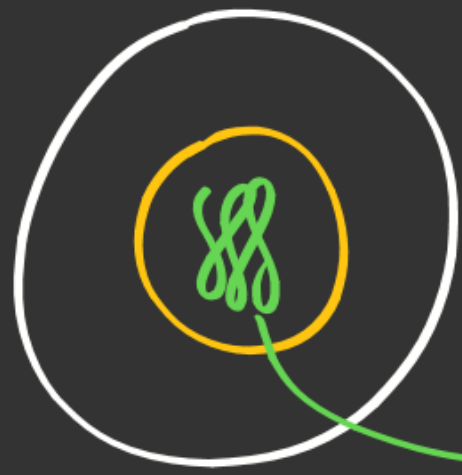


1. Heredity and Evolution

Basics:-

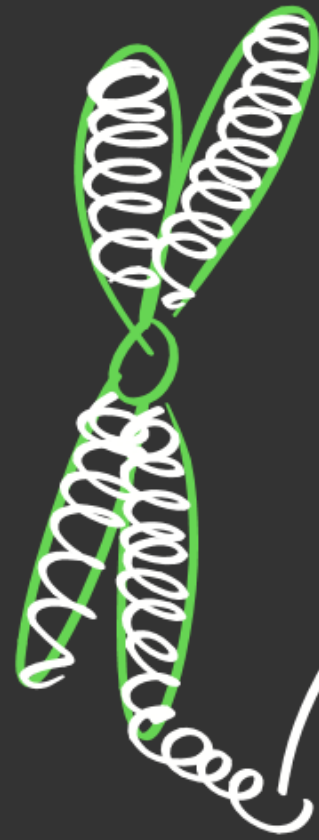


"Structural and functional unit of Body"



genetic material

Chromosome



Strand

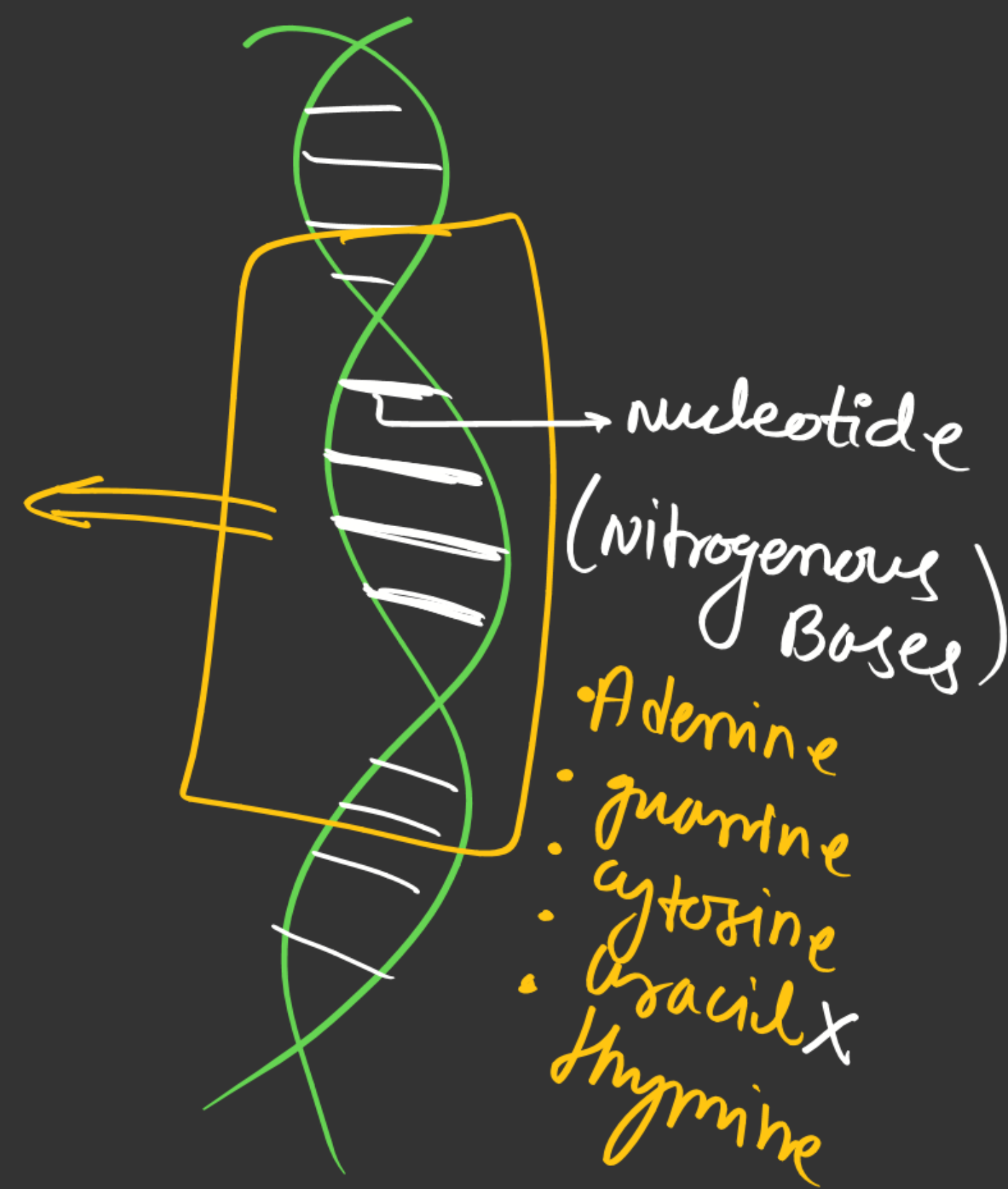


Nucleotide

- Super molecule
- stores each and every informationⁿ about Body
- spiral in shape
- Double Helical Structure

