RATE OF FORMATION OF MARINE SEDIMENTS

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With regard to the clayish mud found in the centres of the great oceans, it has recently become possible to measure its rate of formation.

During oceanographic expeditions carried out within recent years, specimens of blue clay and ooze containing globerigines taken in the tropical regions of the Atlantic, have demonstrated the structure of several superimposed strata :— in the upper part a thin layer containing the remains of micro-organisms at present living in those areas ; immediately underneath is a block-like stratum composed of remains of organisms no longer living in the circumpolar regions — whence it has been concluded that the two layers correspond respectively, to the most recently formed post-ice period and that which is below to the last great glaciation period. This is confirmed by the fact that, under the layer composed of extinct faunae, another is found containing warm organisms corresponding to the last inter-ice period.

Seeing that the "Varves" (1) method has made it possible to estimate the duration of the most recent ice periods, a simple division gives the rate of deposit of clay substances in the central areas of the great oceans. It has been ascertained that on an average sedimentation takes place at the rate of *one centimetre* per thousand years. The decrease in volume which occurs with the solidification of this mud and its transformation into rock being about two-thirds, it is thus known that one centimetre of rock formed in such conditions represents a period of three thousand years.

(1) Layers melted yearly (summer) from marked glaciers in the deposits of frozen clay.