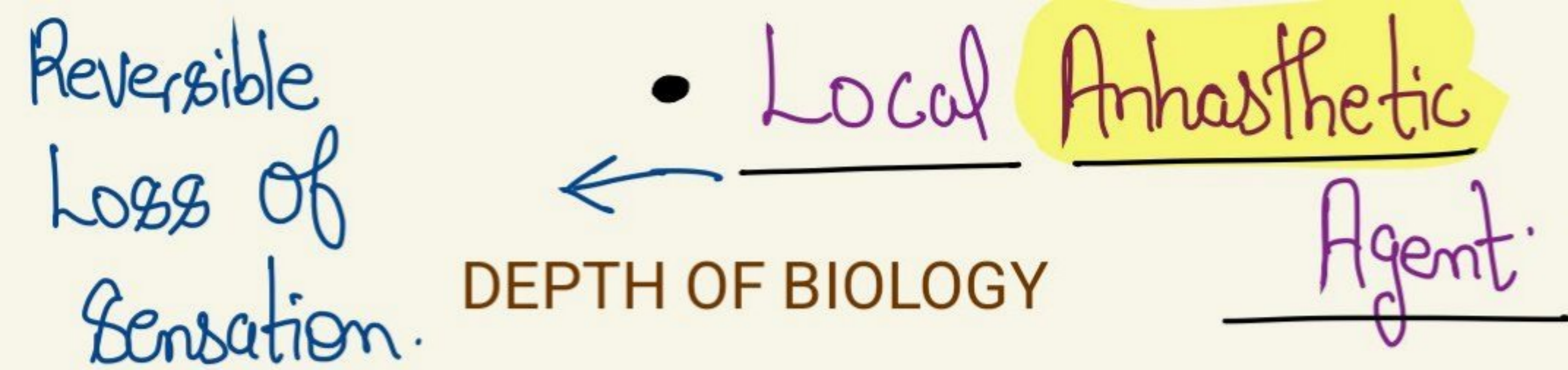
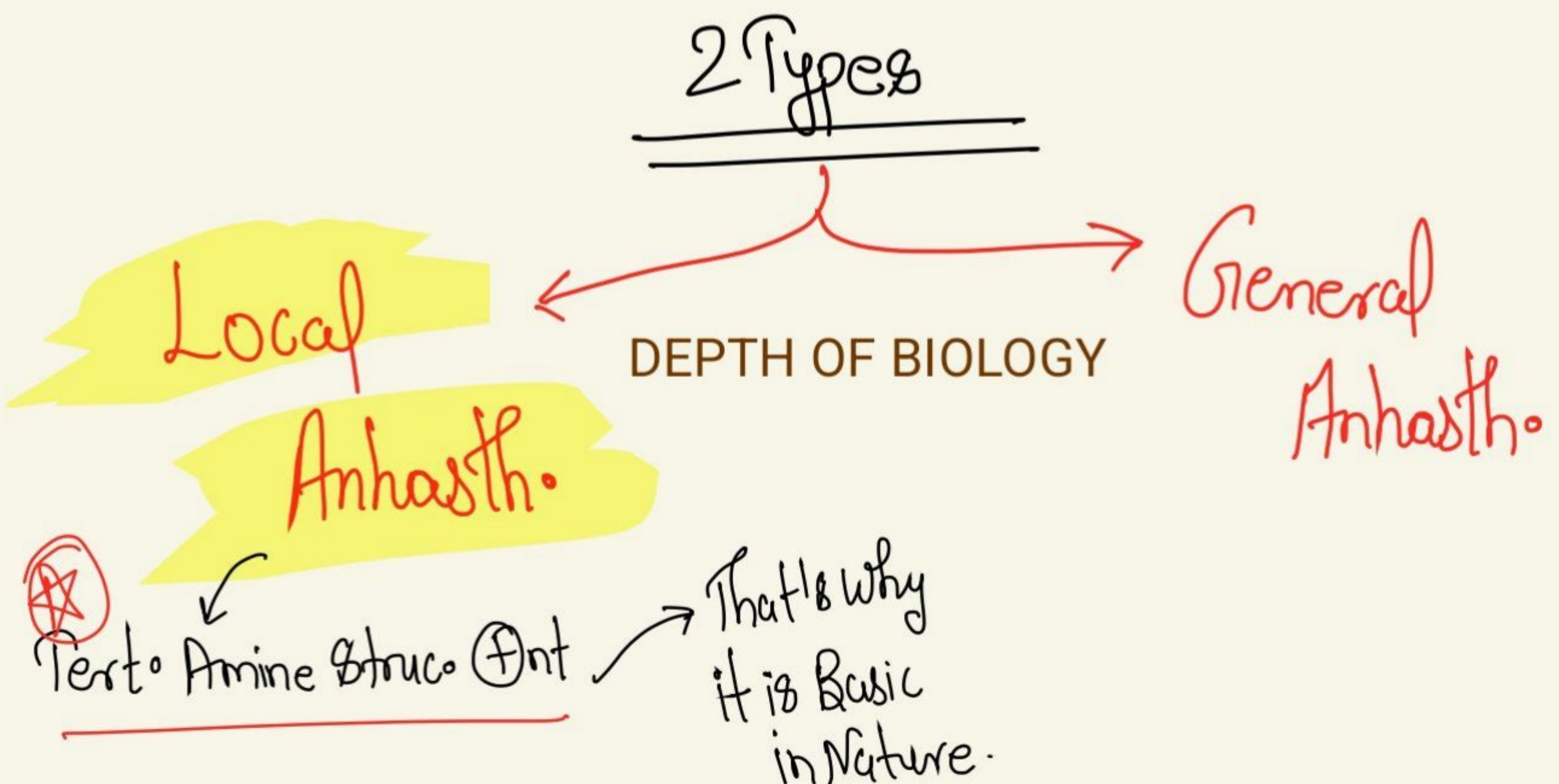
