

available materials that existed in 1899, may to some extent be a coincidence, as the errors in my compass-bearings and other topographical observations would seem to have neutralised each other. At the same time the approximate agreement bears testimony to the exactitude of my calculations of distance. The following instance will give an idea of the very simple method I employed in making my calculations. One camel, bearing always the same load, was used as »pace-reckoner». To traverse a base of 150 m., measured with the tape, he took

on 21st Dec. 3 min. 10 sec. in heavy sand

» 28th » 2 » 25 » on a level bajir with low sand

» 29th » 2 » 30 » on moderately sandy level ground

» 31st » 2 » 10 » on slightly undulating, but gradually ascending, hard sand

» 1st Jan. 2 » 15 » on a level bajir.

With the view of keeping a check upon these measurements, we measured our base-line afresh every morning that the character of the ground altered. The datum thus obtained was applied several times during the course of each day's march, and the results so obtained were afterwards used for striking a mean value, which was then taken as the standard for the hours and minutes during which the camel had travelled in the course of the day. In making this final calculation, we were always careful to deduct every stop that was made for rest, even the shortest. I also employed similar methods for my riding-horse, and for myself when I travelled on foot; thus when I went away from the caravan to reconnoitre, I was entirely independent of my »pace-reckoner», the camel. The number of compass-bearings that I took during the day's march naturally varied with the nature of the ground we travelled over. When moving along a level bajir it would suffice to take the bearings every half hour, or the intervals might even be longer, but in the sand I found it advisable to take them every two or three minutes, or even sometimes every minute. For instance on 22nd Dec. I took 48 compass-bearings in all, and the time we were travelling was 5 hours 41 minutes, so that on an average one compass observation was taken every 7 minutes. The longest period we travelled in the same direction, or in other words the longest interval between two compass observations, was in point of fact 32 min., and the shortest only one minute.

I propose in the immediately following pages to give, first a description of our journey across the desert, and after that to summarise the results of my observations. I regret I have nothing better to offer than a general description of the desert's appearance; but it must be remembered, that it is a dangerous thing to venture to cross a desert such as this, so extensive, so unknown, and with the distances everywhere so great from the centre to the periphery. On such a journey you have neither time nor opportunity for making measurements and determining levels with minute precision. We were frequently obliged to travel on foot, and at the end of a long day one is tired; besides, the one engrossing thought is whether one will succeed in reaching the other side of the desert at all. I feel it a particular source of regret, that the weather proved an almost constant hindrance to photography.

Starting on 20th December I made my way along the right bank of the Tarim, and then to the southern end of the Tana-baghladi. This is separated from