If strict sclaing were to hold, both H and K would be constants and the total cross sections σ^{ν} and $\sigma^{\bar{\nu}}$ would grow linearly with energy. Moreover, with $\varkappa F_3 = -F_2$ it would follow that H=K, which implies: $\sigma^{\nu}/\sigma^{\bar{\nu}} = 3$, $\partial\sigma^{\nu}/\partial y$ =constant, and $\partial\sigma^{\bar{\nu}}/\partial y \sim (1-y)^2$. Except for the question of scaling breakdown at very small q^2, these are precisely the results that we are adopting as input for small energies ($2m\,\mathcal{E} < q_o^2 = 5.0\ m^2$). As we go up in energy, departures begin to develop, since we are assuming onset of asymptotic behavior for $q^2 > q_o^2$. The functions H and K begin to acquire a dependence on the argument $\mathcal{E}y$. The behavior at small y still comes exclusively from the scaling region, whereas the large y behavior ($y \to 1$) reflects contributions from q^2 in the asymptotic region. With increasing energy $\mathcal{E}$ the transition moves increasingly towards small values of y. The functions H and K in this region are sensitive to our assumption that there <u>is</u> a sharp transition from scaling to asymptotic behavior. They both undergo variations in this region but then become smooth and slowly varying functions for larger values of y.

To get the total cross sections we have to integrate over all y in the interval 0-1, and this includes the problematic transition region. For small energies the results are sensitive to the choice of cutoff and to artifacts associated with the transition region. Once large energies are reached, roughly $\mathcal{E} \gtrsim$ 50 GeV, the behavior becomes smooth. Indeed, to within the numerical accuracy of the computation $\sigma^{\nu}/\mathcal{E}$ is then essentially constant up to the highest energies ($\approx$ 350 GeV) that we have considered; and $\sigma^{\bar{\nu}}/\mathcal{E}$ rises very slowly toward $\sigma^{\nu}/\mathcal{E}$. Eventually, as $\mathcal{E} \to \infty$, $\sigma^{\nu}/\sigma^{\bar{\nu}}$ must approach unity - on the