

Genetic Model:

□ $P = G + E$ for phenotypic observation P

↓
genotypic value V

□ With observation y (instead of P)

$$y = V + E$$

□ Insert decomposition of V :

$$y = \underbrace{\mu + U + D + \bar{I}_{ABC}}_{=V} + E$$

□ Perspective of Livestock Breeding, breeding values (U) are of primary interest, hence

$$y = \mu + U + \underbrace{D + \bar{I}_{ABC} + E}_{E^*} = \mu + U + E^*$$