

2.—*On the District of Lake Pangong, in Tibet.* By Capt. H. H. GODWIN-AUSTEN, F.R.G.S., Assistant in the Trigonometrical Survey of India.

THE author left Leh to survey the shores of Lake Pangong in July, 1863. North of the Indus, from its junction with the Dras river, lies a high range of mountains, which separates the Indus drainage from that of the Shayok or Nubra. The passes over this range are of great elevation; on the direct road from Leh to the Pangong Lake there are two: viz., the Chang La, 17,470 feet, and the Kay La, 18,250 feet above the sea-level. Having crossed the Chang La to the village of Tanksé, the surveying party proceeded along the valley leading to the western extremity of the lake. The stream which flows down the valley contains but little water, and the *talus* from the mountains partly blocks up the passage; the ridge of Surtokh, which forms the watershed across the natural exit from the Pangong is entirely formed of loose shingle, brought down a somewhat large lateral ravine. If the waters of the Pangong (which have now no exit) should reach the altitude they formerly attained, they would force a passage across this barrier.

A Trigonometrical station of the Indian Survey lies close to the water's edge, its height being 13,931 feet above the sea-level. The waters are of an intense blue colour, clear as crystal, but too saline to be drinkable. The author commenced his march along the southern shores on the 22nd of July. He pursued this route until he came to a point where the lake contracts to very narrow dimensions; he then crossed to the northern shore, and reached to within a short distance of Noh, a Tibetan town of the province of Rudok, where he was compelled to turn back, owing to the entreaties of the governor. Beyond the contracted part the lake again expands for a long distance; it then again narrows, and further east again expands into a fine sheet of water, the termination of which is unknown. The first, or lower lake, is 40 miles in length; the second 33 miles; and the upper, or easterly portion, at least 18 miles.

Captain Godwin-Austen communicated his observations on the physical geography of this remarkable lake, and showed that its waters must formerly have been fresh, and must have attained a much greater elevation than they do at the present time. Myriads of fresh-water shells now strew the shore, and lie so thick in some of the bays that they can be taken up by handsfull. At present the waters are too salt to nourish a single molluscous animal. The lower lake does not contain in its waters or on its banks a vestige

of any kind of plant, although formerly there must have been a considerable vegetation, to sustain so much animal life. There are signs of the climate of the region having been formerly much more humid than it is now. The absence of streams whose waters find an exit in it is a curious feature; but there are numerous lateral valleys leading up towards the glaciers of the surrounding mountains, and the bottoms of the valleys near the lake are composed of beds of silt containing fossil shells, showing that considerable streams, bringing down detritus from the mountains, must formerly have flowed down them.

The Paper will be printed entire in the Journal, vol. xxxvii.

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## ADDITIONAL NOTICES.

(Printed by order of Council.)

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### 1. *Letters from* MR. GÉRHARD ROHLFS *to* SIR R. I. MURCHISON.\*

SIR,

Schimmedru, Kaur, June 20, 1866.†

I have delayed up to the present time giving you notice of my movements, partly because I had hoped to be able to say something definite regarding my future destination, and partly because I had nothing remarkable to communicate.

Detained here for nearly two months on account of there being no caravan for Bornu, I have profited by the enforced delay in constructing, from information obtained from the Teda, a map of the Tu or Tibesti country, which I think will give a tolerably accurate idea of a country where no traveller has yet been. Precise accounts given me by Maiua Bu Bekr of the reigning family in Tibesti, and others agree in this, that Tibesti, or Tu, as the natives style it, calling themselves Teda, is a very mountainous country, on which account it is also called Tebu Kschadi, *i. e.*, furrowed by deep valleys. Nine of these valleys are of considerable extent and inhabited. The most northerly is Abo or Uro. Three days' journey to the southward of Abo lies Tao, beginning at Mount Tisri on the east, and extending, like the first-named, towards the west. Three or four days' journey to the east of Tao is Borde, coming from the south, and extending towards the north; this is a well-peopled valley, inhabited by the Tebu Tukta and Adeboka. Eastward of Borde lies Ausso, which also extends from south to north. Then there is Suar, three days' journey to the south-west of Tao, and lying south and north; Durso to the north, uniting with the Tao valley, which comes from the east; Marmar, three days' journey s.s.e. of Tao, and extending towards the south-west; Krema, south of Marmar, and finally Dirkemau on the Borgu road towards the south-east, seven days' journey to the south-east of Tao, which I

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\* See 'Proceedings,' vol. x. p. 69.

† Translated by the Assistant Secretary R.C.S.