

and nearly black. Some of these fell 50 to 60 feet away but the short sharp wind may have helped them to travel. A second trench was dug through the quick fence to the further wire fence.

About 100 yards of the fence was badly damaged. Continuing down the hill the 9th post was broken clean through below the bottom wire but posts 5, 6, 7 and 8 were not touched, nor were posts 10, 11, 12, 14, 16, 18, 21, 22, 23. Posts 13 and 15 showed slight damage near the ground but post 17, which had been an oak gate post, was split from the top wire to the ground. Posts 19, 20, 24 and 25 showed slight damage near the ground. This fence went on another 100 yards to the river but no more posts showed any damage.

Going up the hill from the straining post much the same sequence of damaged and undamaged posts was found. Perhaps it may be worth mentioning that post No. 16, 100 feet from the straining post, had the top broken clean off and below the bottom wire the post was split open so badly that the one part was nearly free.

Only ten minutes before cows had been lying round the mill but fortunately they had been taken away to be milked.

The whole village was properly scared by the flash which seems to have been of exceptional violence, and they were expecting me to come and dig up the thunderbolt.

St. Marybourne,  
Andover.  
May 15.

C. V. Boys.

#### Photographic Graticules

In the annual report of the Department of Scientific and Industrial Research, 1932-1933, par. 4 on p. 111, dealing with the work of the British Scientific Instrument Research Association, gives the impression that photographic graticules were not produced in Great Britain previous to the investigation carried out by the British Scientific Instrument Research Association to which the paragraph refers. This arises as the result of certain excisions which I made for the purpose of reducing the draft drawn up by the British Scientific Instrument Research Association to a length suitable for its inclusion in the Report of the Department of Scientific and Industrial Research. I had no intention, in abbreviating the draft, of rendering it open to being read so as to convey this wrong impression.

In fairness to Mr. Julius Rheinberg, I should like to direct attention to the fact that he did great service to the optical industry during the War by developing the manufacture, by his firm, of large numbers of graticules required in instruments for Service purposes, and that his firm has been regularly supplying "grainless" and "filmless" photographic graticules since that time, though I learn that production of the latter variety has now been discontinued. I am the more sorry that the excisions should have made the paragraph capable of giving rise to the impression mentioned above since, on one occasion at my personal request, Mr. Julius Rheinberg undertook the production of graticules of a particular kind needed for a new type of instrument which had just been developed by a British manufacturer who had failed to obtain satisfactory graticules of that type from any other source.

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#### An Oestrogenic Substance from Plant Material

In a recent communication<sup>1</sup> A. Butenandt mentions the identity of animal follicular hormone with the substance found by him also in plant material. In this connexion I should like to take the opportunity of presenting the results of my researches, which will appear shortly in full in the *Bulletin* of the Polish Academy of Sciences.

From 65 kgm. of the female flowers of the willow I obtained a semi-crystalline substance having a strength of 35,000 m.u. of the follicular hormone. After the further extraction of this original preparation with 60 per cent ethanol and benzene, more than 11,000 m.u. were found in the benzene fraction. From the alcoholic solution I obtained by G. Marrian's method 7.5 mgm. of crystals, the properties of which were identical with the properties of trihydroxyoestrin prepared by me from female urine. The microscopical aspect and the solubility in various solvents of the two substances were in both cases very similar; the absorption spectrum in the ultraviolet and the melting point of the acetyl derivatives (126°) being identical. By mixing crystals of the willow preparations with crystals of trihydroxyoestrin from urine (m.p. 277°) the melting point of the urine preparations was lowered only 1°.

The substances differ, however, in their biological activity, which in plant material was about 1,000 m.u. in 1 mgm., whereas in the purest preparations of trihydroxyoestrin from urine I have found the activity to be 4,000 m.u. in 1 mgm. (aqueous injections in five doses, each 0.2 c.c. in 36 hours). From the mother liquid after the crystallisation of trihydroxyoestrin, a yellow substance in the form of small particles separated, the activity of which was about 1,800 m.u. in 1 mgm. The small quantity of this substance prevented, however, its further examination.

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April 1.

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#### Detection of Traces of Carbon Monoxide in Air

IN NATURE for March 25 and May 6, pp. 441 and 654 respectively, it has been pointed out that carbon monoxide can be detected in air (1) in proportions of 0.015 per cent by the palladium chloride solution method, and (2) in proportions of 0.004 per cent by the Hartridge reversion spectroscopy.

While palladium chloride papers have been used here to this order of accuracy, the iodine pentoxide method is used when the detection (and measurement) of still smaller proportions is required; it has been claimed<sup>2</sup> that 10<sup>-6</sup> grams of carbon monoxide can be detected as iodine in this way. Such sensitivity has not been required here; we have, however, used this method to detect one part in 200,000 (0.0005 per cent), and find it suitable for routine use.

Research Department,  
Woolwich.  
May 8.

H. R. AMBLER.  
T. C. SUTTON.

<sup>1</sup> Ackermann, *Chem. Ztg.*, 67, 154; 1933.

<sup>2</sup> Tausz and Jungmann, *Gas- u. Wasserfach.*, 70, 1049; 1927.