

may thus arise a banding of the clay deposits, in which coarser, thick rock-flour layers near the ice margin represent day additions and thinner, finer, more unctuous clays represent night deposits.

The control thus exerted will be confused or lost where the waters discharging from different ice fronts reach the area of clay deposition through a common distributor after journeys a half day's stream travel in difference of length. In this case, the day discharge of one stream may deposit at the same time as the night discharge from another stream. A similar disturbance or nullification of the differences of day and night discharge must take place in the Rhone valley where tributary glacial streams at varying distances from Lake Geneva have their clay load delivered to the lake several days after the start of the journey. Where the clay load of day discharge from one glacier near the head of the Rhone passes a tributary fed by a glacier lower down the valley at night, the day load of one becomes mingled with the night load of the other; and thus the difference between day and night conditions in glaciers which do not discharge immediately into clay-depositing areas will not have their diurnal changes recorded in the clay areas to which they contribute. As regional glaciers draw their frontal discharge of water from longer distances than valley glaciers such as those in the Alps, it is probable that there will be less difference between day and night discharge at the front in the former than in the latter, for the reason that some of the day water of the inland ice may reach the front only after half a day's journey, thus tending to equalize the outflow. For all these reasons, it is probable that except in the case of the discharge of a single glacial stream into a limited area of clay deposition, diurnal changes of temperature will exert little control over those variations in clay laminae which are characteristic of glacial rock-flours.

*Annual change of temperature and its effect on glacial clays.*

Summer is the time of glacier melting, winter the time of arrest of melting if not of actual freezing of glacial waters. The summer discharge of glaciers is prevalently pebbly and sandy; the winter discharge is prevalently clayey, for the streams may not then be vigorous enough to carry sand and pebbles out to the