



**FIGURE 5.21.** Rooted tree of life. This tree was constructed by rooting the rRNA-based tree (e.g., see Fig. 5.17) based on the results of studies of anciently duplicated genes. Note that many of the positions of particular organisms within each domain in this tree are now thought to be inaccurate (see Chapters 6–8).

5.21, redrawn from Brown J.R. et al., *Microbiol. Mol. Biol. Rev.* **61**: 456–502, © 1997 American Society for Microbiology