

was crossed July 10th. Henderson knows three or four passes over the granite range to the north of the Leh valley: The Kardong north of the town of Leh, the Digar-la, a little farther east, and the Chang-la still farther east. As the fourth he regards the one used by Hayward, a few miles farther east.

From Leh to Muglib, granite predominated and in many of the valleys he observed deposits of clay and gravel of enormous depth, often 300 feet at least. Beyond Muglib he noticed white gypsum and slate.

About Panggong-tso he makes the same remarks as GODWIN-AUSTEN:¹

Many feet — in some places 70 feet — above the present surface-level of the water there are white deposits, consisting chiefly of lime, and containing spicula of sponges and fresh water shells. Mr. Etheridge, to whom I showed these shells, says they are all species of *Limnaea*. These old beach marks, and the shells they contain, show that the lake has at one time been much larger and less salt than at present; and before very long it will no doubt become a salt plain, like that which we had to traverse before reaching the Karakash valley.

He also found »evidence to show that a large stream, issuing from the lake, at one time flowed down the Tankse valley into the Shayok river».

He gives 15,000 feet as the highest level for grain crops and 20,000 as the snow-limit.

Marsimik-la was passed (18,800) and from Pamsal Dr. Cayley pushed on to explore a new route. Henderson regards the Goghra valley as the head of the Chang-chenmo, which is probably correct as only a small tributary can originate from Lanek-la.

The hot springs were estimated at 150° F. One of them was surrounded by a large stalagmite formed of carbonate of lime.

Between Goghra and Ni-chu they crossed a pass: »The ascent was very gradual and easy, except for two miles near the top.» Thus this pass can hardly be any other than Chang-lung-yogma. All the rocks in the valley consisted of slate, gneiss, and mica schist, »except near the hot springs, where some fossiliferous limestone was seen». The pass was found to be 19,600 feet high. It had been discovered by Dr. CAYLEY, and was to the east of that taken by SHAW and HAYWARD. The camp Ni-chu on the other side was 18,850 feet.

The Ni-chu stream was said to go eastwards to a lake. Where they left Ni-chu the rocks consisted partly of fossiliferous limestone. Otherwise the Lingzi-tang was a level waste of sand mixed with angular fragments of gneiss, slate, sandstone and limestone. »At this point of the journey», it was said in a short but rather good description of the expedition, »the landscapes were of unearthly dreariness and magnificence. Far to the west the jagged peaks of the great Karakoram range

¹ Op. cit., p. 60.