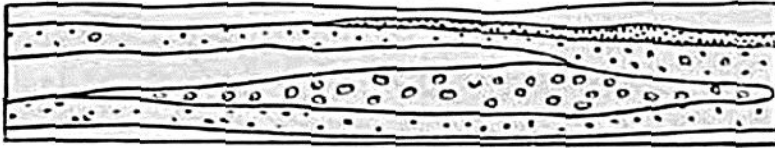


water more than a third of the weight which they have in air, the specific gravity of rocks being in general as $2\frac{1}{2}$ when compared to that of water, which is estimated at 1. But the buoyancy of sand or mud would be still greater in the sea, as the density of salt water exceeds that of fresh.

Yet, however uniform and horizontal may be the surface of new deposits in general, there are still many disturbing causes, such as eddies in the water, and currents moving first in one and then in another direction, which frequently cause irregularities. We may sometimes follow a bed of limestone, shale, or sandstone, for a distance of many hundred yards continuously; but we generally find at length that each individual stratum thins out, and allows the beds which were previously above and below it to meet. If the materials are coarse, as in grits and conglomerates, the same beds can rarely be traced many yards without varying in size, and often coming to an end abruptly. (See fig. 2.)

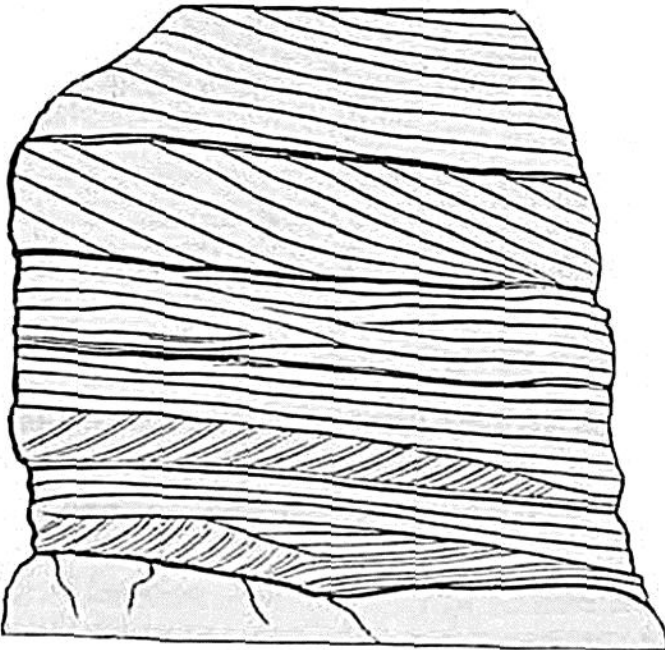
Fig. 2.



Section of strata of sandstone, grit, and conglomerate.

Diagonal or Cross Stratification.—There is also another phenomenon of frequent occurrence. We find a series of larger strata, each of which is composed of a number of minor layers placed obliquely to the general

Fig. 3.

Section of sand at Sandy Hill, near Biggleswade, Bedfordshire.
Height 20 feet. (Green-sand formation.)

planes of stratification. To this diagonal arrangement the name of "false or cross stratification" has been given. Thus in the annexed section (fig. 3) we see seven or eight large beds of loose sand, yellow and