

is, in a great measure, to be attributed to the circumstances above mentioned. Columella observes, that *silex* having a moderate covering of earth, preserves to the latter its humidity; and Palladius repeats the remark. In districts which consist of quartzose rocks, not less than of granitic ones, the surface is often covered with marshes. Porphyritic rocks, on the contrary, which have a remarkable segregation of parts, as well as columnar basalt, let off the water to lower places. Springs are very frequently found at the bottom of basaltic mountains; for the atmospheric waters penetrate by the perpendicular fissures to the strata on which the basalt rests, and appear at the place where the two rocks meet.

The effect of different rocks upon the preservation and diminution of the moisture of fertile soil, influences vegetation in various degrees. The retentive power of the surface of rocks is of the greatest importance, where the soil consists chiefly of sand, through which the water percolates, and passes off entirely, unless it meets with a stratum of such a nature, as to obstruct its passage, or comes upon a surface of solid rock. The cause of the sterility of sandy plains is not merely their sandy nature, but also the great depth of the mass or rock capable of retaining the water. The same sand, when covering moun-

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France, as stated by Mr Arthur Young, and in sundry districts of England, chalk and limestone bottoms are occasionally observed to be retentive and wet. Undergrounds, formed of chalk or limestone, have frequently a thin covering of vegetable mould, from their being, in some cases, over close and wet, and in others over open and dry; the former condition being unfriendly to vegetation and the formation of mould, and the latter too readily permitting its departure when formed, or otherwise favouring the decomposition and waste of that material.