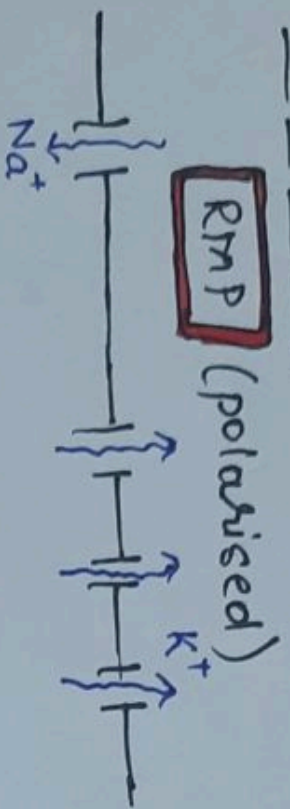


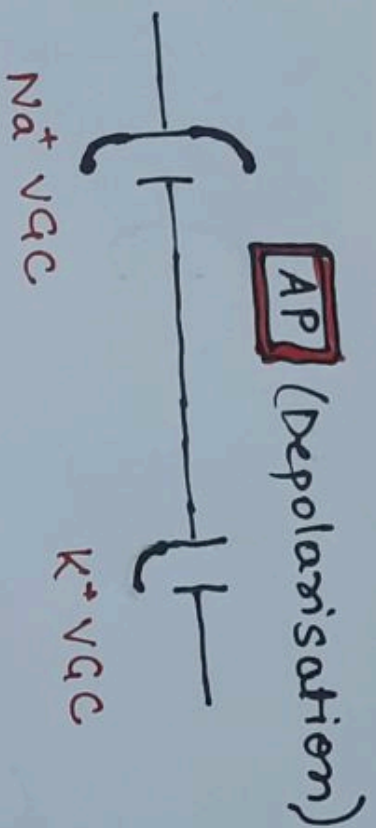
ACTION POTENTIAL

CHANNELS :-



Leaky channels
 Always open

$\boxed{\text{K}^+ \text{ VGC}}$:-



VGC
 open when MP changes

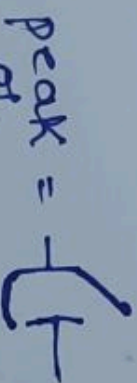
$\boxed{\text{Na}^+ \text{ VGC}}$



closed



open

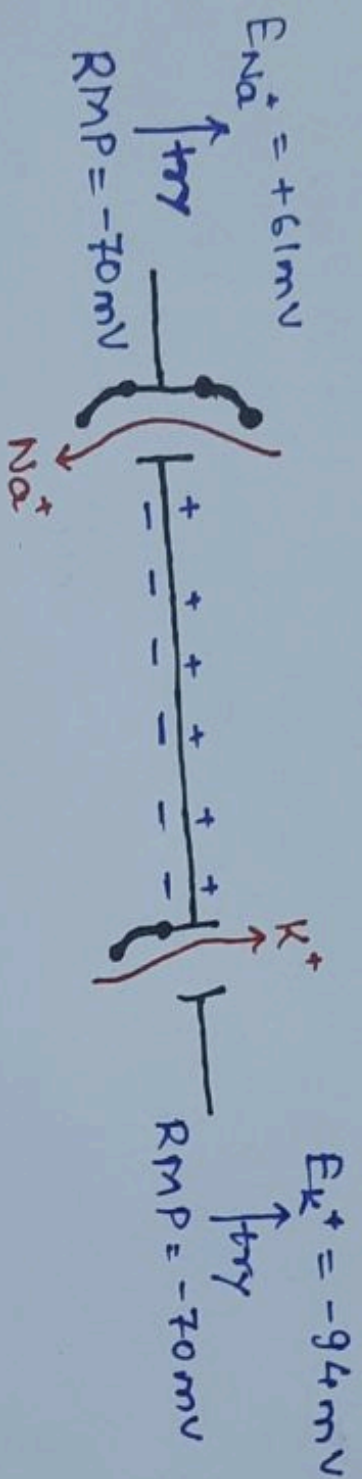


inactive

peak of A.P.

