

Now I could find no place for the fossil Javanese form, which I consider as intermediate between Man and Anthropoid apes, in any of the branches of *that* tree, only in the third chief line, the main stem, very near to the point of divarication.

Owing to the same circumstances, which indirectly prevented me from explaining my own views on the matter at Dublin, I did not then reply to two remarks of Prof. Cunningham, which omission I now wish to repair by the following declaration.

(1) I did not exaggerate the relative height and quality of the cranial arch, which Prof. Cunningham had in view (the arch of the glabella-inion part of the calvaria) in *Hylobates*. The profile outline of the skull of *Hylobates agilis* figured, directly from the bisected skull, on p. 8 of my memoir, is even somewhat higher than that of *Pithecanthropus*, of which I have an accurate bisected cast before me. In the latter the height of the said cranial arch is exactly equal to the one-third part of the glabella-inion line, and in the skull of a *Hylobates agilis* it is about 2 mm. higher than the third part of the corresponding line. If in the mentioned diagram in my memoir that line in the gibbon skull were drawn equal in length to that of the fossil calvaria, instead of the natural size, this would be more apparent there than it is even now. The said cranial arch of a *Hylobates syndactylus* in the same diagram is much lower than that of the other gibbon species, and the same arch in the chimpanzee would even be lower than in *Hylobates syndactylus*. It is easy to find skulls of *Semnopithecus* with a higher "cranial arch" than the chimpanzee has. Further, between different individuals of the same ape species and of man, we find great differences in the height of that arch.

All these facts tend to show that there is no reason for regarding the height of the *suprainial part* of the calvaria as of real importance in our judgment on the place which any human-like being should occupy in the genealogical tree.

(2) In my original memoir (p. 7), I have already pointed out that the occiput of the fossil skull is very ape-like, especially gibbon-like. But, nevertheless, the inclination of the planum nuchale on the glabella-inion line is very different from that of all the Old World apes. These accord very nearly with one another in the degree of this inclination, whilst the angle in *Pithecanthropus* approaches closely human conditions. I not only compared photographs of the median line of the skulls, but also the bisected skulls with the bisected exact cast of the fossil calvaria. The means which I have taken to determine the degree of this declination are therefore, I believe, entirely calculated to yield trustworthy results.

EUG. DUBOIS.

An Anagram.

Is it too frivolous to suggest the accompanying anagram?

Pithecanthropus erectus.

Pursue the person, catch it!

Kew, December 10, 1895.

E. H.

The Barisal Guns and Similar Sounds.

WITH reference to the letters that have appeared in *NATURE* on the above subject, I have read with interest that by Mr. G. B. Scott, of the Indian Survey, in your last issue. The question, I think, arises, Are we not dealing, in India at least, with two very different phenomena? Are these sounds like that of heavy ordnance, which are heard occasionally at the base of the Eastern Himalayas and the Garo and Khasi Hill Range,¹ the same as those longer known and more familiar as the "Barisal Guns"? Mr. Scott's description of the sounds he heard when on board the steamer moored in the narrow channels near the sea, are remarkably like wave action. He says: "Sometimes a single report, at others two, three or more in succession, never near, always distant, but not equally distant. Sometimes the reports would resemble cannon from two rather widely separated opposing forces, at others from different directions but apparently always from the southward, that is, seaward." This is precisely what one would hear on a still night, when an ocean swell was coming up the Bay of Bengal and breaking all along a low shore with an undulating outline stretching many miles east and west.² I have been twice round by Barisal in a river steamer, and once by native boat, which took many days; but I was not fortunate enough to hear the sounds.

¹ *Vide P. A. S. Bengal. Mr. La Touche, of the Geological Survey, p. 201, in "Report on Barisal Guns."*

² *Vide same Report. Letter by Mr. A. Manson, p. 208.*

Regarding the distant booming reports, that are heard further inland, I was, I think, one of the first to notice and put them on record. In the *Proceedings of the Asiatic Society of Bengal*, March 1869, *vide* "Notes from Asaloo, North Cachar, on the Great Earthquake of January 10, 1869," after giving some details of the daily shocks that were recorded up to the 17th of that month, I find the following on p. 98. "Very noteworthy is the distant report of a heavy gun on January 19, heard towards the west at 1h. 49m. 19s. p.m. (I was sitting at work at a table outside the office tent); the time I took immediately by chronometer, as I fully expected a shock to follow. Another very loud explosion was heard from Mahadeo Peak at midnight of the 29th, and again from the same peak at 7 a.m. the next morning, the 30th; but no shock came after, on either occasion.

"I may here mention that last cold weather, on several occasions when I was in the North Cachar Hills, I heard, at various times, the like distant reports, resembling exactly the firing of big guns at a great distance. In one or two places the country people had noticed it, and they even used the expression that it proceeded from the earth (*the earth speaks*).

"These subterranean explosions must be heard over large areas, and it would be interesting if they could be noticed, or rather if those hearing them would make the matter public; I have no doubt there are many individuals who will remember having heard such sounds." The reports like big guns, "top chalta," as the natives expressed the sound, heard at Asaloo in January, during a period of great seismic activity, were, I consider, intimately connected with it; and that the similar reports, solitary instances not continuous, heard in the previous year at different places in the same range, were also of a subterranean nature. Seismic sounds are not always accompanied by a disturbance of the earth conveyed to the senses. I find in my journal the following.

"*Nongtung, in Jaintia Hills, December 21, 1887.*"

"While seated at dinner, a curious rumbling sound was heard in the west. Mr. Ogle immediately said, 'that is the rumble of an earthquake,' and we waited with intense expectation for several seconds for the shock, I with my watch out ready to take its duration; but it never came. We then thought it might have been a herd of elephants coming up the ridge, and, disturbed by our camp fires, had rushed off through the jungle; but on going into Jawai on Christmas Day, we learnt that a shock had been felt there on the same date and time, and that it apparently came from the west."

The best-defined unaccountable sound occurred when I was surveying the Bhutan Dooars in the spring of 1865. I have some remembrance of putting it on record at the time, perhaps in my annual report. I was standing at the plane-table in the forest twelve miles south-west of Buxa, when the report of a heavy gun was heard in the direction of the mountains, clear and distinct, yet a long way off, followed closely and at irregular intervals by two other discharges. The natives with me immediately said "the Bhutias have attacked Buxa," which was not unexpected, for they had only lately retaken Dewan Giri. A short time after, on reaching the main path from Buxa to Balla, an irregular cavalryman of the Jat Horse came by, carrying despatches for Buxa Fort. I wrote a hasty note to an officer there to ask what was going on, and I received in due course a reply saying not a shot had been fired there or anywhere else. These reports were louder and more distinctly like artillery fire than any I afterwards heard in the hills further to the east. These last had the nature of a very, very distant boom, coming from no well-defined direction. Particularly do I recall one occasion when we were going down a narrow spur on the southern face of the Jaintia Hills, on a glorious fine day, the view over the basal slopes all clothed in forest, and the plains and low hills of Sylhet beyond fading into the high horizon of the delta of the Brahmaputra. The sound seemed to come from out of the distance along the foot of the mountains—west and south.

As a primary cause, every possible kind of force has been suggested—fireworks, *i.e.* bombs, cannon, bursting bamboos in jungle-fires, thunder-claps, landslips, and the falling of river-banks. I am familiar with the sounds produced by all these causes, and the last-named was particularly brought under my notice when proceeding by boat on the Megua and Brahmaputra, and from Gowhatty on a raft made of two dug-out canoes to Dooabri, 125 miles. I have often seen and heard the report which