

Fermat to Mersenne

(Excerpt)

February, 1638

MY REVEREND FATHER,

1. I have learned by your letter that my reply to M. Descartes was not much appreciated,¹ as indeed he said of my methods *de maximis et minimis et de tangentibus*,² in which however he found MM. de Pascal and de Roberval to be of the contrary view. Of these two things, the former did not surprise me, inasmuch as physical matters can always give us doubts and foster disputes; but I am surprised at the latter, since it is a geometric truth, and I maintain that my methods are just as certain as the construction of the first proposition of the *Elements*.³ Perhaps having them put forward naked and without demonstration, they were not understood or they appeared too simple to M. Descartes, who has made so much headway and has taken such a difficult path for these tangents in his *Geometry*.

2. Whatever the case, I do not pride myself in being believed only by those who wish to do so, and swear to you that I would rather declare myself to:

Jamjam efficaci do manus scientiæ,⁴

than to allow anything of what I have sent you to be printed under my name, which I beg you to prevent from happening by the ascendancy that you ex-

¹The editors of the *Works of Fermat* maintain that Descartes had not yet seen the reply, and that Mersenne had actually gotten the reactions of other people in Paris to the letter of Fermat.

²See the first section of Fermat's maximum-minimum paper published on *wlym.com*.

³"The first thing" refers to the discussion of light, and the second is the method of maxima and minima.

⁴"Right away give a useful hand to science," Horace, *Epodes*, XVII, 1

ercise over all these gentlemen who are involved in this study. I will not send you anything else for M. Descartes, since he imposes such harsh regulations on innocent discussions, and it makes me happy to tell you that I have yet to find anyone here who is not of my opinion – that his *Dioptrics* has not been proven. I would only like to know whether people in Paris think that he has given an exact demonstration of the foundations and the principles of refraction, and in particular, if you would be so kind as to tell me the thoughts of M. Mydorge on this subject, and also those of M. Desargues.

The remaining five points of the letter do not deal with refraction, and have not yet been translated.