

Beads were a phenomenon of totality, and coloured; a reference to an elementary work showed me my error. What I saw was a row of small similar-looking and about equidistant prominences of a faint pink colour.

A. S. ATKINSON

Nelson, N.Z., November 13

Brilliant Meteor

I CAN confirm Mr. M'Keague's statement regarding an extremely brilliant meteor observed by him on November 27, the train of which remained visible for fifteen minutes, for about 6 o'clock the same evening I saw, when near Edinburgh, the train of one very bright meteor (brighter than Venus) last for at least ten minutes. I did not time it exactly, but it could not have been less than that, and while it remained visible it kept curving round, and diffusing itself out into a thin cloud. About half an hour later I saw the train of another very bright one remaining and behaving similarly for about five minutes.

Broxburn, December 18

JOHN STEVENSON

Models Illustrative of Phyllotaxis

PROF. PARKER's note upon this subject induces me to mention a rough-and-ready contrivance, which I found serviceable when lecturing on this subject. This consisted merely of the framework of a collapsible opera-hat, or of two or three superposed. It is easy to attach stiff labels to these in any desired order, and easy to illustrate undeveloped or developed internodes, as the case may be. I have used the joints of an old telescope for similar purposes. Of course these are "make-shifts" only, but they are available when better things are not at hand.

MAXWELL T. MASTERS

The Viper (*Vipera berus*, L.)

THE following letter, addressed to me by a most intelligent farmer, may be thought worthy of publication, as furnishing an additional item of evidence on a much-debated question.

"Church Dale House, Egton, Grosmont, Yorkshire,
November 10, 1885

"DEAR SIR,—In the beginning of the harvest of 1878 or 1879 I was with my late father, Mr. Thomas Stanforth, of Howlsike, near Lealholm, North Yorkshire, in a corn-field on the Howlsike Farm, when we noticed a large viper in a rough part of the field. My father exclaimed, 'Hold on, there's a hagg-worm,' and just at that moment the viper moved its head and hissed, when we both saw some ten or twelve young vipers glide into the mother's mouth. My father immediately crushed the head of the animal with his heel, and we laid it on a stone wall, intending to open it at our leisure. Proceeding to our work, this was forgotten, and I did not again see the viper until the following winter, when I found it still lying on the wall, but reduced to a skeleton. I examined it closely, and found many small perfect skeletons inside the larger one.

"In the summer of 1865 I saw a large viper opened, and a full-grown skylark taken out of its stomach.

"Yours truly,

(Signed) "ROBERT STANFORTH"

Much circumstantial evidence has already been printed on this alleged habit, and it is not unreasonable to suppose that the young reptiles, when disturbed, will rush into the nearest opening that presents the appearance of a place of refuge; but I do not remember to have seen any proof of the viper returning her young to liberty when the supposed danger was past. If they merely lodge in the gullet they can doubtless be ejected at will; if they pass into the stomach, their uneasy motions may act the part of an emetic, and produce nausea and vomiting before asphyxia sets in or digestion begins; and in either of these cases the action of the mother in permitting her brood to enter her mouth may be regarded as voluntary and instinctive. It is, however, possible that the young vipers may dart, uninvited, into the parent's mouth when it is opened in the act of hissing, and that they may quickly perish and be converted into food.

We can only repeat the words of the late Prof. Bell, F.R.S., written thirty-six years ago:—"In this state of doubt upon so interesting a subject, it is perhaps better to await the results of direct experiment, which might be readily made in any locality where these reptiles abound" ("British Reptiles," 2nd edition, p. 69).

R. MORTON MIDDLETON, Jun.

Castle Eden, December 10

Ventilation

MR. FLETCHER, of Warrington, ought to be an authority on such a matter as ventilation, and probably he has omitted in his letter to you some material points. I should like to know something of the supply of fresh air to the rooms where the ventilation failed. If that was abundant, then, it seems, there should have been an up-draught in each flue, though, as the current in the ventilating flues would have been less than in those of the chimneys, it would have been better if possible to have their outlets a little separate. If, however, the supply of air to the rooms were insufficient for the joint draught, then the ventilating flue (so called) would have become a down-cast shaft, and (owing to its situation) would have brought down smoke, &c., as described; and this insufficient supply, when the fires were lit and the ventilation shaft heated, might have been quite enough when there was no fire, or the chimney might have been the down-cast.

It has always seemed to me that this matter of air-supply is at the bottom of ventilation failures. The amount required is so large, that it must be warmed before entering a room in winter, but there are few houses where any provision is made for this. In fact, as matters stand, it seems to me that it would be nearly impossible to make satisfactory arrangements in most cases without great expense. No doubt the best arrangement would be to warm all the air, in one place, before entering the house, and to employ the fires or stoves in the rooms only to give locally greater warmth or brightness; but such an arrangement is so un-English that I suppose it must be rejected. Because our forefathers, when they first roofed themselves in, transferred their fire from the forest or cave to the middle of the hall, and then to the side with a chimney, we must follow the same practice; meanwhile closing up the inlets, which were plentiful enough in the early arrangement. We may be Radicals, but, like our ancestors, in most things, we do not wish to change the laws of England.

J. F. TENNANT

37, Hamilton Road, Ealing, W., December 18

Snails Eating Whitening

I DO not know if the observation which is recorded below is new, but it is certainly new to me, and seems to be sufficiently interesting for publication. In the autumn of 1884 I noticed that the whitening which had been painted on some greenhouse glass in a garden at Reading, had evidently been eaten off by a large Gasteropod. The whitening was almost entirely removed from one pane, and partially from many others. The outlines of the parts which had been eaten were quite unmistakable, exactly resembling on a large scale the well-known traces left by freshwater snails on the conferva-covered glass of an aquarium. I did not find the snails at work, but the gardener assured me that he had seen them upon the glass, and that they were the common garden snails (*Helix aspersa*). Considering the entirely characteristic appearance of the marks, I think it may be taken as proved that the whitening was eaten by some large Gasteropod, and almost certainly by *Helix aspersa*. It is exceedingly probable that other forms of calcium carbonate (especially limestone rocks) are eaten in the same way, but the conditions of this particular form of the substance—spread out as it was in a thin film on a transparent layer—rendered the fact that it had been eaten especially conspicuous. As to the importance of calcium carbonate to the snail, it must be remembered that there is not only the necessity for growth of the shell in the young animal, and its repair in the adult; but there is also a regular periodical need in the latter for material to supply the place of the calcareous dart (*spicula amoris*), which is discharged before coitus, and is believed to act as an excitant in the sexual relations of these animals. The membrane (hibernaculum) which closes the mouth of the shell in winter is also to some extent calcareous.

December 14

EDWARD B. POULTON

Blackbird with White Feather

THERE is about my garden a hen blackbird with a white feather in the tail. I do not know whether this variation has been noticed before.

JOSEPH JOHN MURPHY

2, Osborne Park, Belfast, December 21