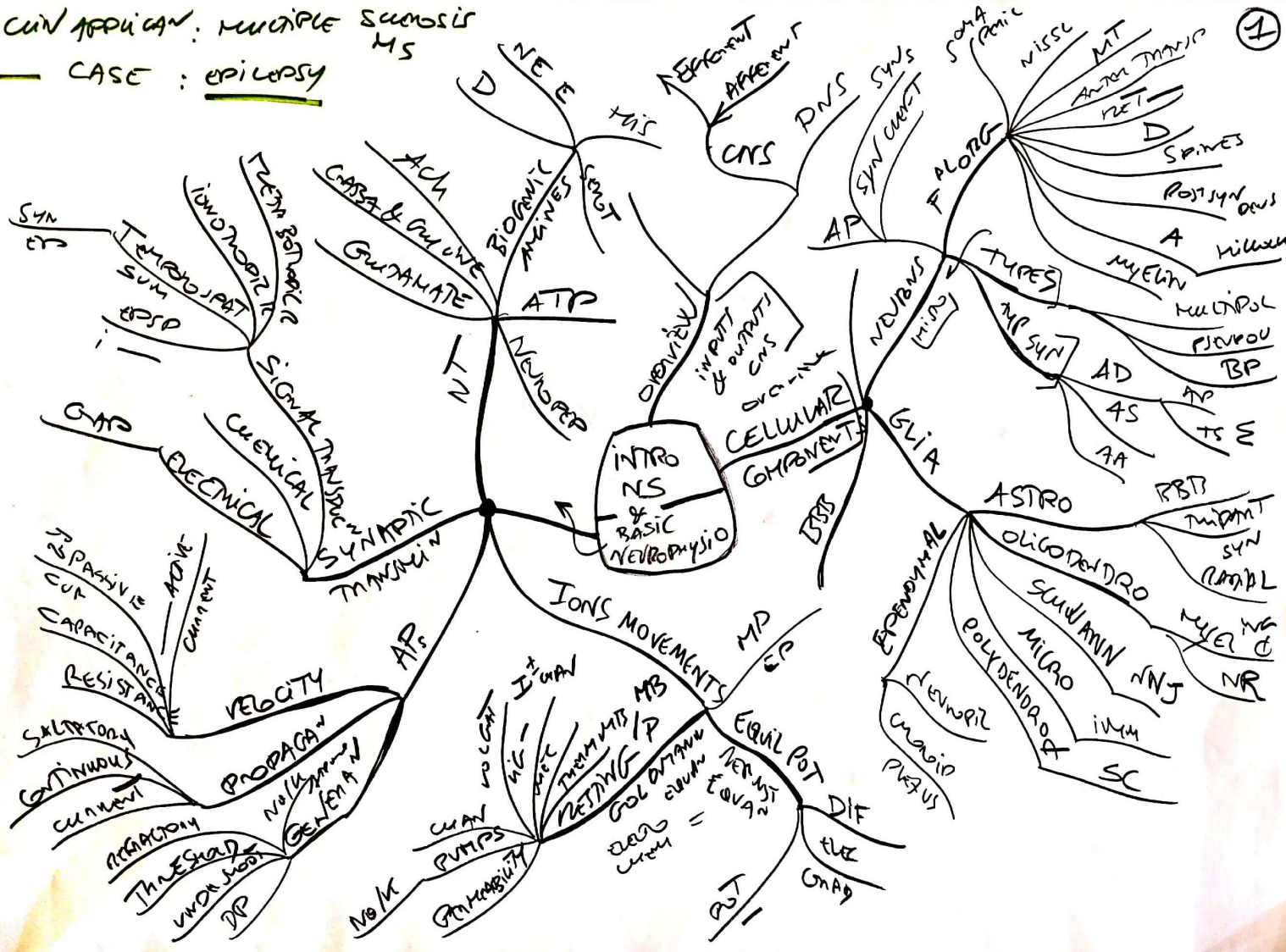
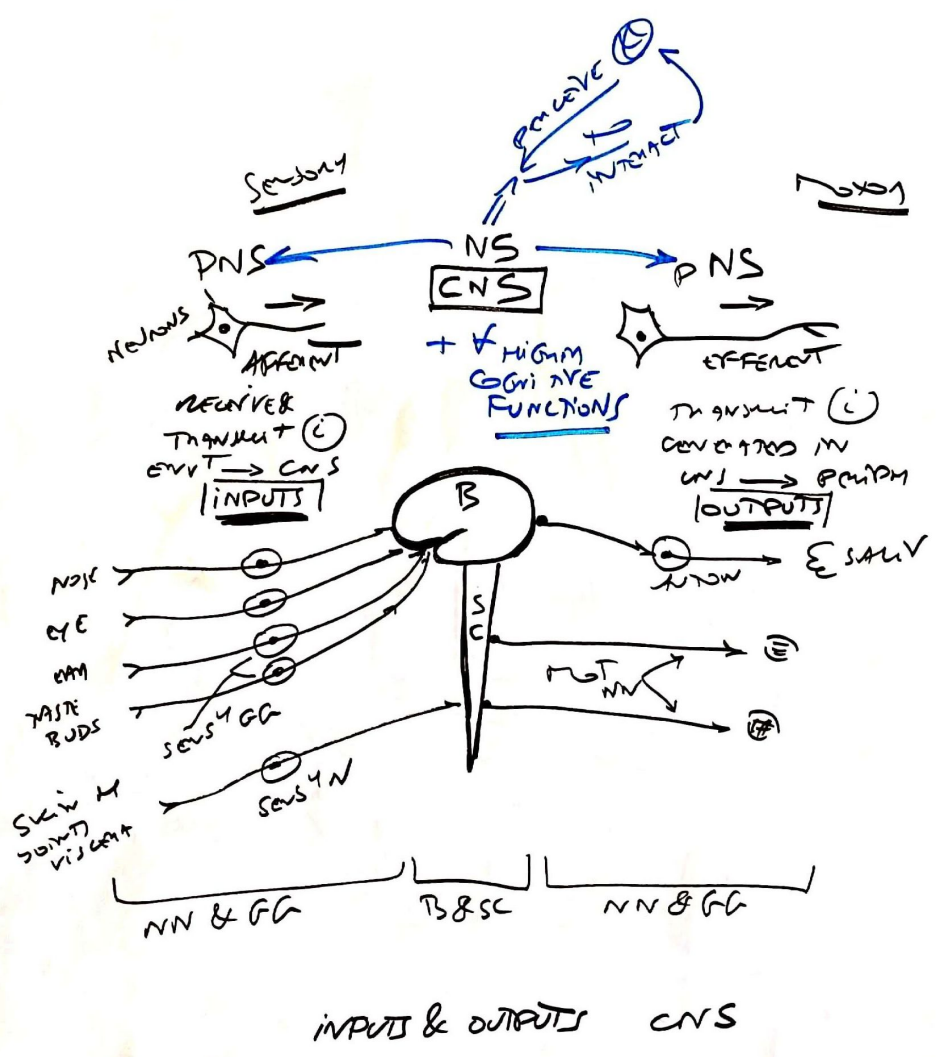
