

deposited, and by remaining there some time, is more easily digested when it passes to the second, or digesting portion.

The difference, with respect to the teeth, between those animals which ruminate, and those which (although they eat nearly the same kind of food,) do not ruminate, is, according to our author, as follows.

Ruminants that are furnished with horns have molares, or grinding-teeth, in both jaws, and incisors only in the lower jaw.

Ruminants that are without horns have, besides the above, what may be called tusks, or fighting teeth; but these are of no use in eating. The *Camelopardalis* forms an intermediate link between the two, as it has short horns and no tusks.

Annexed to Mr. Home's paper, is an account of some experiments made on the urine of the Camel, by Mr. Brande.

The result of his experiments gives the component parts as follows; but it must be observed, that the quantity he had to operate upon was so small, that his analysis must be considered merely as an approximation to the truth.

Water.....	75
Phosphate of lime, muriate of ammonia, sulphate of } potash, urate of potash	6
Muriate of potash	8
Urea	6
	<hr/> 95

Observations on the Variation, and on the Dip of the magnetic Needle, made at the Apartments of the Royal Society, between the Years 1786 and 1805 inclusive. By Mr. George Gilpin. Communicated by Henry Cavendish, Esq. F.R.S. Read June 19, 1806. [Phil. Trans. 1806, p. 385.]

The instruments with which Mr. Gilpin's observations on the variation, and on the dip of the magnetic needle were made, are the same as were used in former observations, and are described by Mr. Cavendish, in a paper printed in the 66th volume of the *Philosophical Transactions*. But as the observations now communicated by Mr. Gilpin are the first that have been given since the compass was put up in the Society's Apartments in Somerset Place, he has thought proper to describe very particularly its situation in the house, at the time the observations were made, and also the method he pursued to ascertain what allowances were proper to be made in the results of his observations.

After stating the circumstances above mentioned, Mr. Gilpin proceeds to the observations. These are detailed in five tables, of which the following is a summary account.

Table 1. contains, in sixteen pages, the observations made on the variation, at various but stated times of the day, from September 1, 1786, to December 31, 1787. It is so disposed, that the increase or decrease of the variation may be seen by mere inspection.

Table 2. contains the mean monthly variation for the times of the day stated in Table 1, during the above-mentioned period of sixteen months.

Table 3. contains the mean monthly true variation, and mean monthly diurnal alteration of variation during the above period; and also the mean monthly true variation, and mean monthly diurnal alteration of variation, for many months in each year, from 1786 to 1805 inclusive.

Table 4. contains the differences for twelve years (viz. from 1793 to 1805) between the observations made at the times of the vernal and autumnal equinoxes, and summer and winter solstices. From a mean of these, the variation appears to increase, or go westward, from the winter solstice to the vernal equinox $0^{\circ}80'$; and diminishes, or goes eastward, from the vernal equinox to the summer solstice $1^{\circ}43'$; it increases again, from the summer solstice to the autumnal equinox $2^{\circ}43'$; and continues nearly the same, only decreasing $0^{\circ}14'$ from the said equinox to the winter solstice.

Table 5. contains the dip of the magnetic needle from the year 1786 to 1805. During the first sixteen months the dip was observed as frequently as the variation; but as there did not appear to be any diurnal alteration in the dip, it has been thought sufficient to insert the mean for each month. From a comparison of Mr. Gilpin's observations in 1805 with those made by Mr. Cavendish in the year 1775, it appears that its mean annual decrease has been $4''\cdot3$; and its progressive annual decrease, in the above period, has been, on a mean, $1^{\circ}\cdot4$.

On the Declinations of some of the principal fixed Stars; with a Description of an Astronomical Circle, and some Remarks on the Construction of Circular Instruments. By John Pond, Esq. Communicated by Smithson Tennant, Esq. F.R.S. Read June 26, 1806. [Phil. Trans. 1806, p. 420.]

The observations here given were made at Westbury, in Somersetshire, in the years 1800 and 1801, with a circular instrument of $2\frac{1}{2}$ feet in diameter, constructed by Mr. Troughton. The stars selected by our author were, for a period of nearly two years, constantly observed on the meridian, when they passed at a convenient hour, generally reversing the instrument in azimuth at the end of every day's observation, and never making use of those observations that were not made in pairs.

Mr. Pond has subjoined to his observations a comparison with some procured for him by Mr. Troughton, in which he has included the latest observations made at Greenwich.

The deduced polar distances are also annexed to each observation.