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Castration of hen-feathered Campines.By **THOMAS H. MORGAN.***[From Columbia University, New York City.]*

A few races of domestic fowls, such as the Campines, have two kinds of males, one showing the ordinary cock-feathering, and the other the so called hen-feathering. Three young Campines of a hen-feathered strain were castrated, one before the adult feathers had appeared, one when they had begun to appear, and a third that was like the last but exceptional in certain respects. This bird will not be considered here. Both of the former birds developed cock-feathering after castration. It is evident that removal of the testes in this race produces the same effects as is produced in the hen feathered Sebrights, as reported three years ago before this Society.

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The vermilion gene and gynandromorphism.By **A. H. STURTEVANT.***[From Columbia University and Carnegie Institution of Washington.]*

Morgan and Bridges (1919, Carnegie Inst. Wash. publ. 278) have recently described and discussed a large number of gynandromorphs of *Drosophila melanogaster*. They conclude that all female parts in gynandromorphs of this animal contain two X-chromosomes, and that all male parts contain only one X. The peculiarities of a given part are thus due to its own constitution, and are not dependent on the rest of the body for their differentiation. The same principle was found to hold for the characters determined by the sex-linked genes, which are carried by the X-chromosomes.

I have recently obtained evidence indicating that the sex-linked character vermilion forms an exception to this rule. A

gynandromorph was obtained in which the male parts showed the sex-linked characters scute, echinus, cut, garnet, and forked. These male parts included the whole head, in which region effects of all five of these sex-linked genes could be identified with certainty. Only one of these genes was present in the mother of the gynandromorph, which was heterozygous for the sex-linked genes eosin, ruby, forked, "vermilion lethal," and perhaps for vermilion. All five of them were known to be present in the single X of the father of the gynandromorph, which must therefore have been the X present in the male parts of the gynandromorph itself. But the X of the father was known to carry also the gene for vermilion, and the eyes of the gynandromorph were not vermilion. The not-vermilion color was, then, apparently determined not by the genetic constitution of the eye-pigment itself, but by that of some other portion of the body.

I have obtained two other gynandromorphs in which vermilion seems to have reacted in the same fashion; but these are not so certain as the case described. One of them can be accounted for by the rare type of "double-nucleus" gynandromorphism described by Morgan and Bridges, and in the other the eye-color, while not vermilion, was still not quite normal.

Among the large number of gynandromorphs described by Morgan and Bridges there are only three in which the male parts were known to be genetically vermilion while the female parts were not genetically vermilion, and in which these male parts included eye tissue. In all of them, however, eosin eye color was also present with the vermilion. Whether the eosin is responsible for the difference between these cases and the one reported here, or whether that difference is due to a difference in the genetic constitution of some other part of the body cannot be determined as yet.