5 H.—13.

No. 3.—Otumuheke Stream water, temp. 78°, from bathing-places at Lake Taupo, and is similar

to No. 1. It is largely charged with iodine.

No. 4.—From Ruahine Hot Springs (springs on Mr. Locke's ground), the temperature of which is 190° Fahr. It is eminently a saline water, its principal constituent being chloride of sodium. This water is charged with iodine to the highest degree of any of this series of waters. Collected 1st May, 1873.

No. 5.—The baths, Orakeikorako: as received, very turbid and high-coloured. Turbidity did not sensibly disappear when water was allowed to stand at rest for a long time. This water is highly charged with saline matters (alkaline chlorides), and it gives a very distinct reaction of iodine. It contains much organic matter.

No. 6.—From Mr. MacMurray's bath: is a siliceous water, and, though poor in alkaline chlorides, is

rich in iodides.

No. 7.—The Alum Cave, Orakeikorako; collected 17th May, 1873: differs from any of the preceding waters in containing a large quantity of sulphate of lime. It gives evidence of only traces of iodine.

No. 8.—The Crow-Nest Hot Springs; temperature of spring 179° Fahr.; collected 1st May, 1873. Similar to No. 4, being a very saline water. Quantity of iodine is very minute, but still can be detected in the water unconcentrated.

No. 9.—From Waipahuhi: forms a pool about 50 yards by 30, the Native name of which is Konekeneke. It has a rocky bottom, and is a "fine swimming bath." Temperature of water varies from 98° to 120°. Collected 1st May, 1873. This is a siliceous water, from which iodine appears to be absent; at least this element could not be detected in it by the starch test when concentrated (by evaporation) to one-fifth of its original bulk.

No. 10.—From a hot spring on the Oranui Block, Te Hukahuka: forms a bathing-place 15 feet by 10 feet, a cold-water creek and hot springs issuing from the rocks at side and bottom. Col-

lected 5th May, 1873.

This resembles the spring water of a slate country, its salt being less siliccous than any of the

other waters except Nos. 3 and 11. It is, however, largely charged with iodine.

From the above table and schedule it is seen that we have several kinds of mineral waters within no great distance of each other, which of itself is often a considerable advantage in the medicinal use of waters of this kind.

It is to be observed, however, that, while some of them differ very much from the rest in general chemical characters, they nearly all contain iodine, and in quantity sufficient to impart to them decided therapeutic qualities, iodine and its alkaline salts being, as is well known, very efficacious when externally applied in cases of cutaneous eruption, chronic rheumatism, and like complaints.

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As the contributor of the waters from Napier (Dr. W. J. Spencer) has kindly promised to send larger samples of these to the Laboratory, if required, it is contemplated to make further detailed

analyses of certain of these waters at an early date.

[Extract from "Ninth Annual Report on the Colonial Museum and Laboratory," pp. 25, 26.]

Several mineral waters from new localities have been partially examined and analyzed quantita-

tively.

Among the former is a water procured by myself from Burton's, Taipo, No. 1500. It is a hepatic one, of a variety different from any of those found, or at least announced, here prior to this. Besides the sulphuretted hydrogen which gives it the character stated for it, this water contains a little arsenic and minute traces of iodine. It is slightly acid, but acquires a strong alkaline reaction when evaporated to a small bulk. No. 1524 is from a small lake at Waimongeao, near Mount Edgecombe, and is asserted to be of a poisonous nature, from the fact that birds in attempting to fly over frequently fall into it. The only substance present in this water capable, when mixed with air, of thus affecting birds, is carbonic acid, and, as the water appears strongly charged with this gas, in all probability there is a large escape of it from the bed of the lake, and which, after saturating the water of it, mixes with the air above and so poisons it.

No. 1567 is from a mineral spring about the boundary of the Hon. Donald McLean's run, in the Province of Napier. Its characters are as follow: Somewhat turbid; has a decidedly saline taste, and is feebly alkaline to test paper. Its principal constituent is chloride of sodium; it differs from sea-water, however, in containing a notable quantity of carbonate of soda; also, in giving a very distinct reaction of iodine to the proper tests for this substance, even when these are applied to the water as unconcentrated. The following results of its analysis are expressed in grains per gallon:—

Soda				•••		219.310
Potash	•••	•••	•••	***	•••	2.833
Lime	•••	•••	•••		•••	2.219
Magnesia	•••	•••	•••	•••	•••	7.158
Lithia	•••	•••	•••	***	•••	traces
Iron oxides	• • •	•••	•••	•••	•••	1.481
Silica Chlorine	•••	•••	• • •	•••	• • •	6·418 240·362
	• • •	•••	•••	•••	•••	·715
Sulphuric acid Carbonic acid	•••	•••	•••	•••		18.444
Iodine and bromine	•••	•••	•••		•••	traces

498.940