

Euler to Wettstein
Berlin, 31 October 1758
Letter 300 (2801)

[...] In order to reply to your very kind letter of the 18 August that you so willingly sent to me, I had thought to wait until the arrival of the tobacco and the volumes of the Transactions that you had the kindness to send to me on 12 July and that I only received three days ago. However, I only wished to wait for more favorable circumstances, because of the unfortunate setbacks that we have just experienced in Hesse and Saxony have so dulled my spirit that I have nearly been unable to correspond. It is a weakness on my part to lose courage and to see our enemies double their efforts in an attempt to totally destroy us. Even though I must admit that divine providence intercedes in all events and as it delivered us last year from more damaging situations, I should deliver myself entirely to its wise direction for the future and know that it will direct us to our true happiness. That God should strengthen me in this knowledge. Because everyone who denies providential intervention and imagines that all worldly events occur by chance without subjection to any higher direction must be absolutely desperate concerning their salvation. We had fooled ourselves that the Turks would provide a strong diversionary tactic in our favor, however we have not seen how the Russians or the Austrians have been troubled in their situation and to the contrary the former are to deploy all of their forces against us having the latter troops to fall onto us. We have also just learned that a Dutch ship has just arrived in Danzig filled with money for the Russians, which was undoubtedly sent by the French. It would have been a fine capture for some English captain. Under these circumstances Mr. Keith must cut a very unhappy figure in St. Petersburg,

seeing that this court has completely given itself to French intrigues and that she opposes any English interests.

I have not yet had the honor to tell you that I have received the 100 ecus that you have sent to me to take care of your account of which 6 ecus and 7 ½ gros. are still outstanding and that you can send it next year with a provision of tobacco. I have also received the two volumes of the Ventilator of Dr. Hales for which I am much obliged and I wish for you to give him my warmest regards. Also a pound of *Genesta spinosa* seeds were given to me and obviously come from our distinguished colleague Mr. Collinson. The war troubles have also slowed down the printing of the genealogical almanacs which will only be finished next week, and then I will immediately send the copies that you requested through Hamburg. According to letters sent to us from Basel by our president Mr. de Maupertuis I understand that he has decided to spend the winter there. Mr. Huber has gotten married, but Mr. Dietrich from who I received some letters has not yet established himself nor gotten married. I have provided my advice to the widow of the late Mr. Dietrich so as to place her in a position to continue to manufacture artificial magnets., besides this I have not been able to achieve anything in these present circumstances and I am particularly embarrassed to still have the inclining machine with me and I kindly request that you do not burden me with the one that you have. I was very surprised by the objections voiced by Mr. Bradley against this instrument, I admit that it requires a great deal of perfecting, and that it cannot find the exact inclination in its current state, however we are assured of its exactness to within a half a degree, it also appears to me that this is something that could be done at sea albeit in the calm and that during heavy seas it would be out of the question to make any observations. Now that we are able to compare this instrument with those that we have used until now which cause an error of several degrees, but we are obliged to recognize that it deserves consideration and that 6 guineas is a small amount to pay for it and that there should be other craftsmen willing to perfect it.

I am much obliged that you have told me of Mr. Dolland's new discoveries on the perfection of glasses by understanding the complex refraction of the rays, and I am even more satisfied that Mr. Dolland understands the correctness of my theory which he has heretofore criticized. It is without a doubt that based on my principles that he has based the construction of lenses composed of two materials endowed with different degrees of refraction. However since mine are composed of glass and water and are only defective insofar as that they have a very small aperture and that his will also suffer from the same defect, but if his glasses are good, it will be due to the fact that he has found a way to make a more homogeneous glass, which in comparison to the majority of the glass that we have used to date is homogenous as what concerns the refraction, which is what I have most distinctly noted in the experiments that I conducted conforming to my new ideas and where I had fairly good results.

After having read through the last volumes of the Transactions, I had found some papers on the changes in the obliquity of the ecliptic and the variation in the latitude of fixed stars and I find that I treated this subject quite completely in the paper for which I received the award from the Paris Academy, and one for which I have given a précis in Volume X of our Memoirs, and one to which I was surprised that the author made no mention.

As always I pass on a thousand regards from Baron de Gorgier and the rest of our compatriots, and I with all my family recommend us to your gentle graces and to those of your wife by presenting our most humble compliments of which I have the honor of being with all possible affection [...]

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