



1752

Part of a Letter from Leonard Euler, Prof. Math. at Berlin, and F.R.S., to the Rev. Mr. Caspar Wetstein, Chaplain to his Royal Highness the Prince of Wales, concerning the gradual approach of the Earth to the Sun

Leonhard Euler

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I send herewith a Plan of the Camp in its present Condition, [TAB. I. *Fig. 1.*] that my Description may the better be understood; and I send along with it the Appearance of a particular kind of Halo, which was observ'd at *Norwich*, on the 11th of *July* last, at 5 o'Clock in the Evening; the Colours were exceeding vivid, and the Centre of it, contrary to what I ever yet saw, was not in the Sun, but in the Zenith.

The Sun's Rays shone through the Clouds at the same time, as they frequently do when the Sun is near the Horizon. In short, the Drawing [TAB. I. *Fig. 2.*] which represents the Whole, makes any farther Description of it needless; and I shall only add, that I am,

Dear Sir,

Your most humble Servant,

Norwich, Aug. 28.
1749.

William Arderon.

III. *Part of a Letter from Leonard Euler, Prof. Math. at Berlin, and F. R. S. To the Rev. Mr. Caspar Wetstein, Chaplain to his Royal Highness the Prince of Wales, concerning the gradual Approach of the Earth to the Sun. Translated from the French, by S. T. M. D. F. R. S.*

Berlin, June 28. 1749.

Read Nov. 2.
1749.

Monsieur le Mounier writes to me, that there is, at *Leyden*, an *Arabic* Manuscript of *Ibn jounis* (if I am not mistaken

in the Name, for it is not distinctly wrote in the Letter), which contains a History of Astronomical Observations. *M. le Monnier* says, That he insisted strongly on publishing a good Translation of that Book. And as such a Work would contribute much to the Improvement of Astronomy, I shou'd be glad to see it publish'd. I am very impatient to see such a Work which contains Observations, that are not so old as those recorded by *Ptolemy*. For having carefully examined the modern Observations of the Sun with those of some Centuries past, although I have not gone farther back than the fifteenth Century, in which I have found *Walker's* Observations made at *Nuremberg*; yet I have observed that the Motion of the Sun (or of the Earth) is sensibly accelerated since that Time; so that the Years are shorter at present than formerly: The Reason of which is very natural; for if the Earth, in its Motion, suffers some little Resistance (which cannot be doubted, since the Space through which the Planets move, is necessarily full of some subtile Matter, were it no other than that of Light) the Effect of this Resistance will gradually bring the Planets nearer and nearer the Sun; and as their Orbits thereby become less, their periodical Times will also be diminish'd. Thus in Time the Earth ought to come within the Region of *Venus*, and in fine into that of *Mercury*, where it would necessarily be burnt. Hence it is manifest, that the System of the Planets cannot last for ever in its (present) State. It also incontestably follows, that this System must have had a Beginning: For whoever denies it, must grant me, that there was a Time, when the Earth was at the

Distance

Distance of *Saturn*, and even farther; and consequently that no living Creature could subsist there. Nay there must have been a Time, when the Planets were nearer to some fixt Stars than to the Sun; and in this Case they could never come into the Solar System. This then is a Proof, purely physical, that the World, in its present State, must have had a Beginning, and must have an End. In order to improve this Notion, and to find with Exactitude, how much the Years become shorter in each Century; I am in Hopes that a great Number of older Observations will afford me the necessary Succours.

I beg you will present my Respects to the Royal Society; and am,

Yours, &c.

L. Euler.

IV. *Part of a Letter from Mr. Benj Cooke, F. R. S. to Mr. Peter Collinson, F. R. S. concerning the Effects of the Mixture of the Farina of Apple-Trees; and of the Mayze or Indian Corn: And of a Child born with the Jaundice upon it, received from its Father; and of the Mother taking the same Distemper from her Husband, the next Time of being with Child.*

Read Nov. 2. 1749. **W**HEN the Farina of one Apple impregnates another's Blossom of differing Species, we see the Change in * the Fruit; but whether any lasting Impression is left on the Bough

* See these Transactions No. 490. p. 622.