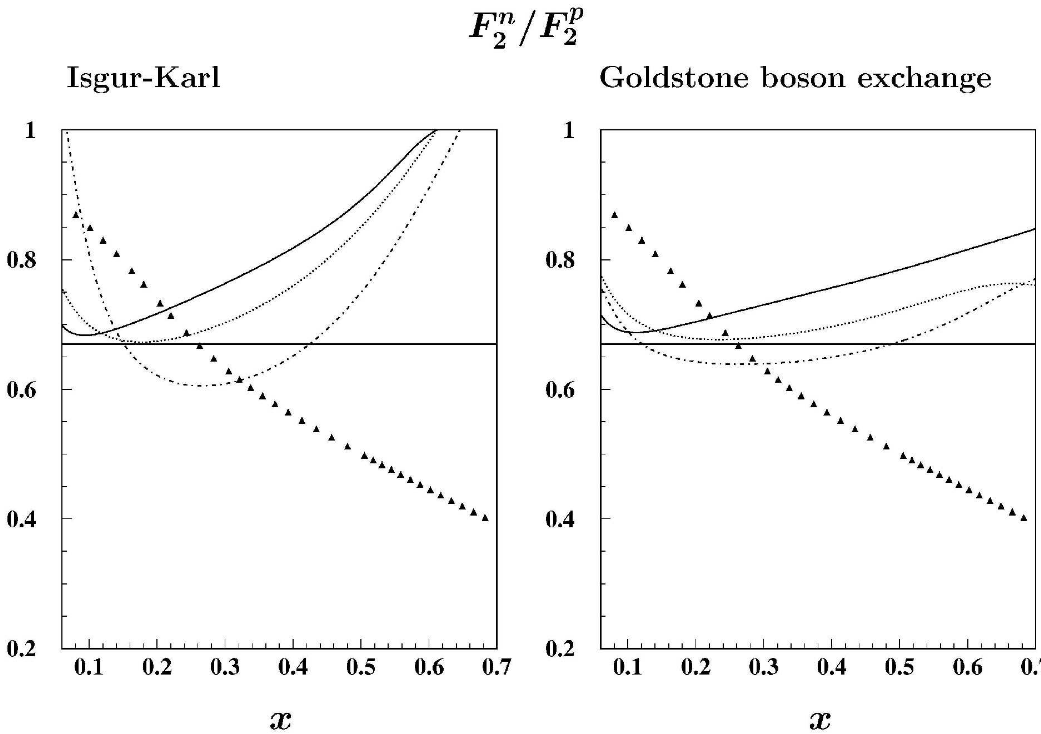

FIG. VI.28 $F_2^n(x)/F_2^p(x)$. *Left panel* – computed in the model of (Isgur and Karl, 1978): *dot-dashed curve*, at hadronic scale $Q_0 \sim 0.4\,\mathrm{GeV}$; *dotted curve* - leading-order evolution to $Q_0^2 = 10\,\mathrm{GeV}^2$, *solid curve* - next-to-leading-order evolution. *Right panel* – computed in the model developed from (Glozman *et al.*, 1998). In both panels – *Triangles*: CTEQ5 fit to experimental data (Lai *et al.*, 2000); and *straight line*: Eq. (VI.1). NB. Using Eq. (II.45) and assuming $s_v(x) = 0$ on the valence-quark domain, the large-x behavior in these panels corresponds to $d_v(x)/u_v(x) \gtrsim 1.0$. [Figure adapted from (Pasquini *et al.*, 2002).]

It is therefore significant that neither CQM yields behavior for F_2^n/F_2^p that is consistent with the parametrization ratio, not even for $x \gtrsim 0.4$; i.e., the valence-quark domain, whereupon they are supposed by proponents to provide a veracious description of the nucleon via its salient degrees-of-freedom. For $0.4 < x < 0.7$ the ratio in both panels lies well above the data parametrization. This is in contrast to models wherein the struck quark is partnered by scalar- and axial-vector-diquark intermediate states (Carlitz, 1975; Close, 1973; Close and Thomas, 1988; Meyer and Mulders, 1991), to which we shall return. In (Pasquini *et al.*, 2002) it is argued that the large-x behaviour of the the distribution functions is greatly influenced by proper implementation of the Pauli principle. That is neglected in (Carlitz, 1975; Close, 1973; Close and Thomas, 1988), which treat the diquarks as an ele-