

strata, from which the water drains away, no supply will be struck. As soon, however, as we reach one of the subterranean basins or cisterns, a supply is found. Should we dig a hole through the bottom of the cistern, we would, of course, lose much if not all of the water. But we might continue down to the next water-basin.

Let us suppose another well is needed, a few rods away. We must not be too sanguine in the expectation of getting water at the same depth. Perhaps the new well is beyond the limits of the higher water-basin; we must then dig to some lower one. Perhaps the new well is on higher ground; it does not follow that we must dig to the level of the basin in the first well. In the higher ground may be a higher water-basin; and so the second well, though several feet higher than the first, may not require to be so deep.

Do not suppose these water-beds are everywhere of such limited extent. There are districts where the same bed may be traced one or two miles. The bed, in such cases, is nearly horizontal; and that condition of the underground structure is indicated by a level condition of the surface.

Now, how are springs produced? Suppose a river valley has cut through a deep mass of the Drift, must it not cut the water-bearing sheets with the rest? And when that is done, will not the water flow out? Certainly, just as when we knock a hole in a cistern. So a hill-side spring is nothing but a leak in one of nature's cisterns. The water in escaping from the cut edge of the sheet finds some spot where least resistance is experienced, and there it escapes in largest quantity. It forms a sort of stream, and by degrees wears a little channel, which extends back into the bank, opening at its mouth in a little arch under which the water finally escapes. Of course, all the work was accomplished before we ever saw the spring. A well is an artificial spring.

Generally, the water of a hill-side spring is allowed to flow off to a brook or rivulet. In the course of a number of miles, scores or hundreds of springs may discharge their contributions into the stream. In fact, the greater part of the water in the