

the G. T. S.'s maps prove to be wrong. I do not, however, feel convinced by Dr. LONGSTAFF'S statement, especially after comparing his two maps: the one in SHERRING'S book, and the one in the *Alpine Journal*. One would hardly believe that they are meant to represent the same region. Judging from his maps, it is not clear where he touched the southern side of Gurla. For from Takla-kot he went straight north and then ascended the two east-west stretching ridges, which seem to start from the point of culmination. The view must be very extensive from the highest point reached, but glaciers may be hidden behind ridges and in deep-cut valleys. When he says: »in fact, we were the first to see this side of the mountain», he seems to have forgotten Mr. T. W. WEBBER, Colonel EDMUND SMYTH, HENRY HODGSON and the Hon. ROBERT DRUMMOND, who, exactly 40 years earlier, travelled close along the southern side of Gurla on their way from Takla-kot to the east and over the Dak Eo Pass. For, on Webber's map,¹ their route is only 9 miles straight south from the highest summit of Gurla. Three years later Dr. Longstaff, however, remembered Webber's expedition,² for he says: »Thence (from Taklakar) they crossed the lofty Dak Eo Pass to the south of Gurla Mandhata, a route seldom traversed even by natives». I should never have referred to Webber's map if Dr. Longstaff had not exhibited an almost unlimited confidence in it.

At some places³ he criticises the Survey of India, but he does it »in no critical mood». We must remember that exploring and surveying are two different things, and the Survey's trigonometrical observations on the Gurla are of greater value than Dr. Longstaff's geological, glaciological and hypsometrical observations on the same mountain. The surveyors adhere to mathematical and geometrical matters and they have no occasion to pay attention to the physical phenomena of the earth's crust. A triangulation may be scrupulously conscientious, every mountain peak may have its absolutely correct height and position on the map, and still the country between the peaks may be next to *terra incognita* — from the point of view of physical science. But the one cannot do without the other. The map of triangulated peaks will be a lifeless net of coordinates if an explanation of the topographical detail is not given. The surveyor is not trained for that sort of thing, while the student of physical geography will be hopelessly lost if he has not the assistance and the framework given by the trained surveyors. The survey of the whole of the Himalaya and Western Kara-korum is a most brilliant work and no official Survey of any state in the world can be compared with and none has had greater difficulties to overcome than the Survey of India. The means at the disposal of the Survey have not

¹ *Forests of Upper India*. Vide Vol. II, Pl. XVII, *supra*.

² *Geographical Journal*. Vol. XXXIII, 1909, p. 426.

³ *Geographical Journal*. Vol. XXIX, loc. cit.