

different opinions: it simply leads me to think that they are mistaken. Frankly, I cannot conceive a better reason for holding an opinion than the belief that it is true. It may be, however, that Prof. Levy intended to charge me with trying to propagate my opinions among the uninitiated by disguising them as scientific facts. If so, I must say that the reader who could mistake the passage he quotes for anything but an attempt to interpret scientific procedure or who could regard any such interpretation as established truth, must be more uninitiated than one imagines readers of NATURE to be. Surely one cannot be expected to encumber every sentence with "in my opinion" or "it seems to me" or "I think that", when it is obvious that the matter dealt with belongs to the world of opinion and not to that of fact. But Prof. Levy does seem a little confused about vital distinctions, for he refers to my interpretation as "itself surely an experience", and asks whether I am not compelled to refuse my philosophy any status in the external world. Since he regards interpretation as experience, he has not begun to understand what I have been trying to say; and it certainly never occurred to me to claim that the external world contained philosophies.

It may not be superfluous to add that since the review from which Prof. Levy quotes was specifically concerned with the fact that one very eminent scientific man, whose insight I thought I acknowledged clearly enough, did not share my interpretation, an acute reader might have suspected that that interpretation was not indisputable. On the other hand, out of a multitude of scientific men who could be quoted in support thereof, I select for want of space, only two, 'tolerably known in the revolution'. In "Atomic Theory and the Description of Nature" (p. 1), Bohr writes: "The task of science is both to extend the range of our experience and to reduce it to order". In "The Meaning of Relativity" (p. 1), Einstein writes: "The object of all science, whether natural science or psychology, is to co-ordinate our experiences and to bring them into a logical system". Neither writer explains that he is merely expressing an opinion, or indeed shows any awareness of the "very many men of science" whose views Prof. Levy summarises.

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### Points from Foregoing Letters

INJECTIONS of an extract of the posterior lobe of the pituitary gland produce notable changes in the blood of rabbits, leading to anæmia, according to Prof. E. C. Dodds and Mr. R. L. Noble. The red blood cells show abnormal inequality in size (anisocytosis), some being very large (macrocytes), others of irregular shape (poikilocytes) or having a network pattern (reticulocytes). The spleen shows wedge-shaped areas (infarcts) due to hæmorrhage. From these changes the authors infer that the control of blood destruction may reside in the posterior lobe of the pituitary.

Chromosomes show great variation in size and shape. Dr. D. M. Wrinch discusses some of the factors that may give the constituent micelle of the chromosome the power to contract and change its shape. Among these factors are the attraction between basic and acidic groups, the variation of the number of such groups within the molecule due to changes in the acidity-alkalinity of the medium (*pH*), the folding due to molecular linkage, as in keratin, etc.

Mr. D. Cameron discusses the best conditions under which tracks of  $\alpha$ -particles can be observed in the presence of strong  $\gamma$ -rays during processes of disintegration, and shows how to determine the cross-sections for the disintegration of the beryllium nucleus by quanta of action.

The liberation of electrons by light, a phenomenon of great importance in television, etc., shows in certain instances a strong narrow maximum as the wave-length of light is changed. Prof. Fowler has explained this selective effect as due to surface conditions, the original metal being covered with an electro-negative layer a few molecules thick and then again with a mono-molecular positive layer. This view has been opposed by Zener; Mr. K. Mitchell now claims that Zener's objections are not valid, and that Fowler's theory can explain the observed facts both qualitatively and quantitatively. He also shows that the theory leads to a peculiar form for the normal velocity distribution of electrons from a selective

emitter, and appeals for experimental evidence on this point.

Mr. C. W. Davis shows how, by means of high-frequency damped oscillations, materials of high coercive force can be demagnetised. The method should be useful in the determination of magnetic properties of powders, the testing of iron and steel bars, in processes involving magnetic separation of ores, etc.

The colour-changes of burnished surfaces of copper and steel seen at different angles are greater than expected from the refractive indices of their oxide films, according to Prof. F. H. Constable and Messrs. M. Nazif and H. Eldin. The authors also describe colour effects due to scratches on strips of these metals cleaned with fine emery paper.

Dr. L. H. Jackson submits a diagram and describes a pair of minute structures suggestive of sense organs on the head of *Malacobdella grossa*, a leach-like worm parasitic upon molluscs such as the chalk-boring piddock (*Pholas*).

The parasite insect *Trichogramma evanescens* shows greater ability than hitherto suspected in distinguishing between healthy egg-hosts and those already infected; Dr. G. Salt and Miss J. Laing believe that the sense used in discrimination is that of smell.

The synthesis of compounds having some of the properties of the natural sex hormone has lately attracted much attention. Profs. J. W. Cook and E. C. Dodds dispute Dr. Friedmann's views concerning the relation between oestrogenic activity and molecular structure as recently set forth in these columns.

Heavy water is rapidly becoming a commercial product and the proportion in which it is present in ordinary water is therefore important. From the increase in specific gravity following upon an electrolysis of tap water, Messrs. A. J. Edwards, R. P. Bell and J. H. Wolfenden calculate this proportion to be one part in 6,000, as against one part in 9,000 previously deduced from mass-spectrographic data.