

of these objects radiating their heat more rapidly than the surrounding air, and because they are solid forms presented to a liquid at the moment of crystallization, the feathers of the hoar frost extending to windward as each particle of water is driven by the breeze and frozen upon it.

So in a stream of water at the freezing-point, the stones at the bottom no doubt radiate their heat more rapidly than the surrounding medium, and particle after particle of water assumes its crystalline form on coming in contact with the solid, thus forming tubular masses in the direction of the stream.

124, WINCHEAP, CANTERBURY.

S. GORDON McDAKIN.

PROF. NORDENSKIÖLD ON RECURRENT GLACIAL PERIODS.

SIR,—Prof. Judd has told us repeatedly of late, not without some flourish of trumpets, how completely Prof. Nordenskiöld has demolished Mr. Croll and his theory of the causes of glacial epochs. Now from my youth up I have been backward in my reading, and have had an unconquerable aversion to books, and never read anything myself, if I can get a kind friend to read it for me, and tell me what it is about. So I have not yet read Prof. Nordenskiöld;¹ Prof. Judd is evidently thoroughly well up in him, and he would be doing a great kindness to myself, and perhaps others who are equally ignorant and lazy, if he would send you a short article giving Prof. Nordenskiöld's facts and arguments. Prof. Judd says these do not support Mr. Croll's theories; but what I especially want to know is, whether there is anything in them that tells against the generally received views on the subject.

YORKSHIRE COLLEGE OF SCIENCE, LEEDS.
Dec. 9th, 1876.

A. H. GREEN.

GLACIAL ORIGIN OF LAKES.

SIR,—I have to ask for space for a reply to the courteous letters of Mr. Bonney and of my friend Mr. Judd.

Mr. Bonney's letter is mainly explanatory of his position, which several circumstances—unnecessary to detail—combined to render somewhat ambiguous. I think comparison would tend to show that

¹ The paper by Prof. Nordenskiöld especially referred to by Prof. Judd, is "On the Former Climate of the Polar Regions," being an address by Prof. Nordenskiöld delivered at the Anniversary Meeting of the Royal Swedish Academy of Sciences, March 31, 1875, and translated and printed *in full* in the GEOLOGICAL MAGAZINE, 1875, Dec. II. Vol. II. p. 525. The passage quoted by Prof. Judd appears at p. 531, but the whole paper is well worthy of perusal; as is also his paper "On the Geology of Icefjord and Bell Sound, Spitzbergen," GEOLOGICAL MAGAZINE for 1876, pp. 16, 63, 118, 255. Perhaps Prof. Green will "get a kind friend to read them for him." Nordenskiöld's "Expedition to Greenland" also appeared in the GEOL. MAG., 1872, Vol. IX. pp. 289, 355, 409, 449, 516, and has some good materials in it bearing on the former climate and the extinct floras. Many of our readers, when oppressed with the wearisome effort to master the contents of our monthly issue, will cordially sympathize with Prof. Green, and wish for a mental digester and Assimilator (like the Artificial Stomach in the Loan Collection) into which, as into a "Papin's Digester," they might put their heavy reading, and so get therefrom the *extractum sensorum* in a concentrated form. Till this invention is patented, Prof. Green has hit upon a happy expedient: "Get a kind friend to tell you what it is about"!—EDIT. GEOL. MAG.