then the equation analogous to Eq. 14 is

$$M_1(y_j) \approx M_{B1}(y_j)\left[b^2/(b^2 - \langle y^2\rangle)\right]^{1/2} e^{-\frac{b^2\langle y^2\rangle}{2a^2(b^2-\langle y^2\rangle)}}$$

which, for $b^2 >> \langle y^2\rangle$ can be written approximately as

$$M_1(y_j) \approx M_{B1}(y_j)\, e^{\frac{\langle y^2\rangle}{2a^2}\left[1 + (a^2 + \langle y^2\rangle)/b^2\right]} \qquad (17)$$

Inspection of the final result shows that this corresponds again to a sidewise displacement of M_{B1} by $\Delta \approx 0.6\Delta'$ to generate M_1 in the examples considered. An alternate method of sidewise displacement is obtained by noting that $M_{A1}(x)\, M_{B1}(y-x)$ has its maximum at Δ', about which it resembles a displaced gaussian. This suggests that $M_1(y_j)$ is generated mainly from $M_{B1}(y_k)$ in the region $y_k \approx y_j - \Delta'$ so $M_1(y)$ should be generated using $M_{B1}(y - \Delta')$ multiplied by $e^{-\Delta'^2/2\langle y^2\rangle}$. (The last factor is the ratio $M_{A1}(\Delta')/M_{A1}(0)$.) These methods of generating the approximate curve for $M_1(y)$ can be carried out rapidly by simple displacements on the semi-log plot and are quite instructive in giving insight into the behavior of $M_1(y)$. The difference between $M_{B1}(y)$ and $g_B(y)$ decreases rapidly if the choice of the dividing angle y' is increased. This is compensated largely by an increase in the width of the gaussian $M_{A1}(y)$, and thus in the required sidewise displacement Δ' to generate $M_1(y)$ from $M_{B1}(y)$. It is of interest that the second method (of the next section), at large angles, just folds the single scattering law at large angles with a