

after year. Again, streams of ancient lava alternate with some of these lacustrine Tertiary deposits.

“In Central France, a great stream of lava caps the lacustrine limestone. At a *subsequent period*, the waters have excavated deep valleys, cutting down into the lacustrine rock marble, many hundred feet: and at a newer epoch, anterior to the authentic history of Europe, new craters have opened, and fresh streams of lava have run down the existing valleys. Even in the Tertiary period, we have thus a series of demonstrative proofs of a long succession of physical events, *each* of which required a long lapse of ages for its elaboration.

“Again; as we pass downwards from the bottom Tertiary beds to the Chalk, we instantly find new types of organic life. The ~~old~~ species, which exist in millions of individuals in the upper beds, disappear: and new species are found in the Chalk immediately below. This fact indicates a long lapse of time. Had the Chalk and upper beds been formed simultaneously at the same period,” [as the supporters of the diluvial theory represent,] “their organic remains must have been more or less mixed: but *they are not*. Again; at the base of the Tertiary deposits resting on the Chalk, we often find great masses of conglomerate, or shingle, made up of Chalk-flints rolled by water. These separate the chalk from the overlying beds; and many of the rolled flints contain certain petrified *Chalk-fossils*. Now every such fossil proves the following points:

“1. There was a time when the organic body was alive, at the bottom of the sea.

laid and finely joined together, agglutinated by a secretion of the insect, lined with a silky fibrous matter, and defended on the outside by small substances of a harder texture made to adhere by the insect's gluten, such as minute bits of wood or bark, grains of sand, and *very small shells*. When it quits the larva state, it comes out a brownish, four-winged moth-like insect. Reaumur calls them *butterfly-flies*. They are seen in clouds about ponds on summer evenings. The generic name is *Phryganea*, but there are many species in England and other countries. An excellent figure of the *Phryganea rhombica*, a common English species, (which the author has forgotten to say is the size of life,) is in Lyell, vol. IV. p. 153. In that place, Mr. L. has given an account of one instance of the rocky limestone-masses here alluded to by Prof. Sedgwick, with beautiful figures. The cases are studded over with small water-snail-shells, like those of *Paludinæ* or Linnæus's *viviparæ*. Often ten or twelve of these well-loaded cases are packed up, as it were, yet not broken, within the compass of a cubic inch.