

beach, while yet charged with moisture during the ebbing of the tide.

The inhabitants of a town which, like Oxford, is built partly on a comparatively shallow bed of gravel, and partly on a deep stratum of clay, can well appreciate the value of the former substratum of their habitations, with reference to the facility of procuring water: for while they, whose dwellings are built on the gravel, can readily obtain water by sinking a well immediately on the spot; they whose dwellings are on the clay, must either procure water from a distance, or incur a very serious, and, finally perhaps, useless expense, in attempting to penetrate the clay^b. With respect to its general uses, gravel seems only to be employed in the repairing of roads and walks; in the composition of some kinds of mortar; and as a convenient occasional ballast for sailing vessels: so that, if we confine our view to the means afforded by gravel beds of supplying the ordinary wants of man, their history may be comprised in a few words. Not so, if we view them with reference to their origin, and the nature of their occasional con-

^b From the observation of an analogous arrangement in the general strata of the earth, namely, that those which are pervious to water alternate with those which are impervious to water, Mr. William Smith, "the father of English geology," became acquainted with the origin of springs, and the true principles of draining.