

He says (pp. 19, 20), "The distribution of Characinid fishes in the American and African fresh waters is quite inexplicable on any supposition of their having originated as a relic fauna in some one arm of the sea, . . . for there is no evidence that there has been any connection between the remote state (*sic*) land masses which these bodies now inhabit. . . . It is the same with the Cichlidæ and many other forms of fish." The view advocated is that these African and American fresh-water fishes must have originated, on both sides of the Atlantic, from marine forms simultaneously, but independently. It is sufficient to say that no such origin could account for the distribution of Amphisbænidæ, a family of land lizards, with a similar distribution to that of the Cichlidæ and Characinidæ. Mr. Moore cannot be acquainted with all that has been written, both by biologists and by geologists, as to the former land connection between Africa and South America, a connection which appears to have existed during Jurassic and Cretaceous times, and which probably continued in the early Tertiaries. The geological data are treated by Suess in the 'Antlitz der Erde;' the biological, palæontological, and recent facts are to be found scattered through a number of works, the earliest being by the late Prof. Neumayr. The principal data known in 1890 are contained in the presidential address to the Geological Society for that year, but additional evidence has since been brought forward by Gregory, Beddard, and others, one of the most recent contributions to the subject being that of Dr. Max Schoeller, noticed in this *Journal* for January, p. 67. But the facts are so widely known, that it is remarkable to find them, together with those contained in Darwin's 'Origin of Species,' completely ignored by a writer who is propounding novel views on the distribution of animals.

If, however, no favourable opinion can be expressed on some of the biological theories announced in 'The Tanganyika Problem,' the descriptions and figures of the animals found are of great merit. The account of the fishes is by Mr. Boulenger, and the accompanying figures, both coloured and uncoloured, are admirably executed. The descriptions of the mollusca and of the other invertebrata are by Mr. Moore, and form a valuable addition to knowledge, and the accompanying cuts are good. The landscapes in the earlier part of the book are less successful, and it is to be regretted that misprints are rather numerous throughout.

W. T. B.

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## THE HIGHEST MOUNTAIN IN THE WORLD.

By DOUGLAS W. FRESHFIELD.

SOME years ago (in 1886) I argued,\* with a pertinacity which I am afraid may have seemed presumptuous to some of my readers, against

\* *Proceedings of the Royal Geographical Society*, vol. viii. New Series; and *Alpine Journal*, vol. xii.

the conviction of the late General Walker, formerly the head of the Indian Survey, that Hermann Schlagintweit, together with Mr. Brian Hodgson, a witness of great weight, and other more recent Residents in Nepal, were mistaken in believing that the snowy peaks visible to the east from the neighbourhood of Katmandu, and called "Gaurisankar" by the inhabitants, in all probability include the triangulated peak, 29,002 feet, commonly known in England as "Mount Everest."

29,002 feet?



PEAKS SEEN TO THE EAST FROM HILLS NORTH OF KATMANDU.

(After Herr Boeck's photograph.)

Major (now Colonel) Waddell, an authority on these matters, expresses what I presume has been the popular verdict on the discussion in the following terms : \*—

"On the Continent one of the vague Indian mythological names, obtained by Schlagintweit from the Hindooized Nepalese of Khatmandu, for a mountain which he supposed to be identical with the Everest of the Survey, is usually assigned to it—namely, 'Gauri-sankar,' one of the titles of the conjugal Indian god Shiva, the Destroyer, and his wife. But it is not generally known that the identity of these two mountains has been conclusively disproved by General Walker, the late Surveyor-General of India, and by Colonel Tanner, his deputy. Owing to the curvature of the Earth, and the interposition of other ranges, it is physically impossible to see Everest either from Khatmandu, or the Kaulia or Kakani peaks, whence H. Schlagintweit believed he saw it,

\* 'Among the Himalayas.' By L. H. Waddell. 1899. I have not altered the spelling of the local names adopted by the author.

and got his local name, 'Gauri-sankar.' As for Kanchenjunga, which Schlagintweit says was also visible from that position, it is shown to be 'fully 100 miles *beyond the most remote* point visible from that locality.' And Colonel Tanner has directly proved that the Gaurisankar of Schlagintweit is certainly not the Everest of the Survey, but a much smaller and totally different mountain. He writes, 'I have now before me the panoramic profiles and angular measurements of Major Wilson, for some time Resident in Nepal, who observed from Sheopuri, a point on the Kaulia ridge. Schlagintweit's Gaurisankar, the "Everest" of successive political Residents in Nepal, was pointed out to Major Wilson, and from his angular measurements I am able to identify that peak as No. XX., 23,447 feet, more than a mile lower than Everest, and in point of distance very far short of it.'"

