

It must not be thought that the Association believes that society is likely to be ruled by 'technocrats' in this or any other country in the near future. Political power is wielded by dictators and by organized masses, but not by professional associations. Even so, as NATURE asserts, scientists have an important contribution to make to the government of our country, and the Parliamentary Science Committee is a live expression of the holding of this belief by many scientists. The Association has played a large part in the formation of this Committee, which now speaks on behalf of 100,000 supporters in its constituent bodies.

Attention to the influence of science in national affairs and its bearing on current legislation is one aspect of the Association's work. In its other functions it is more like other professional associations

which dislike the name trades union; like both, it takes an active interest in the conditions of employment and security of tenure of scientific workers of all kinds—it has often been able to assist individual members in cases of unfair treatment. Because of the general character of the work done by the Association, we feel justified in seeking your courtesy in publication. At the same time, we wish to urge all who would see science properly applied to get in touch with the Association and either join it or give it financial support.

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Points from Foregoing Letters

DR. E. E. JELLEY finds that certain dyes exhibit a characteristic absorption spectrum associated with fluorescence of slightly longer wave-length, on precipitation from their solutions, before they become crystalline. He considers that they are then in a molecularly disperse state. The author describes the preparation of such disperse systems of a ψ -cyanine dye in both liquids and solids. They show an unusually narrow absorption and fluorescence band, analogous to that of the ruby.

Prof. G. Ingle Finch reports that whilst polished surfaces of single crystals of certain substances (quartz, diamond, sapphire) yield electron diffraction patterns of spots and lines characteristic of crystalline structure, polished surfaces of other crystals (zircon, tourmaline, cassiterite) give patterns of diffuse haloes typical of liquid mercury and various glasses. Etching removes the amorphous polished layer and restores the crystalline pattern. This, the author considers, supports Beilby's view of an amorphous layer of polish which, however, may afterwards recrystallize.

The mean free path of neutrons of 2.4 m.e.v. in paraffin wax is found by E. T. Booth and Dr. C. Hurst to be 4.6 ± 0.9 cm., which corresponds to a scattering cross-section of 1.8×10^{-24} cm.². This value together with the neutron-proton cross-sections found by other investigators, for neutrons of different energies, is compared with the theoretical scattering curve derived from Wigner's formula.

V. Fock finds a contradiction in Jordan's neutrino theory of light, owing to the linearity of the equations and the non-linearity of the connexion between F , the quantized wave function of the light field, and Ψ , that of the neutrino. He considers, moreover, that no consistent theory of light can be constructed based on a relation of F and Ψ .

A difficulty in Einstein's theory when applied to phenomena within material media is discussed by Dr. L. Silberstein. Both the minimal lines which represent laws of propagation of light, and the geodesics which give the motion of a free particle in a field, are applicable, according to Dr. Silberstein, only in the absence of matter.

Dr. A. C. Redfield states that a theory proposed by Rossby concerning the Gulf Stream and its

associated counter currents provides a mechanism for the transport of water rich in organic nutrients from the depths of the Atlantic basin, on to the continental shelf of North America, thus accounting for the fertility of the water of this region.

Prof. F. G. Gregory and O. N. Purvis report that winter rye is not 'vernalized' at low temperature (1° C.) if oxygen is excluded; also that seeds can be 'devernalized' by keeping them at a temperature of 20° in nitrogen for a period equal to that which they have been exposed at the low temperature.

The effect of ultra-violet light upon the stability of several colloidal systems (sols of ferric hydroxide, mastic, etc.) has been investigated by F. Ellinger. The author enumerates some of the results obtained which, he considers, bear upon the question of whether a special colloid chemical theory is necessary to explain the biological action of radiation.

The oxygen consumption of various species of mayfly nymphs has been studied by Prof. H. Munro Fox, C. A. Wingfield and B. G. Simmonds, in relation to the amount of oxygen in the water. In some species the oxygen intake does not diminish until the available oxygen has fallen to a very low value; in others it decreases as soon as the environmental oxygen drops. In the presence of more oxygen than is available normally in Nature, the oxygen intake of one species rises as high as $1\frac{1}{2}$ times its normal value.

That the rabbit saliva has the power of changing (broken) starch grains to sugar is confirmed by I. M. Thomas. He states that Schwartz and Rasp had failed to prove this conclusively because they had used cotton wads to collect the saliva, with the result that the enzyme responsible for the hydrolysis of the starch was adsorbed and rendered ineffective.

The chemical action of light upon compounds belonging to the acetone series, in cyclohexane solution, is found by Dr. R. G. W. Norrish and C. H. Bamford to be of the 'cracking' type only (leading to the formation of unsaturated hydrocarbons like ethylene), while in the gaseous state the same compounds under the action of light yield, in addition, saturated hydrocarbons like methane. The authors suggest an interpretation of these results based upon the length of life of the 'excited' molecules.