

period varied with the time of year, according to the depth of the discontinuity layer, and was from two to three days, which agrees remarkably with the periods obtained by calculation.

NOTES ON THE SEICHES OF LOCH NESS.

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In June 1903, observations on seiches were begun in Loch Ness by the erection of a Sarasin limnograph in the boat-house of St. Benedict's Abbey, Fort Augustus. This instrument worked well during the period it was in use, and some good records of seiches were obtained. The largest seiche recorded by it occurred on November 21, 1903, and had an amplitude of about $4\frac{1}{2}$ inches, but after about two days it was disturbed by the starting of another seiche.

In the summer of the succeeding year a second Sarasin limnograph was erected at Inverfarigaig, but it did not work satisfactorily—perhaps owing to the exposed situation—and the records obtained were consequently not looked upon as being entirely trustworthy, although, as was to be expected, they pointed to a node in the neighbourhood of Inverfarigaig.

Observations were also made by means of Forel's plemysimeter, but owing to the exposed character of the shore all along Loch Ness, observation by this means was very difficult. It is unfortunate that the index limnograph subsequently used by Professor Chrystal had not been designed while work was being carried on in Loch Ness.

The observed periods of the uninodal and binodal seiches in Loch Ness are approximately 31.5 and 15.3 minutes respectively. Loch Ness thus belongs to that class of basins in which the period of the binodal seiche is less than half the period of the uninodal seiche. The periods for Loch Ness have not been calculated according to Chrystal's theory—an exceedingly laborious piece of work, which it is hoped will yet be undertaken—but the writer has every reason to believe that calculation would agree with observation in this case also; for the basin of Loch Ness is convex at Foyers, where the floor of the loch rises some 200 feet, and, moreover, the sudden shallowing which takes place in the loch from Dores to Bona has the effect of increasing the ratio between the periods of the uninodal and binodal seiches. This is seen in the Lake of Geneva, where there is also a shallowing at one end of the lake, and where the period of the uninodal seiche is more than double the period of the binodal seiche.

Seiches of shorter period were also of frequent occurrence, notably a seiche with a period of about 8.8 minutes, of which some remarkably pure records were obtained, although they were of small amplitude.