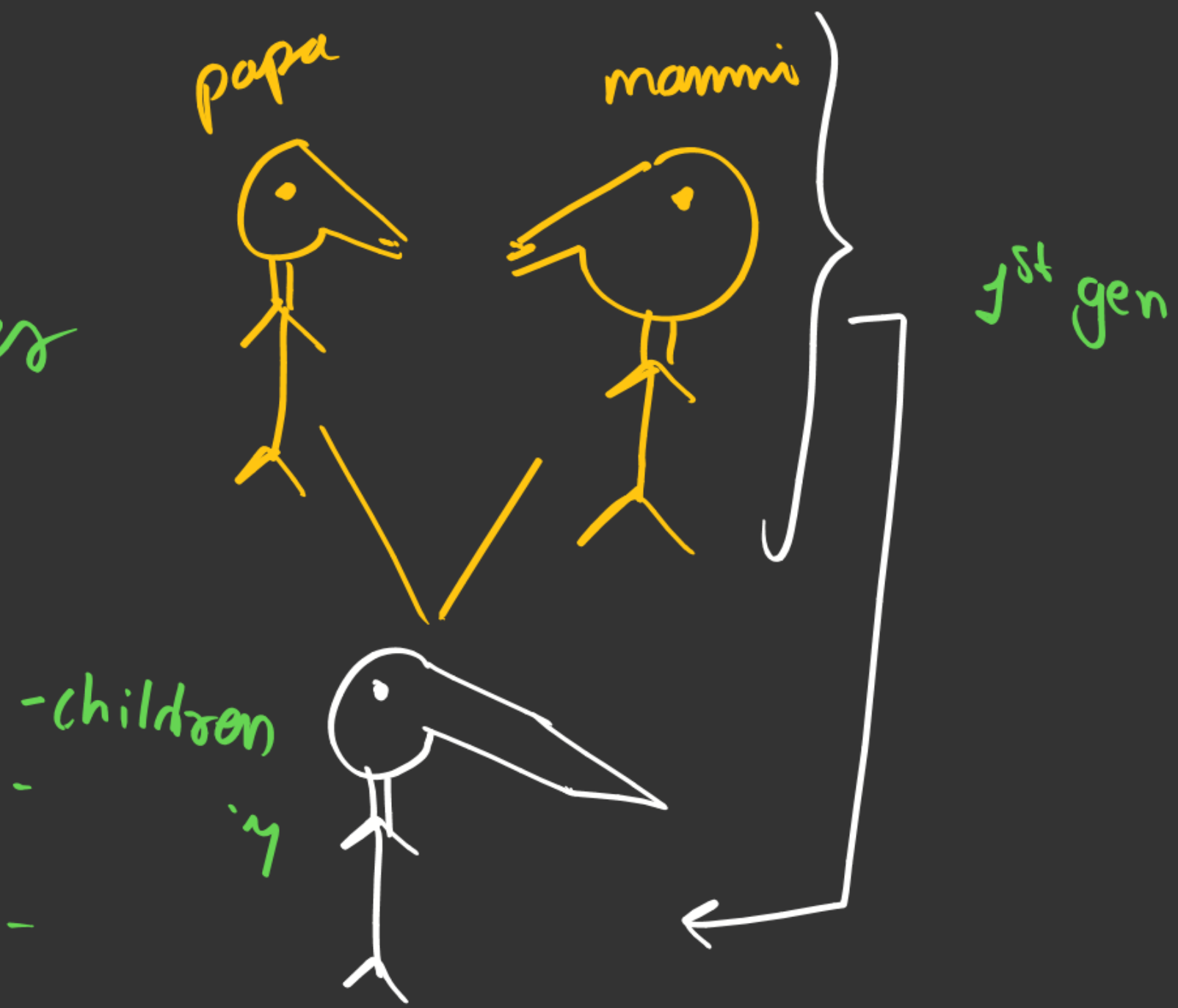
- "small segment of DNA" ← genes

- Store information about Body



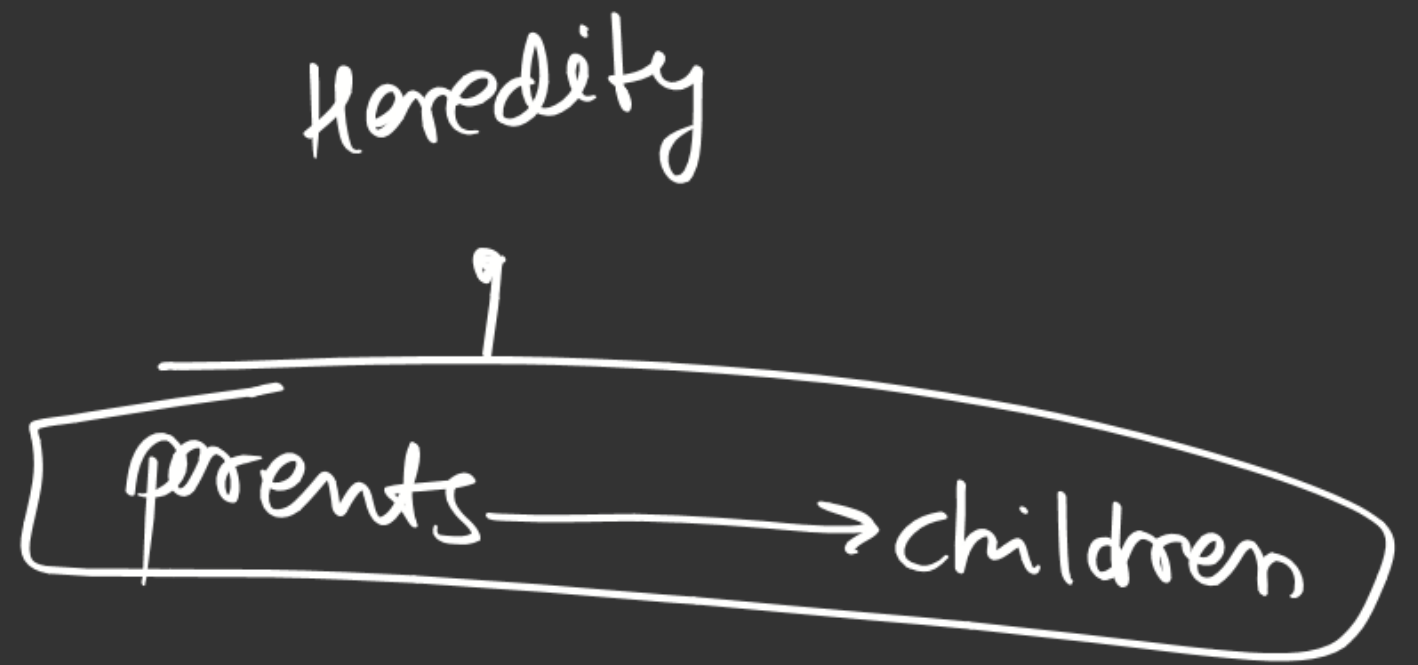
Heredity

"Transfer of genetic characters from one generation to other generation is called as Heredity"



Genetic character
(hereditary character) \Rightarrow

- eyes colour
- Hair colour
- Body Height



- Via genes

Note :-

DNA \rightarrow absent in Virus

Protein synthesis

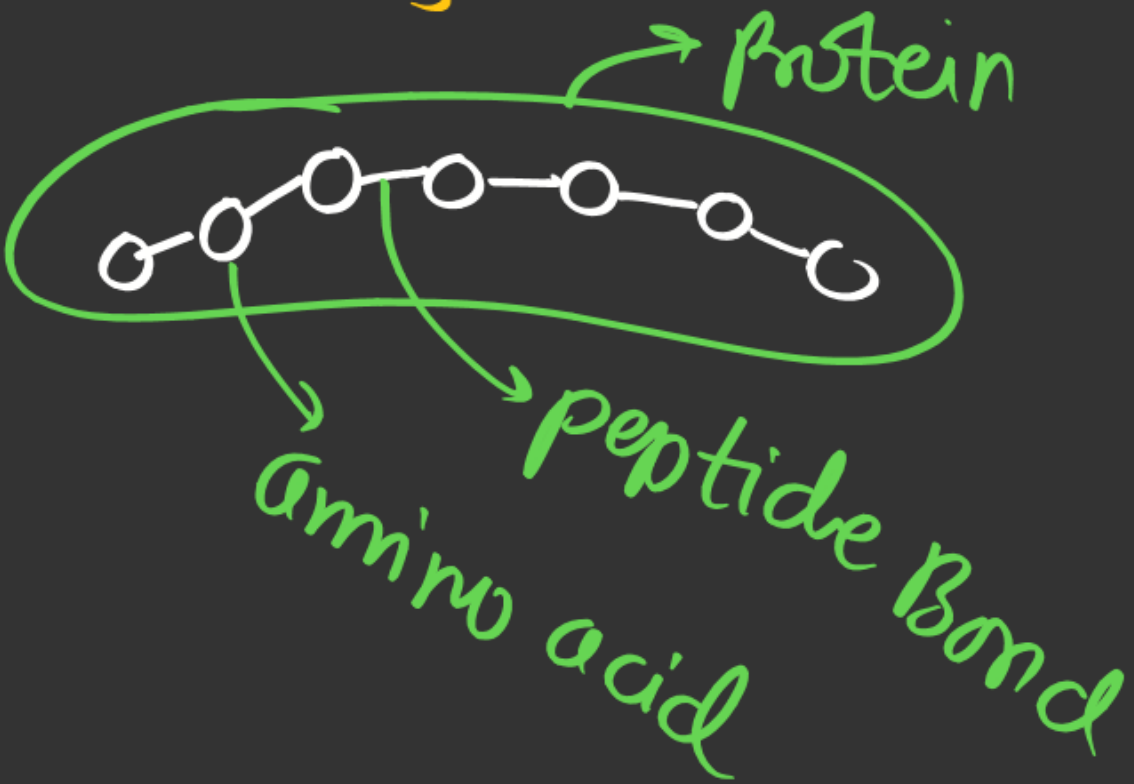
→ प्रोटीन
• macro molecule

• Chain of amino acids

→ To create

→ To form

• "formation of protein"



