

a mean depth of 151 feet, and the volume of water contained in it is estimated at about 22,380 million cubic feet.

The River Reuss joins the Aar not far from its junction with the Rhine, and drains the Lake of Lucerne.

Lake of Lucerne (or Vierwaldstätter See, or Lac de Quatre Cantons) lies 1433 feet above sea-level, is 44 square miles in area, has a maximum depth of 702 feet, and a mean depth of 341 feet. It is estimated to contain 417,447 million cubic feet of water. From an ancient delta of the Muotta, and remains of terraces, it would appear, says Du Pasquier,¹ that the water once stood nearly 100 feet above its present level. It would then have been continuous with the Lake of Zug. Heim regards the lake as a complication of several river valleys which were "drowned" at the same time. It belongs to what he terms "Rand-Seen," *i.e.* lakes situated on the north and south borders of the Alps, such as the Lake of Geneva, Zürich, etc., caused by a subsidence of the Alps. The old river-terraces of the Reuss can still be traced in places along the valley near Zug, but they slope in the reverse way to the valley. From this and other evidence it is concluded that there has been a relative elevation of the land. The natural course of the river (which ran originally by Schwyz, through the Lake of Lowerz and the Lake of Zug, rejoining its present course by the valley of the Lorze) was thus changed, and it was turned west till it joined the Aa. The foldings in the neighbourhood of Lucerne changed the combined streams into a branching lake. The bays of Alpnach and Küssnach are a continuation of the valley of the Sarnen Aa, which forms the Lake of Sarnen. The peculiar shape of the Lake of Lucerne is thus accounted for:—The stretch from Buochs to Brunnen is probably the old course of the Engelberger Aa, when it joined the ancient Reuss at Brunnen and continued with it by Schwyz and Zug; the bottom of the Bay of Uri, where the Reuss enters the lake, is nearly flat, its two sides being reflections one of the other, and it appears to be a river-valley—a part of the course of the Reuss. Between Kindlimord and Schwybbogen a moraine crosses the lake, rising to within 164 feet of the surface.²

Lake of Zug has an area of about 15 square miles, a maximum depth of 649 feet, contains about 113,059 million cubic feet of water, and lies 1368 feet above sea-level.

The River Linth, a tributary of the Aar, drains the Lake of Walen and the Lake of Zürich, and, under the name of Limmat flows into the Aar a little north of the junction with the Reuss.

Lake of Walen is about 10 miles long, by 1½ miles in maximum breadth; the area is about 9 square miles, and the maximum

¹ *Beitr. z. geol. K. d. Schw.*, xxxi., 1891.

² Heim, *Beitr. z. geol. K. d. Schw.*, xxv., 1885.