

observer Kölreuter, after showing how well the *Malvaceæ* are adapted for crossing, asks, "*an id aliquid in recessu habeat, quod hujuscemodi flores nunquam proprio suo pulvere, sed semper eo aliarum suæ speciei impregnentur, merito quæritur? Certe natura nil facit frustra.*" Although we may demur to Kölreuter's saying that nature does nothing in vain, seeing how many rudimentary and useless organs there are, yet undoubtedly the argument from the innumerable contrivances, which favour crossing, is of the greatest weight. The most important result of this law is that it leads to uniformity of character in the individuals of the same species. In the case of certain hermaphrodites, which probably intercross only at long intervals of time, and with unisexual animals inhabiting somewhat separated localities, which can only occasionally come into contact and pair, the greater vigour and fertility of the crossed offspring will ultimately tend to give uniformity of character. But when we go beyond the limits of the same species, free intercrossing is barred by the law of sterility.

In searching for facts which might throw light on the cause of the good effects from crossing, and of the evil effects from close interbreeding, we have seen that, on the one hand, it is a widely prevalent and ancient belief, that animals and plants profit from slight changes in their condition of life; and it would appear that the germ, in a somewhat analogous manner, is more effectually stimulated by the male element, when taken from a distinct individual, and therefore slightly modified in nature, than when taken from a male having the same identical constitution. On the other hand, numerous facts have been given, showing that when animals are first subjected to captivity, even in their native land, and although allowed much liberty, their reproductive functions are often greatly impaired or quite annulled. Some groups of animals are more affected than others, but with apparently capricious exceptions in every group. Some animals never or rarely couple under confinement; some couple freely, but never or rarely conceive. The secondary male characters, the maternal functions and instincts, are occasionally affected. With plants, when first subjected to cultivation, analogous facts