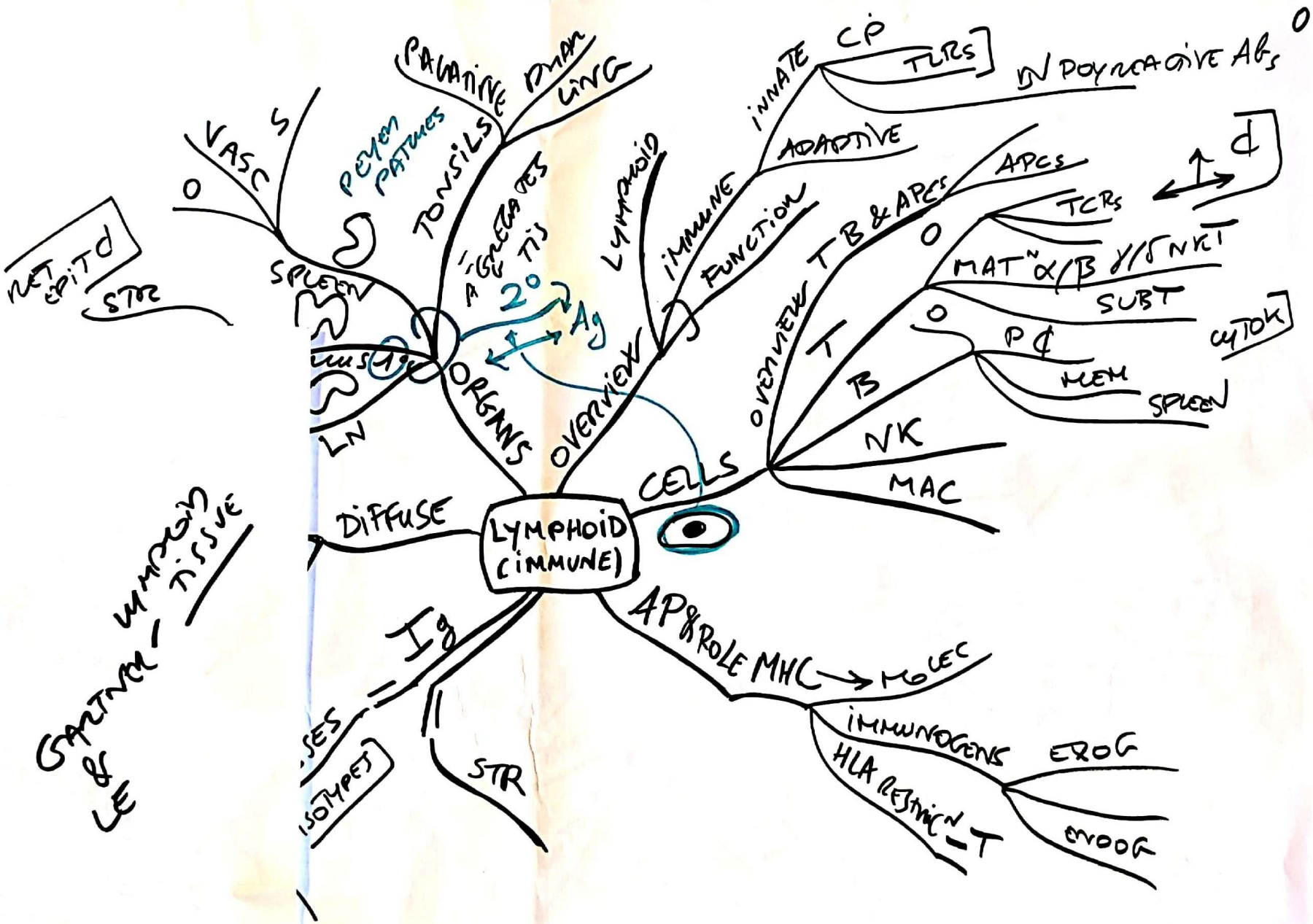

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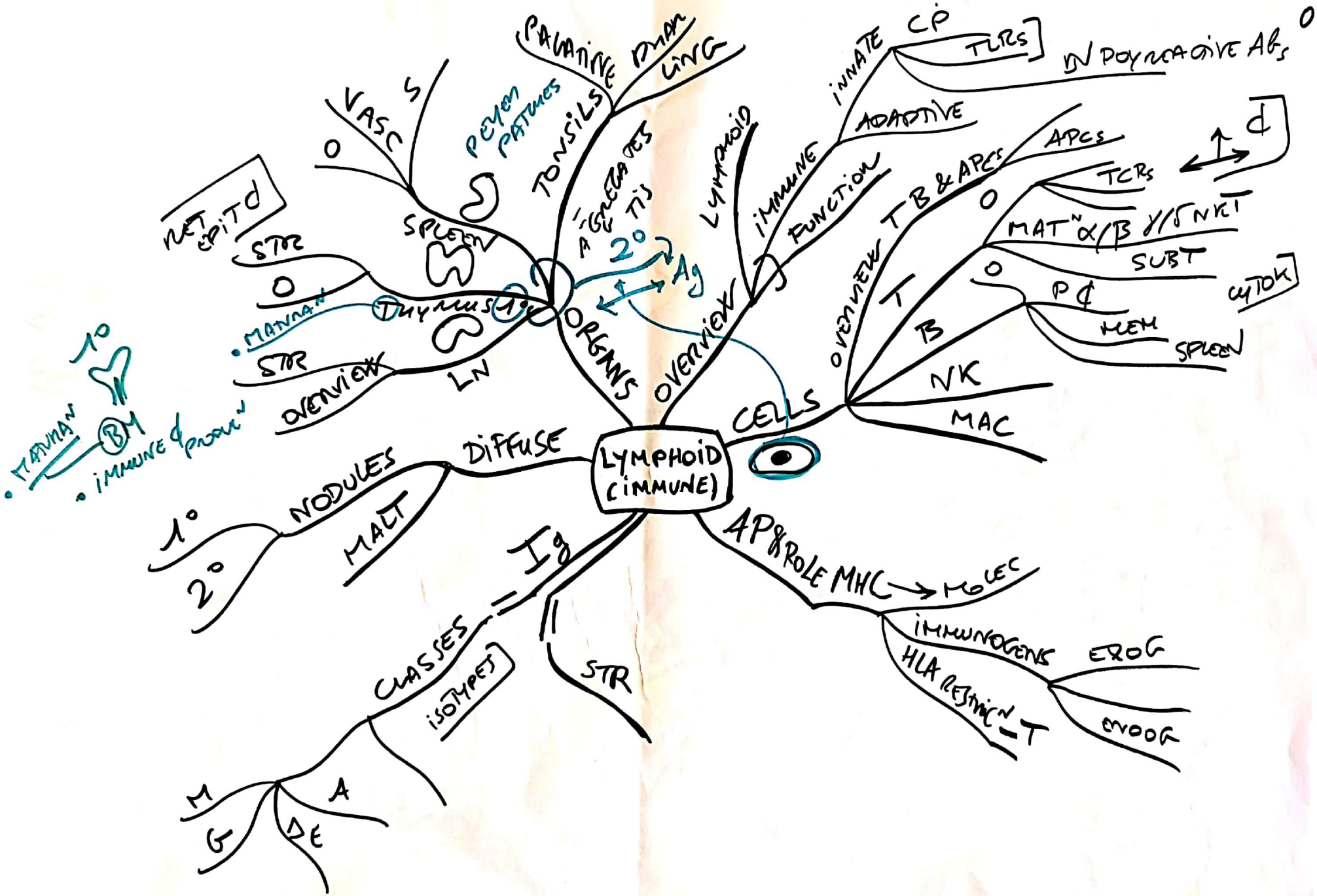

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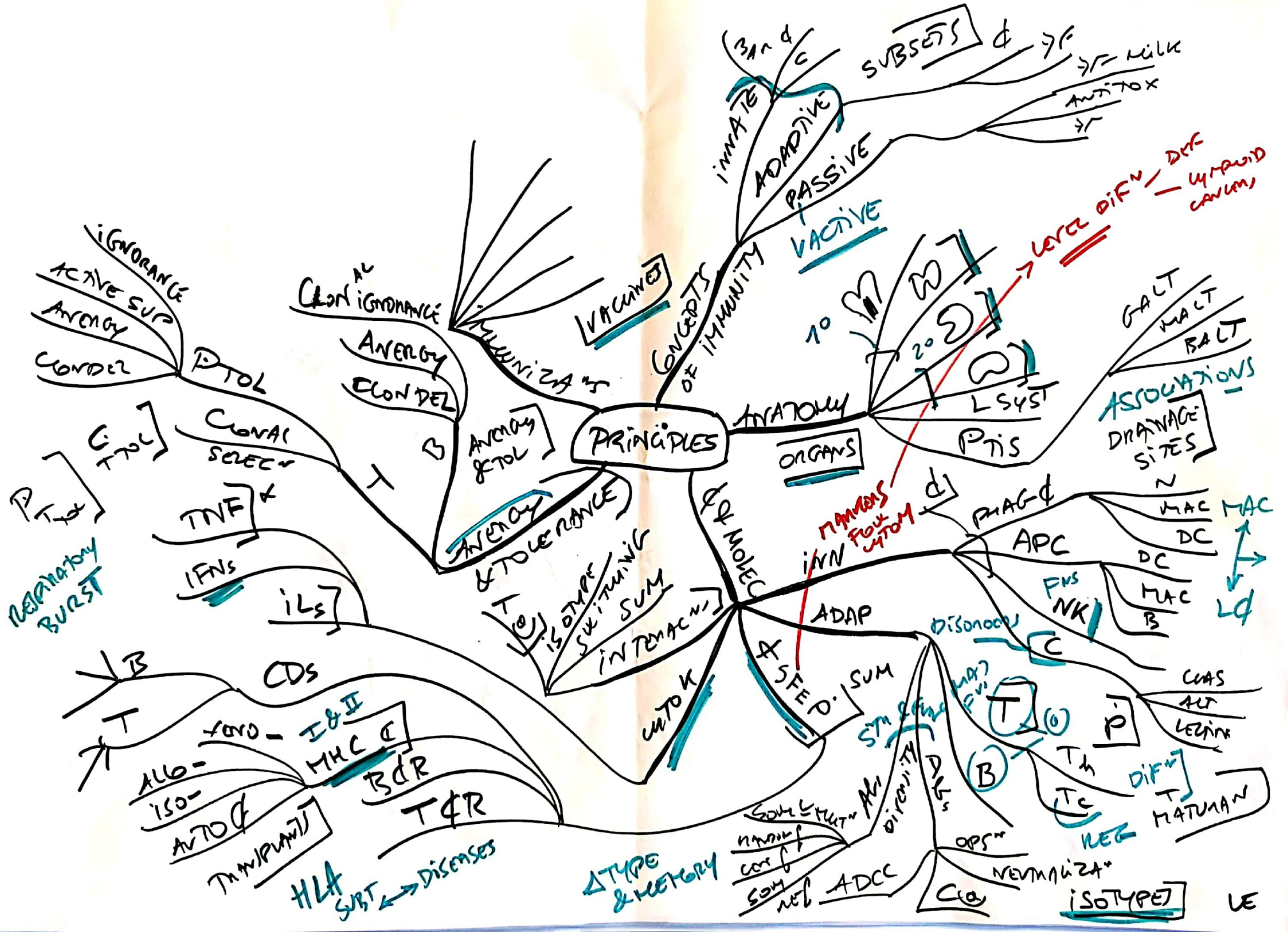

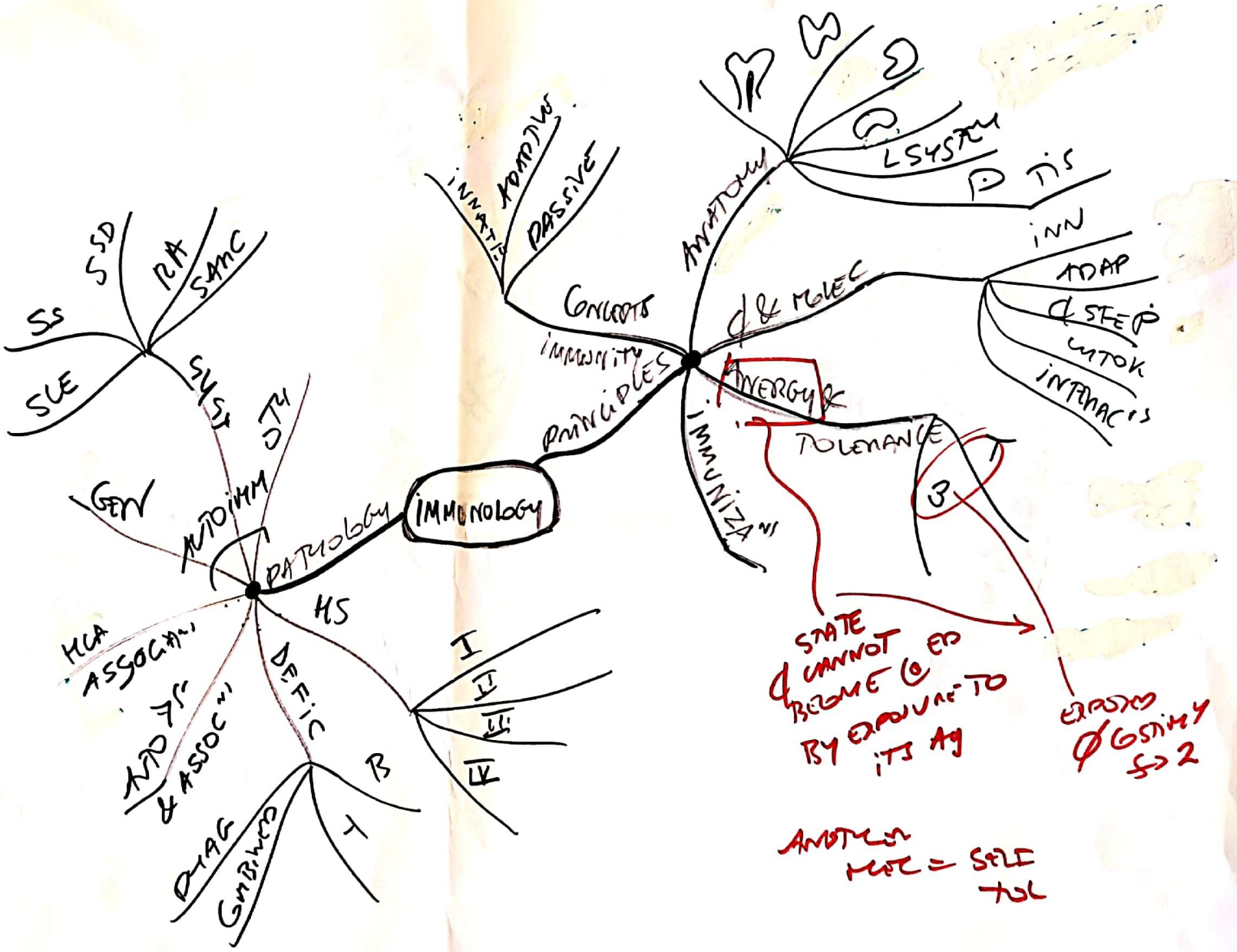

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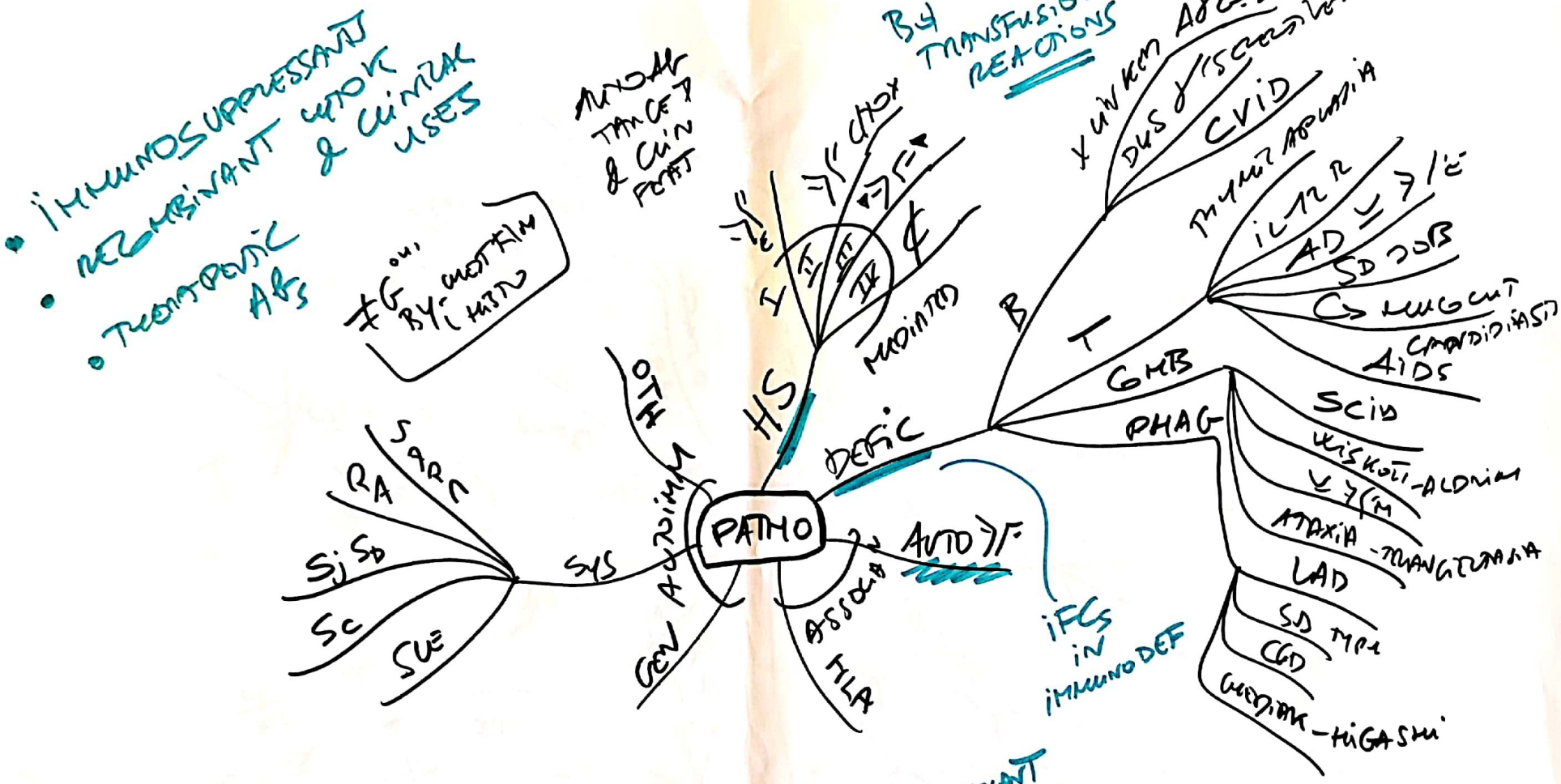

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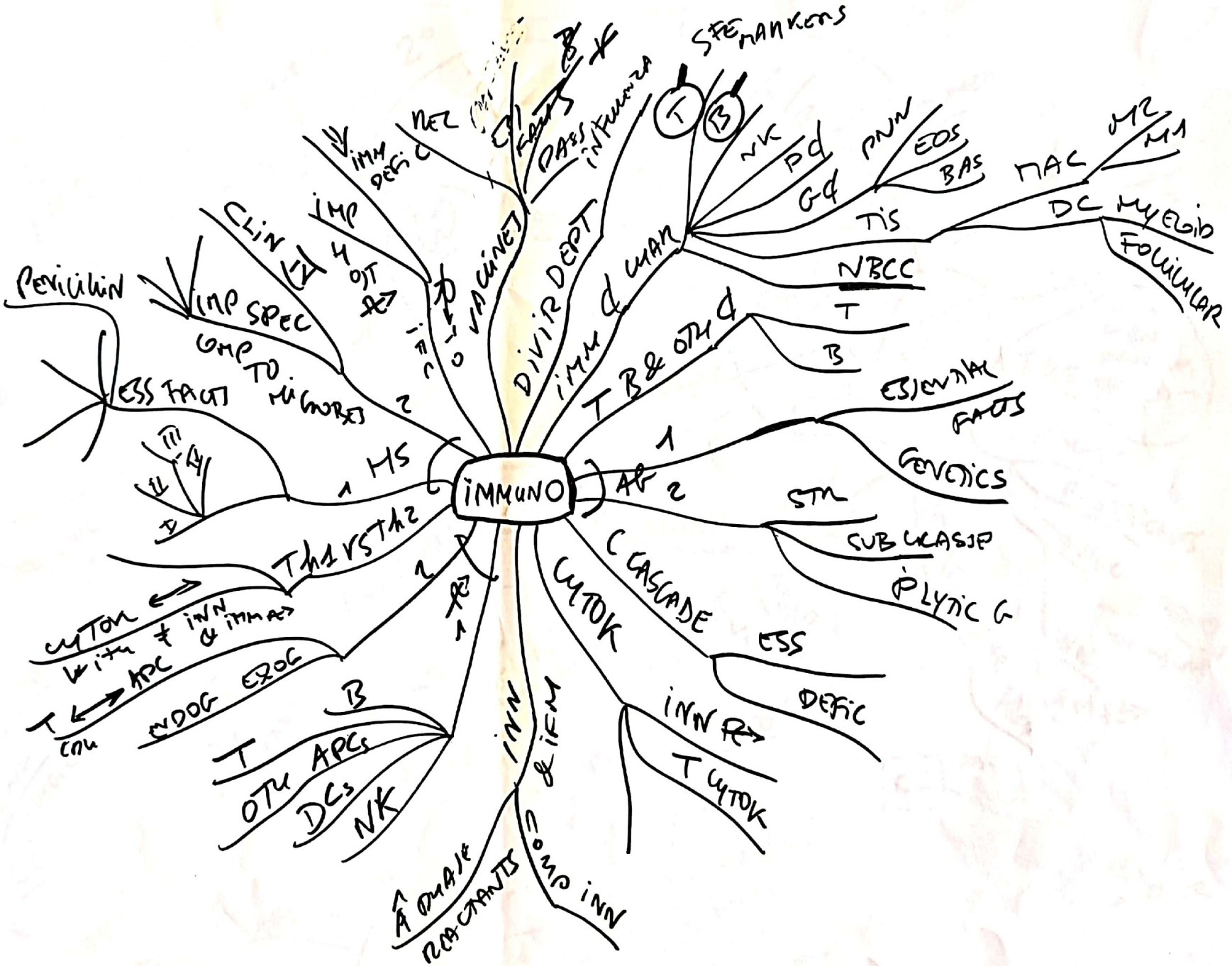

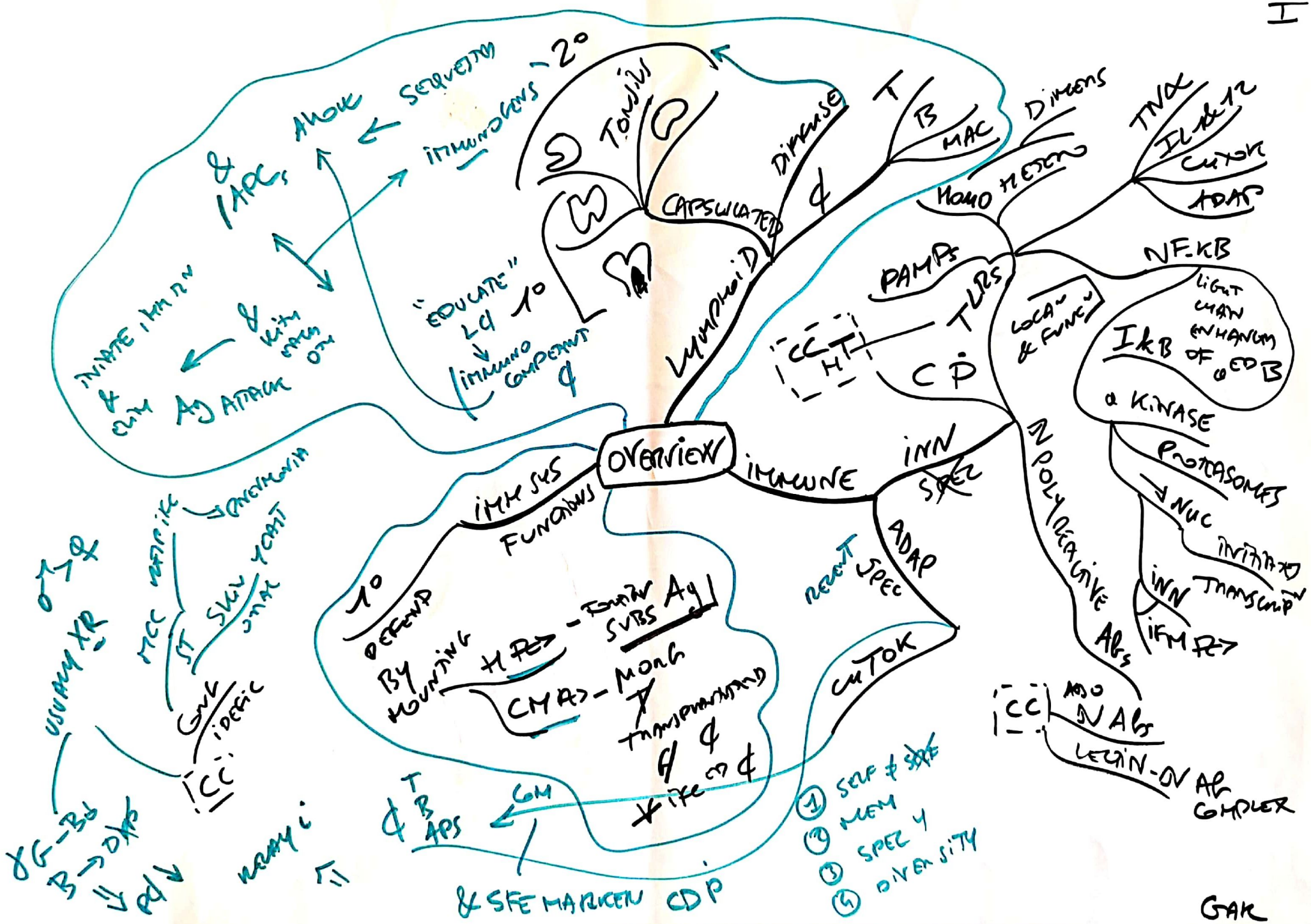

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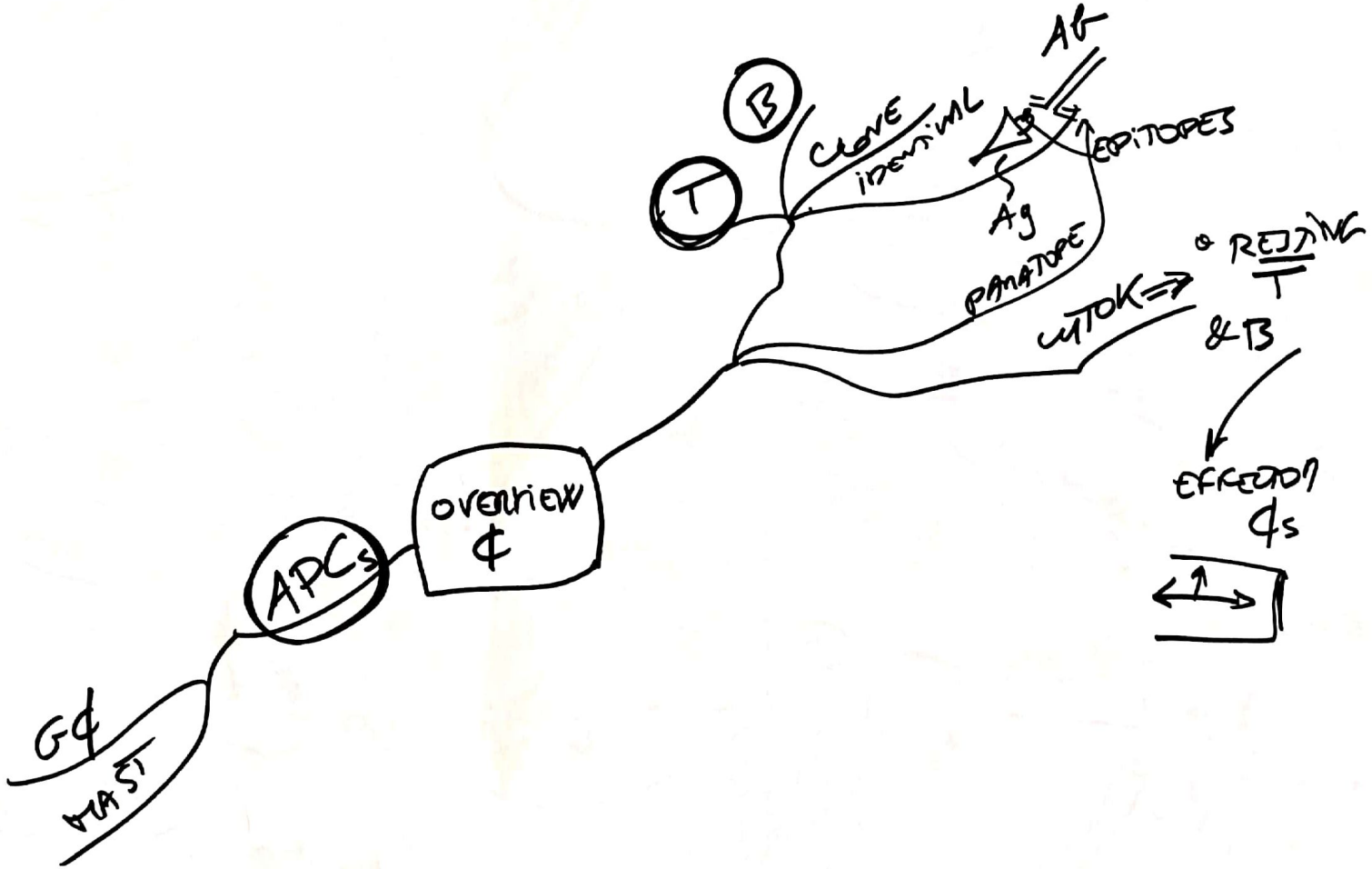

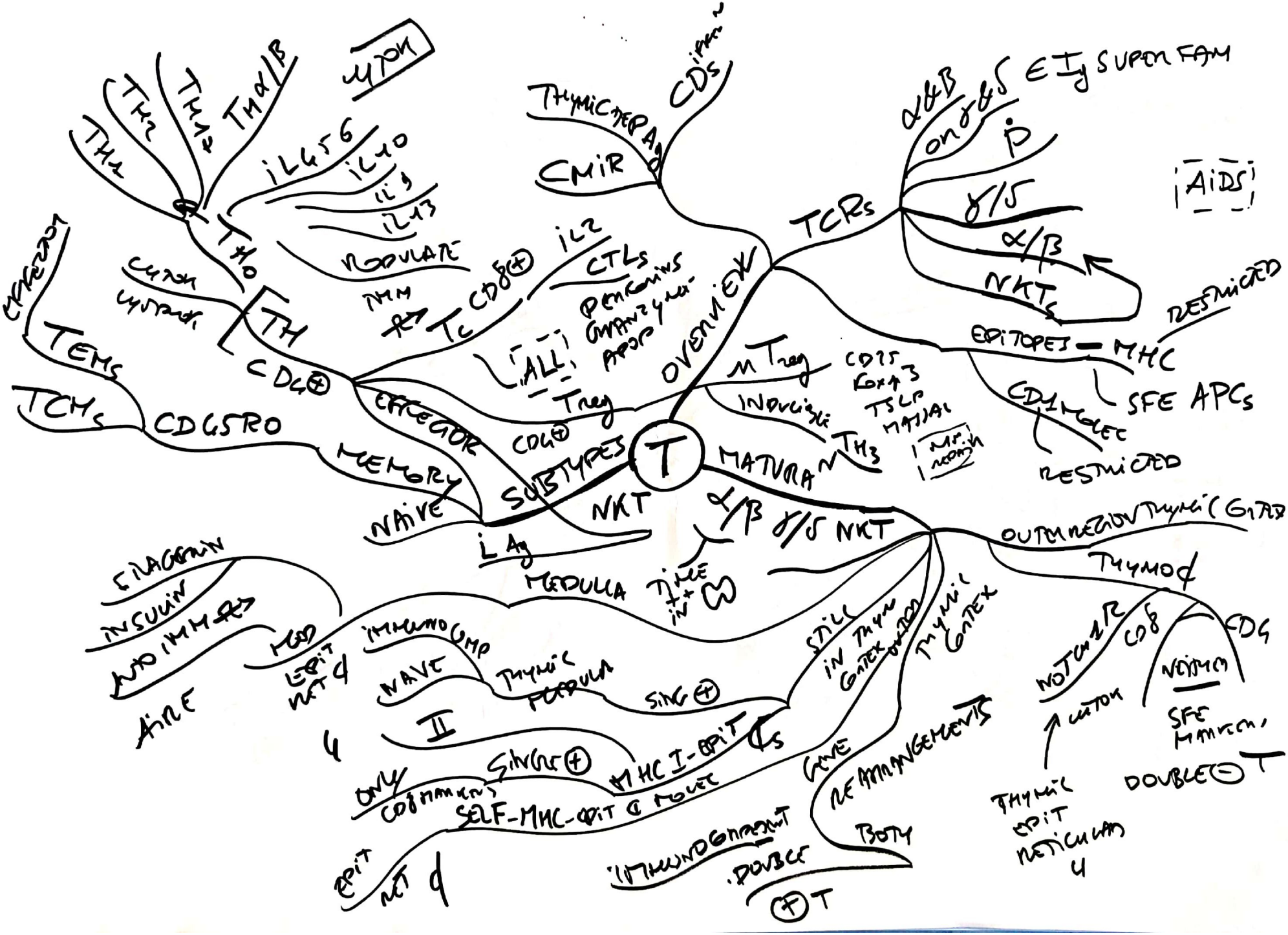
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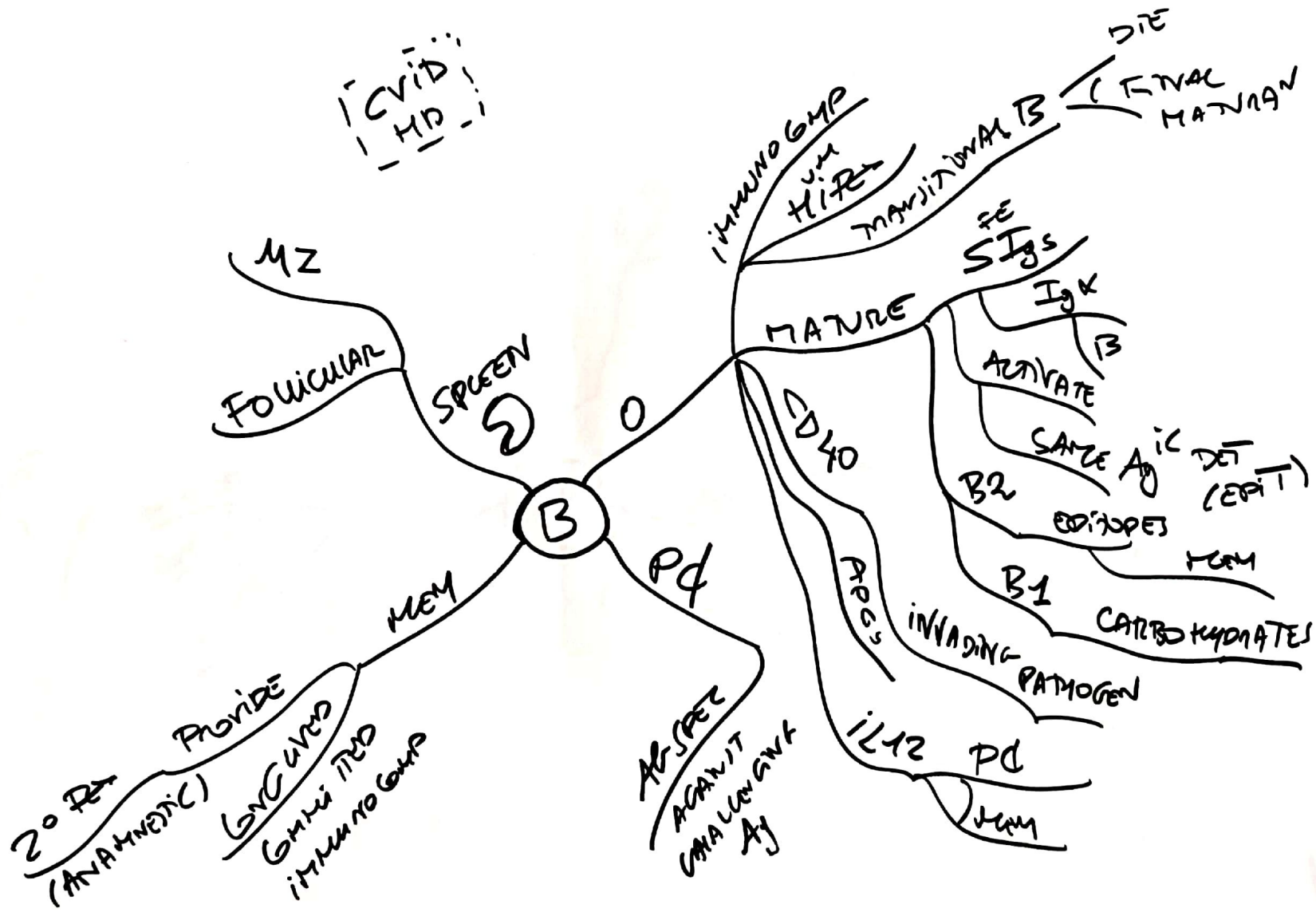

