

it might naturally be supposed that it would take several crosses to get rid of the heavy form of the bulldog; but Hysterics, the gr-gr-granddaughter of a bulldog, showed no trace whatever of this breed in external form. She and all of the same litter, however, were "remarkably deficient in stoutness, though fast as well as clever." I believe clever refers to skill in turning. Hysterics was put to a son of Bedlamite, "but the result of the fifth cross is not as yet, I believe, more satisfactory than that of the fourth." On the other hand, with sheep, Fleischmann¹³ shows how persistent the effects of a single cross may be: he says "that the original coarse sheep (of Germany) have 5500 fibres of wool on a square inch; grades of the third or fourth Merino cross produced about 8000, the twentieth cross 27,000, the perfect pure Merino blood 40,000 to 48,000." So that common German sheep crossed twenty times successively with Merino did not by any means acquire wool as fine as that of the pure breed. But in all cases, the rate of absorption will depend largely on the conditions of life being favourable to any particular character; and we may suspect that there would be a constant tendency to degeneration in the wool of Merinos under the climate of Germany, unless prevented by careful selection; and thus perhaps the foregoing remarkable case may be explained. The rate of absorption must also depend on the amount of distinguishable difference between the two forms which are crossed, and especially, as Gärtner insists, on prepotency of transmission in the one form over the other. We have seen in the last chapter that one of two French breeds of sheep yielded up its character, when crossed with Merinos, very much more slowly than the other; and the common German sheep referred to by Fleischmann may be in this respect analogous. In all cases there will be more or less liability to reversion during many subsequent generations, and it is this fact which has probably led authors to maintain that a score or more of generations are requisite for one race to absorb another. In considering the final result of the commingling of two or more breeds, we must not forget that

¹³ As quoted in the 'True Principles of Breeding,' by C. H. Macknight and Dr. H. Madden, 1865, p. 11.