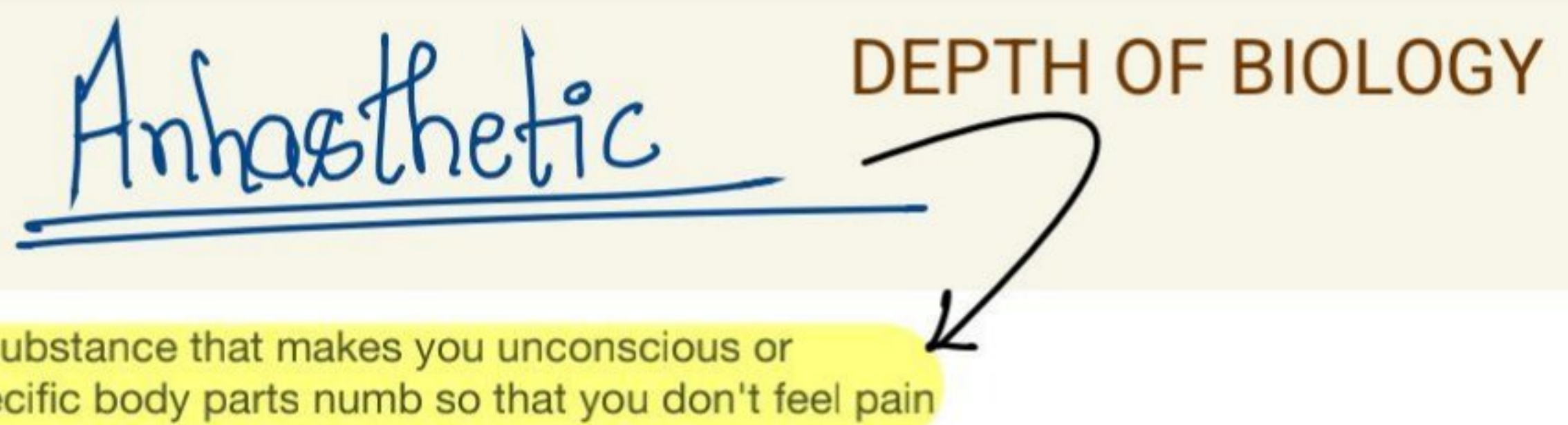




