

An examination carried out by Colonel Byström proves, however, that there is a length-error of 109.5 km. or 2.56% of the route (4,270 km.), and a cross-error of 1.52%.

In his critical examination quoted above Professor Rosén has examined 21 different sections of routes from my journey in 1899—1902. He has subdivided them into two groups, the first of which, Nr. 1—10, are routes chiefly stretching from east to west and thus situated in latitudinal valleys. He says: »Here the length-error is as an average 2% of the route. Such an exactitude is regarded as good when stepping the distance on even ground (*Vide: Jordan, Handbuch der Vermessungskunde*, 1908, II, p. 85).» Professor Rosén regards the result of the first group as very good. The second group, Nr. 11—21, chiefly consists in meridional routes crossing passes and difficult ground. Here the length-error is 4—5%, which Rosén regards as quite satisfactory. In the first group the cross-error was found to be approximately 2% or the same as the length-error.

The polygon mentioned above is partly meridional, crossing passes, partly running east-west through latitudinal valleys. As could be expected, the length-error therefore will be more than 2% and less than 4—5%, and indeed it was found to be 2.56%.

The polygonal route I travelled in 1900 through North-eastern Tibet from *Temirlik* to the south, west, north and finally back eastwards to *Temirlik* was 1,656 km. in length. The endpoint fell 31 km. east of the starting point, being thus with an error of 1.81%; and 9 km. north of it, being 0.54%.

In 1900 and 1901 I accomplished another polygon, starting from *Altmish-bulak* and going S. S. W. through the desert of *Lop*, further S. E. and E. N. E. through the mountains of *Astin-tagh* and *Akato-tagh* to *Anambaruin-ula*, thence northward through the desert to *Kuruk-tagh* and westwards back to *Altmish-bulak*. This polygon is 1,460 km. in length, the length-error 0.205% and the cross-error practically 0%, as I reached the very spring in the middle of the desert and in very foggy weather, without assistance of astronomical observations. In this case the ground was very favourable and comfortable. From the dates given above we find the law, so natural in itself: the error increases in the same proportion as the ground becomes worse. The most difficult routes of all are the meridional ones through Tibet during the summer when the ground is soft. The easiest and nearly level regions are to be found in those parts of the Central-asiatic deserts where there is no sand, and here the winter is the best season. Thus we find:

	Length-error.	Cross-error.
Meridional routes in Tibet during the summer . . .	4—5%	
Meridional and latitudinal routes in Tibet all directions and all seasons . . . . .	2.56%	1.52%
Latitudinal valleys in Tibet all seasons . . . . .	about 2%	about 2%