

Superficially, the most serious limitation of the sampling techniques described here may appear to be the lack of a direct and straightforward way of determining the weighting function to use for a given problem. Instead,  $w(\mathbf{q}^N)$  must be determined by a trial-and-error procedure for each case, often beginning with the information available from the distribution in a very short Boltzmann-weighted experiment which is then broadened in stages through subsequent short test runs with successively greater bias of the sampling. What this rather inelegant procedure lacks aesthetically is more than compensated by the efficiency of the ultimate umbrella-sampling experiment.