A temporary loss of feeling in one small area of the body caused by special drugs called anesthetics. The patient stays awake but has no feeling in the area of the body treated with the anesthetic. Local anesthetics may be injected or put on the skin to lessen pain during medical, surgical, or dental procedures.



DEPTH OF BIOLOGY

*General
anaesthesia*

*Local
anaesthesia*

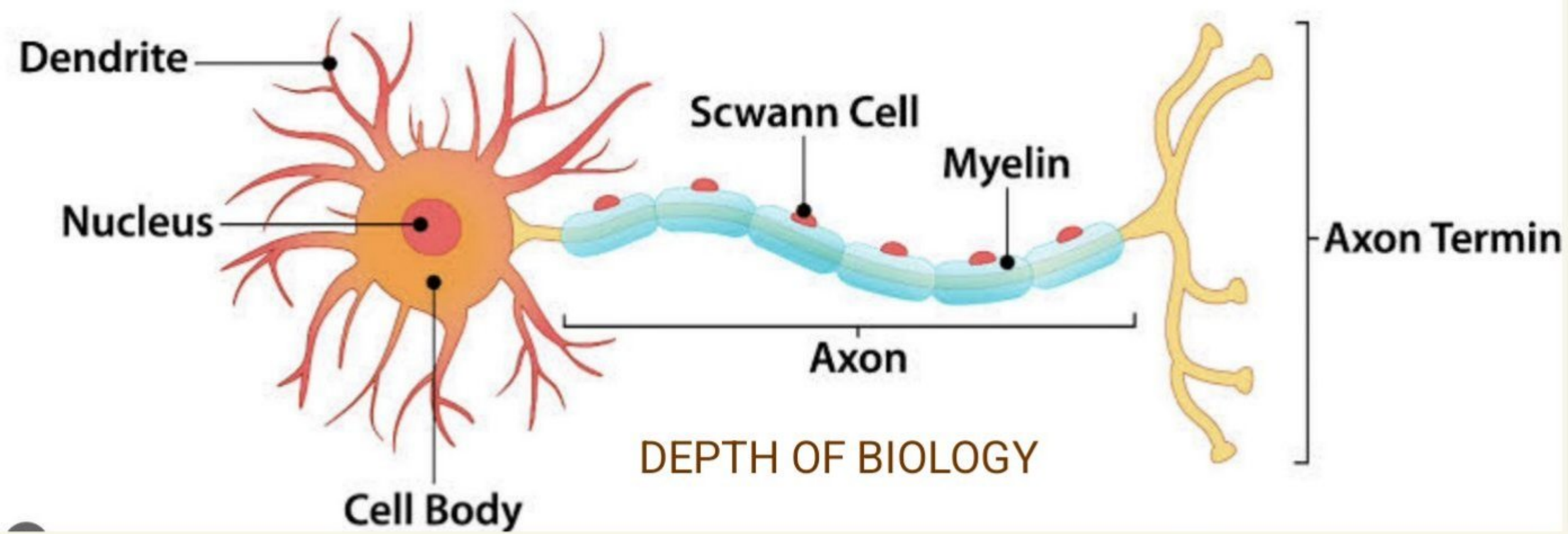
1. Site of action	CNS	Peripheral nerves
2. Area of body involved	Whole body	Restricted area
3. Consciousness	Lost	Unaltered
4. Care of vital functions	Essential	Usually not needed
5. Physiological trespass	High	Low
6. Poor health patient	Risky	Safer
7. Use in non-cooperative patient	Possible	Not possible
8. Major surgery	Preferred	Cannot be used
9. Minor surgery	Not preferred	Preferred

