

## PLESIOSAURUS FOUND NEAR WHITBY

This very interesting relic of a former world was mentioned in our Journal short time since; and we have now the pleasure of figuring it from an outline obligingly forwarded for that purpose. It is a fine specimen of the *Plesiosaurus macrocephalus* found in the Kettleness Alum Works, belonging to the Marquis of Normanby, a few miles north of Whitby, in Yorkshire. It was discovered deeply imbedded in the alum rock, 130 feet below the surface of the ground. Its length is 22 feet 4 inches; and, from point to point of the fore-paddles, 12 feet 9 inches. The ribs are about 3 feet long and very perfect, as also the head, with the blow-holes, eye-sockets, and brain-pan quite distinct; and the jaws are closely set with teeth. It will be observed by the sketch, that the extreme joints of one hind paddle are wanting. These were knocked off by the labourers in working the rock, and wheeled on to the calcined heap before the remains were discovered. Mr. Kerr has the specimen under his care, at Mulgrave Castle. It was explained by Mr. Charlesworth, the geologist, at the meeting of the British Association, in 1844; and at last-year's gathering of the Society, the Dean of Westminster (the Rev. Dr. Buckland) read a letter containing its main dimensions. We subjoin a few notes descriptive of the economy of this animal, from Dr. Mantell's clever and beautifully illustrated work, the "Medals of Creation." "The animal of the genus *Plesiosaurus* present, in their osteological structure, a remarkable deviation from all known and recent fossils;

uniting the characters of the head of a lizard, with the teeth of a crocodile, to a neck of inordinate length, with such modifications of the ribs, the pectoral and pelvic arches, and the paddles, as to justify the graphic simile of an eminent Professor, that the *Plesiosaurus* might be compared to a serpent threaded through the shell of a turtle. The character which immediately strikes the observer is the extraordinary length of the neck, and the relative smallness of the head. The neck, -which, in most animals, is formed but of five vertebrae, and in the extremest recent example (the swan) does not exceed twenty-four, is in the *Plesiosaurus* composed of from 20 to 40 vertebrae; and, in some species, is four times the length of the head, and equal to the entire length of the body and tail; while the length of the head (in *Plesiosaurus dolichodeirus*) is less than one thirteenth of the entire skeleton. The paddles are composed of fewer and more slender bones than in the *Ichthyosaurus*, -and must have been of a more elegant form, and possessed greater flexibility.

We add a few details from- the same author's "Wonders -of Geology".

"The remains of numerous specimens of *Plesiosauri* have been discovered in many places in this country and on the Continent, in the oolite and lias ; their range-being in all the deposits from the lias to the chalk inclusive. Professor Owen has described nearly twenty -British -species. The most remarkable circumstance relating to them is the connected state in which all the -bones of .the skeleton occur. The entire osseous-framework, from .the extremity of the snout to the last vertebra of the tail, often remains entire, or but very little displaced from its natural .position:-even the bones of the paddles with their cartilaginous appendages are in some instances preserved. The indigestible portion of the food of these carnivorous marine reptiles, as the scales, teeth and bones of fishes and

