

deep and solemn, startlingly distinct, "There is a God." Each star that shines points directly to its Creator, and avows "I came not here by chance," and we, while discovering the laws of nature, must discover the Law-giver, and vainly endeavoring to comprehend immensity, filled with awe, prostrate before the Ruler of all things, are forced to exclaim, "What is man that Thou art mindful of him, or the son of man that Thou visitest him?" Then let us, as we read His glory in the heavens, bow before Him in humble adoration.

The study of our own system alone is magnificent, and merits endless research; but what shall we say of the vast field beyond? When we consider that our system is but a speck in the great universe, that it forms a part of some other system and revolves around another centre, and that system is but the part of some other, and this goes on, and on, and on, we are lost in the infinite, and conscious only of our own weakness and littleness, prostrate ourselves before the "King eternal, immortal, and invisible," at whose command these lights shone forth, for God said, "Let there be lights in the firmament of the heaven to divide the day from the night, and let them be for lights in the firmament of the heaven to give light upon the earth, and it was so."

How small seem all our discoveries when compared with the vast unknown! But yet how grand and glorious they are! They have not been made without serious opposition, great courage, and strenuous exertion. Many and strong were the efforts put forth in order to check the progress of astronomy. Many astronomers have had to endure persecution for the science they loved, or to battle with the discouraging influences of fortune. The Pope attacked Copernicus for daring to trouble the world with his theories, for daring to question the truth of old doctrines, and for daring to discover other laws. Public opinion ran high against him; but the result of the researches of Nicolaus Copernicus still lives, and we reap the reward of his labors.

The Inquisition forced Galileo to deny his own statements. But Jesuit priests, the thumb screw and the rack were totally insufficient to destroy the records he gave the world.

Johann Kepler, one of Europe's honored names, was left, when but a child, to struggle with poverty. But he was destined to electrify the scientific world, and a kind and watchful Providence overruled all adverse circumstances, preserving him as a light to subsequent ages, and Kepler was admitted to the Convent of Mollrun where, undisturbed and unallured by the world, he quietly gave himself to study, acquiring that habit of application, and industry, and love for those sciences which afterward became his life work, and for which he is so justly celebrated. His intimacy with Tycho Brahe, "that timid and careful old man," had a great influence upon him, soothing and directing his fiery enthusiasm. While searching after harmony in the universe, he discovered three grand principles, known to us as Kepler's laws, and earned for himself immortal fame.

Towards the close of the sixteenth century the fall of an apple revealed to Newton the law of the "attraction of gravitation." He opened the seventeenth by proclaiming this with other grand results of his toil and researches, and as he dies, who was "but a child picking up pebbles upon the sea shore," others take his place till Herschell gloriously closes the century Newton had as gloriously begun; and Laplace opens the eighteenth by suggesting the nebular hypothesis, and writing "*Mecanique Celeste*," and *si* *com*ments which, as astronomical works, are second only to Newton's "*Principia*."

During the nineteenth much has been done; old theories have been corrected or more firmly established, and new ones propounded; several planets added to the system, and the telescope perfected. But greater things yet remain to be accomplished, and ere the year nineteen hundred comes, this progressive system of ours shall have left a noble record in the history of astronomy.

But not to astronomers ought this subject to be confined. There is no reason why every one should not be conversant with the names and positions of the planets and constellations, their paths in the heavens, and many other things which are to be learned without a telescope. Nor will it, while granting a new and higher enjoyment than any known before, unfit a man for practical life. Socrates once said, "The com-