

ing down the river on the south side and up again on the north until it meets the talus about a quarter of a mile below El Capitan, thus forming a complete barrier across the valley. It is not very conspicuous, rising only about twenty feet above the general level, yet it seems to mark an important change in the character of the talus at the foot of the cliffs of the Yosemite. Above it the quantity of debris accumulated in this position is exceedingly small; indeed, there is in some places actually none at all, the lower edge of the cliff meeting the floor of the valley, with hardly a fragment of rock lodged in the angle; below the moraine, on the other hand, the debris piles are extensive, uniting at the river, and extending high up the cliffs on each side.

It seems not unlikely that this moraine may have acted as a dam to retain the water within the valley, after the glacier had retreated to its upper end, and that it was while thus occupied by a lake that it was filled up with the comminuted materials arising from the grinding of the glaciers above, thus giving it its present nearly level surface.

It is evident, from the fresh appearance of large masses of debris along the sides of the valley that these materials are now accumulating with considerable rapidity; and when we consider how small the whole quantity of talus is, as compared with the height and extent of the cliffs, we are forced to the conclusion that the time which has elapsed since the Yosemite was occupied by a glacier cannot have been very long. It would seem that there are strong reasons for believing that a great change in the climate of California may have taken place within the historical period. We know that such a change has occurred, as there is abundant evidence to prove that the precipitation of moisture in the Sierra Nevada was once vastly greater than it now is; but to the cause of this change we have as yet no clue. This subject, however, will come up for a much fuller, and, it is hoped, a more satisfactory discussion than we have either the space or the data for at the present time.

Having given the above brief account of some of the more interesting features of the Yosemite, we leave this wonderful valley, and proceed to sketch the geography and geology of the higher mountain region above, at the head of the Merced and Tuolumne Rivers.

We followed the Coulterville trail out of the valley, but turned east