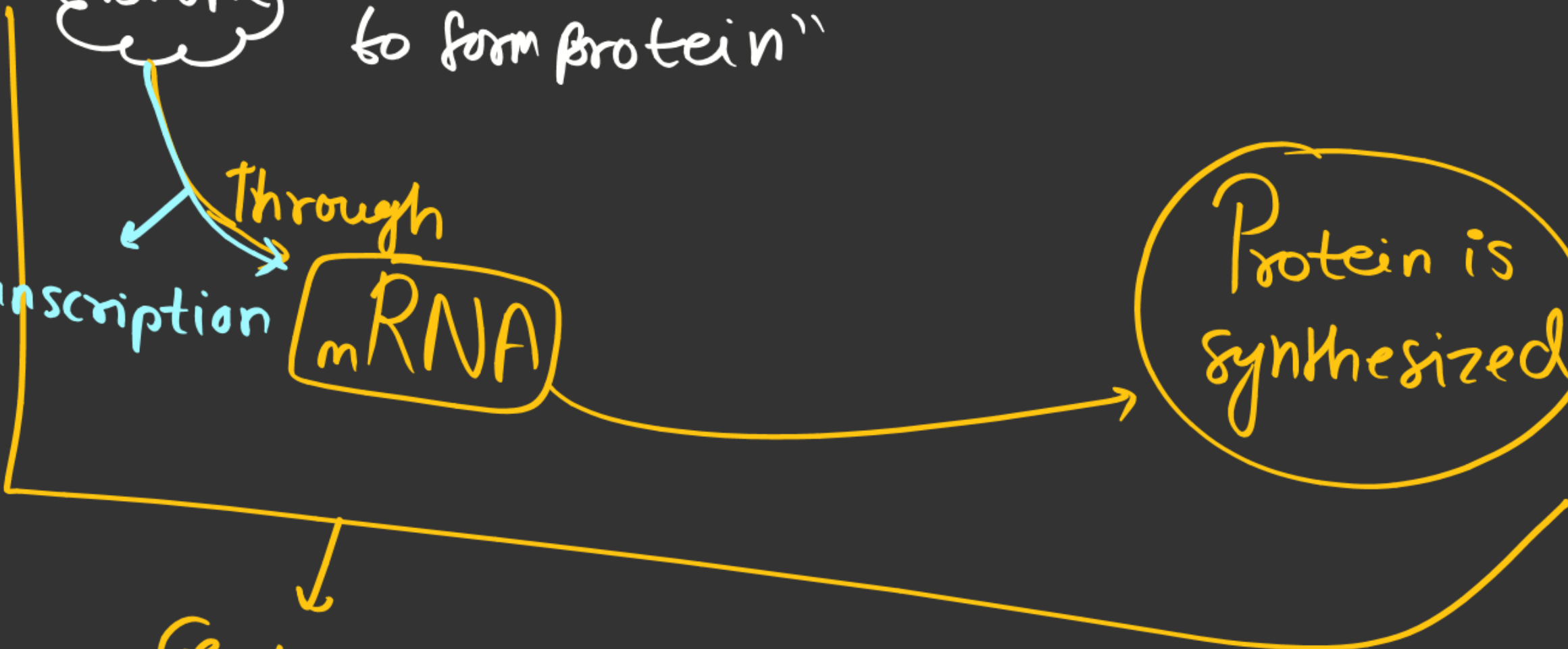
→ for the growth of the body

Note: ^{from} DNA "Has information to form protein"

