

GALILEO AND HIS JUDGES

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Galileo and his judges by F. R. Wegg-Prosser

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F. R. WEGG-PROSSER

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BY

F. R. WEGG-PROSSER.

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PREFACE.

THERE is no name in the annals of science which has been the occasion of so long and fierce a controversy as that of Galileo. The historian, the astronomer, and the theologian have all had a share in it. Sometimes there has been a pause in the strife, and the question has been allowed to rest; but after a while another disputant has rekindled the embers, and the struggle has recommenced. This has been the case within the last few years, some writers of considerable ability having appealed to the history of Galileo in order to give point to opinions that they wished to advance. During all this time, if there has been unfairness on one side, there have been injudicious zeal and inaccuracy on the other.

These circumstances must form my apology for interfering in a dispute already so prolonged and so envenomed; and it has appeared to me that I may without presumption hope to amend the errors

to which I have just alluded, if in no other way, at least by stating correctly the facts of the case. I do not, however, undertake to write a full biography of the great philosopher, or to give a detailed account of his numerous contributions to the scientific literature of his day ; I confine myself principally to those great crises in his life which have given rise to so much discussion, and which have chiefly contributed to make him a name in history.

GALILEO AND HIS JUDGES.

CHAPTER I.

BEFORE entering on any details relating to Galileo's life and works, I propose to give a brief sketch of the progress of astronomical knowledge up to his time; for without this, one cannot appreciate correctly the value of his contributions to science, a value exaggerated or underrated by different writers, each according to his respective bias.

The primitive conception of the Earth as a vast plain with the ocean flowing round it, and the solid firmament in the sky above it, with the Sun, Moon, and Stars driven across by some mysterious agency, need not be noticed from an astronomical point of view; it appeared naturally in ancient poetry and in the forms of speech adopted and continued by popular usage; but it is not necessary to dwell upon it.

The first astronomers with whom we are acquainted were the Greeks, though it is said by some writers that the Chaldeans and Egyptians were really the original astronomers of the ancient world, and what the Greeks knew was borrowed from them.

The vast majority of men from the earliest times down to the birth of Galileo believed that the Earth was the centre of the universe, round which the Sun, Moon, and Stars revolved every twenty-four hours; round which, also (as careful observers had perceived), the Sun had an annual motion, progressing through the various signs of the zodiac; moreover, it had been noticed that the planets moved round the Earth, though at widely differing periods.

Yet there had been some few men, exceptionally gifted, who had guessed (and truly so) that the popular conception was a wrong one. It is said that the old Greek philosopher, Pythagoras, taught his disciples that the Sun was the real centre of our system, and that the Earth and planets circulated round it; but he does not seem to have openly and explicitly published his doctrine, though the tradition of his having so taught has always existed. If he taught it, however, he stands almost alone among the ancients. There were two great authorities in particular, whose opinion carried immense weight, and who were both decided in holding that the Earth was the centre, and the Sun a revolving planet. The first of these, Aristotle, has exercised an influence over succeeding generations which is simply marvellous. How vast was the weight of his name as a philosopher in the age of the schoolmen is well known to every one who has ever glanced at the greatest work of the greatest intellect of that age, the "Summa" of

St. Thomas Aquinas. This celebrated writer quotes him as "philosophus," in his opinion *the philosopher par excellence*, and besides his general appreciation of him as thus shown, he wrote an elaborate treatise on the "Astronomy" of Aristotle.

Nor has this influence been confined to the schoolmen; it has remained ever since, even to this day and in this country, where in the University of Oxford his great work on ethics is still a standard book of study. At the time of Galileo, such was the reverence felt towards his authority in Italy and in Rome, that the Peripatetici, as those who specially belonged to his school were called, were probably quite as indignant with the revolutionary astronomer for disregarding the teaching of their philosopher, as for going counter to the literal interpretation of Scripture.

But in pure astronomy, apart from all other philosophy, the greatest of all ancient writers was Ptolemy, who in the second century of the Christian era wrote a work called the "Almagest," which is a complete compendium of the science as known at that date. Ptolemy probably borrowed very much from his great predecessor, Hipparchus, who has been called the father of astronomy, and who was the first to discover—to take a remarkable instance—the phenomenon known as the precession of the equinoxes, involving as it does the difference in length between the solar and sidereal years. The system of Ptolemy was briefly this: The heavens and the Earth are both spherical in form—the Earth being immovable in