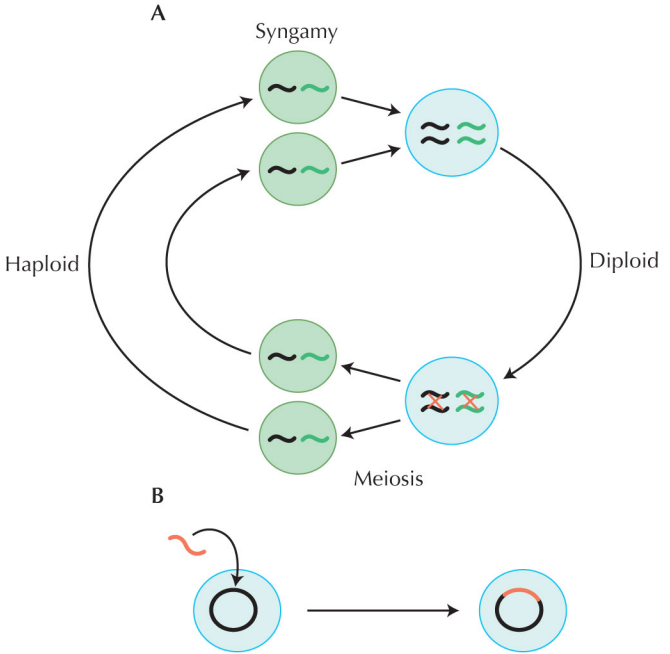

FIGURE 23.5. Sex in eukaryotes vs. bacteria and archaea. (*A*) The basic eukaryotic life cycle involves the coming together of haploid cells to form diploids (syngamy) and the production of haploid cells from diploid by meiosis. The diagram shows a genome arranged on two chromosomes. Recombination occurs at meiosis by both segregation of whole chromosomes and crossing over (*red* xs). (*B*) In bacteria and archaea, sex is asymmetric and does not involve reproduction (i.e., cell division). A fragment of DNA is incorporated into the chromosome by transformation, transduction, or conjugation.