

observed.¹ He estimates that the lake once reached 40 feet above the present level. At the point where the damming fan abuts against the eastern hills, it would take a rise of somewhere between 50 and 100 feet to carry the waters over it. From the time when the lake was first cut off from all sort of effluence the area of evaporation has been lessened by $\frac{1}{5}$, which was enough to balance the supply from streams and springs, and this is the measure of the increase of dryness. But any amount of change in this direction may have occurred before the lake became an isolated drainage-basin. »It may be remarked that on a large evaporation area being formed the water may begin in some degree to get saline even before the outflow has ceased; wherever there is less outflow than inflow there must be concentration of salts, and there will be less outflow than inflow for any lake of large area even if it have an outlet.»

This law laid down by Drew cannot be applied to the Manasarovar, and, generally speaking, it is difficult to imagine a lake with more outflow than inflow. If Drew's law were correct all lakes should be salt. The outflow of the Manasarovar is of course always much less than the inflow, and periodically there is no superficial outflow at all. And still the lake is perfectly fresh.

Some years later Major-General MACINTYRE camped at the southern end of the Tso-morari, and found the water to be »not salt»; on the contrary it seemed to be »perfectly good», although rather flat to the taste; but the »Tartars» had an objection to drinking it. There was a large amount of drainage into the lake but no visible outflow from it. This he considered as a remarkable fact, for evaporation alone could hardly account for the disappearance of the constant and abundant supply of water from the great quantity of melting snow draining into it from the surrounding mountains.²

R. D. OLDHAM cannot entirely accept Drew's theory that the Tibetan lakes should have been formed by the damming up of the main valleys by the accumulation of fans of tributaries which were great in post-glacial times. The formation of such a lake as the Panggong he regards as entirely due to differential movements of the surface, which raised a portion of the original river bed at a more rapid rate than the stream was able to erode, and dammed back the drainage to produce the present lake.

In the case of the Tso-morari to which Drew had specially applied the fan-theory, Oldham thinks that the fan alone could not have caused an interruption of the drainage, had there not been an elevation of a portion of the river valley farther down its course, and a consequent diminution of the gradient. The broad shingle plains found above the points where the rivers enter a gorge, Oldham regards as produced by a check in the gradient, consequent on a recent elevation of the river

¹ Compare Dr. H. H. Hayden's Chapter: »On the Origin of Lakes», A Sketch of the Geography and Geology of the Himalaya Mountains and Tibet, Calcutta 1907, p. 202 et seq.

² Hindu-Koh: Wanderings and wild sport on and beyond the Himalayas, London 1889, p. 357.