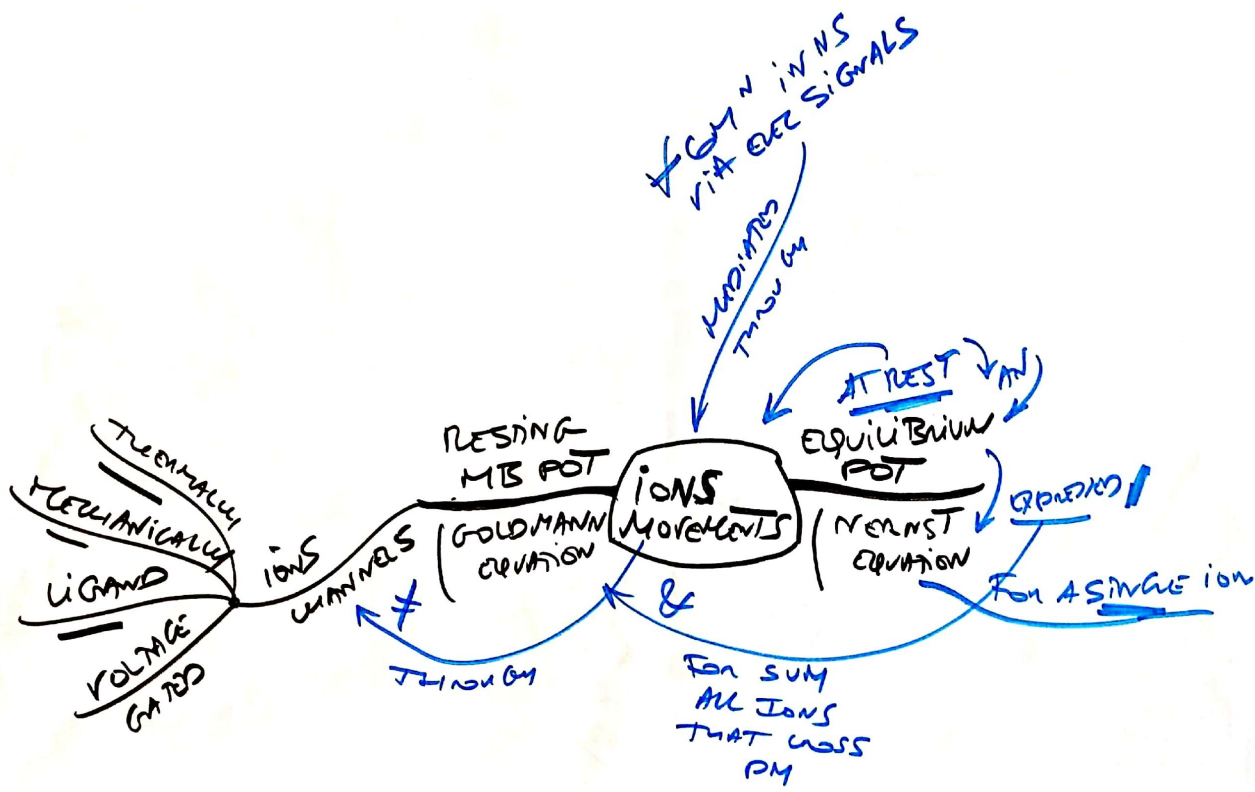
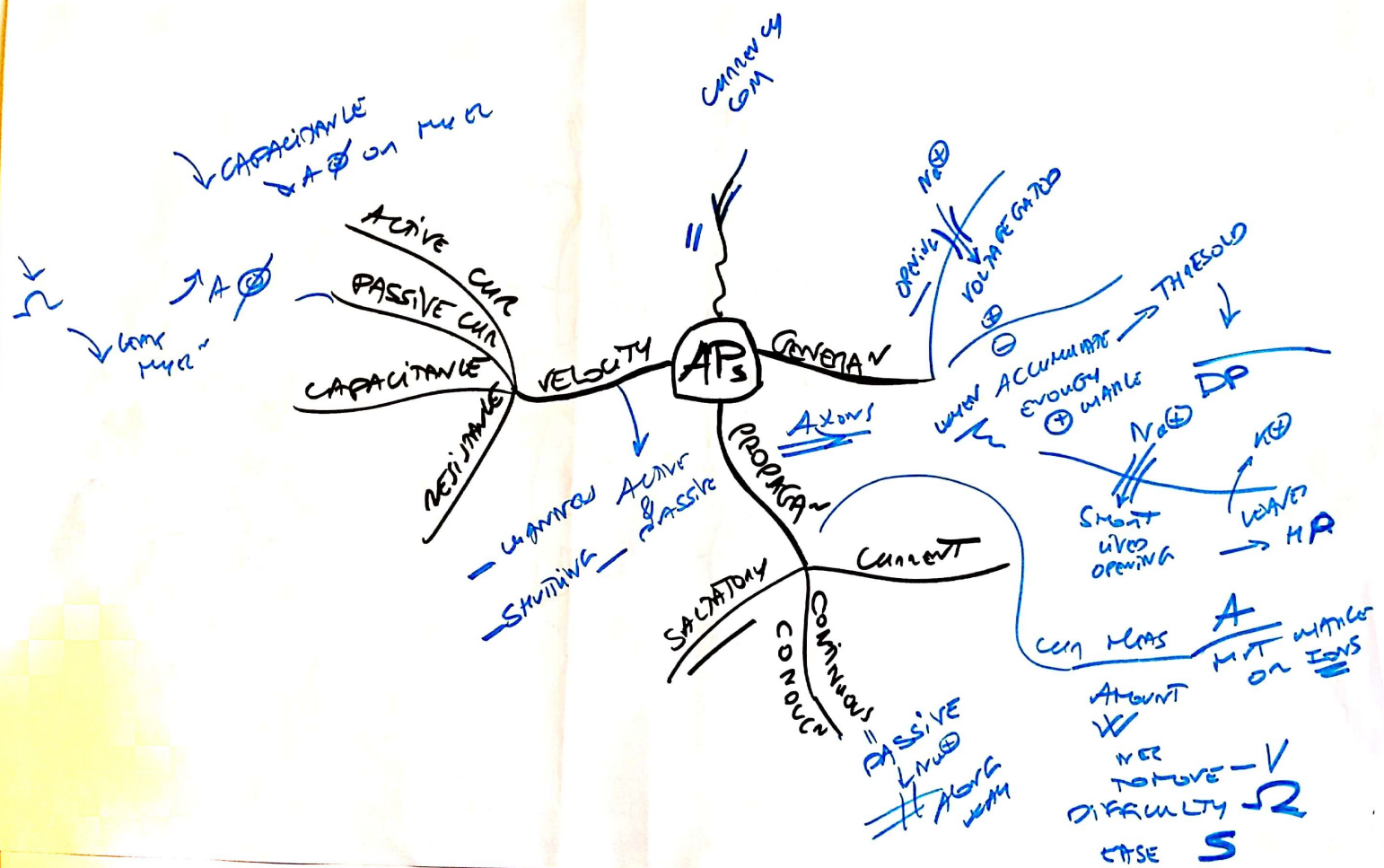


