the SU(3) octet that contains the nucleons and the SU(3) decuplet that contains the $\Delta(1232)$. All the particles in a given SU(4) multiplet have the same spin and parity. The only charmed baryons that have been discovered each contain one charmed quark. These belong to the first floor of the multiplet shown in Fig. 30.2(a); for details, see the "Note on Charmed Baryons" in the Baryon Full Listings. The addition of a b quark extends the flavor symmetry to SU(5); it would require four dimensions to draw the multiplets.

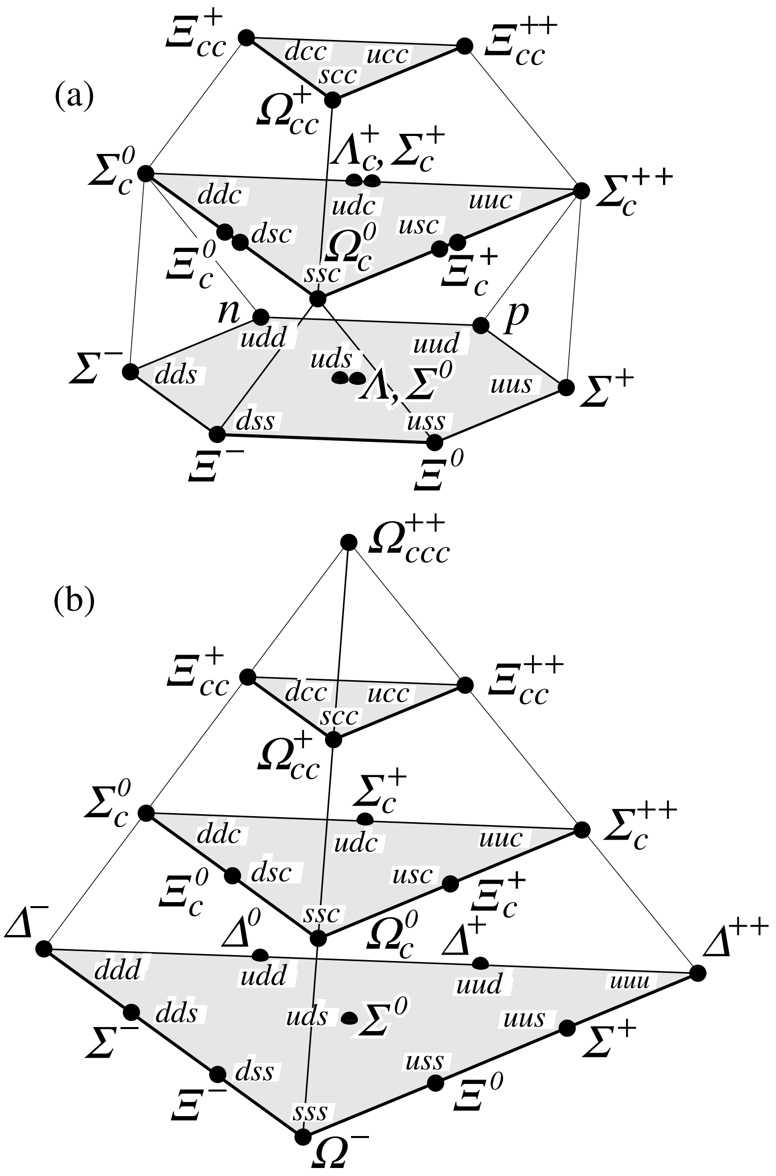

Figure 30.2: SU(4) multiplets of baryons made of u, d, s, and c quarks. (a) The 20-plet with an SU(3) octet. (b) The 20-plet with an SU(3) decuplet.

For further details, see the full *Review of Particle Properties.*