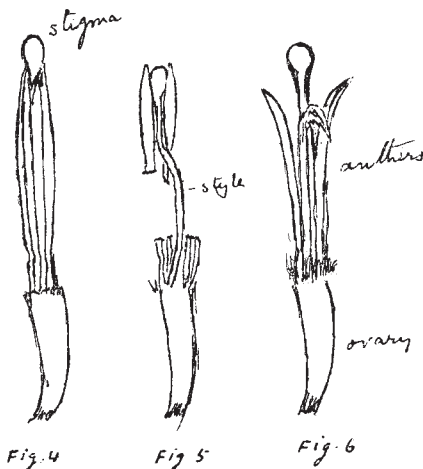


point must, therefore, be guarded first; and we see that nature has done it by closing the window with one of the petals of the inner whorl. This petal is convex in front and concave behind, while the hood is convex behind and concave in front. This arrangement shuts off the window completely (Fig. 3). The petaloid shutter is secured in its place, on either side, by the margins of the hood to nearly an eighth of an inch. These margins are very much thinned out, and are also cemented together. The shutter, being on the concave side of the bud, comes in contact with the convex bract beneath, which thus helps to keep it in position. The top of the hood is closed similarly air-tight by its margins. The inner whorl—i.e. the corolla—is represented usually by the shutter alone. Sometimes, however, two petals are present, and very rarely all the three.

The male organs, thus tightly packed, can neither move from their place, nor can they be assailed by any foreign element from without.

(2) *Arrangement of the stamens.*—On removing the hood and the shutter we come to the andrœcium, which consists of four or five stamens. The filaments are petaloid and erect, thus embracing the pistil completely. The anthers are adnate or dorsifixed. They are also introrse, i.e. turned towards the stigma.

Let us now proceed to the pistil, and examine it in the different stages of its growth. In the early state—i.e. before it is ripe, and before the anthers are ripe also—the style and



the stigma project beyond the andrœcium. If this state continued, self-fertilisation would be impossible. The stamens must either overtake the stigma, or the stigma must be at the mercy of insects or the wind for pollination. The stamens are not quick enough in growth to overtake the stigma; so what happens is this. By the time the anthers are ripe, the style shortens in length by bending nearly at right angles in two places (often marked by horizontal grooves in early stages), and thus brings the stigma in contact with the pollen (see Figs. 4 and 5). After pollination is completed, the style straightens again and projects, as before, beyond the andrœcium (see Fig. 6). Stages intermediate between Figs. 4 and 5, may be seen if we examine the flowers from without inwards. With the straightening of the style, the anthers become free and curve outwards. The bracts fall off; the shutter drops away; the hood withers, and the style dries gradually.

Kolhapur, India, February 17.

GOPAL R. TAMBE.

Stereoscopic Projection of Lantern Slides.

IN your report of the meeting of the Physical Society on February 26 (NATURE, p. 454), I notice an account of the exhibition, by Prof. T. C. Porter, of a somewhat complicated apparatus for exhibiting lantern slides in stereoscopic relief. An equally elaborate arrangement, depending on the use of polarised light, was exhibited at the British Association at Nottingham in 1893. It may possibly, therefore, be of interest to call attention to the much simpler means of accomplishing the same result, which suggested itself to me some time ago,

but I subsequently found that it had been invented previously by Lieut.-Colonel Moëssard under the name of *monocular stereoscope* (Cosmos, May 23, 1896).

In this stereoscope one eye views one of the pictures directly, while the other eye sees the other picture after reflection at two mirrors, the angle between whose planes can be adjusted so as to bring the image into apparent coincidence with the picture seen by the first eye. In viewing distant pictures, such as lantern slides, a projecting partition, with a flange whose breadth is nearly equal to the distance between the two eyes, is all that is necessary to prevent either eye from seeing the wrong picture.

For lantern work, either two pictures could be projected side by side with separate lanterns, or two small views could be photographed side by side on the same slide, and thus enable stereoscopic effects to be shown with a single ordinary lantern.

Moreover, by turning the arrangement of mirrors through 90° it can be made to displace the image seen by one eye vertically instead of horizontally. This would enable the two pictures of an oblong view to be projected one above the other, instead of side by side, and viewed with the same apparatus as before, but differently arranged. As regards the foreshortening of the upper picture, this would be to a great extent compensated for by the fact that the lantern itself projected the picture upwards.

It is evident that two pairs of mirrors, one for each eye, could be used if desirable.

G. H. BRYAN.

The Aurora of March 15.

I WAS fortunate enough to witness the display of the aurora on the night of the 15th, and think that some of the appearances may be of interest to those who did not see them, but who have recorded the accompanying magnetic disturbances.

The display began in the north-east about eight o'clock, by the appearance of a brilliant band of light, rising from behind a cloud 45° from the horizon, and extending about 30° in a south-westerly direction. This band might have been mistaken for a search-light, the edges were so sharp. The colour was the characteristic greenish hue of the aurora.

After persisting steadily for five minutes the band gradually broadened and shortened, and became a bright patch, which continued until the end. The display spread over the northern sky to the west, where another patch appeared. At nine o'clock the display was very fine, with two patches east and west, and right overhead seemed to be the apex of a parabola with beams of light streaming northwards. Looking southwards, occasional flashes of a yellowish pink colour could be seen. About ten o'clock the whole energy of the display seemed to become concentrated in the east and west patches, and great flashes of light connecting the two. After this the brightness seemed to gradually diminish.

So bright was the aurora at its height that the grey granite walls of the houses were illumined by the flashes.

Aberdeen, March 25.

A. GEO. SMITH

On Phosphorescent Sap in Superior Plants.

IN answer to the question of Prof. Giglioli in NATURE of March 3 (p. 412), I beg to observe that in Meyen's "System der Pflanzen-Physiologie," which was certainly in its time a standard work, there is to be found in vol. ii. p. 203 (Berlin, 1838) a short but concise statement of the phosphorescence of the milk-juice in *Euphorbia phosphorea*, on the authority of v. Martius ("Reise in Brasilien," ii. pp. 726 and 746), as also a reference to a communication by Mornay (*Philosophical Transactions*, vol. vi. p. 279), on the phosphorescence of the milk-juice in einem rankenden Gewächse, Cipo de Cunanam genannt, welches zwischen Monte Santo und dem Flusse Bendego wuchs und wahrscheinlich eine Asclepiadee oder ein Apocynce ist."

M. W. BEIJERINCK.

Delft, Holland.

A Remarkable Case of Correlation.

A VERY interesting case of correlation is recorded in the *Bulletin* of the Botanical Department, Jamaica, for December 1897.

Particular attention has been paid lately to the selection of good Ripley pine-apples, and it is found that if there is a broad red stripe in the centre of the leaf the fruit will turn out good; in other cases the fruit goes into holes at the bottom, and is attacked by ants.

S. N. C.