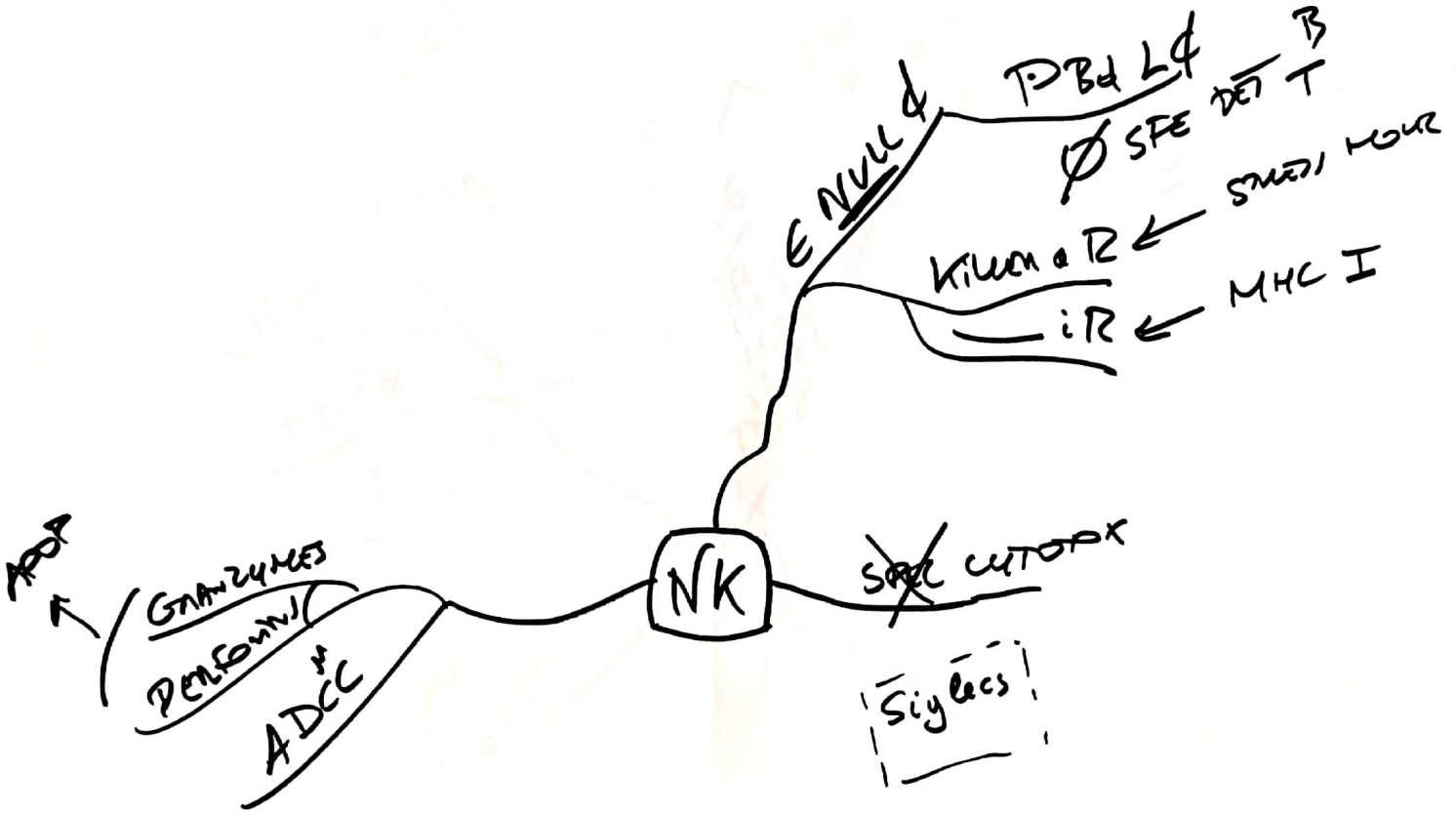

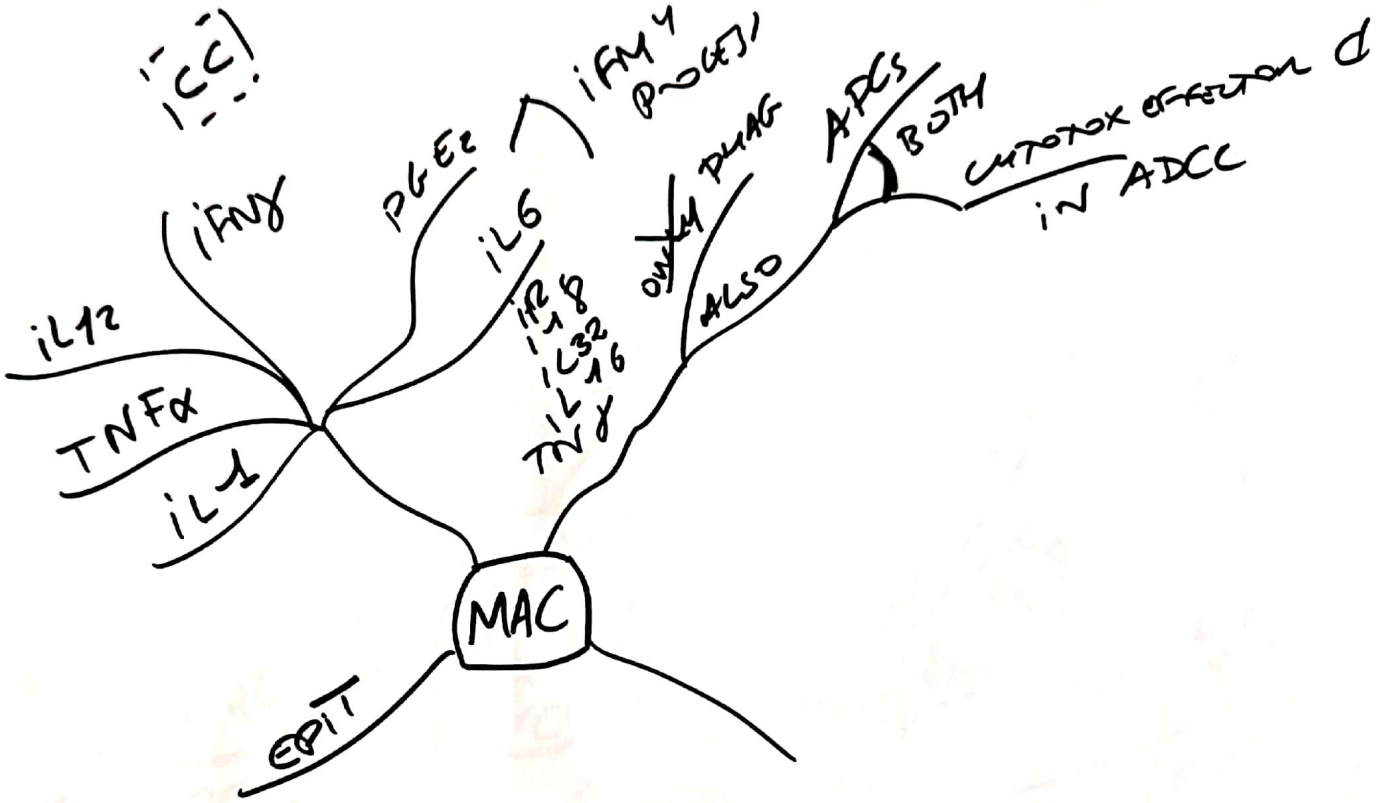

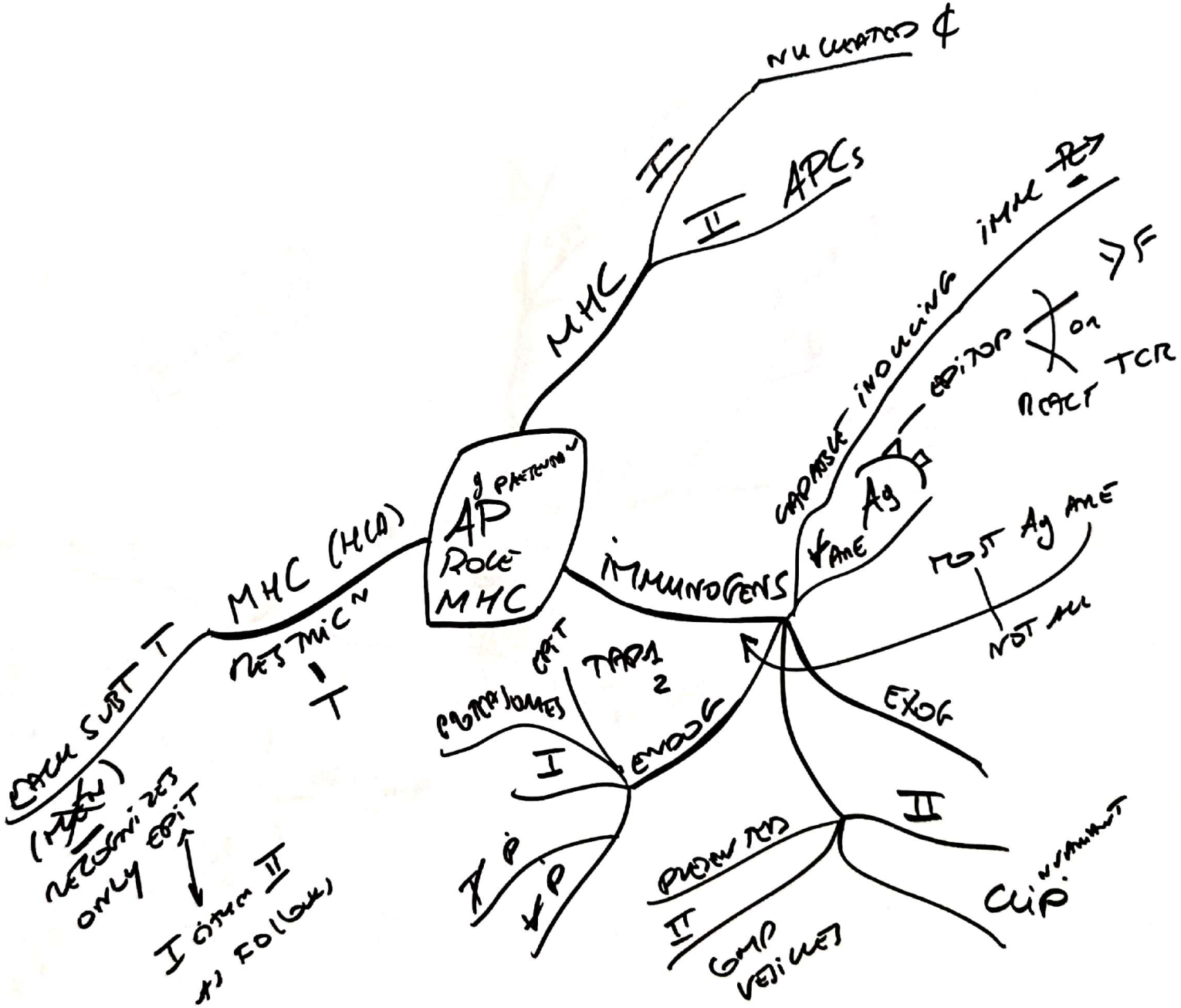

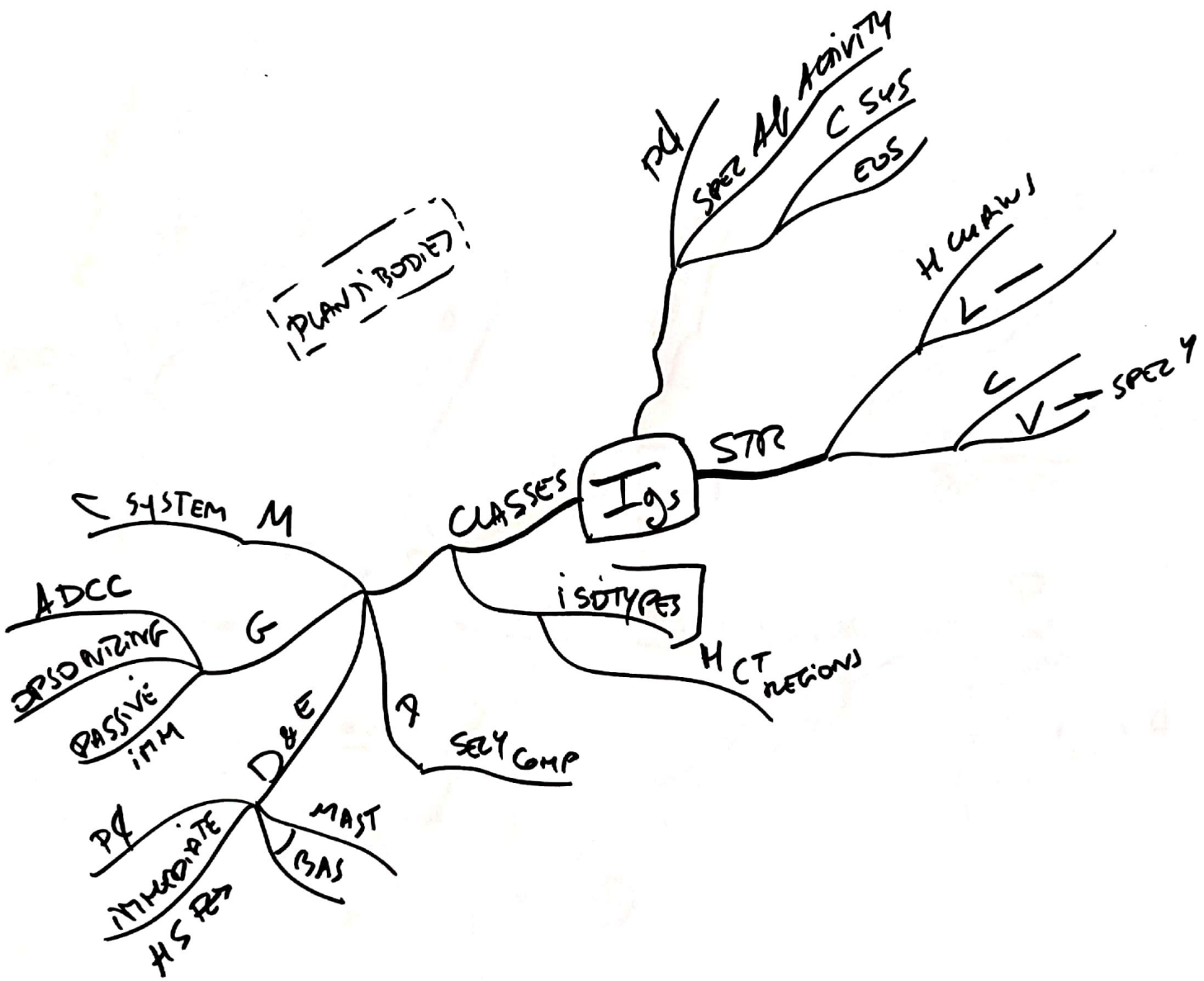

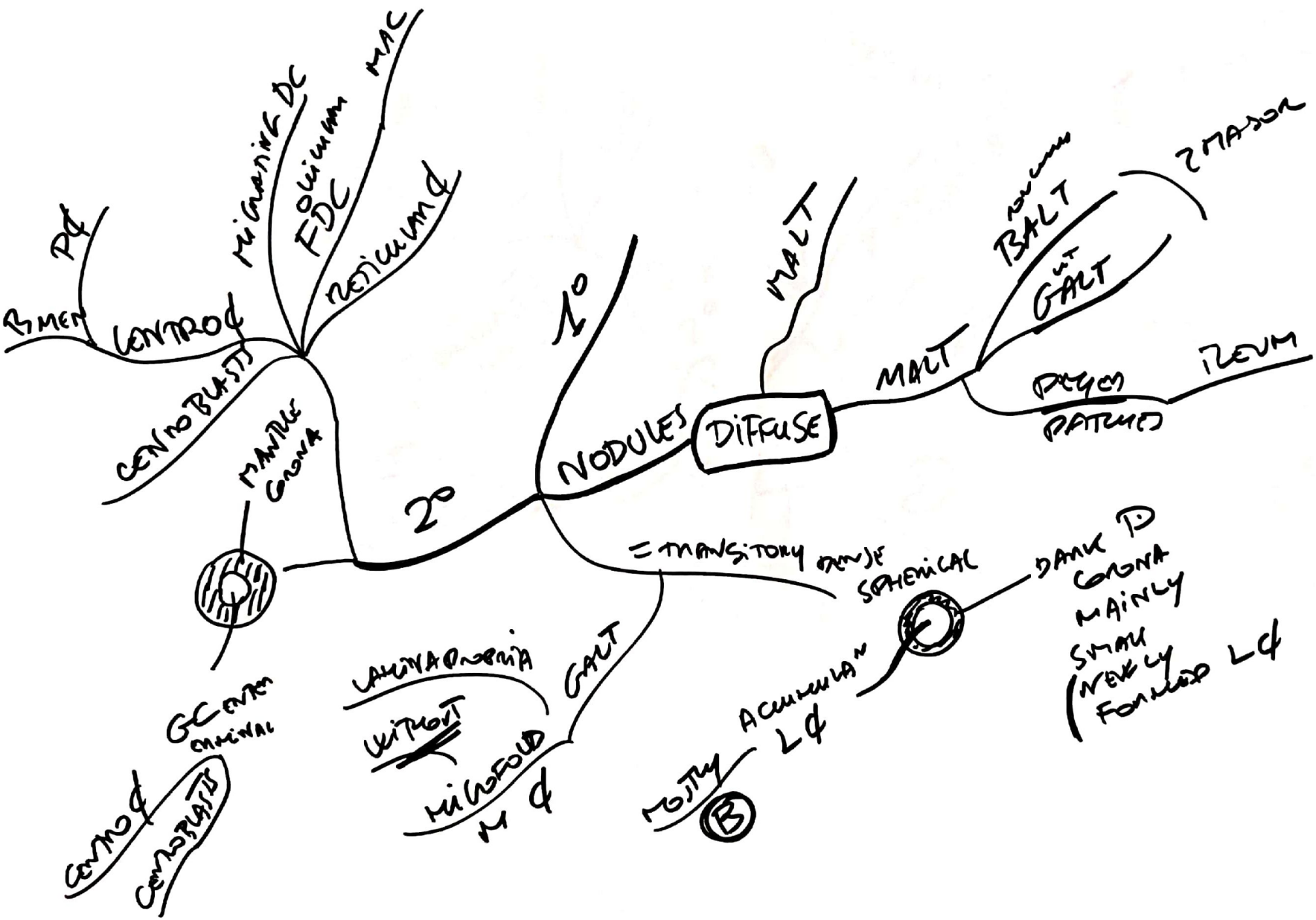

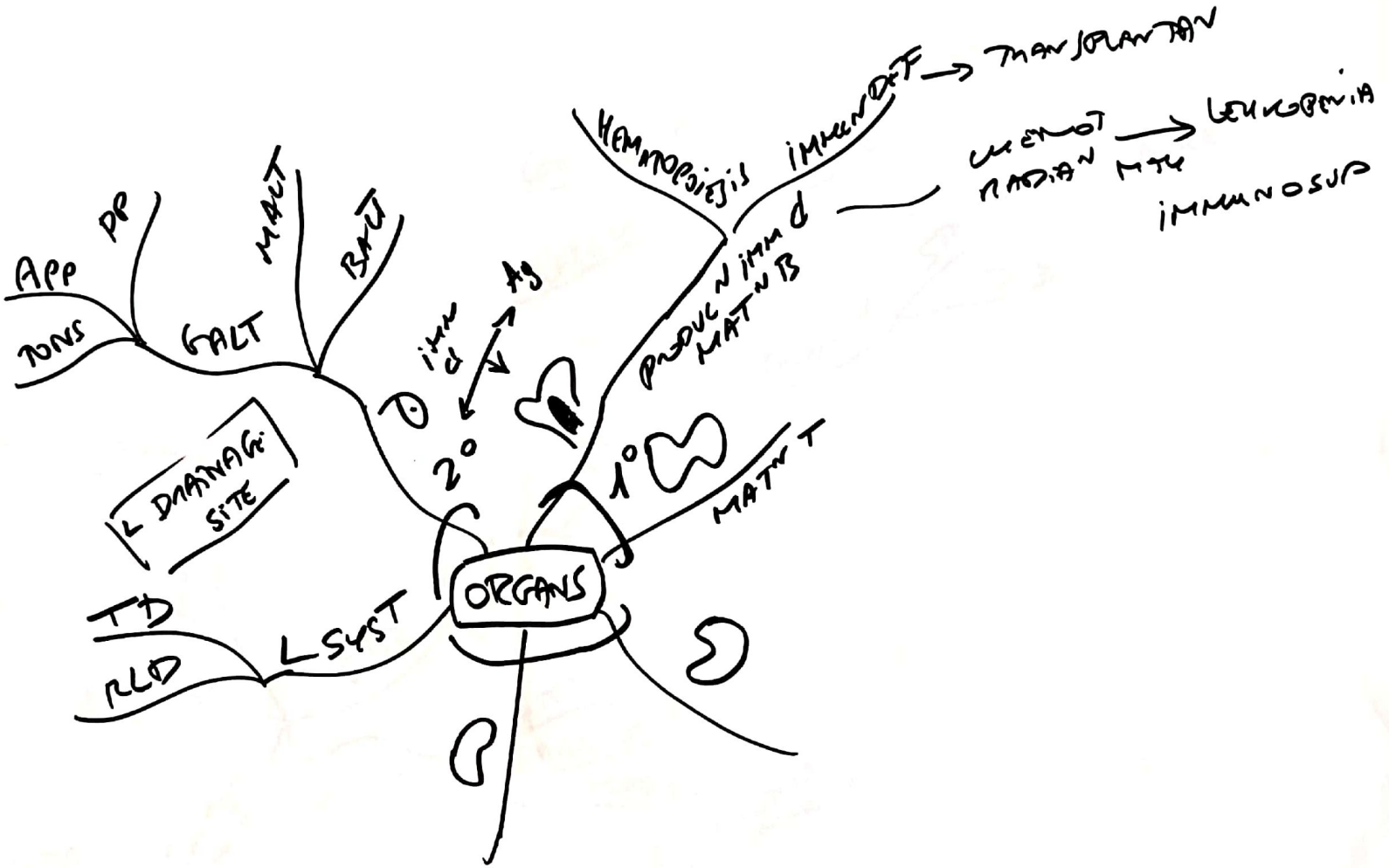

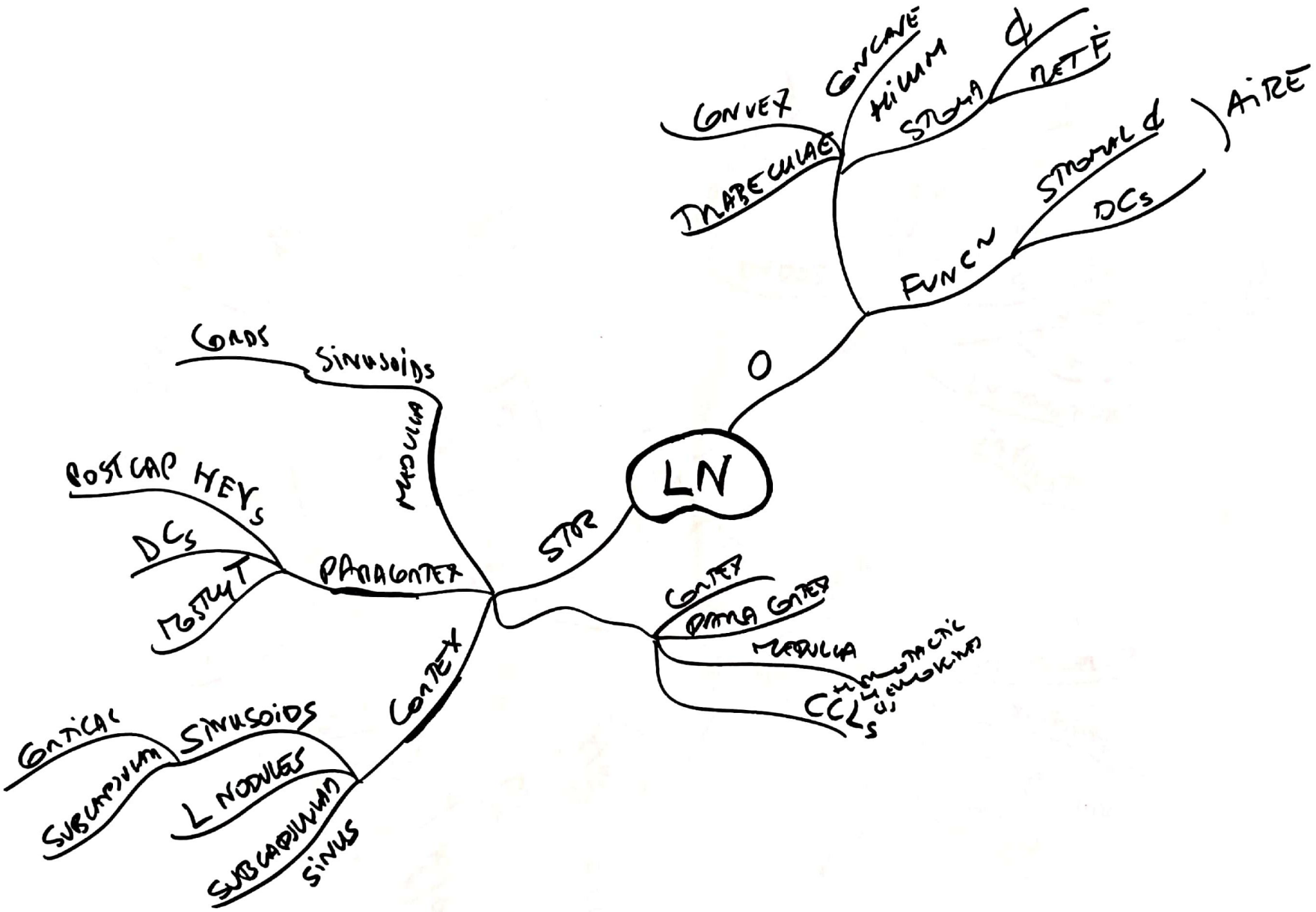

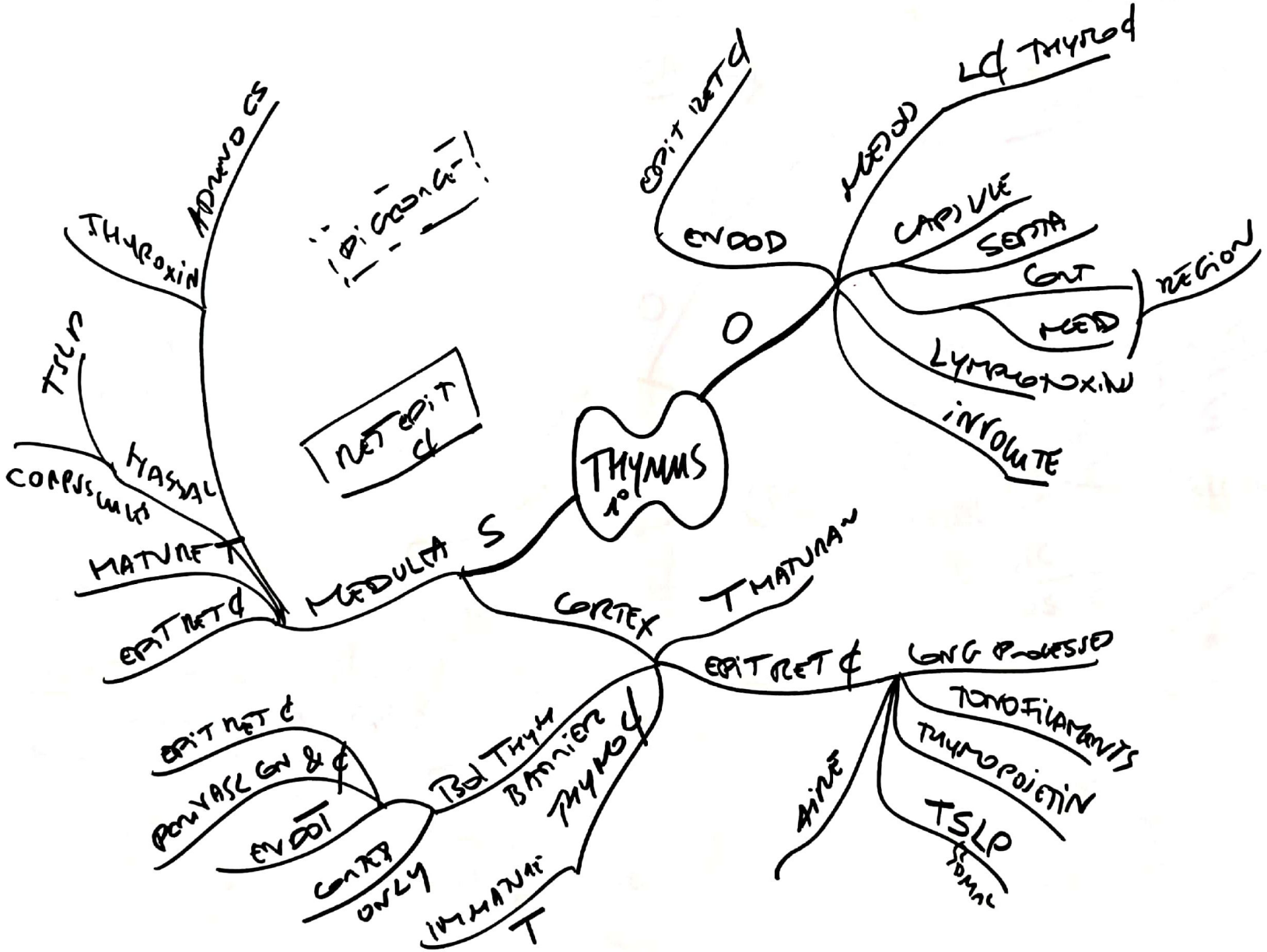

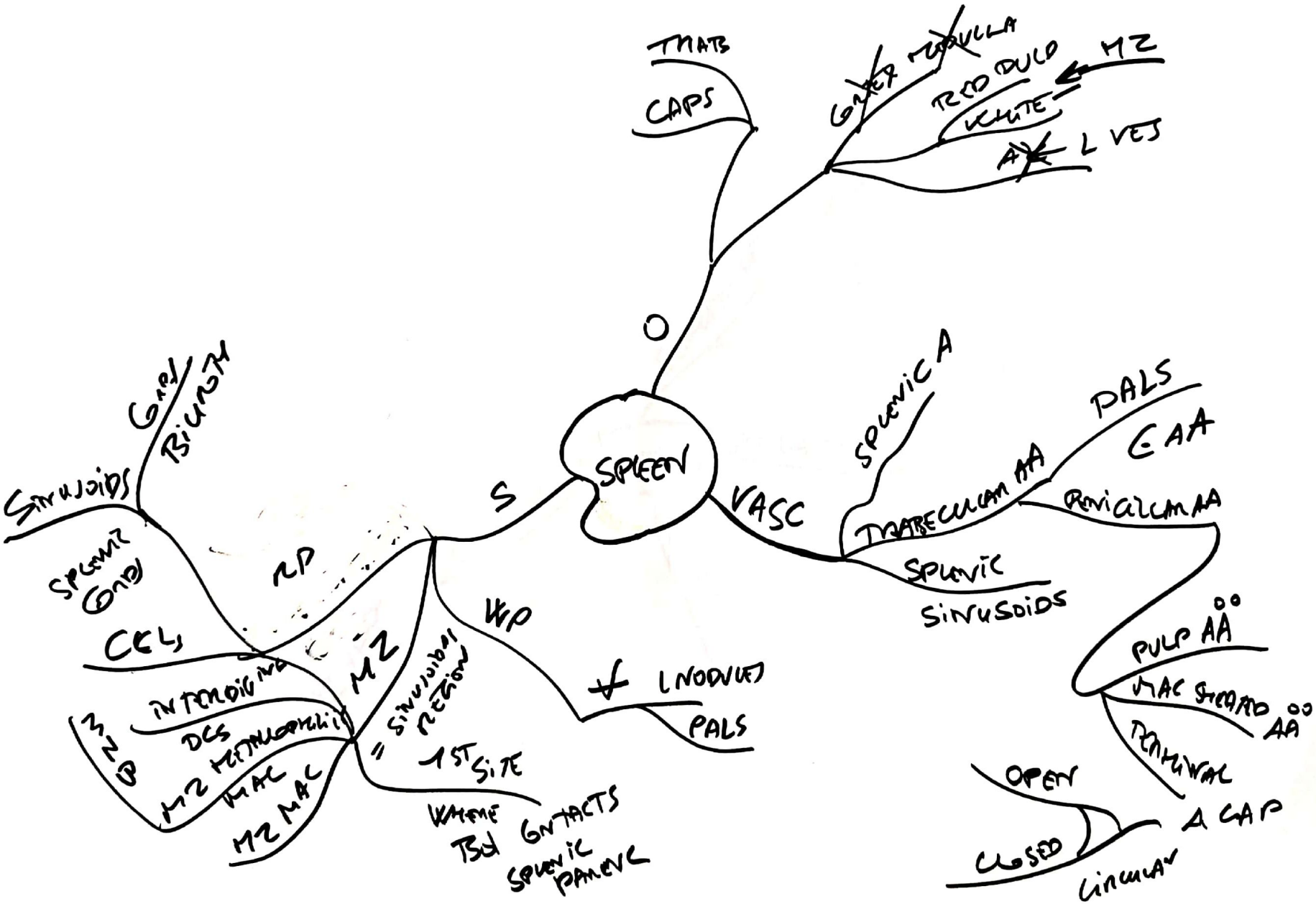

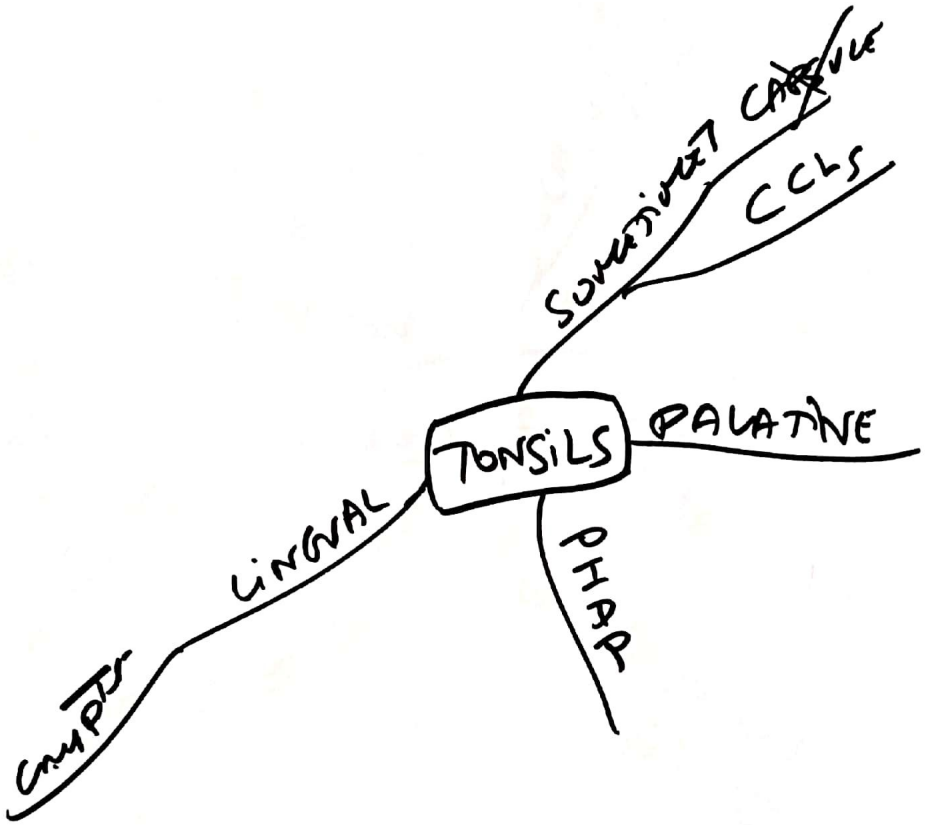

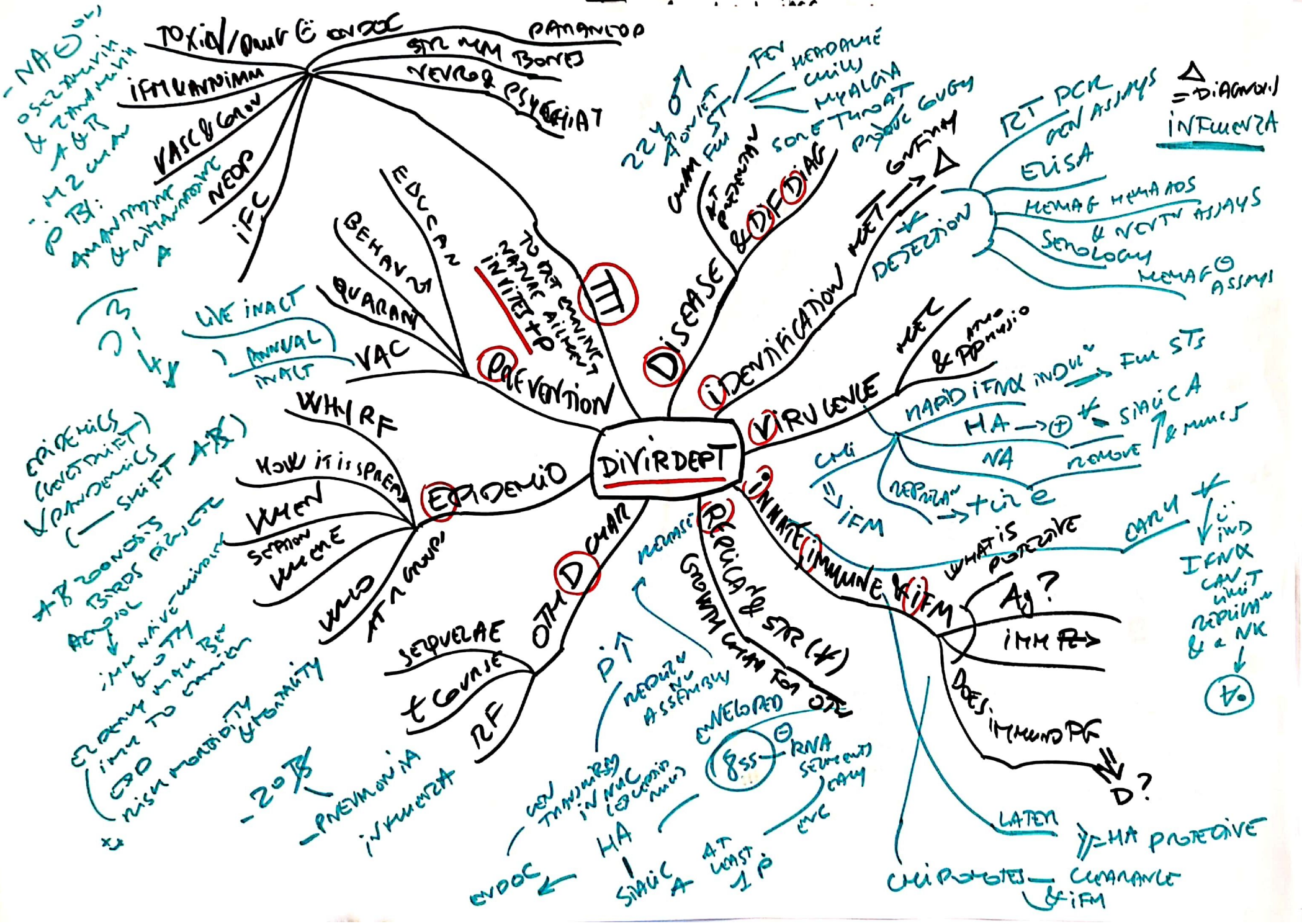

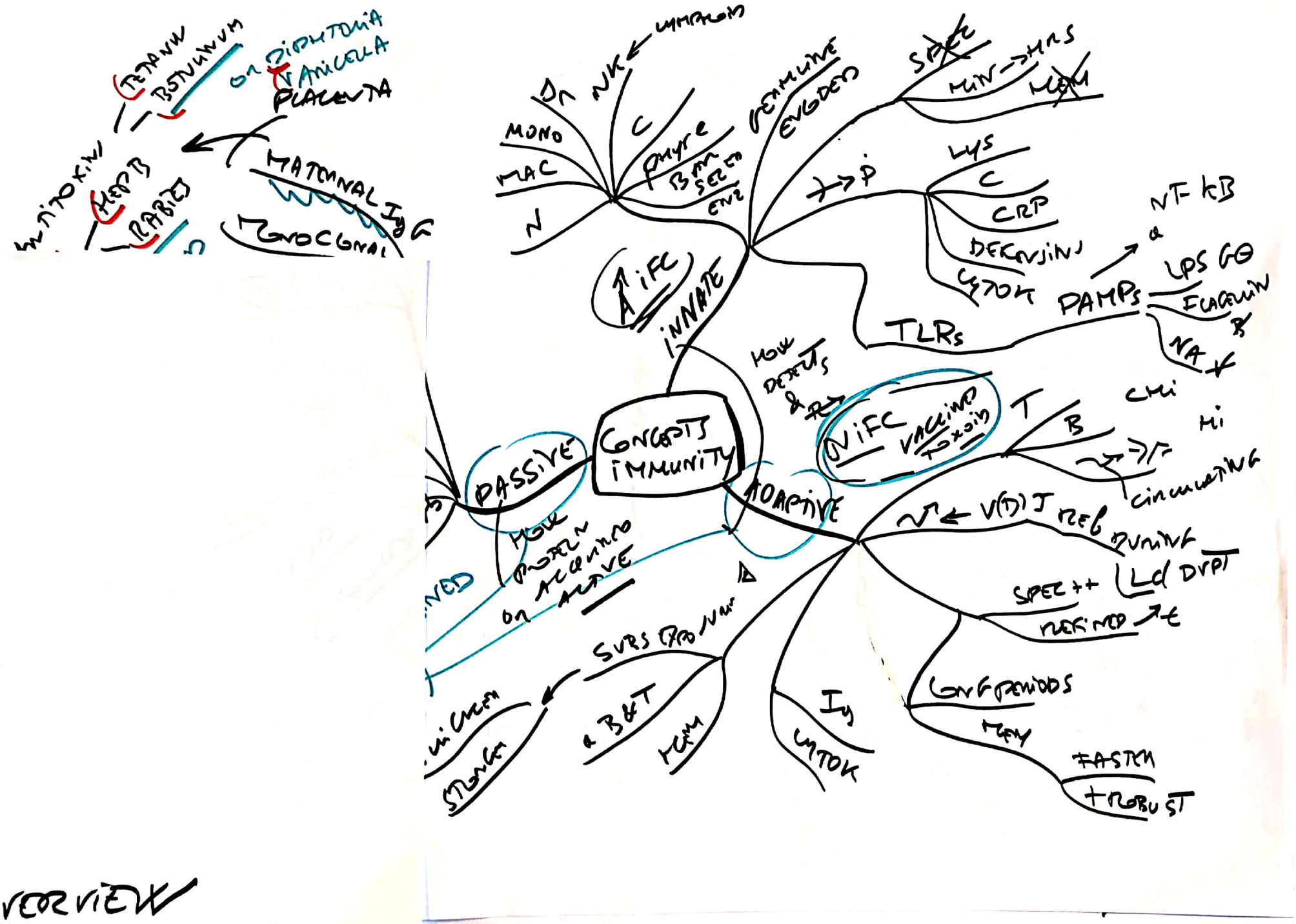

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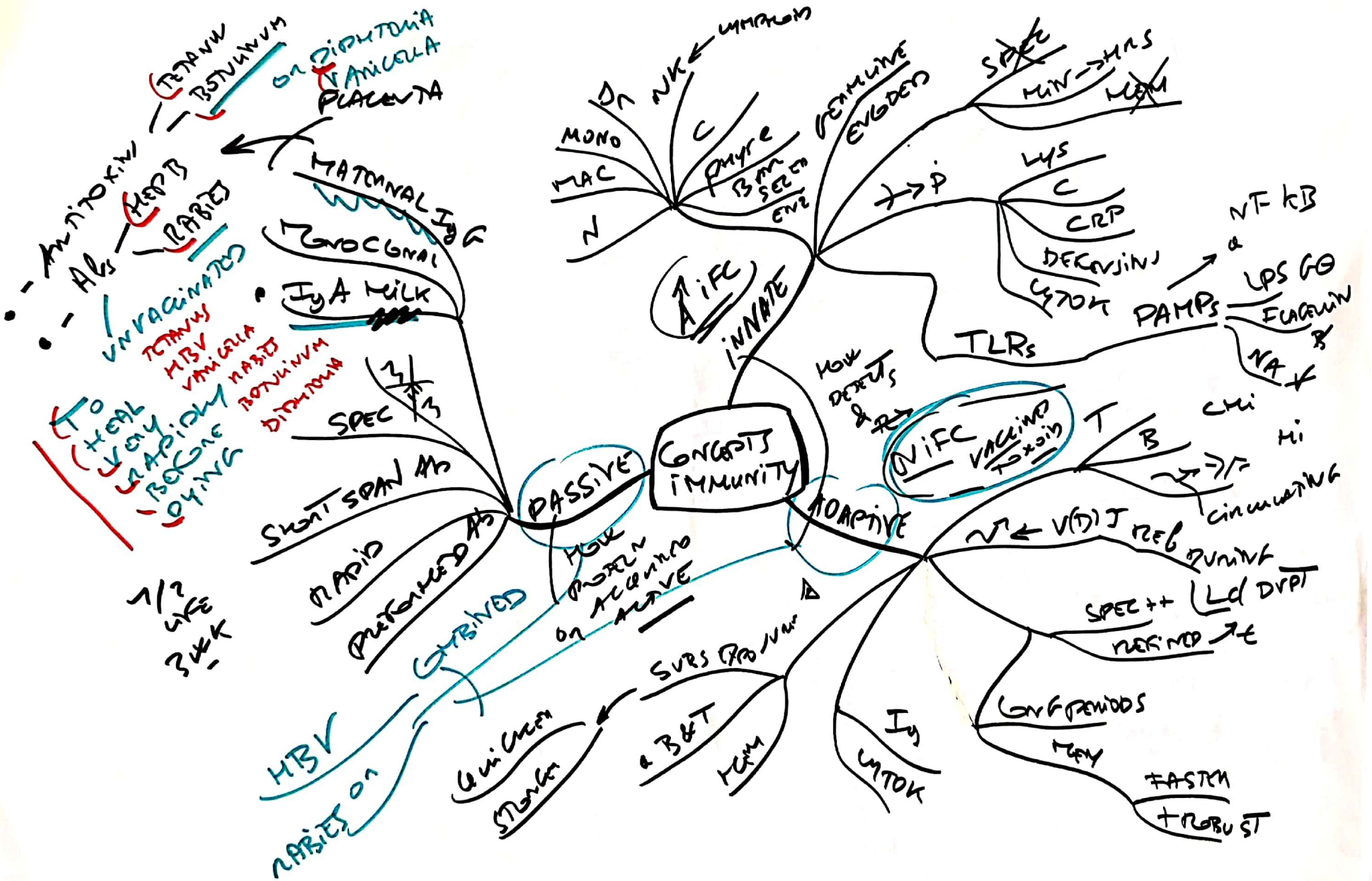