DEPTH OF BIOLOGY

DEPTH OF BIOLOGY

eg → opioids
→ Diazepam

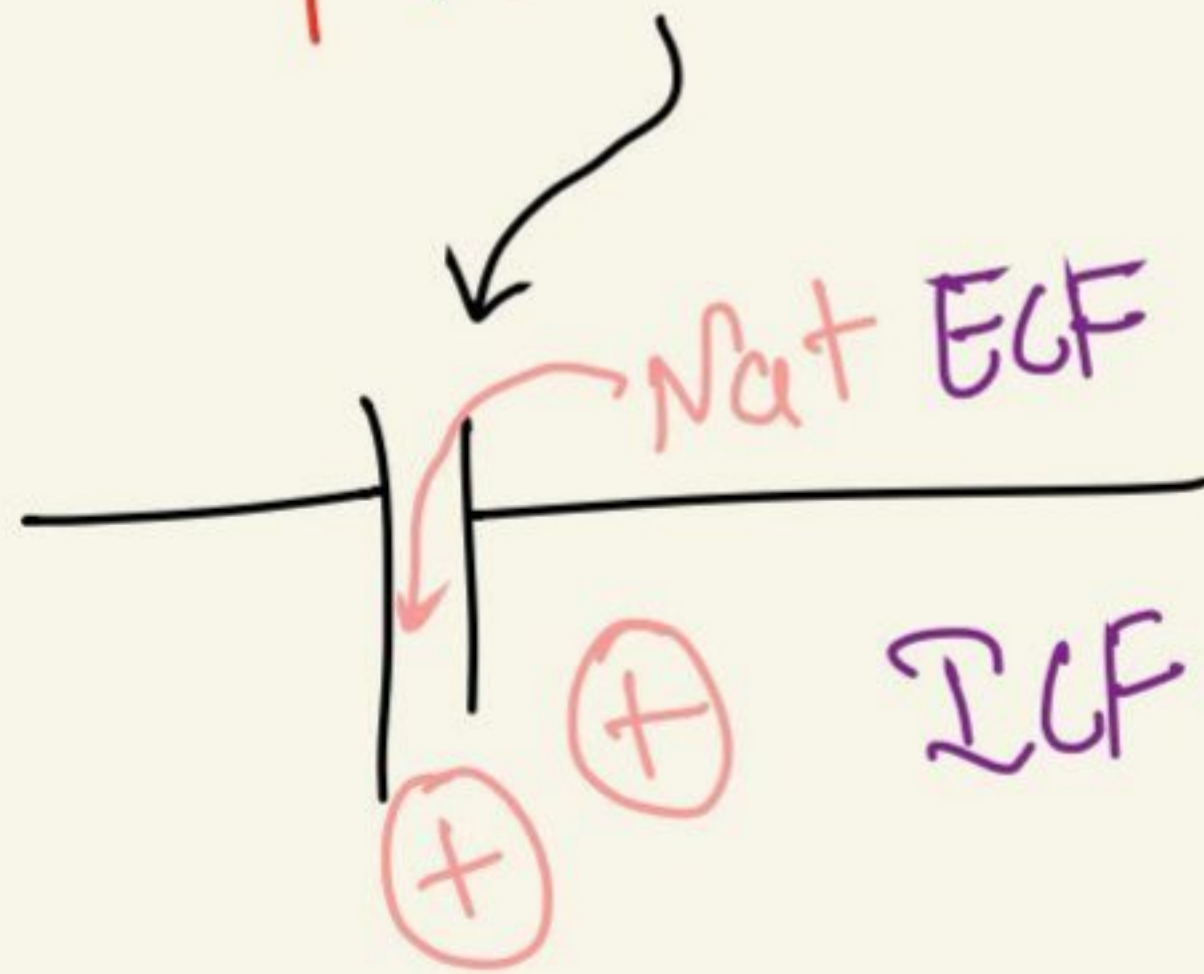
