

meadows, fields, dry lands, salt deserts, sandy deserts, moist land, forests, shady groves, sunny hills, low regions, plains, prairies, high table-lands, mountain peaks, or the frozen barrens of the Arctics, etc.; 3d, in their dependence upon this or that kind of food for their sustenance; 4th, in the duration of their life; 5th, in the mode of their association with one another, whether living in flocks, small companies, or isolated; 6th, in the period of their reproduction; 7th, in the changes they undergo during their growth, and the periodicity of these changes in their metamorphosis; 8th, in their association with other beings, which is more or less close, as it may only lead to a constant association in some, whilst in others it amounts to parasitism; 9th, specific characteristics are further exhibited in the size animals attain, in the proportions of their parts to one another, in their ornamentation, etc., and all the variations to which they are liable.

As soon as all the facts bearing upon these different points have been fully ascertained, there can remain no doubt respecting the natural limitation of species; and it is only the insatiable desire of describing new species from insufficient data which has led to the introduction in our systems of so many doubtful species, which add nothing to our real knowledge, and only go to swell the nomenclature of animals and plants already so intricate.

Assuming then, that species cannot always be identified at first sight, that it may require a long time and patient investigations to ascertain their natural limits; assuming further, that the features alluded to above are among the most prominent characteristics of species, we may say, that species are based upon well determined relations of individuals to the world around them, to their kindred, and upon the proportions and relations of their parts to one another, as well as upon their ornamentation. Well digested descriptions of species ought, therefore, to be comparative; they ought to assume the character of biographies, and attempt to trace the origin and follow the development of a species during its whole existence. Moreover, all the changes which species may undergo in course of time, especially under the fostering care of man, in the state of domesticity and cultivation, belong to the history of the species; even the anomalies and diseases to which they are subject, belong to their cycle, as well as their natural variations. Among some species, variation of color is frequent, others never change, some change periodically, others accidentally; some throw off certain ornamental appendages at regular times, the Deers their horns, some Birds the ornamental plumage they wear in the breeding season, etc. All this should be ascertained for each, and no species can be considered as well defined and satisfactorily characterized, the whole history of which is not completed to the extent alluded to above. The practice prevailing since Linnæus of limiting the characteristics of species to mere diagnoses, has led to the present confusion of our nomenclature, and made it often impossible to