



**FIGURE 17.6.** Natural selection increases mean fitness, whereas all other evolutionary processes tend to decrease it. The diagram represents a population of genotypes clustered around the most fit genotype at the center. Selection increases the frequency of fit genotypes and so pushes the population toward this central optimum (*red arrows*). Other processes (mutation, random genetic drift, recombination, etc.; *green arrows*) act in arbitrary directions and so overall tend to move the population away from the fittest genotype. (The two dimensions here stand for the very many dimensions along which a population can evolve; *contours* show fitness increasing toward the center.)