

The plucking and eating of one another's fur by the rabbits, the eating of the dead animal's viscera by the surviving rats and the hankering of the manganese-deprived animals for any titbits seem to have been due to the lack of manganese in the diet.

M. N. RUDRA.

Department of Medical Chemistry,
Prince of Wales Medical College,
Patna.
Oct. 19.

Chalk Brood Attacking a Wild Bee

A PIECE of partly decayed deal tunnelled by an insect received for identification in September from Acton, London, was found to contain the nest of a leaf-cutting bee, probably a *Megachile* sp. The wood had been split for firewood and only one cell of a series in the tunnel remained intact. The cells were formed by lining the tunnel with pieces cut from hawthorn leaves and contained a dead pupa and a food store consisting of a pellet of pollen massed together with honey. The pollen proved to be that of a composite with spiny grains 35–42 μ in diameter comparable in size and ornamentation with those of the creeping thistle, *Cirsium arvense* Scop. The purity of the pollen store suggests that this wild bee confines its attention to one species of plant at a time, a habit regarded as characteristic of the honey bee. The pupa and pollen store were invested with a white mycelium in which small black fruiting bodies were observed. On examination the fungus proved to be *Pericystis apis* Maassen, the pathogen responsible for the chalk brood disease of the honey bee. We are not aware of earlier records of this fungus attacking wild bees, though this may not be due to a scarcity of the fungus but to the infrequency with which such material comes under the notice of a mycologist.

RONALD MELVILLE.

Royal Botanic Gardens,
Kew, Surrey.

H. A. DADE.

Imperial Mycological Institute,
Kew, Surrey.

The So-called Plücker's Plane

ONE is accustomed to see 'Plücker's plane' explained as an effect of a magnetic field on particles which, supposedly paramagnetic, arrange themselves somewhat as iron filings would.

I have observed, however, that the effect is wholly explained by the ordinary magnetic deflexion of the slow-speed cathode rays, which, issuing normally from the cathode and projecting secondary ions beyond their own range, cause, with a cylindrical cathode, the familiar cylindrical negative glow. In fields of 200–300 gauss or more, a substantially regular 'plane' appears, because all particles not originally travelling along the lines of force (that is, in 'Plücker's plane') are dissipated by the strong magnetic deflexion; but in weaker fields, of 100 gauss or less, the process of magnetic deflexion from the other parts of the cylindrical glow is very evident—in opposite directions on the two sides of the 'plane'—and this explanation is further shown to be correct by asymmetrical displacement if the poles are inclined.

The more intense spots of light near the poles, if these are conical, are due to spiralling concentration along the lines of force. Again, the 'plane' is unaffected by a change from knife-edge to extensive plane poles, although in the latter case the field is uniform throughout the tube. If two poles near one another are brought to one side of the tube, so as to give the greatest possible field gradient, there results a dark space opposite the gap, due to deflexion away from there, whereas 'magnetic' particles would fill this space more densely than in the absence of the field.

If the 'ions' have any paramagnetism, it is not apparent under these various conditions. The 'hoariness' of the fallacious view of this nearly century-old experiment is remarkable, seeing that it requires the supposition of some novel kind of intensely magnetic ion formed near the cathode.

A. L. PARSON.

Hill Croft, Allonby,
Maryport, Cumberland.
Dec. 9.

Metallic Searchlight Mirrors

IN my Parsons Memorial Lecture delivered before the Physical Society on October 15, 1943, and published in NATURE of December 10, I said that "Metal searchlight mirrors, though occasionally revived, are now almost obsolete, at any rate in Great Britain, owing to the inferiority of reflecting power and the difficulty of maintaining it good under service conditions"; this statement was in accordance with what I had been able to find in print, and with what I had been able to learn personally concerning military searchlights. A certain type of metallic mirror had, in fact, been recently discarded from the service.

I now learn from Messrs Clarke, Chapman and Co., Ltd., of Gateshead-on-Tyne, that after spending a large sum on development, they have been able to overcome the difficulties, and are making metallic mirrors which are able to stand service conditions.

I knew nothing of this at the time of writing and regret not having made fuller inquiries before undertaking to say anything about the subject.

It is hoped that this letter may correct any harm that has been done.

RAYLEIGH.

Terling Place,
Chelmsford.
Jan. 6.

J. B. Hannay and the Artificial Production of Diamonds

WITH regard to Dr. Travers' letter in NATURE of December 18, p. 726, Mr. Hannay and my father were partners in some of his industrial developments. Some time after the diamond experiments were made, I remember attempts to piece together certain fragments under the microscope. I understood that Mr. Hannay was concerned lest some practical joker had interfered with the experiments as had been suggested. He, himself, was not the type of man to fake a result. He was certainly interested to check that no one else had.

JAMES WEIR FRENCH.

Barr and Stroud, Limited,
Annie'sland, Glasgow, W.3.