and with their assignments in the weak interactions to weak SU(2) multiplets, left vs. right-handed, singlet vs. doublet. In this enlarged framework we take up in Sec. II the familiar question of K^0-$\bar{K}^0$ mixing - more generally, the issue of higher order effects leading to $\Delta S = 2$ transitions. The smallness of the K_L-K_S mass difference imposes a severe constraints on the structure of weak interaction theories; and indeed, it was in order to meet this constraint that one was led, via the GIM mechanism,[2] to the postulate of a fourth, charmed quark. In the standard model the quarks enter into weak SU(2) doublets only of the left-handed variety, and the mixing effects can be sufficiently suppressed if the mass of the charmed quark is not too large. In models involving both left- and right-handed doublets, we find that the constraints become much more severe. In Sec. II we also discuss the analog of K^0-$\bar{K}^0$ mixing for mesons carrying new quantum numbers. Here we illustrate various possibilities, ranging from negligible mixing effects (decay time much shorter than switching time) to nearly complete mixing. In Sec. III we discuss the question of octet enhancement for weak nonleptonic decays. This effect is often attributed to the dominance of octet operators in the short distance expansion of products of currents. In the standard model, however, based on left-handed currents, the enhancement suggested by such considerations seems to be too modest, as is well known. Right-handed currents could be of great help here, but these tend to run into trouble with the K_L-K_S mass difference. We also discuss the nonleptonic decays of hadron