

## CHAPTER XV.

## ON CROSSING.

FREE INTERCROSSING OBLITERATES THE DIFFERENCES BETWEEN ALLIED BREEDS—WHEN THE NUMBERS OF TWO COMMINGLING BREEDS ARE UNEQUAL, ONE ABSORBS THE OTHER—THE RATE OF ABSORPTION DETERMINED BY PREPOTENCY OF TRANSMISSION, BY THE CONDITIONS OF LIFE, AND BY NATURAL SELECTION—ALL ORGANIC BEINGS OCCASIONALLY INTERCROSS; APPARENT EXCEPTIONS—ON CERTAIN CHARACTERS INCAPABLE OF FUSION; CHIEFLY OR EXCLUSIVELY THOSE WHICH HAVE SUDDENLY APPEARED IN THE INDIVIDUAL—ON THE MODIFICATION OF OLD RACES, AND THE FORMATION OF NEW RACES, BY CROSSING—SOME CROSSED RACES HAVE BREED TRUE FROM THEIR FIRST PRODUCTION—ON THE CROSSING OF DISTINCT SPECIES IN RELATION TO THE FORMATION OF DOMESTIC RACES.

IN the two previous chapters, when discussing reversion and prepotency, I was necessarily led to give many facts on crossing. In the present chapter I shall consider the part which crossing plays in two opposed directions,—firstly, in obliterating characters, and consequently in preventing the formation of new races; and secondly, in the modification of old races, or in the formation of new and intermediate races, by a combination of characters. I shall also show that certain characters are incapable of fusion.

The effects of free or uncontrolled breeding between the members of the same variety or of closely allied varieties are important; but are so obvious that they need not be discussed at much length. It is free intercrossing which chiefly gives uniformity, both under nature and under domestication, to the individuals of the same species or variety, when they live mingled together and are not exposed to any cause inducing excessive variability. The prevention of free crossing, and the intentional matching of individual animals, are the corner-stones of the breeder's art. No man in his senses would expect to improve or modify a breed in any particular manner, or keep an old breed true and distinct, unless he