

early to begin to feel uneasy about their safety on account of provisions.

The detention of the *Eira* in the north is more probably due to her being "beset" than to her having been "nipped" or run aground. Unless she has foundered before stores could be got out of her (when nothing could be done by any search-expedition towards enabling the crew to survive the winter), Mr. Smith and his men are doubtless having a fine time of it up there, in one sense of the words. If it came to the worst they would not be obliged to abandon the ship simply on account of her being hopelessly "beset," until the spring of 1883, because they could afford to wait for the chance of her being liberated next summer or autumn. Then, if she were clearly inextricable, they would do what is done by the crews of whalers under similar circumstances—haul boats or sledges, laden with provisions, over the ice to some place where, in the ordinary course of events, they could not fail to fall in with walrus-hunters, or from whence they might take a departure in their own boats to the most convenient country. Mr. Smith, to my personal knowledge, always counted upon being able to effect a safe retreat by these means, without unusual difficulty, if he should lose his ship: the despatch of an expedition from England in search of him never entered into his calculations. This will amply account for his not naming a *rendezvous*. In the Arctic regions it is best not to be tied down beforehand to any one route where there is a choice of several, lest if emergency arise it prove to be *pro tem*, precisely the most difficult of all.

In view of the above facts it appears premature to demand the equipment of a vessel to rescue the *Eira* as a matter of immediate urgency, although, if nothing be heard of her by this time next year, an expedition during the season of 1883 might be a reasonable precaution by no means uncalled for. If people want a ship to be sent out next year, why should not the agitation be an honest one for an Arctic expedition pure and simple?

Thorncombe Vicarage, Chard, Dec. 3 A. E. EATON

Helophyton Williamsonis

AT the late York meeting of the British Association two of my indefatigable auxiliaries in the work of Carboniferous investigation, Mr. Wm. Cash, F.G.S., of Halifax, and Mr. Thomas Hick, M.A., B.Sc., of Harrogate, described, under the name of *Hymenophylloides Williamsonis*, a new stem of a plant, which they had obtained from the Halifax beds. This plant is an extremely interesting one, since its cortical layer exhibits the large, open, longitudinal lacunæ, formed by disassociation, so common amongst aquatic plants. It is still more interesting since the septa separating the large lacunæ are rotate, each one consisting of a single layer of cells, and the whole combining to constitute a network with vertically elongated meshes. This arrangement approaches too closely to that seen in the living Marsileaceæ, to be overlooked in considering the possible affinities which it may indicate. The structure of the central vascular bundle as well as of its component vessels differs decidedly from that of the recent Marsileæ and their allies. But it differs still more widely from Myriophyllum, with which the generic name given to it by my two friends associates it. This circumstance alone makes it important to change the name. As yet we have found no trace of an angiospermous phanerogam in the Carboniferous beds, and any name suggesting the probability of the existence of such is apt to be misleading. But apart from this suggestion of improbable affinities a second reason exists for changing the name. Unger has already adopted that of Myriophyllites for a genus of Tertiary plants, and the two names approach too nearly to make it desirable that both should be retained. One point appears to be indisputable:—The structure of the bark already referred to indicates either a marsh or an aquatic plant—an interesting fact, since it is the first example of such a plant from the palæozoic rocks that has hitherto come under my notice. We have numerous so-called aquatic roots described by various authors—and possibly they may be what they are affirmed to be, though we have no proof that such is the case; but I think that no such doubts can exist in reference to our new plant. Under these circumstances I propose for this plant the generic name of *Helophyton*, a name which involves no foregone conclusions as to its botanical affinities. Detailed figures of it will appear in the next (12th) part of my memoirs "On the Organisation of the Plants of the Coal-measures."

WM. C. WILLIAMSON

Victoria University, Manchester, December 3

The Pronunciation of Deaf-mutes who have been Taught to Articulate

My attention has just been drawn to the remarkable statement of M. Hément (*C. R.*, xciii. p. 754), that deaf-mutes who have been taught to articulate speak with the accent of their native district; and to the equally remarkable letter of Mr. Wm. E. A. Axon, published in *NATURE* (vol. xxv. p. 101), in support of the same proposition.

I may say in this connection that I have during the past few years examined the pronunciation of at least 400 deaf-mutes who have been taught to speak, without remarking any such tendency as that referred to above. It is true that in a few cases dialectic pronunciations are heard, but it always turns out upon investigation that such children could talk *before they became deaf*. The peculiarity is undoubtedly due to unconscious recollection of former speech, and cannot correctly be attributed to heredity.

M. Emile Blanchard (*C. R.*, xciii. p. 755) has directed attention to the harsh and disagreeable character of the utterance of many deaf-mutes who have been taught to articulate, but it has been found in America that this can be overcome by suitable instruction. I am happy to be able to say that I have heard from congenitally deaf children perfectly distinct and agreeable articulation.

The mouths of deaf children are in no way different from our own.* Deaf-mutes do not naturally speak the language of their country for the same reason that we do not talk Chinese—they *have never heard the language*. They are dumb simply because they are deaf; and I see no reason to doubt that all deaf-mutes may be taught to use their vocal organs so as to speak at least intelligibly, if not as perfectly as those who hear.

In most, if not in all, of our American Institutions for the deaf and dumb, articulation is now taught as a special branch of education; and in many of our schools all instruction is given by word of mouth, as it has been found that large numbers of deaf children can be taught to understand spoken words by watching the movements of the speaker's mouth.

So successful has articulation-teaching proved in America and in Europe, that dumbness will soon be universally recognised as a mark of neglected education.

ALEXANDER GRAHAM BELL, Ph.D.

(Nat. Col. for Deaf Mutes, Washington)

London, December 5

The Function of the Ears, or the Perception of Direction

I SEE the above to-day in *NATURE* (vol. xxiv. p. 499) as a matter brought before the British Association at York, and as I can forward some results of experience, I beg to send the following:—In the cold season of 1868 I had to cut a straight line through dense forest half a mile long, between two given mounds, and availed myself of the known capability of Asamese in telling direction in such cases. Placing a man on one mound to shout now and then, a party of us went to the other mound and listened. On hearing the shouts I placed a long thin bamboo on the ground pointing from a peg in the direction of the shouts. While the men were clearing a space around I put another small peg in the ground, marking where the point of the bamboo fell. I took the bamboo up, and made the head man relay it himself, which he soon did, almost exactly where I had pegged it; thence we cut a true straight line, setting up peeled rods at every 50 yards, and eventually came out at 24 feet from the mound, in a distance of 45 chains. The jungle was dense, and we could never see more than about 12 or 14 yards in front. Lately having moved to a place where there are five tea-gardens in a semicircle around me, at distances of 5, 6, 4, 4½, and 4¼ miles distant, I have heard several gongs in the early morning, and taking the bearing of the most audible, plotted it on the Government map, when it came out exactly among the houses in the "station" of the one at 4 miles; a repetition on other mornings confirms the direction. Distance does not seem any drawback, provided the sounds are loud enough; for in the great

* I have examined the vocal organs of several hundred deaf-mutes, and while I have observed the most extraordinary differences in the size and shape of the palate, and in the appearance of the tongue, I have observed the same peculiarities in the mouths of hearing children, who talk perfectly well. The proportion of malformation of the vocal organs among deaf-mutes is certainly not greater than among hearing children. We occasionally meet with cases of cleft-palate, of double rows of teeth, and of tongue-tie, but such cases are altogether exceptional, and the vast majority of deaf-mutes have vocal organs as perfect as our own.