Through
Transcription mRNA

Protein is synthesized

Central Dogma



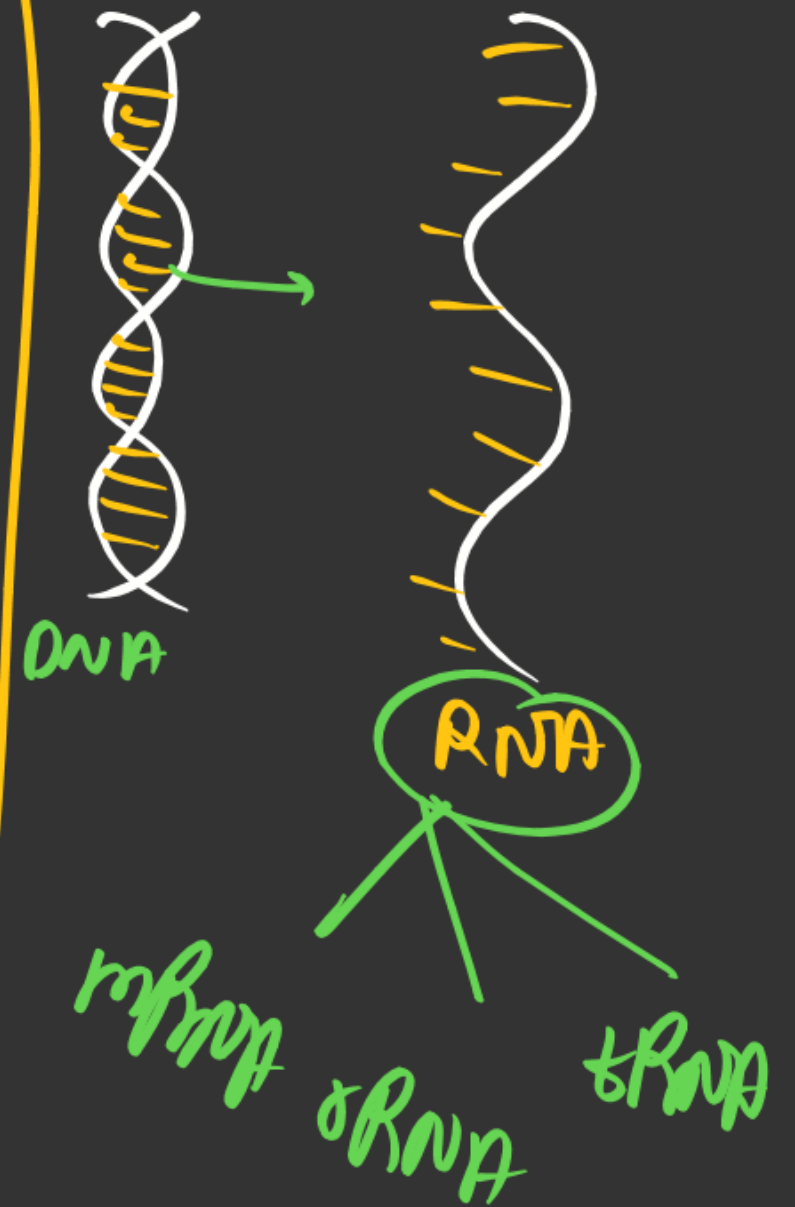
Protein synthesis

Transcription

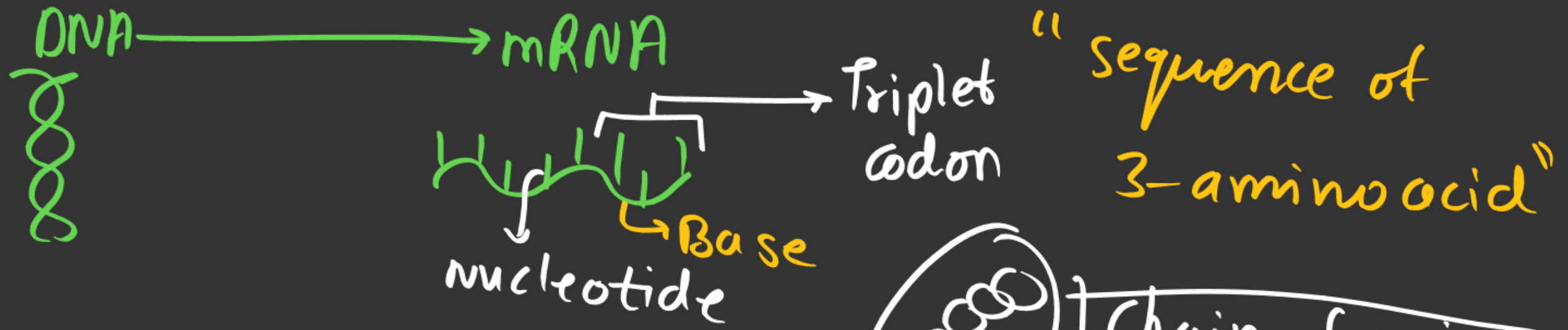
