

which is well known to breed very true and never to show any chesnut colour,—yet from this union the sow produced some young pigs which were plainly marked with the same chesnut tint as in the first litter. Similar cases have so frequently occurred, that careful breeders avoid putting a choice female of any animal to an inferior male, on account of the injury to her subsequent progeny which may be expected to follow.

Some physiologists have attempted to account for these remarkable results from a previous impregnation, by the imagination of the mother having been strongly affected; but it will hereafter be seen that there are very slight grounds for any such belief. Other physiologists attribute the result to the close attachment and freely intercommunicating blood-vessels between the modified embryo and mother. But the analogy from the action of foreign pollen on the ovarium, seed-coats, and other parts of the mother-plant, strongly supports the belief that with animals the male element acts directly on the female, and not through the crossed embryo. With birds there is no close connection between the embryo and mother; yet a careful observer, Dr. Chapuis, states¹⁵³ that with pigeons the influence of a first male sometimes makes itself perceived in the succeeding broods; but this statement requires confirmation.

Conclusion and Summary of the Chapter.—The facts given in the latter half of this chapter are well worthy of consideration, as they show us in how many extraordinary modes the union of one form with another may lead to the modification of the seminal offspring or of the buds, afterwards produced.

There is nothing surprising in the offspring of species or varieties crossed in the ordinary manner being modified; but the case of two plants within the same seed, which cohere and differ from each other, is curious. When a bud is formed after the cellular tissue of two species or two varieties have been united, and it partakes of the characters of both parents, the case is wonderful. But I need not here repeat what has been so lately said on this subject. We have

¹⁵³ 'Le Pigeon Voyageur Belge,' 1865, p. 59.