height of this station he determined by levelling to the Grand Junction Canal, from which, and the known difference of levels of the canals communicating with this, he obtained the relative height of this station, compared with the most important objects in Northampton, Buckingham, and Bedford. Finding the country to the north of Arbury station suddenly fall about 400 feet, and continue thus depressed for nine or ten miles, Mr. Bevan observes that such a defect of matter would probably produce a deflection of the plumb-line to the southward; and accordingly, on calculating the latitude of Arbury station from that of Blenheim observatory, independent of any astronomical observations made at Arbury, he found it 5″ less than shown by the zenith sector, giving countenance to the probability of local attraction by the high land to the south of the station. The author thinks that the observations at Dunnose were affected by the high land to the north of that station giving a latitude less than it should be by 7″ or 8″, and that Greenwich observatory is not altogether clear of local attraction from the higher land to the south, and defect upon the northern side. Clifton station also, he remarks, may be 2″ or 3″ in error, from the same cause.

With such corrections as the face of the country may warrant, not exceeding in the whole 200 miles above 10″, the author thinks it probable that the section of the meridian measured in Britain may agree with the different sections measured in other parts of the world.

Mr. Bevan lastly adverts to the probable errors in the *height* of the stations in the survey; and assuming the highest points of the Grand Junction Canal to be 408½ feet above the level of the sea at low-water spring tides, he considers the heights of Wendover, Kensworth, Bowbrick Hill, and Arbury Hill stations, to be about 72 feet in excess, as laid down in the survey.

On some Fossil Bones discovered in Caverns in the Limestone Quarries of Oreston. By Joseph Whidbey, *Esq. F.R.S. In a Letter addressed to* John Barrow, *Esq. F.R.S. To which is added, a Description of the Bones by Mr.* William Clift, *Conservator of the Museum of the College of Surgeons.* Read February 6, 1823. [*Phil. Trans.* 1823, *p.* 78.]

In one of these caverns there was a lining of stalactite, and the bones were lying loosely covered with rubble; in another, the bones adhered to the walls.

To this letter is annexed a description of the bones found by Mr. Whidbey, by Mr. Clift, Conservator of the Museum of the Royal College of Surgeons.

They belong to animals of several distinct genera; namely, the Bos, the Deer, Hyæna, Horse, Wolf, and Fox. Of these bones, a few are superficially incrusted with stalagmite, but the greater number were firmly imbedded in stiff clay, and exhibit no appearances of

mutilation, except in one instance, where the radius of a young wolf is impressed by the incisors and canine teeth of an animal the size of the weasel.

Such of the bones as were examined appeared to have lost the greater part of their animal matter, and had consequently become brittle; some of them when immersed in water became black, but recovered their former appearance on drying; this was especially the case with those of the carnivorous tribes.

Mr. Clift observes that appearances of disease in fossil bones are of rare occurrence; among these, however, he found two examples in the metacarpal and metatarsal bones of the bovine animals, showing upon their surface the effect of ossific inflammation; there were also marks of disease in the lower jaw of a young wolf.

It appears from Mr. Clift's detailed enumeration of the bones from these caverns, that they are clearly referable to animals of known and still existing genera; but he observes that it is a curious circumstance, that with the exception of the very few belonging to the deer, they all appertain to animals differing from those formerly found in the immediate vicinity of the present caverns.

Mr. Clift concludes this communication with a particular description and enumeration of the bones, which are further illustrated by reference to several drawings.

On the Chinese Year. *By* J. F. Davis, *Esq. F.R.S.* Read December 19, 1822. [*Phil. Trans.* 1823, *p.* 91.]

After stating his opinion that the Chinese are possessed of no original astronomical knowledge, but that that which they possess is entirely of foreign origin, since in former times they even adopted the errors of European astronomers; and that the instruments mentioned by Du Halde as having been found by the missionaries on their first entrance into the country, were constructed by the Arabians; the author proceeds to confirm this opinion by an account of the division of the Chinese year, and a comparison of the Chinese with the European zodiac. The former is divided into twenty-eight constellations, and Mr. Davis has represented these in an annexed drawing, with the number of degrees affixed to each; from which it appears that they are extremely unequal, the largest consisting of 30°, and the least of not more than 5°. Of these constellations, Kio, which corresponds to a part of Virgo, is considered as the first in order; which is perhaps a proof, says the author, that in some former period their year commenced at this point. As far, however, as Mr. Davis's information, the Chinese have no solar year, their year, properly considered, being a lunar year, consisting of twelve months, of twenty-nine and thirty days alternately, with the occasional addition of a thirteenth month, to make it correspond more nearly with the sun's course.