

tance in the air before they fall, by violent winds.

That caterpillars should sometimes appear to fall from the air, evidently arises from their being carried by the winds from the trees on which they sometimes swarm in such immense numbers.

#### RAINS OF BLOOD.

It has frequently happened that drops of a liquid resembling blood has been observed on roads, rocks, the roofs of buildings, and other places. The surface of the ground has often been found covered with patches of a blood-red substance: and the water in ponds and ditches frequently acquires a similar colour. This phenomenon, which in the dark ages was regarded with superstitious horror, and generally considered as the precursor of some dreadful calamity, has of late years, through scientific research, become susceptible of a very simple explanation; and it has been found that it is produced by several causes, which have not the most remote connection with the science of so called blood-rain drops are produced by a species of butterfly, which, when emerging from its chrysalis, emits a few drops of a red liquid; and as these insects occur in immense numbers in some years, the marks which they leave will have the appearance of drops of rain; but, as might be expected, these drops are observed, just as often as not, in places to which the rain itself could not possibly penetrate.

The red colour of the water in ponds and ditches, and even in large lakes, and the colour of patches on the surface of moist earth, are owing, in some cases, to living animals of the lower classes; and in others, to plants. Thus, the colour of the water is often caused by myriads of a peculiar kind of water flea, *Daphnia pulex*; or by immense numbers of an Infusorian, named by Ehrenberg the *Astasia hæmatodes*. In many instances, however, the colour is caused by small plants, belonging, generally, to the order *Conservæ*; and of these, a great many species have been observed in various parts of the world. It is these plants which produce the red patches frequently seen on moist ground; for when the gelatinous substance of which these spots consist is examined, under a microscope, it is found to be composed of small threads, of a blood-red colour.

Sometimes, however, the rain or snow which falls is really red, and this colour has been traced to the presence of oxide of iron, or rust, and in one case to a compound of cobalt.

Snow has frequently been found of a red colour. Thus, the phenomenon may be frequently observed on the Alps and Pyrenees;

and in almost every account of Arctic expeditions, we find mention made of immense fields of red, or rose-coloured snow. This colouring matter has been carefully examined, by a number of observers, and has been found to be always of the same, or, at least, of a very similar nature, in every instance, consisting of very minute globules, of a red colour. These globules are evidently of a vegetable nature; but, owing to their imperfect organization, it is difficult to determine precisely to what particular order they belong, whether to the fungi or to the algæ. It seems to be also a matter of doubt whether they are produced in the snow itself, or on the rocks first of all, and then washed off. The latter supposition seems the more correct one, inasmuch as the red substance has been found covering immense surfaces of the otherwise naked rocks in polar and mountainous regions.

H. C.

*Orillia, 24th April, 1849.*

GENTLEMEN.—I think it contains much intellectual matter, and solid information.

You will oblige me by answering, at your convenience, the following queries:—

What are the botanical names of our different field weeds?

The botanical name of Ironwood?

The composition of the ashes of our various forest trees—maple, bass, birch, ash, beech, &c. &c.; and might not the ashes of different trees be applied according to the nature of the soil and the wants of the crops?

Will it be a good plan to graft or inarch foreign grapes on our wild native vines?

Is there any advantage in crossing together or mixing various breeds, as Ayrshire, Durham, Devon, &c.; or Leicester, Cheviot, South Down, &c., sheep; and what would be the result of so doing?

J. C.

[We have placed several of our Correspondent's queries in the hands of a scientific friend, and will answer some of them, at least, in our next.]

AMPUTATION WITHOUT PAIN.—The Philadelphia Ledger makes the following suggestion:—

Two cases have recently occurred in Schuylkill county, Pennsylvania, in which limbs have been accidentally cut by a swift moving circular saw. In both instances the persons were cleaning out the refuse that accumulates in the dark chamber under the work-bench in which the saw is set. One of them had three deep slips cut between different fingers, up into the hand, one cut after another. The other had all the fingers of one hand cut off; some half way, and others less. In both cases, the persons were not aware of their loss till the sight of blood attracted their attention on coming to the light—so free from