PLEISTOCENE GEOLOGY

Walker Lake. Bones were so abundant that in a day's ride he obtained as many as could be conveniently carried behind the saddle. They consisted of a proboscidean (elephant or mastodon), horse, ox (bison) and camel and, as said, were sent to O. C. Marsh. At a point 12 miles in an air line from the head of the lake, McGee found sticking in the silt, 5 feet above its base and 25 feet below its summit, an obsidian implement. Several pages of the paper quoted are devoted to a discussion of this discovery. McGee furnished the following geological section of the canyon walls:

	Section	Feet
1.	Stratified loam, sand and white silt without fossile.	5 to 15
2.	Discontinuous laver of calcareous tufs.	25 to 2.5
3.	Massive, finely laminated, or obscurely stratified fine silt or marl, generally snow	
	white, with fossil bones about its base	20 to 50
4.	Somewhat ferruginous and pebbly stratified sand containing numerous fossil	
	bones	3 to 20
5.	Fine white silt, generally similar to the third number, but occasionally inter-	
	stratified with sand and graduating downward into coarse sand and gravel	10 to 200
6.	An unconformity.	
7.	Series of white silts and brown sand (etc.)	0 to 100
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McGee concluded that the part of the section above the unconformity belonged to the later period of cold and wet, that which corresponds to the Upper Bonneville of Lake Bonneville, or the Aftonian.

In 1914, an interesting article on the geological history of Lake Lahontan was contributed by Professor J C. Jones, of the University of Nevada (Science, vol. xL, pp. 827-830). He concluded that the thinolite and the dendrite had been deposited from the lake waters through the agency of algae and bacteria. He expressed the opinion that it is probable that Lake Lahontan began to form within the last 5,000 years. In *Science* (n. s., 1915, vol. xLI, pages 209-211), Hoyt S. Gale dissented from Professor Jones's conclusions. His argument in brief was that after the Lake Lahontan fell to a certain level, Truckee River, which had furnished a large part of the supply to the great lake, was able to maintain a high level in Pyramid Lake and that the latter was kept fresh for a long time by overflowing, possibly into the Carson basin and certainly into the Smoke Creek Desert. At a later time its waters began to be concentrated. Gale's map is reproduced (fig. 9) on page 156.

Dr. John O. Snyder (Jour. Wash. Acad. Sci., vol. IV, 1914, pp. 299-300), after a study of the fishes of Pyramid and Winnemucca Lakes, discussed two of Russell's conclusions, and this discussion has a bearing on the history of the lakes.

The first of these conclusions, viz, that Lake Lahontan had no outlet, is supported by the ichthyology of the region, the fishes indicating long isolation. Russell's second conclusion, that the desiccation had been complete and remained so until within the last 300 years, is not sustained by the study of the fishes. The presumption is that Pyramid Lake and some other lakes have been continuously fresh enough to permit fishes to live in them since Quaternary times.

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