

thus constructed can only be called a provisional one for the additional reason that I have had neither time nor opportunity to make the requisite corrections in the itineraries, and remove the errors which unavoidably cling to some of them. One of Bonvalot's lakes comes, for example, too close to one of my mountain-ranges; in Littledale the mouth of the Satschu-tsangpo lies about $\frac{1}{4}^{\circ}$ too far to the east; and Bower's itinerary in the vicinity of the Addan-tso and the Naktsong-tso is not in perfect agreement with the real situation of those lakes. All these errors can only be reconciled with one another when the whole of the materials have been dealt with by an expert cartographer, and this task will be undertaken, after the completion of the principal map, by the institute of Justus Perthes, of whose cooperation I have been kindly assured.

Errors in longitude are of course the most likely to occur, together with errors in the distances between the several meridional routes. But seeing that our immediate object is to try and trace the latitudinal mountain-ranges with the help of meridional routes, the errors in question are not of the greatest importance. But notwithstanding that I have the assistance of six meridional routes on my map, all drawn pretty close to one another, it has proved anything but an easy task to trace the ranges which are crossed by them all. Even though it is evident that Bonvalot, Dutreuil de Rhins, Littledale, and myself on three separate routes have crossed over six different passes situated in precisely the same latitude or approximately the same latitude, that does not at all prove that all these passes are of necessity situated in one and the same continuous mountain-chain. For if the ranges just at that spot have a west-north-west to east-south-east direction, the six passes, just because they are situated on the same latitude, evidently belong to six different ranges. Equally too can the range which is crossed by any one of the six passes taper away in both directions without having any direct connection with the ranges that are crossed by the two nearest passes. Moreover it is quite safe to assume, that one and the same east-west range varies much in altitude at different longitudes. Suppose that Bonvalot, for instance, has crossed over one of these ranges by a very high pass, he involuntarily carries away the impression that that particular range must be one of the very loftiest in the interior of Tibet, and he indicates it as such on his map, making it blacker than all the other ranges in that same region, and finally he confers upon it a resounding name. In one or two places my itinerary runs at the distance of half a degree from Bonvalot's, and consequently there exists every reason to suppose that in the same latitude as that in which he crossed over the pass mentioned I too should encounter a high pass; but what I in reality find are merely low swellings. On the other hand I do find, say, a lofty pass at some distance farther south, which inevitably causes doubts to arise whether the last-named range is to be considered as a direct continuation of Bonvalot's; that is to say, it becomes doubtful whether the range has a prevalently north-west and south-east direction or whether the low pass lying on the same latitude as Bonvalot's high pass belongs to an east-west range which chances to be lower at the point where I crossed over it than where Bonvalot did.

In consequence of all this no small degree of uncertainty necessarily attends the construction of an orographical map, even of those parts of eastern Tibet in