

in each locality. A number of geologists have upheld the opinion of Lyell and Agassiz that loess was of lacustrine or fluvio-glacial origin. Gümbel, in discussing the Bavarian loess deposits, drew attention more especially to the effects of intermittent inundations of land during the frequent oscillations in the retreat of the Alpine glaciers. Laspeyres, Baltzer, De Lapparent, and others think that torrential rains and other subaerial forms of water have assisted in the formation of loess.

B. *Geological Action of Water — Springs.* — Water takes undoubtedly the first and most important place amongst the epigene geological agents. Its chemical and mechanical activities are partly destructive, partly reproductive. They affect the whole surface, and have not only determined the present conformation of our planet, but have also given origin to a very considerable part of the rock-material of the Earth's crust.

The authors who have contributed most to our knowledge regarding water circulating in the ground are Bischof, Paramelle, Lersch, and Daubrée. Gustav Bischof wrote the first scientific account of springs, illustrating it with his own numerous observations on the relations of the underground water in the Rhine Valley, on the ascent of springs, on Artesian wells, and subterranean water-courses. Many of the examples cited by Bischof are now familiar in text-books of geology and physical geography. *L'Art de découvrir les Sources*, a work written by Abbé Paramelle, and translated into German by Cotta in 1856, contains excellent hints on the methods of finding springs and underground water. Paramelle was the most successful water-diviner that ever lived; France owes to him the disclosure of numerous springs. In 1864 and 1865 B. M. Lersch published at Berlin his books on the Chemistry and the Physics of Natural Waters. His *Hydro-Chemistry* gives especial attention to the therapeutic aspects; while in the *Hydrophysics* there is, in addition to his own observations, a carefully collected and accurate account of all springs previously mentioned in literature. Although the arrangement of this work leaves much to be desired, the fund of information which it contains gives it permanent value as a book of reference.

The most complete works on natural waters are those