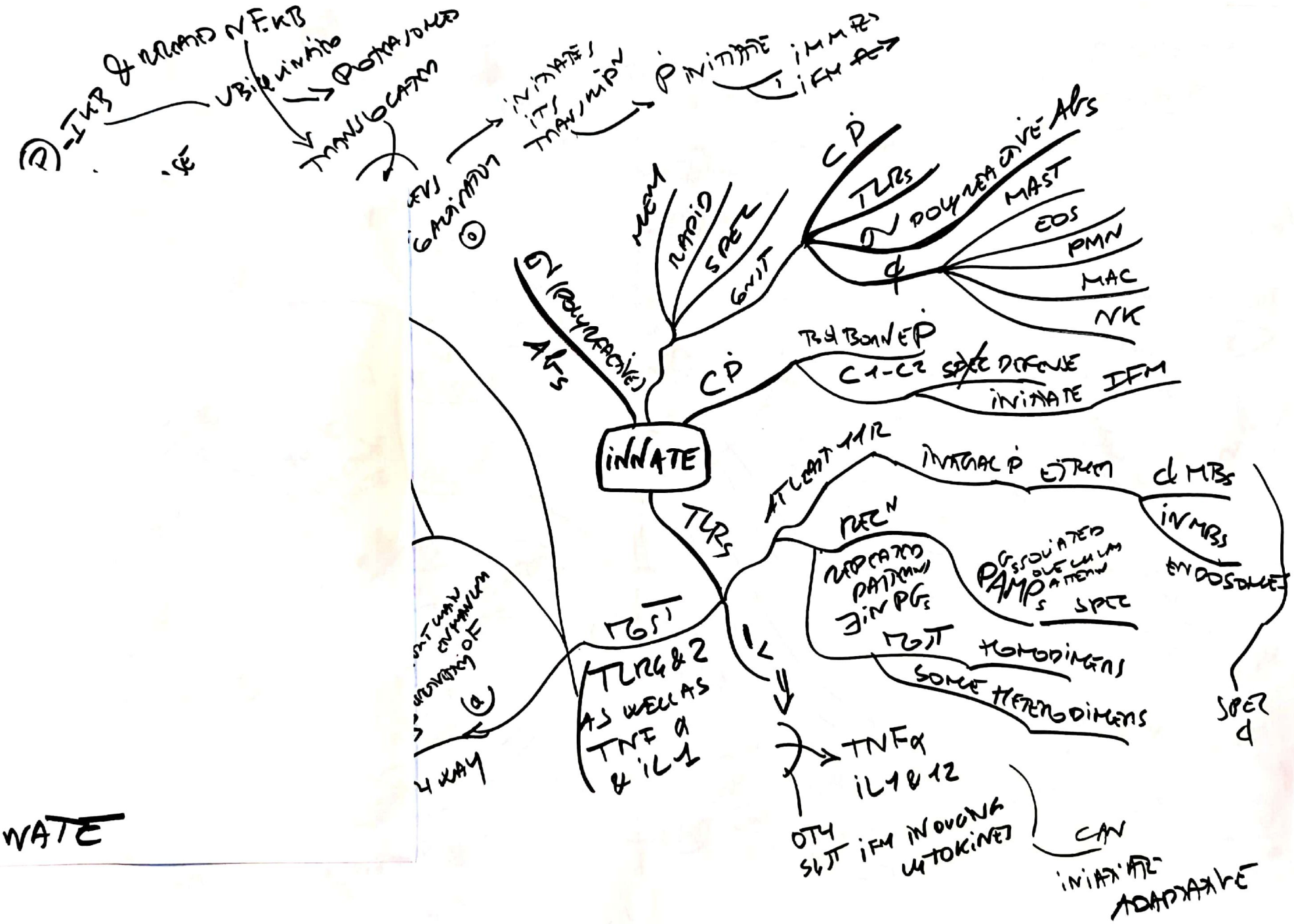

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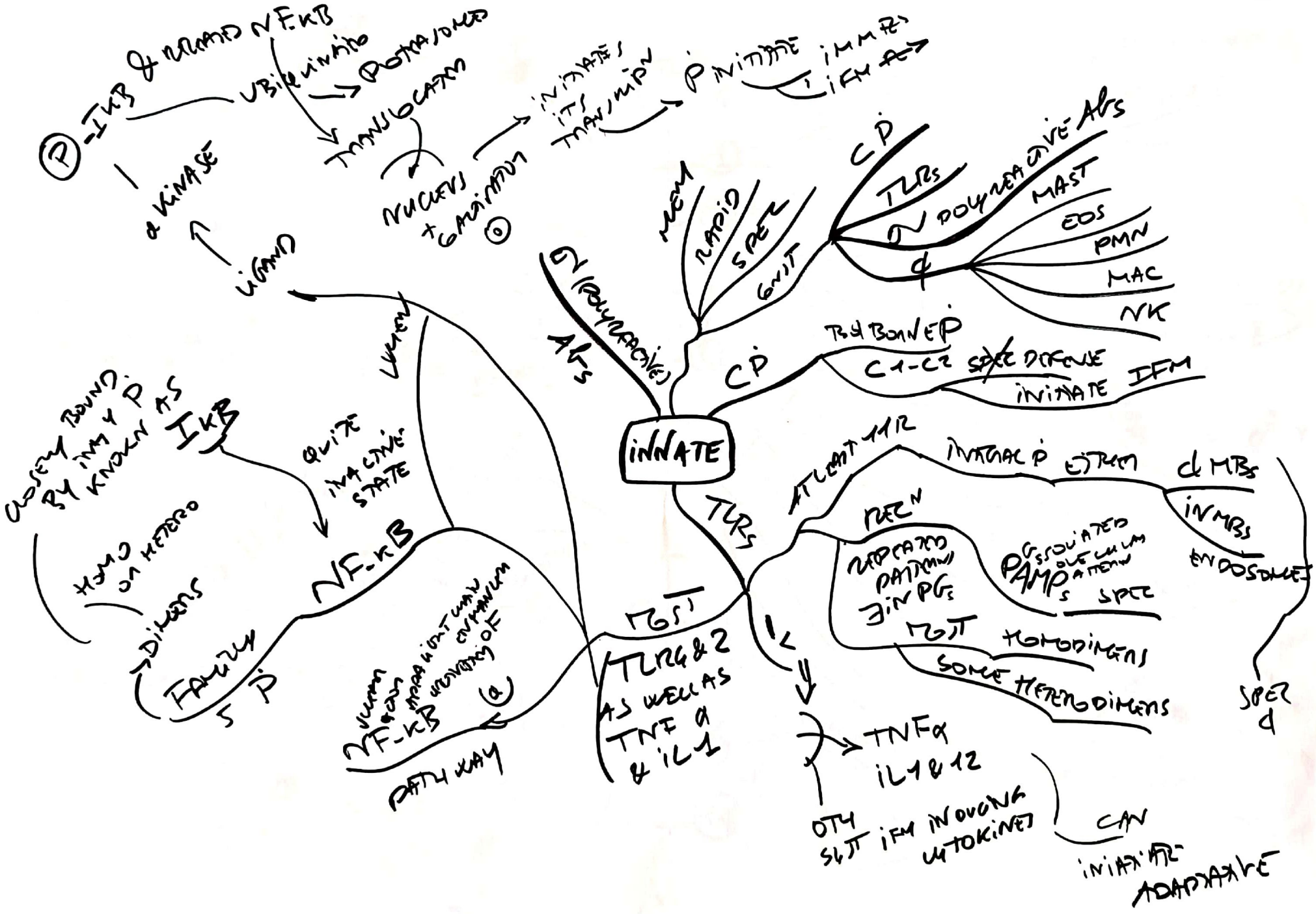

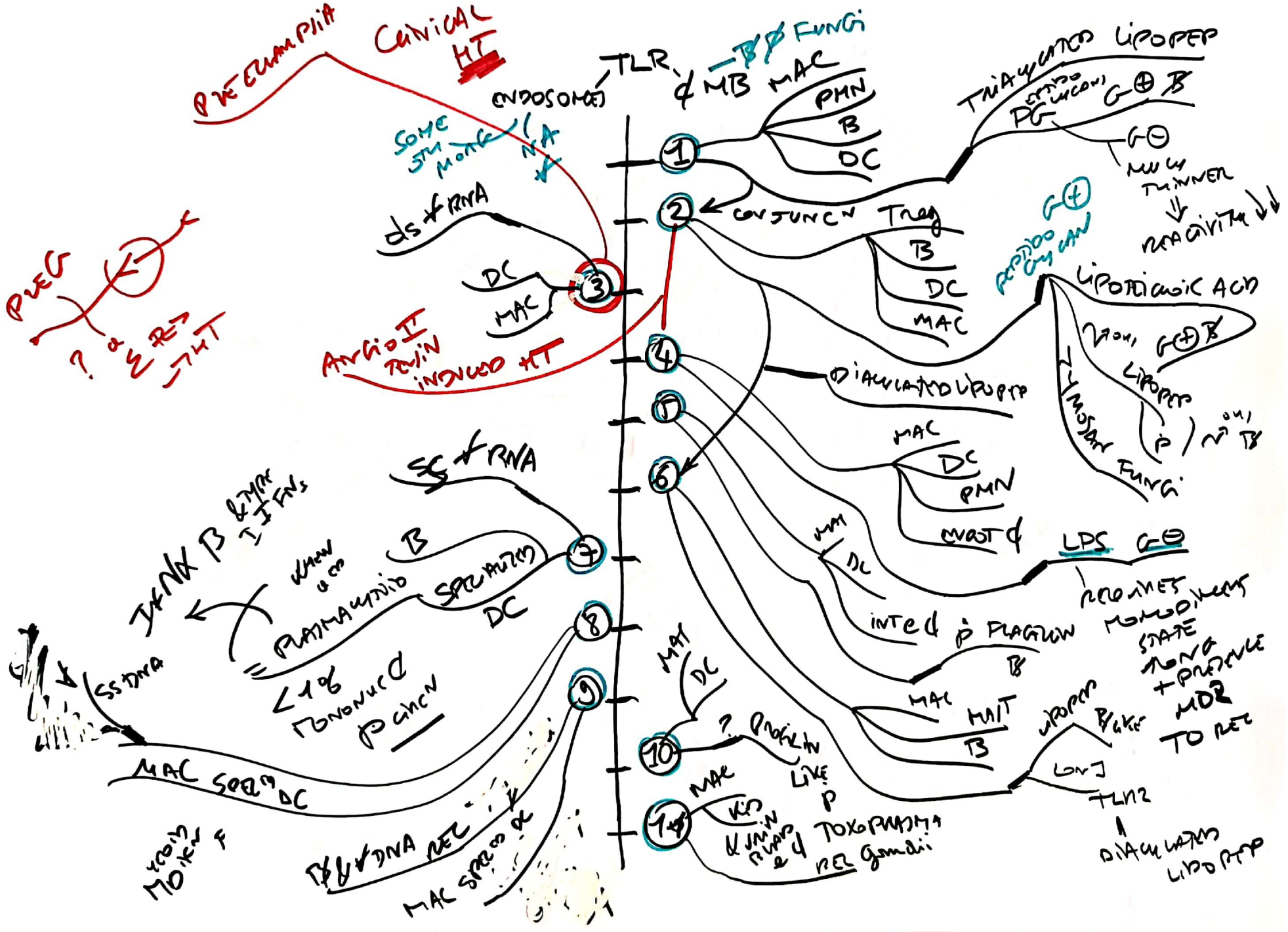

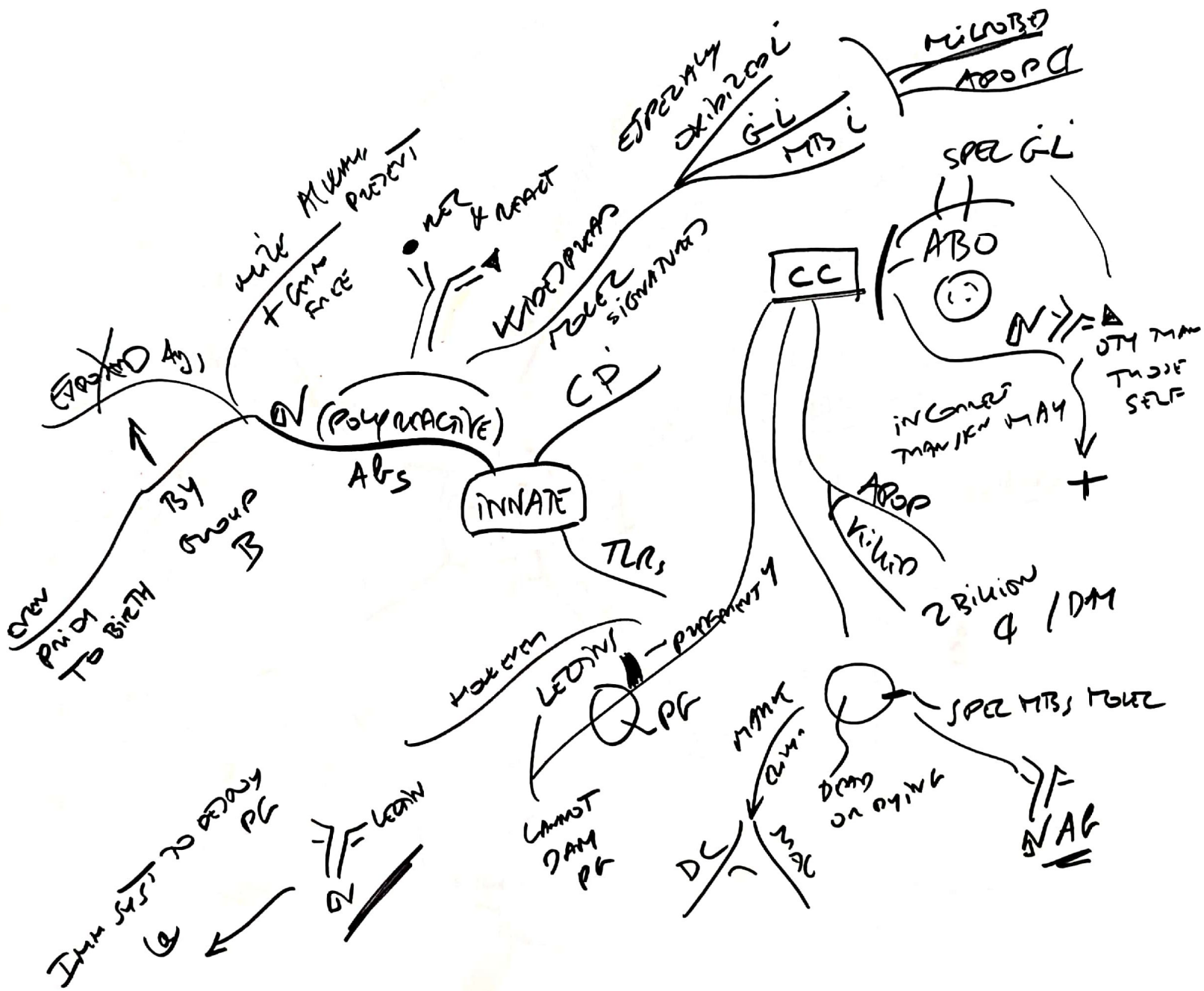

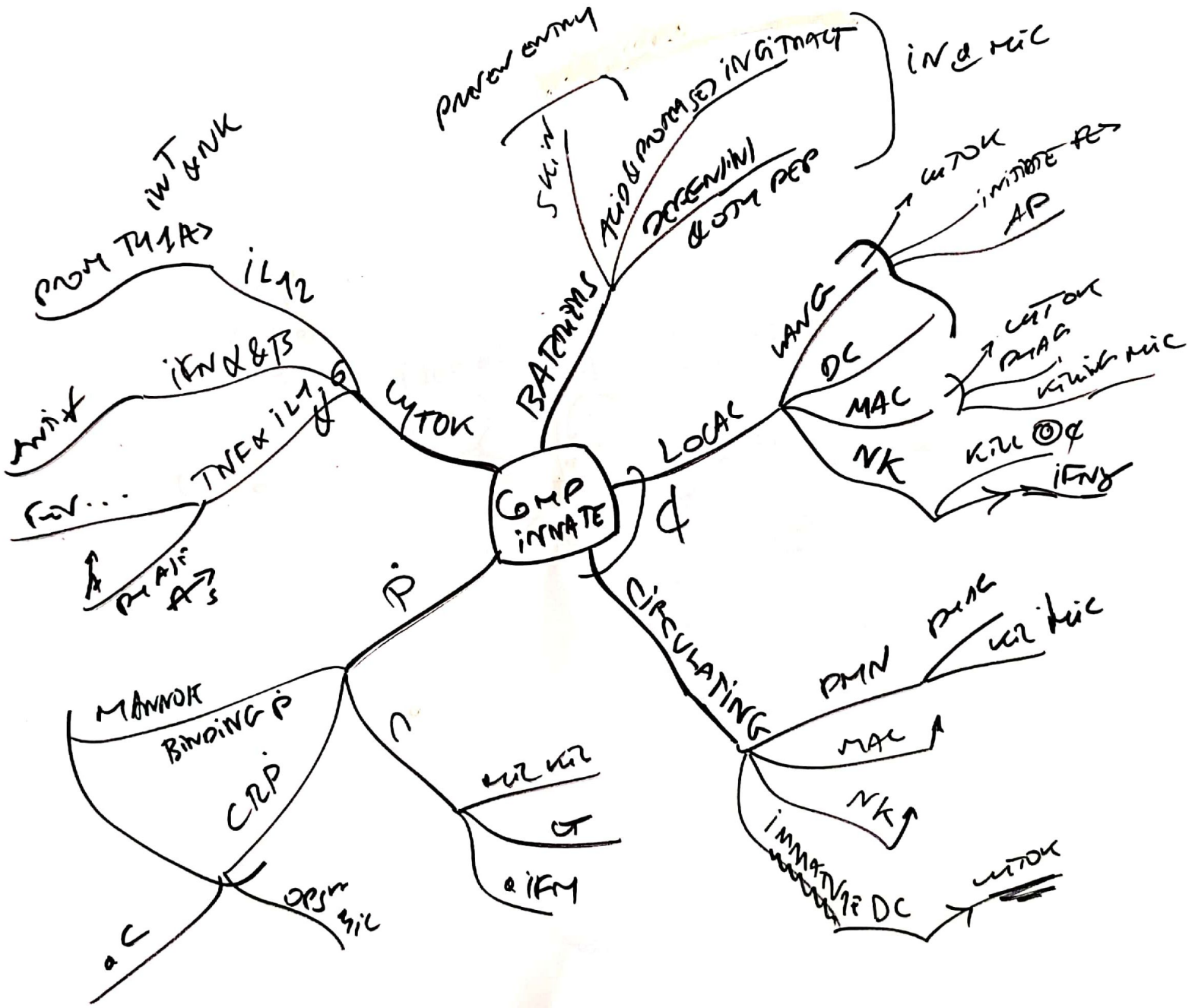

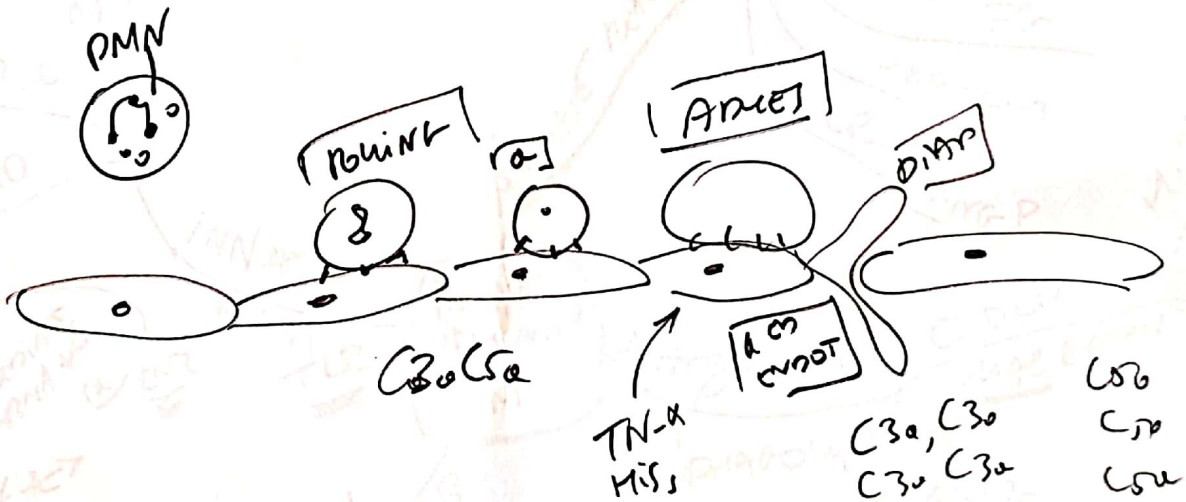

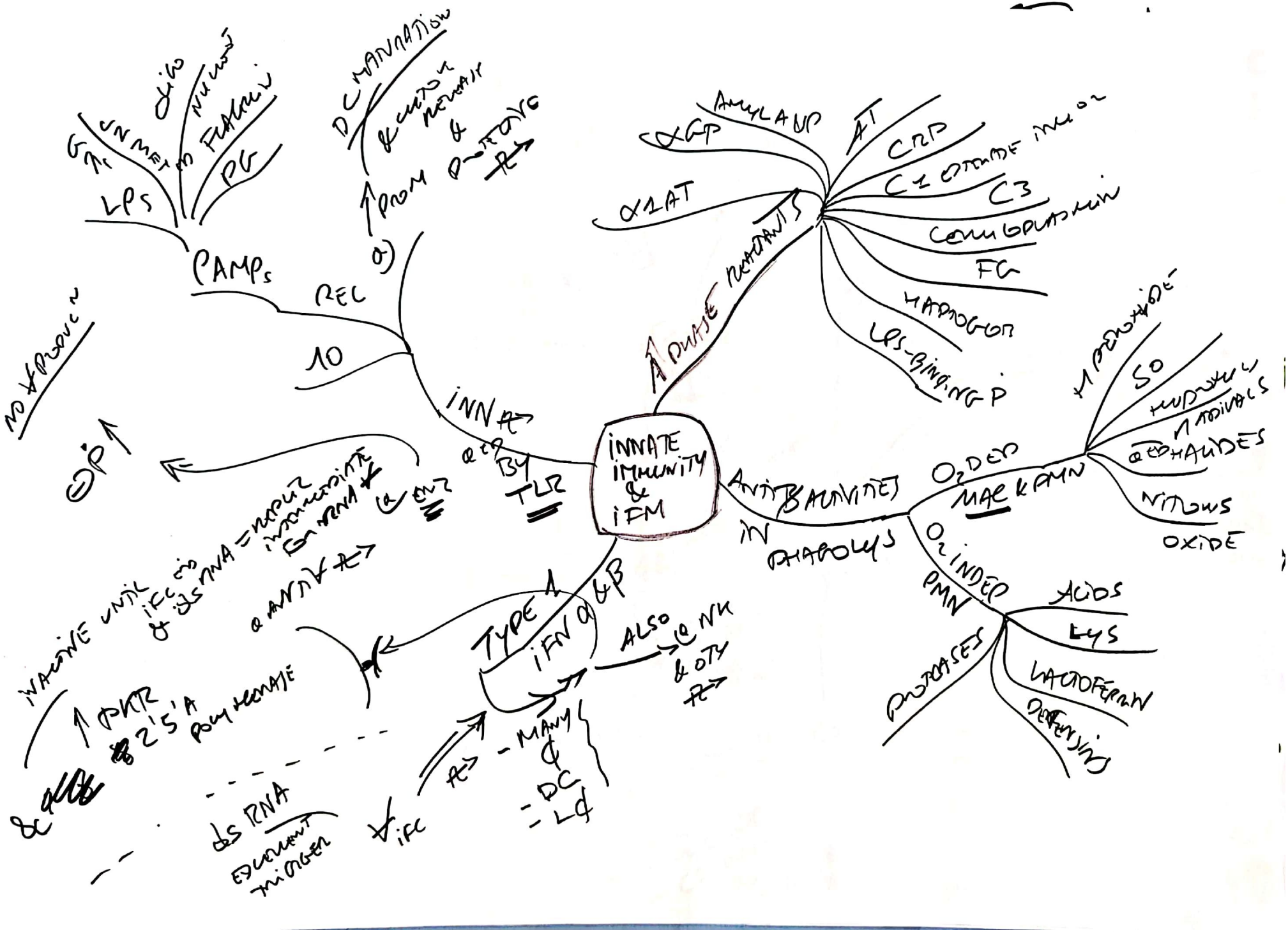

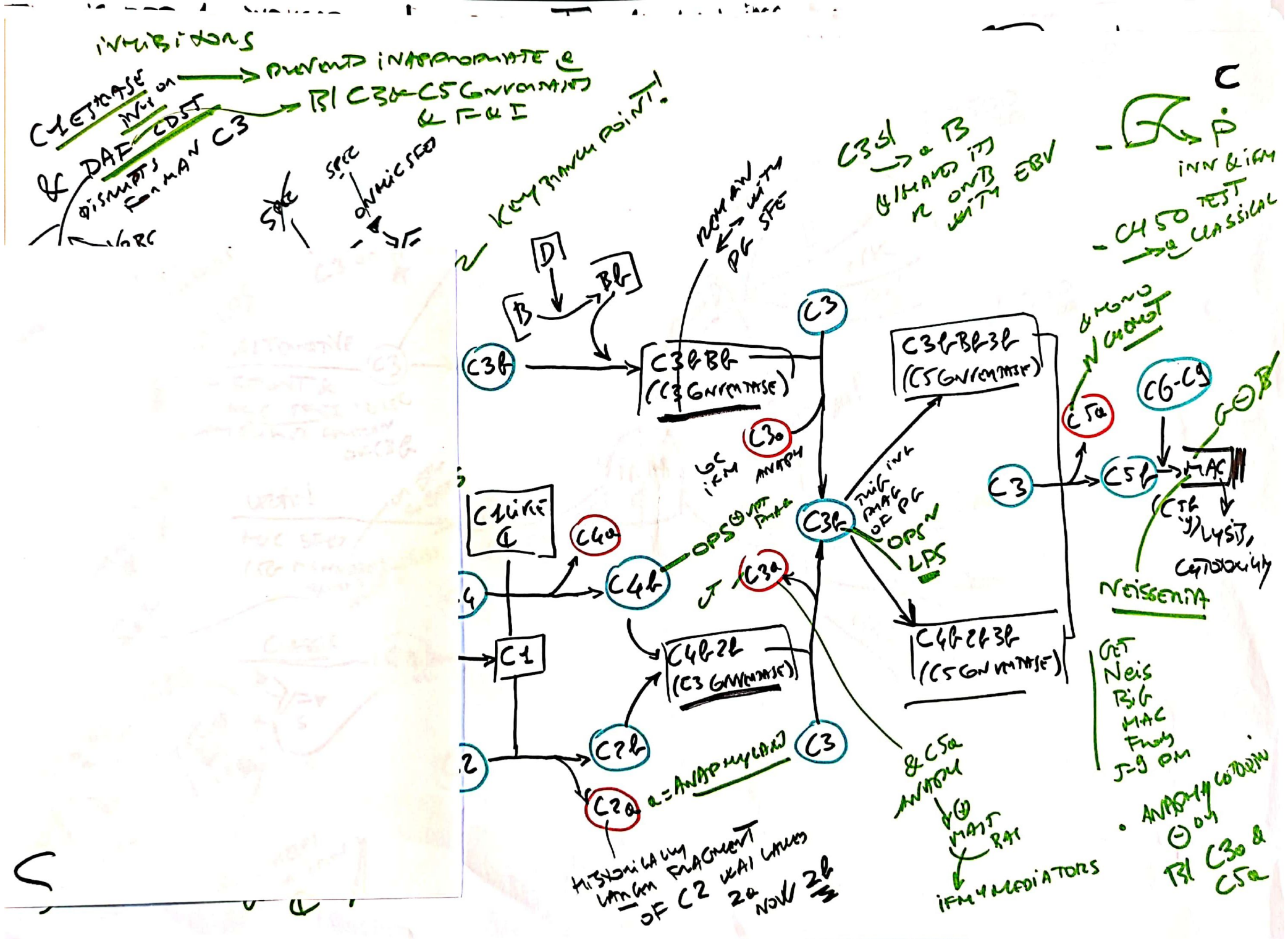

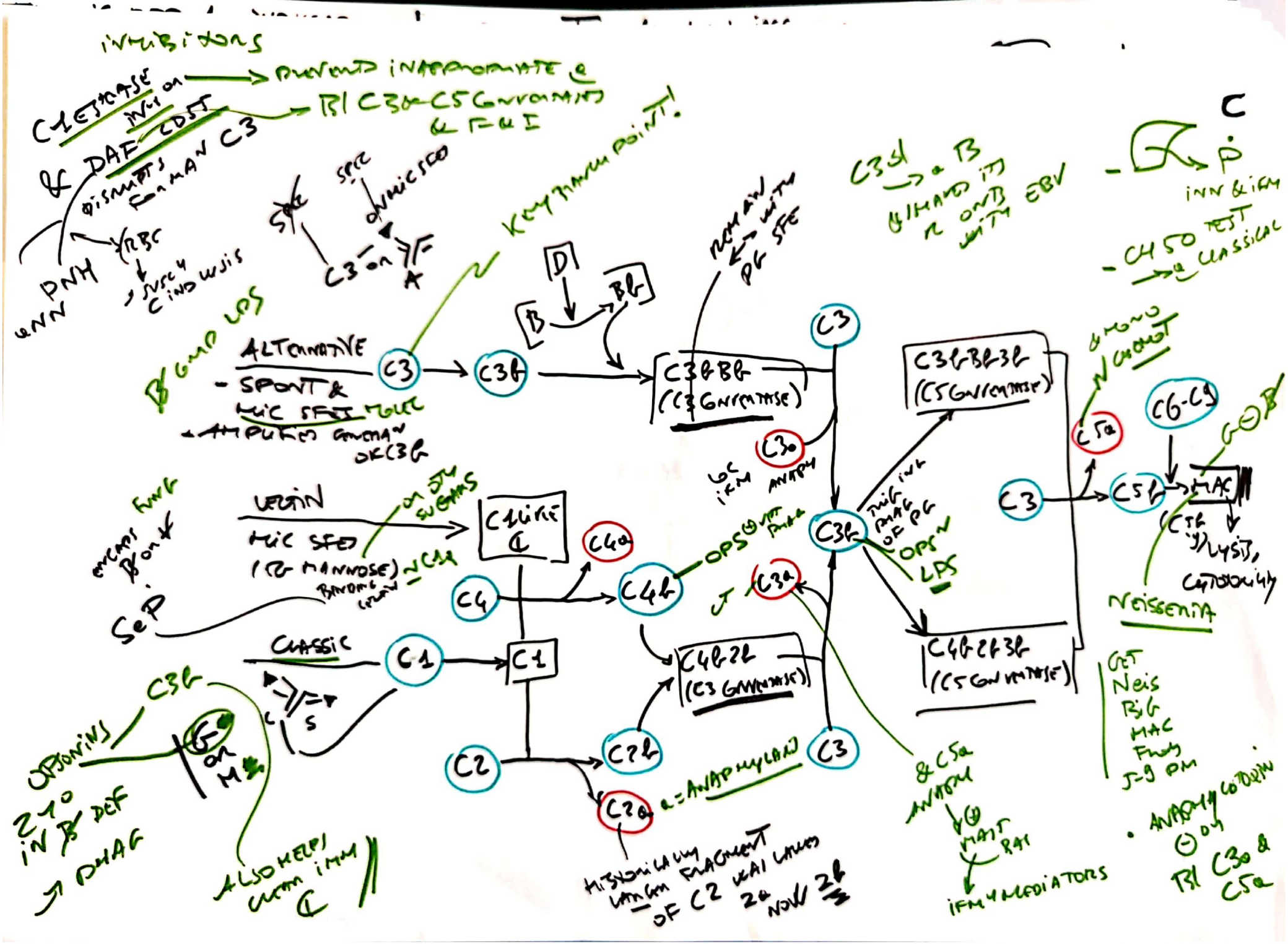

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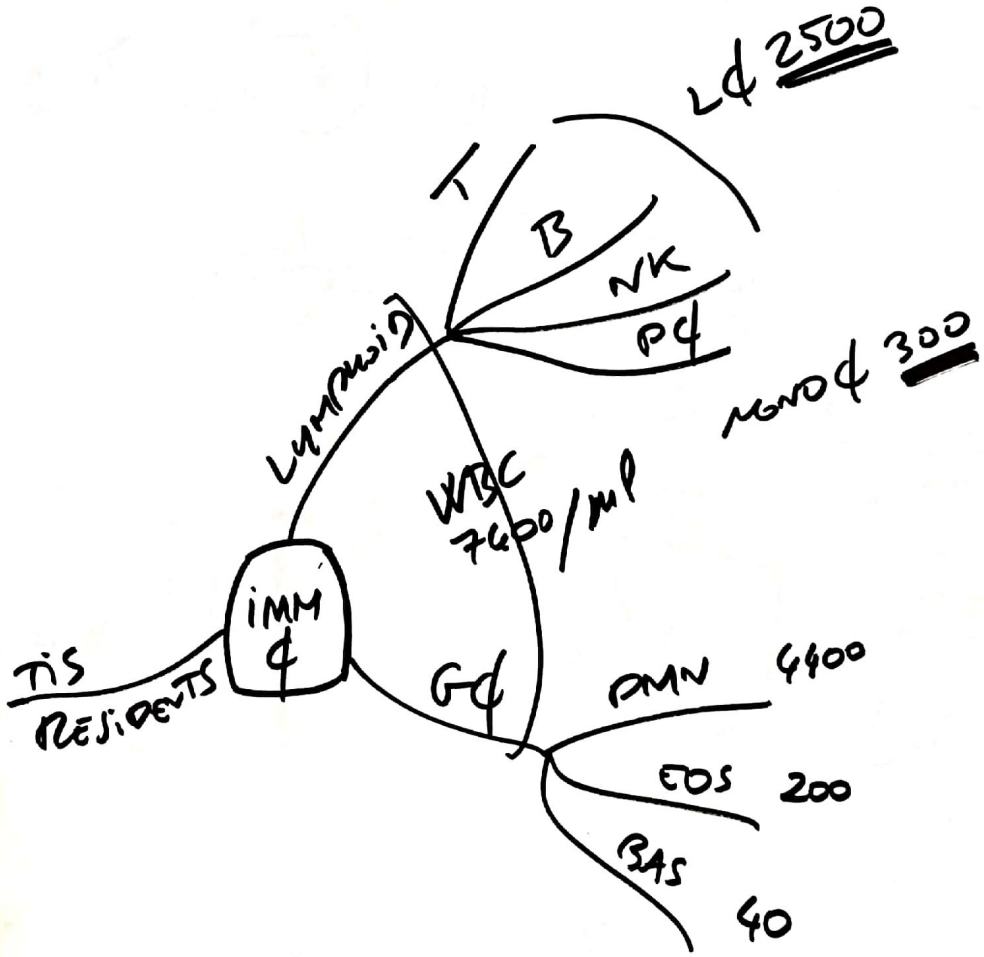

