Osiander's Anonymous Introduction to Copernicus' De revolutionibus

To the Reader Concerning the Hypotheses of this Work

OW since the novelty of the hypotheses set forth in this work have become widely known—for it places the earth in motion and the sun immobile at the center of the universe—I have no doubt that some scholars will have taken great offense and think that it is wrong to churn up the rightly time-honored liberal arts. Yet, if they judge the matter carefully, they will find that the author of this work has done nothing blameworthy. For it is the duty of an astronomer to record the motions of the heavens with diligent and skillful observations, and then he has to propose their causes or, rather, hypotheses, since he cannot hope to attain the true reasons. But from whatever assumptions he adopts, the motions can be correctly calculated from the principles of geometry for the past as well as the future.

Our author has done both of these very well. For it is not necessary for the hypotheses to be true, nor even probable; it is sufficient if the calculations agree with the observations. Is there by chance someone so ignorant of geometry and optics that he takes the epicycle of Venus as real and believes this is the reason that Venus sometimes precedes and sometimes follows the sun by forty degrees or more? For who doesn't see that from this assumption the diameter of the planet would be four times larger, and its body sixteen times larger, at perigee than at apogee, which disagrees with the experience of all ages. And there are other things no less absurd in this discipline, which we needn't mention here. For it is clear enough that this study is thoroughly and plainly ignorant of the causes of the apparent nonuniform motions. And if this study devises some contrivances—and there have surely been many—they do not so much persuade anyone but rather, they provide the basis for a correct calculation. Since, then, for one and the same motion various hypotheses have been offered (such as an epicycle or an eccentric for the motion of the sun), whereas a philosopher will look for some semblance of truth, an astronomer will simply take the one that is easiest to use; but neither of them learn or teach anything certain unless it has been divinely revealed to him.

Therefore, we must allow these new hypotheses to take their place among the old ones—which are no more probable—especially since they are admirable and easy, and since they bring with them a vast treasury of very learned observations. But, as far as hypotheses are concerned, let no one expect anything certain from astronomy, which cannot provide it, lest he take as true something constructed for another purpose, and leave this discipline a greater fool than when he entered. Farewell.

Translation by Owen Gingerich, 1994