

LETTERS TO THE EDITORS

TERMINOLOGY

Retentate: a New Scientific Term

ANYONE who has resorted to the technique of dialysis will be aware of an odd and inconvenient gap in the terminology relating to the process. For the substances which pass through the dialysis membrane there is a generally accepted term: 'dialysate'.

Exception has been taken to this word by the editors of the *Biochemical Journal*¹. Such exception may be justified on etymological grounds, as the purist finds unpalatable a word compounded of a Greek stem and Latin suffix. But the alternative, 'diffusate', selected by the said editors may be objectionable scientifically². As dialysate has otherwise received universal acceptance and usage, it is best retained despite its hybrid origins.

On the other hand, to our knowledge, no suitable or generally accepted term exists to describe the material which is retained by semi-permeable membranes. Herbertson *et al.*³ have recently referred to the retained material as the "core", but there seems little logic or justification for the selection of this word, which has other recognized connotations. Most authors have bridged the existing terminological gap by circumlocution, for example, the non-dialysable material, the substances which remain in the dialysis bag (tube), etc. Altogether, the situation is unsatisfactory.

After due deliberation, in which several alternative possibilities were considered, we propose the term 'retentate' to designate those substances which are retained by semipermeable membranes in the course of dialysis.

Though we recognize the term is of Latin derivation, while being applied in a process which is designated by a word derived from Greek, we feel this is less heinous than the bastardy already committed in the parentage of dialysate. We further feel retentate has the advantages of (1) ready recognition, being descriptive of the events concerned, and (2) uniqueness, inasmuch as it has not hitherto been used in any other sense.

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¹ "The Biochemical Journal Suggestions to Authors", revised 1957 p. 10.

² Editor, *Immunology* 2, 1 (1959).

³ Herbertson, S., Porath, J., and Colldahl, H., *Acta Chem. Scand.*, 12, 737 (1958).

CHEMISTRY

Concentration of Stearic Acid in Monolayers Adsorbed from Solution

MATHIESON¹ has recently obtained electron micrographs of oleophobic stearic acid films adsorbed on mica from hexadecane solution. These show islands of stearic acid in the monolayer, with only about one-third of the surface covered. The observations are in good agreement with the results reported by Cook and Ries² for the adsorption of radioactive stearic acid on mica and gold from hexadecane solutions. They, too, found that only 20-30 per cent of a close-packed monolayer of stearic acid molecules was adsorbed on these inert substrates. Mathieson also points out that island structures are not formed when adsorption of stearic acid proceeds from the melt. These authors have interpreted their observations in terms of a solvent-solute interaction whereby stearic acid molecules adsorbed from solution are surrounded by hexadecane molecules in an oriented array.

We have recently found that the adsorption of radiostearic acid from nitromethane solutions leads to similar results. Oleophobic films of $C_{17}H_{35}^{14}COOH$ formed on mica, platinum and chrome-plated steel substrates by immersion in saturated nitromethane solutions for periods of 1 min.-2 hr. contained 0.1-0.4 of a close-packed monolayer of stearic acid. The high degree of association in liquid nitromethane (b.p. 101°C.) and the lack of correlation between the amount of stearic acid adsorption and possible adsorption sites on the solids studied suggests a solvent-solute interaction mechanism in this case, too.

These observations are being reported and discussed in more detail elsewhere³.

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¹ Mathieson, R. T., *Nature*, 183, 1803 (1959).

² Cook, H. D., and Ries, H. E., jun., *J. Phys. Chem.*, 63, 226 (1959).

³ Gaines, G. L., jun., American Chemical Society 136th National Meeting, Atlantic City, September, 1959 (to be submitted to *J. Phys. Chem.*).

A Radiochemical Tracer Study of the Relative Stability of the Halogenoplatinates

IN view of the recent classification of metals into two types¹, partly on the basis of the relative stabilities of their halogen complexes, we wish to report the direct measurement of the relative stabilities of the chloro-, bromo- and iodo-platinates in aqueous solution. These stabilities can be used to obtain the differences of bond-strength between the various complexes. An earlier attempt by Schlesinger and