The molecular weights M of the proteins span a 37-fold range which includes the micellar molecular weights of the detergents. Sedimentation constants s_0 of both classes of particles are of the same order of magnitude but, since they depend on particle size, those of the proteins cover a wide range (see Table I). In order to compare the compactness of the particles, an empirical parameter, $R/(M/N)^{1/2}$, was calculated; R is the radius of the hydrated particles and N is Avogadro's number. Since two different classes of compounds are being compared, the analogy to the ratio radius of gyration to square root of molecular weight, which is used to characterize polymer molecules in solution, is only formal. The value of this empirical dimensional parameter varied by merely $\pm 30\%$ for the proteins and by $\pm 15\%$ for the micelles. The average value (1,053) for the 9 proteins is almost identical to the average value of 1,026 for the micelles. These values are several-fold smaller than those calculated for solutions of common vinyl polymers because globular proteins and nonionic micelles are nearly spherical and unusually compact, with little or no solvation in the core. For instance, the $R/(M/N)^{1/2}$ values for polystyrene dissolved in cyclohexane and in butanone are between 2,200 and 3,000 cm/g$^{1/2}$ (C. Tanford, loc. cit.).

Heating solutions of nonionic detergents and globular proteins eventually results in phase changes. Hydration and molecular weight of detergent micelles remain relatively unaffected by rising temperature (see Table I) until the cloud point is approached. At about 25 C below the cloud point, intrinsic viscosity and micellar molecular weight begin to increase very rapidly, while the hydration begins to drop, but less rapidly, with further temperature increase (Elworthy and McDonald, loc. cit.). At the cloud point, phase separation occurs. This process is reversible, whereas denaturation by heat of the solutions of most globular proteins is irreversible (C. Tanford, loc. cit.). Of course, the data for the nonionic detergents listed in Table I were obtained at temperatures well below their cloud points.

The differences between globular proteins and nonionic micelles are well known. The resemblance in shape, compactness, degree of hydration, and intrinsic viscosity of solutions of globular proteins near their isoelectric point and of nonionic detergent micelles is remarkable, especially in view of the considerable difference in composition, structure and origin.

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• *Addendum*

JAOCS *45*, 547–548, 1968, P. B. Moseley and J. B. Stanley: "Chromatographic Determination of Neutrals in Tall Oil Fatty Acids, Gum and Wood Rosin."

On page 548, Table I and II, under the heading "Sample," Pamak-I should read: Pamak-4.