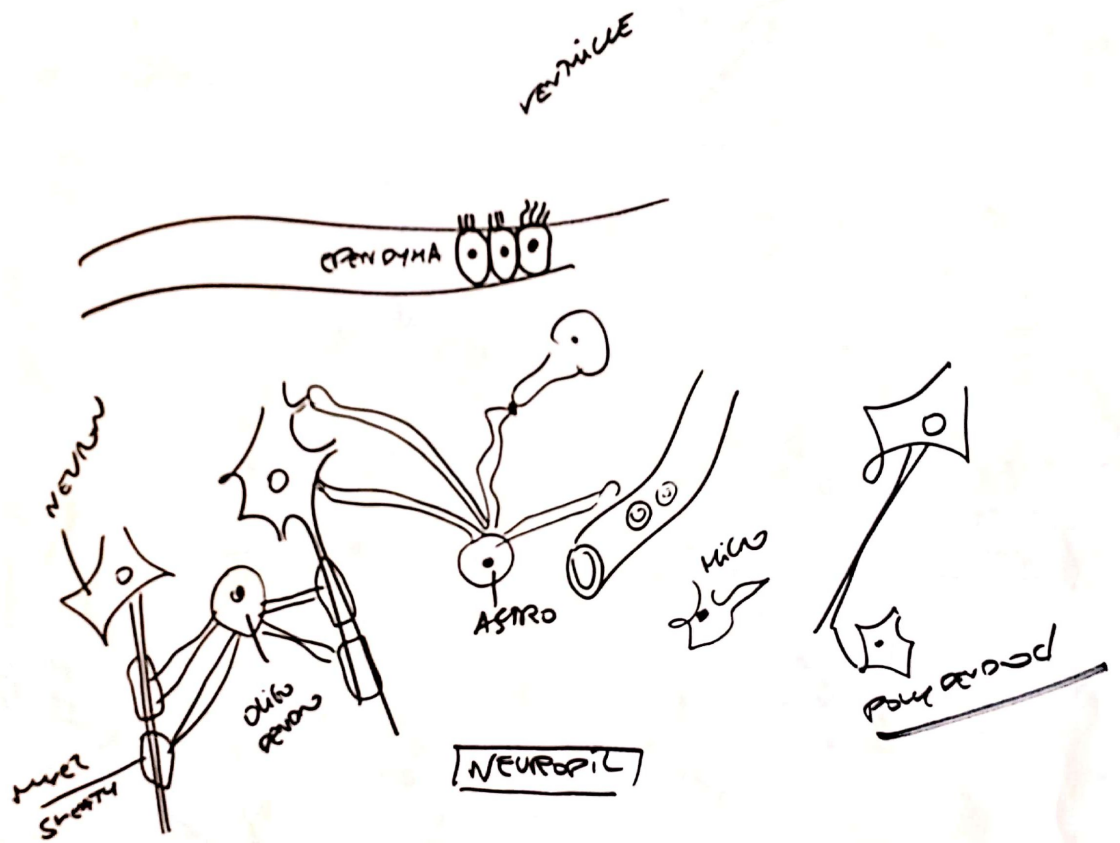
Clin application: Multiple sclerosis
 — CASE: epilepsy



