reliable data as to yearly flow for the streams on which a reservoir is situated, there may be some doubt as to its efficiency for power purposes. The low minimum flow of the Manuherikia throws some doubt on the above assumed minimum flow of the Taieri. Considerable portions of the two river-basins are fairly comparable as to climatic conditions. Should it be found that the minimum flow of the Taieri falls as low relatively as that of the Manuherikia, the value of the river for power purposes would be seriously diminished.

It should be possible to get some power from the Taieri in the gorge between the Taieri Lake and Hyde. No levels have been got for this part of the river. There is a fall of about 500 ft. between the lake and the Sutton. Part of this may be concentrated in the gorge. At one or two places in this reach of the river probably a dam would give fairly favourable results. Smaller power schemes might be possible in the upper sections of the river.

Clutha River.

Suggestions were made as to utilising the flow of the Clutha River above Beaumont. For five miles above Beaumont the fall in the river is about 8 ft. per mile, and from Talla Burn to Teviot the average fall is under 5 ft. per mile. The flood-rise is 20 ft., more or less, according to the width of the river. It would take a number of miles of useless conduit to get water for power purposes clear of the flood-level, and the suggestion is not worth any detailed consideration.

Beaumont Stream.

This stream joins the Clutha at Beaumont. The ordinary level of the Clutha River at this point is 131 ft. above sea-level. The flood-rise is 20 ft. The stream rises to a height of about 930 ft. above the sea, five miles from its junction with the Clutha. The drainage-area above this point is small—only seven square miles. The flow at the time of examination was 12 cubic feet per second. A dam to store a considerable quantity of water could be got at the 930 ft. level. Possibly about 800 b.h.p. continuously could be got by a race five miles long, or more, to carry the water from the 930 ft. level to a power-station on the Clutha River. A dam would enable more power to be got, the amount depending on the storage obtainable.

Talla Burn.

This stream joins the Clutha about five miles above the Beaumont. The Clutha River here is 170 ft. above sea-level, and the flood-rise is about 20 ft. About two miles and three-quarters up from the junction the Talla Burn attains a height of 1,085 ft. above sea-level. At this place a reservoir can easily be constructed to store a large quantity of water. The drainage-area above this point is nineteen square miles. The minimum quantity of water flowing in the stream at the proposed reservoir-site is given as 30 cubic feet per second. With a race of three miles or more to carry the water to a power-site on the Clutha clear of flood, about 2,600 b.h.p. should easily be obtainable for continuous working; or, say, 5,000 b.h.p. for twelve hours' full-power working each day. The actual amount of power will depend on the storage obtainable by the expenditure of a reasonable sum on a dam. A considerable increase in power over the figures given would be got by storage.

Teviot River.

This river joins the Clutha just opposite Roxburgh. The level of the Clutha here is 257 ft. above sea-level, and the flood-level of 1878 is 291 ft. above sea-level, as ascertained by levelling down from a trig. station. At a distance of about three miles and a quarter from the Clutha the Teviot attains a level of 1,203 ft. Above this point the drainage-area is 115 square miles, and the minimum flow is put at about 140 cubic feet per second. The flow actually measured in March last was 230 cubic feet per second. A dam at this proposed point of intake would store a large quantity of water. In addition to this there is a large reservoir already constructed, known as Lake Onslow, 2·28 square miles in area; also some others. Onslow Lake controls sixty-six square miles of watershed, and this should be by far the best part of the river-basin for catchment purposes. The storage-capacity of the lake can be increased considerably. The power obtainable should be over 15,000 b.h.p. or more, depending on the amount of storage available, effects of frost, &c. These figures are for continuous working; for half-time full-power working about 30,000 b.h.p. should be available. A number of water-rights are held to take water from this stream to a total amount of 153 heads. Only about half of this quantity is used. Thirteen separate rights have been issued. Seven of these, for a total of sixty-five heads, expire at various times from 1940 to 1945; the remaining six, for a total of eighty-eight heads, expire at various times from the present year up to 1918, and of these, two for forty-seven heads in that year. The hillsides are not very suitable for the construction of water-races; the miners generally use flumes; and a large race for a power-station would therefore have to be in great part either flume or tunnel to avoid as much as possible all risk of failure. A complete survey of this river is required to determine the extent of storage available, the quantity of water flowing at various periods of the year, the best point of intake, length of race and pipes, frost-effects, &c. So far as the information available goes it seems to be a most promising scheme and is worthy of very complete investigation.

The Earnscleugh River is now utilised for an electric plant to work some dredges. A high fall is available in a short distance, and it appears likely that a considerable amount of power might be got here if storage could be cheaply provided. The drainage-area available may be taken as sixty-five square miles, but it is situated in a comparatively low-rainfall region.