eg → Lidocaine
→ Procaine



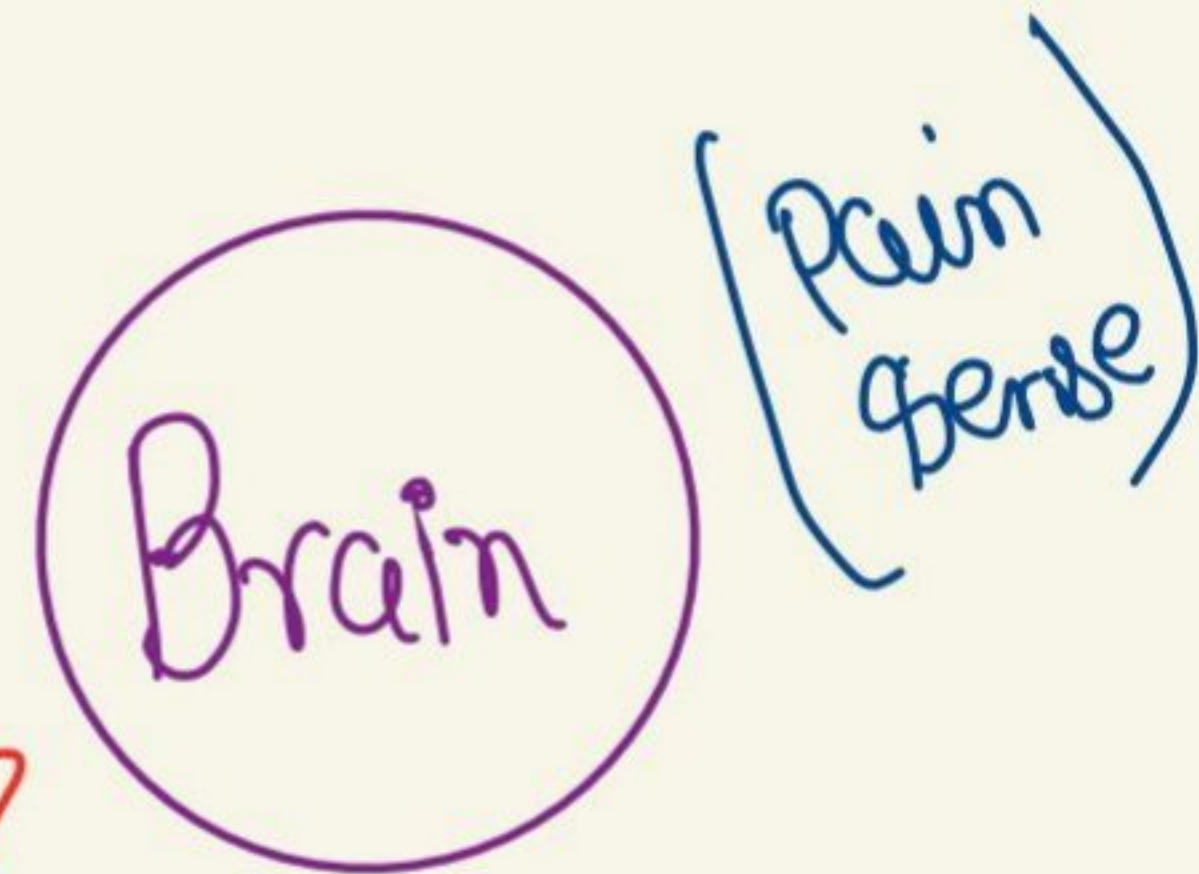
Dendrites receives signal (Pain Sensation)