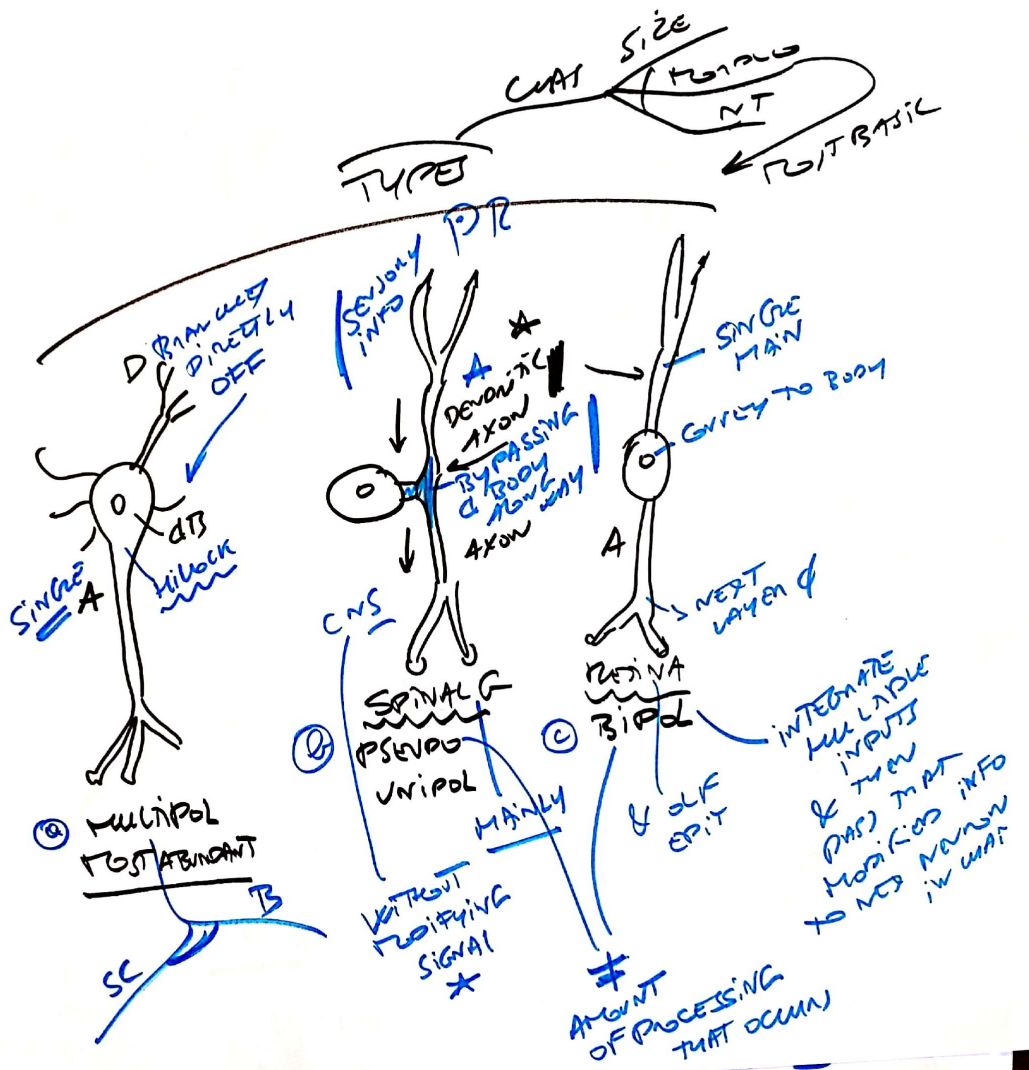


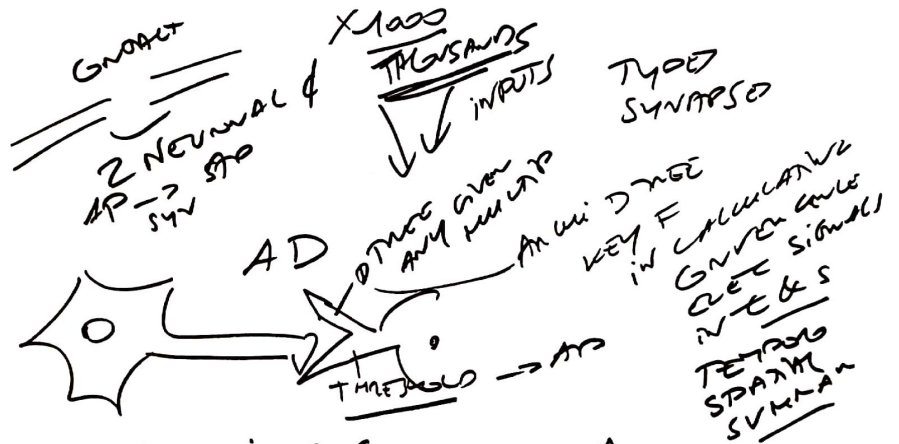






COMPONENTS CNS



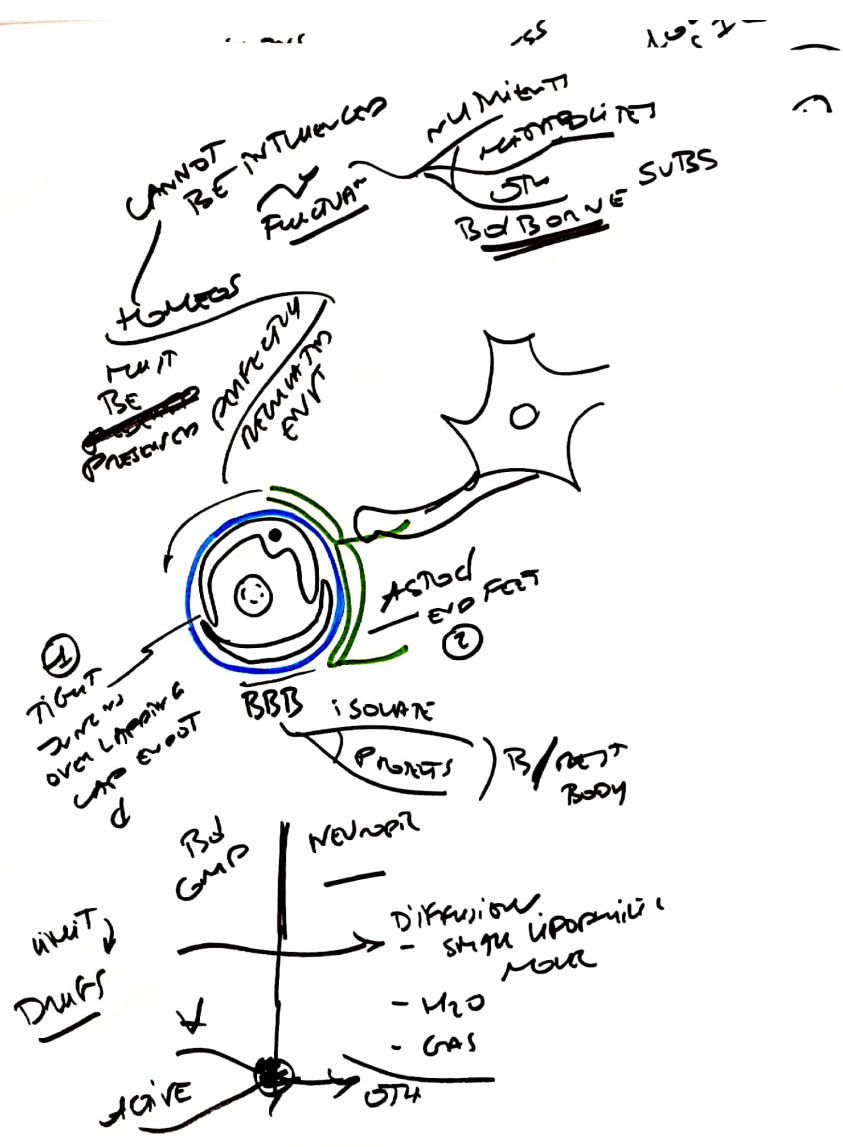


MC IN CNS

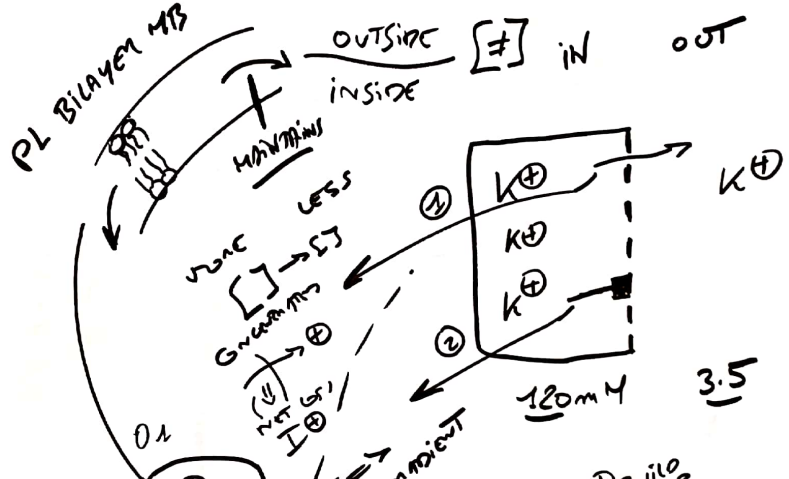
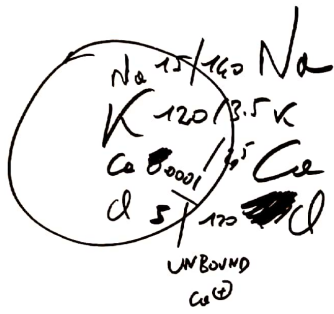
AS
 Powerful signal
 more or nearer
 to hills or
 where a new
 AP may originate
 less CNS

Hilbert &
 Signal
 AP
 on
 output

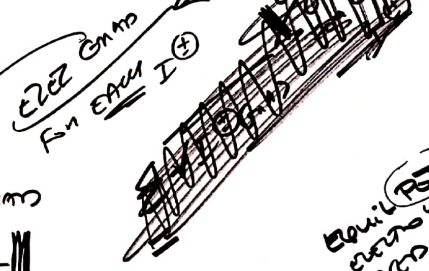
often on or near AA
 hills or →
 very powerful
 POTENTIALS
 → AP or
 ⊖ that would
 otherwise
 have been
 fired



ERZ POT
 MV
 +60
 -35
 +136
 -86

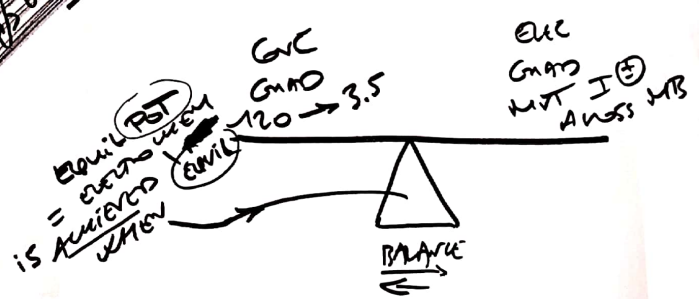


LONG SPE OR HANDED DE ≠ ERZ SIGNALS
 ONLY d
 MVTs & MVT



E F I⁺ GRAD
 = MB POT
 = ERZ POT

MVT ⇒ ERZ GRADIENT
 BECAUSE TURNING CHARGES
 I⁻
 DC
 BUILD UP
 MORE POTENTIAL
 BUILDING



EQUIL POT = ERZ WHEN IS ACHIEVED WHEN

EXPRESSION BY NERNST EQUATION

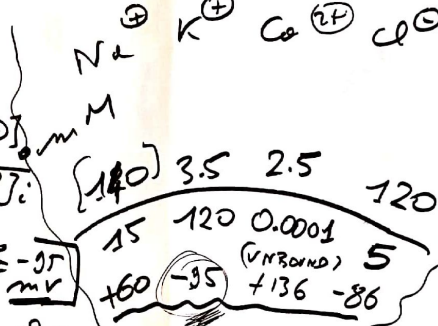
$$E_x = \frac{RT}{zF} \ln \frac{[x]_o}{[x]_i}$$

