

These latter may be viewed as seas wholly drained ; the former as merely the raised margins and bays of the actual seas. But this view is imperfect : *since* the date or during the progress of the tertiary deposits, the partial as well as general uprising of the bed of the sea has materially changed their geographical relations, by separating parts once united, and giving to the detached parts a delusive character of basin-shaped insulated accumulation, which further researches will not justify. For instance, the uprising of the chalk and Wealden tracts between London and Portsmouth has divided the basins of the Solent and the Thames ; on a far grander scale, the Alps, raised, at least in part, since all the tertiaries were formed, have given a more complete geographical opposition than originally existed between the tertiaries of the Danube and the Po. It may indeed be supposed, in conformity with Mr. Lyell's views, that the insulation thus attributed to the *subsequent* rising of mountains, may have been begun by their *contemporaneous* rising,— a mode of explanation well suited to the case of the difference in the Hampshire and London basins.

Before the production of the earliest tertiaries, inundations from several uplifted ranges of country (as the Pyrenees, Brittany, Auvergne, the Ardennes, and parts of the Jura, sent detritus into the sea of Paris : the London tertiaries are supposed by Mr. Lyell to have been derived from the waste of the previously raised or then rising Weald : oceanic currents would plough the sloping parts of the submarine land ; and thus we have a clear explanation of the mixture of marine and fluviatile sediments, as well as the local diversity of their nature, which so remarkably characterises the tertiary strata. The purely lacustrine deposits, with their embedded mammalia, tell a different history. The tertiary land was raised where they occur at the time of the existence of these mammalia ; and thus it is often possible to prove that considerable movements of the bed of the sea occurred during the tertiary period. With regard to the age of