

# TEMPERATURE OF SCOTTISH LAKES

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## HISTORY OF TEMPERATURE OBSERVATIONS IN SCOTTISH LAKES

SCOTLAND holds an honourable position in the history of the rise of Limnology as a science, and only yields the first place to Switzerland in this respect.

The first observations on the temperature of the water in deep lakes were made by Saussure, and the careful manner in which they were made is described by him in his *Voyages dans les Alpes*, 1779-1796. The first observations on the temperature of Scottish lakes were not much later, for in the years 1812 and 1814 Mr James Jardine, C.E., carried out series of observations at different depths in Loch Tay, Loch Katrine, and Loch Lomond, which were published by the late Dr Alex. Buchan in 1872.<sup>1</sup> These observations were also described by Sir John Leslie in 1838 in his *Treatise on Various Subjects of Natural and Chemical Philosophy* (Edinburgh, 1838, p. 281), and in the article "Climate" by him in the eighth edition of the *Encyclopædia Britannica* (vol. vi. p. 777), where he expressed the view (now shown to be erroneous) that the seasonal variation of temperature in deep lakes was limited to fifteen or twenty fathoms.

As these observations were the first to be made in Scotland, it may be of interest to quote Sir John Leslie's account of them, especially as it shows that, although one of the earliest writers on lake temperatures, he had grasped the essential elements of the subject:—

"But the rays which fall on seas or lakes are not immediately arrested on their course; they penetrate always with diminishing energy, till, at a certain depth, they are no longer visible. This depth depends without doubt on the clearness of the medium, though probably not one-tenth part of the incident light can advance five fathoms in most translucent water. The surface of the ocean is not, therefore, like that of the land, heated by the direct action of the

<sup>1</sup> *Proc. Roy. Soc. Edin.*, vol. vii. p. 791.