The limestone waters are subject to contamination, as the areas are thickly settled and surface waters in many places find ready access to underground channels. Limestone waters near cities and towns, whether from wells or from springs, should be treated on account of the sewage that is continually poured into the underground channels, and should be examined bacteriologically from time to time to ascertain the extent of contamination. If wells are tightly cased for some distance into the solid rock the danger of surface contamination is lessened, but it is not entirely removed, as polluted waters may reach great depths through open fissures with practically no filtration. Doubtless a complete sanitary survey of the region would demonstrate that many of the sources are too badly polluted for safe use.

By experience it has been found that the best surface indications of underground streams in the limestone of this region are sink holes into which the surface water flows to unite with underground streams. Boring in the vicinity of sink holes or in the line of a series of sink holes is reasonably certain to encounter water. In some places the water is present in enormous quantities. Surface depressions that are not entirely closed are also favorable indications. Large supplies of ground water can generally be obtained in the vicinity of limonite iron ore mines or deposits. Scarcely an iron mine in the entire region was worked to a depth of fifty feet without encountering water and at greater depths the amount became so great as to cause certain mines to be abandoned. There is a close connection between the iron ores and ground water in that the ore deposits were concentrated and deposited in those places where there was free circulation of ground water. The same sort of circulation and ore formation still continues.

In certain places the limestones have been unduly shattered as a result of complex folding and faulting. If such places can be located for drilling sites abundant water can be assured. Drilling is difficult in such places as the hole is apt to become crooked and the drill may stick.

In these limestone regions there is no recognized aquifer. Even though there were some bed or series of beds with greater permeability so that the water would be yielded more readily, the complexity of structure would prevent one from predicting the depth at which it would be encountered.

From what precedes it also should occasion no surprise when one well or several obtain plenty of water at 100 to 200 feet and on an adjoining property a well twice as deep furnishes little water.

The numerous veins of calcite and quartz in the various limestones, particularly noticeable in the Jacksonburg cement rock, furnish abundant evidence of the free circulation of ground water through these rocks in past geologic ages.

In the limestone areas, well drillers frequently encounter cavities where the drill drops a few feet. These are underground solution caverns. Some of these cavities are filled with sand and gravel that has come from the surface.

In northeast Catasauqua almost on the county line, the borough of Catasauqua drilled two holes, one 212 feet deep, in clay, sand, gravel and iron ore, without striking bedrock. Dolomitic limestone crops out only a short distance away, so it seems that a deep solution pocket was encountered.