

tible, though difficult to define in words, are limited in fact. It is extremely interesting and satisfactory thus to receive an answer in which we can confide, to inquiries seemingly so wide and bold as those which this subject involves. I refer to Mr. Lyell, Dr. Prichard, Mr. Lawrence, and others, for the history of the discussion, and for the grounds of the decision; and I shall quote very briefly the main points and conclusions to which the inquiry has led.⁶

It may be considered, then, as determined by the over-balance of physiological authority, that there is a capacity in all species to accommodate themselves, to a certain extent, to a change of external circumstances; this extent varying greatly according to the species. There may thus arise changes of appearance or structure, and some of these changes are transmissible to the offspring: but the mutations thus superinduced are governed by constant laws, and confined within certain limits. Indefinite divergence from the original type is not possible: and the extreme limit of possible variation may usually be reached in a brief period of time: in short, *species have a real existence in nature*, and a transmutation from one to another does not exist.

Thus, for example, Cuvier remarks, that notwithstanding all the differences of size, appearance, and habits, which we find in the dogs of various races and countries, and though we have (in the Egyptian mummies) skeletons of this animal as it existed three thousand years ago, the relation of the bones to each other remains essentially the same; and, with all the varieties of their shape⁶ and size, there are characters which resist all the influences both of external nature, of human intercourse, and of time.

Sect. 4.—Hypothesis of Progressive Tendencies.

WITHIN certain limits, however, as we have said, external circumstances produce changes in the forms of organized beings. The causes of change, and the laws and limits of their effects, as they obtain in the existing state of the organic creation, are in the highest degree interesting. And, as has been already intimated, the knowledge thus obtained, has been applied with a view to explain the origin of the existing population of the world, and the succession of its past conditions. But those who have attempted such an explanation, have found it necessary to assume certain additional laws, in order to enable themselves to de-

⁶ Lyell, B. iii. c. iv.

⁶ *Ossem. Foss. Disc. Prél.* p. 61.