appears doubtful whether he clearly distinguished Refraction and Reflection.

In order that we may not attach too much value to the vague expressions of Cleomedes and Sextus Empiricus, we may remark that Cleomedes conceives such an eclipse as he describes not to be possible, though he offers an explanation of it if it be: (the fact must really occur whenever the moon is seen in the horizon in the middle of an eclipse :) and that Sextus Empiricus gives his suggestion of the effect of refraction as an argument why the Chaldean astrology cannot be true, since the constellation which appears to be rising at the moment of a birth is not the one which is truly rising. The Chaldeans might have answered, says Delambre, that the star begins to shed its influence, not when it is really in the horizon, but when its light is seen. (Ast. Anc. vol. i. p. 231, and vol. ii. p. 548.)

It has been said that Vitellio, or Vitello, whom we shall hereafter have to speak of in the history of Optics, took his Tables of Refractions from Ptolemy. This is contrary to what Delambre states. He says that Vitello may be accused of plagiarism from Alhazen, and that Alhazen did not borrow his Tables from Ptolemy. Roger Bacon had said (Opus Majus, p. 288), "Ptolemæus in libro de Opticis, id est, de Aspectibus, seu in Perspectivå suå, qui prius quam Alhazen dedit hanc sententiam, quam a Ptolemæo acceptam Alhazen exposuit." This refers only to the opinion that visual rays proceed from the eye. But this also is erroneous; for Alhazen maintains the contrary: "Visio fit radiis a visibili extrinsecus ad visum manantibus." (Opt. Lib. i. cap. 5.) Vitello says of his Table of Refractions, "Acceptis instrumentaliter, prout potuimus propinquius, angulis omnium refractionum . . . invenimus quod semper iidem sunt auguli refractionum : . . . secundum hoc fecimus has tabulas." "Having measured, by means of instruments, as exactly as we could, the whole rauge of the angles of refraction, we found that the refraction is always the same for the same angle; and hence we have constructed these Tables."