$$\int_0^1 dx\, F_2^{I=0}(x\,;q^2) \xrightarrow[-q^2\to\infty]{} \text{const.} + O\left(\frac{1}{\ln q^2}\right) \qquad 5.22$$

whereas the higher moments decrease logarithmically as in Equation 5.20. Similiarly the total neutrino-hadron cross section <u>will</u> scale, since it is given by the same (spin two) moment.

It is an open question whether such a picture is consistent with experiment. The deviations of the asymptotic forms of the moments from exact scaling are quite small, and one would need rather large variations of q^2 to see any marked change. Verification of logarithmic deviations, as well as the numerical values of a_n, would be strong evidence for the above class of theories.

c. <u>Sum rules</u> and other relations between the various structure functions measured in electron or neutrino scattering, which previously were derived from current algebra, the parton model or a naive lightcone expansion, are all true theorems in our models. This is because, as is seen in Equation 5.15, the SU(3)xSU(3) and tensor structure of the Wilson expansion will be (for large q^2) that of the free quark model - the coupling constant effectively vanishing in this region. There is no point in listing these predictions here - they have been reviewed by many authors[14,15]. However, we note that these relations are approached logarithmically. Thus, for example, since the charged constituents have spin - $\frac{1}{2}$ [16]