

## ON SUPPOSED THERMAL SPRINGS IN CAMBRIDGESHIRE.

SIR,—A paper was read at the late meeting of the British Association by Mr. Harmer, "On some Thermal Springs in the Fens of Cambridgeshire." I have not had an opportunity of visiting them, but, knowing the general character of the district, I have thought over the matter, and asked myself whether, since they are stated to be shallow farmyard wells, the temperature of the water may not be due to fermenting manure. To-day I went into a farmyard in this village, and found them laying up the manure in heaps, previous to carting it away upon the land. The manure was already hot and steaming when they removed it from the area of the yard, on which it lay two feet deep. There stands a pump in the centre of the yard; and I asked the farm-servant, who lives on the spot, whether the water was warm. "Yes," said he, "almost as warm as new milk. And so is the water from the other well" (which stands on the edge of the yard). I fetched a thermometer, and found the water in the yard at 65° Far., that in the well on the edge of the yard at 54°, while the temperature of the air was 44°. Snow has been lying on the ground for five days, and disappeared only last night. In thawing it has gone into the farmyard well, and discoloured the water; else probably the temperature might have been higher, for the workman considered the water less warm than usual. In these wells the water stands at about twelve feet from the surface. They are fed by springs from the lower chalk, the water being held up by the gault. In such a country as this, the idea of Thermal springs being fed by faults from below seems improbable, since, though there may be faults, it is scarcely possible that open fissures can exist in the soft clays of the district.

HARLTON, CAMBRIDGESHIRE,  
Dec. 13, 1870.

O. FISHER.

THE ALLEGED OCCURRENCE OF *MACHAIRODUS LATIDENS* IN KENT'S CAVERN, TORQUAY.

SIR,—Your readers are doubtless aware that in certain English museums there are canines of *Machairodus latidens* (formerly known as *Ursus cultridens*), said to have been found in Kent's Cavern, by the late Rev. J. MacEnery; and that some palæontologists, including M. E. Lartet and the late Dr. Falconer, have doubted whether they really did belong to the Cavern series.

In 1869 I printed all the evidence which existed on the subject, so far as was then known,<sup>1</sup> and have reason to believe that the doubts mentioned above were fully disposed of.

My present object, however, is to ask for sufficient space in your MAGAZINE to record an unpublished fact having an important bearing on the question. Through the kindness of Professor Phillips, I have recently found that in May, 1826, Mr. MacEnery sent to the Museum of the Yorkshire Philosophical Society a set of specimens

<sup>1</sup> See Trans. Devon Assoc., vol. iii., pp. 481-494. 1869.

from the Cavern, with a cast of one of the canines in question, accompanied by a descriptive letter, in which were enclosed a copy of a letter from the Baron Cuvier and of part of a letter from Dr. Buckland.

These documents are all preserved at York, and, through the kindness of the Rev. J. Kenrick, I have been courteously permitted to copy them, with a view to publication. At present, however, it is not necessary to trouble you with anything more than the following:

“Extract from Dr. Buckland’s letter to Rev. J. MacEnery respecting the serrated tooth, of which a cast is enclosed in the Collection:—

“LYONS, 14 *March*, 1826.

“My dear Sir,—I should have forwarded the enclosed from Paris had I not waited to visit a spot in Auvergne, where they have recently discovered a deposit of animals exactly similar to those of Kent’s Cave in a bed of Diluvial sand and gravel.

“The resemblance is still more striking from the fact of there being among them the teeth of your unknown animal,<sup>1</sup> which turns out to be the *Ursus cultridens* of Cuvier, which had, till now, been found only in the Val d’Arno. There is an entire skull of this bear in the Collection at Florence.

“I think it is more satisfactory to have *this analogy established than to have discovered a new species at Torquay.*

“M. Cuvier was much pleased with the identity of the teeth. . . .”

Allow me, in conclusion, to recapitulate briefly the points that appear to be now established respecting the Kent’s Hole *Machairodus*:—

In January, 1826, Mr. MacEnery found, mixed with the remains of the ordinary Cave Mammals, five canines, and subsequently one incisor, of *Machairodus latidens* (= *Ursus cultridens*), in that part of the Cavern which he named the Wolf’s Den. Sir W. C. Trevelyan saw all the specimens at Torquay in the following month. Casts of the canines were taken to Paris, and submitted to M. Cuvier by Dr. Buckland, who, writing from Lyons on March 14th, informed Mr. MacEnery that M. Cuvier had identified them as the teeth of *Ursus cultridens*.

Finally, the canines have been thus distributed: One is in the British Museum; one in the Museum of the Geological Society of London; one in the Museum of the Royal College of Surgeons, London; one in the Oxford Museum; and one in the private collection of Sir W. C. Trevelyan.

WM. PENGELLY.

TORQUAY, *December 10th*, 1870.

<sup>1</sup> It is, perhaps, noteworthy that, in the brief contents of Kent’s Cavern, written before his letter from Lyons, Dr. Buckland mentioned the remains of rhinoceros, elephant, horse, elk, deer, ox, hyena, bear, tiger, wolf, fox, “and of an unknown carnivorous animal, at least as large as a tiger, the genus of which has not yet been determined.” (See *Edin. Phil. Journ.*, vol. xiv., pp. 366–64, 1826). This great unknown was, no doubt, *Machairodus*.