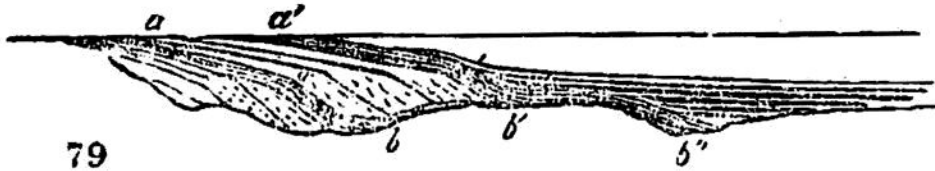


tain depth (n), when it coincides with the line $n l$, drawn to represent the greatest slope on which the particles will rest. This slope varies somewhat in particles of different size and form. Generally speaking, the structure of these deltas corresponds to the subjoined diagram; where the surface $a a'$ is level; the lines $a n$, $a' n'$ are curved, and lie in surfaces of contemporaneous depo-



sitions; and the lines $n b$, $n b'$ are straight lines corresponding to the angle of rest in deep water.

We may further observe, that the unequal dispersion of the sediments in water causes another modification of the lamination of such delta. Fine clay is spread far in the water, and settles at length in a general thin deposit over the curved and sloping faces $a n b$, and on the bed of the lake $b b''$, after the agitation of the water produced by the inundation has ceased, and the coarser sediment has settled to its place.

If further we imagine the waters of such a lake to be calcareous, and liable to slow decomposition, so that layers of carbonate of lime (or shelly marls) are formed, these will be still differently arranged. If the calcareous matter be generally diffused, the layers will not radiate from or collect round a point, but be very generally spread over the bed of the lake; and even when the calcareous substance enters in solution with a particular stream (as often happens), it mixes with the water of the lake so extensively as to yield wider and more regular deposits than those produced by merely mechanical agency.

Shallow lakes, subject to fluctuation, produce on the deposits of coarse gravel and sand, which are brought into them by rivers, an effect intermediate between that of deep water and mere fluvial currents. The