by the canal boats that transported anthracite from the coal regions to Philadelphia and towns between for over 100 years. The boats navigated the open river in places but in other places the canal dug beside the river. At present the canal is used only to furnish a small amount of water power at several places.

The Lehigh River receives some drainage from the anthracite districts and the black silt along the banks contains coal that has been carried from the culm banks and washeries of the coal mines. One can easily recognize coal particles in many places and occasionally, as far