

Pleasure. For *Air*, the Country hereabouts has always and deservedly, been reckoned the *Montpelier* of *England*; for *Water, Wood, Heath, and Prospect*, it may be thought the *Frescati*.

I am

Your most obedient Servant

and Brother,

William Stukeley.

III. *Some Reflections on Mr. de Lisle's Comparison of the Magnitude of Paris with London and several other Cities, printed in the Memoirs of the Royal Academy of Sciences at Paris for the Year 1725. Communicated in a Letter to Dr. Rutton, Secretary to the Royal Society, by Peter Davall, of the Middle Temple, Esq.*

MR. *de Lisle* in the Account he gives of his Method of making an exact Plan of *Paris*, and comparing it with *London*, and other Cities, first shews, by what Means he proceeded in determining, and laying down the true Situation of the several Places in *Paris*: After which he explains his Manner of drawing a true *Meridian Line* through that City; whereby he

he was enabled to divide it by *Meridians* and *Parallels*, as is practis'd in a general Map: And then he goes on in the following Words;

“ *I traced the Parallels from 15 to 15 Seconds, and the Meridians from 20 to 20. And, as under the Parallel of Paris, 15 Degrees of Latitude are equivalent to 20 of Longitude, and the like is true of Minutes and Seconds; by allowing 5 Seconds more to the Intervals of the Meridians, than to those of the Parallels, I form'd perfect Squares.*”

He says, the chief Use he intended to make of these Squares, was to compare the Magnitude of *Paris* with that of *London*, and gives an Account of what Method he took to procure a just Plan of this City, which he reduced to the same Scale as that of *Paris*, and proceeds thus:

“ *I traced upon it in like Manner, Squares from 15 to 15 Seconds of a great Circle, and then I was prepared to compare the Greatness of the two Cities.*”

“ *The Result of this Comparison is, that Paris contains 63 of these Squares, which makes for its Superficies 3538647 square Toises: And that London contains only 60 of those Squares, or 3370140 square Toises.*”

And from hence he concludes, that *Paris* is *one twentieth* Part greater than *London*, tho' he says he has excluded several Gardens, contained within *Paris*, out of this Mensuration, which would have made it bear still a greater Proportion to *London*.

Upon reading this Account of Mr. *de Lisle's*, it immediately occurred to me, that the Method which he has here taken of comparing the Magnitudes of *Paris* and

London, from whence he infers that the first of these Cities is *one twentieth* greater than the latter, is founded on a *false* Supposition, *viz.* That under the Parallel of *Paris* 20 Degrees of *Longitude* are equal to 15 of *Latitude*, and consequently that by drawing Meridians from 20 to 20 Seconds, and Parallels from 15 to 15, the Figures formed by their Interfection will be *perfect Squares*: For the *Equator* and its *Parallels* are to each other as the *Sines* of their *respective Distances* from the *Pole*. Whence, as the *Radius*, or *Sine* of 90 Degrees, is to the *Sine* of the *Distance* of any *Parallel* from the *Pole*, or *Cosine* of its *Latitude* :: so is a *Degree* or any other Part of the *Equator*, or of any *great Circle*, to the *like Part* of the given *Parallel*. Therefore taking the mean *Latitude* of *Paris* at 48°. 51', the Proportion of the Degrees of a *great Circle* to those of the *Parallel* of *Paris* will by a Table of *Sines* be found to be as 1 to .6580326. Whereas according to Mr. *de Lisle*, that Proportion is only as 20 to 15, or as 1 to .75. The Figures therefore which Mr. *de Lisle* calls *Squares*, are not such, but *Rectangles*, whose longest Side containing 15 Seconds of a *great Circle*, bears the same Proportion to the shortest, containing 20 Seconds of the *Parallel* of *Paris*, as .75 does to .658, &c. or nearly as 8 to 7. And the Intervals, which he ought to have allowed to the Meridians, to make *perfect Squares* of these Figures, ought to have been $\frac{1}{25}$ &c. Seconds, or nearly 22 $\frac{4}{5}$ " or 22". 48" of the *Parallel* of *Paris*.

Now Mr. *de Lisle* says, these Figures are *perfect Squares*, and has computed them as *Squares*, whose Side was 15" of a *great Circle*; for he says *Paris* contains 63 of these *Squares*, which makes 3538647 square *Toises*,

Toifes, which last Number being divided by 63, the *Quote* 56169 will be the Number of square *Toifes* contained in each Square, whose square Root gives 237 *Toifes* for the Side of each Square, which is just $15''$ or $\frac{1}{24}$ of a Degree of a great Circle.

Mr. *de Lisle* hath therefore by this Account made the *superficial Content* of each *Rectangle*, and consequently of the whole City of *Paris* too great by near *one seventh*. To confirm which beyond Contradiction we have Mr. *de Lisle's* own Testimony, who in the Plan he himself has drawn and published of *Paris*, and which he refers to in this very Account, has not made *Squares* of the above-mentioned Figures, but has given to their respective Sides the Proportion of 8 to 7, which is as near the true one as can well be express'd by Lines, in a Plan of no larger a Scale than this.

Now in the Account we have been considering, Mr. *de Lisle* says himself, that in his measuring of *London* he drew *Squares*, whose Sides contained 15 Seconds of a *great Circle*, and of these he says, *London* contains *sixty*.

Therefore to compare *Paris* with *London*, we ought for the foregoing Reasons to make an Abatement out of the 63 *Rectangles* which *Paris* contains, nearly in the Proportion of 8 to 7; but because that is a little greater than the true one, let us make such Abatement only in the Proportion of 9 to 8, which is pretty considerably less than the just one. By which Abatement the Number of *Squares*, whose Side is 15 Seconds of a *great Circle* contained in *Paris*, will be reduced from 63 to 56. And consequently, according to Mr. *de Lisle's* own Way of measuring, the Magnitude of
London:

London will be to that of *Paris* as 60 to 56, or as 15 to 14; or *London* will be *one fourteenth* greater than *Paris*. But to determine what Proportion these two Cities really bear to each other, requires a more exact Mensuration of *London* than any we yet have, which whoever would undertake, I think he cannot follow a better Method than that Mr. *de Lisle* has taken, and would advise him to consult the Account upon which the foregoing Reflections are made, which he may find in the *Memoires* of the *Royal Academy of Sciences*, for the Year 1725. pag. 48.

IV. *An Account of an Aneurysm of the Aorta, (dissected in St. Bartholomew's Hospital) by Pierce Dod, M. D. Fellow of the College of Physicians, and Physician to that Hospital.*

AN Aneurysm, without Doubt, is a Tumour arising from some Disorder in an Artery; but what that Disorder is, or whence it arises, is not so well agreed, the Accounts which are given of it, being widely different and uncertain.

The Name seems to imply, that it is a Dilatation of the Vessel; but *Galen* describes it to be a Tumour, which arises not from any Dilatation or Relaxation of an arterial Vessel, and the Blood therein contain'd; but from an Extravasation of the Blood from some Rupture of the Artery.

Agree-