Translocation

Translation

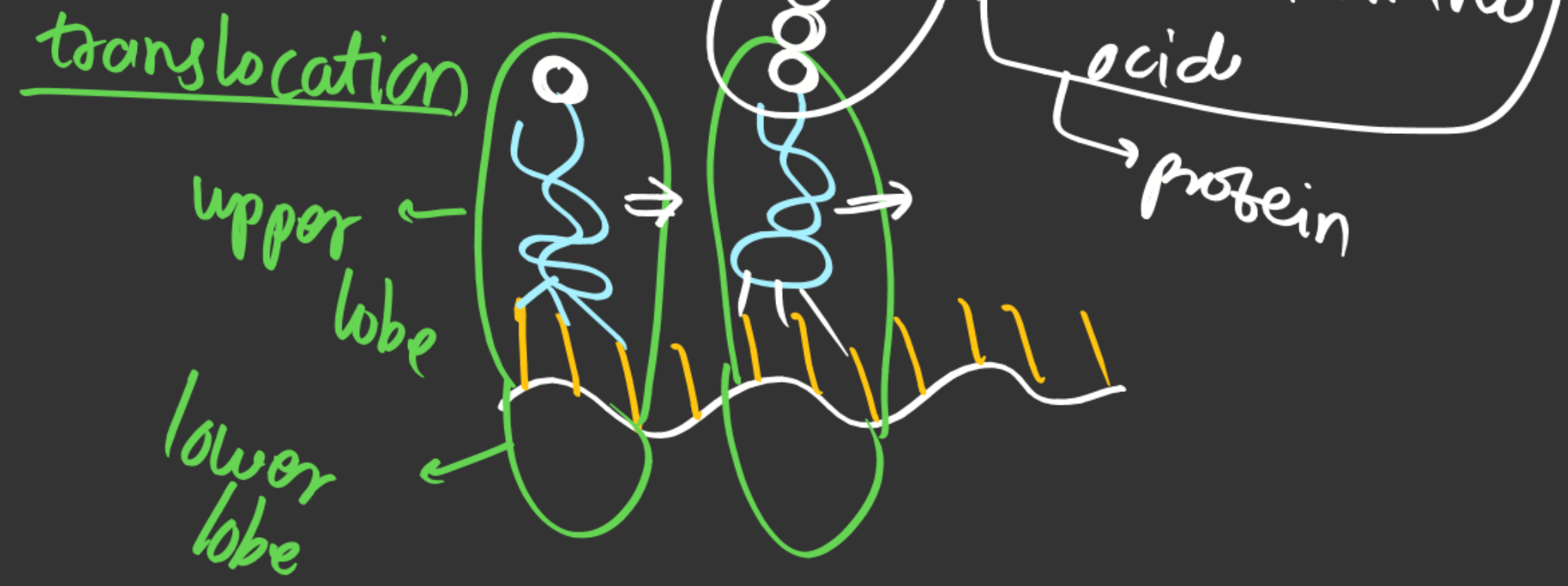
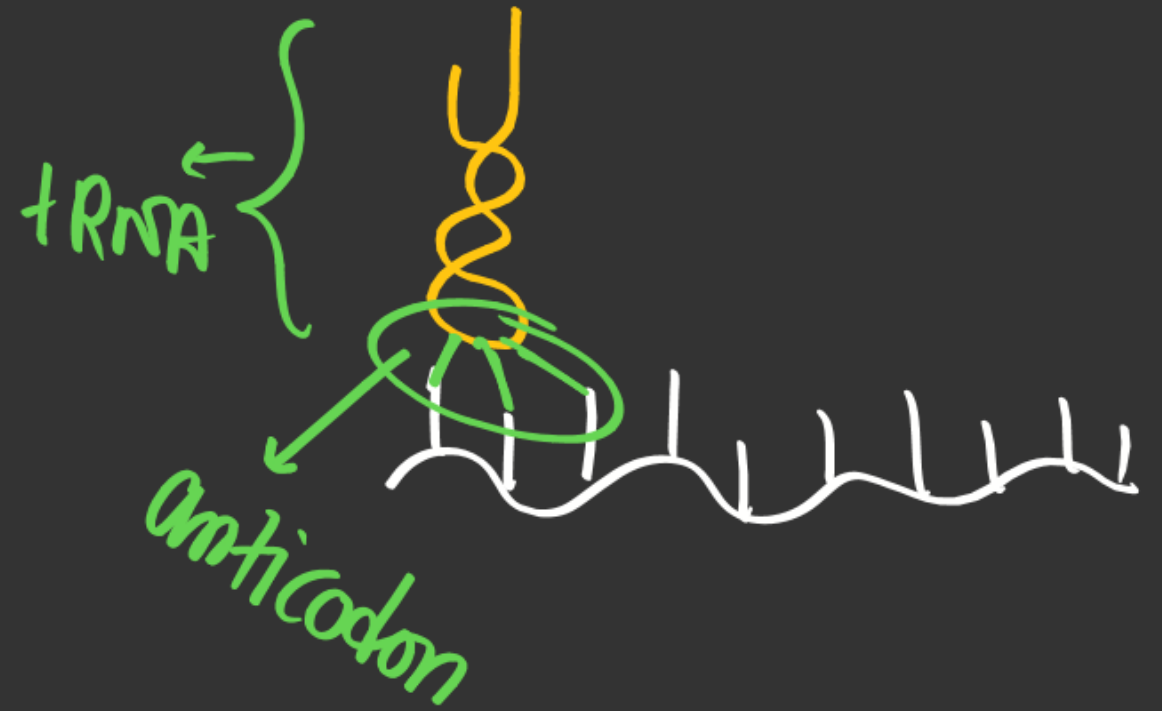
"formation of mRNA from DNA, for the purpose of protein synthesis"