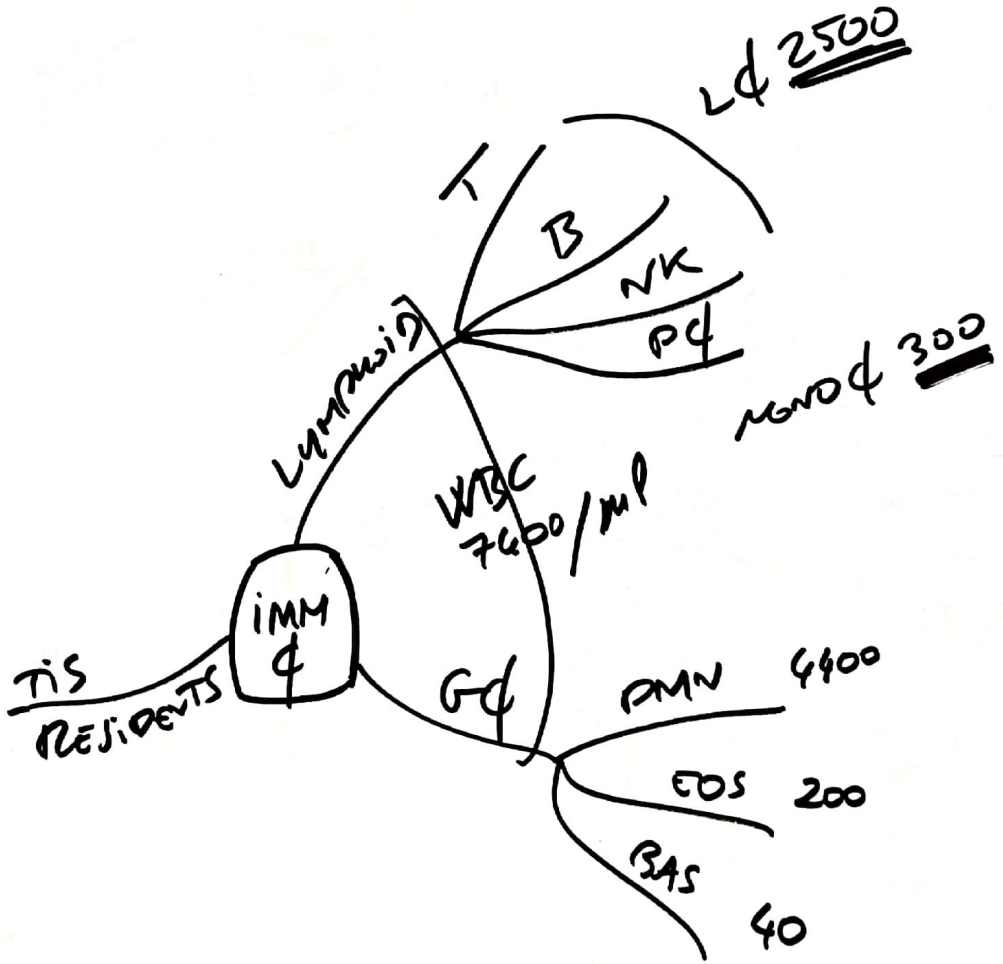

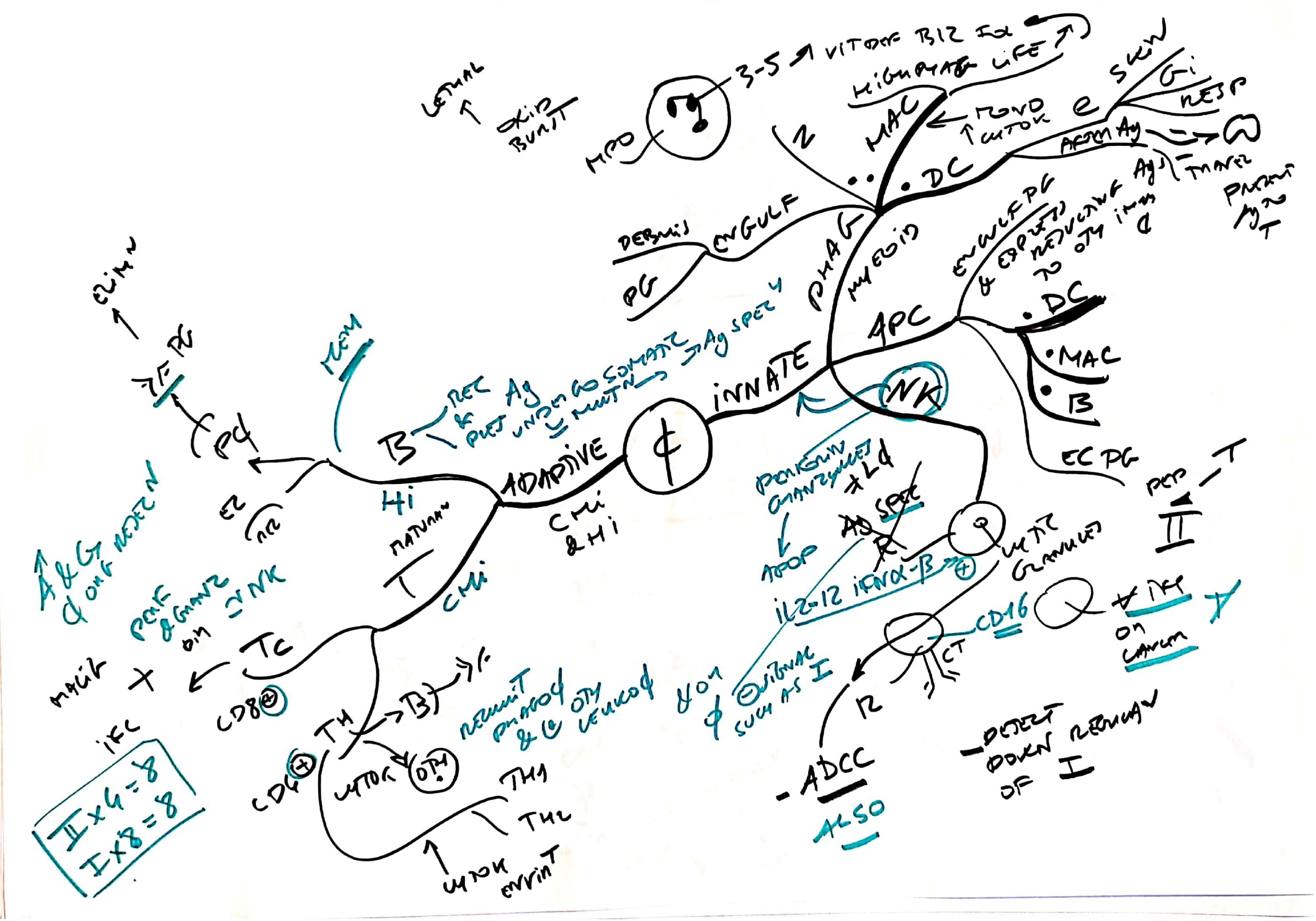

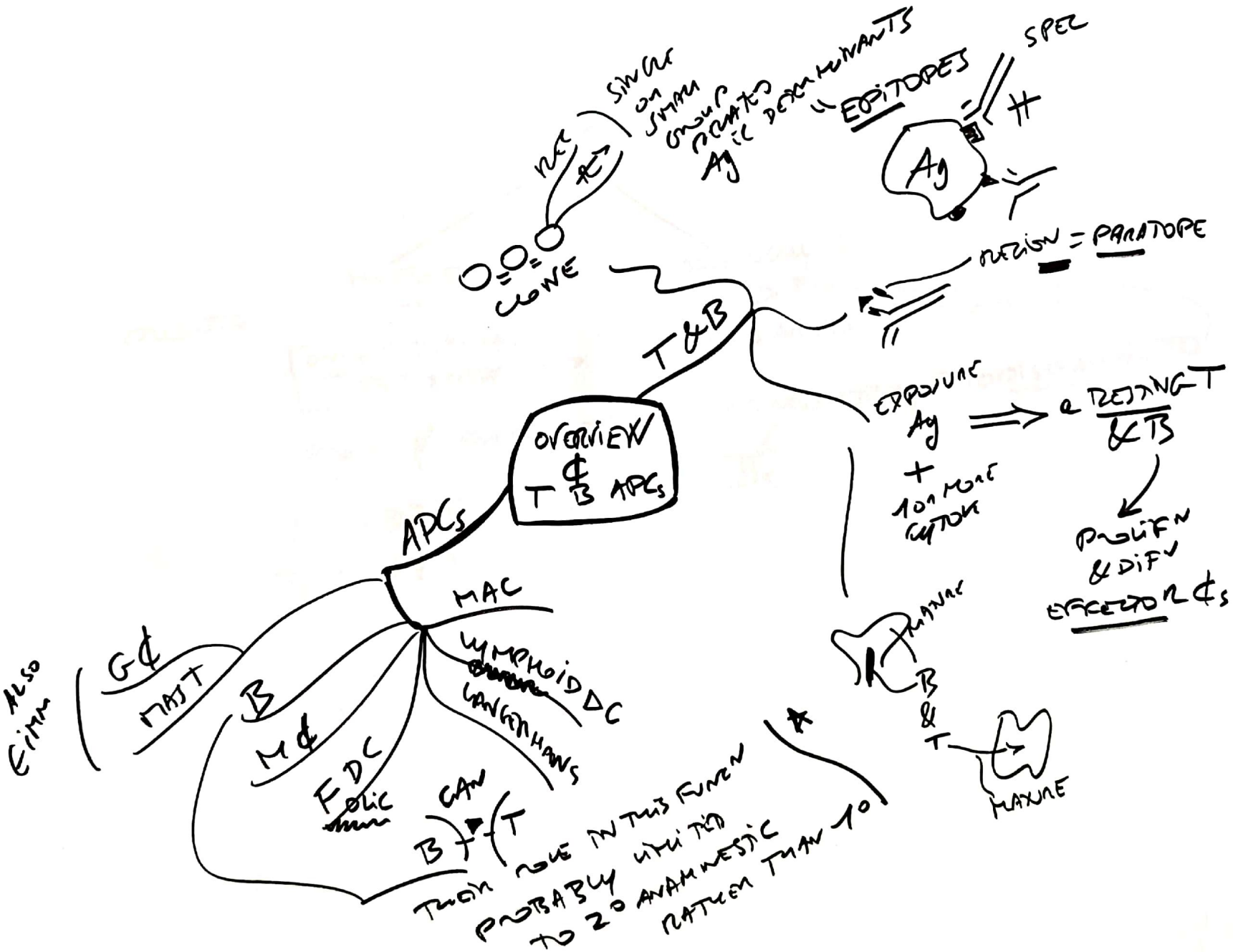

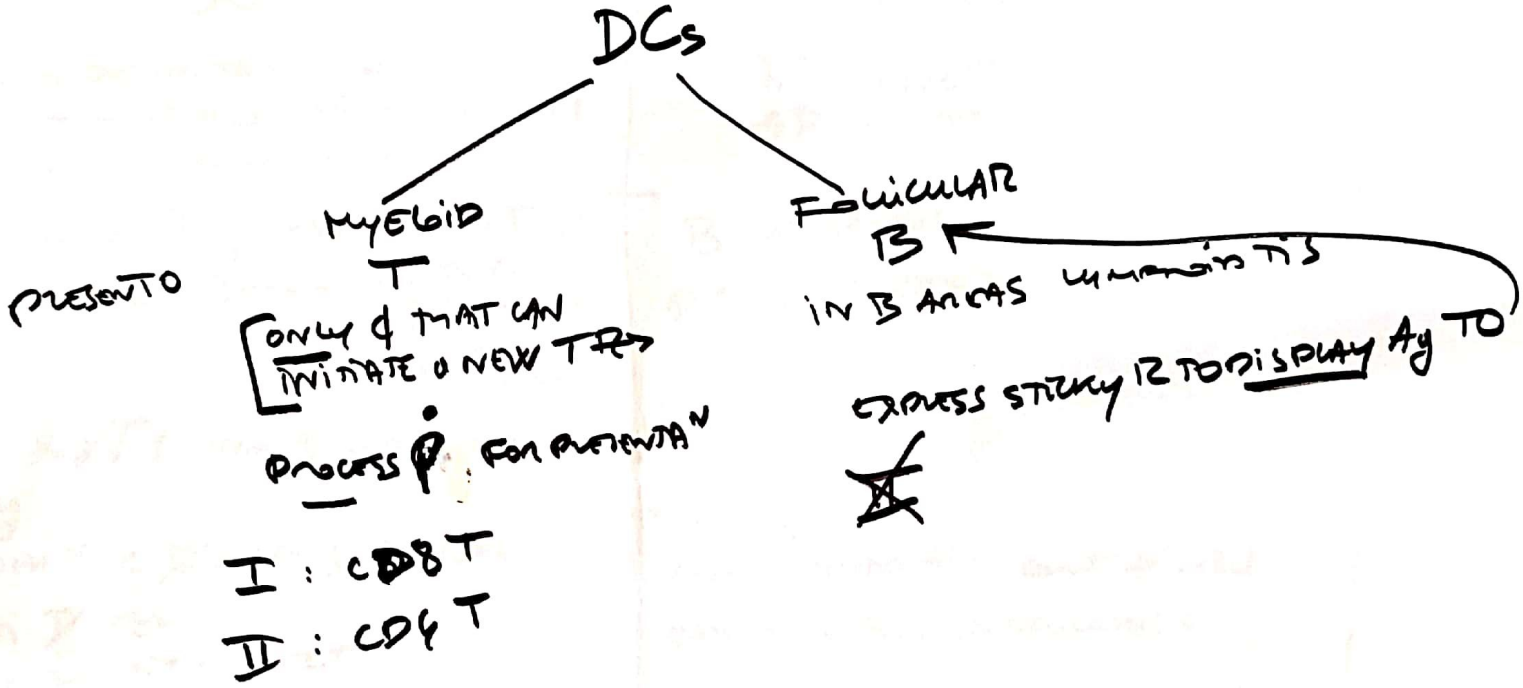

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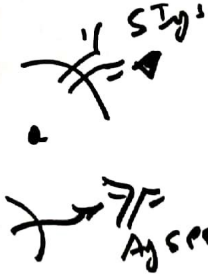
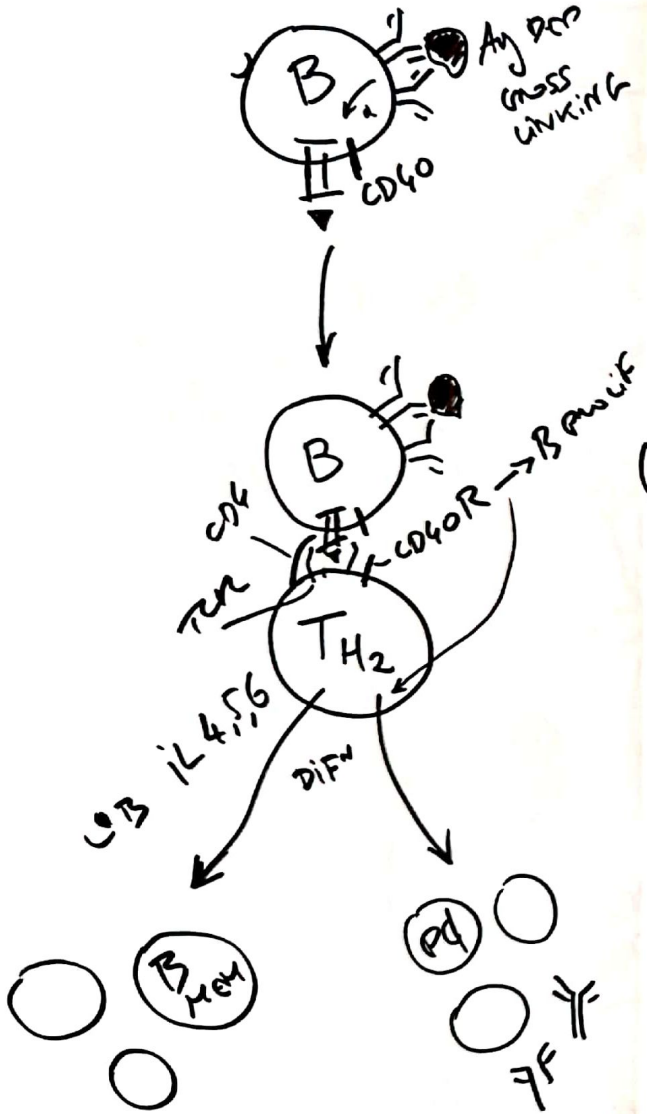
SUBSETS	CD4: CYTOK, TH, KILLING THROUGH FasL CD8: — CTL — — PERFORIN & GRANZYME OR FasL, SUP NKT & γδ C: INNATE LIKE RES	B: Ab PRODUCN PC: — FACTORIES
PROTECTIVE RES	Treg RESOMNIC B & V & FUNGAL ANTI T RES FOREIGN T'S REJECT	ANTI B LIM SPREAD V: CONT V-BY OPS HIC FOR PHAGOCYTOSIS
Ag REC	CD4+TCR: IIp Ag PEP ORIGIN BY EXOG ROUTE 8 I ENDOG	 SIg Ag SPEC Ab

THYMIC DEP Ag-INDUCED B MEM & PC FORMATION



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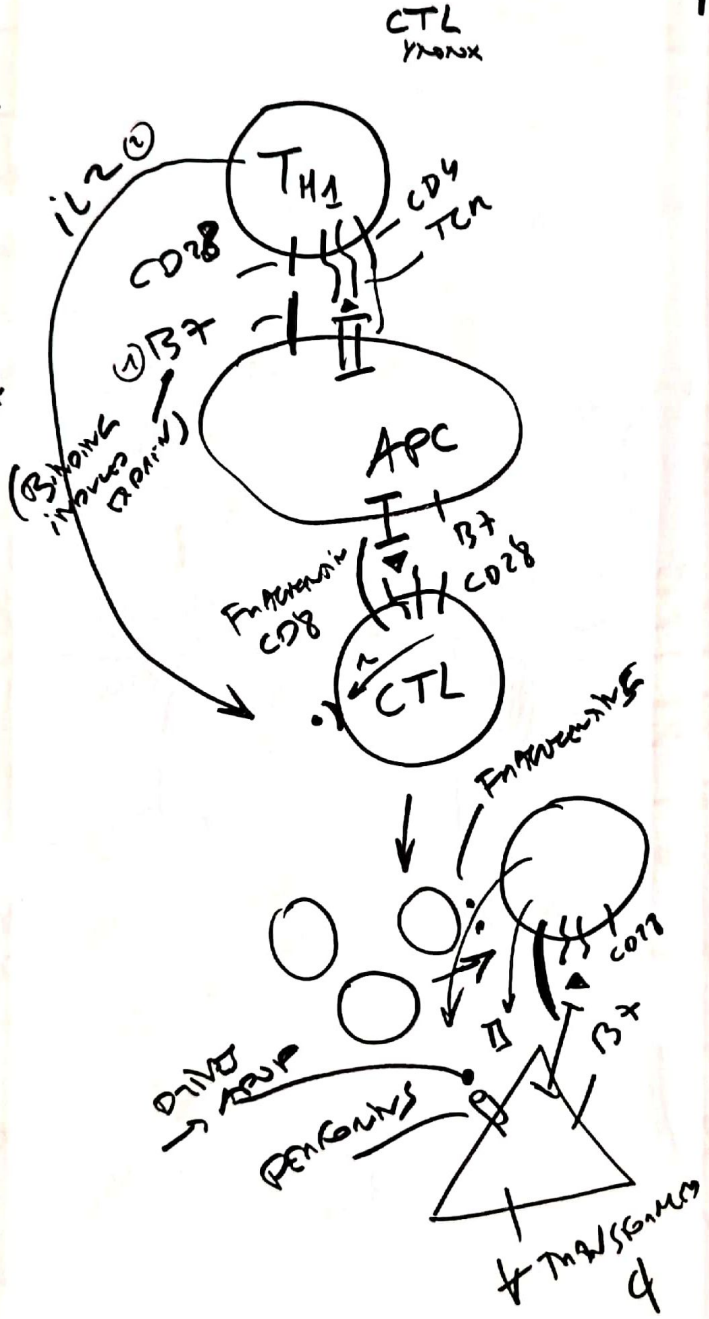
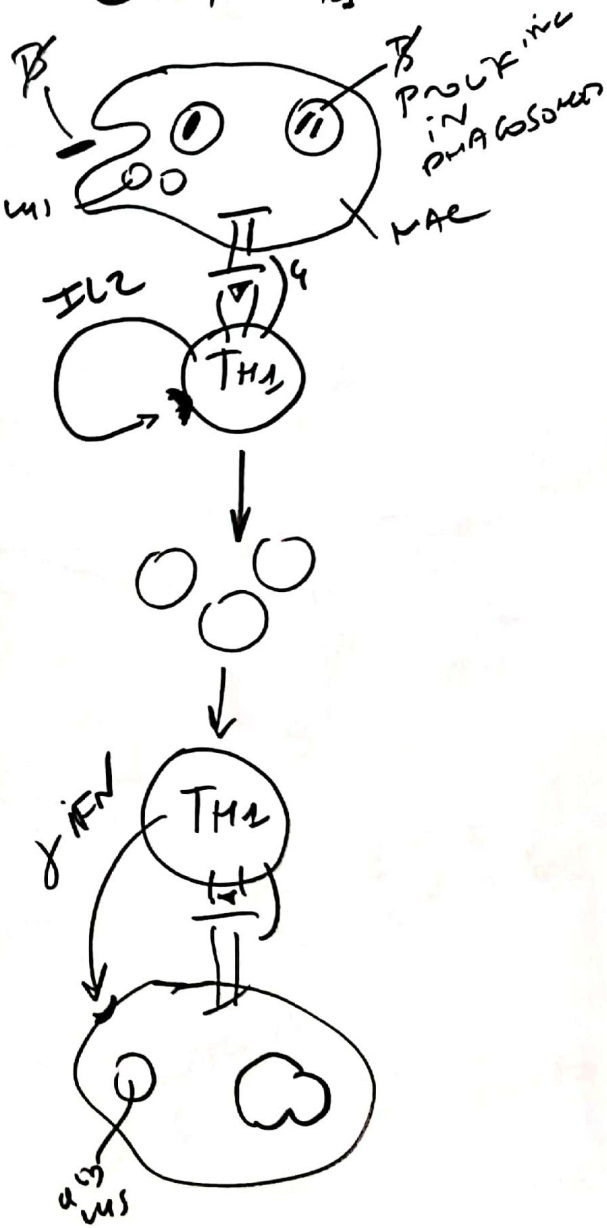
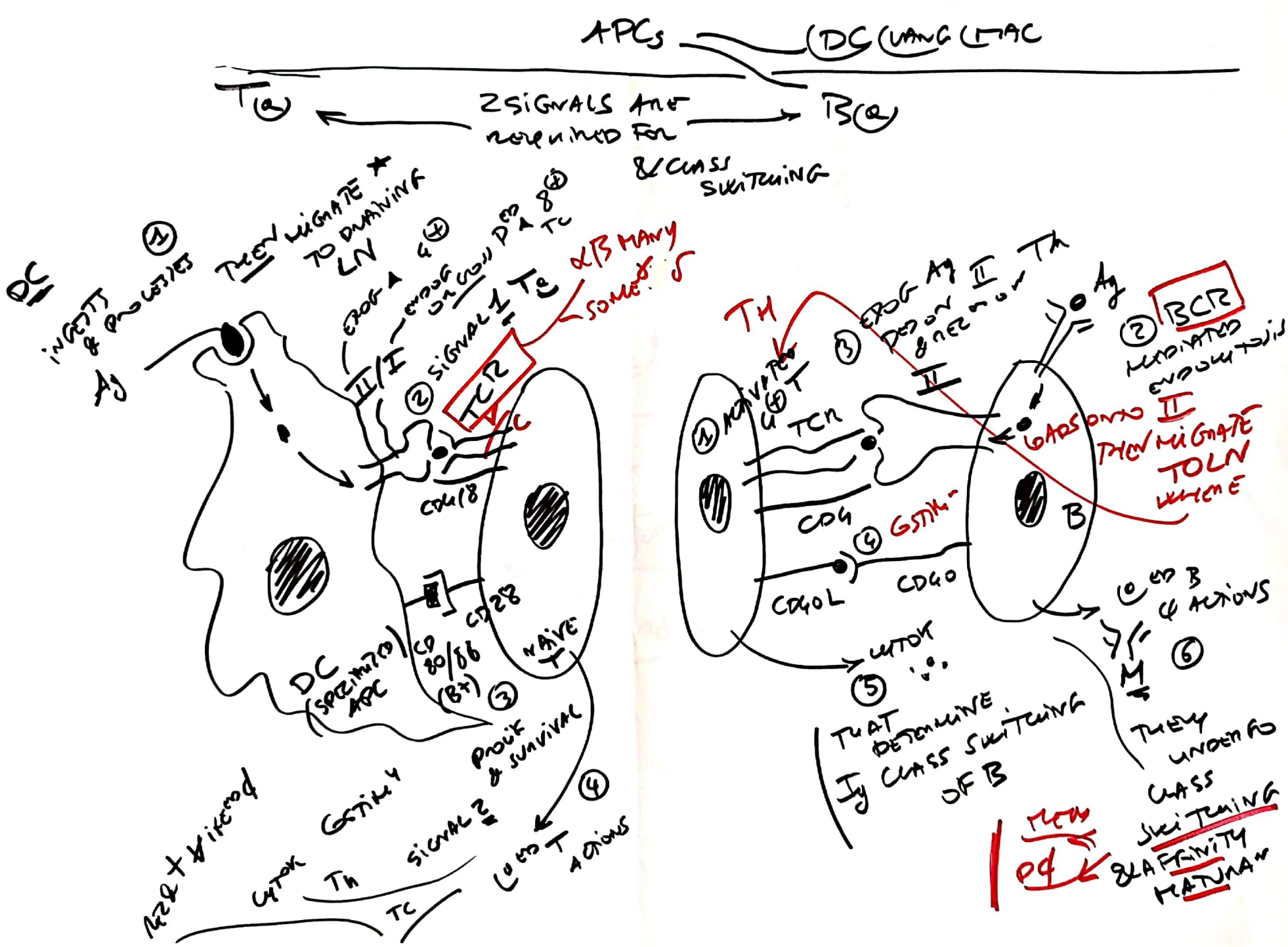
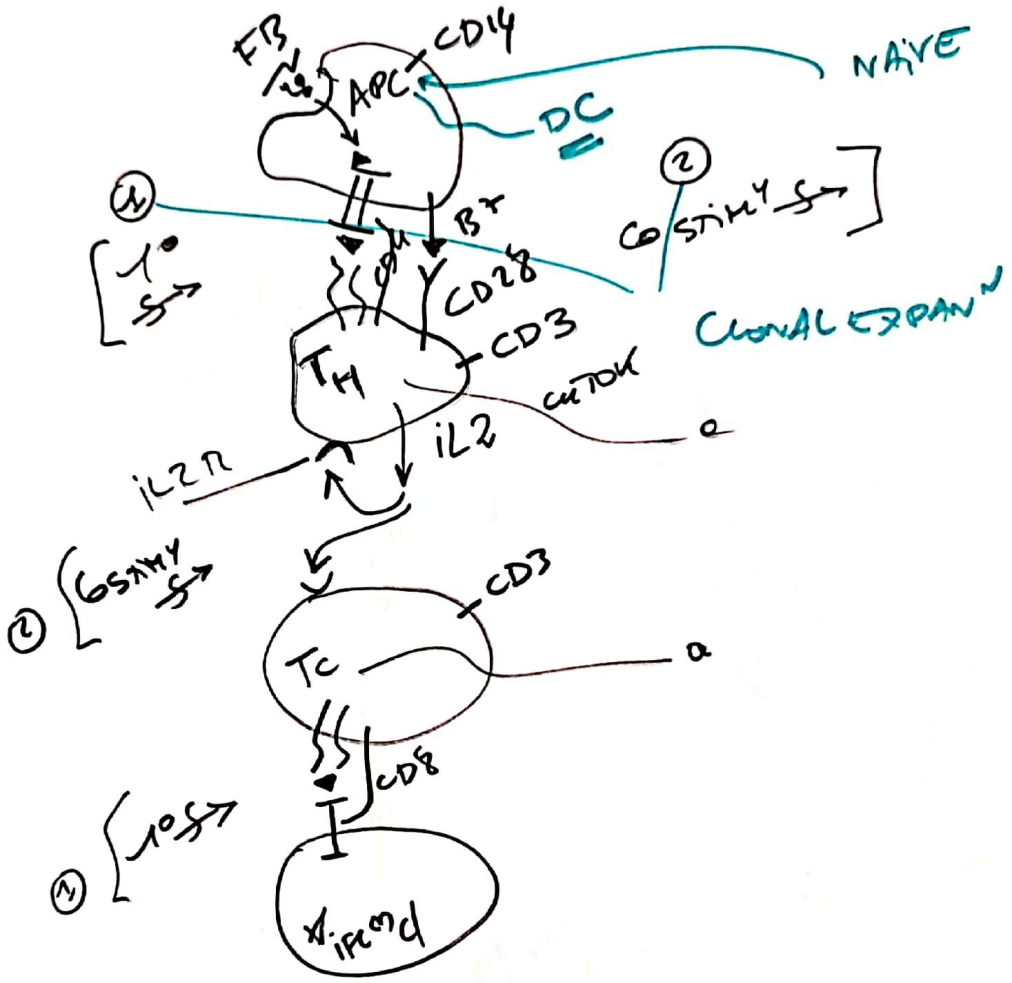


MAC@ BY TH_1







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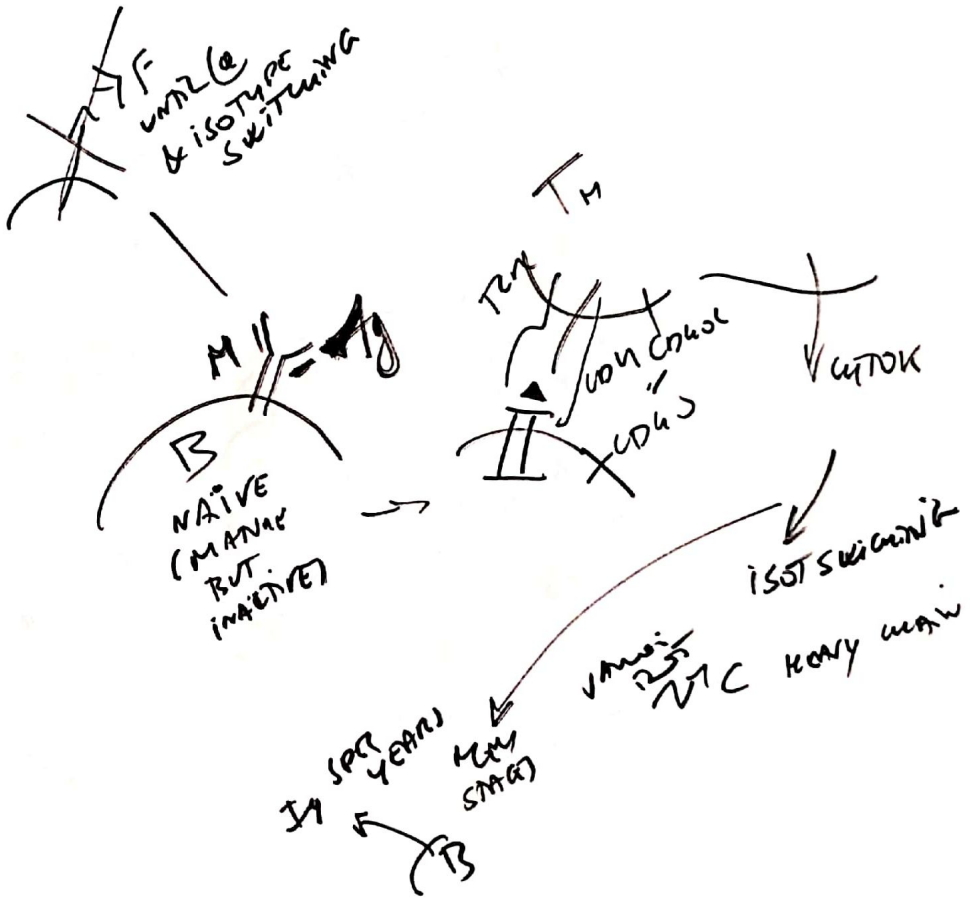

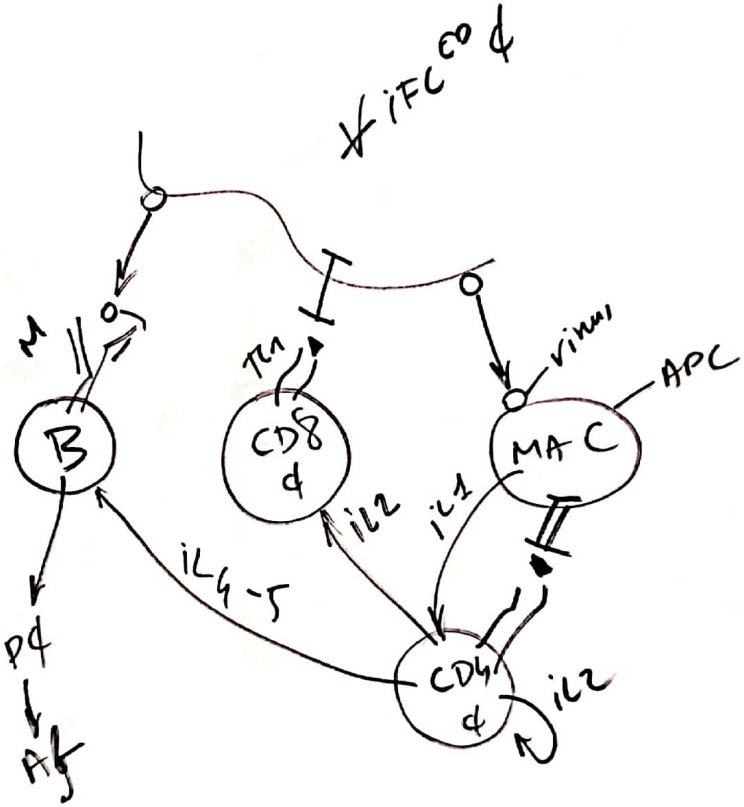

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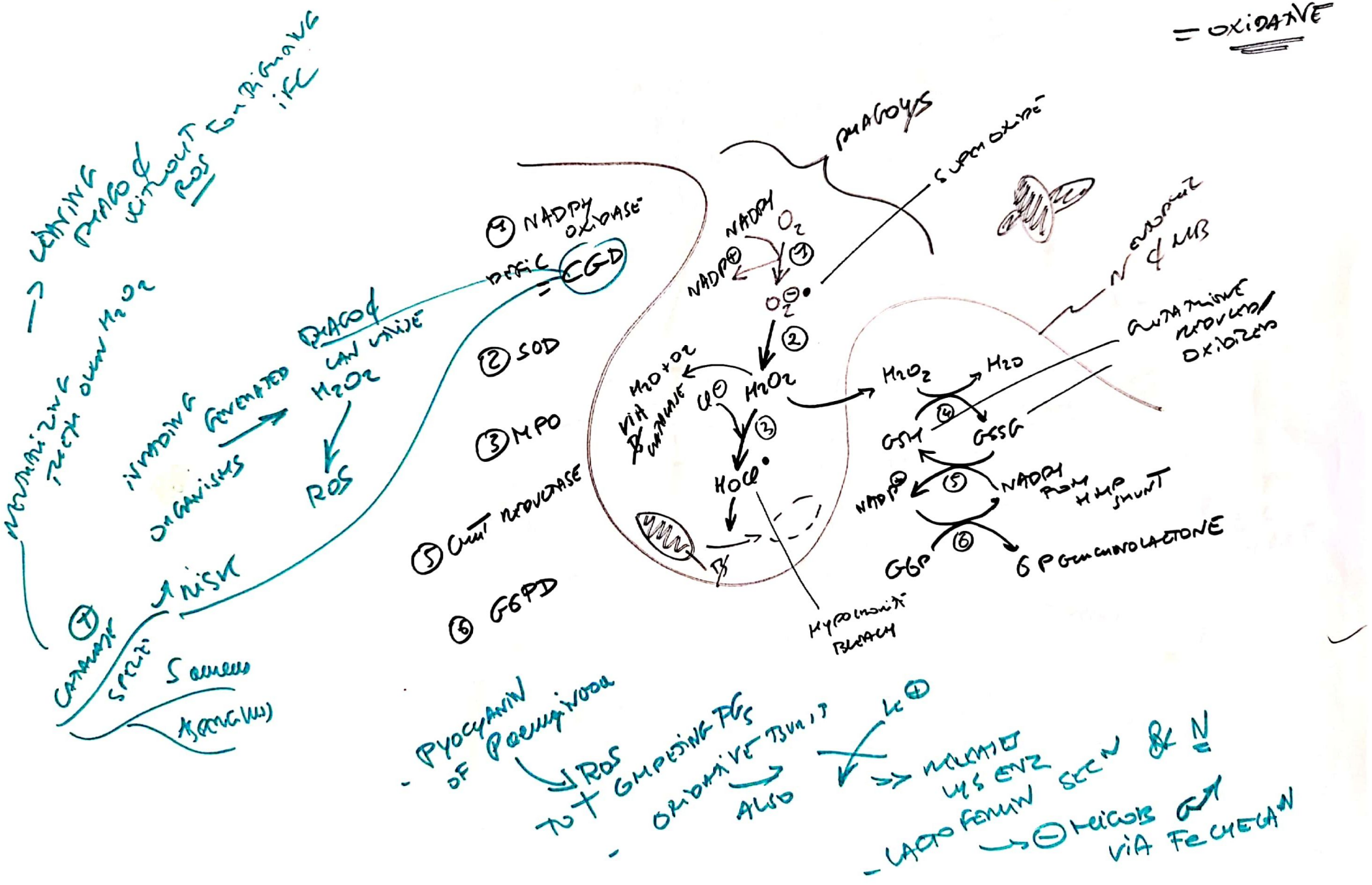

