

## PREFACE

TO THE FOURTH EDITION.

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THE favor with which this work has been received by the public has led the author and publishers to give it a fourth revision, in order to include the latest results of astronomical research. The subjects which were added in the third edition comprised Dr. Draper's investigations on the existence of oxygen in the sun; Janssen's new method of photographing the sun; the conclusions from recent total eclipses; the preliminary results of the British observations of the late transit of Venus, as well as of other methods of determining the solar parallax; the discovery of the satellites of Mars; the results of recent investigations into the motion of the moon, and Professor Watson's observations of supposed intramercorial planets. The principal additions to the present edition relate to the great telescopes completed within the last three years, the transit of Venus of December 8th, 1882, and recent developments in cometary astronomy. The intention has been to bring it up to date in all important points, and it is now hoped that the general reader will find in it the fullest practicable explanation of every branch of the subject which can interest him.