

ART. XXVII.—SULPHUR RAINS.

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In the last number of your Journal, I noticed a communication, signed J. H. L., on the subject of the so-called sulphur rains, which have been seen in Toronto during the last few years. Your correspondent makes a very useful remark with regard to the periodical return of the phenomenon; but at the end of the paper he states that the yellow deposit is supposed to consist of pollen, and that further observations are required to confirm this fact.

Perhaps the few following remarks on some of the most important investigations on this subject may not be altogether uninteresting to some of your readers, as explaining a phenomenon so frequently observable in this country:

It was believed in former, and even in comparatively recent times, that the yellow substance often found on water after heavy rains, consisted of flowers of sulphur; but Scheuchzer observed that the substance which fell at Zurich in 1677 and 1653, could not be this body, as on being burnt it did not give off any sulphurous odour. Scheuchzer ascribed the substance to the pollen of the red pine; Elsholtz to that of *Lycopodium clavatum*. But Schemieder has shown that it may be derived from a variety of plants; he believes that in March and April it may be ascribed to the alders and hazels; in May and June, to the pines, junipers, and birch; and in July, August, and September, to *Lycopodium clavatum*, *Typha angustifolia*, and the different kinds of *Equisetum*. It has been noticed, that near forests through which a strong wind is blowing, that portion of the land lying in the direction of the wind became covered with the yellow powder. In 1761, there was a heavy fall of it at Bordeaux, covering the ground to the depth of two lines. The members of the Academy of Sciences of Paris convinced themselves that the deposit consisted of the pollen of several species of pine.

A sulphur rain, (or rather pollen rain) was observed at Copenhagen in 1804. The deposit consisted of the pollen of *Lycopodium*.

No real sulphur rain has yet been observed, although it might possibly occur in the neighbourhood of volcanoes.

To the above extracts, from Kauntz' Meteorology, vol. 3, I would add a few words with regard to the yellow powder which fell in Toronto this summer. Having examined it under a powerful telescope, I convinced myself of its being the pollen of pines. I found that the figures corresponded exactly with Bischoff's plates, representing the pollen of the *Pinus*

strobis (white pine.)—Bischoff's *Terminologie Table* xxxiv.

As is well known, the pollen grains are, in general, simple in form; but it occasionally happens that two or more grow together, and thus produce complicated forms. Such is more particularly the case with pollen grains of the *Abietinæ*, which consist of a large granule, with two vesicular formations attached to it at each end. These abortive pollen grains may be removed by soaking in oil of turpentine, and then rolling between glass plates; they do not appear to have any contents, but to consist of a simple membrane, covered with a kind of net-work, while the centre granule is perfect. In the early stages of the formation of pollen, all the granules are equal in size, and of the same structure, and as they increase, one is perfected at the expense of the other two, which, however, remain attached to it.—Megan's *Phlanzon Physiologie*, Bk 3.

The yellow substance, therefore, which was observed at Toronto, consisted of the pollen of the *Pinus strobis*, (white pine) or *Pinus resinosa*, (red pine) mixed probably with small granules of the pollen of other plants.

Toronto, August 16, 1847.

Some Account of the Lethæon, or Who is the Discoverer?

By EDWARD WARREN. 3d Edition, revised and enlarged. Boston, 1847. 8vo Pamphlet, pp. 88.

Facilis descensus Averni is admitted on all hands, but the road to fortune and to fame is most usually found rugged and difficult. The application of the vapour of ether to relieve the pain of surgical operations, was a happily conceived idea. The world at large bore tribute to its merit, and while desirous of conceding to the discoverer the full honour which was his due, the strange anomaly was witnessed, that the strongest efforts were made to monopolise under a patent, what promised to become one of the greatest boons to suffering humanity, and to limit its use, unless sordid feelings were previously gratified. An honourable fame appeared a matter of less moment, than a well filled purse; and if the former has not been fully attained, it is to be ascribed to the avaricious feelings, which at first prompted a limitation of the use of the discovery, against which an indignant profession unanimously uplifted its voice, and in its successful endeavour to crush an unworthy monopoly, necessarily curtailed the amount of honour which, under other circumstances, would certainly have accrued to its original promoters. It is certainly painful to us to be compelled to record this short epitome of a portion of