↓
Action potential Generate

↓
Depolarisation



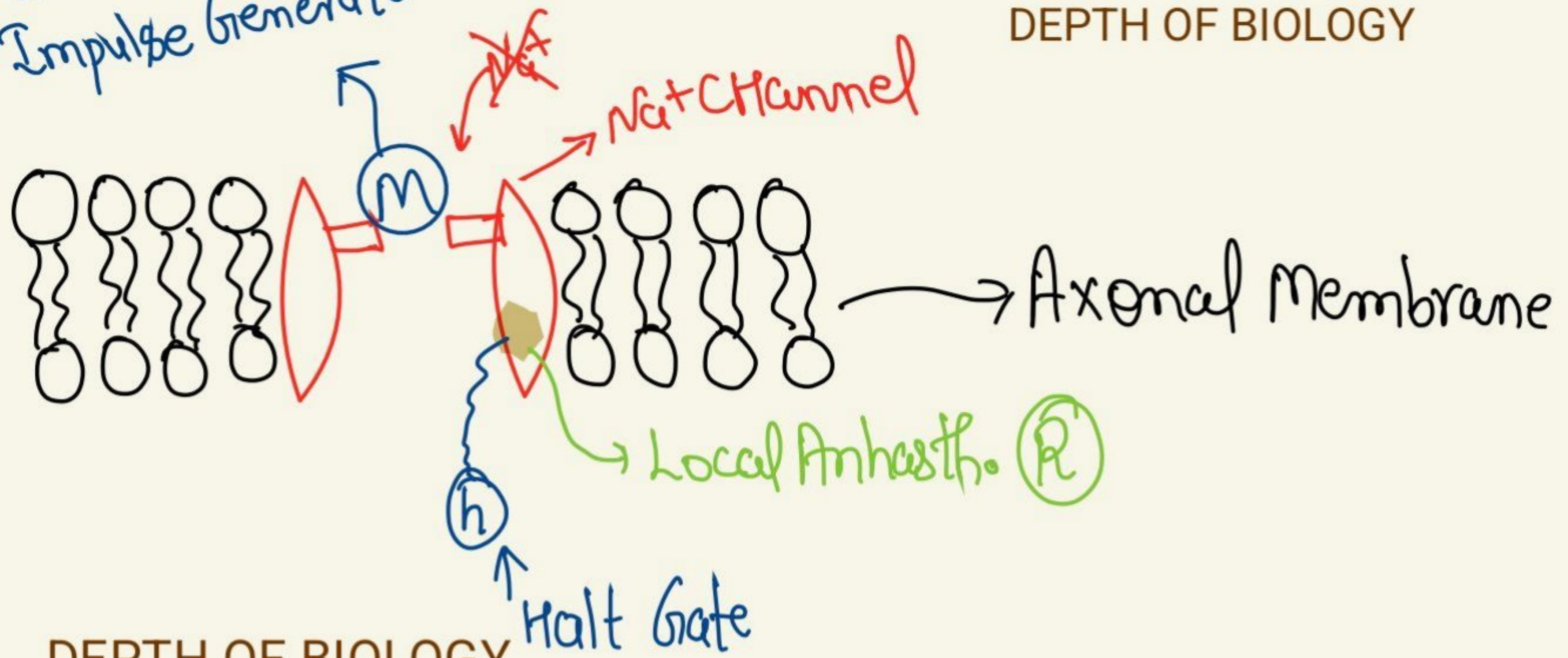
signal send
to Brain
Via sensory
Neuron



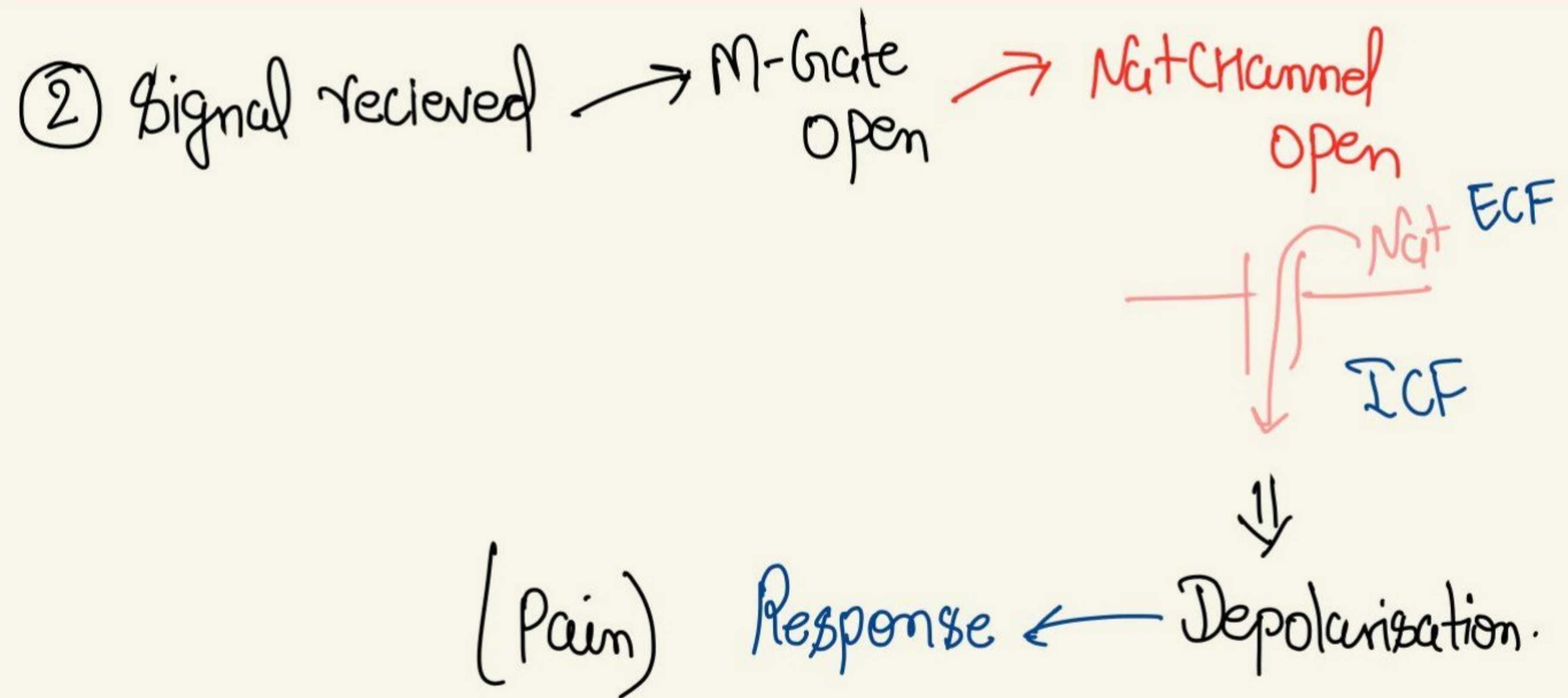
When MGate
Close when No
Impulse Generate

① Condition when No sensation

DEPTH OF BIOLOGY



DEPTH OF BIOLOGY



DEPTH OF BIOLOGY

How Local Anesth. work.



