

shadowed by the latter. Whatever other causes, he says, have been at work, natural selection is supreme to an extent which even Darwin himself hesitated to claim for it.

There is thus a conflict of opinion among the authorities who have given probably the most thought to the consideration of this question. It may appear, therefore, to be both rash and presumptuous on my part to offer an opinion on this subject. I should, indeed, have been slow to do so had I not thought that there were some aspects of the question which seemed not to have been sufficiently considered in the discussion.

In the first place, I would, however, express my agreement with much that has been said by Prof. Weismann on the want of sufficient evidence to justify the statement that a mutilation which has affected a parent can be transmitted to the offspring. It is, I suppose, within the knowledge of most of us that children born of parents who have lost an eye, an arm, or a leg come into the world with the full complement of eyes and limbs. The mutilation of the parent has not affected the offspring; and one would, indeed, scarcely expect to find that such gross visible losses of parts as take place when a limb is removed by an accident or a surgical operation should be repeated in the offspring. But a similar remark is also applicable to such minor mutilations as scars, the transmission of which to the offspring, although it has been stoutly contended for by some, yet seems not to be supported by sufficiently definite instances.

I should search for illustrations of the transmission of somatogenic characters in the more subtle processes which affect living organisms, rather than in those which are produced by violence or accident. I shall take as examples certain facts which are well known to those engaged in the breeding of farm stock or of other animals that are of utility to or are specially cultivated by man.

I do not refer to the influence on the offspring of impressions made on the senses and nervous system of the mother, the first statement of the effects of which we find in the book of Genesis, where Jacob set peeled rods before the flocks in order to influence the color and markings of their young; though I may state that I have heard agriculturists relate instances from their own experience which they regarded as bearing out the view that impressions acting through the mother do influence her offspring. But I refer to what is an axiom with those who breed any particular kind of stock, that to keep the strain pure there must be no admixture with stock of another blood. For example, if a shorthorn cow has a calf by a Highland sire, that calf, of course, exhibits characters which are those of both its parents. But future calves which the same cow may have when their sires have been of the shorthorned blood may, in addition to shorthorn characters, have others which are not shorthorn but Highland. The most noteworthy instance of this transmission of characters acquired from one sire through the mother to her offspring by other sires is that given in the often-quoted experiment by a former Lord Morton. An Arabian mare in his possession produced a hybrid the sire of which was a quagga, and the young one was marked by zebra-like stripes. But