fungus. I am of opinion that undue pressure from tufts of moss, which might have been more carefully manipulated, materially contributed in bringing about the unhealthy condition of some of the ova, and, while testifying to the great care shown in the packing, I consider that in packing ova of any kind only the spray or feathery part of the moss should be employed.

During the hatching process, which commenced on the third day after the ova were placed in the water, unremitting attention was given from daylight to dark. The temperature of the water was kept at about 54° Fahr., until the whole of the healthy ova were hatched out, care being taken from time to time to remove those attacked with fungus.

Hatching commenced on the 20th of January, and the whole of the healthy ova were hatched out by the 29th of January. A smaller quantity of ice was used each day, and the temperature gradually allowed to rise to its normal condition—namely, 55°. The number of young fish were then estimated, when it was calculated that about 50,000 had been hatched out. Fungoid disease, however, made its appearance among them, although every precaution was taken to insure success, and daily the numbers were rapidly diminishing. It was consequently decided to form a new race outside the fish-house, and close to an artesian well. When completed, all the healthy fish were turned into the race, the number having been reduced to about 27,000. These looked very healthy, and were at once fed with fresh blood, as directed in Dr. Hector's memorandum. The temperature of the water in the new race averaged 56° Fahr. from the 2nd until the 15th of February, when, during a nor'-wester, it rose to 57°, but fell again the next day to 56°. A few of the fish died, and twice daily all the dead ones were carefully taken out. The whole of the fish were removed on the 24th of February, when the number was estimated at 25,000. It was decided to take 20,000 to Lake Coleridge, and the remainder to Lake Pearson, believing that by such division the chances of success would be increased. Owing, however, to the darkness of the night when the fish were removed from the race, all were caught, with the exception of about a dozen, consequently the whole of the whitefish were taken to Lake Coleridge.

Having arranged with the General Manager of Railways, a special train consisting of one van for the fish, horse-box for pair of horses, truck to carry a spring-van, and composite carriage to convey the party having charge of the fish was placed at our disposal, and a start was made for Glentunnel, the nearest station to the lake; a good supply of ice being provided to govern the temperature of the water. We left Addington Station at 12.40 a.m. on the 24th of February, the party consisting of Sir J. Cracroft Wilson (Chairman of the Society) and servant, Mr. E. C. Farr, Assistant Secretary, and myself. The fish were placed in two tin cans, each containing about six gallons of water. These cans were placed in an outer vessel about three inches larger and deeper, and so fixed that they could not move; the space between was filled with water, into which ice was dropped from time to time. We arrived at Glentunnel at 3.30 a.m., where we were met by Mr. Upton, of High Peak Station, who came expressly to pilot us. Rain was then falling, with a cold south-wester breeze. The morning was very dark, but with the aid of a pair of carriage lamps we were enabled to prepare for the trip. We left Glentunnel at 4.25 a.m., and succeeded in crossing the Selwyn before daylight. The temperature of the water in the vessels containing the cans was kept at 54° throughout the journey. At the River Hororata the water in the cans was changed, when it was discovered that about 200 fish had died *en route*, the roughness of the road doubtless contributing towards such result. At 9.45 a.m. we reached Snowden Station, and, while obtaining refreshments, secured a change of horses. We left Snowden for Lake Coleridge at 10.15 a.m. and reached the lake at 12.30 p.m., the weather being very cold, and the rain continuing. A boat, after some trouble, having been procured, and the fish conveyed about half a mile from the shore, they were at once liberated by myself into the water of the lake. After watching them for a few seconds we noticed that they took a spiral course to the depth of about eight inches, then dived suddenly downwards and were lost to sight in the deep azure water. The temperature of the water in the lake was taken, and to our astonishment was found to be 59° at a depth of 50 feet, and 60° at the surface. We retraced our steps to Snowden, changed horses, and left for High Peak Station, where we halted for the night. The next morning we started for Christchurch, which we reached at 7.5 p.m.

I cannot refrain from acknowledging the kind assistance and attention which we received from Messrs. Upton, Gerrard, and Cotton. In submitting this report, permit me to express the hope that not only will the Government be satisfied with the endeavours of the Society to acclimatize a most valuable fish, but that those who have in the future the conduct of similar experiments may profit by our experiences.

I have, &c.,

S. C. Farr,

Honorary Secretary and Treasurer.

The Hon. the Colonial Secretary.

No. 7.

Report on Whitefish for Opawa, by A. M. Johnson. 29th January, 1880.

Out of the two boxes of ova kindly forwarded me by the Government, the first box contained but very few good eggs, from which twenty-eight young fish have been obtained. The packing of this box was different from ordinary, and consisted of a frame with a piece of cloth nailed over, leading to the conclusion that the eggs were smothered and crushed during transit by not having the necessary air and elastic bed, as afforded by living moss. The second box, which really was a shallow wooden one, suggested the idea of perfection in packing, the eggs presenting a fine, healthy appearance in the layers of soft open scrim and moss. As soon as hatched a proportion of the young fish were counted out, and placed in various compartments under slightly different circumstances, and, on a careful inspection the second day, nearly two hundred fish were found to have disappeared, notwithstanding the special arrangements provided in accordance with Mr. Clark's admirably adapted hatching and rearing boxes; the conditions under which young trout and salmon have been so successfully reared appearing to be unsuited to the whitefish. The chief difficulty is probably the high temperature of the water, which, close to the well is 58°, many of the eggs dying off during very close hot weather; still many thousands of young