



**FIGURE 24.17.** Duplication and divergence. The figure shows an evolutionary tree of three species (indicated by the *thicker, gray* branches). At the base of the tree, in the ancestor of all three species, a gene underwent a duplication event generating paralogous genes and the paralogs diverged into two distinct functional types, indicated in *red* and *blue*. As the branches for species 1, 2, and 3 separated, each retained both paralogs and their distinct functions. Duplication events such as those shown here lead to redundancy that can be the basis of functional diversification.

24.17, redrawn from Eisen J.A., *Genome Res.* **8**: 163–167, © 1998 CSHLP