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A history of British fossil mammals and birds
London
1846

A
HISTORY
OF
BRITISH FOSSIL MAMMALS,
AND
BIRDS.

BY

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ILLUSTRATED BY 237 WOODCUTS.

LONDON:
JOHN VAN VOORST, PATERNOSTER ROW.
M. DCCC. XLVI.

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Fig. 121.



Portion of skull of Rhinoceros, from Newer Pliocene at Chartham, Kent.

RHINOCEROS TICHORHINUS. Tichorhine two-horned Rhinoceros.

Rhinoceros tichorhinus. ou Rh. à narines cloisonnés. CUVIER, Annales du Muséum, tom. iii., p. 46. Ossemens Fossiles, 4to, 1822, vol. ii. pt. i.

The first notice and figure of fossil remains referable to the genus *Rhinoceros*, occurs in a quaint and extremely rare old tract entitled, "Chartham News, or, A Brief Relation of some strange Bones there lately digged up, in some grounds of Mr. John Somner of Canterbury: written by his brother, Mr. William Somner, late auditor of Christ Church, Canterbury, and register of the Archbishop's court there, before his death. – London: Printed for T. Garthwait, 1669." (4to, pp. 10, with a plate.)

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"News from Chartham in Kent. – Although it may, and perhaps must be granted, that miracles (strictly understood) are long since ceased; yet in the latitude of the notion, comprehending all things uncouth and strange, (*miranda*, as well as *miracula*; wonders as well as miracles.)

they are not so; but do, more or less, somewhere or other daily exert and shew themselves, *Dies diem docet.*" After a fling at the "New lights that are now-a-days much cried up," and leaving these "spiritual mountebanks and their counterfeit ware," – a race still far from being extinct, – the worthy 'Register' proceeds "to the matter-of-fact then."

"Mr. John Somner, in the month of September, 1668, sinking a well at a new house of his in Chartham, a village about three miles from Canterbury, towards Ashford, on a shelving ground or bankside, within twelve rods of the river, running from thence to Canterbury and to Sandwich Haven; and, digging for that purpose about seventeen feet deep, through gravelly and chalky ground and two feet into the springs; there met with, took, and turned up a parcel of strange and monstrous bones, some whole, some broken, together with four teeth, perfect and sound, but in a manner petrified and turned into stone, weighing (each tooth) something above half a pound, and almost as big, some of them, as a man's fist."

Alluding to the notices of the remains of giants which were current in the philosophical and other works of the time, the author judiciously remarks:– "And so we must have judged of these teeth and of the body to which they belonged; had not other bones been found with them, which could not be man's bones." "Some that have seen them," he proceeds to say, "by the teeth and some other circumstances, are of opinion, that they are the bones of

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an Hippopotamus, or *Equus fluvialis*, that is, a River-horse; for a Sea-horse, as commonly understood and exhibited, is a fictitious thing. Yet Pliny makes Hippopotamum ('*mari, terræ, amni communem,*') to belong to sea, land, and rivers. But what are the differences and properties of each kind, I leave others to inquire. The earth, or mould about them, and in which they all lay, *being like a sea-earth or fulling earth* has not a stone in it, unless you dig three feet deeper, and then it rises a perfect gravel."

This last passage gives a more exact knowledge of the matrix of the fossils than is usually found in analogous notices: we readily recognise in it the post-pliocene brick-earth and drift which have since yielded, especially in the counties of Kent, Surrey, and Essex, so rich a harvest of the remains of great extinct Pachyderms.

"So have you the story, an account, if you please, of what was found, where, when, and upon what occasion. For more public satisfaction, and to facilitate the discovery; at least to help such as are minded to employ their skill in guessing and judging of the creature, whose remains these are, what it was for kind; we have by and with the help of an able limner, adventured on a scheme or figure of several of the teeth and bones, with their respective dimensions of breadth, length, and thickness."

"No man, we conceive, not willing to be censured of rashness, will be very forward to divine, much less to define or determine what the creature was; and, doubtless, dubious enough it is, whether of the twain, the sea, or the land, may more rightly lay claim unto it."

Mr. Somner having, nevertheless, "taken a large time of consideration of all particulars and circumstances fit to be duly and deliberately weighed and observed in the case," adventures to conjecture it to be "some sea-bred

creature;” and then proceeds to discuss at length the question, “How it possibly came there? *Piscis in arido?*” with its four following branches:—

“1. Whether the situation and condition, face and figure of the place, may possibly admit of the sea’s once insinuating itself thither?

“2. Whether (that possibility being granted or evinced) the sea did ever actually insinuate itself so far as to this place, and when?

“3. How, in probability, and when, this valley or level being once sea-land, should come to be so quite deserted and forsaken of the sea, as it is at this day, the sea not approaching by so many, a dozen, miles or more?