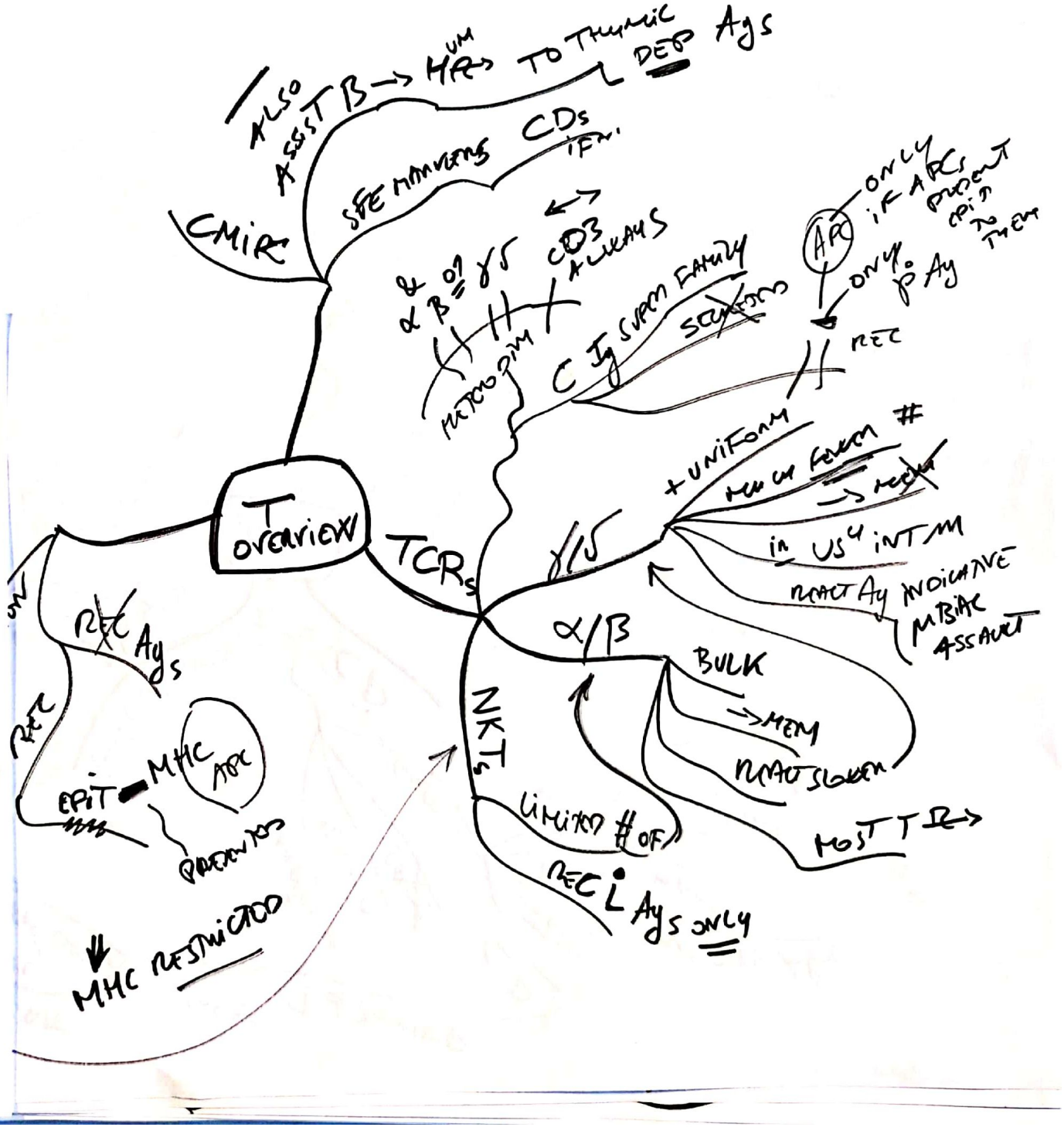

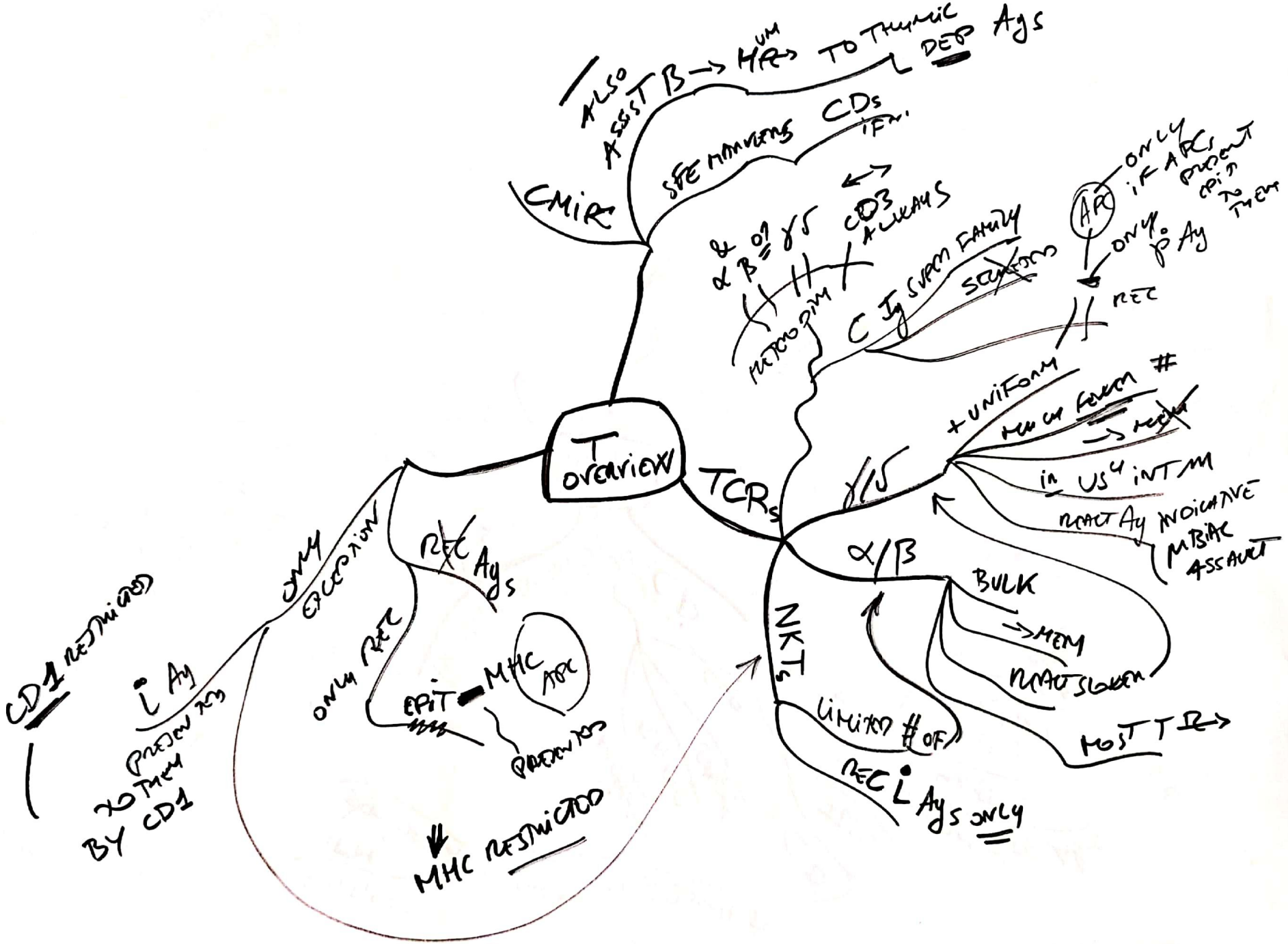

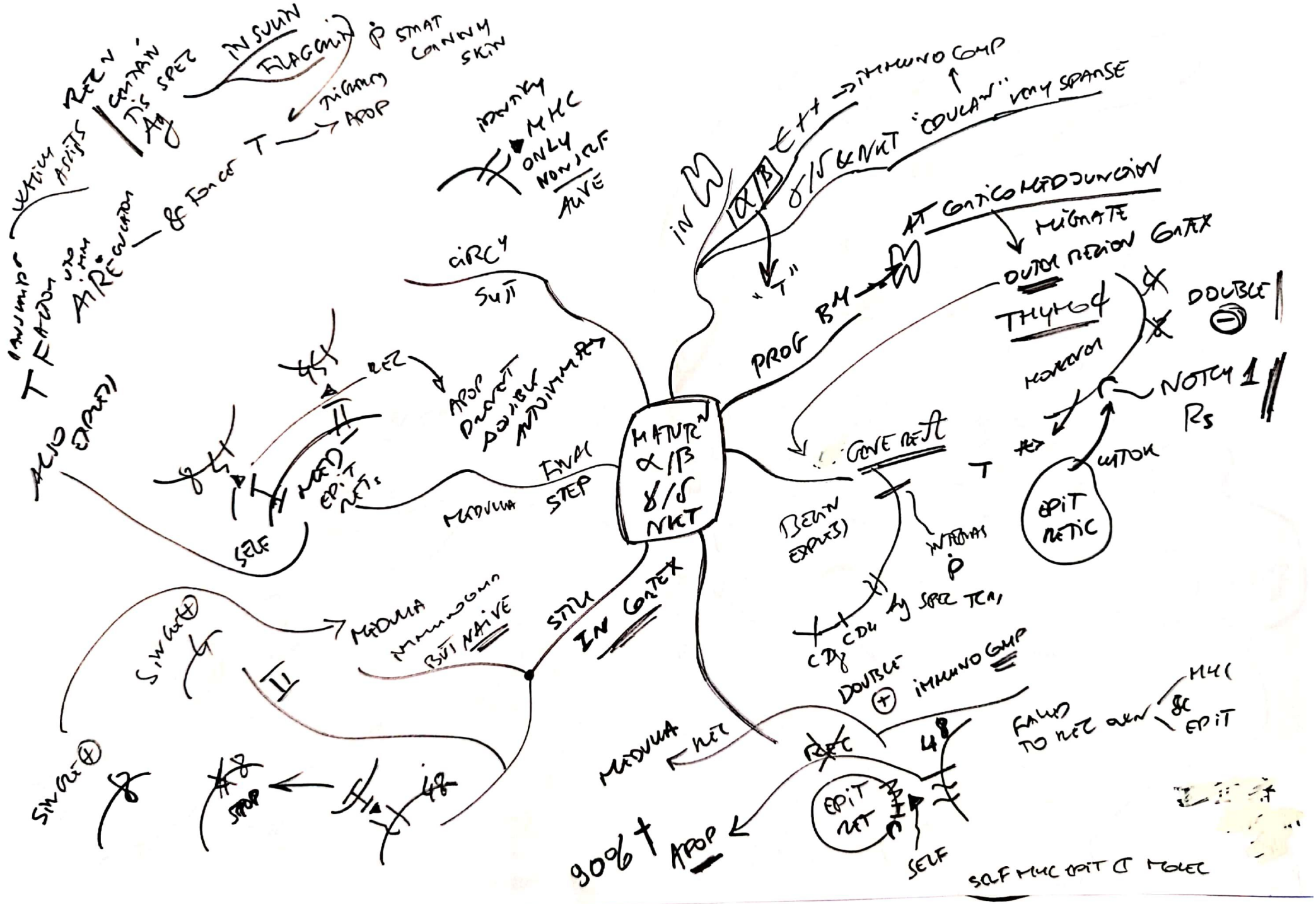
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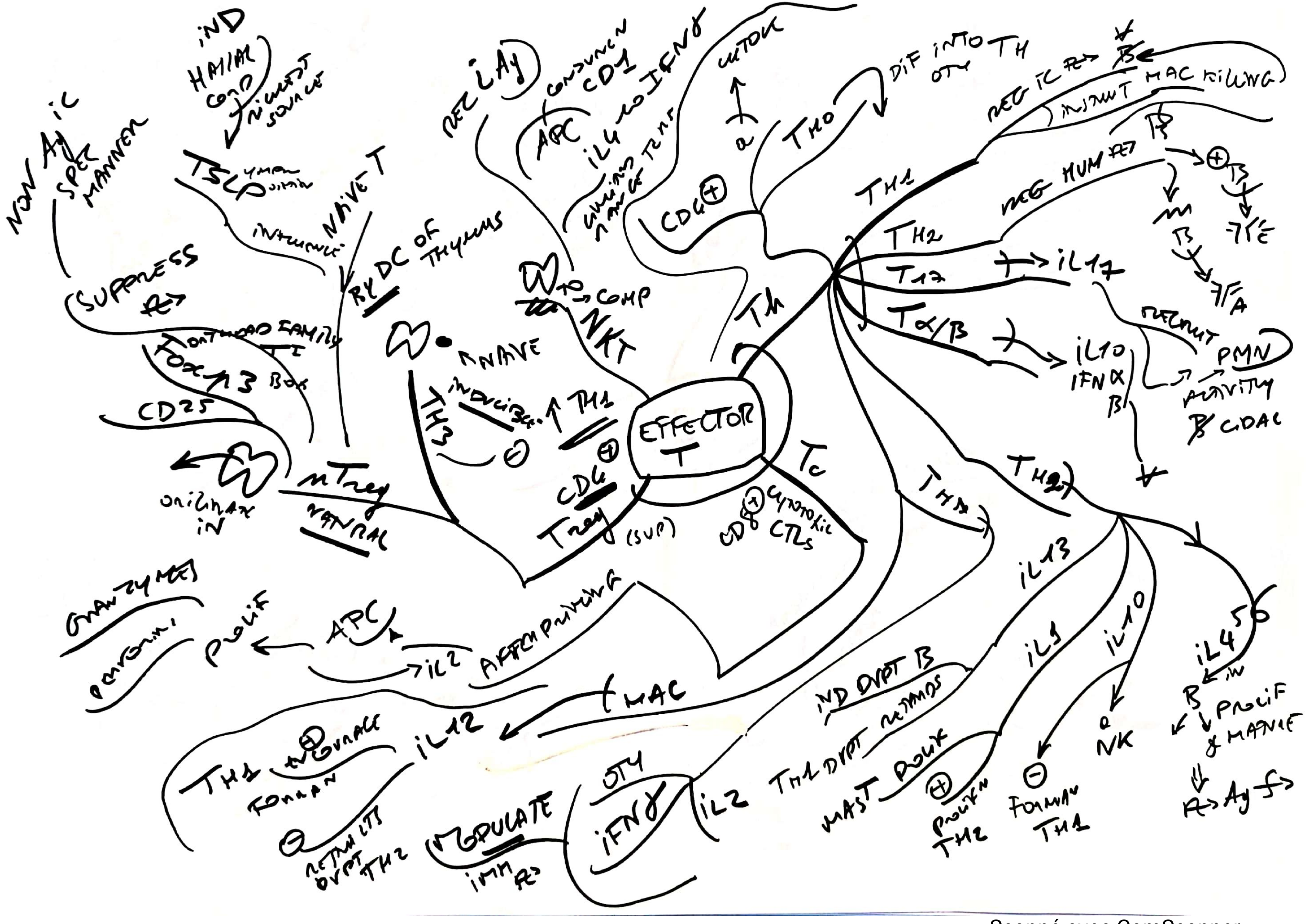
Scanné avec CamScanner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CYTOTOXIC CTLs
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APC
CD1
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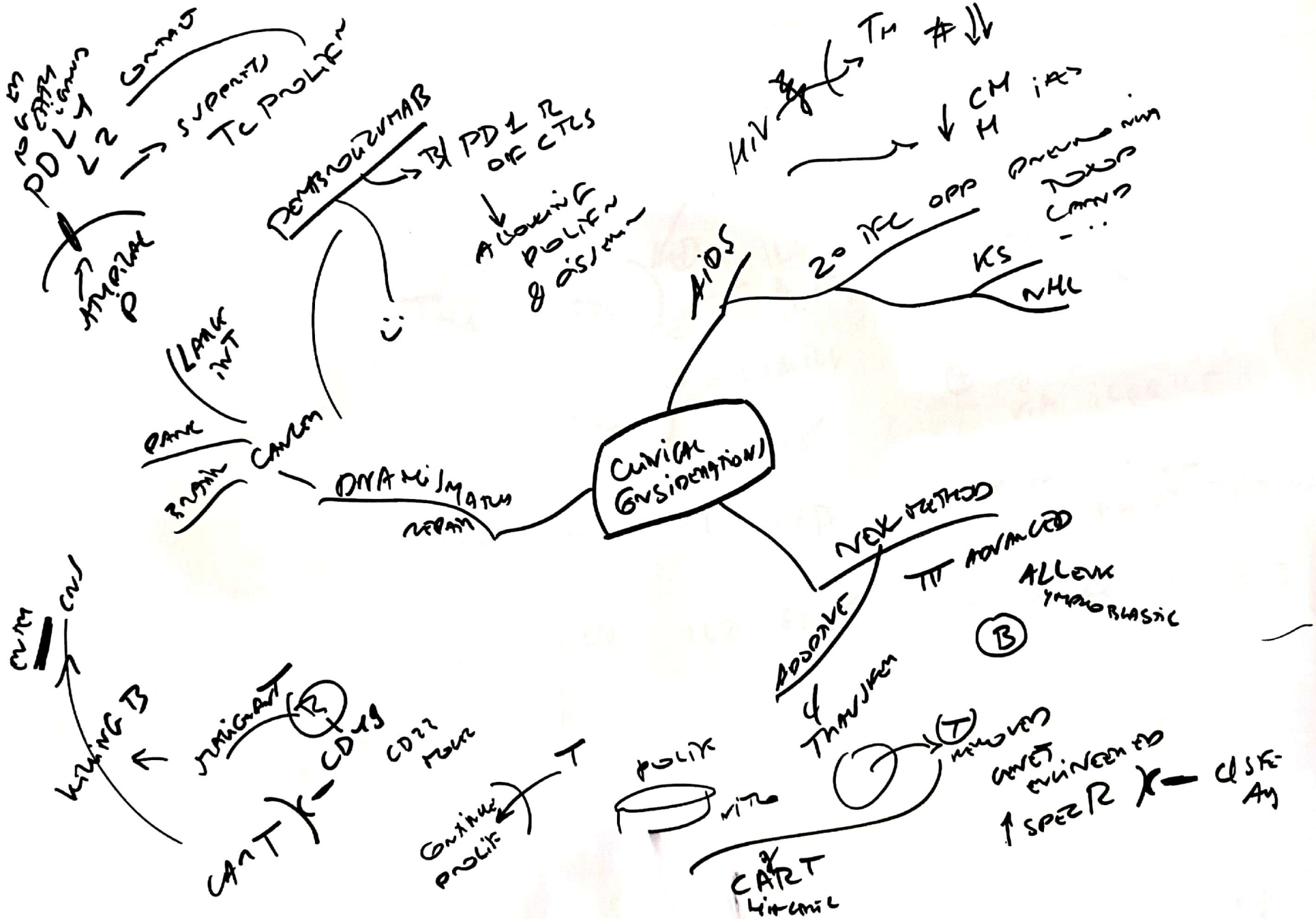

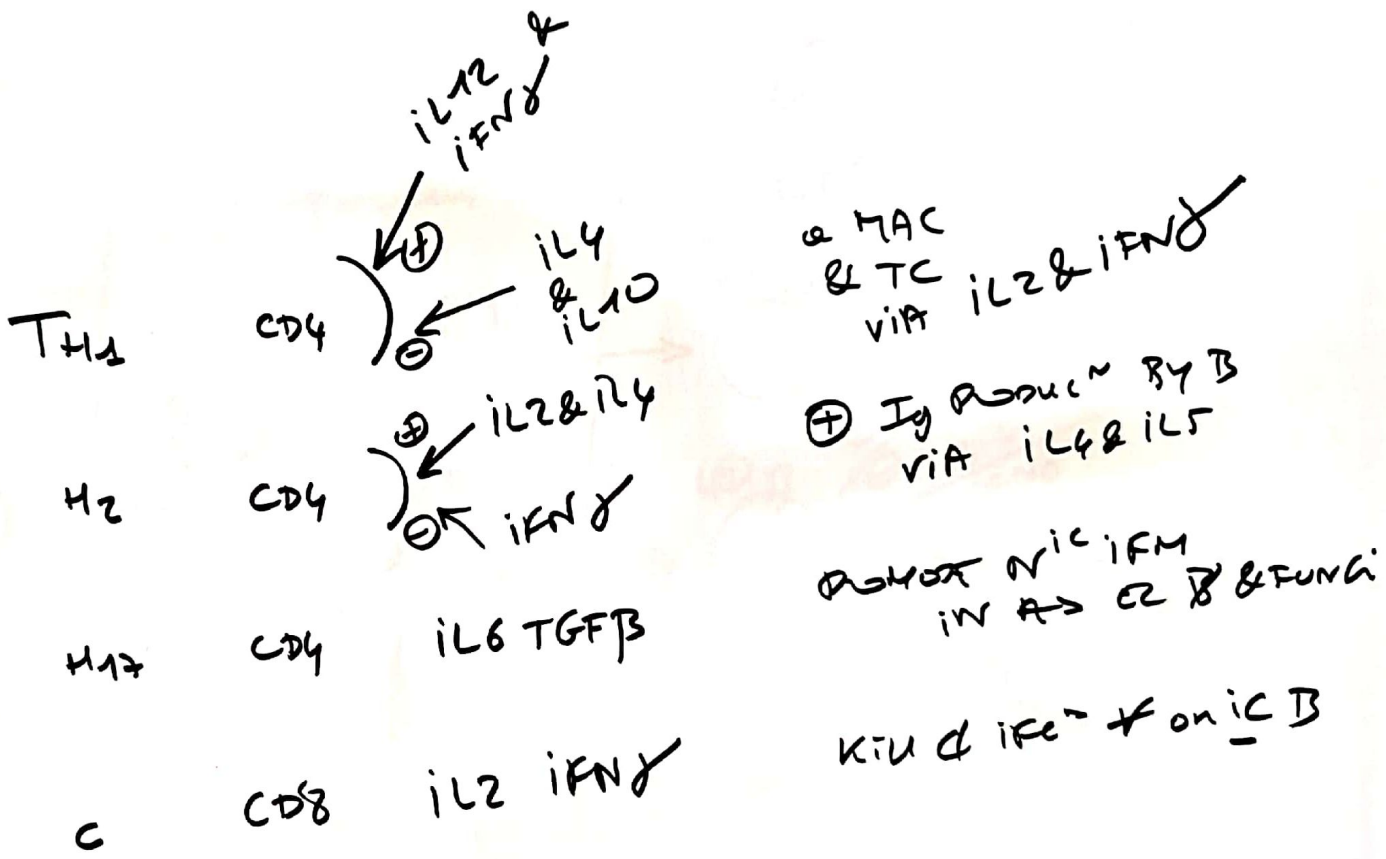

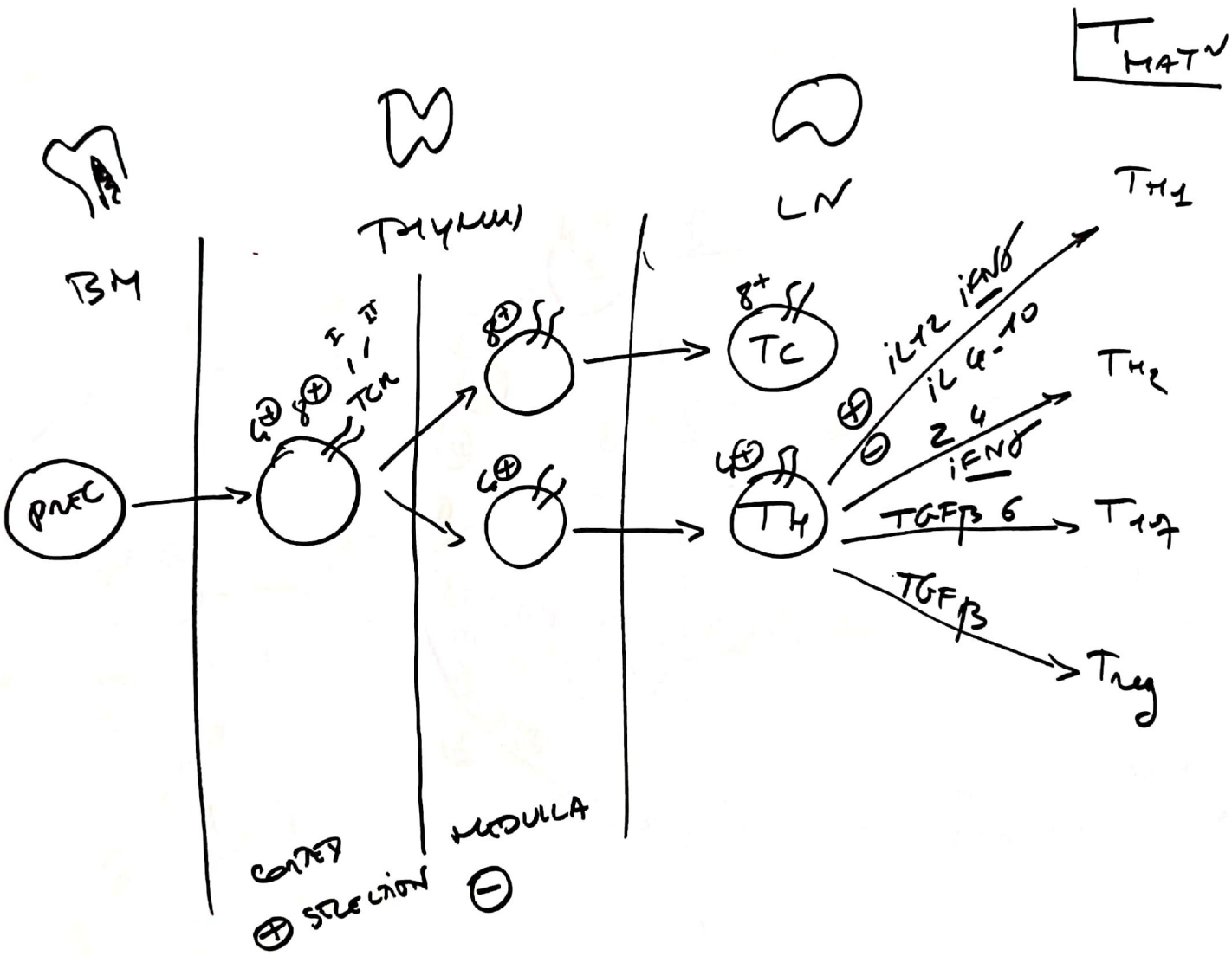

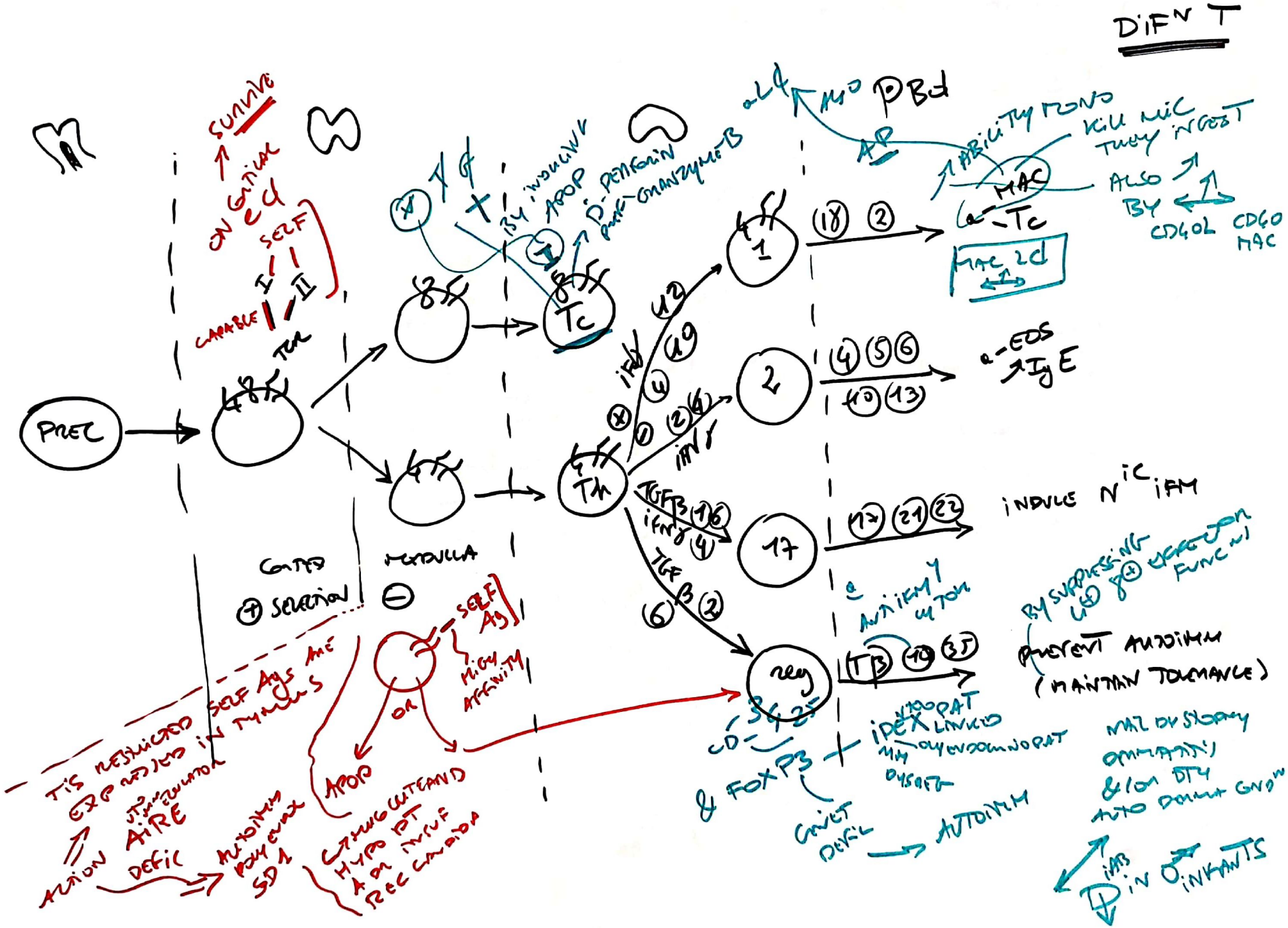

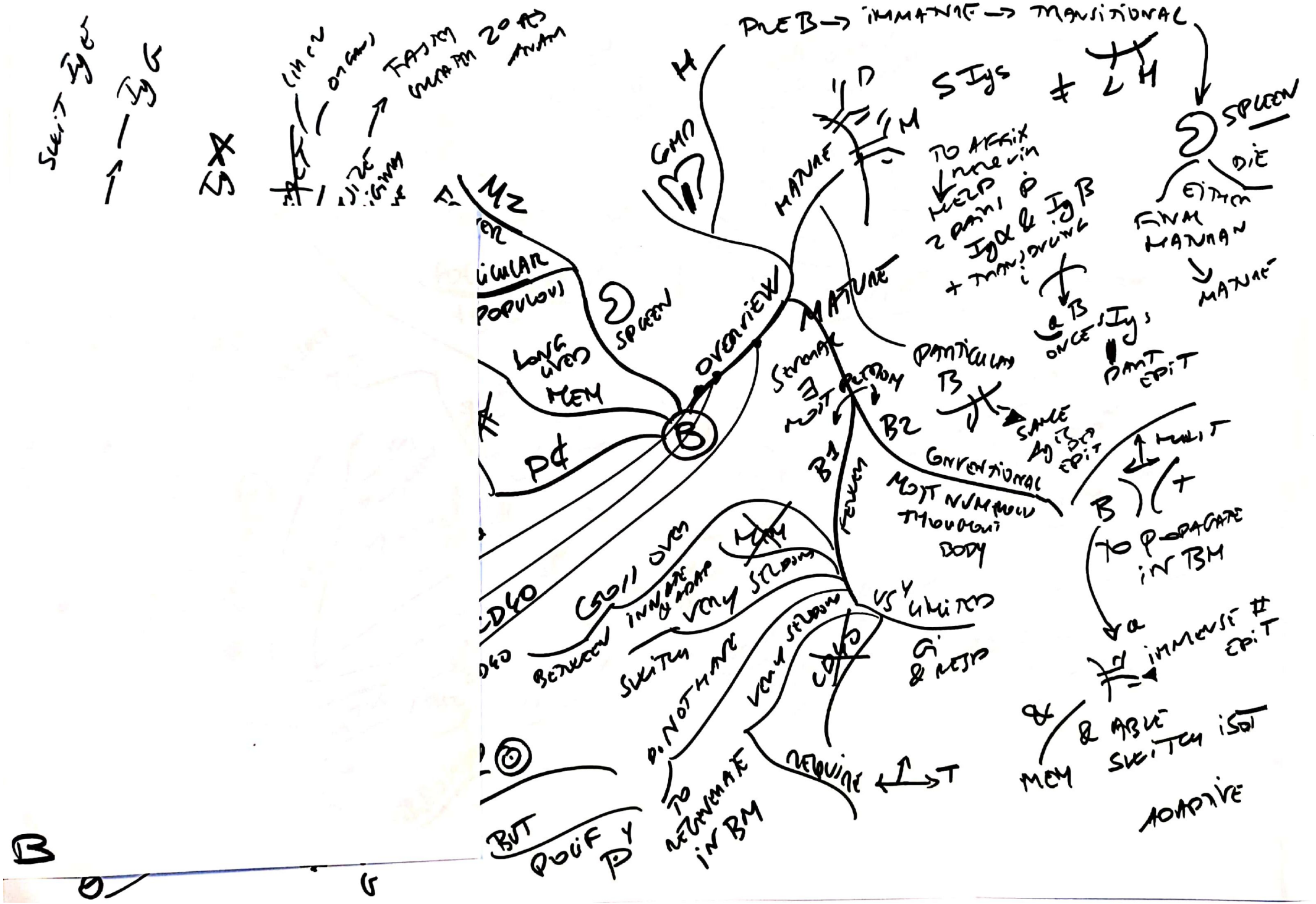

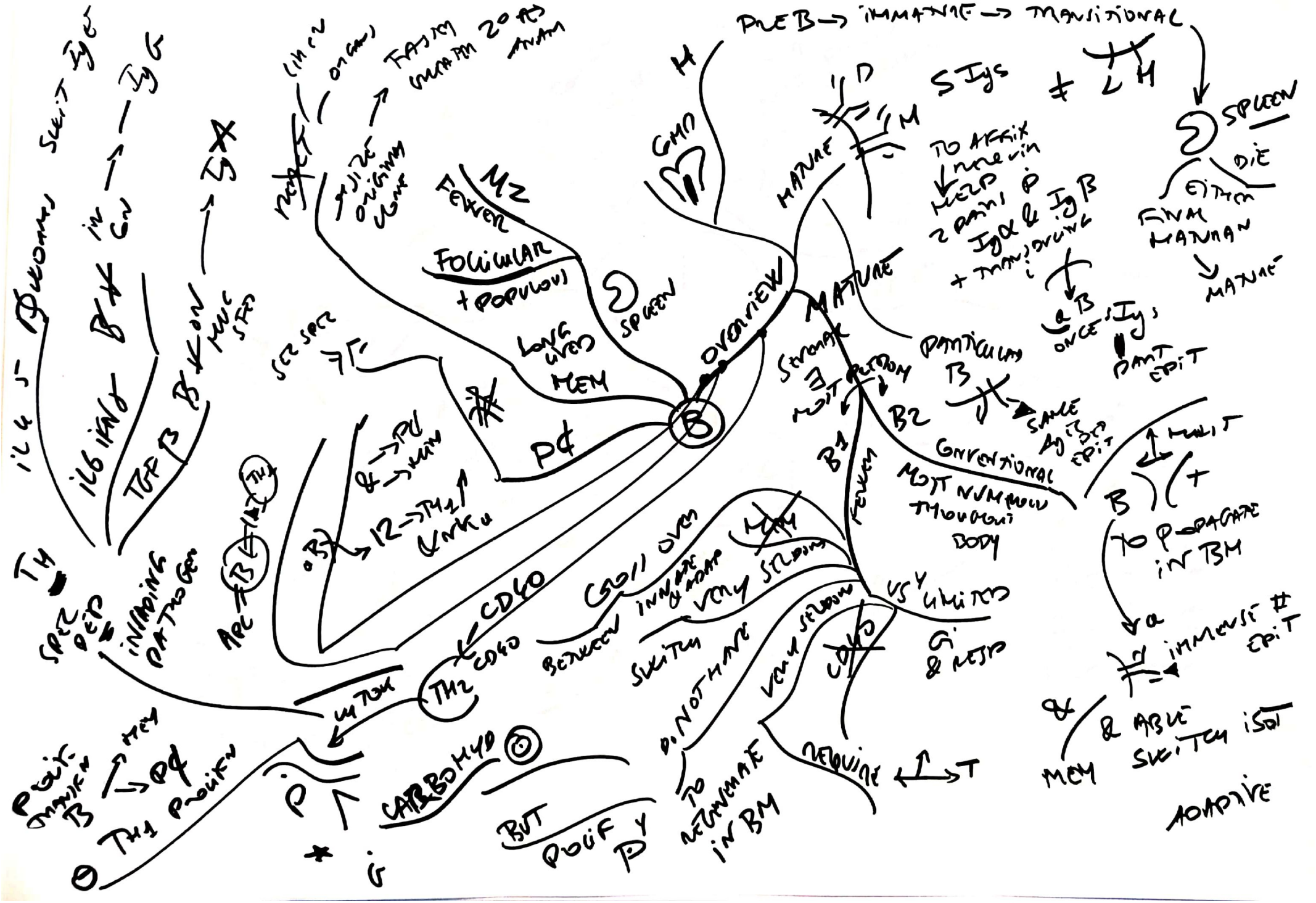

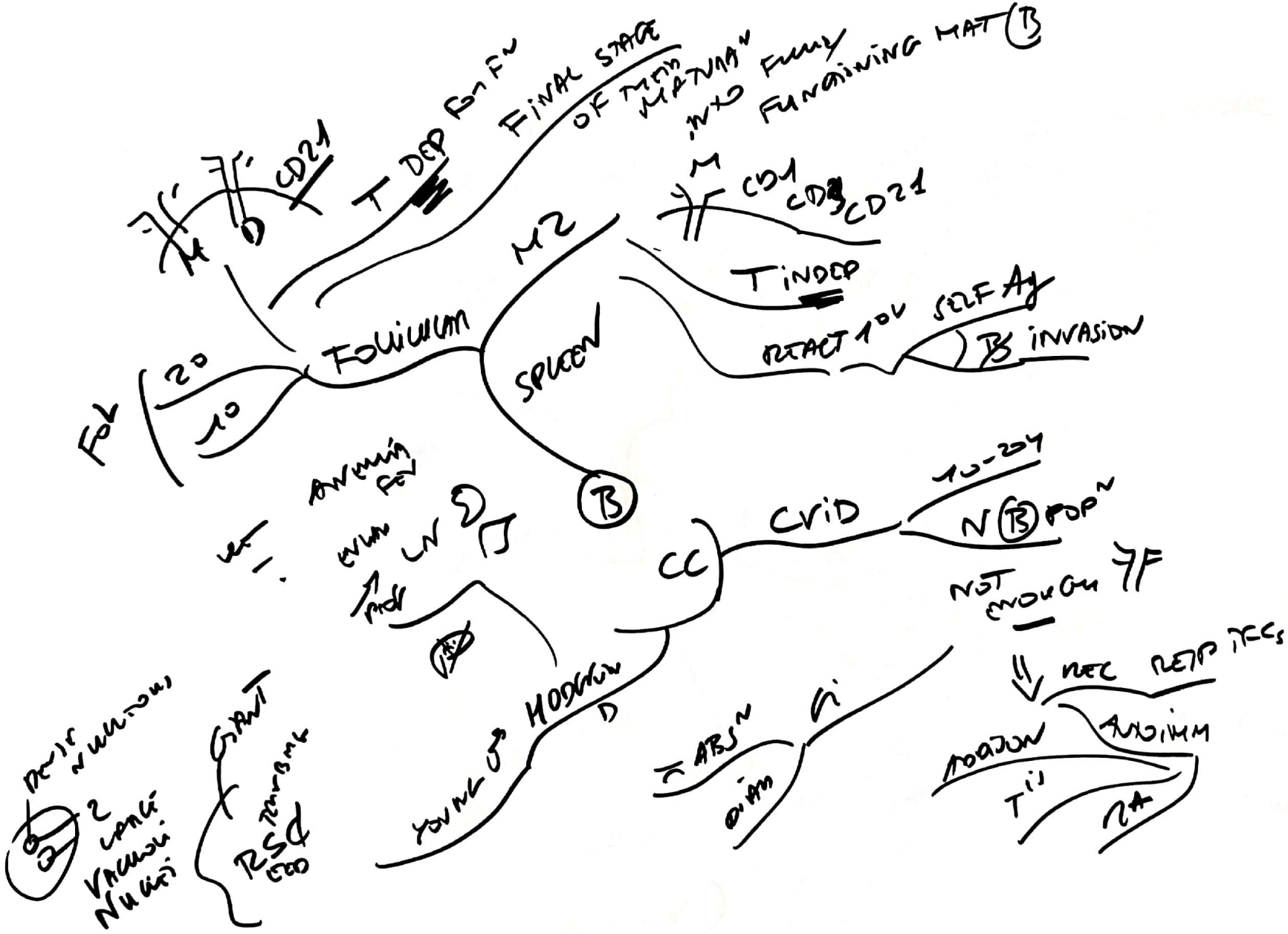

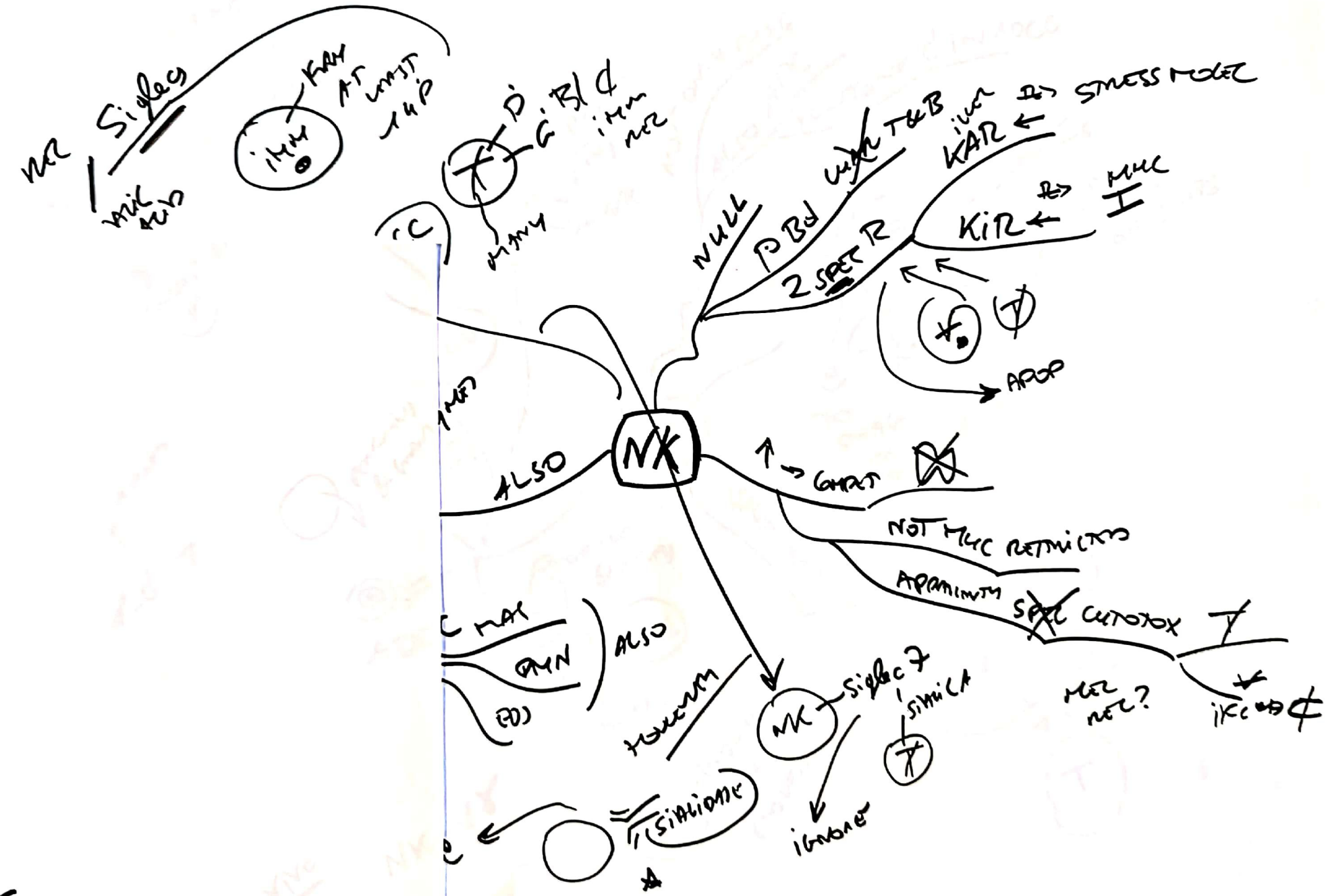

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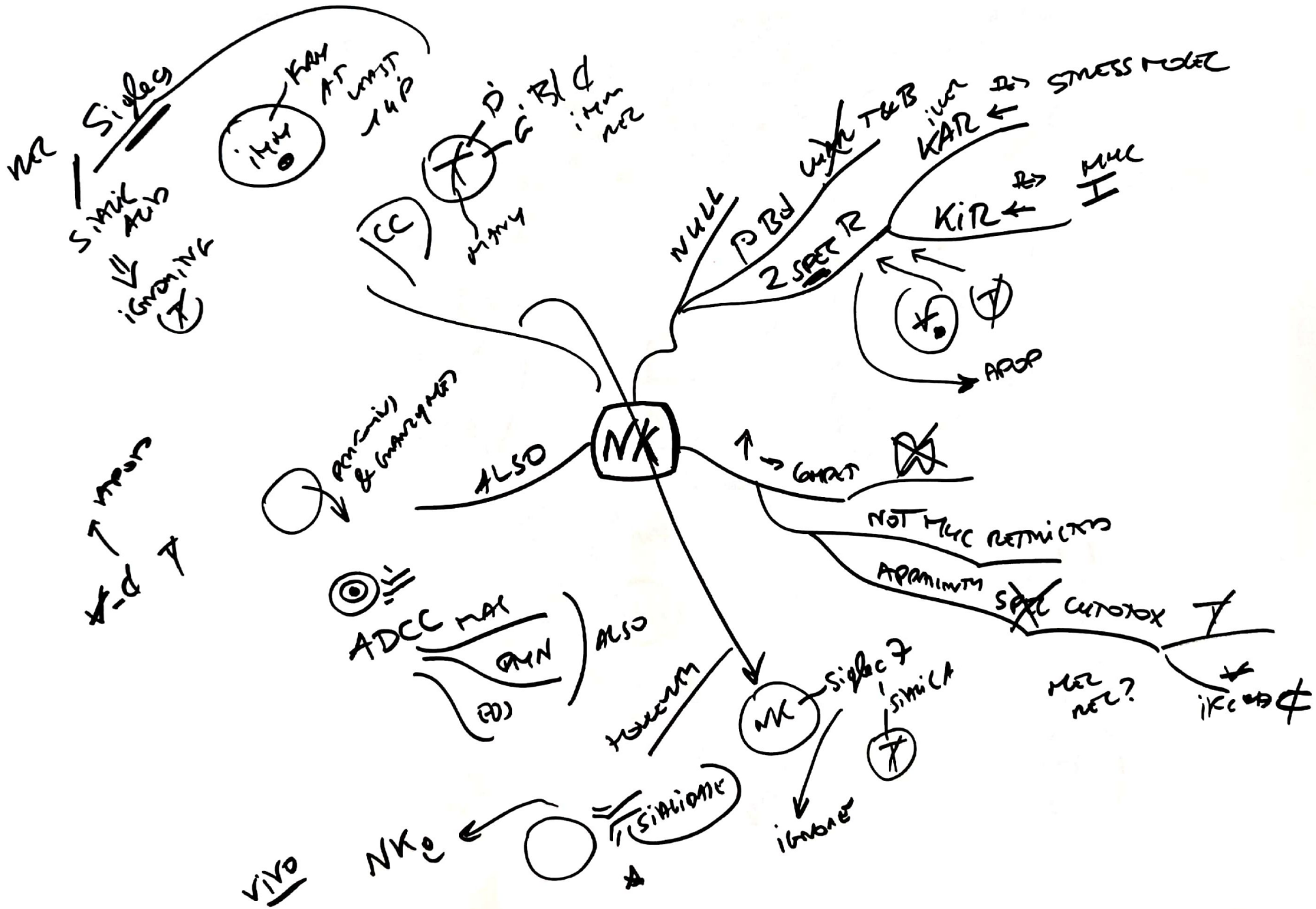

