Science is therefore bound to be the foundation of the ethics of the future and of a system of ethics with some expectation of that universality which has hitherto failed mankind.

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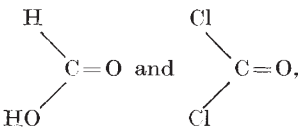
The Carbonyls

IN his recent Liversidge Lecture[1], Prof. Sidgwick has referred to the carbonyls as a "very peculiar group", but I would suggest that this is another problem which may well be approached through the medium of organic chemistry[2]. Thus we find that the capacity of a singly bound carbon atom for triple union with another atom does not extend beyond carbon and nitrogen to oxygen. Moreover, when carbon monoxide accordingly yields



the *two* new bonds are formed, in one case by acceptance, and in the other by a donation, of electrons on the part of the carbon atom. It must then be regarded as significant that those metals or ions which are actually able to participate in carbonyl formation are also usually, by reason of an incomplete inner electronic shell, equipped to fulfil this double function, and that in nickel carbonyl the nickel-carbon bonds are found to have a large amount of *double* bond character[3]. Further, it is presumably the result of the donor function of the central atom "that in nearly all the carbonyl compounds the effective atomic number of the central atom adds up to that of an inert gas"[4].

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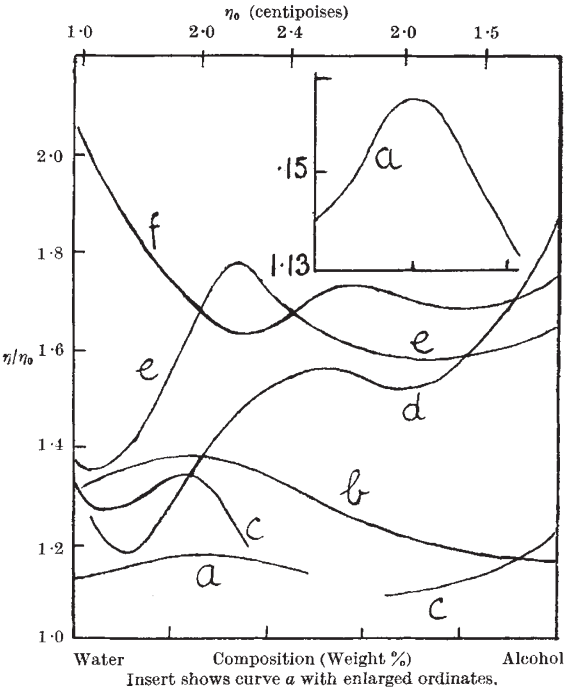
[1] *J. Chem. Soc.*, 438 (1941).
[2] Kenner, NATURE, **147**, 482 (1941).
[3] Brockway and Cross, *J. Chem. Phys.*, **3**, 828 (1935).
[4] Sidgwick, *loc. cit.*; Sidgwick and Bailey, *Proc. Roy. Soc.*, A, **144**, 521 (1934).

Viscosity of Suspensions and Solutions

IT was pointed out earlier[1] that the ratio η/η_0, where η is the viscosity of a suspension of finely divided solid particles in a liquid of viscosity η_0, is variable with η_0, being smaller for liquids of lower viscosity. The explanation in brief appears to be that during flow the solid particles become orientated more quickly in a thinner liquid, so causing less eddying by lying less across the stream of flow.

It is of interest to know that the same viscosity behaviour has been found both with solutions of colloids and crystalloids; if the above explanation holds good, then solvated ions are asymmetric, and during the flow of salt solutions and colloidal dispersions the particles become orientated.

When water and ethyl alcohol are mixed, there is an increase in viscosity reaching a maximum in the neighbourhood of 45 per cent by weight of ethyl alcohol, and it will be seen from the figure that the ratio η/η_0 for (*a*) sodium chloride, 10 gm./100 ml., (*b*) aluminium chloride[2], (*c*) potassium oleate[3], (*d*) tannic acid[4], (*e*) kaolin,[5] and (*f*) mica[5] dispersed in the binary mixture, increases with increase of η_0, the position of the maximum being affected by the dispersion changes.



Insert shows curve *a* with enlarged ordinates.

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[1] NATURE, **145**, 970 (1940); *Trans. Far. Soc.*, **36**, 1007 (1940).
[2] Dolian and Briscoe, *J. Phys. Chem.* **41**, 1129 (1937).
[3] Bircumshaw, *J. Chem. Soc.*, **123**, 91 (1923).
[4] Mardles, *J. Chem. Soc.*, **125**, 2244 (1924).
[5] Mardles, *Trans. Far. Soc.*, **36**, 1189 (1940).

Nomenclature of Pituitary Principles

I AGREE with Dr. F. W. Landgrebe[1] that the suffix *trophic* is inappropriate in application to all the known pituitary principles, but I cannot accept the argument that the hitherto accepted suffix *tropic* is unsatisfactory. It is true that τρέπω means *turn*, but the meanings *direct* or *change* also exist and provide a satisfactory basis for the use of the suffix *tropic* as descriptive of those pituitary principles which control or change other tissues or glands. The multiplication of names in a field in which the terminology is already plethoric is bound to lead to confusion, and I would urge that we retain the original suffix *tropic* as a general one to denote those pituitary substances which influence or change other tissues, irrespective of their mode of action. The growth of our knowledge of the nature and action of these substances will no doubt necessitate terminological reclassification, but perhaps in the future, as well as at the present time, the suffix *tropic* may be retained as a general one denoting those hypophyseal principles which influence, in a general manner, other glands and tissues.

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[1] NATURE, **148**, 85 (1941).