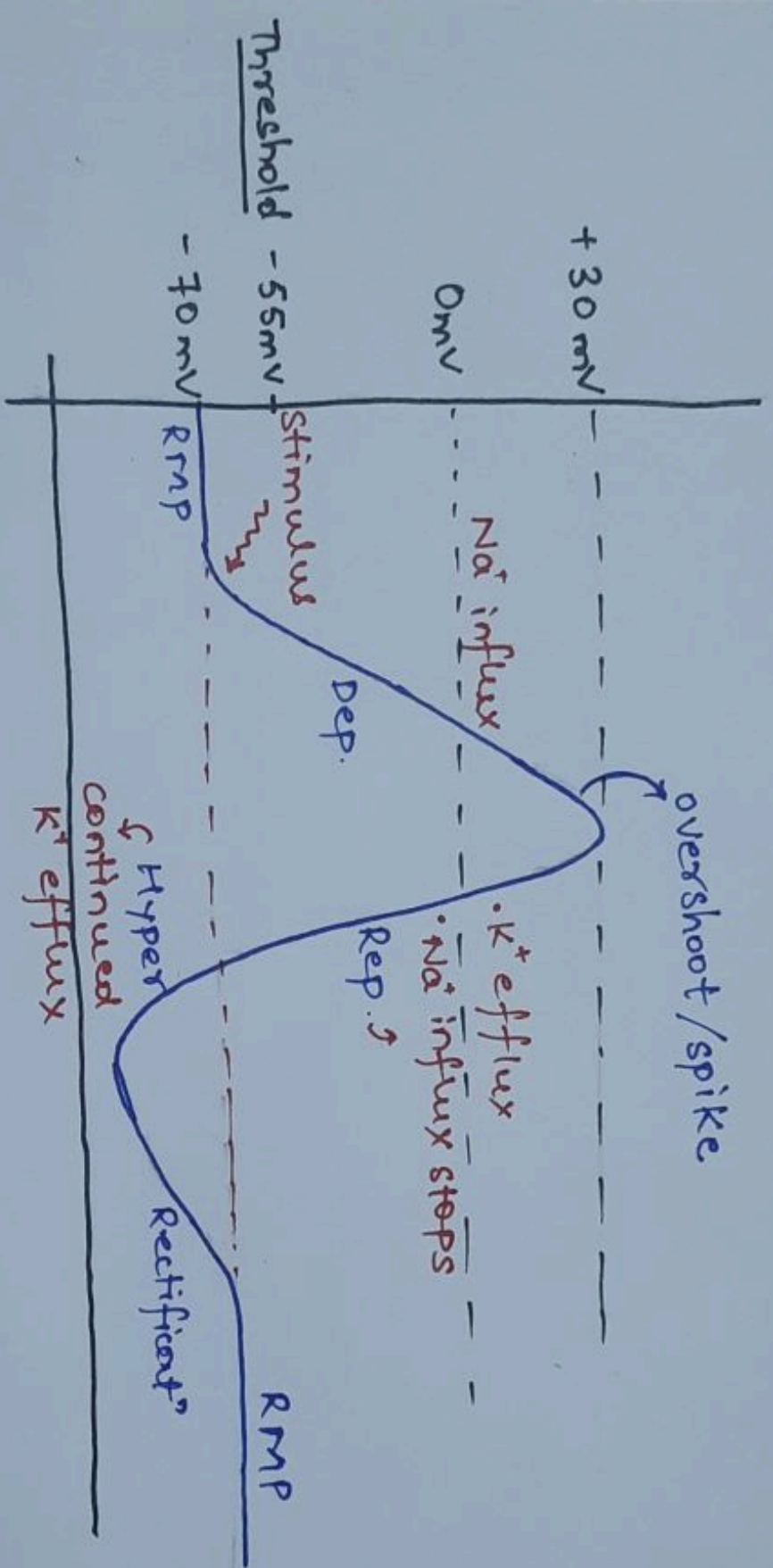
A.P.

