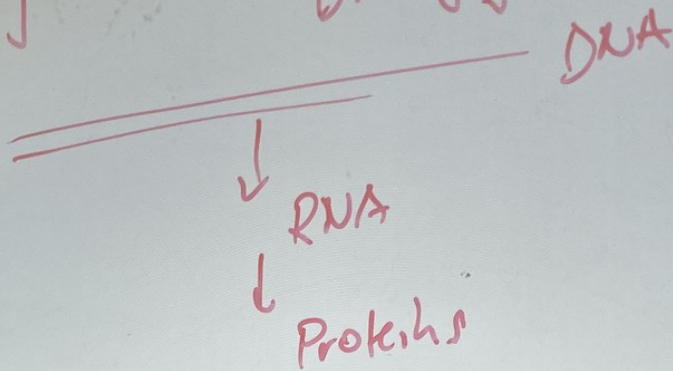


Why? \Rightarrow Central Dogma of Molecular Biology



\Rightarrow Most traits of interests are related to Proteins.

\Rightarrow Most traits are a composition of different Proteins. The regulation and architecture of all proteins is encoded in the DNA.

\Rightarrow The positions in the genome where protein encoding information is stored are the locations which are relevant for our trait of interest. These locations are called "Quantitative Trait Loci" (QTL)

This can be expressed as the following genetic model

$$P = G + E \rightarrow \text{environment}$$

\downarrow
Phenotype

\downarrow
genetic component