

At Leh in Ladákh advantage was taken of the presence of the Pundits to get a series of continuous hourly observations of the barometer. These extended over a period of six days during which there was no break in the observations. The height of the Observatory above the sea level (11,530 feet), coupled with the extreme dryness of the air of Ladákh, and its position in the interior of a large continent, combine to render the determination of the diurnal curve of considerable value.* In the diagram accompanying the vertical scale is ten times that of the natural scale, the exaggeration being necessary in order to show clearly the curve. The actual barometer readings† have been corrected for Index Error, and reduced to a temperature of 32°, before being projected on the diagram.

The curve indicates two maxima, *viz.*, at 1 A.M. and at 8 A.M., and minima at between 2 and 3 A.M. and between 4 and 5 P.M., which differ considerably from results obtained in other parts of the world. The daily maximum and minimum is very much more clearly marked than the nightly one.

At Yárkand also, during the winter, sets of continuous hourly observations were taken on the 20th, 21st, and 22nd of each month. Several of these sets have been reduced to a curve, which I have also shown in the same diagram.‡ It so happens that on the days that were selected for hourly observations at Yárkand there was almost always a steady fall in the barometer, as will be seen by a glance at the monthly curves in the other plate. In order to allow for this constant fall, the effect of which is to distort the true daily curve, I have applied proportionate corrections, so that the dotted line represents the true diurnal curve. The mean of six days' hourly observations, *viz.*, on 20th and 21st of December, 20th and 21st of January and 20th and 21st of February, have been employed in constructing the curve. It will be observed that at Yárkand the night maxima and minima are much more clearly marked than at Leh, but that there is much less difference between those of the day and night. The maxima occur at 10 A.M. and 11 P.M., the minima at 4 A.M. and 3 P.M. At Yárkand, where the Pandits passed the winter, meteorological observations were commenced on the 19th November and continued without a break until the 15th March. They consisted of the readings at 9 A.M., noon, 3 P.M., 6 P.M., and 9 P.M., of a mercurial barometer, an aneroid barometer, dry and wet bulb thermometers, and direction of the wind (*N.B.*—There was no rainfall, but a little snow fell in March); also the maximum and minimum temperatures in the shade during the 24 hours.

At Káshghar observations were commenced on the 12th December, but were not so complete or regular as those at Yárkand, as I had fewer observers to assist me, and I was myself absent for two periods, *viz.*, from 31st December to 11th January, and again from 15th February to 3rd March. Observations were continued up to the 16th March, and generally consisted of readings of two aneroid barometers at the hours of 9 A.M., noon, and 3 P.M., and occasionally at 6 P.M. Readings of thermometer (dry) and direction of wind were taken at the same hours, besides the maxima and minima during the 24 hours. Readings of the wet bulb thermometer were also taken during the latter half of February and March. In addition to these a series of hypsometric observations were taken, with the object of determining the relative heights of Yárkand and Káshghar.

The whole of these observations are shewn in the Appendix, Section G., to which the reader is referred. I have prepared (plate 2) a set of curves showing the connection of the barometric wave between the stations of Káshghar, Yárkand, Leh, and Dehra Dún (at the foot of the southern slopes of the Himalayas). The curve represents the height of the corrected readings of the barometer at 9 A.M., during the four months for which I was able to obtain data, with the exception of Dehra, where 9 A.M. readings not being forthcoming I have taken the observations recorded at 10-30 A.M.

* The Schlagintweits took hourly observations at Leh during the day, and interpolated values for the night hours. The results thus obtained cannot have anything like the same value as those derived from observations taken throughout the 24 hours.

† The instrument employed was a mercurial barometer by Casella.

‡ These diagrams have been drawn by Mr. Keelan of the Great Trigonometrical Survey, who has also rendered me great assistance in the preparation of the Appendices of this report.