Transcription

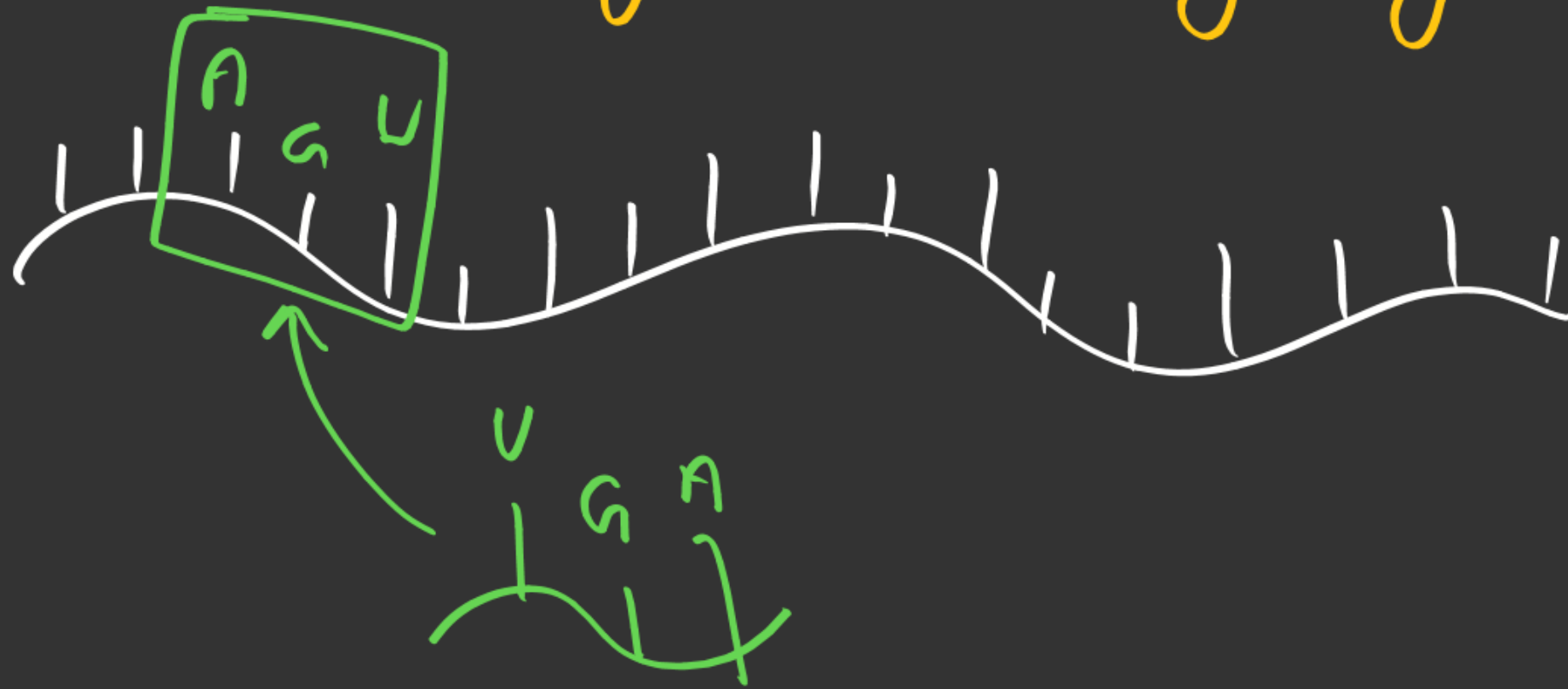


Translation



mutation

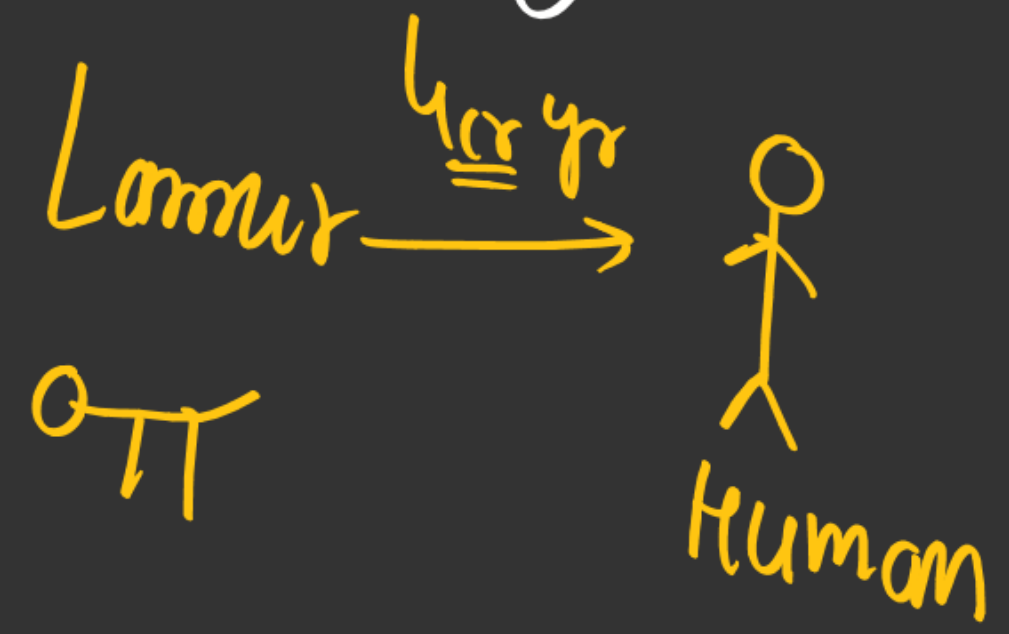
"sudden changes occurring in genes"



- Albinism
- Down syndrome
- sickle cell anaemia

Evolution

"gradual changes occurring in living organism over a long period of time"



Evidence of Evolution

morphological
evidences

anatomical
evidence

vestigial
organ

paleontological
evidences

connecting
link