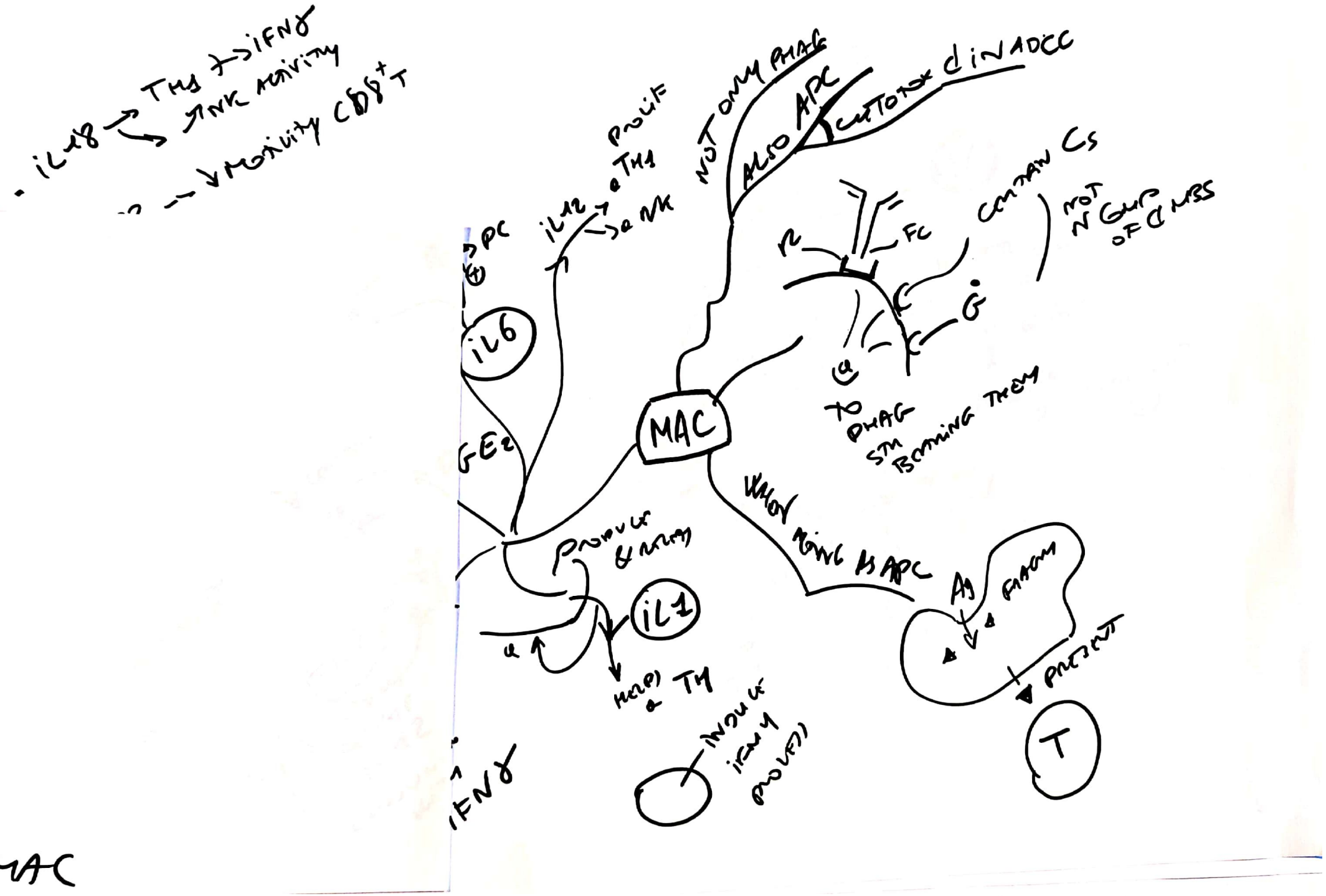

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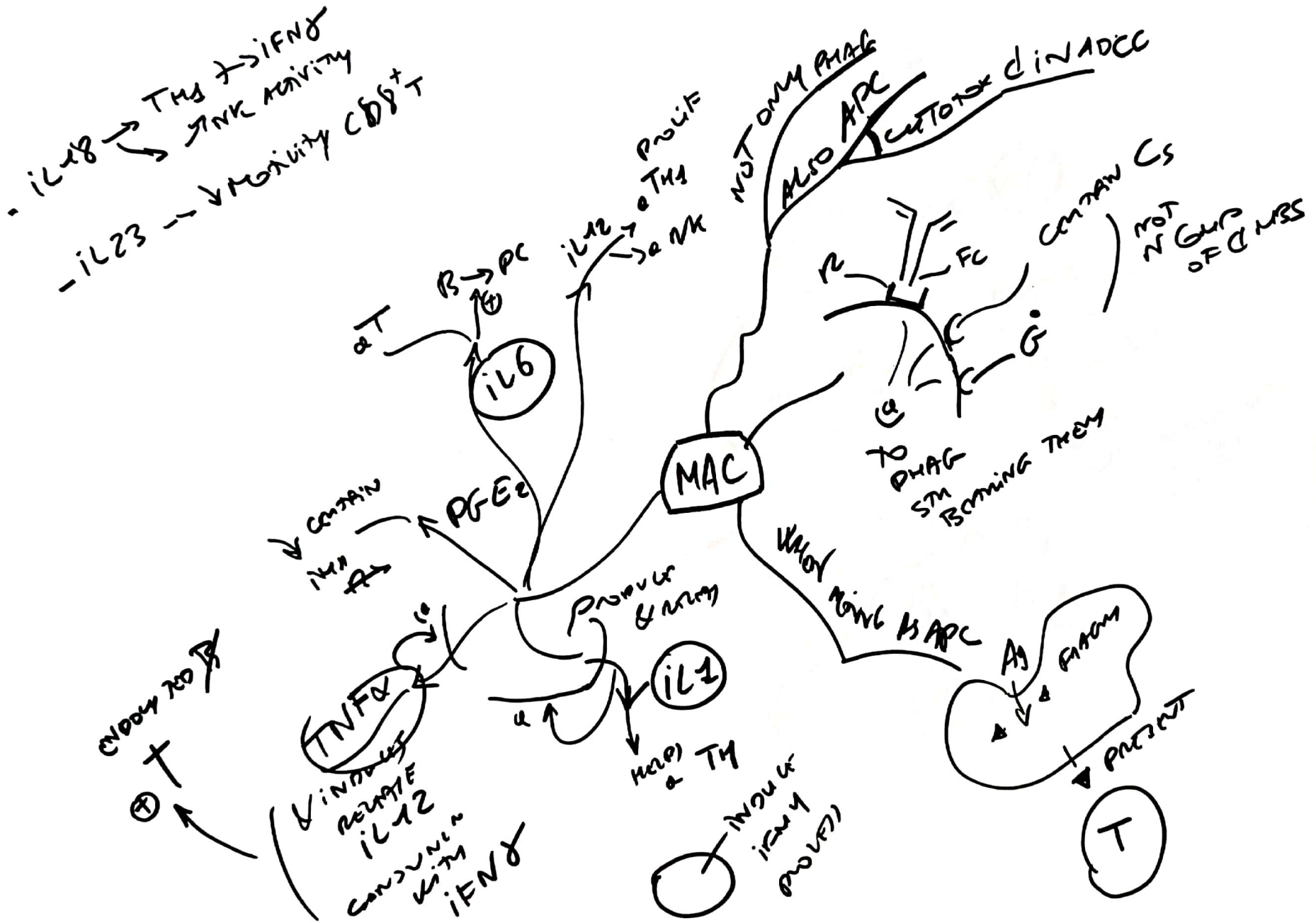

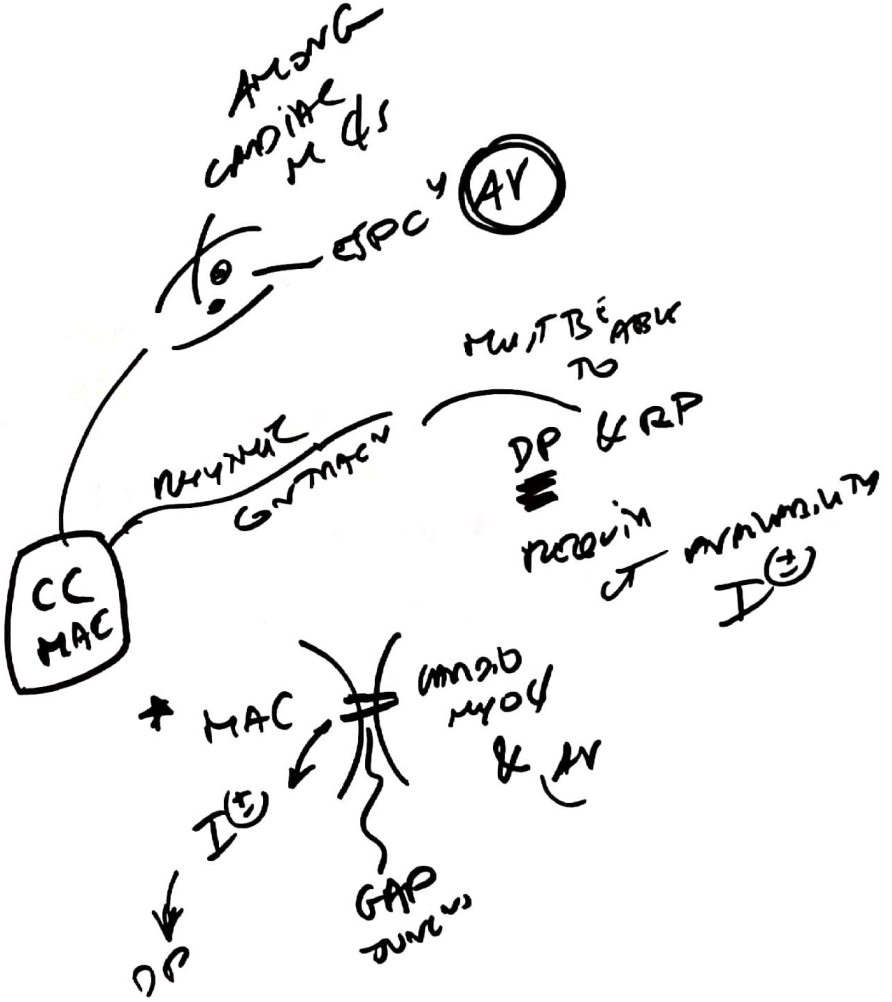

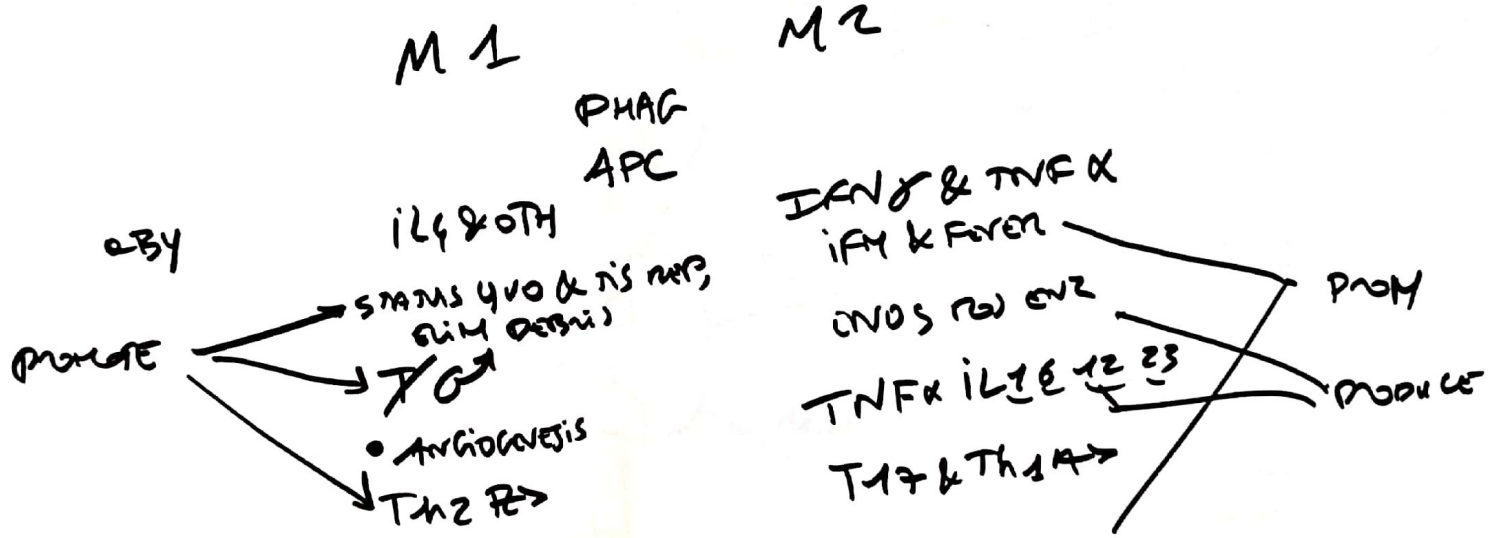

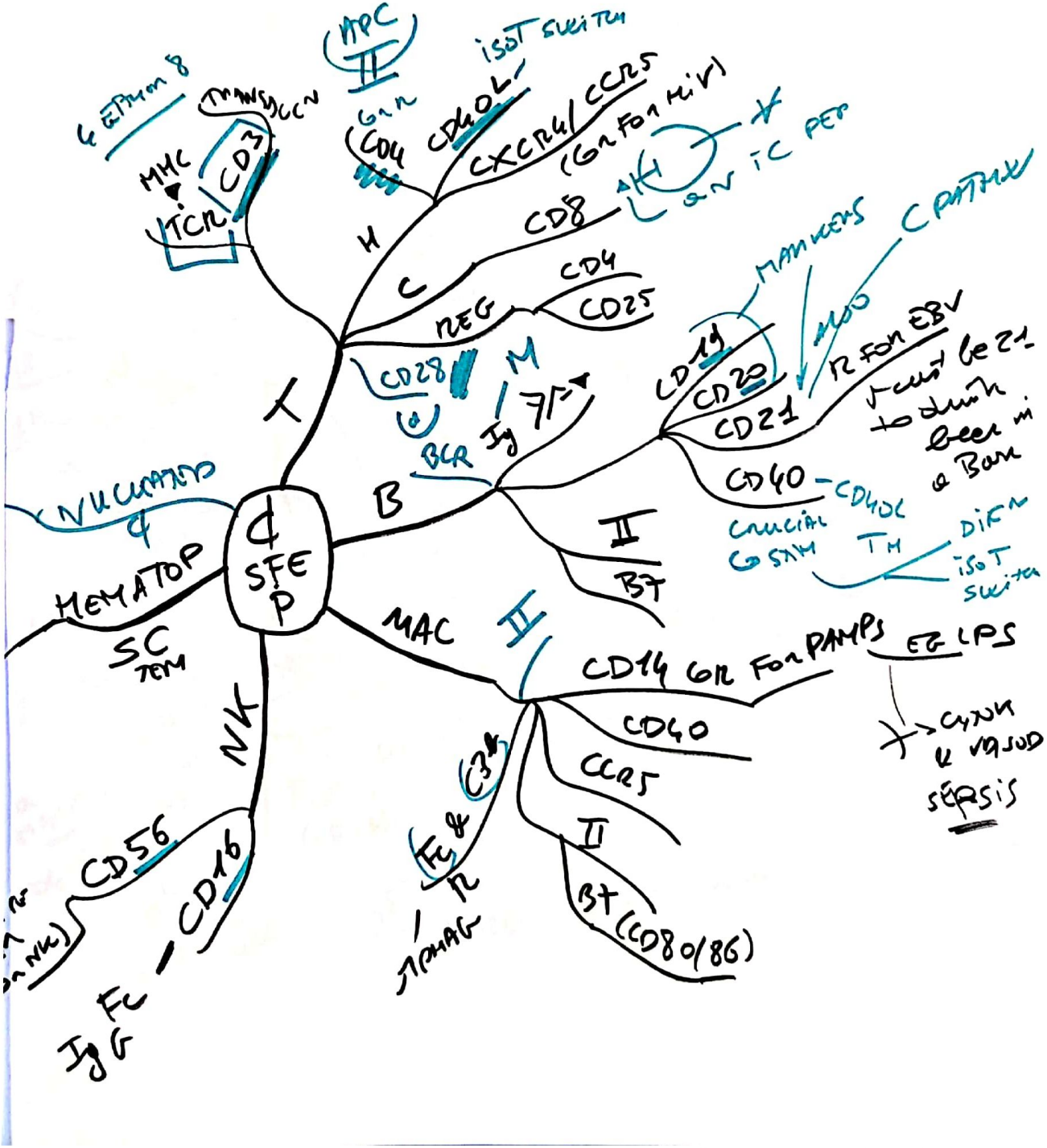

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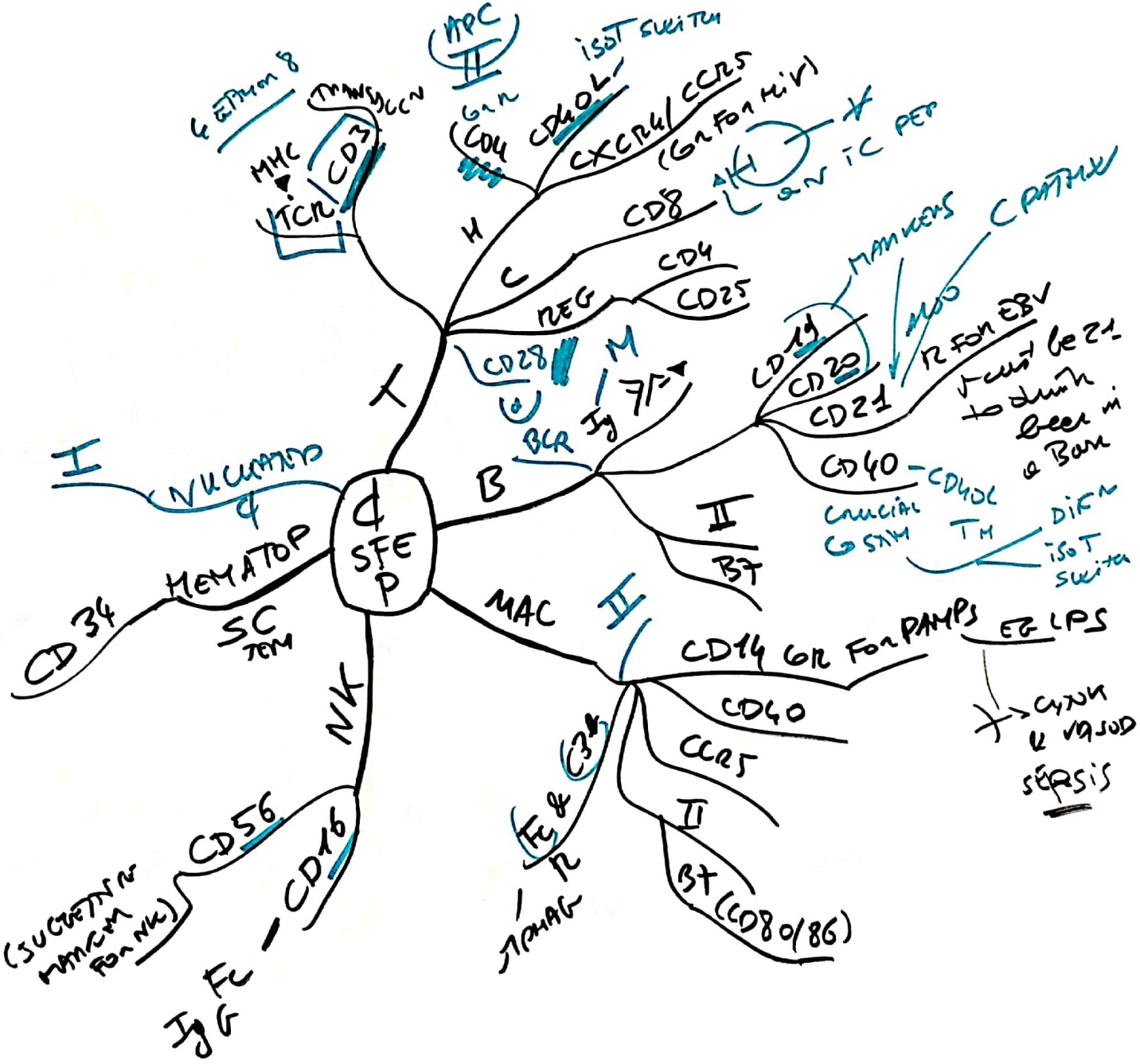
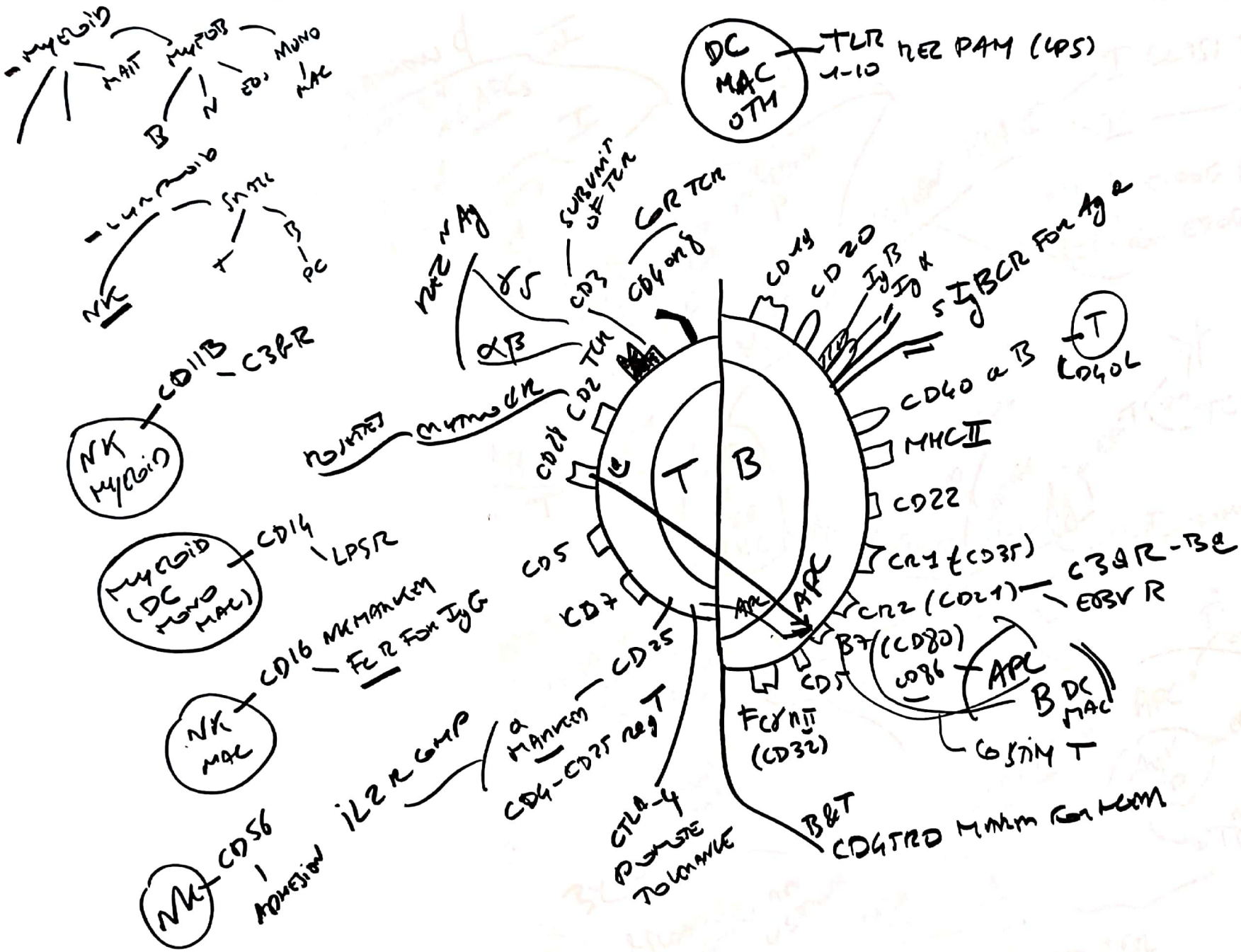
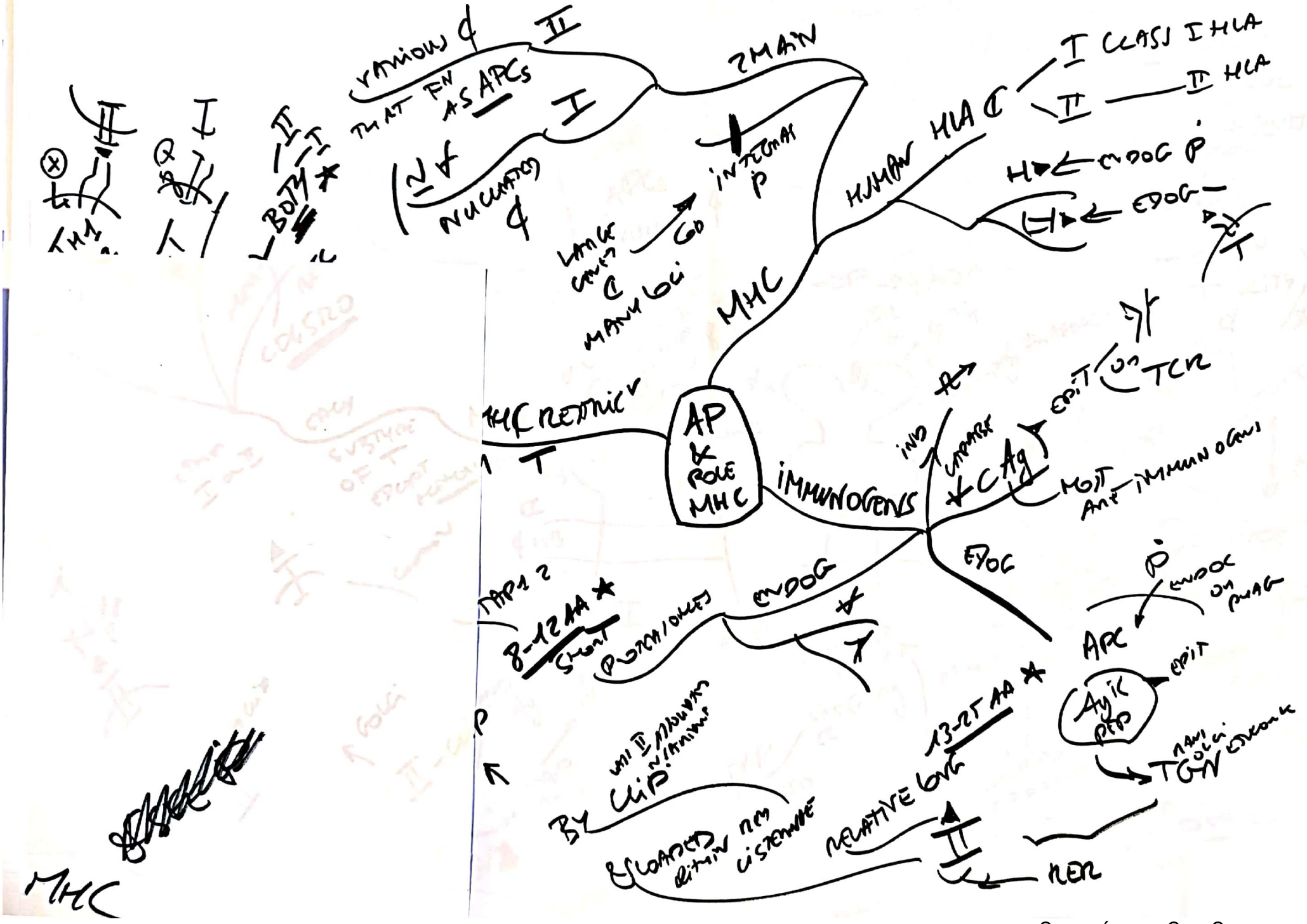
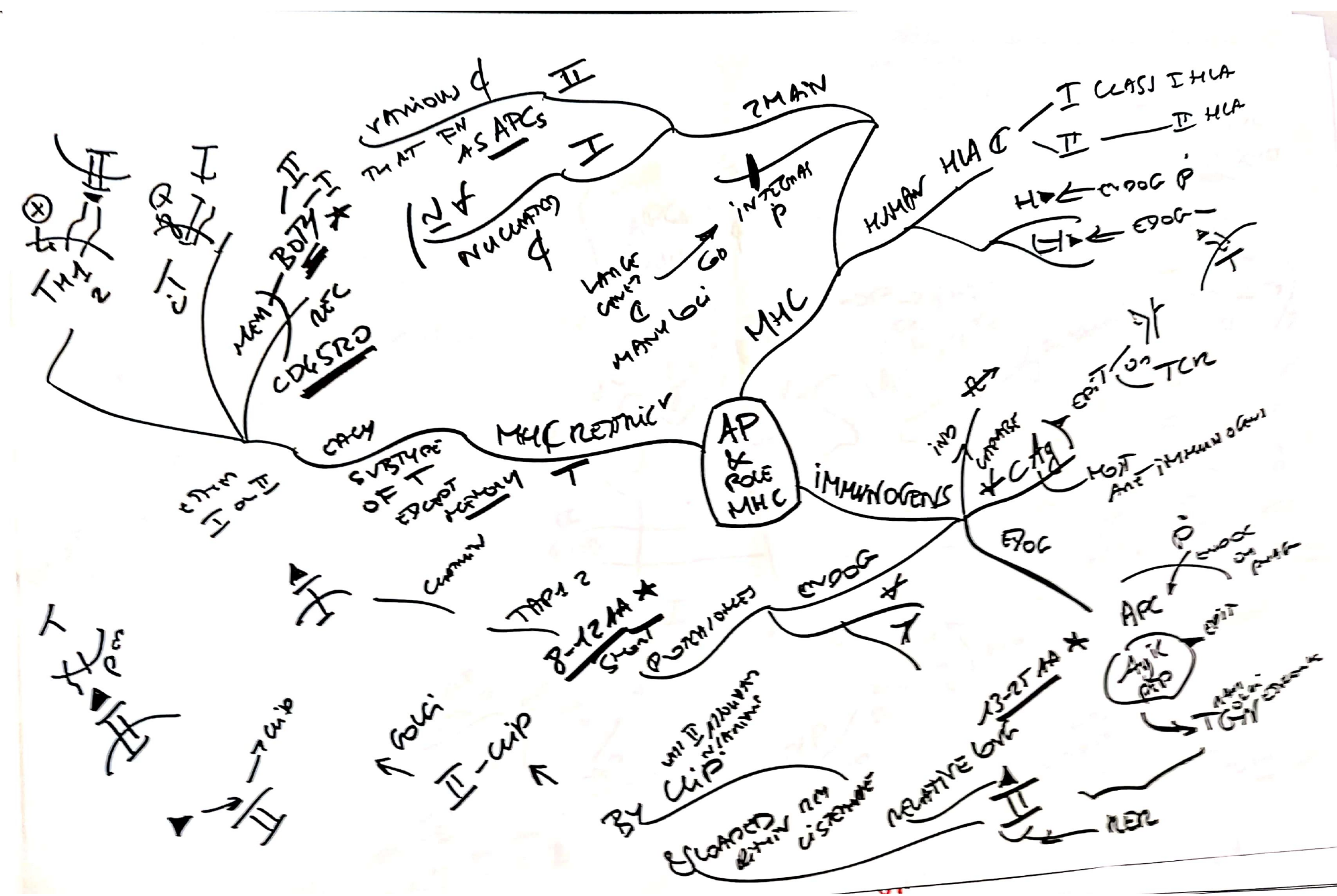
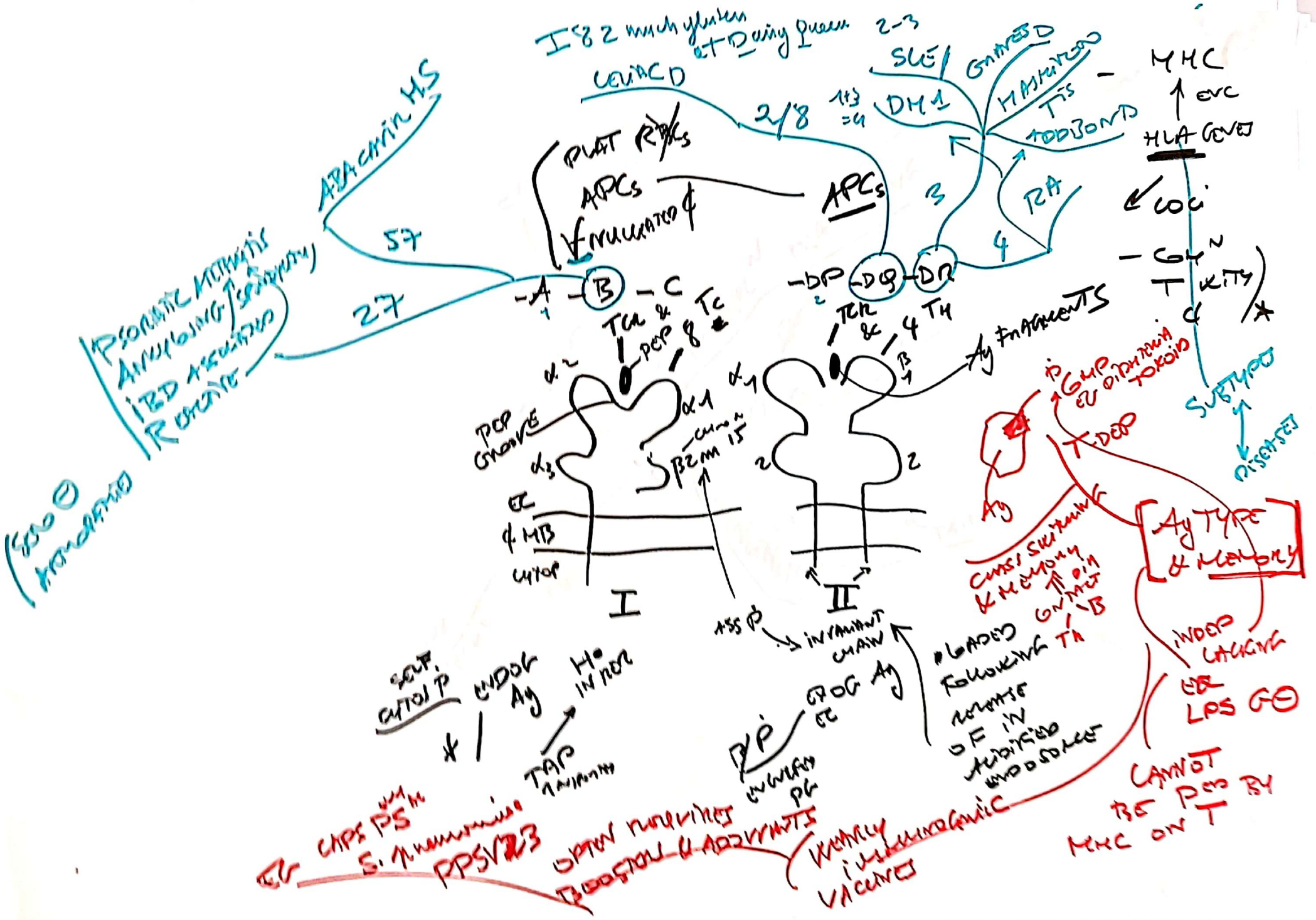
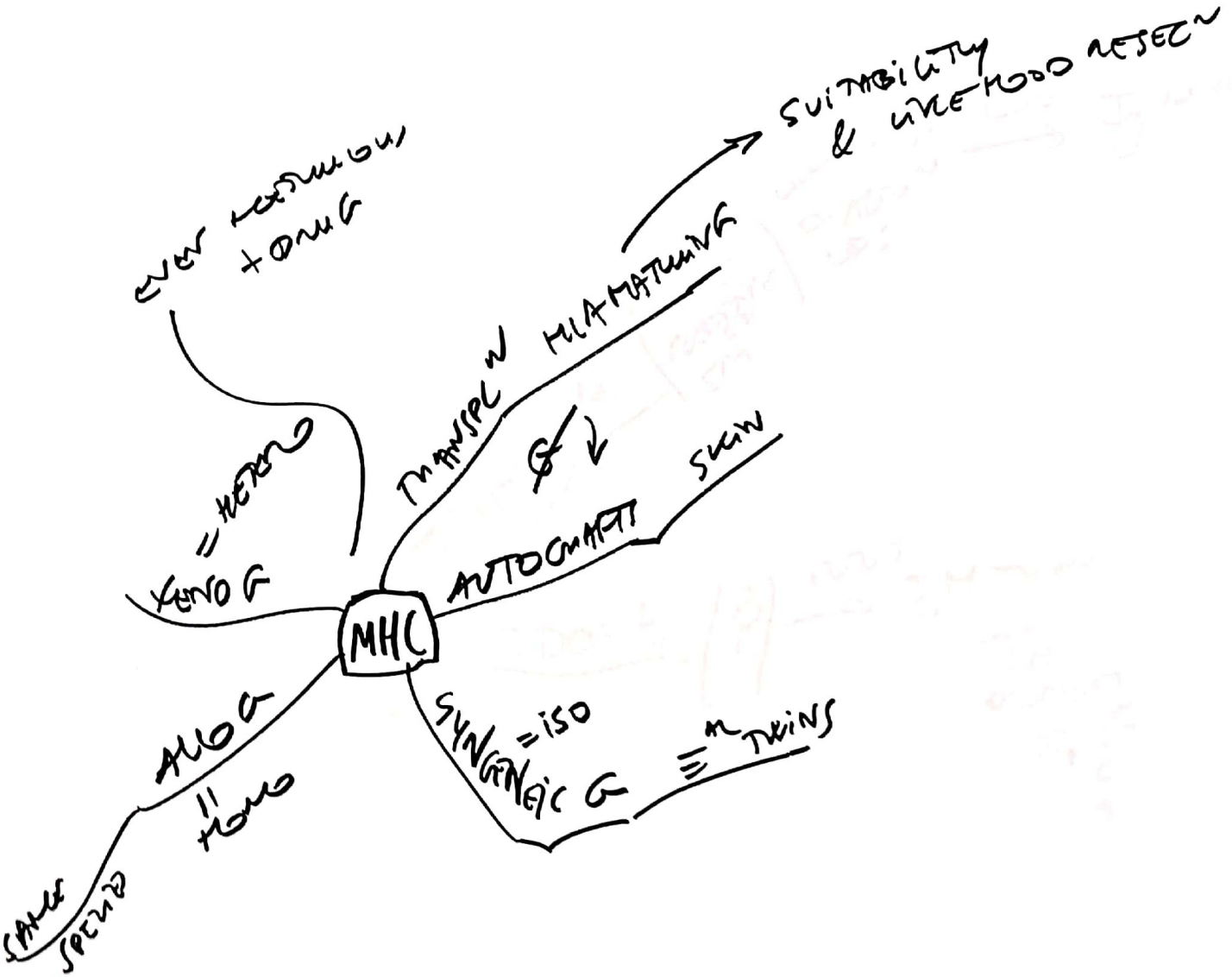


