

# The Piltdown Skull (2)

(*Eoanthropus dawsoni*)

Hastings and East Sussex Naturalist IV, 1915

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Since writing my former communication (Vol. II, No. 2, p. 73) we have continued our researches in the Piltdown gravel-bed, the results of which have been published in the Quarterly Journal of the Geological Society for April 1914, and April 1915, with illustrations. The "finds" included rolled fragments of teeth of Pliocene mammals such as *Stegodon* and *Mastodon arvernensis* (early forms of Elephants), *Rhinoceros etruscus* and *Castor fiber* (Beaver). The latter may be either late Pliocene or Pleistocene.

Special attention was paid to the gravel on the horizon where the remains of *Eoanthropus* were discovered and all the debris within five yards was silted and washed, and afterwards strewn on a specially prepared surface and carefully searched. I was fortunate in finding the right and left nasal bones, in situ, and though they crumbled to fragments they have now been pieced together satisfactorily. They are short and resemble those of the existing Melanesian and African races rather than those of the Eurasian type. They are comparatively thick, like the cranial bones.

Father Teilhard de Chardin, formerly of Ore Place, Hastings, and lately a pupil of Prof. Boule, but now serving as "brancardier" with the French troops, assisted us for a few days, and made the discovery of the season (on August 30th, 1913) in the form of a large right canine tooth, certainly that of a primitive mammal, which may be referred without doubt to the *Eoanthropus* lower jaw discovered the year before. The tooth is much larger than that of a modern man, and is almost identical in form with that shown in the restored cast, photographs of which face p.80 in my former note, but it is rather smaller and more pointed than the restored tooth.

Dr. Smith Woodward has made a very apt comparison as to its form with the milk-canine of a modern human child, which it greatly resembles in outline, and he remarks that the permanent teeth of an ancestral race agree more closely in pattern with the milk-teeth than with the permanent teeth of its modified descendants. Therefore this canine tooth of *Eoanthropus* forms another illustration of the well-known law in mammalian palaeontology.

The tooth must have been interlocked with the upper-canine which was probably larger, as is usual among the apes. It has long been known that the permanent canine in some of the Australian and Tasmanian aborigines, is comparatively large and often projects considerably above the level of the dental series; but they have not been known to interlock as with the canines of the apes which have a diastema or gap for that purpose in the upper and lower jaws. This interlocking and spacing had been provided for in the published restored casts of the upper and lower jaw of *Eoanthropus* so that there remained very little to modify, so far as that portion of the restoration is concerned.

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A curious and somewhat swift confirmation has occurred with respect to this subject of interlocking canines from an unexpected source. It will be remembered that in the summer of 1914 the British Association traveled to Australia to hold their annual meeting, and the greatest interest was manifested in the subject of the Piltdown skull. Numerous skulls unearthed from various places all over the colony were forwarded to the scientists for examination, most of which did not advance their knowledge. But there came one from Darling Downs, in Eastern Australia, which although so far as its cranial features were concerned was typically that of an Australian aboriginal, the upper canine tooth was very large and prominent and bore traces in its wear that it must have interlocked with its lower canine tooth. The lower jaw was unfortunately missing.

By a curious coincidence the name of the place nearest to which this skull was found was Pilton, and as danger of confusion was very likely to arise with Piltdown it was decided to refer to the new skull as the "Darling Downs Skull." This skull was discovered in a deposit supposed to be coeval with some of the fossil Pleistocene gigantic marsupials of Australia, but the discovery is now being developed by competent Australian geologists and anatomists and we shall doubtless hear more exact and scientific details in the near future. For the present I have only seen some good photographs of this specimen.

After the first restoration of the Piltdown skull had been made, considerable discussion took place between European anatomists as to the exact position that the cranial bones should occupy, and this led to a further and closer study of certain details and a slight re-adjustment of the original model, consequent upon the exact determination of the median plane by Prof. Elliot Smith. The result has been to increase the hypothetical size of the brain to nearly 1,300 cubic centimeters, being equivalent to the smaller human brains of the present day, but the result does not alter essentially any of the conclusions already reached, based on the study of the primitive characters in the brain-cast. The new restoration is now exhibited in the British Museum (Natural History) at South Kensington with other discoveries from Piltdown, but it is indistinguishable from the original restoration except by experts.

The point as to whether Eoanthropus was capable of articulate speech has been made the subject of discussion. The general characters of the jaw are associated with Primates supposed to be incapable of articulate speech; but as the jaw of Eoanthropus was much wider and more capacious than that of any known ape the majority of anatomists consider that this being was at all events capable of simple articulation, though perhaps to a less extent than the South African Bushmen who retain some exceedingly primitive characters in the conformation of their lower jaws.

One more worked-flint flake similar to those already discovered of an Early Drift type, was found in the debris and another in situ in the dark Eoanthropus bed. These worked-flints are readily distinguished from the other flints in the bed, which are mostly of "prismatic flint," and contain many "Eolithic" implement-like forms.

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The discovery by us of a recent mud-bed about a foot thick, beneath the *Eoanthropus* bed, made from the Tunbridge Wells Sand immediately below it, led to the remarkable discovery of a large bone implement fashioned from a portion of a thigh bone of one of the early Pleistocene or late Pliocene elephants such as *Elephas meridionalis*, and larger than the Mammoth. It was rudely pointed at one end, and roughly trimmed at the other to a rounded form, as if for the hand. It is the earliest bone implement yet discovered and may have been the work of *Eoanthropus*. It was broken into many pieces by our excavator but a small fragment was noticed by Dr. Smith Woodward, which led to the recovery of the whole implement, now pieced together. No one has doubted that the old cuts upon it are artificial.

For those who wish to read a popular detailed statement (with illustrations) regarding the discoveries at Piltdown, I recommend them to purchase for four-pence, the new Guide to the Fossil Remains of Man, in the British Museum, written by Dr. Arthur Smith Woodward, F.R.S., and printed by order of the Trustees of the Museum. For a full scientific account the Quarterly Journal of the Geological Society first above mentioned must be consulted.