I = 0 mM

Assumed

37°C → $E_K = 61 \text{ mV} \log \frac{[K^+]_o}{[K^+]_i}$

$= 61 \text{ mV} \log \frac{[120]}{[3.5]}$



DIFFERENTIAL ION CONCENTRATIONS

FUNCTION OF MS

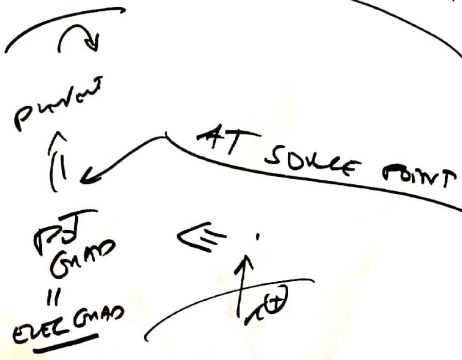
UNTIL REACHES STATIONARY STATE

MOVING ALONG A GRAD

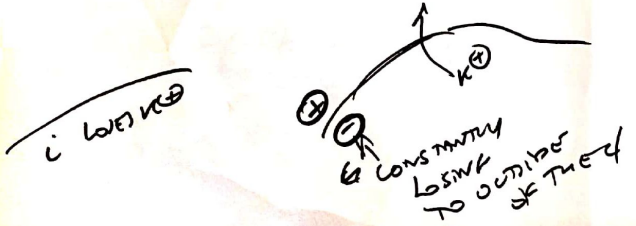
P

[] ≠ [] UNTIL SAME

ELECT GRAD



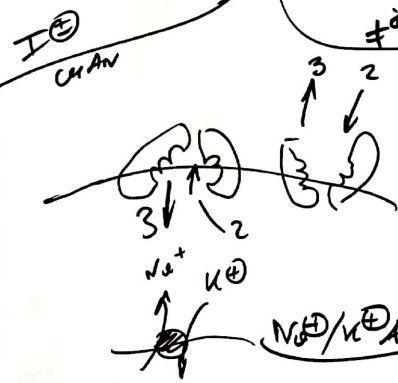
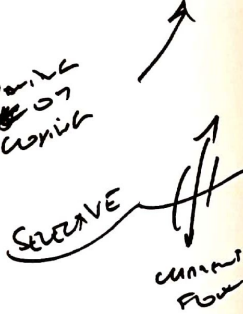
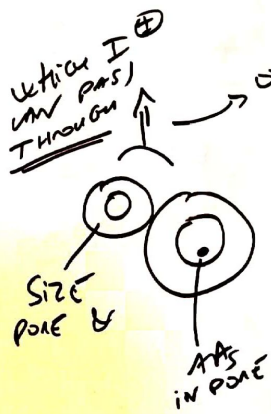
AS I+ MOVE ACROSS [] → [] BUILD UP AN ELECTROSTATIC FORCE THAT OPPOSES I+ MOVING ACROSS MS



Na⁺ K⁺ Ca²⁺ Cl⁻

140	3.5	25	120
15	120	0.0001	5
+60	-95	+136	-86

-70 mV
-90 mV

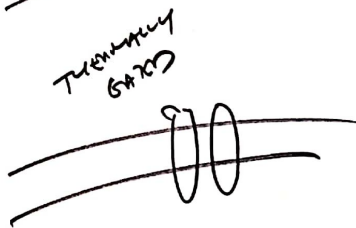
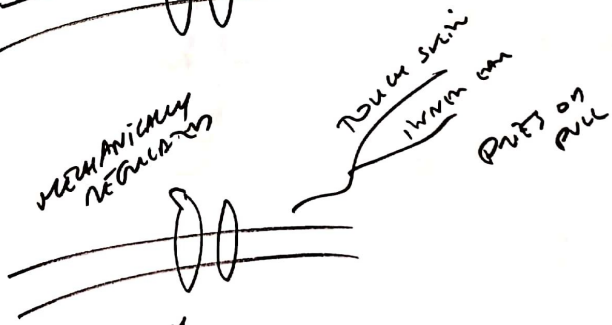
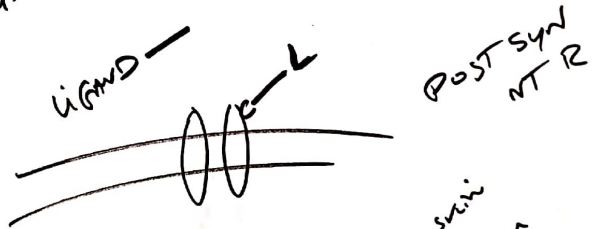
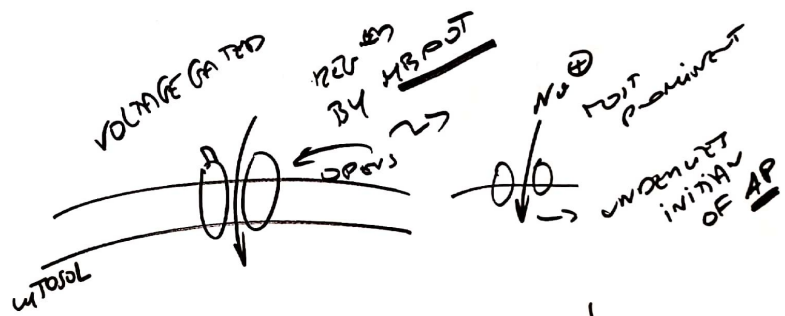


