

the countries of the subtropical zone, inclusive of the desert regions of North Africa and South Asia, have gone through a pluvial age, which is generally supposed to have been contemporary with the ice age in northern countries. In 16 points Blanckenhorn shows how the pluvial epochs corresponded with the glacial epochs.¹

The same agencies which brought with them a pluvial epoch in North Africa and South Asia, and generally the whole subtropical zone, forced also the glaciers of Himalaya and Kara-korum to increase and advance to much lower levels than nowadays. The original cause has been the same, but while the increased precipitation formed lakes in warmer countries, it accumulated snow and ice in the colder regions, such as the two mountain systems mentioned. On the highland plateau of Tibet the temperature must have been sufficiently low to allow the entrance of an ice age, but even then, and on account of the protection of the southern mountain systems the precipitation has not been sufficient to cover the highland with a cap of ice. There are glaciers, although sporadic, rare and small, all over Tibet, and they advanced considerably at the same time as those of Himalaya and Kara-korum. But otherwise I have in vain searched for any traces of an ice age in the country.

The effect of the increased precipitation is best visible in the beach-lines and strand-terraces of the lakes, of which some have stood at a level 133m. higher than now. During the same period the Manasarovar received a much greater volume of water from its affluents than now, as is also seen from the old fluvial terraces of Tage-tsangpo and Samo-tsangpo. The surface of the lake does not need, however, to have stood much more than 2m. higher than in 1907. Through the channel of Nganga or Ganga the lake was continually drained and kept at a constant level.

In the same way the Rakas-tal was constantly filled, and the Satlej flowed out of this lake, already here a mighty and rushing river, strong enough to cut out the deep valley past Laling-tak and Dölchu-gompa. This state of things may have undergone periodical changes corresponding to the glacial and inter-glacial periods. At that epoch nobody would have been in doubt where the real source of the Satlej was situated. For the Tage-tsangpo comes from the Himalayan side which is higher and more exposed to the precipitation, and therefore able to give rise to the greatest river. The relative volumes of different affluents must have been the same as now. Therefore I have called, and still regard the source of the Tage-tsangpo as the genetic source of the Satlej.

The pluvial epoch however, proceeds towards its end. The salt lakes of the highland plateau have dwindled gradually and left behind a series of strand terraces. The Manasarovar and Rakas-tal still have nearly the same outlines as before, although their levels are sinking slowly and irregularly. Finally the historical time sets in. The scholars I have quoted above, except Huntington, agree that the historical time

trocknung des Bodens ist wie in allen Mittelmeerländern als Folge der Abholzung der ehemaligen Wälder durch den Menschen zu erklären.»

¹ Das Klima der Quartärperiode in Syrien, Palästina und Ägypten, ibidem p. 425 et seq.