

tains consisting of sandstone, has a much less degree of sterility than in those plains, because the surface of the subjacent rock impedes the progress of the water, and consequently retains it in the soil \*. It has been sufficiently proved by experiments, that plants can grow in pure sand, when furnished with the necessary quantity of water. A subjacent rocky surface has an entirely different effect upon soil which is very retentive of moisture, upon a clay soil for example, as, in that case, the humidity is

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\* The reason here assigned is confirmed by some observations delivered by one of the latest and most intelligent of the English writers on agriculture. "If," says Mr Marshall, "the several strata" (viz. the subsoil and base) "are of so loose a texture, as to permit the waters of rains to pass quickly downward, without being in any sufficient degree arrested by the soil, the land may be said to be worthless to agriculture." He adds, "Before we suggest any improvement of lands of the latter description, it will be proper to premise, that many of the light sandy soils of Norfolk, which would otherwise be uniformly absorbed to a great depth, have a thin earthy substance, or "Pan," which intervenes between the soil and the subsoil, and which is of such a texture, as to check the descent of rain waters, and thereby retain them the longer in the soil, as well as to prevent the manure it contains from being carried away by their rapid descent; yet sufficiently pervious to prevent a surcharge of moisture from injuring the produce. To this fortunate circumstance is principally owing the fertility of the lands of East Norfolk: for wherever this filter happens to be broken by the plough, or otherwise, the soil becomes unfertile, and continues to be so for a length of years."—(*See Norfolk*, vol. i. page 11.) "This fact aptly suggests the expedient of improving, or fresh forming, a filter of this kind; seeing how capable it is of producing so many valuable advantages; the more especially, as it is probably the Norfolk pan owes its origin to fortuitous art, rather than to nature."—(*See Norfolk*, vol. i. page 12.) "A millstone, or other heavy wheel-shaped stone, made to run upon its edge, in the bottom of the plough-furrow