RESTING MB POT
GOLDMANN EQUATION

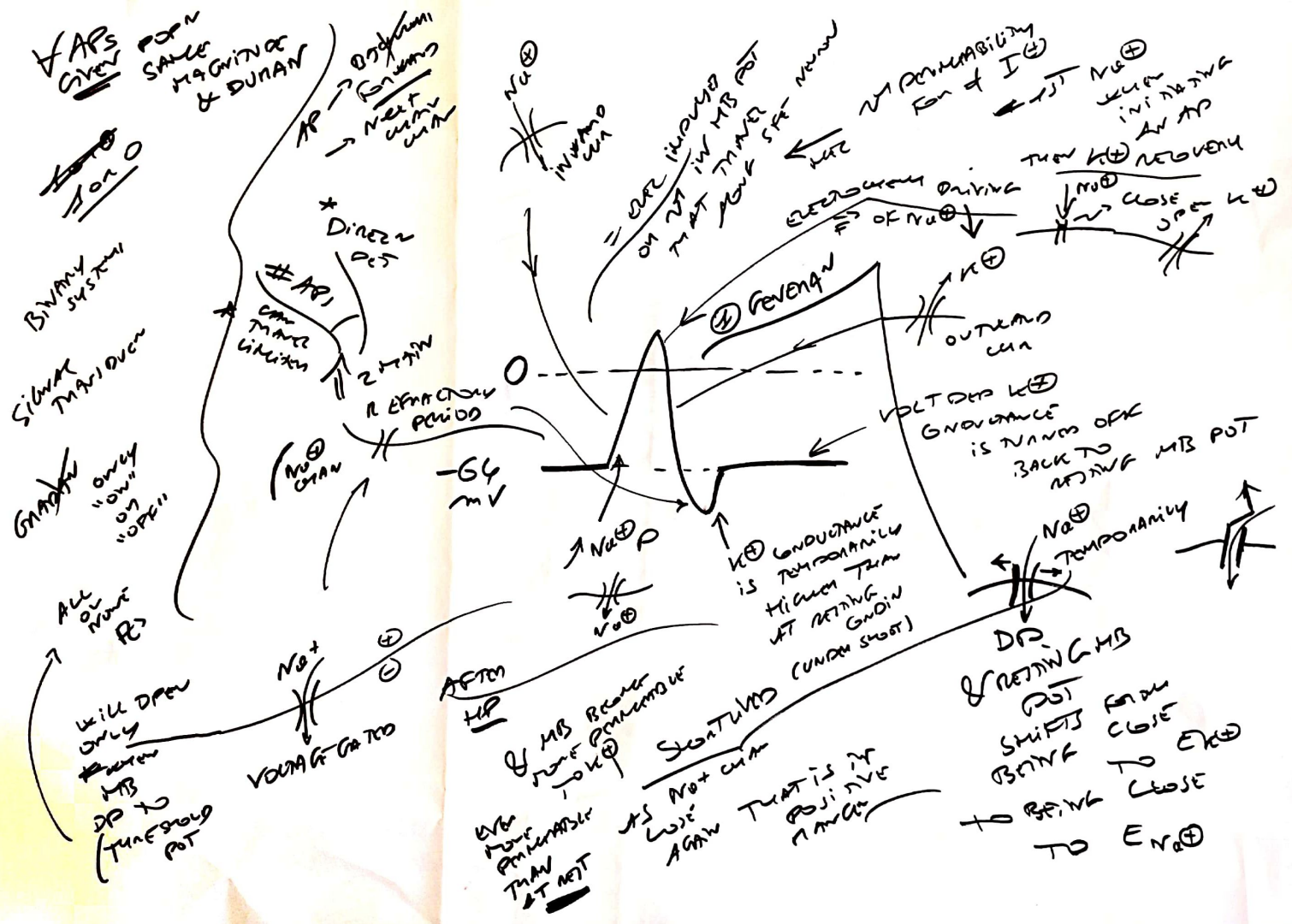
PERMEABILITY
PERMEABILITY
 $\neq \Sigma$

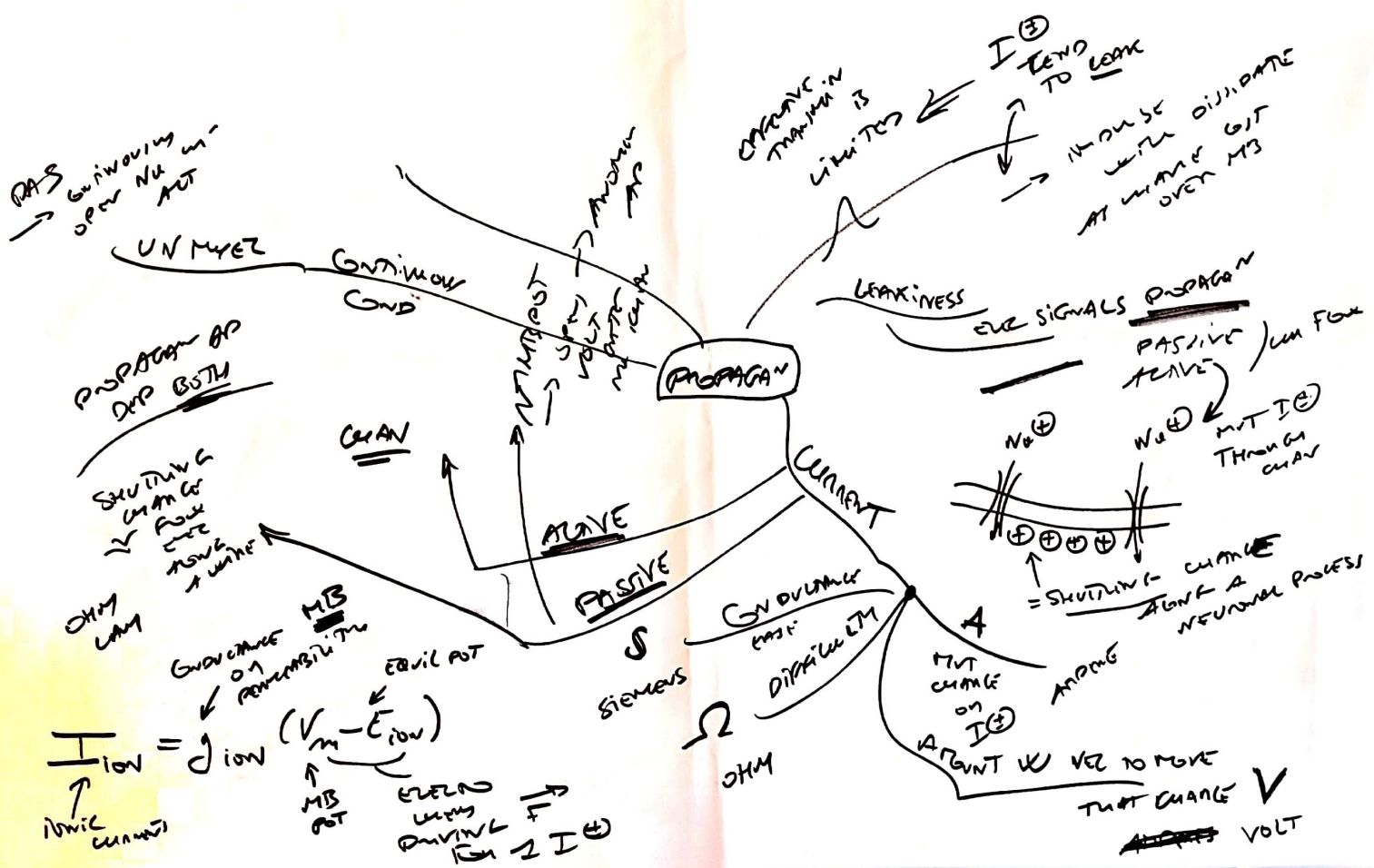
$$V = 61 \log \frac{P_K [K^+]_o + P_{Na} + P_{Cl}}{P_K [K^+]_i}$$

