

country. It is enclosed by a rim of old rocks, which, so far as we know, is complete to the west and south, and has only a narrow, shallow lip to the north, and perhaps another to the east, so that there is no escape for a subterranean river. Wells have been bored, and furnished an abundant supply of water. The high temperature gradient, and the occurrence of free gases in the wells, indicate that the water rises from great depths. Again, the decrease in the yield of many of the wells shows that they are the modern artificial outlets from a vast reservoir, or underground terminal lake, the waters of which must have been collected during the course of centuries.

The water from the artesian wells is mainly used for watering stock. The irrigation of ordinary crops in an arid country consumes a large amount of water, and the areas which could be irrigated from the wells are small in comparison with that which must lie idle. Henderson¹ estimated that under the most favourable conditions, and even if the water were lost neither by soakage nor by evaporation, only the three-hundredth part of the western districts could be irrigated. Again, the artesian waters are not always suitable for irrigation, being highly saline, and especially apt to be charged with carbonate of soda. Luxuriant crops are produced for the first few years, but the evaporation of the water leaves a deposit of carbonate of soda, which is very injurious to the growth of the plants.

Lake George, the largest lake in New South Wales, is 25 miles long, 8 miles broad, and lies at an elevation of 2100 feet above sea-level. It occupies an area of subsidence in the Blue Mountains, about 135 miles to the south-west of Sydney, bounded by a fault plane of about 400 feet drop. It is not always a lake, for at intervals it shrinks for years and finally becomes dry, when it is portioned into grazing leases, fences running nearly across the bed, and it yields very good pasturage for sheep. The basin of Lake George contained water in the years 1816–1830, 1852 (when it attained its maximum depth of rather more than 10 feet), 1864, and 1874–1900; it was practically dry again by 1905. It occupies the southern portion of a depression in the Cullarin Range called the Lake George Depression, 490 square miles in extent, and the only example in New South Wales of a purely inland drainage area. It is watered by several small streams, but has no visible outlet. Taylor² corroborates the theory that the lake never had an outlet; no evidence of a flood more than 30 feet deep can be traced as having occurred for many centuries, while nearly 200 feet are necessary to provide an outlet north, west, or south. Probably since its inception the lake has been receiving silt, which has gradually filled up its bed. A local flood has no

¹ See *Seventeenth Ann. Rep. Hydraulic Engineering*, p. 16, Brisbane, 1901.

² *Proc. Linn. Soc. N.S.W.*, vol. xxxii, p. 335, 1907.