

not necessarily either be true or even probable." These singular words certainly do occur in the anonymous preface\* attached to the work of Copernicus, and inscribed *De Hypothesibus hujus Operis*, but they are quite contrary to the opinions expressed by Copernicus, and in direct contradiction with his dedication to Pope Paul III. The author of these prefatory remarks was, as Gassendi most expressly says, in his Life of the great astronomer, a mathematician then living at Nuremberg, and named Andreas Osiander, who, together with Scho-

\* "Neque enim necesse est, eas hypotheses esse veras, imo ne verisimiles quidem, sed sufficit hoc unum, si calculum observationibus congruentem exhibeant," says the preface of Osiander. "The Bishop of Culm, Tidemann Gise, a native of Dantzic, who had for years urged Copernicus to publish his work, at last received the manuscript, with the permission of having it printed fully in accordance with his own free pleasure. He sent it first to Rhæticus, professor at Wittenberg, who had, until recently, been living for a long time with his teacher at Frauenburg. Rhæticus considered Nuremberg as the most suitable place for its publication, and intrusted the superintendence of the printing to Professor Schoner and to Andreas Osiander." (Gassendi, *Vita Copernici*, p. 319.) The expressions of praise pronounced on the work at the close of the preface might be sufficient to show, without the express testimony of Gassendi, that the preface was by another hand. Osiander has used an expression on the title of the first edition (that of Nuremberg, 1543) which is always carefully avoided in all the writings of Copernicus, "motus stellarum novis insuper ac admirabilibus hypothesis ornat," together with the very ungentle addition, "Igitur studioso lector, eme, lege, frueri." In the second Basle edition of 1566 which I have very carefully compared with the first Nuremberg edition, there is no longer any reference in the title of the book to the "admirable hypothesis;" but Osiander's *Præfatiuncula de Hypothesibus hujus Operis*, as Gassendi calls the intercalated preface, is preserved. That Osiander, without naming himself, meant to show that the *Præfatiuncula* was by a different hand from the work itself, appears very evident, from the circumstance of his designating the dedication to Paul III. as the *Præfatio Authoris*." The first edition has only 196 leaves; the second 213, on account of the *Narratio Prima* of the astronomer George Joachim Rhæticus, and a letter addressed to Schoner, which, as I have remarked in the text, was printed in 1541 by the intervention of the mathematician Gassarus of Basle, and gave to the learned world the first accurate knowledge of the Copernican system. Rhæticus had resigned his professional chair at Wittenberg, in order that he might enjoy the instructions of Copernicus at Frauenburg itself. (Compare, on these subjects, Gassendi, p. 310-319.) The explanation of what Osiander was induced to add from timidity is given by Gassendi: "Andreas porro Osiander fuit, qui non modo operarum inspector (the superintendent of the printing) fuit, sed Præfatiunculam quoque ad lectorem (tacito licet nomine) de Hypothesibus operis adhibuit. Ejus in ea consilium fuit, ut, tametsi Copernicus Motum Terræ habuisset, non solum pro Hypothesi, sed pro vero etiam placito, ipse tamen ad rem, ob illos, qui hinc offenderentur, leniendam, excusatum eum faceret, quasi talem motum non pro dogmate, sed pro Hypothesi mera assumpsisset."