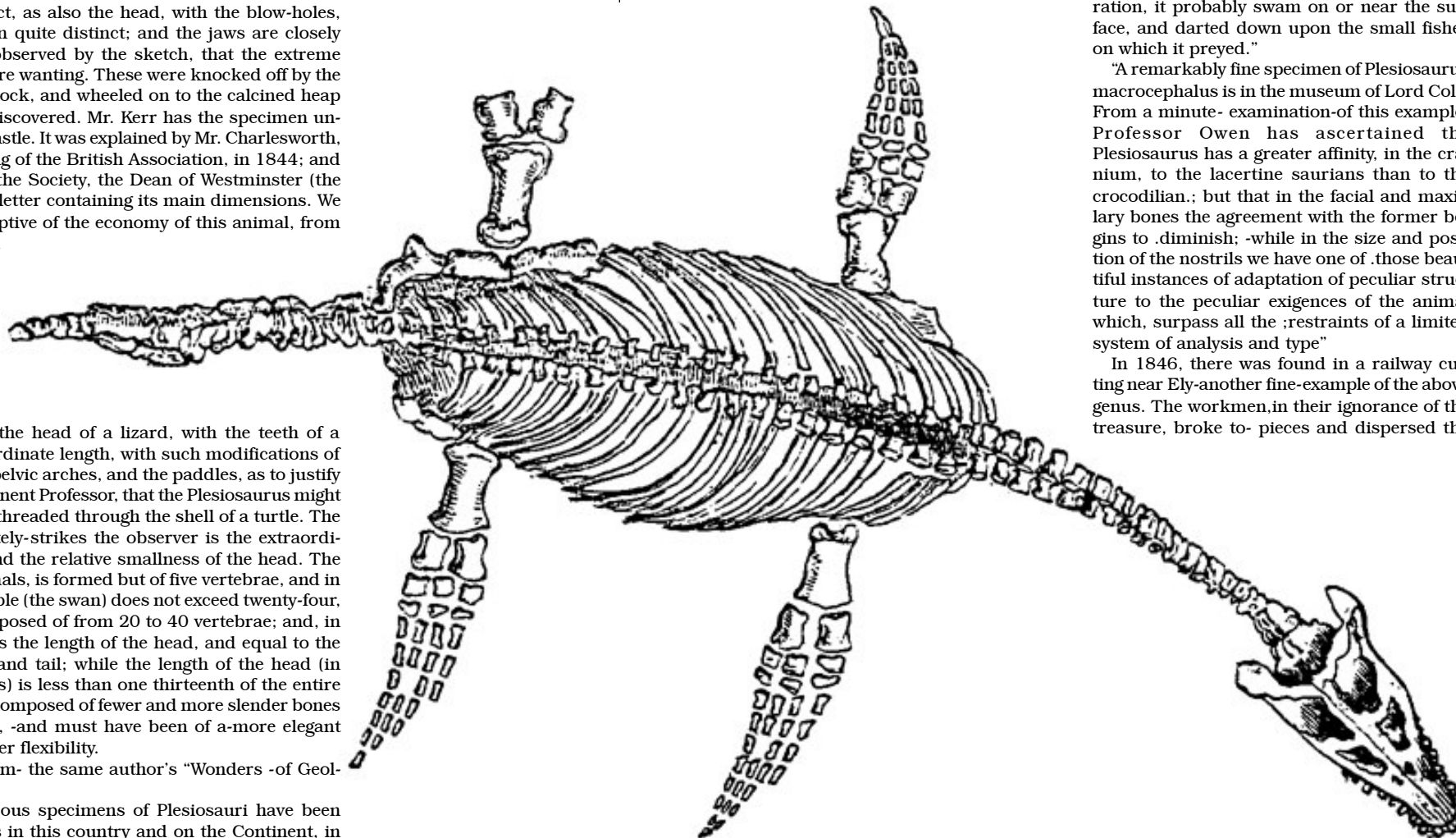
their coprolites, are frequently met with in the abdominal cavity. These facts show that the carcasses of the-animals were embedded in the soft mud at the bottom of the sea, without having been exposed to the action of the billows, or to long transport by rivers or currents."

"The collection of Mr. Hawkins, now in the British Museum, contains a skeleton 11 feet long, and so nearly perfect, that the entire form of the original -creature may be completely restored. Mr. Conybeare compares the *Plesiosaurus* to a turtle stripped of its shell, and thinks it probable, from its long neck presenting considerable impediment to rapid progress in the water, that .it frequented the coast, and lurked among the weeds in shallow water.. As -it is evident that it must have required frequent respi-

ration, it probably swam on or near the surface, and darted down upon the small fishes on which it preyed."

"A remarkably fine specimen of *Plesiosaurus macrocephalus* is in the museum of Lord Cole. From a minute- examination-of this example, Professor Owen has ascertained the *Plesiosaurus* has a greater affinity, in the cranium, to the lacertine saurians than to the crocodilian.; but that in the facial and maxillary bones the agreement with the former begins to .diminish; -while in the size and position of the nostrils we have one of .those beautiful instances of adaptation of peculiar structure to the peculiar exigences of the animal which, surpass all the ;restraints of a limited system of analysis and type"

In 1846, there was found in a railway cutting near Ely-another fine-example of the above genus. The workmen, in their ignorance of the treasure, broke to- pieces and dispersed the



head, neck, and trunk; but one of the paddles, and about 10 feet of the tail, were preserved tolerably perfect ; the .entire length is supposed to have been from 25 to 30- feet.

"In the .above year, too, Mr. Stutchbury described, a new species-of *Plesiosaurus* (*megacephalus*), from the Bristol lias, and beautifully preserved in the Bristol Museum. .Its length is about 16 feet 3 inches, the neck being short in proportion and only one and a half times the length of the head; while the whole animal appears to have been remarkably compact and massive, and the extremities unusually gigantic.