

skull, has been modified in Polish fowls; in other breeds of the fowl the number of the vertebræ and the forms of the cervical vertebræ have been changed. In certain pigeons the shape of the lower jaw, the relative length of the tongue, the size of the nostrils and eyelids, the number and shape of the ribs, the form and size of the œsophagus, have all varied. In certain quadrupeds the length of the intestines has been much increased or diminished. With plants we see wonderful differences in the stones of various fruits. In the Cucurbitaceæ several highly important characters have varied, such as the sessile position of the stigmas on the ovarium, the position of the carpels, and the projection of the ovarium out of the receptacle. But it would be useless to run through the many facts given in the earlier chapters.

It is notorious how greatly the mental disposition, tastes, habits, consensual movements, loquacity or silence, and tone of voice have varied and been inherited in our domesticated animals. The dog offers the most striking instance of changed mental attributes, and these differences cannot be accounted for by descent from distinct wild types.

New characters may appear and old ones disappear at any stage of development, being inherited at a corresponding stage. We see this in the difference between the eggs, the down on the chickens and the first plumage of the various breeds of the fowl; and still more plainly in the differences between the caterpillars and cocoons of the various breeds of the silk-moth. These facts, simple as they appear, throw light on the differences between the larval and adult states of allied natural species, and on the whole great subject of embryology. New characters first appearing late in life are apt to become attached exclusively to that sex in which they first arose, or they may be developed in a much higher degree in this than in the other sex; or again, after having become attached to one sex, they may be transferred to the opposite sex. These facts, and more especially the circumstance that new characters seem to be particularly liable, from some unknown cause, to become attached to the male sex, have an important bearing on the acquirement of secondary sexual characters by animals in a state of nature.