

CHAPTER XXIX.

THE IMPORTANCE OF GLACIER SOURCES.

Comparatively recently, not yet a hundred years ago, the important part played by Himalayan glaciers as feeders of the great rivers began to be realised. The Indus, Satlej, Karnali, Ganges, Brahmaputra, have all for hundreds of years been derived from the sacred lake. I have proved that the Satlej is a glacier-born river.¹ The Indus, as not coming from glaciers, is, compared with the upper Satlej, Tsangpo, Shayok and others, a mere brook. Should only the volume of water be considered, the Tibetan branch of the Indus, i. e. the Singi-tsangpo, should only be regarded as a tributary.

The Himalayan glaciers have advanced extremely slowly to the important place they really occupy as feeders of great rivers. It would take us too far were we to follow the history of exploration in this direction. But to give an idea of the standpoint of European knowledge at different epochs during the last hundred years, I will quote the views of three prominent explorers.

Captain J. A. HODGSON who, forgetting the Capuchins and Desideri, claimed to have been, on June 21st, 1816, the first European who ever effected a passage over the great Himalaya, had an opportunity, in 1817, to explore and survey the Ganges to a considerable distance beyond Gangotri and to the very place »where its head is concealed by masses of snow which never melt». ² But as Captain RAPER's account of Captain WEBB's survey in 1808 had already been published he only refers to new ground.

Proceeding up from Gangotri he saw many snow beds, some of which he had to pass. He found the Bhagirathi or holy and celebrated Ganges issuing »from under a very low arch at the foot of the grand snow bed; — the river is here bounded to the right and left by high snow and rocks». In front, the mass of snow was perfectly perpendicular and had an estimated thickness of some 300 feet »of solid frozen

¹ That the Brahmaputra also comes from glaciers was well known by the Chinese long ago, suspected by Nain Sing, Ryder and Rawling and finally proved by myself.

² »Journal of a Survey of the Heads of the Rivers, Ganges and Jumna.» Asiatic Researches, Vol. XIV, Calcutta 1822, p. 60.