

Salt Lake. From this level the water is supposed to have fallen with some oscillations to its present level in the yet existing lakes. At one stage, the Stansbury, it halted long enough to leave certain shore lines, which stand about 330 feet above Great Salt Lake. If we arrange the shore lines in the order of their height on the slopes of the basin they will stand thus: Bonneville, Intermediate, Provo, Stansbury, Great Salt Lake.

If we take into account the stratigraphy as presented by Gilbert on his page 260 we shall have a geological section as follows:

7. Recent.
6. Stansbury.
5. Provo.
4. Upper Bonneville (White Marl of second high-water stage).
3. Inter-Bonneville alluvium (first low-water stage).
2. Lower Bonneville (Yellow clay corresponding to first high-water stage).
1. Pre-Bonneville epoch of low water.

Gilbert concluded (his page 310) as already said, that there had been two high-water stages, that which had produced the Intermediate shore lines and laid down the lower Bonneville yellow clay and a second and higher stage during which the Bonneville shore lines had been carved out and the Upper Bonneville white marls had been deposited. These two stages were widely separated in time by a lower water stage, as indicated by alluvial deposits and an unconformity between the yellow clay and white marls. There had been, therefore, two periods of humid climate and a long intervening period of dry climate. Gilbert associated the two humid periods with the two glacial periods which geologists at his time recognized (his pages 270, 310). He appears not to have recognized any vestiges of the glaciers which had existed approximately at the time of the deposition of the Yellow Clay of the Lower Bonneville (his page 318). He regarded the second ice period as that of maximum glaciation and he held (his page 310) that the climatic maximum occurred somewhat later than the epoch of the Bonneville shore line. He wrote: "It appears quite consistent with the phenomena to suppose that the epoch of maximum glaciation was covered by the longer epoch of the Provo shoreline." He believed that this second glaciation had happened at a geological time comparatively recent.

It is interesting at this point to consider the results of investigations made in the Wasatch Mountains by Dr. Wallace W. Atwood (Prof. Paper U. S. Geol. Survey, No. 61, pp. 73-93). This geologist found satisfactory evidence for the existence of two glacial stages, an older and another which appeared to show by the little weathering of the transported materials and the little erosion of the moraines, that no great time had elapsed since its disappearance. He concluded that it was during the earlier period of cold that had occurred the maximum of glaciation; also that "the close correlation of the early ice epoch with the earlier wide extension of the Bonneville waters can not yet be asserted"; but that the deeply buried drift shows that there were moraines in the region before the last advance of the lake waters, which would be before the deposit of the White marls of the Upper Bonneville. He further held that the late moraine materials rested on the Bonneville sediments. He did