embryological
evidences

- morphological evidences
↓
external structure

- Anatomical evidences
↳ Internal Body structure

- vestigial organ

" underdeveloped / Degenerated
Body part "

- wisdom teeth

- coccyx

paleontological evidences

ancient

Archaeologist

* fossils "Remaining part of living organism"

Carbon Dating

Isotopes

↳ same atomic no.
- Different atomic mass

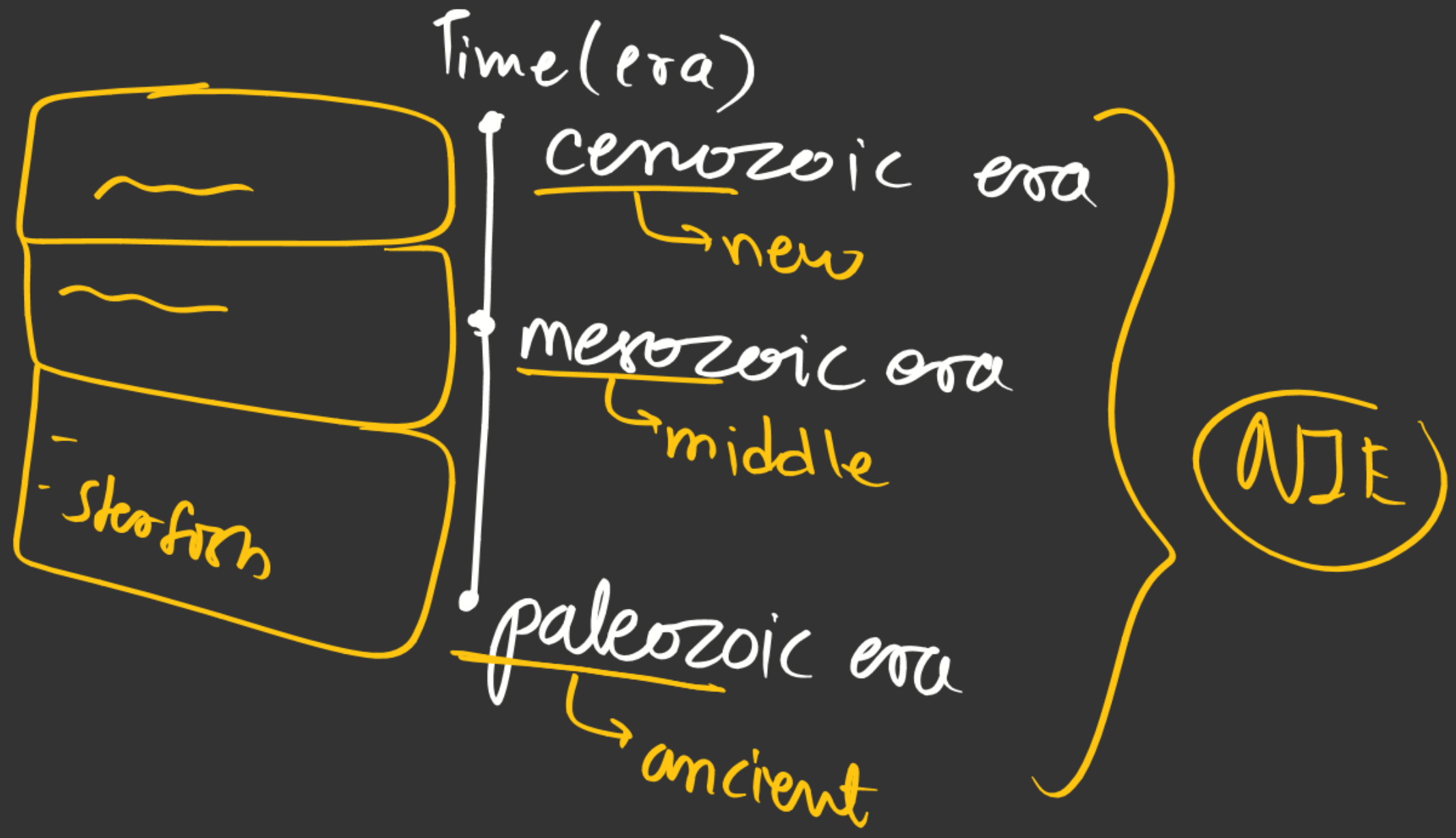
C-12
(non-Radioactive)

