

$$= \mu - 2q^2d$$

$$= \mu + D_{11} \quad \text{with } D_{11} = -2q^2d$$

Dominance deviation
of G_1G_1

$$G_1G_2: V_{12} - BV_{12} = d - (q-p)\alpha$$

$$\dots \mu + 2pqd = \mu + D_{12}$$

$$G_2G_2: V_{22} - BV_{22} = -a - [-2p\alpha] = \dots = \mu + D_{22}$$

Summary:

For genotype G_iG_j :

$$V_{ij} - BV_{ij} = \mu + D_{ij}$$

Solve for V_{ij} :

$$V_{ij} = \mu + BV_{ij} + D_{ij}$$

Genetic Model:

The genotypic value (V_{ij}) for genotype G_{ij} ~~can~~ be decomposed into

- population mean
- breeding value
- dominance deviation