

editor I disclaim. I beg, therefore, that you publish this letter in the next issue.

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[In view of this letter and of others that have been received it is to be regretted that the note in question was admitted, especially without the signature of the writer. Leading newspapers that have supported President McKinley, such as the *Philadelphia Ledger*, the *New York Evening Post* and the *Boston Transcript*, have characterized his action in the appointment of a Fish Commissioner as weak and illegal, and it was supposed that this point of view would be shared by all men of science, however fully they might in other respects support the present administration.—ED. SCIENCE.]

A CHARACTER REGULARLY ACQUIRED BUT NEVER INHERITED.

ONE cause of the conflicting testimony concerning the inheritance of acquired characters is the difficulty of deciding whether a new or abnormal structure appeared in the individual after birth through a somatogenic change, or whether it was due to a prenatal or blastogenic variation. Whatever value we may attach to the present case, it is certainly interesting and avoids any difficulty of this kind.

The sternum of heavy perching birds belonging to the order Gallinacei, which includes the domestic fowl, the turkey and their wild ancestors, as well as the grouse, has the well-known keel shape, and for some months after birth is semi-cartilaginous, and therefore soft and yielding. The keel is applied like a blunt knife edge to the hard perch. The transverse line of pressure caused by the weight of the body not supported by the legs soon produces a deformity which lasts for life. A cushion-shaped enlargement may be formed, or the keel may be bent or twisted in a variety of ways. Some such deformity is inevitable from the mechanical conditions present. Moreover, this has been taking place not merely for a few generations, but during the whole course of the

later evolution of these animals. At the end of each generation the individual variations thus acquired are completely effaced, and the young always begin life with the sternum normal.

The keel of the sternum in carinate birds has apparently arisen in correlation with the pectoral muscles concerned in flight, and if we assume that the variations which led to the keel were of a blastogenic character the inheritance of somatogenic changes which deform this structure could not at the same time have occurred. The keel has attained its present form, that of a thin vertical plate, in spite of those somatogenic changes in the life of the individual which tended to flatten and deform it.

No direct evidence that mutilations or deformities of a somatogenic nature are inherited has yet been obtained, and the theoretical improbability of such occurrences is very great. The fact that many animals preserve a characteristic form and symmetry from age to age, and even from one geological epoch to another, is evidence that somatogenic characters are not inherited and cannot be. It is well known that certain decapod Crustacea, such as some of the common crabs and the lobster, practice self-mutilation or autotomy. Here a special mechanism has been developed in the large cheliped by the action of which it is cut off in a certain way and at a definite place. When the large claw is seized by an enemy it is quickly amputated by the twitching of certain muscles stimulated by reflex nervous impulses, and a new limb in time grows out in place of the one cast off. The Lamarckian principle does not help us much in this case, nor in supposing that the germ cells in some mysterious way register every somatogenic change, even if this is not exactly reproduced in succeeding generations.

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THE THIRD INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY.

TO THE EDITOR OF SCIENCE: The organization committee of the Third International Congress of Applied Chemistry, which is to be held in Vienna during the coming summer, has fixed the date of the meeting from the 28th of July to August 2, 1898. Some time during the month of February programs and announcements will