

ent breeds of the same species are less inclined to mingle than individuals of the same breed. For my own part, I cannot conceive how moral philosophers, who urge the unity of origin of Man as one of the fundamental principles of their religion, can at the same time justify the necessity which it involves of a sexual intercourse between the nearest blood relations of that assumed first and unique human family, when such a connection is revolting even to the savage. Then again, there are innumerable species in which vast numbers of individuals are never developed sexually, others in which sexual individuals appear only now and then at remote intervals, while many intermediate generations are produced without any sexual connection, and others still which multiply more extensively by budding than by sexual generation. I need not again allude here to the phenomena of alternate generation, now so well known among *Acalephs* and *Worms*, nor to the polymorphism of many other types. Not to acknowledge the significance of such facts, would amount to the absurd pretension, that distinctions and definitions, introduced in our science during its infancy, are to be taken as standards for our appreciation of the phenomena in nature, instead of framing and remodelling our standards, according to the laws of nature, as our knowledge extends. It is, for instance, a specific character of the *Horse* and the *Ass* to be able to connect sexually with each other, and thus to produce an offspring different from that which they bring forth among themselves. It is characteristic of the *Mare*, as the representative of its species, to bring forth a *Mule* with the *Jackass*, and of the *Stallion* to procreate *Hinnies* with the *She-ass*. It is equally characteristic of them to produce still other kinds of halfbreeds with the *Zebra*, the *Daw*, etc. And yet in face of all these facts, which render sexual reproduction, or at least promiscuous intercourse among the representatives of the same species, so questionable a criterion of specific identity, there are still naturalists who would represent it as an unfailling test, only that they may sustain one single position, that all men are derived from one single pair.

These facts, with other facts which go to show more extensively every day the great probability of the independent origin of individuals of the same species in disconnected geographical areas, force us to remove from the philosophic definition of species the idea of a community of origin, and consequently, also, the idea of a necessary genealogical connection. The evidence that all animals have originated in large numbers is growing so strong, that the idea that every species existed in the beginning in single pairs, may be said to be given up almost entirely by naturalists. Now if this is the case, sexual derivation does not constitute a necessary specific character, even though sexual connection be the natural process of their reproduction and multiplication. If we are led to admit as the beginning of each species, the simultaneous origin of a large number of individuals, if the same