proteins and contribute to the elucidation of their role in membrane structure.

There is a similar discontinuous temperature profile of the phosphorescence anisotropy of the coat proteins of S-13 bacteriophage. The data establish that in the sample investigated, several rotational correlation times are involved. While the results may reflect some independent motion of the individual coat proteins in the virus capsule, due to the rather harsh deoxygenation treatment of this sample (bubbling with N_2) the observed heterogeneity probably arises from damaged and aggregated phage particles. The depolarisation profile is included to reflect the ability of the technique to detect heterogeneous rotational correlation times and to follow the motion of large macromolecular complexes. The anisotropy–temperature profile for GBM from rat kidney reveals that tryptophans are not rigidly fixed within the structure in that loss of anisotropy is observed at a temperature characteristic of soluble proteins (molecular weight ~ 100,000). GBM is composed primarily of collagen and one or more glycoproteins[16]. The glycoproteins therefore cannot be rigidly fixed within the insoluble basement membrane matrix but must have considerable rotational mobility of their own.

Several features of this technique for monitoring rotational motions of proteins are noteworthy. (1) Rotational motions are detected by the use of the depolarisation of the emission from intrinsic chromophores in proteins, thus avoiding labelling of proteins with probes. There are no concerns about the extent of perturbation to the system and the possibility of independent motions of the labelling group itself. A perturbation has been introduced instead with the use of glycol–water solvents. Studies of the biological activity[17,18] and the X-ray analysis[19,20] of proteins in these solvents, however, suggest that the perturbation is small.

(2) In the investigation of more complex systems involving two or more proteins, such as with the erythrocyte ghost membranes, the use of the intrinsic emission offers the possibility of resolving the rotational correlation time into contributions from individual proteins. Selective observation of particular proteins is also possible. With structures such as GBM the tryptophan phosphorescence arises only from the glycoprotein component[21] in that tryptophan is generally absent from collagen[22].

(3) The method is useful for investigating slow rotational motions. The functioning of proteins not only as soluble cellular entities but within macromolecular complexes and in insoluble structures, such as membranes and muscle fibres, makes necessary the development of techniques to elucidate the structure and dynamics of such systems. We feel that phosphorescence anisotropy measurements can contribute to the understanding of the molecular basis of the function of such systems.

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Errata

In the article "Eukaryotic DNA replication complex" by V. M. Genta, D. G. Kaufman, W. K. Kaufman and B. I. Gerwin (*Nature*, **259**, 502; 1976) in the last paragraph, lines 8–13 should read . . . the observation of ATP-dependent DNA synthesis in M-band fractions isolated from sea urchin embryo nuclei[14]. Since nuclear membrane is largely confined to the LB (unpublished observation), the result reported here differs from studies involving the M-band technique[14–16] because . . .

In the article "Dissociation of response to injected gonadotropin between the Graafian follicle and oocyte in pigs" by R. H. F. Hunter, B. Cook and T. G. Baker (*Nature*, **260**, 157; 1976) the first entry in the 7th column of Table 1 should read 81.2% and not as printed.

In the article "Gibberillic acid enhances the level of translatable mRNA for α-amylase in barley aleurone layers" by T. J. V. Higgins, J. A. Zwar and J. V. Jacobsen (*Nature*, **260**, 166; 1976) Figs 1 and 3 have been transposed. The legends are correct as they stand.

In the article "New H_2O celestial sources associated with H II regions in the Southern Hemisphere" by P. Kaufmann *et al.* (*Nature*, **260**, 306; 1976) the second entry in the 1st column of Table 1 should read 330.9–0.4 and not as printed.

In the article "Effect of surface roughness on rolling friction and adhesion between elastic solids" by G. A. D. Briggs and B. J. Briscoe (*Nature*, **260**, 313; 1976) the first line under the equation in the first paragraph should read : where σ is the distribution of asperity heights . . .