

ments. One finds in it an intense national life and, at the same time, many interesting evidences of the influence of several different civilizations. Eleven different languages are officially recognized by being printed upon the paper money.

O. H. TITTMANN,
JOHN F. HAYFORD.

SCIENTIFIC BOOKS.

Mars and its Mystery. By EDWARD L. MORSE.
Boston, Little, Brown and Company. 8vo.
Pp. 192.

This book is distinctly a plea for the existence of intelligent inhabitants upon our sister planet, the argument being based largely on the observations of Professor Lowell at Flagstaff, Arizona. The author begins by pointing out that because a man is an astronomer, this fact by no means qualifies him to act as a judge upon a question of this sort. It is doubtless true that astronomers as a rule know little of the appearance of the surface of Mars, and but few of them have ever seen it under favorable conditions. Nevertheless, it must be admitted that a man who is familiar with the difficulties of telescopic observations, under varying atmospheric conditions, would be a better judge of the value of telescopic evidence than one who had never looked through a telescope, and took it for granted that the planet looked exactly as it is drawn on paper.

A large part of the book is devoted to an examination of the views of various astronomers and amateurs as to the interpretation of the various markings seen upon the planet's surface. The book is marred in one or two places by a rather savage personal attack upon a British astronomer in good standing, partly, apparently, on account of his religious convictions! Considerable attention is paid to the appearance of various systems of natural cracks, such as appear in pottery, dried mud, and the surface of the moon. Two interesting plates are given, in which these are compared with maps of railway systems, canals, and the markings upon Mars. The argument is drawn that the last look, and are distributed,

much more like the artificial than like the natural lines. Whether such is the case or not, the critic will be likely to ask "But would the markings on Mars, if we could see them well, really resemble the drawings that Professor Morse publishes of them?" This is the very *crux* of the whole question, and until this has been definitely decided, most astronomers will consider the existence there of intelligent inhabitants as unproved, although perhaps not impossible.

The main and generally accepted facts relating to the planet's surface are briefly stated, and are followed by an interesting and rather amusing account of the author's own difficulties in seeing even the well-known and most clearly defined markings of the planet. He certainly had much more difficulty than would have been expected, considering the careful training of his eye in his own professional work.

One of the most interesting chapters of the book is that devoted to the discussion of the variety of conditions under which life exists upon the earth. Here our author is more nearly on his own ground, and states a number of interesting facts, many of which it is safe to say will be new to the majority of his readers. From them he argues that the slightly dissimilar physical conditions that exist upon Mars would not interfere with the existence there of life in some of its various forms, such as we know it upon the earth.

In closing, it may be said that the book is interesting, and well worth reading to all those who wish to learn the opinions of various authorities on the most fascinating of all the planets.

WILLIAM H. PICKERING.

HARVARD COLLEGE OBSERVATORY.

First Course in Zoology. A text-book for secondary schools, normal schools and colleges. By THOMAS WALTON GALLOWAY, Ph.D., Professor of Biology in James Millikin University. P. Blakiston's Son and Company.

This book adds another to the list of textbooks in zoology, of an elementary nature, which have appeared within the past half dozen years, and is indicative of the growth