

metrical ratio, to the bulk of the species. If a dry season be gradually prolonged, the large mammal will suffer from the drought sooner than the small one: if such alteration of climate affect the quantity of vegetable food, the bulky herbivore will first feel the effects of stinted nourishment; if new enemies are introduced, the large and conspicuous quadruped or bird will fall a prey, while the smaller species conceal themselves and escape. Smaller animals are usually also more prolific than larger ones. "The actual presence, therefore, of small species of animals in countries where larger species of the same natural families formerly existed, is not the consequence of any gradual diminution of the size of such species, but is the result of circumstances which may be illustrated by the fable of the 'Oak and the Reed;' the smaller and feebler animals have bent and accommodated themselves to changes which have destroyed the larger species." No doubt the type-form of any species is that which is best adapted to the conditions under which such species at the time exists; and as long as those conditions remain unchanged, so long will the type remain; all varieties departing therefrom being in the same ratio less adapted to the environing conditions of existence. But, if those conditions change, then the variety of the species at an antecedent date and state of things will become the type-form of the species at a later date, and in an altered state of things. Observation of animals in a state of nature is required to show their degree of plasticity, or the extent to which varieties do arise: whereby grounds may be had for judging of the probability of the elastic ligaments and joint-structures of a feline foot, for example, being superinduced upon the more simple structure of the toe with the non retractile claw, according to the principle of a succession of varieties in time. Observation of fossil remains is also still needed to make known the ante-types, in which varieties, analogous to the observed ones in existing species, might have occurred, so as to give rise ultimately to such extreme forms as the Giraffe, for example. The aboriginal laws of the geographical distribution of plants and animals have been modified from of old by geological and the concomitant climatal changes; but they have been much more disturbed by man since his introduction upon the globe. The serviceable plants and animals which he has carried with him in his migrations have flourished and multiplied in lands the most remote from the habitats of the aboriginal species. Man has, also, been the most potent and intelligible cause of extirpation of species within historic times. He alone, with one of the beasts which he has domesticated—the dog—is cosmopolitan. The human species is represented by a few well-marked varieties; and there is a certain amount of correspondence between their localities and general zoological provinces. But, with regard to the alleged conformity between the geographical distribution of man and animals, which has of late been systematically enunciated, and made by Agassiz, in Gliddon & Nott's 'Varieties of Mankind,' the basis of deductions as to the origin and distinction of the human varieties: many facts might be cited, affecting the conformity of the distribution of man with that of the lower animals and plants, as absolutely enunciated in some recent works. Nor can we be surprised to find that the migratory instincts of the human species, with the peculiar endowment of adaptiveness to all climates, should have produced modifications in geographical distribution to which the lower forms of living nature have not been