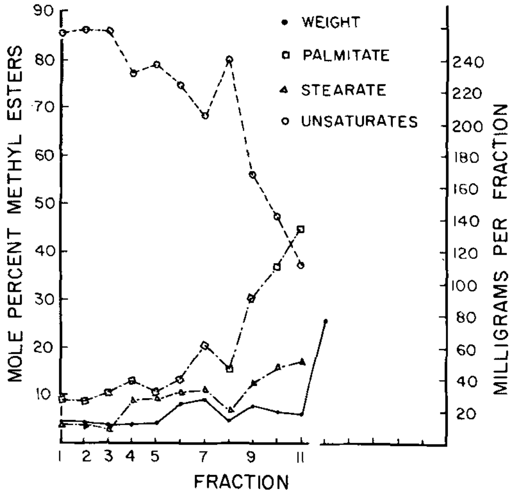

FIG. 4. Methyl ester analysis of fractions of cocoa butter plus 10 mole % triolein and weight per fraction.

glyceride structure of cocoa butter seems to agree with the predictions of restricted random distribution. However restricted random distribution does not take into account the nonrandom *alpha-beta* distribution of the saturated and unsaturated fatty acids. Kartha's explanation of the *alpha-beta* asymmetry (22) is evidently based on a misconception of the implications of random distribution. In more recent work Dutton, Scholfield, and Mounts (23) have extended their work with cocoa butter and have shown that their results can be explained by assuming that the *beta* position is occupied by oleic acid exclusively and that the remaining acids are randomly distributed on the *alpha* positions. These results agree fairly well with the restricted random distribution in predicting the amounts of the various glyceride types.

Vander Wal (24) has recently proposed a scheme that assumes that the fatty acids are distributed randomly except for a nonrandom distribution on the *alpha* and *beta* positions of the glycerol. Calculations based on this scheme agreed with the experimental results reported for a number of fats. If the amount of GS_3 and S in the cocoa butter is used as the known parameters in Vander Wal's equations, values of GS_2U and GSU_2 may be calculated. The values obtained in this way agree closely with restricted random distribution and hence with our experimental results.

It is obvious that a restriction on the amount of saturated fatty acid that can occupy the *alpha* or *beta* position will decrease the amount of GS_3 and give a distribution approaching restricted random distribution. The distribution proposed by Vander Wal agrees closely with the restricted random distribution in the amounts of the glyceride types when various values of GS_3 and S are used as the known parameters. In cocoa butter the distribution proposed by Dutton, Scholfield, and Mounts agrees with both of the above distributions. Thus any of these schemes might explain the amounts of the various glycerides found in the present experiment and by Dutton and co-workers. Vander Wal's scheme has the advantage of taking the *alpha-beta* asymmetry into account and of being applicable to a number of fats. Further studies to improve the analyses of glycerides and to investigate the mechanism of their synthesis are needed for a clearer understanding of the structure of fats.

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Erratum

Through an oversight a correction on the galley proofs for the paper entitled "Color Index for Cottonseed Oils" by Pons, Kuck, and Frampton was not made (*37*, 671, 1960). The correct formula is shown here: "Thus, if the Beer-Lambert law describes the absorption behavior of the solutes in cottonseed oil, the relationship

$$C_t = \frac{R \sum_{\lambda=400}^{\lambda=550} \left(\log \frac{I}{Io}\right)}{b \sum_{\lambda=400}^{\lambda=550} \left(\sum_{p=1}^{p=n} k_p\right)}$$

where C_t is the total concentration of the absorbing solutes, R is a proportionality constant, b is the length of the light path, λ is the wavelength in millimicrons, I and I_o are light intensities, p is the number of solute components, and k_p is the absorptivity for the $_p$th component at wavelength λ, can be used to estimate the total concentration of solutes in the oils."