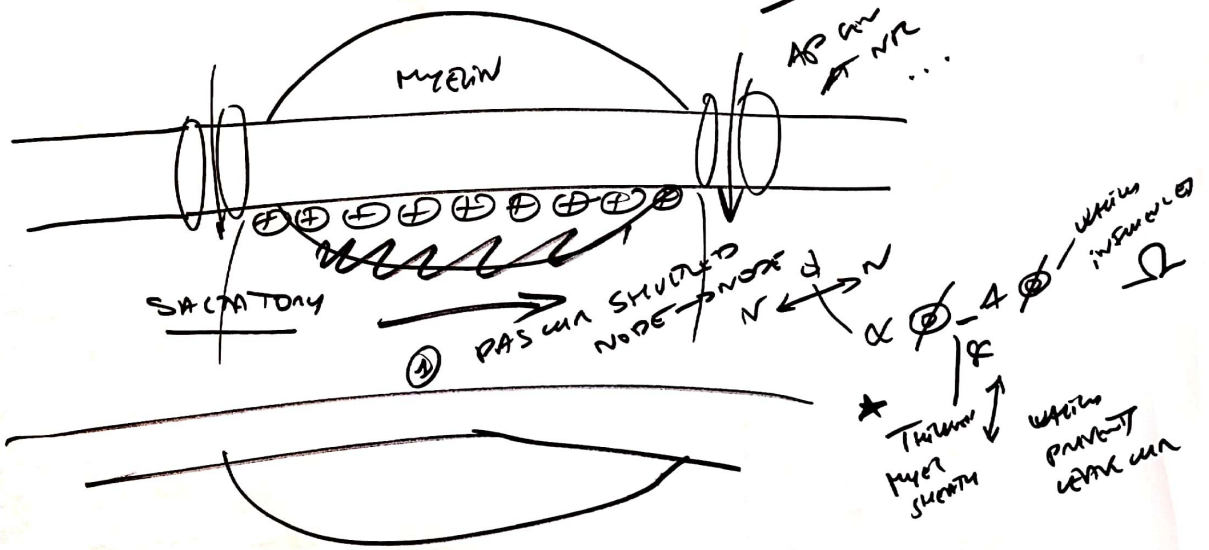
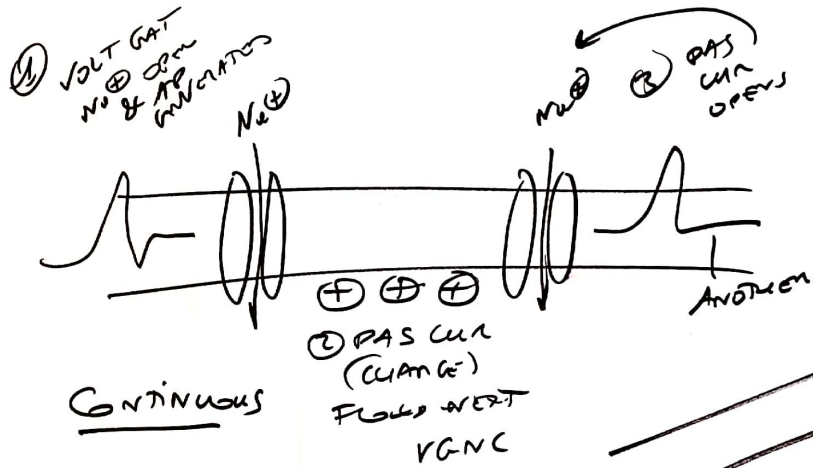
ME MAINTAINED BY MB P AT A) I⁺ PUMP

