bourne. In Surrey, from which county it had not been reported in 1929, except for one record of an occurrence at Walton-on-Thames, it has since been met with at Sutton, Farnham, and Grayshott (1930), and at Mickleham (1931). In what might be termed the London district itself, in addition to Dr. Dawe's record, it was seen at Surbiton again, at Hounslow, West Wickham, and Gravesend in 1930, and even, as reported in the *Times* of Oct. 10, at Kensington in 1931. From the repeated occurrence of the butterfly on the western outskirts of London, one is forced to the happy conclusion that this attractive species must really have established itself somewhere in that neighbourhood, in many parts of which indeed its food plant, hop, grows fairly freely, more or less as a weed.

N. D. RILEY.

British Museum (Natural History),
South Kensington, S.W.7,
Oct. 12.

Change of the Dielectric Constant of Carbon Disulphide with Temperature.

H. ISNARDI [1] has found that the dielectric constant of liquid carbon disulphide increases linearly with the lowering of temperature, up to a maximum at − 90°, and then decreases also linearly with further lowering of temperature. This author has not, however, made a sufficiently careful study on the neighbourhood of the congelation point. His data do not permit us, therefore, to draw inferences as to the behaviour of the dielectric constant of carbon disulphide at its freezing point (− 112°).

On the basis of analogy with ethyl ether, I have supposed that at − 112° there appears a jump in the

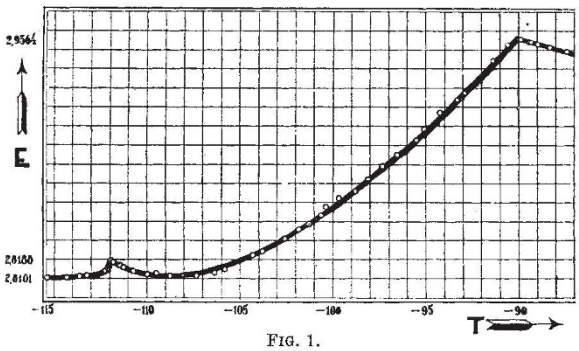

FIG. 1.

value of the dielectric constant of carbon disulphide independently of the maximum at − 90°. To check this supposition, I have made a study of the dielectric constant of carbon disulphide, using a method depending on the beats of two high frequency oscillation circuits, as described by M. Wolfke and W. K. Keesom.[2]

It appears that the value of the dielectric constant of carefully chemically purified carbon disulphide increases from 2·630 at 20° C. up to 2·936 at − 90° (maximum), and then decreases, to jump again at − 112°.

The accompanying curve (Fig. 1) represents these changes of the value. It can be seen that the dielectric constant of carbon disulphide behaves similarly to that of ethyl ether.[3]

J. MAZUR.

Physical Laboratory,
Technical Institute, Warsaw,
Sept. 22.

[1] *Zeit. für Phys.*, **9**, 153; 1922.
[2] *Comm. Leiden*, 190a.
[3] NATURE, **126**, 649, Oct. 26, 1930; and *Comptes-rendus* des Séances de la Soc. Polon. de Physique, **5**, 181; 1931.

Cosmic Evolution and Earthly Needs.

I IMAGINE that no journal has ever published even an approach to so wonderful a supplement as that to NATURE of Oct. 24 on "The Evolution of the Universe". The transcendental discussion reported is the more remarkable, as it is held at a time when ordinary folk are beginning to think that there may be difficulty in living much longer, in passable comfort, upon the pimple we are privileged to inhabit and are doing so much to spoil. From beginning to end, however, the British Association proceedings were Neroic: little effort was made by anyone to pay serious attention to our present earthly situation or to consider how we are to get out of the muddle 'science' has created. Pity 'tis that Sir Arthur Eddington did not "'eave 'is 'arf a brick" to this end. A century of science seems to have brought us to a wonderful understanding of things that do not matter, whilst 'larning us' little that will help to fill our bellies and suffer one another with equanimity, let alone gladly and with Christian amity.

The essays are not for the likes o' me to understand. Still, as a chemist, I should like Prof. Millikan to loan me a volt or two out of his visionary 25,000,000. He speaks of an atom-building act of this energy-order "that is more fundamental than all others and must take place more often than all others, . . . namely, the formation of helium out of hydrogen, because we have abundant evidence that all the elements are actually built out of hydrogen and helium", and so on. What is here meant by hydrogen? What is the process pictured? Have we such evidence? Physicists will use our words, unfortunately, in their own ways: as for example, *ion*, which is now used in so many ways that it means 'what you please', apparently. Whatever cosmic hydrogen may do in cosmic space, no laboratory hydrogen that we know gives helium, even in the Langmuir blowpipe.

While on words, may I take formal objection to my friend Dr. Aston's continued use of the term *constitution* when he means the *composition* of the mushes we still term elements. Constitution is used by the chemist only as implying structure in uniform materials.

HENRY E. ARMSTRONG.

Chemical Nature of the Tigroid.

THE chemical nature of the tigroid (Nissl's granules) of nervous cells is still unknown. On morphological grounds they are generally supposed to be related to the nucleus.

The brains of freshly killed guinea-pigs were fixed in alcohol, embedded in paraffin, and dissected. If stained with toluidine blue, the cells showed an abundance of tigroid. If, however, before staining, the slides were digested for thirty minutes with saliva, the cells no longer showed such granulation. This strongly suggests that the tigroid is a reserve polysaccharide of the nervous cells, similar to glycogen, but not identical with the latter, since it does not stain with iodine. This would be in good agreement with the disappearance of the granules after strong functional activity of the nervous system.

A more detailed report will appear in the *Acta* of the Hungarian Biological Research Station, Tihany.

A. SZENT-GYÖRGYI.

Biochemical Department,
University Szeged, Hungary,
Sept. 26.