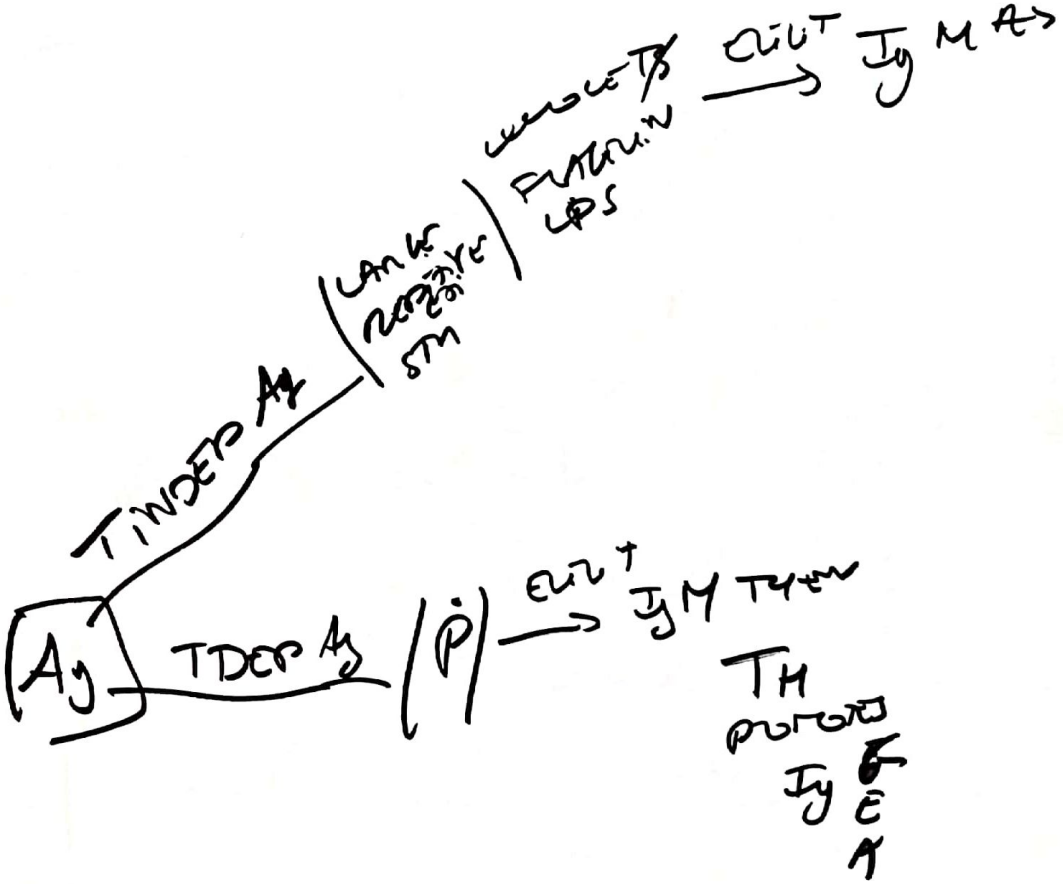




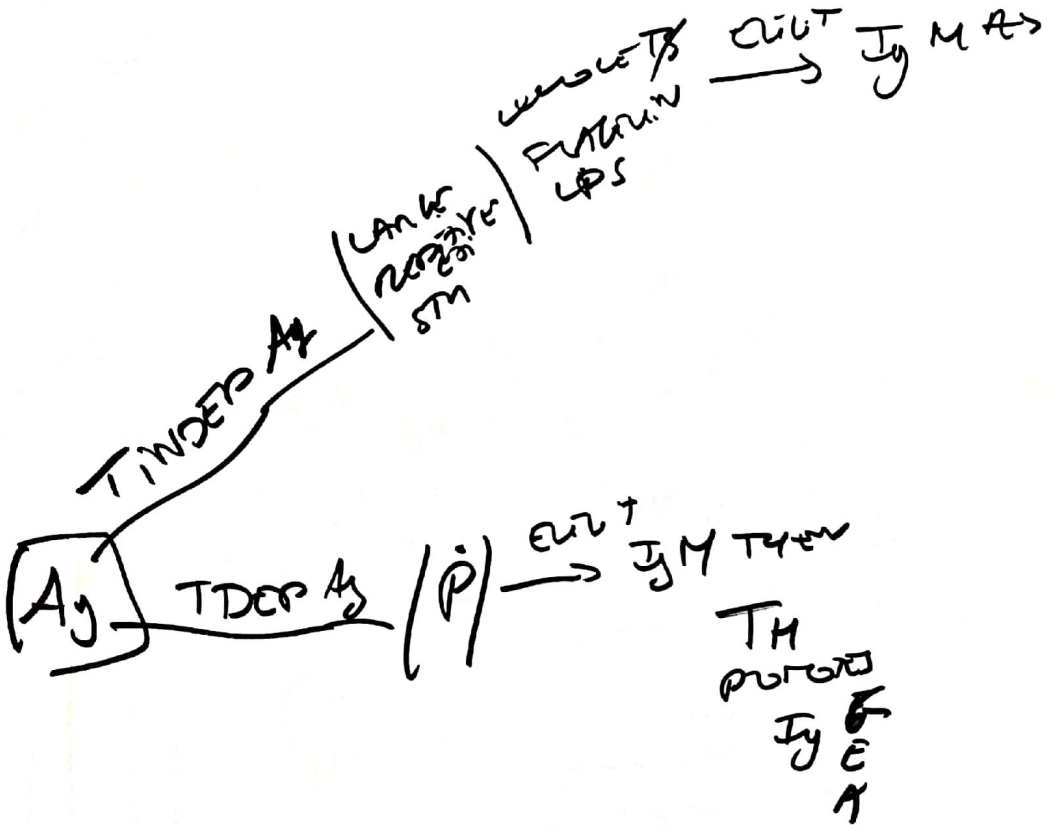


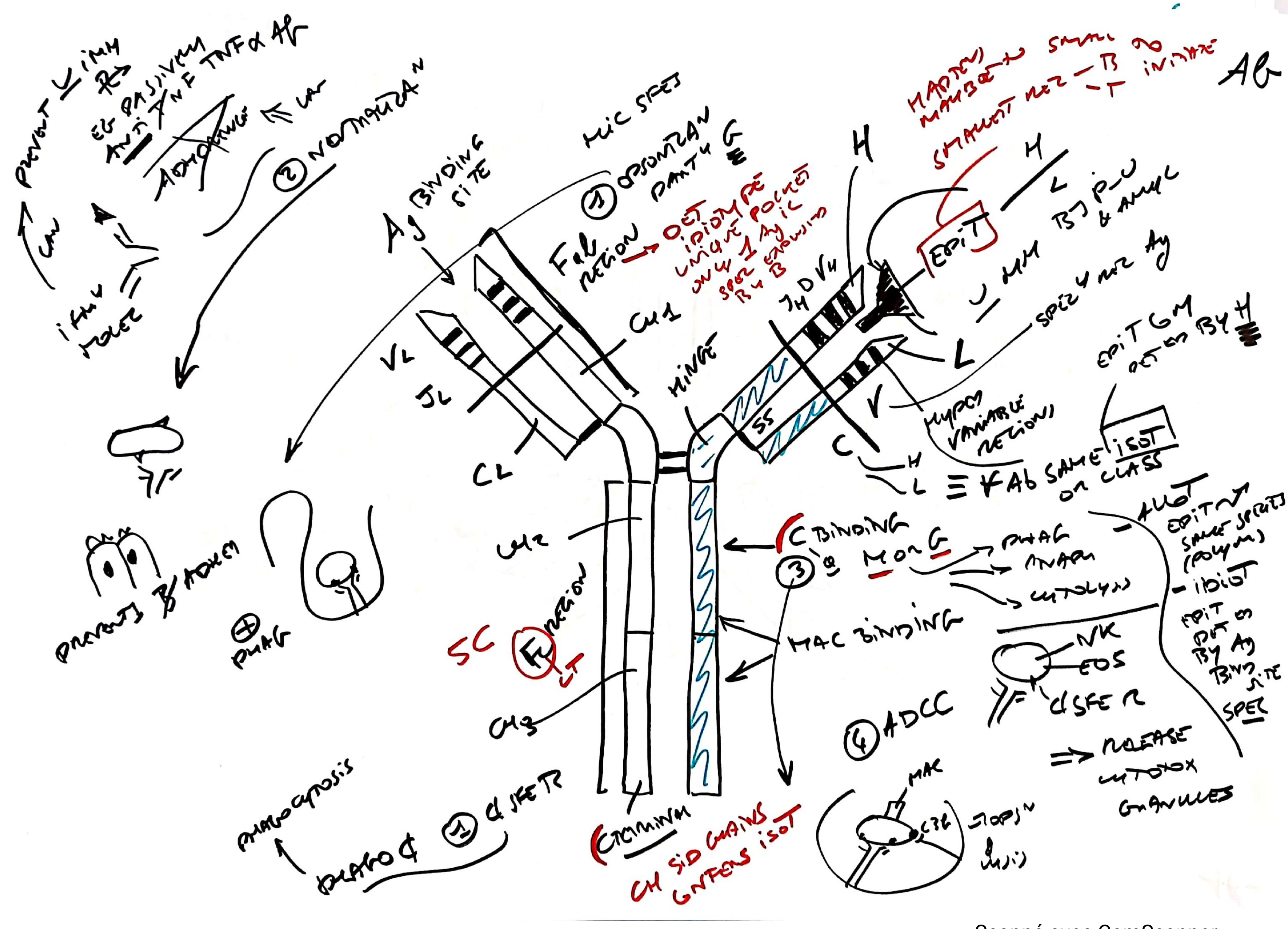




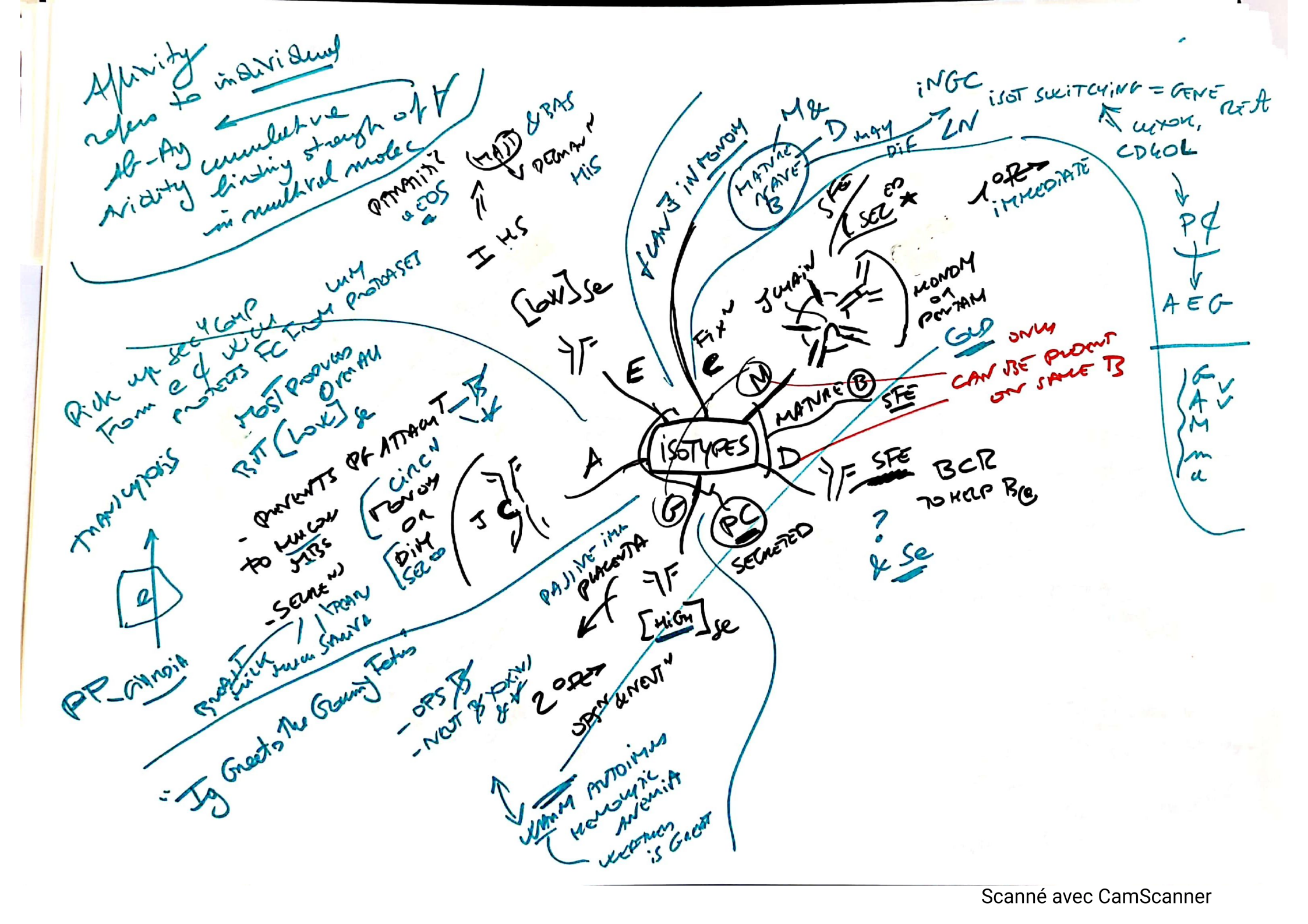


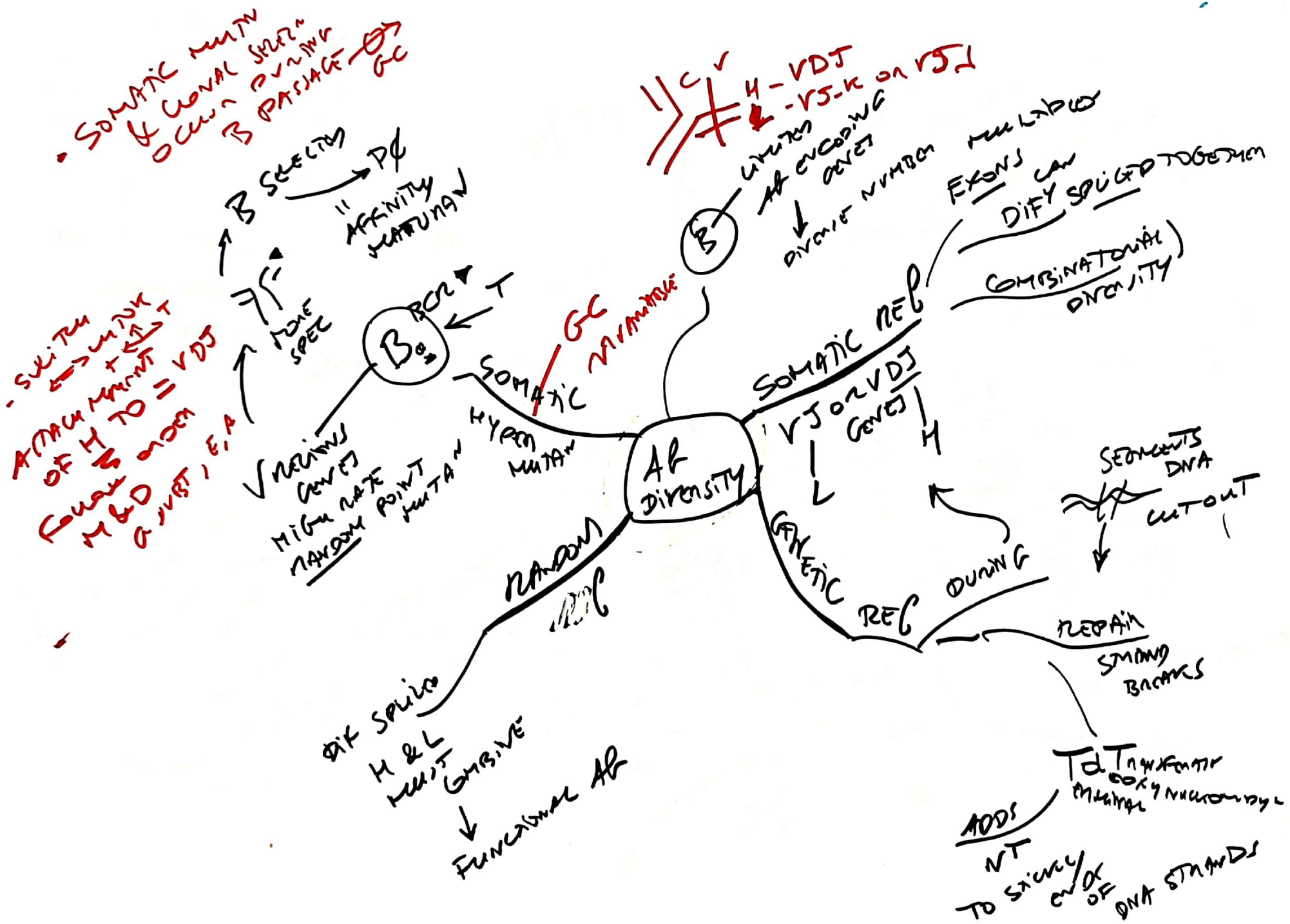
Ig s

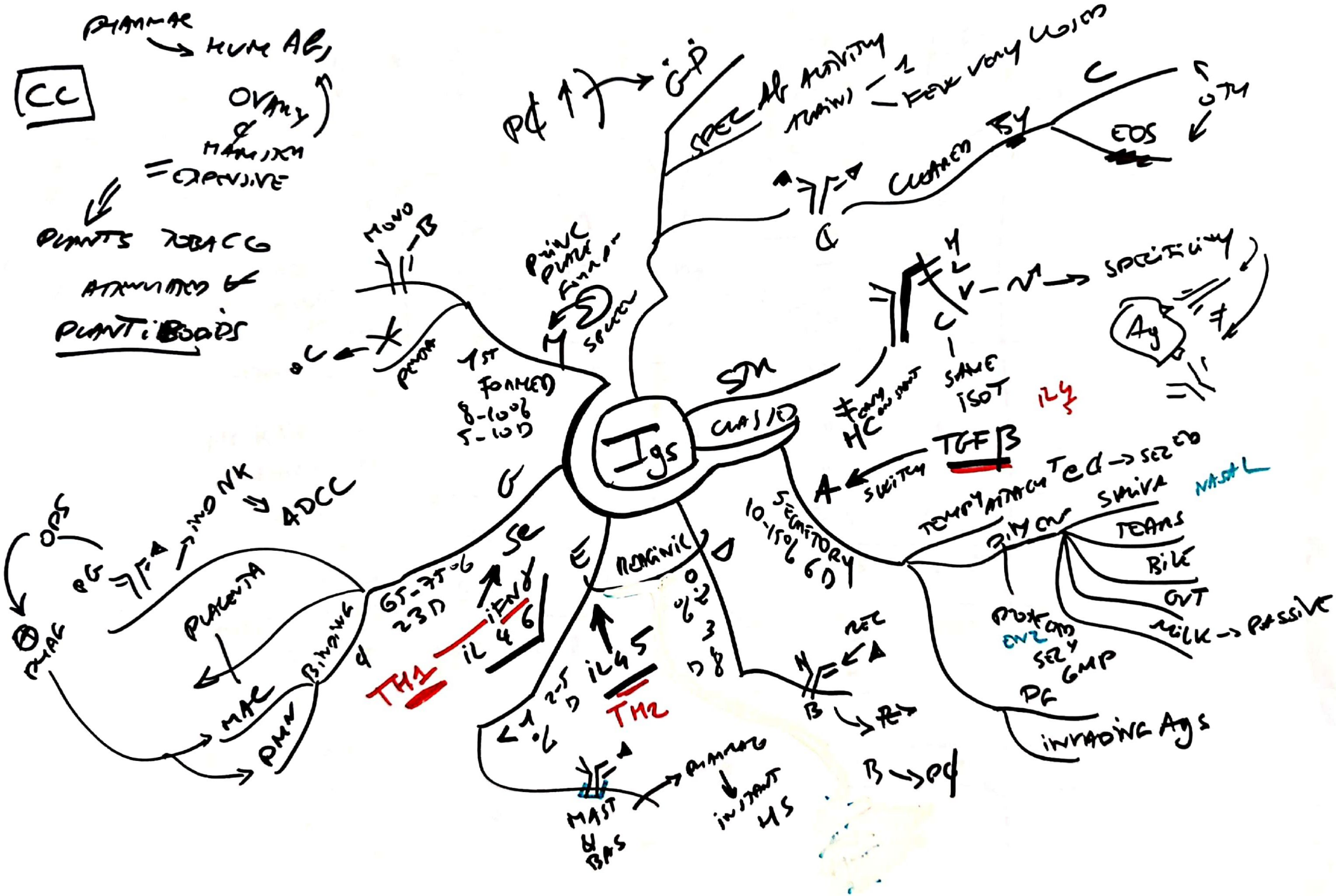


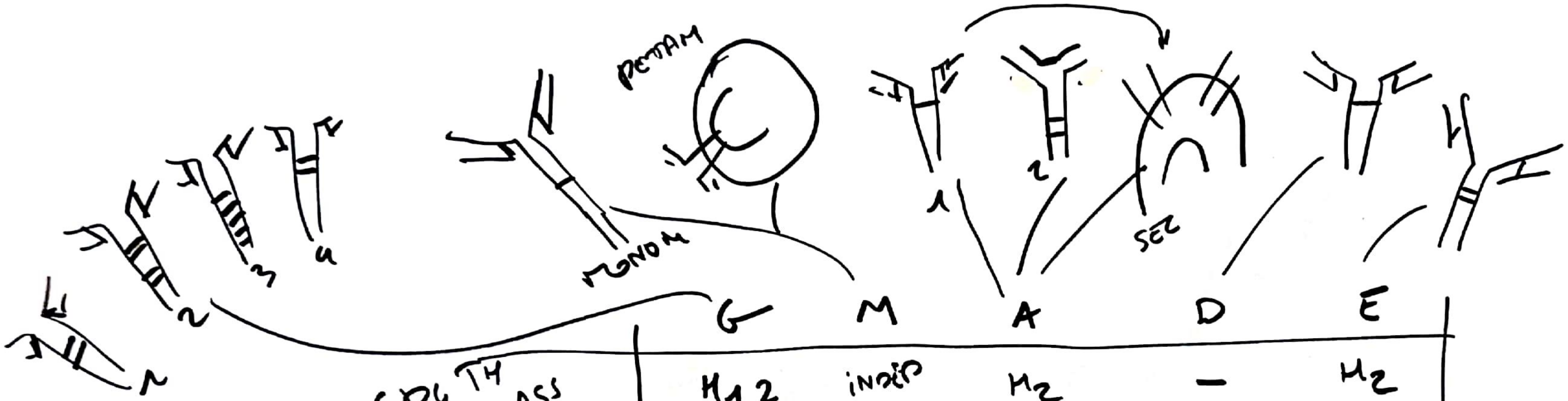


Ag BINDING SITE
② NEUTRALIZATION
① OPSONIZATION
Fab REGION
VL
JL
CL
CH1
HINGE
JH D VH
H
L
V
C
SS
HYPERVARIABLE REGIONS
EPIT
Ab
CH2
CH3
C BINDING
MAC BINDING
③
④ ADCC
NK
EOS
MAC
PHAGOCYTOSIS
PHAGO
SC
REGION
PHAG

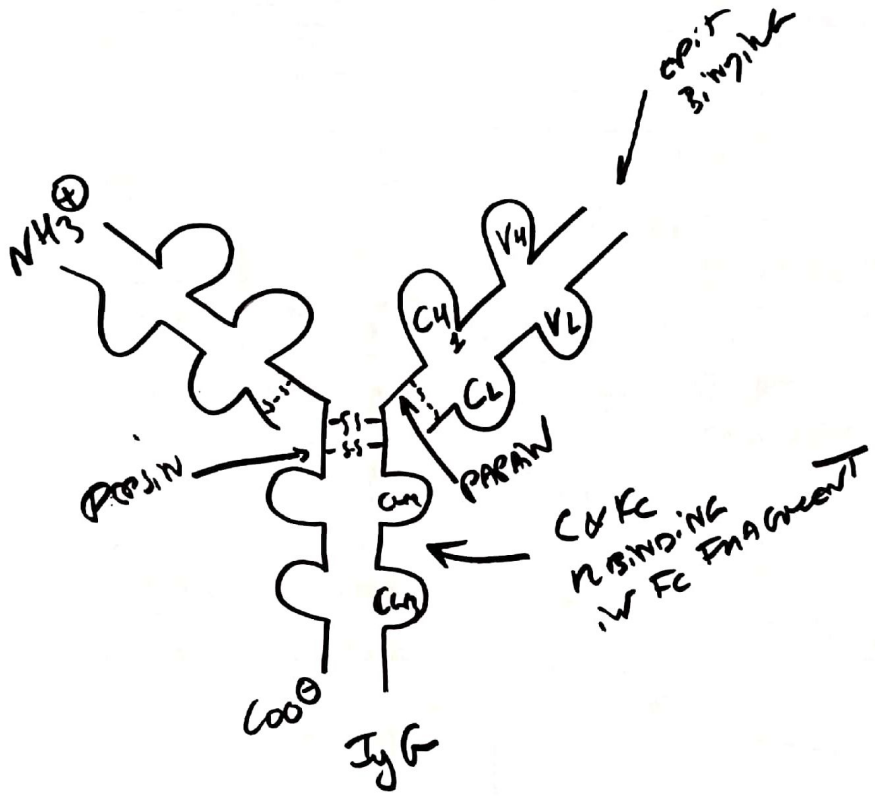








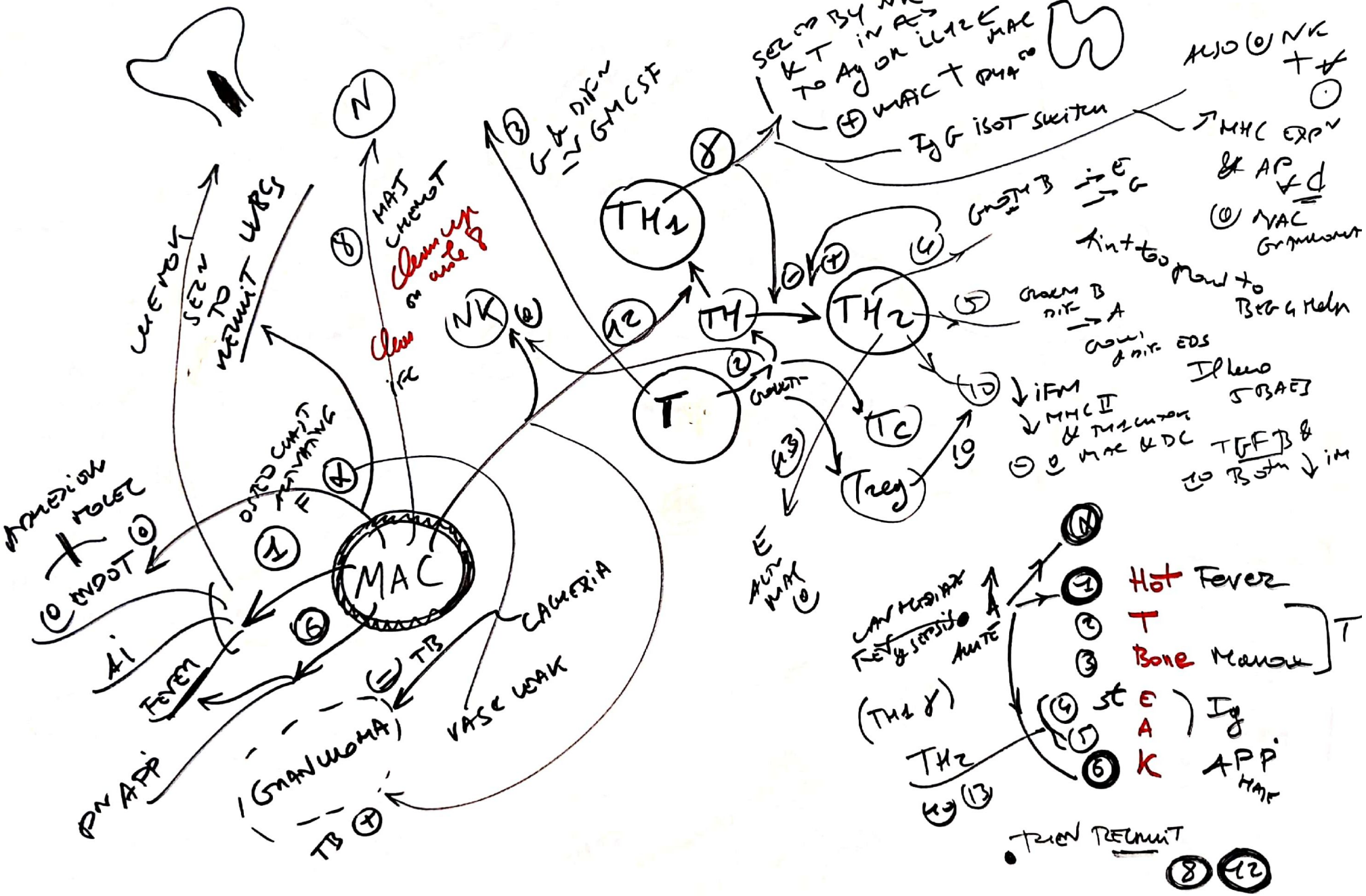
	G	M	A	D	E
CD4 TH SUBCLASS	H1,2	INDEP	H2	–	H2
TOTAL Ig %	85	5-10	5-15	<1	<1
MM KDa	154	900	160(+DIM)	185	190
H CHAIN CLASS	γ	μ	α	δ	ε
SUBCLAS	γ1-2-3-4	–	1-2	–	–
Se 1/2 LIFE (DAY)	23	5	6	2-3	2-3
PRINC SITE ACN	Se & TIS	Se	SECN	RECOB	MAST
BIO ⇒	OPS, 2° Ab	AGGLUTIN 1°	PROTECN MUC MBS	Ba	ANAPH
C FIXN	+++	+++	+	–	–
OPSON – MAC – PMN	+				
MUC SECN	–	–	+	–	–
CROSSING PLACENTA	+	-	–	–	–

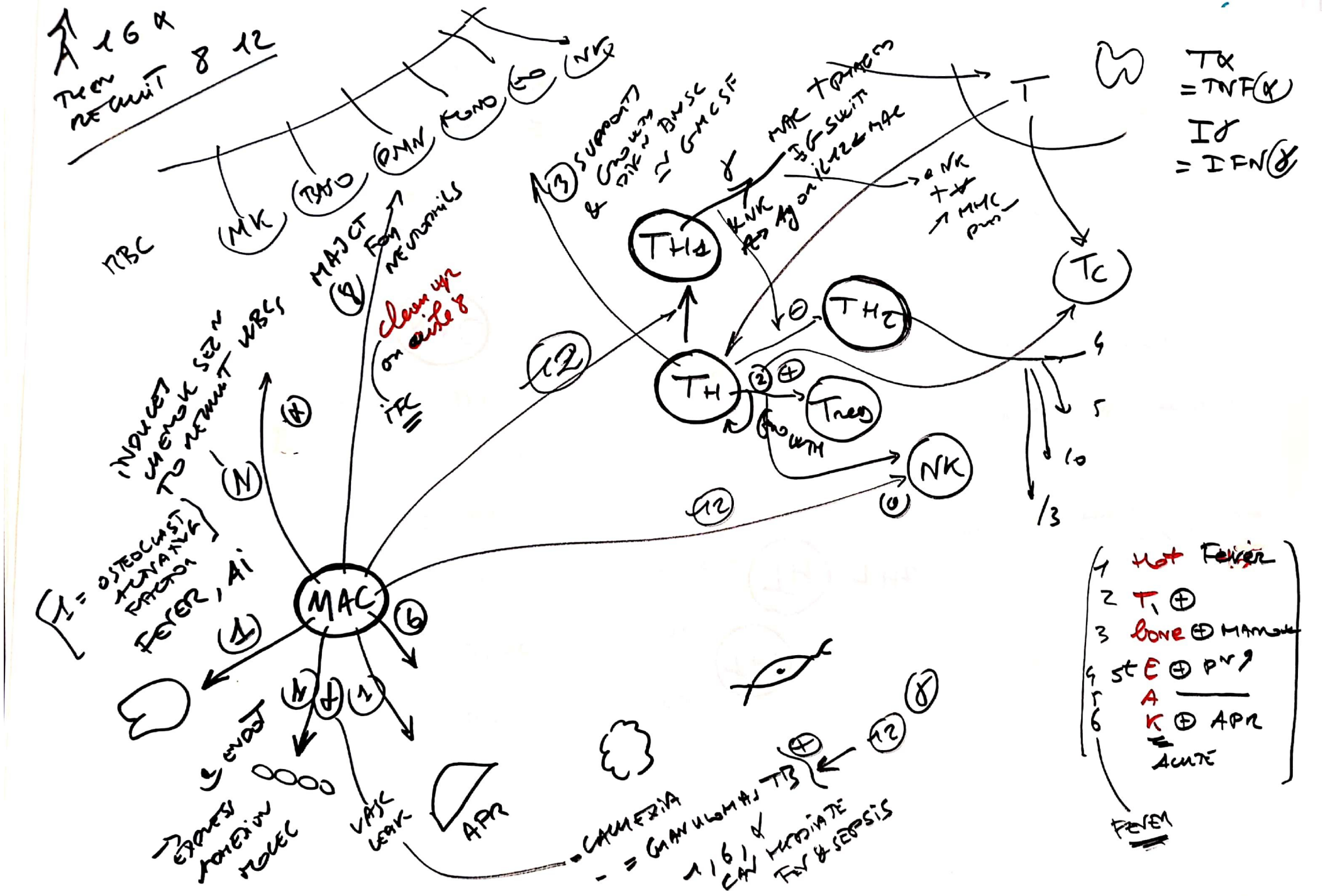


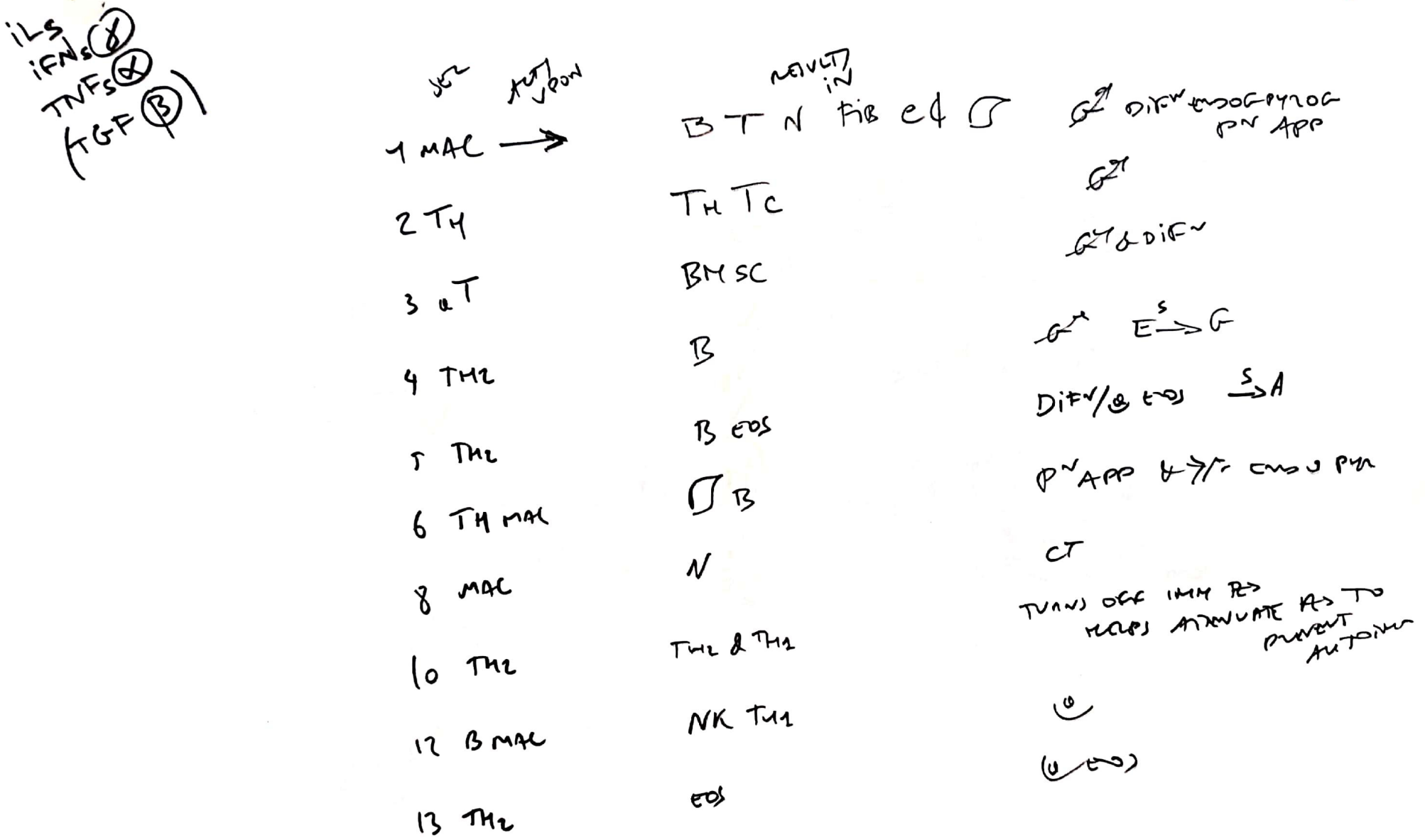
1α 1β	MAC épit	T MAC	α-T ↓MAC
2	H1	αT B	IND ÷ αT & B
4	H2	B	——— B, B → PC isotswitch M → G E
5	H2	B	——— [illegible] B MAT B ———
APC H2	T α B	αT, IND B → PC → sync
H2	H1	⊖ ↑ TH1 ↓ STABILITY MANUF CYTOK
B MAC	NK, T	⊖ NK, ⊕ ↑ TH1 [illegible]
MAC	H1 NK	H1 → IFNγ ↑NK ACTIVITY
MAC	$CD8^+$ T	↓ TOXICITY
MAC TH1 —	MAC α MAC	SELF α → IL12 OR B T ENDO α MAC
↓A [illegible]	NK MAC	α MAC NK
↓ATTA[illegible]	NK MAC	
H1	MAC T	α Tc FROM MAC BY MAC

