

imperfect excavations, would lead to the belief that only a few thousand years have elapsed since the glacial beds were laid down. The same conclusion can be drawn from the good preservation of the glaciated surfaces, and of the shells and bones on the terraces. Similar evidence is afforded by the rate of recession of coasts and waterfalls, and by the condition of eskers and lake ridges. If we adopt the shorter estimates afforded by these facts, it will follow that the submergences and emergences of land in the Glacial Age were more rapid than has hitherto been supposed, and that this would react on our estimate of time by giving facilities for more rapid denudation and deposition. Such results would render it less remarkable that no new species of animals seem to have been introduced since the Glacial Age.”

D. MACKINTOSH.

#### ON SILURIAN PLANTS FROM CENTRAL WALES.

SIR,—In the January Number of this MAGAZINE is a communication from Dr. Nathorst on the Silurian “Plants” of Central Wales, in which he disputes the conclusion expressed in my paper on the “Fossils from Central Wales,”<sup>1</sup> as to the nature of the plant-like structures there described. In his opinion the *Buthotrephis major*, *B. minor*, *Palæochorda tardifurcata*, and *Nematolites Edwardsii*, are no plants at all, but merely the “trails and burrows of Annelids” such as he has lately obtained from worms placed on a surface of mud and plaster.

It is difficult to understand how such a conclusion could be arrived at from my description; for taking first the species of *Nematolites*, these are described as “solid bodies of pale chocolate colour,” perfectly separate from the dark shales in which they occur, and from which they can be readily removed with a penknife. Such a structure can be no mere impression nor the filling up of a trail of worms or crustaceans, and I can think of nothing more probable than the suggestion in my paper that it is a Coralline Alga. In the second species, *N. dendroidea*, the lateral branching is tree-like, diminishing in size in a way impossible for a worm track. Also the *Buthotrephis major* are no filled up tracks and trails. They are thin surface structures, or impressions on the shales and slates, very regular in their form and branching, and the main stem is straight and regular, about two or three inches long and in no case resembles or passes into an ordinary worm track. Also they do not generally occur in association with the worm markings which are so abundant in the grits. Many of these latter are, I have no doubt, tracks similar to those obtained by Dr. Nathorst, and to others which I have observed in the Cambridge slough-ponds at the coprolite diggings, but the *Nematolites* and *Buthotrephis* are quite distinct from these, and I can only refer them to the vegetable kingdom.

Lastly, referring to my new species *Myrianites Lapworthii*, I have no hesitation in maintaining that name, to designate a group of well-defined markings agreeing perfectly with each other, and very distinct from their nearest allies.

WALTER KEEPING.

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