

Neutral theory

Hitchhiking

① w/ no recombination

- eliminates polymorphisms in the population if there is a selective sweep

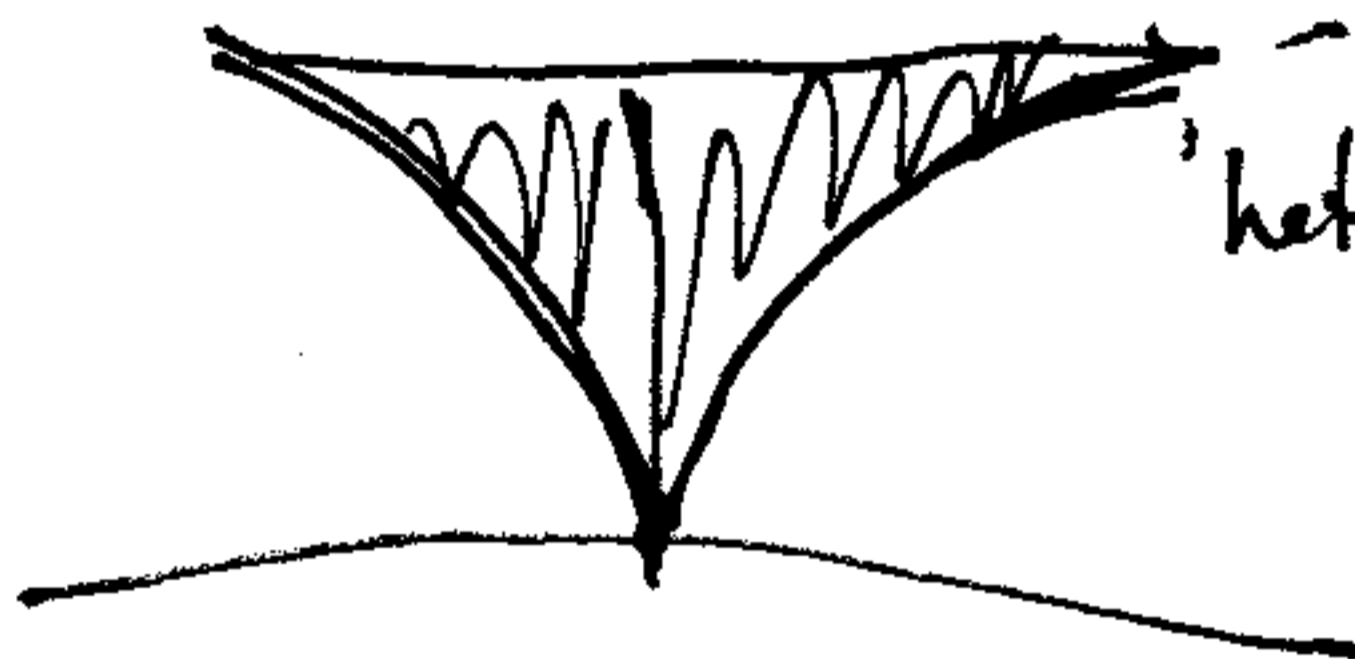
② w/ recombination

Maynard-Smith



p = prob. of fixation of linked allele after selective sweep.

c = recomb. freq.



heterozygosity

c = 0

③ but what about in whole chromosome? w/ selective sweeps all around?

④ assume selective sweeps follow Poisson process

D. melanogaster

① genes in regions w/ low recomb. have low variability

② pseudogene LCP

- recomb. rate in 5x < rest of chromosome

③ pseudogene d is not v.v. high

no. because high nucleotide subst. rate

BUT WHAT ABOUT MUTATION? NOT REASONABLE TO ASSUME IT IS CONSTANT.