All of the classes of invertebrates found fossil are described in more or less detail according to the prominence of the classes. These are taken up first in a general way to acquaint the student with the hard parts and the relation of the soft parts to them. The orders and suborders adopted are up to date and these are next concisely described, but no further classification is offered, nor are the genera, even the common genera, defined. The various groups are illustrated by a few well-selected forms and these are carefully described in the legend as to the source whence obtained, the name of the animal, locality and formation, order or family and the symbols referring to the detailed structures.

Most of the classes are adequately treated for an elementary work, but a few are handled too briefly to give a proper conception of their intricacy. For instance, the crinoids are described in nine pages and the horde of Camerata in one, the Hydrophorida or Cystidea proper in four, the starfishes and ophiurids each in three, and the varied and very important Paleozoic trilobites in six. American paleontologists will be also disappointed to see the Trepostomata Bryozoa still ranged among the tabulate corals.

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Light. By Richard C. Maclaurin, President of the Massachusetts Institute of Technology. New York, published by the Columbia University Press. 1909.

A popular exposition of selected topics, being the Jesup lectures delivered at the American Museum of Natural History during the winter of 1908–9. This book, while not comprehensive enough to serve as a text-book, will meet the requirements of those who wish to acquaint themselves with the experimental part of the work that has given us our modern theory of light. The subjects are treated in the following order: (1) Early Contributions to Optical Theory, (2) Color Vision and Color Photography, (3) Dispersion and Absorption, (4) Spectroscopy, (5) Polarization, (6) The Laws of Reflection and Refraction, (7) The Principle of Interference, (8) Crystals, (9) Diffraction, (10) Light and Electricity. The author's standing as a physicist is a sufficient guarantee that the book is free from errors, and the subject is treated in a very readable manner, free from mathematics and requiring little or no previous knowledge of the subject on the part of the reader. It brings the subject down to date, or as much so as can be expected in a popular treatment.

R. W. Wood

RECENT VIEWS OF L. CUENOT ON THE ORIGIN OF SPECIES BY MUTATION[1]

The results obtained in the study of variation from the point of view of its origin, of its morphological significance and of the integral transmission of mutations as opposed to fluctuations, could not but exert a profound influence on the hypotheses that have been brought forward to explain evolution. It is of particular interest to compare these results with the classic theories of Lamarck and Darwin. Primarily, these are attempts to account for the phenomena of adaptation: Lamarck invokes use and disuse, effort and habit, and considers their effects as directly adaptive and hereditary; thus he explains the evolution of organs necessary for life in certain surroundings and the regression of those that are useless under an animal's particular environmental conditions.

Darwin, while admitting the effects of use and disuse, emphasizes above all the selection of minute fluctuating variations, favorable in the struggle for existence, and thus he explains morphological changes and the final perfection of adaptation in an organ as the result of a slow and continuous progress.

To be sure, the sudden appearance of certain mutations, transmissible in their entirety, and the instability of fluctuating variations, are factors not at all in accord with Lamarck's attempted explanation, nor with that of Darwin; but perhaps there are no longer many

[1] Cuénot, L., 1908, "Les Idées Nouvelles sur l'Origine des Espèces par Mutation." Translated from *Rev. gén. Sci. pures et appliq.*, Ann. 19, no. 21, 15 nov., 1908.