

sive periods. But what I then stated as a probable opinion, may, after the Essays of M. de Beaumont, be now advanced with all the authority of established truth: and among the many obligations we owe to this accomplished observer, I may mention the new and instructive views he has given us of the origin of the great masses of old detritus lying scattered over the lower regions of the earth. We now connect the gravel of the plains with the elevation of the nearest system of mountains; we believe that the Scandinavian bowlders in the north of Germany are of an older date than the diluvium of the Danube: and we can prove, that the great erratic blocks, derived from the granite of Mont Blanc, are of a more recent origin than the old gravel in the tributary valleys of the Rhone. That these statements militate against opinions, but a few years since held almost universally among us, cannot be denied. But theories of *diluvial gravel*, like all other ardent generalizations of an advancing science, must ever be regarded but as shifting hypotheses to be modified by every new fact, till at length they become accordant with all the phenomena of nature.

“ In retreating where we have advanced too far, there is neither compromise of dignity nor loss of strength; for in doing this, we partake but of the common fortune of every one who enters on a field of investigation like our own. All the noble generalizations of Cuvier, and all the beautiful discoveries of Buckland, as far as they are the results of fair induction, will ever remain unshaken by the progress of discovery. It is only to theoretical opinions that my remarks have any application.

“ Different formations of solid rock, however elevated and contorted, can never become entirely mixed together; and the very progress of degradation commonly lays bare all the elements of their structure. But diluvial gravel may be shot off from the flanks of a mountain chain, during one period of elevation, and become so confounded with the detritus of another period, that no power on earth can separate them: and every subsequent movement, whether produced by land-floods or any other similar cause, must continually tend still further to mingle and confound them. The study of diluvial gravel is, then, not only one of great interest, but of peculiar difficulty and nice discrimination: and in the very same deposit, we may find the remains of animals which have lived during different epochs in the history of the earth.

“ Bearing upon this difficult question, there is, I think, one great negative conclusion now incontestably established—that the vast masses of diluvial gravel, scattered almost over the surface of the