

a true man, was sent to the scaffold by the Parisian mob, led by bigoted 'liberals' and atheists, with the sneer that the Republic had no need of *savants*. As to Priestley, who had devoted his life to science and to every good work among his fellow men, the Birmingham mob, favored by the Anglican clergymen who harangued them as 'fellow-churchmen,' wrecked his house, destroyed his library, philosophical instruments, and papers containing the results of long years of scientific research, drove him into exile, and would have murdered him if they could have laid their hands upon him."

With this quotation our notice of Dr. White's scholarly and fruitful work may appropriately come to a close. Let us only add that the first martyr to truth was the victim of a mob who hated to hear his teaching. The martyrdom of Socrates occurred four hundred years before the appearance of that unique personality who is the central figure of the dogmatic theology of Christendom.

J. G. SCHURMAN.

CORNELL UNIVERSITY.

*Navigation and Nautical Astronomy.* By F. C. STEBBING, M. A., Chaplain and Naval Instructor, R. N. Macmillan & Co., London and New York. 1896. 1 vol., 8vo, 328 pp. Price, \$2.75.

This volume contains a complete course in all the necessary subjects of modern navigation. It may be recommended to those who have to acquire a knowledge of the theory and practice of the calculations that are required in the navigation of ships. By incorporating the necessary part of the Nautical Almanac for 1895 and referring the examples which are to be worked out to the data there tabulated, the author has overcome, in an original and effective manner, one of the chief obstacles which students of astronomical navigation universally experience in gaining a knowledge of the intelligent use of the data contained in the Almanac.

The book is also to be commended for the large number of useful examples and problems which accompany each division of the subject.

Where necessary, the methods are modernized so as to treat, for change of geographical

position during the period of observation, the observations that may be made on board the swift moving vessels of the present day.

It has probably been overlooked that the directions given on page 54 for measuring the distance between two points on a Mercator chart will not generally apply. "The distance is found (nearly) by transferring the interval between the two positions to the graduated meridian, as nearly as possible opposite to the positions, *i. e.*, as much below the more southern as above the more northern; this space turned into minutes is the distance required." This method fails in most cases in which the line to be measured lies far from the middle of the chart, because when the interval is transferred to the graduated meridian one end or the other is likely to fall outside of the border.

Mention is not made of the generally applicable method of taking a small number of divisions of the graduated meridian, near the middle latitude of the line to be measured, between the points of a pair of dividers, and stepping this interval along the line to be measured.

In definition No. 8 it is stated that "A nautical mile is equal to the mean length of a minute of latitude, and is reckoned as 6080 feet." The actual mean length of a minute of latitude of the terrestrial spheroid computed upon the elements of the spheroid assigned by Bessel is 6076.23 feet, and upon the later and more perfect values assigned by Clarke, 6076.82 feet. The length of the nautical mile, or Admiralty knot, which is 6080 feet, corresponds more nearly to one-sixtieth part of the length of a degree of a great circle of a sphere whose surface is equal in area to the surface of the earth. This length is 6080.27 feet.

G. W. LITTLEHALES.

*A-Birding on a Bronco.* By FLORENCE A. MERIAM. Houghton Mifflin & Co., Boston and New York. 16°, illustrated. Price, \$1.25.

This volume is the result of the studies of two seasons in southern California. About sixty species of birds are spoken of, and with many we become quite well acquainted as we watch their nesting ways through the eyes of the sympathetic bird lover. It has also the novel feature of studying birds, not only with an opera