FIGURE 28.20. A branching process leads to a broadly spread distribution. In each generation, there is a 30% chance that an individual dies and a 70% chance that it divides, leaving two offspring. The expected number of offspring is 1.4, and so after ten generations, an individual is expected to leave $1.4^{10} \sim 30$ descendants. However, the distribution becomes increasingly widely spread. Either there are no descendants (probability 0.3/0.7 = 43%) or there are likely to be a large number. (*A*) The distribution of numbers of descendants over time. The areas of the circles are proportional to probability. (The diagram is cut off at the right, at 60 descendants.) (*B*) The distribution of the number of descendants after ten generations.