Tendency of VCC :- They try to make memb. potential close to their equilibrium potential

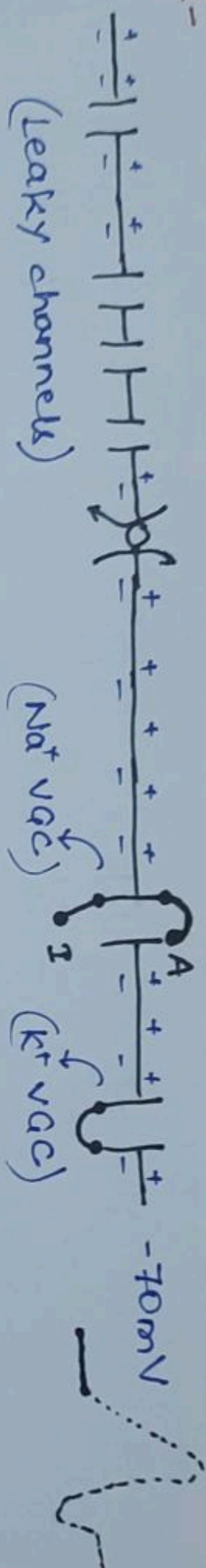


ACTION POTENTIAL :-

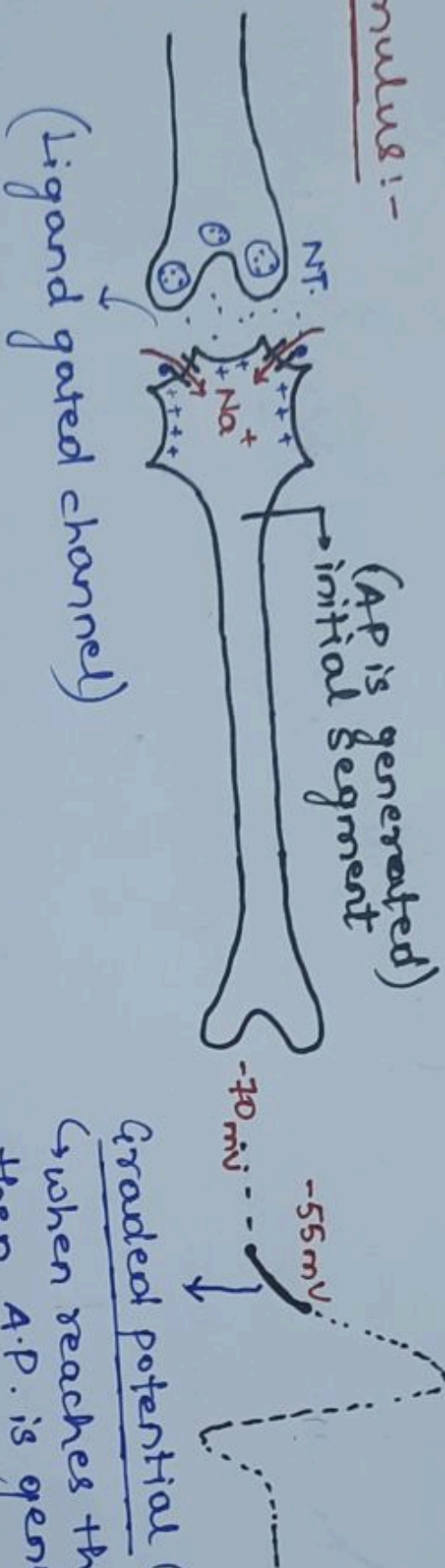
→ The electrical response of the membrane to a threshold or greater than threshold stimulus.