“4. By what means the sea, once having its play there, this creature comes to lodge and be found so deep in the ground, and under such a shelving bank?”

Our limits compel us to terminate here the quotations, and to refer the geologist, interested in such early attempts to solve the problems relating to the changes in the earth’s surface, to the pamphlet itself, of which a copy exists in the King’s Library in the British Museum, or to the reprint of it in the *Philosophical Transactions* for 1701, No. 272, p. 882.

With the inquiry into the causes of the sea’s progress and retreat in Kent, as evidenced by the supposed “sea-bred monster,” we have here, in fact, the less concern, since we shall be able to shew that it belonged to a terrestrial genus of quadruped.

The figures of two of its teeth, “part of what the author intended, if he had lived,” are so exact, and the progress of Comparative Anatomy since 1668 has been so immense, that they may now be determined, without much laudable ingenuity or blameable rashness, to have

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belonged to a *Rhinoceros*, and to have come from the middle of the molar series of the upper jaw. But we are fortunately enabled to go further, and inquire into the exact species of *Rhinoceros* to which they belonged: for the identical fossils discovered at Chartham are now preserved in the British Museum. They are noticed by Nehemiah Grew in his ‘*Catalogue of the Rarities of Gresham College*,’ p. 254; and were doubtless transferred to their present depository along with the other objects contained in the ancient Museum of the Royal Society.

The annexed cut (fig. 122) is an original figure of the best preserved of the molar teeth from Chartham : it is

Fig. 122.



Upper molar tooth of *Rhinoceros tichorhinus*, Newer Pliocene, Chartham, Kent.

the fifth or sixth molar of the right side. It well exemplifies the close analogy of the molars of the Rhinoceros to those of the Palæotherium (see fig. 110). We perceive the same cubical form of the crown; the grinding

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surface of which is similarly broken by a deep valley, (*a*.) extending from the posterior margin nearly half-way across, and by a deeper and longer valley, *b*, commencing from the middle of the inner side of the crown, and expanding and partly dividing into two deep depressions near its opposite extremity. The principal difference by which the upper molars of the Rhinoceros may be distinguished, independently of their greater size, from those of the Palæotherium, is the much inferior depth of the two longitudinal depressions (*d d*) on the outer side of the tooth, and the feeble development of their boundary ridges. In the Palæotherium, a slight rising may be discerned at the bottom of each of the two deep outer depressions (see fig. 112): this rising is much increased in the Rhinoceros, and gains the level of the borders of the depressions, giving an undulating character to the outer surface of the tooth. The changes produced by age and progressive wearing away of the grinding surface will be illustrated by subsequent specimens.

One of the "strange and monstrous bones" exhumed with the teeth at Chartham (fig. 121), is described by Grew* as "part of the far cheek, with both the ends and the sockets of the teeth broken off." He compares it with the corresponding part of the Hippopotamus; and, finding "that the orbit of the eye is neither so round nor so big, yet the teeth far bigger;" that the forehead stands higher than the eye, whilst in the Hippopotamus "it lies so low, that it looks like a valley between two hills," he concludes it more likely that it belonged to a Rhinoceros, "for the being whereof in this country we have as much ground to suppose it as of the Hippo-

* Loc. cit., p. 255.

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potamus." Of the soundness of Grew's determination, the reader will be able to judge by comparing the figure of the fossil (fig. 121) with that of the entire cranium of the *Rhinoceros tichorhinus*, which is placed above it, at the head of the present section.

Two distinct rough surfaces (*h h*) may be traced on the upper part of the fragment, shewing that the species of Rhinoceros to which it belonged was two-horned; and the anterior surface rises towards its middle part, as if to form the longitudinal ridge, which there characterises the fossil species, and distinguishes it from the African two-horned Rhinoceros, which has a depression at the corresponding part of the skull. But more decisive evidence of the relationship of the Chartham fossil to the extinct *Rhinoceros tichorhinus* is afforded by the remains of the strong and thick bony wall which descended from the bones supporting the horns to form the partition between the two cavities of the nostrils, and give additional strength to that part of the skull.

Cuvier concludes, from this peculiar structure of the most common extinct species of two-horned Rhinoceros of the northern and temperate regions of Asia and Europe, that it

bore longer and more formidable nasal weapons than do any of the known existing species with two horns. In the Chartham fossil, a great part of the bony septum is broken away: it remains in the entire skull figured (fig. 120).

The skull of the extinct Rhinoceros was relatively longer in proportion, and terminated forwards by a peculiar modification of the nasal bones, which, by the medium of the thickened anterior part of the osseous partition-wall were ankylosed, or joined by a continuous bony mass, with the fore-part of the intermaxillary bones, or those that terminate the upper jaw.

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<This book of Owen's – available through Google books – is the place where the fossil teeth discovered at Chartham in 1668 intersect with modern science. I reproduce this extract for that reason.
– C.F. April 2011.>