Sir,

January 14th, 1831.

I have only this moment received your complimentary letter of the 10th October accompanying the Account of your very interesting Journey to Mount Elbrus which shall be happy to insert in my Journal, in two or three successive numbers. It will also give me great pleasure to send to your friend M. Struve at Vahnbary an Autograph letter of Sir Walter Scott and a name of other distinguished Scotishmen.

The paper on the Mean Temperature of the Earth to which you allude I mean to retract in the next N° of my Journal. It was written eleven years ago and establishes beyond a doubt the existence of two poles of unequally warm Cold in the Northern Hemisphere. At these poles appeared to differ in temperature I gave a separate formula for each, the accuracy of which has been confirmed.
By many subsequent observations. These since
never contradicted the following general formula,
with the supposition that the two poles are of equal
temperature, and in the same latitude and equa-
tide meridians;

\[ T = (t - T_m) \left( \sin^2 \varphi \cdot \sin^2 \varphi' \right) + T_m \]

in which:
- \( T_m \) = Mean Temperature at Pole
- \( t \) = Maximum Equatorial Temperature, about 02.00
- \( T \) = Maximum Temperature at each pole of
  maximum Cold, = about from 0° to 3°. It
- \( \varphi, \varphi' \) = Diameters of the place from the two
  cold Poles.

The coefficient \( m \) is not far from \( 5/9 \). - The transi-
tonal Lecher pole is not far from Land, 100° W. for Green-
land. It is in N. Lat. 73°, and the Sebastian, one in
East Key, 60° and N. Lat. 73°.

These given an adequate formula for express-
ing the magnetic intensity. Both the formula-
be give a series of returning curves of the
nature of Lemniscates, similar to those given
by projecting W. and S. of latitude Observations.
Along with this I have sent a Memoir on Optical Phenomena which you could help me in presenting to the Imperial Academy. I shall be glad to hear from you, and to know if the Memoirs have ever been received. I beg also that you will notify to the learned body that I have succeeded in effecting a new analysis of white light by the action of absorbing media. I have shown that the solar spectrum formed by a prism consists of three curves of equal length viz. Red, Yellow and Blue having different points of maximum illumination. The annexed figure shows this, where MN is the spectrum, and R, Y, and B the curves. These ordinates represent the intensity of each colour.

It would be very agreeable to me to receive from you occasionally an account of your own Researches, or any discoveries made in Russia, after communicating them to the Royal Society.
I would make them known by publication in my Journal. They being sent to me addressed to the care of Mr. Cadell Strand London would reach me in safety. 

I have had the pleasure of having you as an Honorary member of the Society of Arts for Scotland, and I hope in a week or two to send you notice of your election.

I have the honor to be, with great respect,

Yours most truly,

[Signature]

[Address]

P.S. I am very anxious to receive accounts of the discoveries in Mt. Vent. of Physical Geography made by the Naturalists. I am now explaining the Russian Expedition.