



Darwin



Wallace



Mendel



Huxley



Stebbins



Simpson



Mayr



Haldane



Fisher



Wright



Dobzhansky

## The Modern Synthesis 1936-1947

# Modern Synthesis

- Populations harbour genetic variation that emerges randomly through mutation and recombination.
- Populations evolve through changes in allele frequencies due to drift, gene flow, and especially, natural selection.
- The majority of genetic variants have a small phenotypic effect, so that the resulting phenotypic changes are gradual.
- Diversification occurs through speciation, which is mostly the result of reproductive isolation between allopatric populations.
- These processes, operating over long enough timescales, give rise to cumulative changes of such magnitude that the resulting species are grouped at higher taxonomic levels.