So far Colonel Waddell. His assertions are convincing at first sight; but they do not bear examination. When we refer to the official map, of which he furnishes a reproduction, we notice that there is nothing in that document to show that it is impossible, either from the curvature of the Earth or the interposition of other ranges, separately or combined, for the peak of 29,002 feet to be seen at a distance of 105 to 110 miles from a height of 7000 to 10,000 feet, some 7 miles north of Katmandu. From Katmandu itself the great peak would apparently be covered by the peak XVIII., 21,957 feet. But what can be seen from the city itself never formed any part of my argument.

In 1886 I concluded my share in the discussion by stating that it must be left for some competent observer at Katmandu to decide whether the 29,002-foot peak is visible from the hills in the vicinity.

At the end of last year two fresh pieces of evidence turned up. Lieut.-Colonel Pears, the Resident at Katmandu, confirmed to me the report of his predecessors that the snows seen to the east from near Katmandu are locally called "Gaurisankar," and Mrs. Pears exhibited at the Alpine Club a sketch of this range. The objection will, of course, be taken that this new evidence by itself is only a confirmation of the statement of earlier travellers that the eastern snows seen from this quarter are called Gaurisankar, and no proof that the 29,002-foot summit is one of the peaks visible. But we have also, in a German work \* just published, a photograph of the view of the eastern snows from the hill (Kaulia and Kakani are points on the same ridge) visited by Schlagintweit, with what is obviously an enlargement of part of it, showing the principal group.

Now, in these photographs, just over the northern flank of a peak we can hardly be wrong in recognizing as XVIII., appears a snowy mountain, the outline of which corresponds very closely, taking into account the relative positions from which the photographs were

\* 'Durch Indien im verschlossenen Land Nepal.' By Dr. Boeck. 1893.

Makalu.

29,002 feet



*Telephotograph.*

**THE NEPAL PEAKS FROM HOOKER'S CHUNJERMA.**

29,002 feet.

Makalu.



*Telephotograph.*

**THE NEPAL PEAKS FROM SANDAKPHU.**



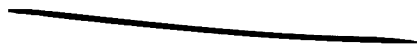
obtained, with the outline of the 29,002-foot peak in Signor Sella's photograph, as seen from the Chunjerma pass in eastern Nepal. And this mountain is, with regard to peak XVIII., in the exact position where "Mount Everest" should be. It may be, as the surveyors insisted, hidden from the city by peak XVIII., but the situation of Kakani, a few miles further north, suffices to open it.

This summit was, we understand from Dr. Boeck, pointed out to him as Gaurisankar, and he apparently, quite unconscious both of the previous visit of his fellow-countryman to the spot, and that he is dealing with a controversial matter, congratulates himself on his accomplishment of a pilgrimage to "Gaurisankar-Everest, the highest mountain of the Earth."

It seems, therefore, to me that Dr. Boeck has furnished some further ground for believing that Mr. Hodgson was right after all, and that the summit known in this country as "Mount Everest" does form part of the group visible and known as "Gaurisankar" to the natives of central Nepal. I should add that a summit apparently corresponding in position with the peak XX. of the Survey is also recognizable in Dr. Boeck's photograph.

I trust I have made it clear that the point I have been arguing throughout is, whether the 29,002-foot peak is among the snows visible from Kakani, and known as Gaurisankar, and not, whether Schlagintweit, or Major Wilson, or other observers, have identified rightly the particular summit. Most visitors to Sikhim, including Schlagintweit and, at one time, General Walker himself, mistook Makalu for the highest peak. This does not affect the fact that "Mount Everest" is visible from Sandakphu. Nor could the failure of Europeans at Katmandu to recognize which was the culminating point of the group the Nepalese call Gaurisankar prove that the 29,002-foot peak is out of sight, or is not called Gaurisankar. An instance nearer home may help to make the case more clear. On the Italian lakes the Saasgrat has been frequently mistaken for Monte Rosa. No one would argue on this account that Monte Rosa is invisible, or has not the best right to its name. The reason for which the surveyors argued so strenuously forty-five years ago that the 29,002-foot peak cannot be the Gaurisankar of Nepal was, of course, that their chief's proceeding in giving the mountain an English name was excused, or justified, at the time by the assertion that it had no local or native name. We have now got two native names, the Indian name Gaurisankar and the Tibetan name Chomokankar, long ago brought forward by Chandra Das, and, though never, so far as I know, seriously disputed, generally ignored, until Colonel Waddell brought it into prominence. Personally I should like to see Gaurisankar win the day.

The illustration in the text is taken from Dr. Boeck's photograph. The two photographic plates show the aspect of Mapalu and the



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