RMP:-



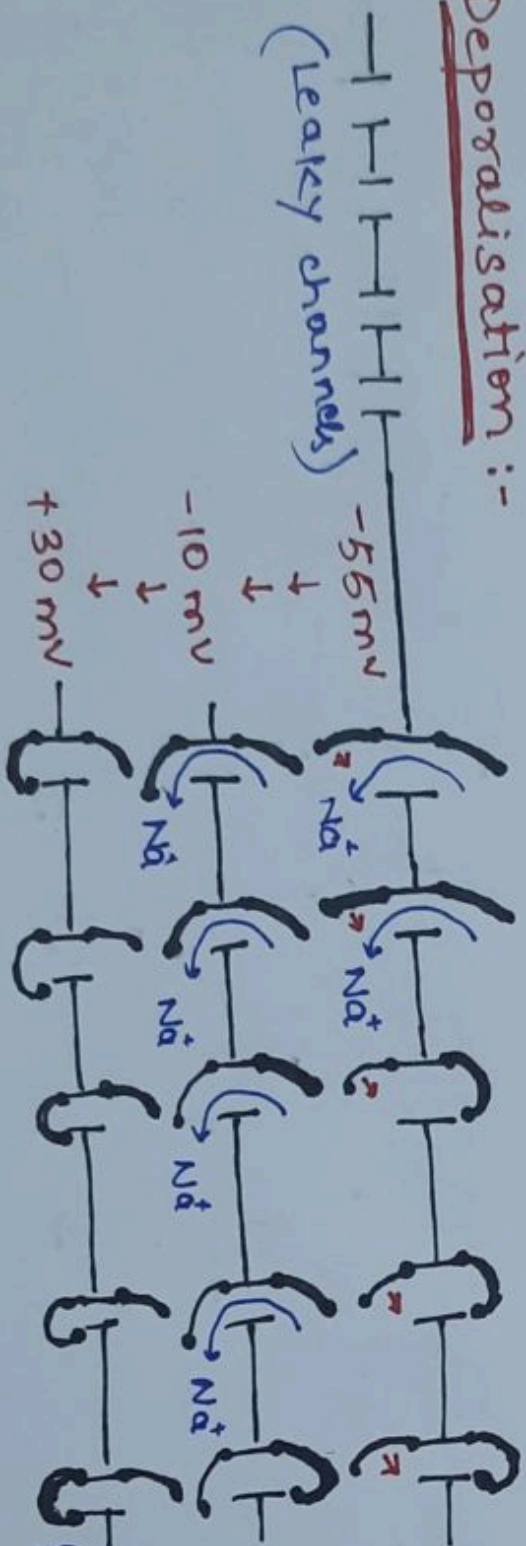
Stimulus:-



∴ A.P. follows 'All or None Law'

Graded potential (local potential)
 ↳ when reaches threshold
 then A.P. is generated.

Depolarisation:-



Inactive state (peak of AP)

- Ⓐ → fastly open
- Ⓡ → slowly close

Repolarisation :-

Inactive
 Na^+ VCC



+30mV
↓
0mV



closed
 Na^+ VCC



Hyperpolarisation :-

slowly



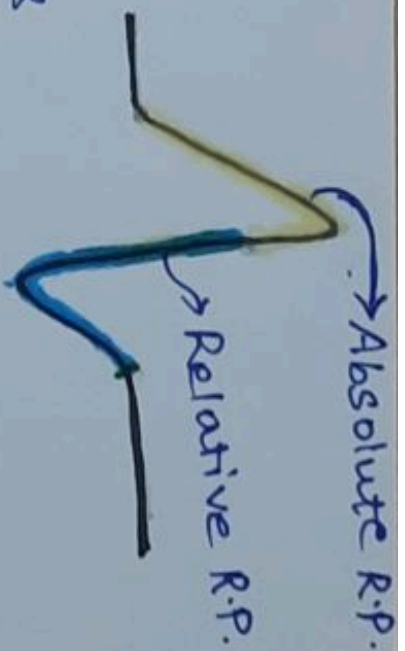
0mV
↑
(-90mV)
↑
0mV



Refractory Period

Relative R.P.

- Nerve can respond to a second stimulus (if it is greater than threshold strength)



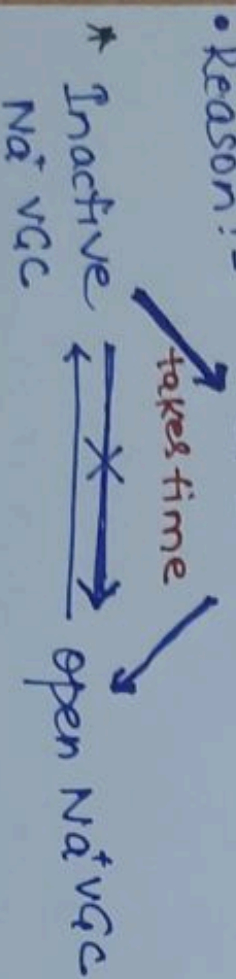
Absolute R.P.

- Pd. of A.P. where nerve cannot respond to a second stimulus. (no matter how strong it is)

• Depolarisation +

$\frac{1}{3}$ rd of Repolarisation

• Reason:- closed $\text{Na}^+\text{V}_{\text{Gc}}$



- Remained $\frac{2}{3}$ rd of Repolarisation +

Hyperpolarisation

• Reason:- ~~closed~~ open $\rightarrow$ Inactive

- * $d/t \uparrow \text{K}^+$ conductance