XXX. On the phœnomena attending the roots of plants in snowy weather

Mrs. Agnes Ibbetson

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xxxix. p. 95), seems now more than ever necessary, for accounting for the Bath Oolite, the Lias Clay and Limestone, and numerous other thick strata, nowhere appearing on our east coast!: and since that Mr. B. has at length admitted (p. 93) "the frequent disappearance of a whole series of strata on one side of a Fault," I hope that in his new Edition, he will not be found supporting the very improbable position he has mentioned p. 84, viz. that the alum Shale (or clunch Clay) of the Cleveland Hills, is identical with the Coal shale, intervening between the yellow Limestone and the Coals at Pallion, 2 m. W of Sunderland Iron Bridge: the thickness of which Coal shale, I cannot think but Mr. B. has over-rated, by trusting to his memory; and on which account I beg to express a wish, that Mr. Goodchild would favour you with an accurate and particular account of his boring for Coals under the yellow Limestone, to be recorded in your work. Considering, that at Ferry Hill Coals have long been worked, on both sides of the Turnpike Road, and within sight of it, at Pits *sunk through the yellow Limestone Rock**, I have been surprised to see Dr. Thomson (Ann. iv. 415) expressing his ignorance of any such pit sunk through this Limestone; and even more so, at the doubts that Mr. B. seems to express of the same fact, at page 84 of your last number.

March 1, 1815.

J. FAREY.

XXX. *On the Phænomena attending the Roots of Plants in snowy Weather.* By Mrs. AGNES IBBETSON.

To Mr. Tilloch.

SIR, — **H**AVING seen a letter in one of your Magazines, endeavouring to account for the phænomenon attending the roots of plants in snowy weather, and being humbly of opinion that the fact is mis-stated, having last winter particularly attended to the appearance in question, I shall venture to suggest a few observations on the subject.

Whenever the snow lies for any time, generally it is observed to melt and pass off round where a tree or shrub *shades* the ground. Now in reality this effect has nothing to do with the tree, as I shall show. At first, indeed, it occurred to me that the motion of the root might occasion a degree of heat which might melt the snow, as I know by the dissection of roots that there is much more action in them than is generally supposed,

* A circumstance which I have mentioned in your xliid vol. p. 53; and which Mr. B. has noticed at the top of page 124, but only for commenting on an immaterial circumstance mentioned by me.

and motion will prevent congelation even in water, if not already too near the freezing point. But observing that the snow passed off in breadth in proportion to the spreading and shading of the branches; I fixed a long stick in the ground, and tied an umbrella to it, which should, when spreading, be about six or seven feet from the earth. It was then going to snow; and when it was already pretty deep round the stick, I expanded the umbrella, and before the next morning, the whole extent of the circle of the parasole was totally melted before nine o'clock. It could not therefore be any effect of the roots of plants that caused the snow to dissolve; but was it not rather the dews and vapours falling and sinking among the dead leaves, putrid vegetable matter, or calcareous earth, which became nitrate of potash or saltpetre, and of course increased the cold, and preserved the congelation of the rest of the snow? Many other trials and experiments have since that time confirmed my *conviction of its propriety*; though not of consequence enough to be *submitted to the reader*. I cannot help thinking that we are *little aware how many juices*, and various *liquids* and compounds, are bestowed on us by the atmosphere. The hairs of the plants make that subject *most visible*, though they may, like the salts aforementioned, not descend to us in a *perfect state*; yet they certainly (with the liquid already in the hairs, or rising immediately *after in them*) receive *affinities* which produce most of the scents and juices that form our fragrant oils and resins.

I am, sir,

Your obliged servant,

Sherwood, Feb. 3, 1815.

AGNES IBBETSON.

XXXI. *On the Rate of going of two Clocks, with Remarks on HARRIS'S Pendulum Clock erected in 1641. By Mr. THOMAS REID.*

To Mr. Tilloch.

SIR, — **T**HE circumstance of two clocks keeping the same time so closely together, and that for periods of considerable lengths of time, appearing extraordinary and unexpected to me, is the reason why I have transmitted the case to you; and should you deem it worthy an insertion in your valuable Journal, it is at your service.

Both the clocks were going in an imperfect state, and were intended for further improvement: but their assuming the appearance of keeping so near together, made me delay the taking them down to make any alterations, till I saw how long they would continue to do so; which they did for such a length
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