C-14

"Radioactive"

mass → Radiation





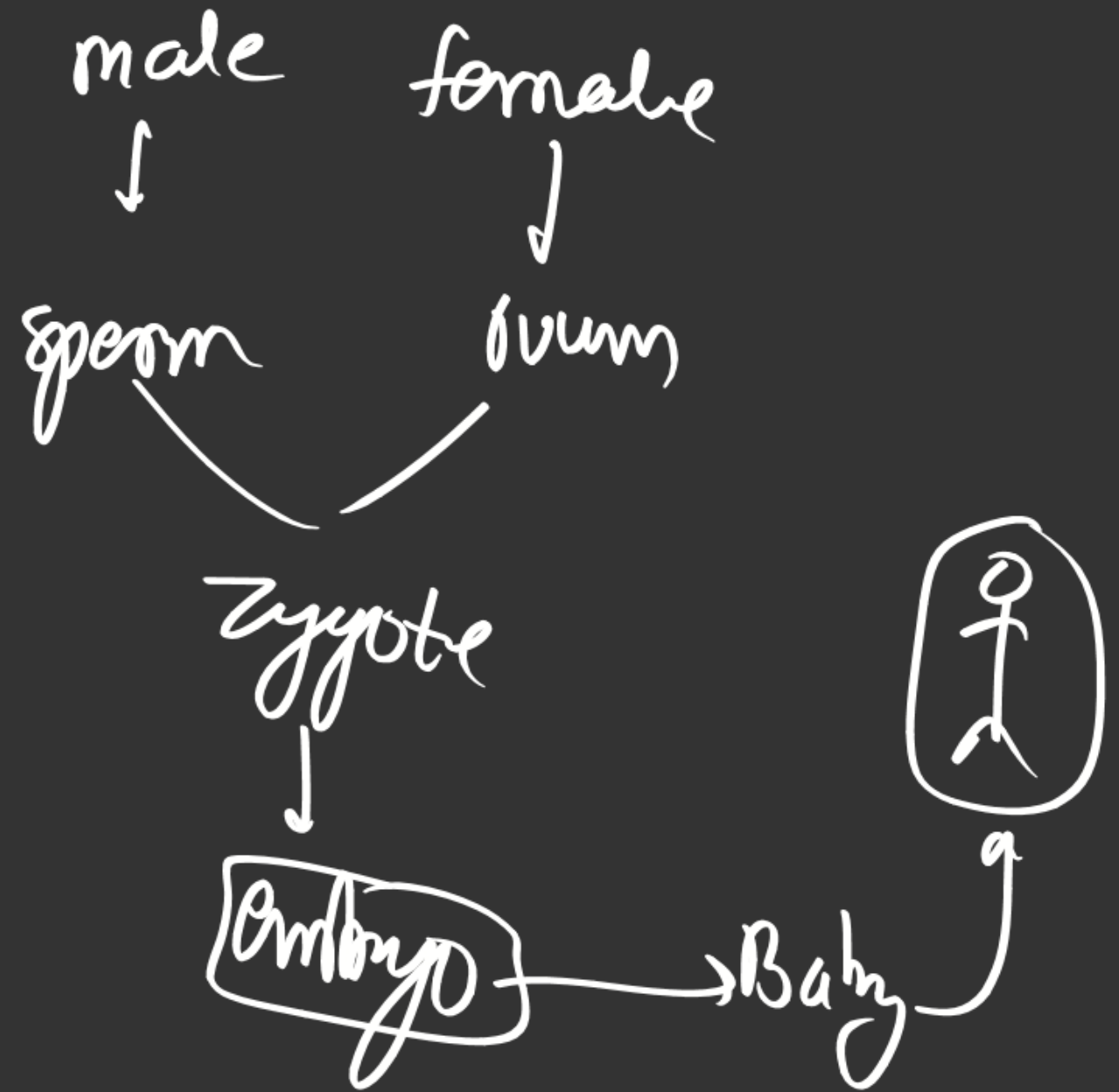
Connecting link:-

"Connection Between
two Different species"

- DuckBill platypus
- posipatus

embryological evidences

- " embryonic level
shows same structure



Darwin's theory

Natural selection → Book name "Origin of species"

"Survival of fittest"

↳ जो fit है सु... के जोकी मर Perish हो जायेगा

मृत

Speciation

" formation of new species from

pre-existing species due to

- change in • Habitat

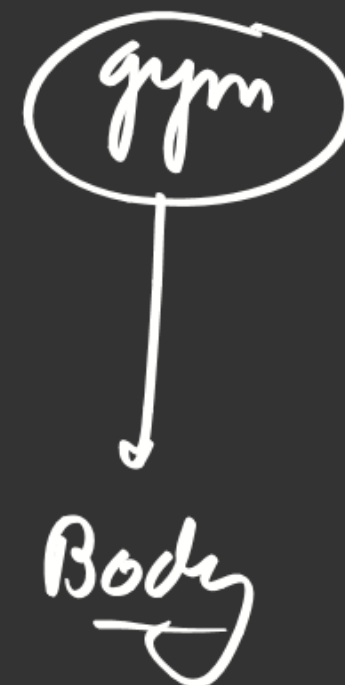
• Environment

• location

• food

Lamarckism

"use and dis-use of organ"



Human evolution

For yrs

Neanderthal
man
Cro-Magnon
or
erected man

Human
(Homo sapiens
sapiens)



lands

DPP

(Daily practice problems)

- Q.1 Define
- Heredity
 - Evolution
 - Transcription
 - Translation
 - Translocation
 - connecting link
 - speciation
 - vestigial organ

Q.2 Describe the protein synthesis?

Q.3 Define mutation?

Q.4 Describe carbon dating?

Q.5 Describe human evolution

- Darwin's theory

- Lamarckism