

Phenyldi-iodoarsine has a blistering action when in contact with the skin, but, handled carefully, provides an excellent liquid for use with the refractometer, and should prove valuable as an immersion medium.

3. Selenium monobromide,  $\text{Se}_2\text{Br}_2$ , has a higher refractive index than that of any pure liquid hitherto recorded. Prepared by direct combination, the value for  $n_D$  is  $1.96 \pm 0.01$  rising to 2.02 on exposure to the atmosphere, owing to decomposition of the bromide, with separation and reabsorption of selenium. It is opaque, except in thin films, to all but deep red light, but when mixed with methylene iodide can be used with the refractometer. To obtain a high reading we find it convenient to mix the selenium-saturated bromide with the special methylene iodide solution mentioned above, in small quantities as required. Such mixtures have  $n_D > 1.90$  and thus enable readings to be made up to the limit imposed by the refractive index of the glass hemisphere of the instrument (no instrument reading above 1.90).

To make still higher readings possible we hope that fine quality transparent zinc blende ( $n_D 2.37$ ) may be worked and used in place of the glass, the instrument being suitably modified. Further work on this subject is in progress.

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- <sup>1</sup> Merwin, *J., Washington Acad. Sci.*, 3, 35; 1913.  
<sup>2</sup> Wright, Carnegie Publication No. 158, Washington, 1911.  
<sup>3</sup> *Gemmologist*, 2, 201; 1933.  
<sup>4</sup> Steinkopf and Smie, *Ber.*, 59 (B), 1461; 1926.

### Crystal Structure of 1-3-5 Triphenylbenzene

A PAPER has recently appeared<sup>1</sup> in which a structure is proposed for 1-3-5 triphenylbenzene, based on X-ray measurements. The unit cell has dimensions  $a = 11.2$ ,  $b = 19.8$ ,  $c = 7.6$  Å., and contains 4 molecules. No reflections were observed from planes ( $h0l$ ) where  $l$  is odd, and ( $hk0$ ) where  $h+k$  is odd. On the assumption that the crystals are orthorhombic bipyramidal, this would mean that the space-group is  $Q_h^{16}$  ( $Pmcn$ ) and that the molecule has a plane of symmetry. The authors place this plane of symmetry parallel to (010), but it is clear from the 'absent reflections' that (010) and (001) are both glide-planes of symmetry and that the molecular plane of symmetry, if it exists, must be parallel to (100). This result is incompatible with the authors' structure and also, as it happens, with the most probable dimensions of the molecule and the actual intensity data.

The explanation of this apparent anomaly is that the crystal class is not orthorhombic bipyramidal, but orthorhombic pyramidal. The crystals show a small, but quite definite, piezo-electric effect, indicating that the crystallographic 'a' axis is, in reality, a polar axis. The molecules are *asymmetric*, though pseudo-trigonal, and the plane of the benzene rings is not coincident with the crystallographic (001) plane, as in the proposed structure, but makes a small angle with that plane. A complete account of the correct structure, based on accurate X-ray intensity measurements, together with optical and magnetic data, will be published shortly.

Meanwhile the importance of making piezo-electric measurements whenever possible cannot be too

strongly emphasised, as lack of knowledge may otherwise lead not only to the assumption of too much molecular symmetry, but also to a completely incorrect structure. It is, I think, a fact that in every case for which a plane of symmetry in the benzene ring has been reported, the presence of a piezo-electric effect (not tested for) would eliminate that plane.

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<sup>1</sup> E. Hertel and G. H. Römer, *Z. phys. Chem.*, B, 23, 226; 1933.

### A New Wound Parasite of Potato Tubers

IN a recent communication, Mr. S. F. Ashby of the Imperial Bureau of Mycology, Kew, informs me that he has not been able to find a record of *Fusarium viride* (Lechm.), Wr. on potato or of any tests of its parasitism on that host. Recently Wollenweber<sup>1</sup> has renamed it *F. solani* var. *medium*, Wr., but its pathogenicity does not appear to have been tested.

Single spore cultures of *F. viride*, kindly identified by Dr. Wollenweber, were inoculated into potato tubers by a slightly modified method of Granger and Horne<sup>2</sup>. After 24 days at room temperature (20°–25° C.) all the inoculated potatoes showed a well-advanced dry rot with a wrinkled sunken patch and whitish pustules on the surface near the plug. The fungus was re-isolated in a pure form both from the diseased parts as well as from the pustules. Its saltant was as virulent as the parent. *F. moniliforme*, *F. camptoceras*, *F. diversisporum*, *F. semitectum* and *F. semitectum* var. *majus* failed to infect the tubers. The controls all remained healthy.

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- <sup>1</sup> "Fusarium Monographie", 1931.  
<sup>2</sup> *Ann. Bot.*, 38, 212; 1924.

### Scurvy in the 17th and 18th Centuries

THERE is an English seventeenth century reference to the treatment of scurvy, which, perhaps, is not so well known as it might be. John Woodall, author of "The Surgeon's Mate, or Military and Domestic Surgery", 1639, wrote on p. 171, "juyce of lemmons was ever reputed a cold medicine, prescribed and given daily by physicians in burning and pestilential fevers, and that with good reason and good successe even to this day, and yet to that notable and cold and terrible disease of the Scurvy, how excellent hath it been approved. . . ."

In the next century, Capt. Cook did not find citrus fruits to be of striking value, for a very good reason arising from the nature of his supplies. There is appended to his paper in *Phil. Trans.*, vol. 66, 1776, a letter in which he writes: "I have no great opinion of them alone", 'them' being oranges and lemons, preserved as a 'rob' or syrup of *boiled* juice.

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