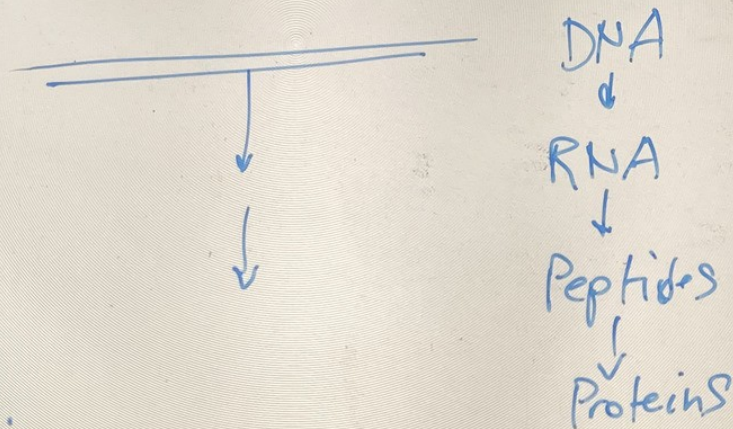


## Genetic Background

- Parents do not pass phenotypes to offspring but a random sample of their alleles / genes
- Every phenotypic observation has a genetic background, that means the ~~is~~ set of all genes in an individual (genotype) has an effect on the expressed phenotype.

Why?  $\Rightarrow$  Central Dogma of Molecular Biology



### • Result:

Every phenotypic observation (Y)  $\rightarrow$  weight, milk yield, health, methane  
can be decomposed into a genetic component (V) and an environmental component (E)