L. Anhaasth. (BH)

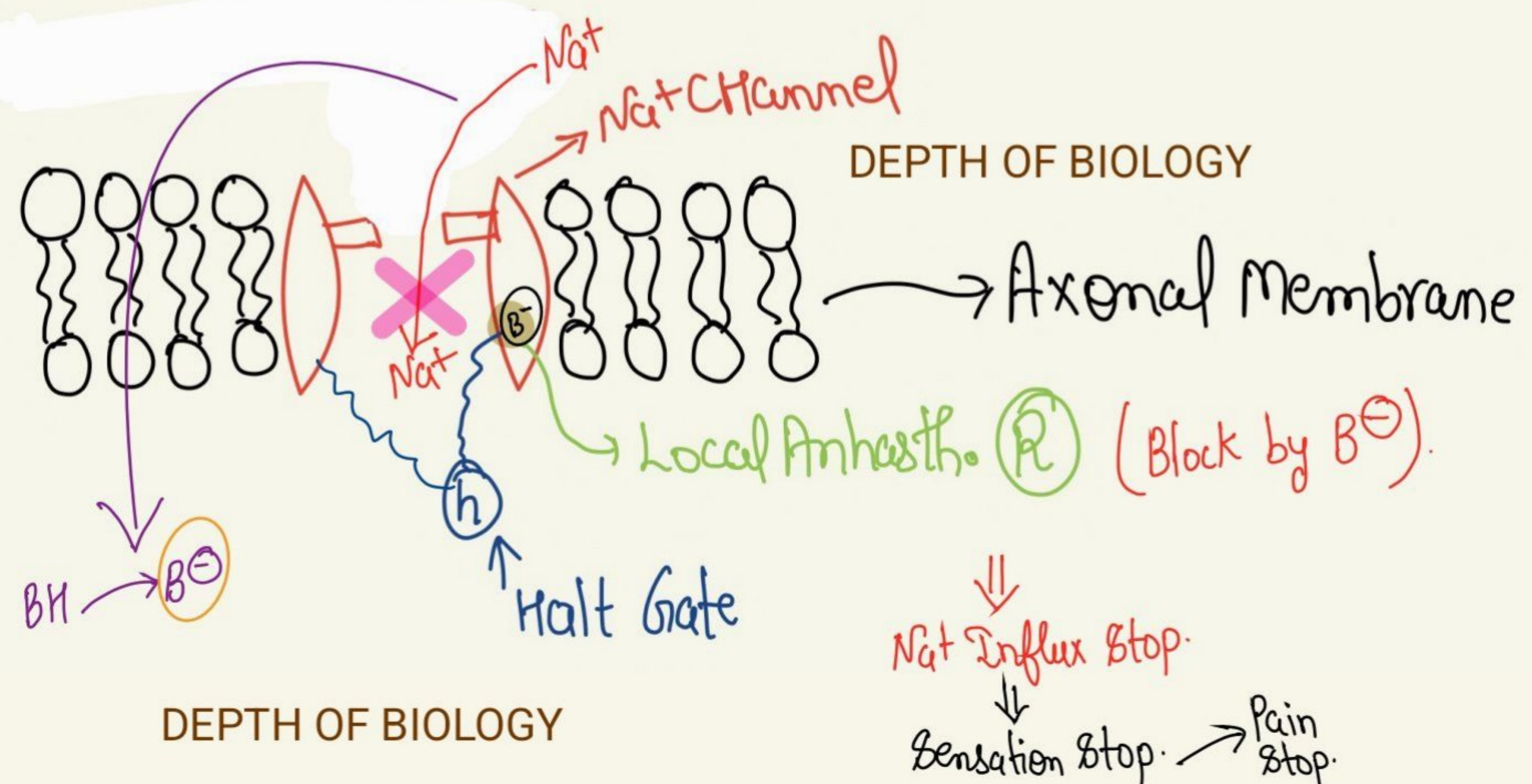
→ easily cross Axonal Membrane (Lipophilic).

DEPTH OF BIOLOGY

Now, In Intracellular fluid BH dissociate Into



B- Bind on Local Anesth. (R)



Classification

DEPTH OF BIOLOGY

Surface

Injectable

Soluble

Insoluble

→ Not in I.V.

→ Lidocaine
→ Tetracaine

→ Benzocaine

Low potency
or
Short duration

Intermed.
Potency.

Eg → Procaine

Eg → Lidocaine

High
Potency
↓
Sensation
block
↓
Long
duration
↓
Eg → Tetracaine

LOCAL ANAESTHETICS

DEPTH OF BIOLOGY

Injectable anaesthetic

Surface anaesthetic

Low potency,
short duration

Procaine
Chloroprocaine

Intermediate potency
and duration

Lidocaine (Lignocaine)
Prilocaine

High potency,
long duration

Tetracaine
Bupivacaine
Ropivacaine
Dibucaine

Soluble

Cocaine
Lidocaine
Tetracaine
Proparacaine

Insoluble

Benzocaine
Butylamino-
benzoate
Oxethazaine

DEPTH OF BIOLOGY

Local anesthetics

Onset, potency, and duration of action

- The onset of action of local anesthetics is influenced by several factors including tissue pH, nerve morphology, concentration, pKa, and lipid solubility of the drug. DEPTH OF BIOLOGY
- Local anesthetics with a lower pKa have a quicker onset.

Surface Anesth.



- ① Apply topically on skin.
- ② Sensory Nerve ending affected.
- ③ It can damage skin (wound)

Eg → Benzocaine, Lidocaine.

DEPTH OF BIOLOGY

Injectable Anesth.

- ① Inject Under Skin (not I.V.).
- ② Used for Minor Surgery.

Eg → Procaine.

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