

all the hours of darkness, but is subject, like most other phenomena in meteorology, to influences having a diurnal period as well as an annual one. The hour of maximum frequency, given by the first report, 10 or 11, p.m. The Aurora appears in Canada in every month of the year. The greatest number of observations is in April, and there is a very marked excess in February, March, and April of each year over any other period."

"It has been often stated vaguely that the Aurora appears every clear night. This is certainly not true of any one station, as far as the earlier hours are concerned, we are still short of proof that it is true in the widest meaning."

"It is remarkable that in both cases the phenomenon was first seen, in absolute time, at the most eastern stations, notwithstanding the earlier commencement of darkness at the extreme north, where the difference of latitude in some cases more than compensates for the difference of longitude; it would appear from this that the Aurora does not commonly appear at a station upon any meridian until that meridian generally is in darkness; result which, if established by the whole body of evidence, will be both new and interesting."

"The stations may be arranged in three groups. The first comprising all those which are from 500 to 1000 geographical miles distant from the Magnetic Pole; the second, those which are from 1200 to 1500 miles distant; and the third, those including the great majority of stations in the United States, which are from 1600 to 2000 miles distant, from the same point."

Captain Lefroy's examination of the several facts contained in the various sources of information in his possession, have induced him to establish the following simple and ingenious division of stations into circles for the record of observations:—

"It results from the comparison of the six winter months, October to March inclusive, 1850-1; that Aurora was seen before midnight within the first circle on 85.5 per cent. of practicable nights, in the second circle on 80 per cent., and in the third on only 48.5 per cent., indicating a rapid falling off of the causes producing it at distances exceeding 1600 miles from the Magnetic Pole."

With reference to the whole result of these analyses of records our author says:—

"It is scarcely necessary to say that these simple numerical comparisons are but the first fruits of the observations; such as they are, however, they suggest to the mind a spectacle which, if true in nature, must be of wonderful magnificence. The Polar light kindling on each meridian as that of day declines, sometimes with the splendour of prismatic colouring over half hemisphere, sometimes contracting its circles and paling its fires, for a period of days or weeks, and sometimes spreading downwards over the globe, with an intensity of which our highest conceptions are probably most inadequate, since, if the region of the display is as elevated as is usually supposed, about a third of its light must be absorbed by the atmosphere."