

The electrical thermometers were at first intended to furnish the means of observing continuously radiation into and from the loch. The apparatus was not altogether suitable for this purpose, and, being the first installation of its kind in this country, many unforeseen difficulties arose in the manipulation of the instruments, but nevertheless many valuable observations were made by its means. The installation consisted of three platinum resistance thermometers and a Callendar recorder. The boat-house of St. Benedict's Abbey was made available to the Lake Survey by the Lord Abbot of the monastery, and in it were placed the recording instruments. A four-ply cable connected the recorder with the *Rhoda*, which was anchored at a distance of about 300 yards from the boat-house. Many of the difficulties which were experienced arose from this cable; the strain of the wind and the waves was constantly damaging it, and as the *Rhoda* swung round with the wind great care was necessary to prevent the cable fouling with the anchor chain. On the *Rhoda* there were three large drums, on which there were wound the leads for the resistance thermometers. By these drums a thermometer could be lowered to any desired depth, and then connected to the shore-cable by means of mercury cup connections, and a continuous record of the temperature at that depth could thus be obtained. It was intended to lower each of the three thermometers to a different depth, and connect them successively with the recorder, and so to get a series of readings at these depths, but the sluggishness of the recorder made this method of observation undesirable.

Temperature observations were taken at various points along Loch Ness. At times members of the survey were stationed at Invermoriston, Foyers, Inverfarigaig, Whitefield, and Dores. At other times a steam launch was chartered, and cruises made up and down the loch, taking observations *en route*, but this method of observation was very slow. The speed of the launch was about six miles an hour, and, as the loch is 24 miles in length, about eight hours were spent in steaming alone; assuming that six series of observations were taken, each lasting over half an hour, the observations at one end of the loch were taken six or seven hours later than at the other end. It was found that in this time the distribution of temperature in the loch might alter very greatly, and therefore observations made in this manner might give a very erroneous idea of that distribution.

The observations in Loch Ness were discontinued by members of the Lake Survey in September, 1904, but the work was taken over by the monks at Fort Augustus (in particular by Father Cyril von Dieckhoff and Father Odo Blundell), and continued by them until April, 1905, so that the observations extend over a period of nearly two years. The actual number of observations made in that time was about 12,000, and these have been discussed by the writer in papers communicated