

from 1801 to 1824: of these records the series of 84 years from 1825 is known to be very fairly accurate (Captain H. G. Lyons) . . . Inasmuch as the Nile flood is determined by the monsoon rainfall of Abyssinia, and as the moist winds which provide this rainfall travel in the earlier portion of their movement side by side with those which ultimately reach the north of the Arabian Sea, there is a tolerably close correspondence between the abundance of the Nile flood and that of the monsoon rains of northwest India. It would thus appear legitimate to utilise the Nile data for indicating, at any rate approximately, the character of the variations to which the Indian monsoon is liable.»

Dr. Walker's opinion is that a shortage of rain cannot be regarded as indicating a permanent change of climate unless it extend over thirty years at the very least. This opinion he confirms with figures. In 1893 and 1894 the amount of rain increased to a maximum, and then fell suddenly; since 1899 it has again been increasing.<sup>1</sup>

So far as I can see, the material existing is too scanty and too unreliable to allow us of any conclusions in comparing the Nile floods, the monsoon rains of N.W. India, and the outflow from the Manasarovar with each other. The first factor of these three is interrupted, the second does not reach sufficiently far back in time, and for the third we possess only very few reliable data. Regarding the outflow in the last 100 years only 1812, 1846, 1848 and 1849 and the few last years are reliable. For the Nile floods records exist, according to Table 3,<sup>2</sup> from 1737 to 1800, and from 1825 to 1908. Therefore the year 1812 which is so important in the history of the Manasarovar is missing in the Table of the Nile floods. From 1846 we note, for the Nile floods, + 10, in percentage departure from normal, and from 1848 + 12; both these figures agree with Strachey's observations on the Manasarovar effluent. In 1904, when Ryder suspects an outflow, we have - 25 for the Nile floods; in 1907 - 40, but in 1908 + 10, indicating a new rise of the curve.

Table 4: *Monsoon rainfall departure of N.W. India, June to September*, begins with the year 1863, and so we miss even the two important years 1846 and 1848. In 1865 the departure was - 5.09", and 1868 - 3.57"; in both these years there was no outflow from the Manasarovar. In 1904 we have - 9.93", which makes it very unlikely that the Manasarovar could have had an outflow about that time. In 1907 we have - 0.14" and the Manasarovar very low. From 1897 the departure was - for ten years with only two exceptions: 1900 with + 1.93", and 1906 with + 1.81". This period of negative departure has forced the lake to sink gradually. In 1908 again we find + 9.42", still causing no outflow, but preparing the rise of the lake.

<sup>1</sup> »Summing up, it may be said that although there is no proof of any permanent climatic change there has been a tendency over a large part of northwest and central India for rainfall during the past thirty years a) to increase to a maximum between 1892 and 1894, b) to sink to a minimum in 1899, and c) to improve slowly since that time.» Op. cit. p. 5.

<sup>2</sup> Op. cit. p. 9.