

to be mistaken. Occasionally there are beds of dwarfed marine species telling of a brackish sea, and others related to those we find in estuaries at the present time. You will observe that the remains mentioned are aquatic organisms only, but all these deposits contain, in more or less degree, aerial and terrestrial animals and plants. Many of these frequented the seas and lakes, and their remains readily found place in the deposits pertaining thereto, while others have been drowned in lakes or rivers and have been carried out to sea by streams. Some remains of land animals occur in "sub-aerial" deposits, such as blown sand accumulations on the land.

And, further, we may form a fairly reliable opinion of the climate which obtained during the deposit of these, thus, *e.g.*, the Eocene deposits of Greenland, a country now buried under ice, contain the trees, shrubs and plants of the temperate regions—the Eocene of Western Europe contains remains of cowries, volutes and palms closely related to those found in combination with a mean temperature 30° warmer than at present.

As has been stated the various formations are characterized (1) by the association of certain fossils, (2) by the predominance of certain families or genera, or (3) by an assemblage of fossil remains representing the life of the period in which the formation was deposited. But the record of the life of the whole series from bottom to top is not an uninterrupted one, and this "imperfection of the Palaeontological Record," as it is termed, is to be regretted, because our knowledge of prehistoric life is almost entirely limited to the palaeontological evidence at our disposal. At the outset is what is known as "unrepresented time" or better, perhaps, as "the imperfection of the Geological Record," owing to the fact that many missing or undiscovered rock groups are buried beneath others or beneath the waters of the sea out of sight; that a large portion of the earth, including two great continents, is as yet unexplored; and also that denudation has played the same havoc with the deposits of bygone ages that it has played with those of to day.

No better example of "unrepresented time" can be had than that oft-quoted break in the strata of Great Britain between the secondary and tertiary epochs. In the upper cretaceous beds there are 500 species of described fossils; and of these only one brachiopod and a few