where F is a generic structure function, M_n is the matrix element of the operator of spin n+2 appearing in the Wilson expansion, and C_n is the Fourier transform of the coefficient of this operator. The parameter μ is a reference momentum at which the coupling constant g is defined. The function $C^{(n)}$ satisfies a renormalization group equation

$$\left[\mu \frac{\partial}{\partial \mu} + \beta(g) \frac{\partial}{\partial g} - \gamma_n(g)\right] C^{(n)} = 0, \tag{29}$$

whose solution is

$$C^{(n)}\left(\frac{q^2}{\mu^2}, g\right) = C^{(n)}(1, \bar{g}) \exp\left\{ -\int_0^{\ln \frac{q^2}{\mu^2}} \gamma_n(\bar{g}[x])\, dx \right\}. \tag{30}$$

The effective coupling constant $\bar{g}(x)$ is defined through

$$\begin{aligned} \frac{d\bar{g}}{dx} &= \beta(\bar{g}(x)), \\ \bar{g}(0) &= g. \end{aligned} \tag{31}$$

In an asymptotically free theory $\bar{g}\left(\ln \frac{q^2}{\mu^2}\right) \to 0$ as $q^2 \to \infty$, so that on the right hand side of Eq. (31) the Wilson coefficient $C^{(n)}(1,\bar{g})$ approaches its free-field value. <u>In this sense</u> one recovers the algebraic relations of the parton model, such as the Callan-Gross relation $F_2 - 2xF_1 = F_L = 0$. Deviations from scaling, which formed the subject of the previous sections, come of course from the exponential factor in Eq. (31).