resistance to the formation of new film, the film-tension in the front will be greater than in the rear, and the film will be dragged from the rear to the front of the bubble, and in its movement will carry the water in contact with it, thus causing the forward current *a*. As the supply of film has to travel in a narrow stream in the middle of the space between the two glasses, it will flow with considerable velocity, as it has to provide film for all the area dragged on by contact with the glass surfaces.

JOHN AITKEN.

Ardenlea, Falkirk, N.B.

Insect Intelligence.

MY friend Prof. Hughes's story about a fox's cleverness in getting rid of his fleas induces me to recount an instance of insect intelligence which I witnessed about fifty years ago at Elmstead in Essex, a place teeming with insect life. There was a narrow border round the wall of my house; on this I noticed one day a large fly of the ichneumon family straddling over and dragging a green caterpillar bigger than itself. I watched it crawling for some thirty or more yards round an angle of the house until it came to a corner protected by a projection of the wall. Here it deposited the caterpillar, and removed one by one a little heap of small stones. This disclosed a cylindrical hole in the ground, into which the fly descended tail first, dragging the caterpillar after it. It then came out, and again went down, apparently stamping the caterpillar close, and may probably at the same time have laid an egg. It then came up, replaced the stones so as to hide the orifice, and flew away.

This probably was only an instance of the mode of proceeding of the whole species, but notice what it involves. The insect must have dug the deep hole and hidden the entrance to it carefully for future use, and it must have remembered its position so as to find it again from whatever quarter where it may have chanced to find its prey.

Graveley, Huntingdon. OSMOND FISHER.

Reflection of Ultra-violet Rays by Snow.

ALLOW me to make the following short statement in the columns of NATURE.

During the past winter we have had frequent snowfalls here in Switzerland, these being followed very often by bright sunshine. I availed myself of these occasions to determine to what extent the spectra of sunlight, reflected by snowfields, reaches into the ultra-violet. To this end I took numerous photographs of the spectrum produced by this reflected light, the angle being 45°. The time of exposure varied from 1 second to 20 seconds, with a slit opening of 0·05 mm. The results showed that this spectrum of reflected sunlight reaches up to 295 $\mu\mu$. The tests were made between 10 and 12 o'clock a.m. at an altitude of 630 metres above the sea-level.

Comparing the results with those of Cornu, we must conclude that the ultra-violet rays are reflected by snowfields almost in their entirety, and hence the powerful action of this light cannot be called into question. It would therefore be advisable at all times, during a period of snow and sunshine, to protect the eyes from the injurious effects of these ultra-violet rays by using glasses which will not permit these rays to pass.

J. V. KOWALSKI.

Université de Fribourg, Institut de Physique, March 20.

Assil Cotton.

A FORM of cotton has been produced, by selection in the field from superior growths of Mit Afifi, which is said to be a pure strain and similar to the Mit Afifi of twenty years ago. This form is known by the name of "Assil," meaning "of pure original strain."

In order to prevent any misconception occurring that by substituting "Assil" for the present impure Mit Afifi the introduction of a new variety is advocated, it is recommended that this form of cotton be for the present referred to as "Assil Afifi."

G. C. DUDGEON.
(*Director-General.*)

Department of Agriculture, Cairo, March 21.

INSURANCE AGAINST RAIN.

A SCHEME of holiday insurance against rain has been put forward by the Excess Insurance Company, and has been described in considerable detail in *The Times* of March 21 and 22. It applies to the period from May 1 to September 30, at a series of sixty-three sea-coast towns on the south and east of England. It is stated that the daily readings of rain gauges at the towns in question (or in some cases where there is no local observer at a neighbouring town), will be supplied to the company by the town clerks, or "culled from the lists of the Meteorological Office." Four forms of policy are proposed, designated respectively Pluvius A, B, C, and D. Policy A provides for payment for each separate week in which there is rain on more than two days, amounting on each to more than 0·20 in., and the premium is to be one-eighth of the compensation to be paid per week. Policy B provides for payment for every day on which the rainfall exceeds 0·20 in., and the weekly premium is equal to one and a half times the compensation offered per day. Policy C provides for payment for the second and each additional rain-day in a week on which the rainfall exceeds 0·15 in., and the weekly premium is equal to the daily compensation, and Policy D provides for four days, payment being made for every day on which more than 0·20 in. falls, and the premium for the four days is equal to the compensation per day.

The interest of the proposition lies in the fact that the rain for which compensation is to be paid may fall entirely at night and not affect the enjoyment of the holiday at all, and as much compensation will be paid, so far as we can judge, for a thunder-shower of ten minutes' duration yielding just more than 0·20 in. as for a day of uninterrupted rain for twenty-four hours, yielding two or three inches. As there is no necessity laid on the assured to prove damage or even to go near the place where the rain is to be measured, it is apparent that a question may arise as to whether the transaction in certain cases is legitimate insurance or mere gambling. The assured and the company are bound by the terms of the policy to accept the readings of daily rainfall supplied from a specified rain gauge as binding, but no information is given in the articles from which we quote as to the limits of the rainfall day, *e.g.* whether it is to count from 9 a.m. to 9 a.m., as in ordinary records, or from 7 a.m. to 7 a.m., as at the daily reporting stations of the Meteorological Office. No indication is given as to how the records from those stations which read rainfall to three places of decimals are to be interpreted; for instance, one observer records 0·204, where another for the same quantity in the measuring glass records 0·20; the first records 0·206 where the other records 0·21; and when the first records 0·205 the second may read 0·20 or 0·21 with equal truth; but the alternative he chooses would decide the payment or non-payment of perhaps a considerable sum as compensation.

It must also be remembered, as Dr. H. R. Mill points out in *The Times* of March 23, that in summer the rainfall varies very greatly in a short distance, and unless the assured stays very near the rain gauge he may experience totally different weather from that which it records. Here, however, the chance is even of the rainfall being more or less than is recorded—in the one case he may be damaged without compensation, in the other he may be compensated without damage. Dr. Mill considers that there are no data yet elaborated on which a fair basis for an equitable and practicable scheme of insurances against rain risks can be framed.