

a North Line which they have been now employed on, with such Accuracy  
& trust as they seem to think they can, I apprehend that the exact Dif-  
ference of Longitude between the Center of Newcastle & the above mentioned  
Middle Point will be more truly discovered, by the Surveyors running  
the North Line, they have already begun, & another straight Line from  
the Center of Newcastle, to intersect it, than by any Astronomical Observa-  
tions, & tho we should not by running these Lines be able to determine to so  
great a degree of Accuracy as might be wished, what is the true & exact  
Difference of Latitude between the Center of Newcastle & the said Middle  
Point (by reason of the great difficulty of measuring a Line of such Extent  
horizontally) yet an Error that may arise from the Mensuration might  
possibly be discovered by taking Observations carefully at the two Points  
for I am told that the Latitude of two Points on the Surface of the Earth  
might by a skillful Observer & with a proper & good Instrument be de-  
termined to a Second, which is equal to 102 feet measured on the Surface  
of the Earth. As I am apprehensive from what passed between the Com-  
missioners who were appointed by Your Ldps Father & the Proprietors of  
Pennsylvania to carry the Articles of 1732 into Execution that the Com-  
missioners now appointed, to finish the Business may at times differ in  
Opinion about the best Mode of executing this or that particular part  
of the Work, I should be very glad if Your Ldp would submit some Que-  
ries which I shall take the Liberty to transmit & such others as Your Ldp  
may think fit to the Consideration of some Gent<sup>rs</sup> who have devoted a  
great part of their Lives to the Study of the Mathematics & whose Re-  
putation is established such I presume, are Doctor Bradley Regius Pro-  
fessor of Astronomy at Greenwich; Mr Senex the Map-Maker &  
Mr Cochrane who reads Lectures at Gresham College, but as these  
Gent<sup>rs</sup> may not be apprized of all the Difficulties which will attend  
running Lines ~~on~~ on the Surface of the Earth some thro a Forrest, some  
over Praires & Marshes & others over a hilly or mountainous Country