

Hail Storm, June 14, at Doncaster.

AROUND my home at Bessacarr, on the Great North Road, three miles E.S.E. of Doncaster, on June 14, at 5 P.M. B.S.T., heavy rain was followed by hail measuring three-quarters of an inch in diameter, then—after a five-minute interval—by hail measuring one and a quarter inches in diameter—with a density of 85 to the square yard. The duration of the second shower was only one minute. Sound elm twigs a quarter of an inch thick were cut off the trees in thousands. The largest stones weighed 20 grams ($\frac{3}{4}$ oz.): twenty per cent showed four growth rings about a white spherical nucleus a quarter of an inch in diameter. The intermediate transparent stages were one-eighth of an inch and the final growth three-eighths. None were angular, but a small number showed a quarter of an inch mosaic allotriomorphic crystallisation on their smooth ovoid surfaces.

A sandpit in the garden was temporarily flooded, and in the thin residual layer of mud the stones made excellent impressions. These were covered by waterproof fabric, and next day, after being sun dried, casts of many of these were taken and a reproduction of the surface made in plaster for the Doncaster Museum.

N. L. SILVESTER.

Waterdale, Doncaster,
June 19.

An Apparatus for Recording the Ultra-Violet Light of the Sky.

IN NATURE of June 13, p. 893, Dr. J. R. Ashworth describes a photographic apparatus for recording the ultra-violet light of the sky.

It may be doubted whether such a method can give quantitative results, or even relatively correct results on different days, for the following reasons.

First, a step wedge constructed of a diffusing medium, such as thin tissue paper, does not obey the logarithmic 'law', which is valid only for transparent media.

Secondly, photographic paper can be used as a quantitative instrument only by a null method, if any reasonable degree of accuracy is required, since it does not respond in a regular way to light stimulus. For example, equal values of *I*t do not necessarily involve equal response by the photographic paper, owing to the existence of the Schwarzschild effect, while the sensitivity of the paper varies according to the atmospheric conditions.

A method which involves a visual estimate of a small change is also open to criticism, since different people have different acuities.

P. W. CUNLIFFE.

Wool Industries Research Association,
Torridon, Headingley, Leeds,
June 24.

Records of Actinic Value of Daylight.

RECORDS of the actinic value of daylight are being regularly taken in connexion with the 'Jeremiah Horrocks' Observatory, Preston. Strips of sensitised paper carried on a rotating drum pass close behind a narrow slit through which light from the sky enters; the apparatus is set up so that the slit opening is fed

with light from an area of the sky 45 degrees square, the centre of the area having an altitude of 45 degrees above the horizon toward the north.

The four records reproduced in Fig. 1 were taken on April 21, 22, 23, and 24 of this year and show the rapid variations of actinic value of diffused daylight. The records are positives, that is, the dark portions indicate absence of actinic light, and the slit width, approximately 0.5 millimetre, provided for an exposure of two minutes.

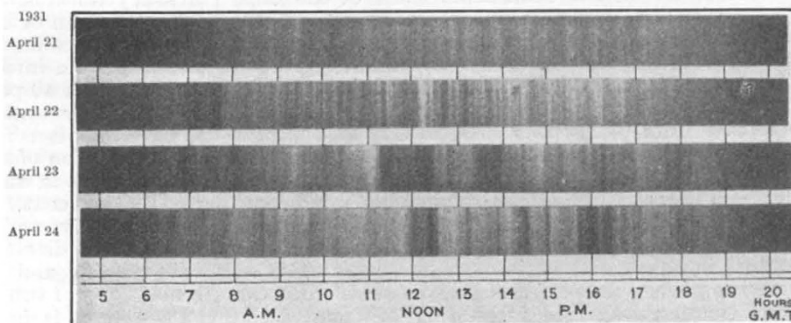


FIG. 1.

Records from three instruments have now been accumulating over a period of many months, and the work is still in progress.

GEO. J. GIBBS.

The 'Jeremiah Horrocks' Observatory,
Moor Park, Preston,
June 22.

Experiments in Prophylaxis.

THE scope of two agents, which are scarcely recognised in an external field, seems to need inquiry.

Creosote rapidly penetrates the skin: it removes the irritation of insect bites (mosquitoes, bugs, harvest-bugs), and then the circulation soon dissipates the swelling. If applied to eruptions at the incipient stage, it dries them, and the foreign matter is imperceptibly exuded. On tender skin it can be diluted with any grease. Will this be equally successful with bites of plague-fleas? What effect would it have on early pustules of small-pox?

Another external germicide is dry sulphate of quinine, which cannot, like iodine, cause serious injury. On an abrasion or cut of blood-vessels it prevents infection and promotes healing; on a badly infected wound I have known it make an entire cure in a week. Solution of quinine will rapidly cure ophthalmia which is resistant to zinc. The scope of such remedies, especially in the tropics, should be determined, as they can be safely entrusted to the ignorant.

FLINDERS PETRIE.

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London, N.W.3.

Crystal Structure of Molybdenum Trioxide: A Correction.

I REGRET to say there are two errors in my letter on molybdenum trioxide, published in NATURE of Jan. 17. The length *c* should be 3.67 and not 3.57 Å.; and *u* and *v* should be interchanged, making *u* ~ 30°, *v* ~ 36°.

NORA WOOSTER.

The Mineralogical Laboratory,
The Museums, Cambridge,
May 28.