This treatise is, in substance, a reproduction in considerably extended form of a series of lectures delivered by the author at the Colloquium held in connection with the summer meeting of the American Mathematical Society at Ithaca, N. Y., in August, 1901. It gives a detailed account of the typical and most important class of problems in the calculus of variations—in which an integral depending upon a plane curve and containing no higher but the first derivatives of the unknown functions is to be maximized or minimized—with special emphasis upon the progress of the theory during the last twenty-five years. The following topics are treated: (1) The older theory of the first and second variation from Euler to Jacobi, and the critical revision of its foundations and demonstrations by DuBois-Reymond, Scheeffer, Weierstrass and others. (2) Weierstrass's theory: the problem in parameter-representation, the fourth necessary condition; sufficient conditions. (3) Simplifications and extensions of Weierstrass's theory (especially by Kneser and Hilbert. (4) The so-called isoperimetric problems. (5) Hilbert's existence theorems.

The Study of Stellar Evolution: A Popular Account of Modern Methods of Astrophysical Research. By George Ellery Hale.

The purpose of this book is to tell how the origin, development, and decay of celestial bodies are studied in a modern observatory. The remarkable advances in astronomy during the second half of the nineteenth century, including the development of great telescopes, the introduction of the spectroscope, the many discoveries made with its aid and the results obtained through the use of photography, have given the study of stellar evolution a prominent place in the work of many observatories. The explanations of instruments and methods are accompanied by illustrations, and the most recent astronomical photographs obtained with the telescopes of the Yerkes Observatory are reproduced in a series of plates.

Glacial Studies in Greenland. By Thomas Chrowder Chamberlin.

This book will consist of a detailed description of about fifteen Greenland ice tongues, and of a portion of the main ice cap, dwelling especially upon the significant features, followed by a chapter on generalizations, a chapter on experiments, a chapter on theoretical deductions and a chapter on the applicability of the generalizations and deductions to the great ice invasions of the past.

Studies in General Physiology. In two Parts. By Jacques Loeb.

This work will contain some of the author's principal papers on the subjects of animal tropisms, heteromorphosis and artificial transformation of organs, artificial parthenogenesis, physiological effects of ions, the effects of lack of oxygen, function of cell nucleus, etc. These papers have appeared in scattered German periodicals or as separate publications in German, and many of them are now out of print or inaccessible.

DR. J. C. McCONNELL.

In the death of Dr. J. C. McConnell, anatomist of the Army Medical Museum, which occurred on July 25 at Liberty, N. Y., where he had gone for recuperation, more than one science has lost an efficient coadjutor. Apart from the profession of medicine and anatomy and their application to the duties of his office, Dr. McConnell utilized his leisure as a delineator of objects of natural history, especially shells and fossils, crania and bones. He had for nearly thirty-five years carried on this work, and it is certain that as a draughtsman in black and white line, for scientific purposes, he had no equal in this country, if in the world.

About his last important work was the completion of the drawings for the illustration of the still unpublished Miocene volume of the Maryland Geological Survey. Many thousand exquisite drawings had been prepared by him for the National Museum and various surveys, as well as the Army Medical Museum, in the course of his career. To those requiring such service his loss is nothing short of a calamity. In his personal relations Dr. McConnell was attractive and genial. His official associates as well as those who knew him chiefly as an artist, will sympathetically join in the regrets of his bereaved family.