99·9 per cent. only) imposes an upper limit to the temperature; we must have

$$T < 6000° \text{ Abs.}$$

Now it is obvious that at these densities the ionisation is mainly due to the radiation from the star; and so the relevant temperature must be the same for both shells of gas. This, of course, is incompatible with the foregoing conditions.

As time goes on, the density continues to fall, and the discrepancy becomes worse. After three months, hydrogen and nebulium bands are still present together, their widths remaining sensibly constant, though the hydrogen is now relatively much weaker. Thus it appears that the straightforward argument put forward by Elvey yields results which are self-contradictory; and careful consideration is necessary before his figures can be accepted.

Another way of looking at the matter is as follows: The lowest temperature at which two substances with different ionisation potentials I_1, I_2 can coexist at the same partial electron pressure is $T = 840\ (I_2 - I_1)$, where 'coexistence' means that not more than 99·9 per cent. of the one substance is ionised, nor less than 0·1 per cent. of the other. For a mixture of hydrogen and 'nebulium' this gives $T = 18{,}000°$ Abs., corresponding to a minimum pressure $p_e = 2 \times 10^{-3}$ atm. and a density 4×10^{-7} gm./c.c.

If we suppose that these values apply three months after the outbreak, then, working backwards, the critical density at which the nebular lines first appear must be of the order 10^{-5} gm./c.c. at a pressure of about an atmosphere.

This is, of course, directly opposed to the idea that metastable transitions can only occur at very low pressures; but it is conceivable that very high temperatures might also be capable of inducing them. The strength of the ultra-violet continuous spectrum is a well-known feature both of novæ at a certain stage, and of O-type stars, which can also stimulate the nebulium spectrum.

A more probable way out of the difficulty, however, is to suppose that the oxygen and hydrogen shells originate in different layers of the star. There will be hydrogen accompanying the oxygen, of course, and no doubt helping to produce the complicated dark line spectra which appear in the early days; but by the time the nebular stage is reached, this hydrogen will be completely ionised. The hydrogen that is actually seen then must have come from deep down in the star, where the density was much higher than in the reversing layer.

This explanation unfortunately undermines Elvey's argument, for once we admit that the shells of gas come from different regions of the star, we have no means of assigning the initial density of any of them.

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Scientific Terminology and its Annexation.

NATURE has so consistently maintained the purity and accuracy of English scientific nomenclature, and its occasional leading articles on the subject have been of such great interest and assistance, that I venture to point out the insidious annexation of scientific terms to denote a commercial product.

'Ethyl' is the latest offender; the article in question being a petrol or benzol mixture to which is added a small proportion of an anti-knock substance purporting to be lead tetra-ethyl.

I presume there is not a practicable legal remedy, and one would hesitate to adopt the Shylockian tactics of obtaining a stamped agreement to deliver a quantity of substance at the price of the 'commercial' (misnamed) article, and then holding them to their chemical bond; yet one feels that such a lesson would be richly deserved by those who produce 'Radium' tooth powder, 'Ozone' liquids, or even call the impure, evil-smelling napthalene (after deleting the 'albo') by the name of carbon.

One would of course not wish to be arbitrary, but such barbarisms as 'saltrates,' etc., are a deliberate counter to our expensive educational schemes.

As regards scientific terminology, one would wish, *pace* the Oxford Dictionary, that 'revolution' and 'rotation' could be logically distinguished. I have always tried to restrict each term to cases where the centre of movement was either outside or inside the body moving, but there are many borderland cases.

The late Prof. Perry, in his usual pungent way, once rejoiced that there was no name for the time fluxion of acceleration. The term 'crement' (from increment or decrement of force) almost suggests itself.

There seems some doubt as to whether the term 'applement,' denoting the difference between a given angle and four right angles, is suitable to take its place with 'supplement' and 'complement' in their usual connotations. Here, I suppose, the criterion is between the relatively few people who might find the term useful, and the many who would be plagued by it. The same applies to 'cyclon' for a pendular vibration, which is shorter than (or almost an abbreviation of) the late Lord Kelvin's 'cycloidal vibration.'

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Eyeglasses and the Microscope.

MICROSCOPISTS who are hampered by wearing eyeglasses (that is, pince-nez) often find that when their work requires reference to books or other objects on the table, the incessant business of taking their glasses off and putting them on wastes time, and is apt to become wearisome. There is a simple way of getting over the difficulty. When the glasses are taken off in order to make way for the microscope, they should not be laid down but should be kept on the head, in which position, being near the fine adjustment and the hand resting on it, they can at once be replaced when wanted. To attach the eyeglasses in this way nothing more elaborate is necessary than a piece of ordinary elastic, the two ends of which are tied, or fastened with hooks, to the frame, preferably the bridge, of the glasses. With the elastic loop round the head, the eyeglasses can be raised on the forehead out of the microscope's way or brought into position for reading with a minimum expenditure of time and trouble.

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The Sligo Artefacts.

WE, the under-signed, have examined a representative series of the limestone specimens collected by Mr. J. P. T. Burchell in Sligo, Ireland, and, after a study of the type of flaking and of the forms of these specimens, we are of the opinion that they are of human origin. This view is based upon the various criteria applied to universally accepted implements, and has been reached only after the explanation of the Sligo specimens being due to natural forces has been considered and rejected. This statement is without prejudice to their cultural age.

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