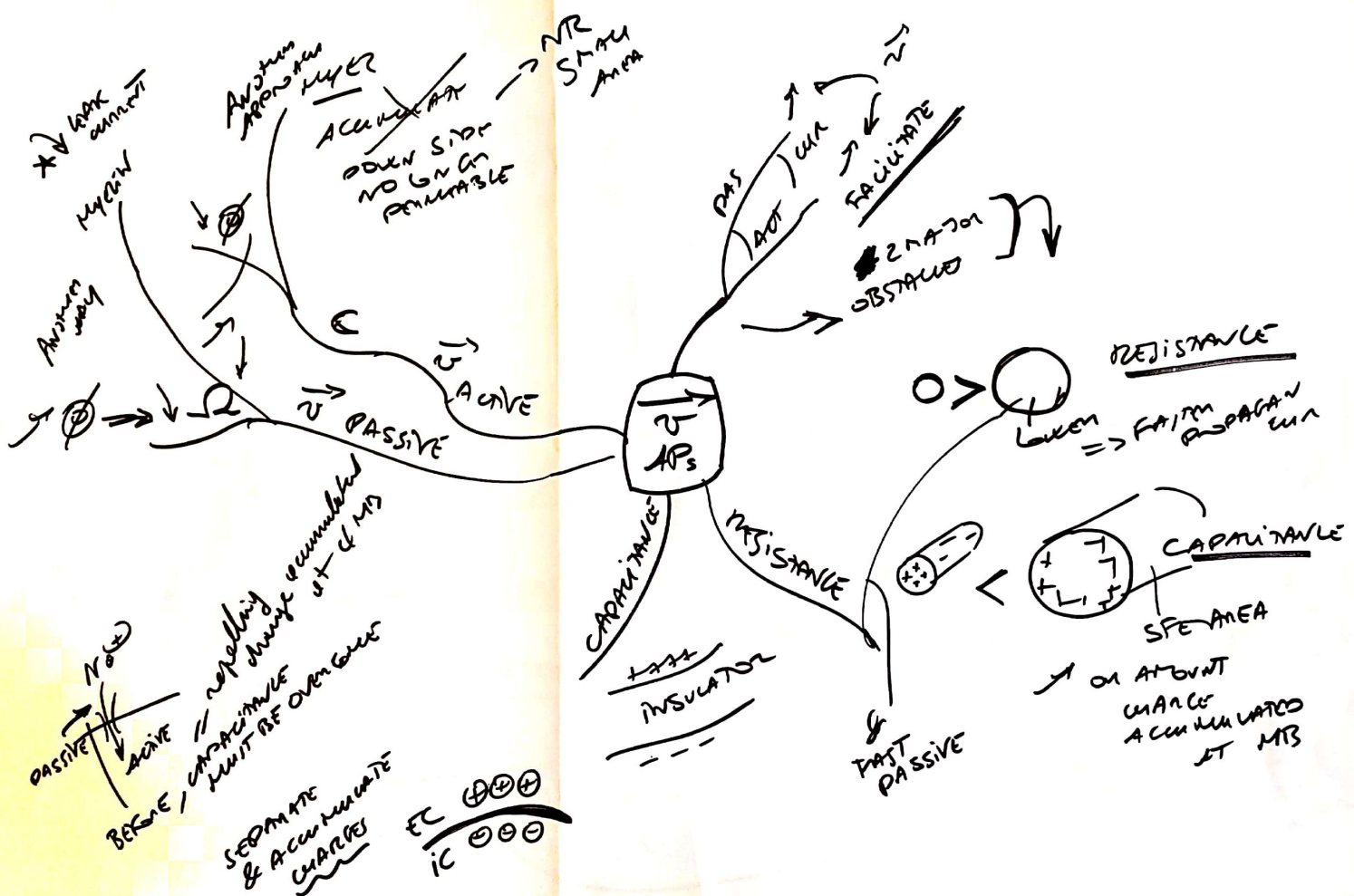


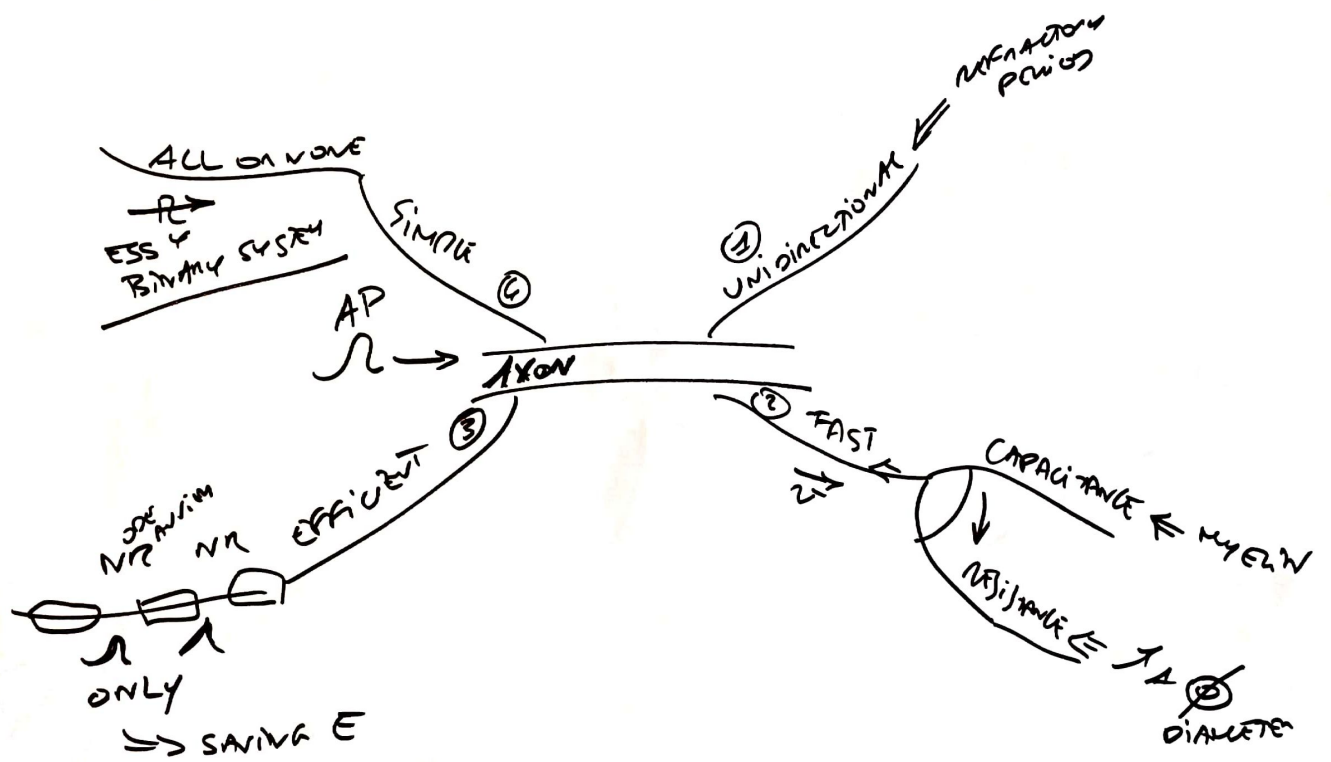
I⁺ CHANNEL



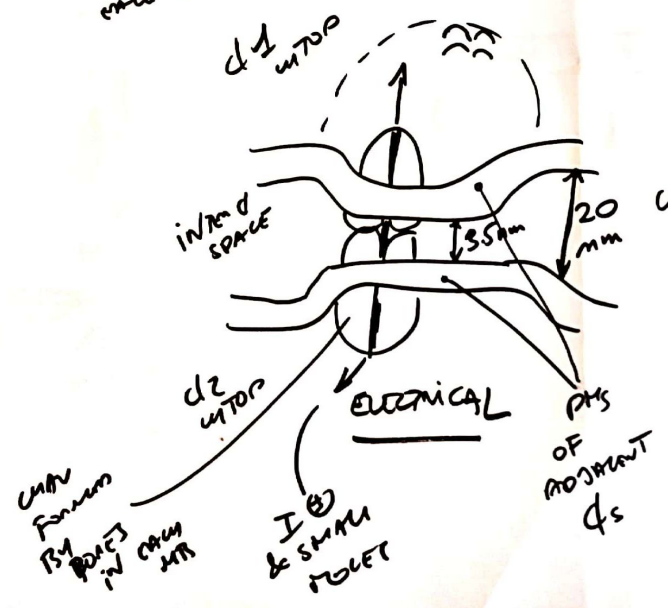




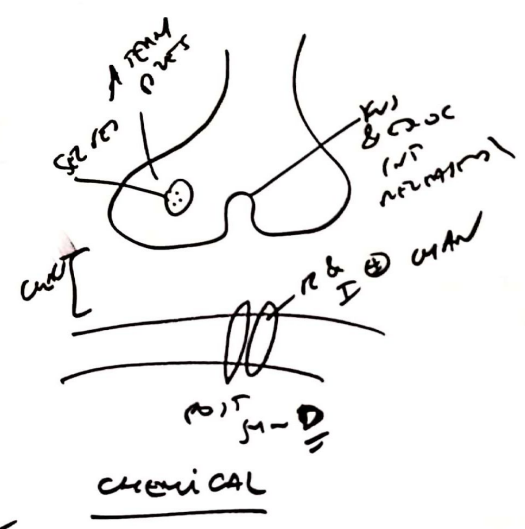




HORN
 SENSITIVE
 REGION OF HT
 BREATHING
 CENTER
 ANNA'S
 NERVE
 NEED
 TO BE
 SYNCHRONIZED
 WITH
 THE STI
 COUPLED
 BY GAP
 JUNCTION



WITH PRE & POST SYN NEURONS





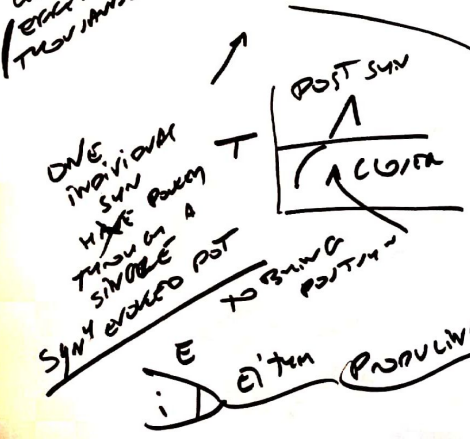
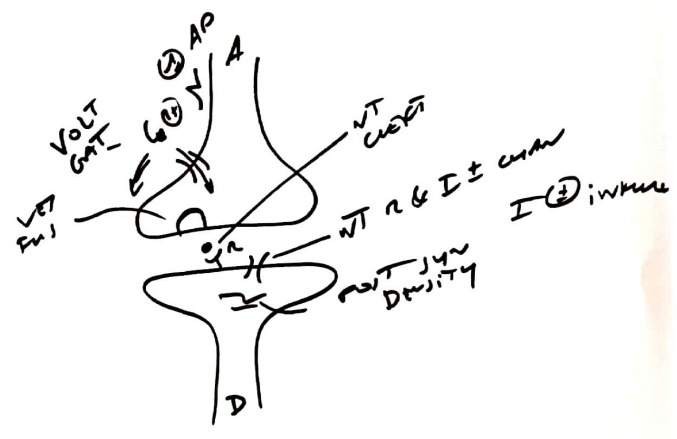
COEFF & SLOPE
E FRANK
TEMPORAL SPATIAL SUM

SYNAPSE CROSS
POST
ON ADVANTAGE
IN MAGNITUDE



NT [CEPT
=> I_{Cl} ⊕
=> I_{DE}
FROM
IN POST SYN

SYNAPTIC SIGNAL TRANSDUCION



TEMPORAL
SPATIAL
SUMMATION

NEEDING
DEPOT
IN POST SYN d

