

this similarity of type does not exist however, and where one parent has a preponderance of line breeding, the prepotency thus acquired will stamp the progeny with his or her characteristics in a marked degree. The transmissibility of disease, or of that tendency towards disease known as hereditary diathesis, frequently appears to evade this last clause of the law, as no amount of sound line breeding or individual soundness on one side seems to avail in preventing the perpetuation of congenital faults through the other parent, even when the latter is of very inferior pedigree. Apart from the question of disease, however, it may be accepted as a general rule that the straighter the pedigree of an animal the greater will be the prepotency exhibited in marking the progeny.

In-breeding, though by no means to be commended, was a great factor in the earlier days of scientific breeding in conferring the power of perpetuating a distinct type upon various families of both horses and cattle, although in such cases I have always been of the opinion that it partakes to some extent of the nature of the next phase of our subject with which we have to deal, viz., "Atavism" or "reversion," better known, perhaps, as "breeding back." "Throwing back," the bug-bear of the cross-breeder, has never been fully explained, although the researches and discoveries of Mendel have, of recent years, thrown a flood of light upon the subject. It is undoubtedly due to dominant ancestral influence but without a thorough and complete knowledge of the lineage direct and collateral of both sire and dam, it is, in most cases, practically impossible to account for its occurrence in line bred stock. Many apparent freaks and sports of nature are due to Atavism and it is the strongest possible argument in favor of pure bred sires and dams, as, in the case of such animals, the reversion, when it does occur, is to an ancestor of the same type and of, perhaps, as good individual quality as the more immediate progenitor, while in breeding from mongrels the chances are all the other way. In short-pedigreed stock also the tendency to throw back is very much stronger, owing to lack of the prepotency conferred by a long line of ancestors of similar type. This is very clearly shown in breeding to the so-called general purpose and agricultural stallions, many of them remarkably fine individuals, but seldom, even when bred to equally fine mares of similar short breeding, getting colts at all equal in any particular to either the sire or the dam, who doubtless obtained their excellence from one or more crosses with pure-bred stock. The stinting of cross-bred mares to cross-bred sires is, for this reason, the most rapid and effectual mode of deteriorating horse-flesh yet discovered, as the large number of shapeless, unsaleable plugs which disgrace this continent amply demonstrates. What intelligent breeder wishing to improve his herd of cattle, would use a grade bull, and yet what better right to public patronage has the grade stallion?

Climate is also responsible for many variations from the law of heredity; although, inasmuch as the change is more gradual and not much noticed in one generation, it does not attract the same attention as the more striking phenomenon of reversion. One finds, nevertheless, in almost every country, that the original or native horse has adapted himself to the conditions, geographical or topographical, peculiar to his surroundings. The Arab, at home in the sandy desert, wiry and spare as the scanty herbage which forms its food; the Icelandic pony, with his rough bone and wool-like fleece; the flint-footed, deer-legged, mountain ponies of Scotland and Wales; the ponderous wide-soled draught horses of the Low Countries; the active mustang of South and Central America, the hardy French-Canadian and the much-enduring Shagginappi are all living proofs of Dame Nature's wonderful power of adapting herself to circumstances.