Johnson, VW Steen and Itter have presented the most complete discussion of the changes of drainage of the Lehigh and Delaware. They think that the North Branch of the Susquehanna River flowed south or southeast until the vicinity of Allentown where it turned to the southwest, passed through Leipert's Gap near Emmaus, Lehigh County, and continued to the Perkiomen Valley. He thinks that a westward-flowing tributary existed along the north side of South Mountain from Freemansburg or beyond and joined the Lehigh in the Allentown region. Monocacy Creek is thought to have been a tributary of this stream and instead of its present course, it turned to the southwest in the north part of Bethlehem and crossed the present highest portion of west Bethlehem. This filled valley has been partially located by well borings. He supposed that a tributary of the Delaware River flowing past Glendon pushed its head westward until eventually it captured the Lehigh River at Allentown. This theory is worthy of examination although it has not generally been accepted.

Johnson, Ver Steen and Itter have presented the most complete discussion of the changes of drainage of the Lehigh and Delaware. They think that the North Branch of the Susquehanna River once flowed to the southeast, through Wind Gap and approximately along the present course of the Bushkill River to the vicinity of Easton and thence along the course of the present Delaware River. By stream piracy, aided by rock structures, the head waters of this major stream were diverted westward through the Wyoming Valley, and other portions north of Kittatinny Mountain were captured by tributaries of the Delaware and Lehigh rivers. Raritan River is thought to have headed in the vicinity of the Delaware Water Gap whereas the Delaware River was a parallel southeasterly-flowing river to the northeast. By adjustments the Delaware was turned southwestward along the north flank of Kittatinny Mountain to Delaware Water Gap whence it turned southward.

It is not possible either to prove or disprove these theories but they do tend to make clear some of the otherwise anomalous characters of these major streams. The wind gaps and water gaps of adjoining regions are also taken into consideration in the full discussion of the problem.