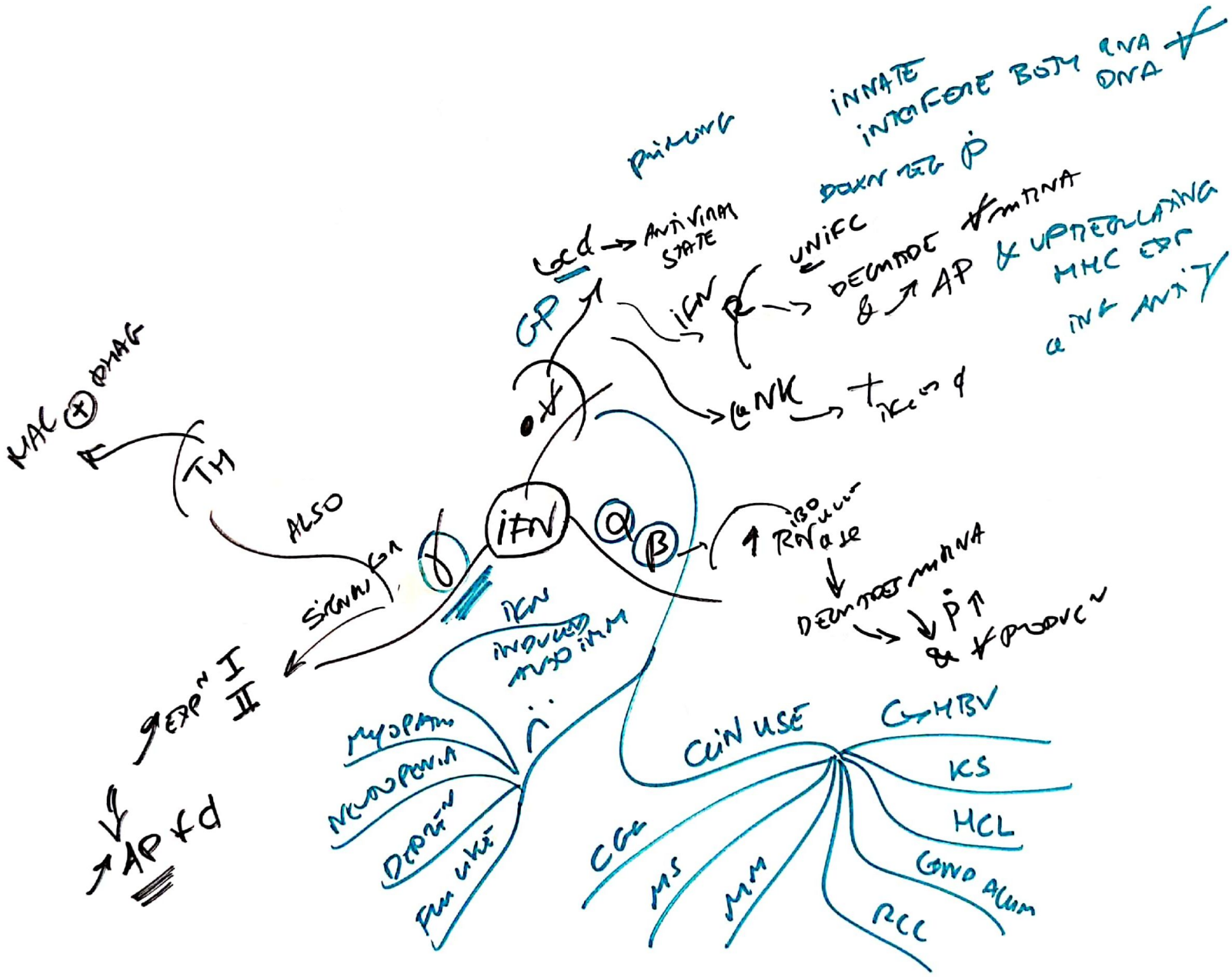
CYTOK

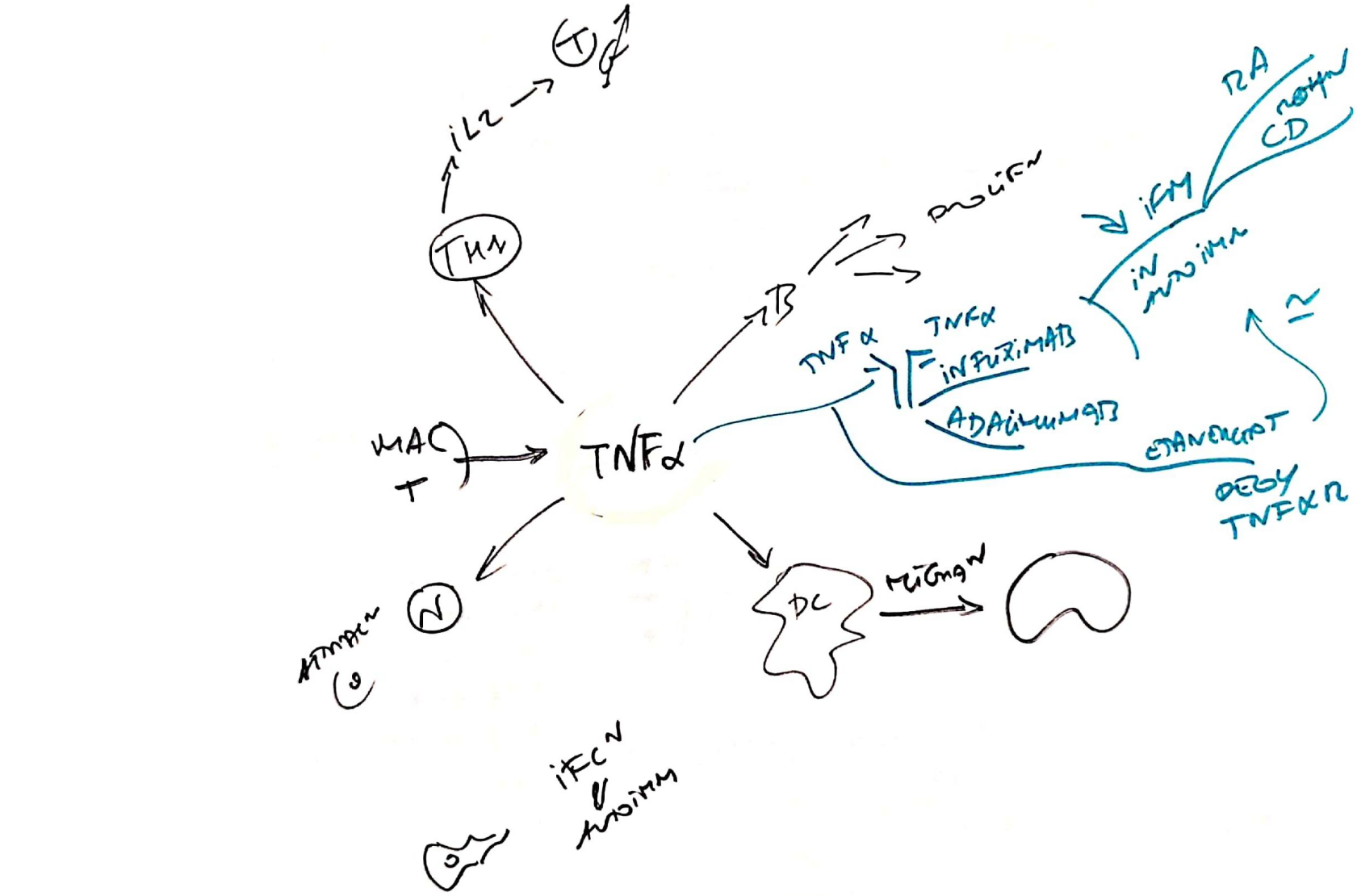
IL 1α 1β	MAC EPIT	T MAC	⊕ T ↑ MAC
2	H1	⊕ T B	IND ÷ ⊕ T & B
4	H2	B	—— B, B → [illegible] ISOTSWITCH M → G E
5	H2	B	—— MN/B MAT B ——
6	APC H2	T ⊕ B	⊕ T, IND B → PC → IG
10	H2	H1	⊖ ↑ TH1 ↓ STANDS ABILITY MANUF CYTOK
12	B MAC	NK, T	⊕ NK, ⊕ TH1 LIKE CL
18	MAC	H1 NK	H1 → IFN γ ↑ NK ACTIVITY
23	MAC	CD8⁺ T	↓ [illegible]INITY
TNF α	MAC TH1 —	MAC ⊕ MAC	SELF ⊕ → IL12 OR ⊕ T (MOD) ⊕ MAC
IFN α	↓ A TTACKM	NK MAC	⊕ MAC NK
IFN β	↓ A TTACKM	NK MAC	
IFN γ	H1	MAC T	⊕ Tc FROM MAC BY MAC

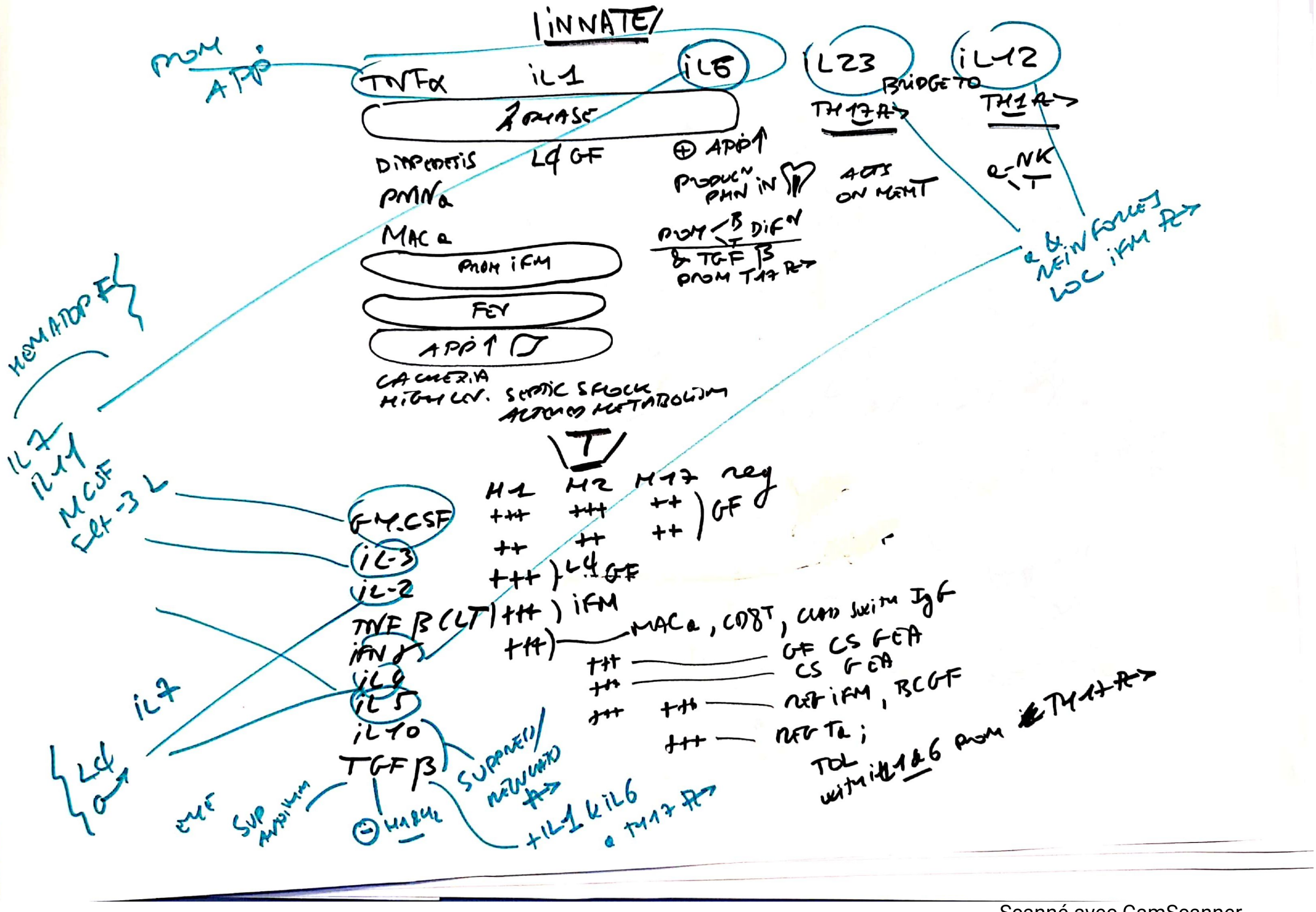


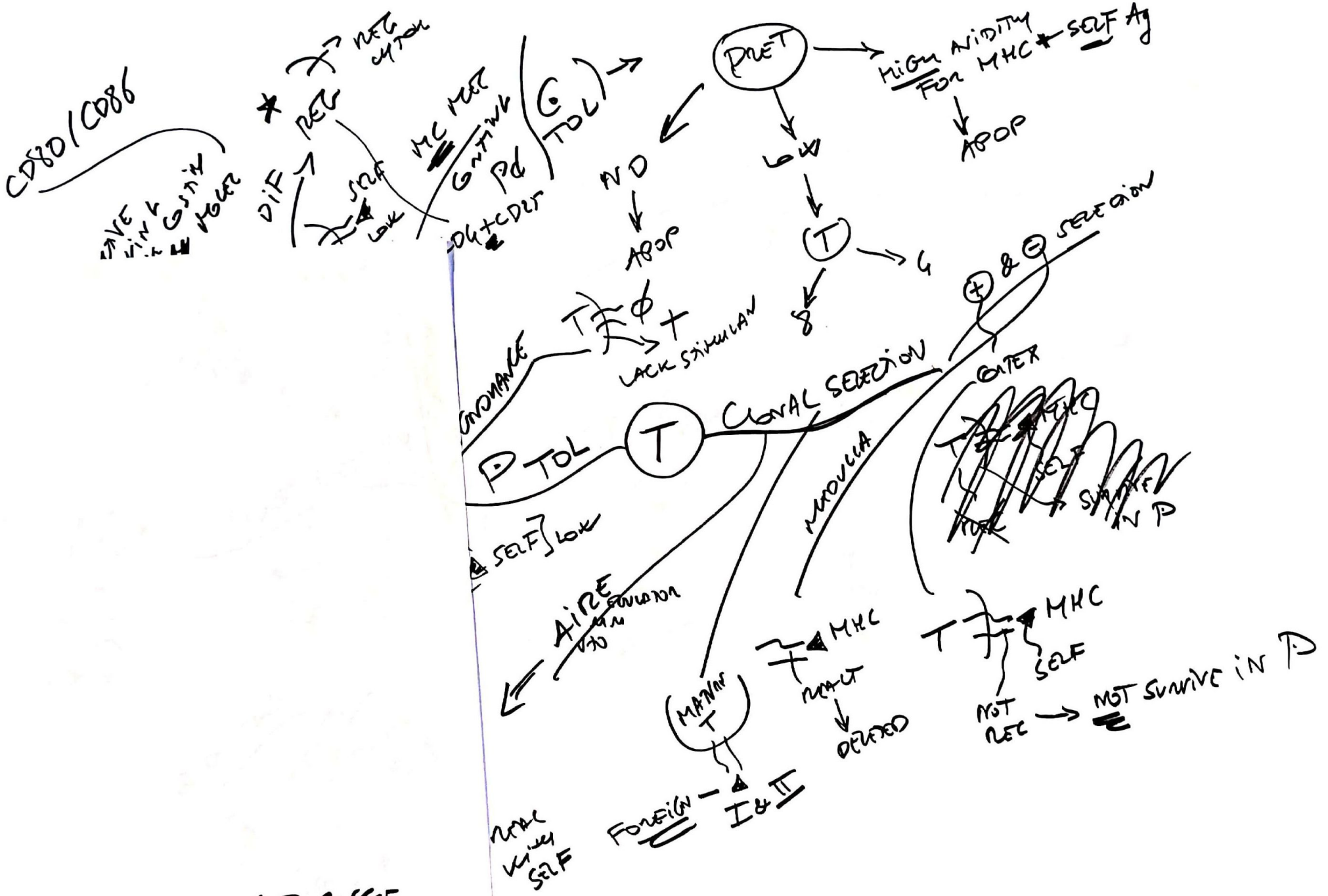




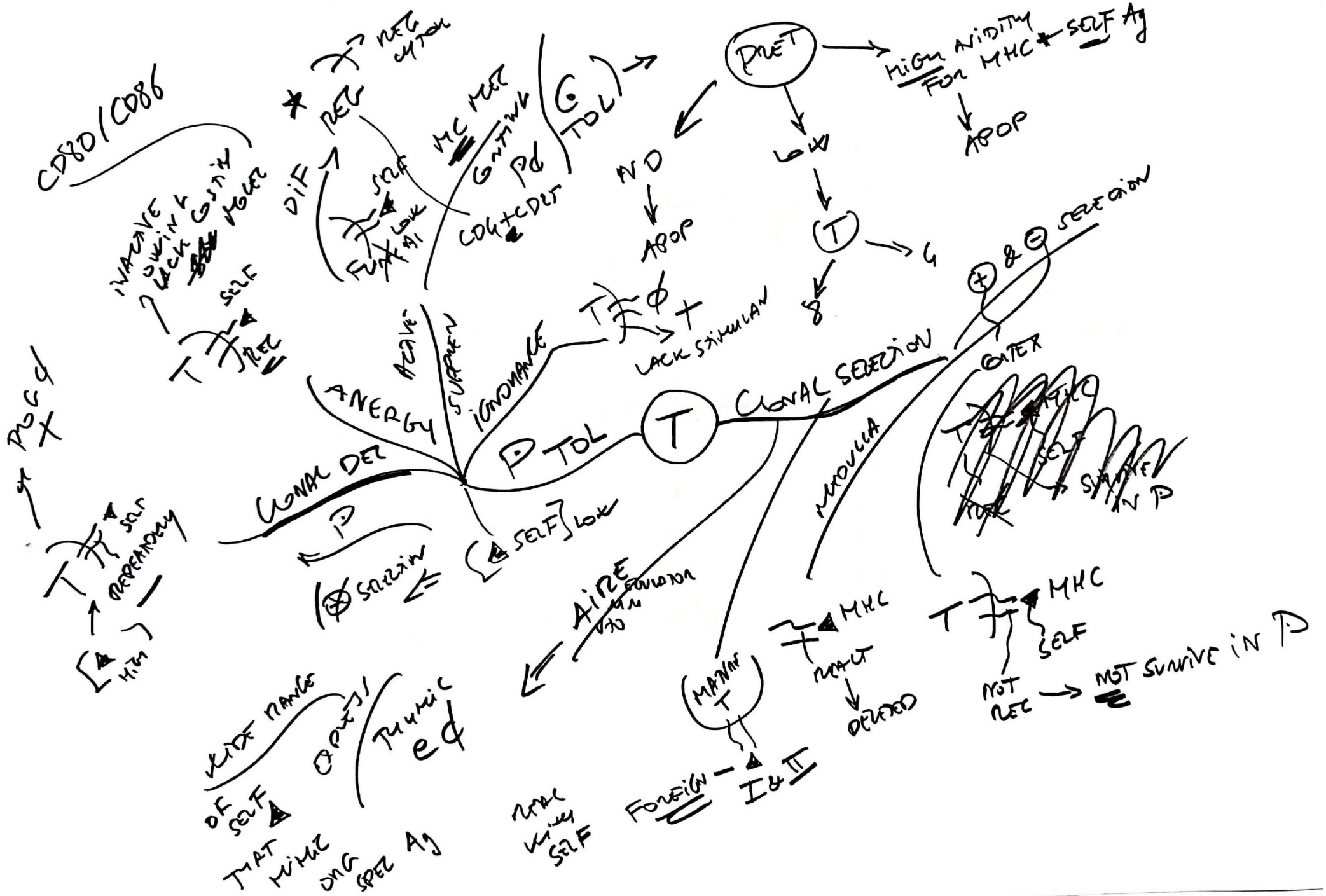




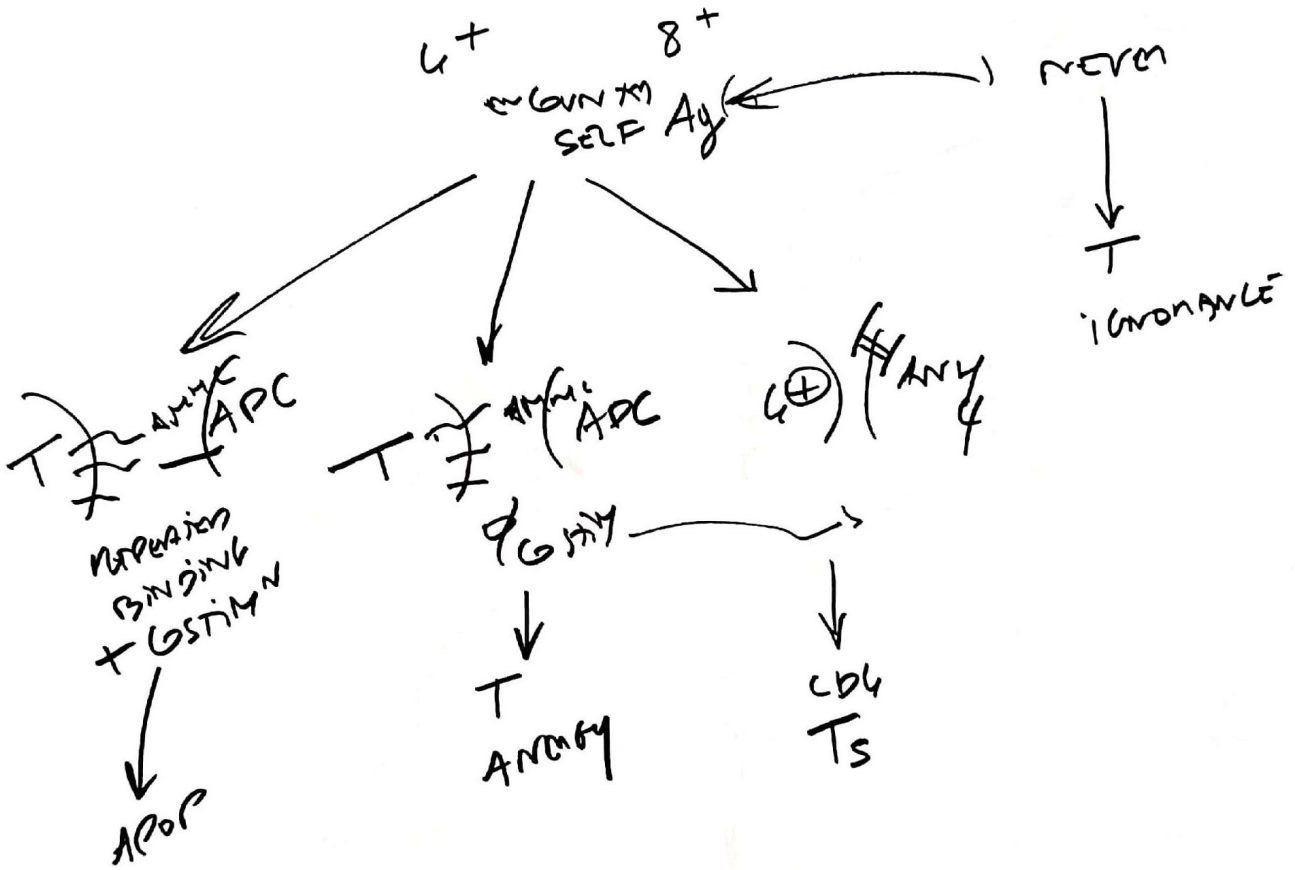


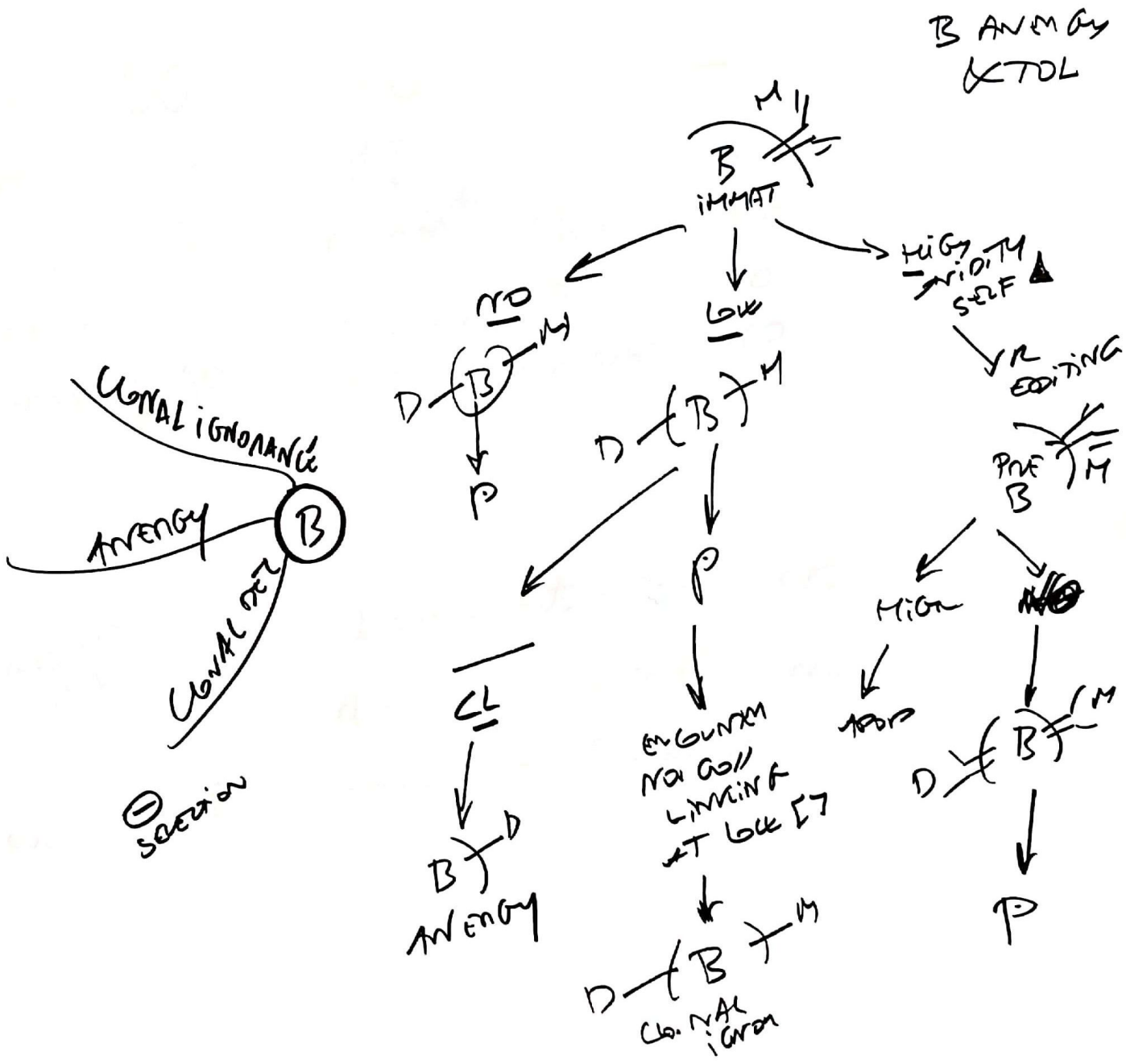


ANERGY TOLERANCE



PT
TOL





RELATION TO ▲ | LOCAL | OUTCOME | RELATION | SUMMARY

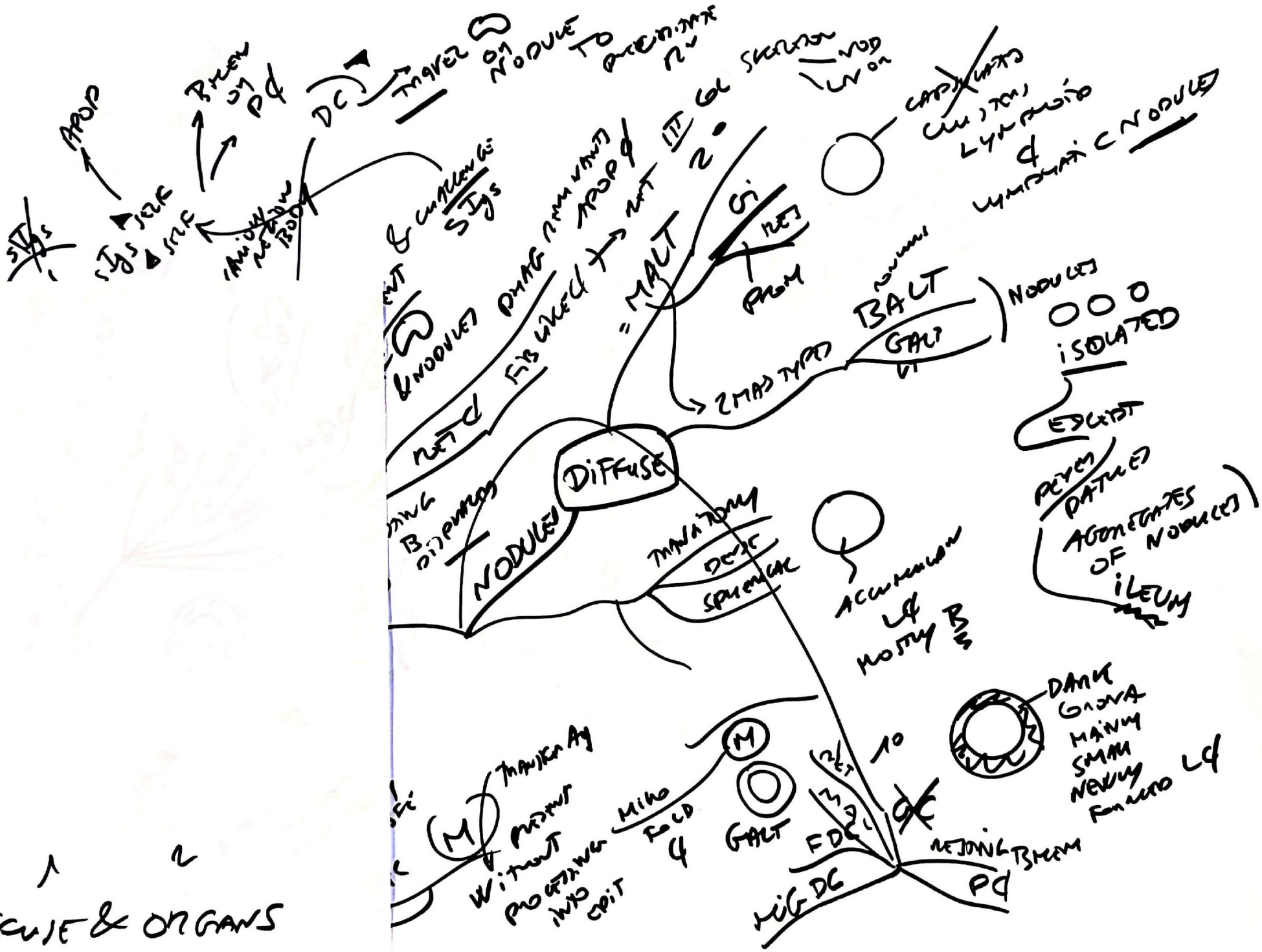
SUMMARY
AVIDITY & TOLERANCE T B & T

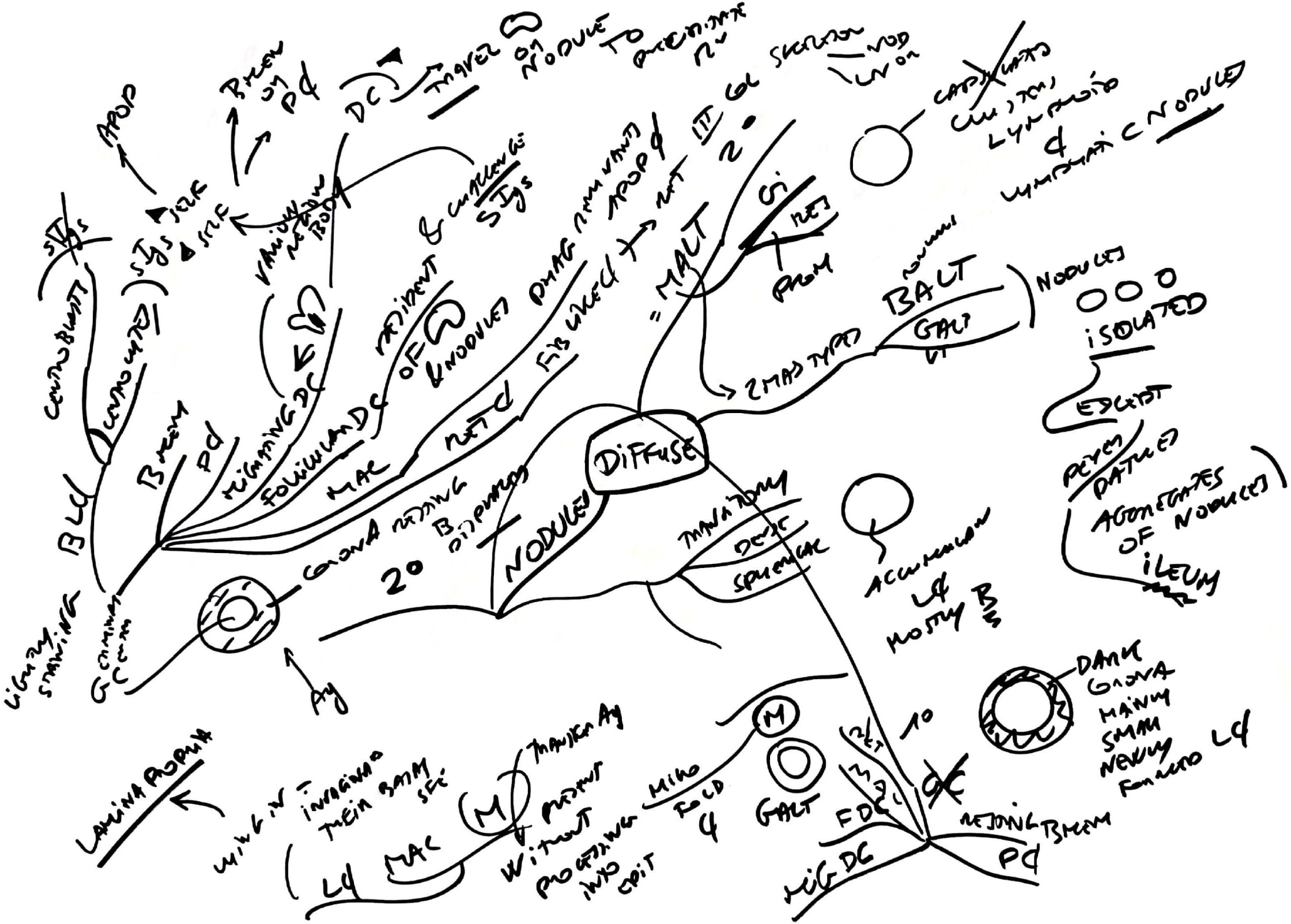
(T)

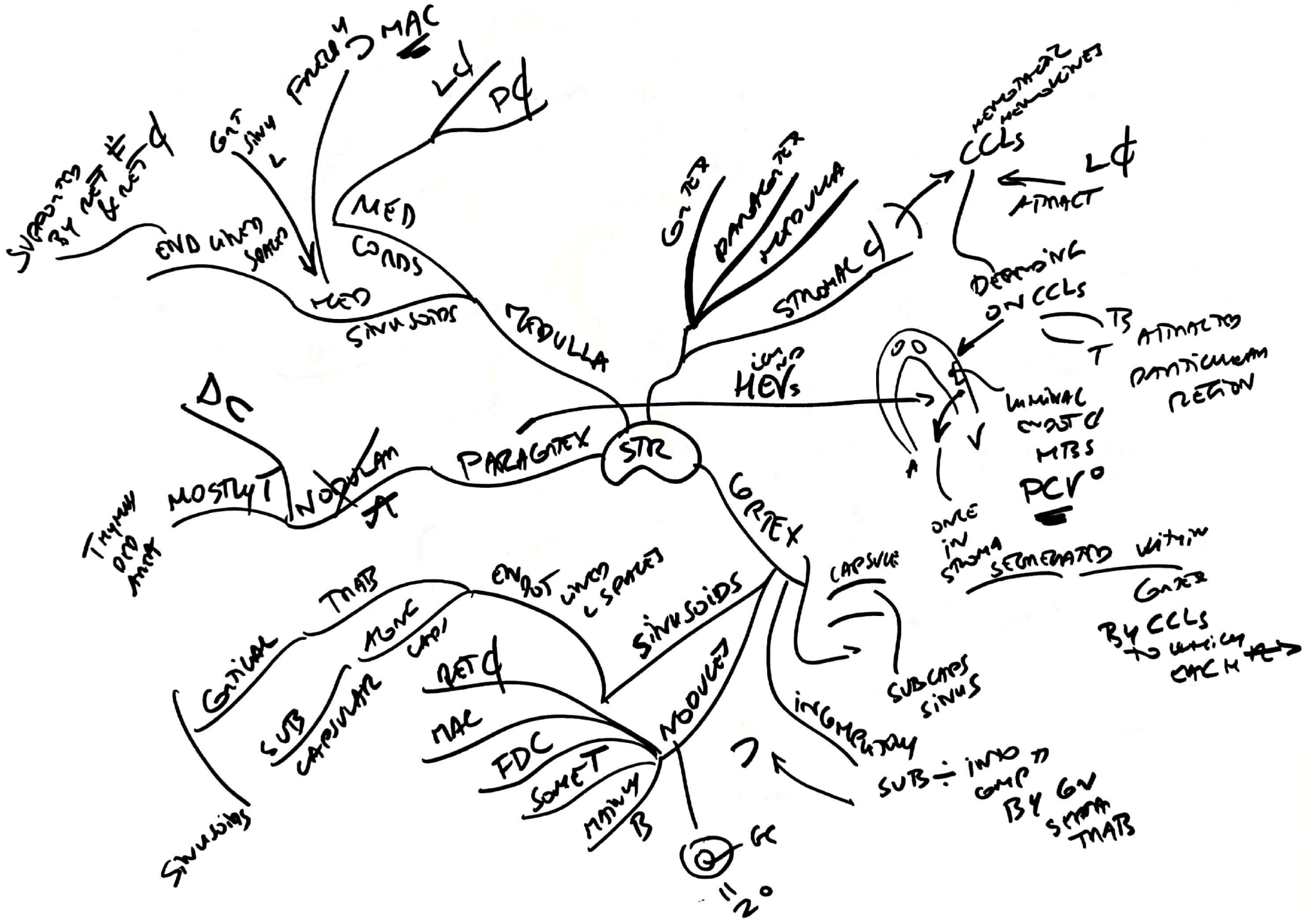
- CLON SELEC^N — N SIGNALING — M — ⊕ ⊖ — —
- —— DEL — STRONG & REPEATED REACT^N TO SELF ▲ — P — dt — NO
- AVIDITY — N REC SELF ▲ — P — d FUNC^{AL}, LACK COSTIM^N — YES
- ACTIVE SUP — LOW FREQ REC SELF ▲ — P — d DIF → reg T — NO
- IGNORANCE — NEVER ENCOUNTERS SELF ▲ — P — d T ← LACK SSIG^N — NO

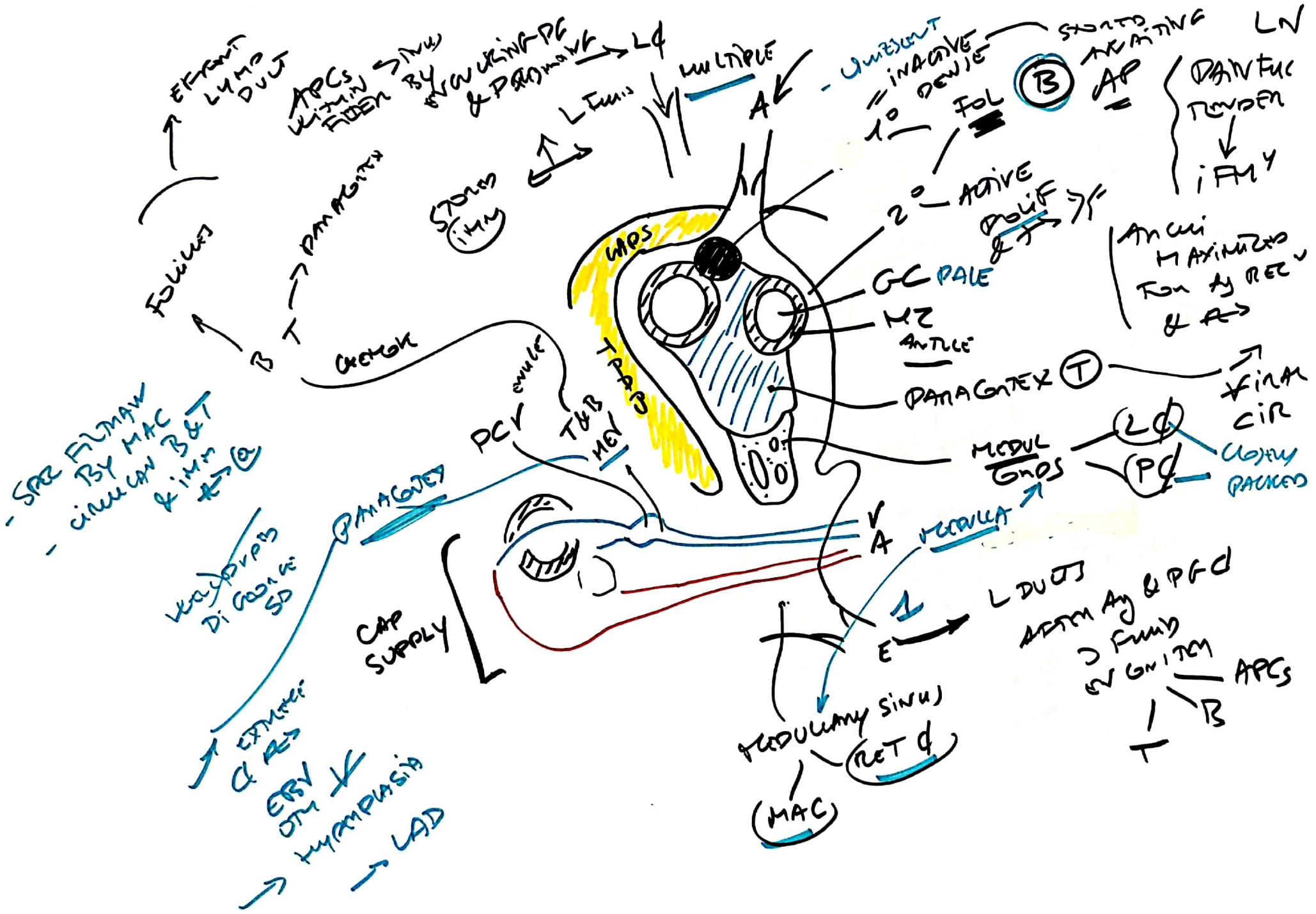
(B)

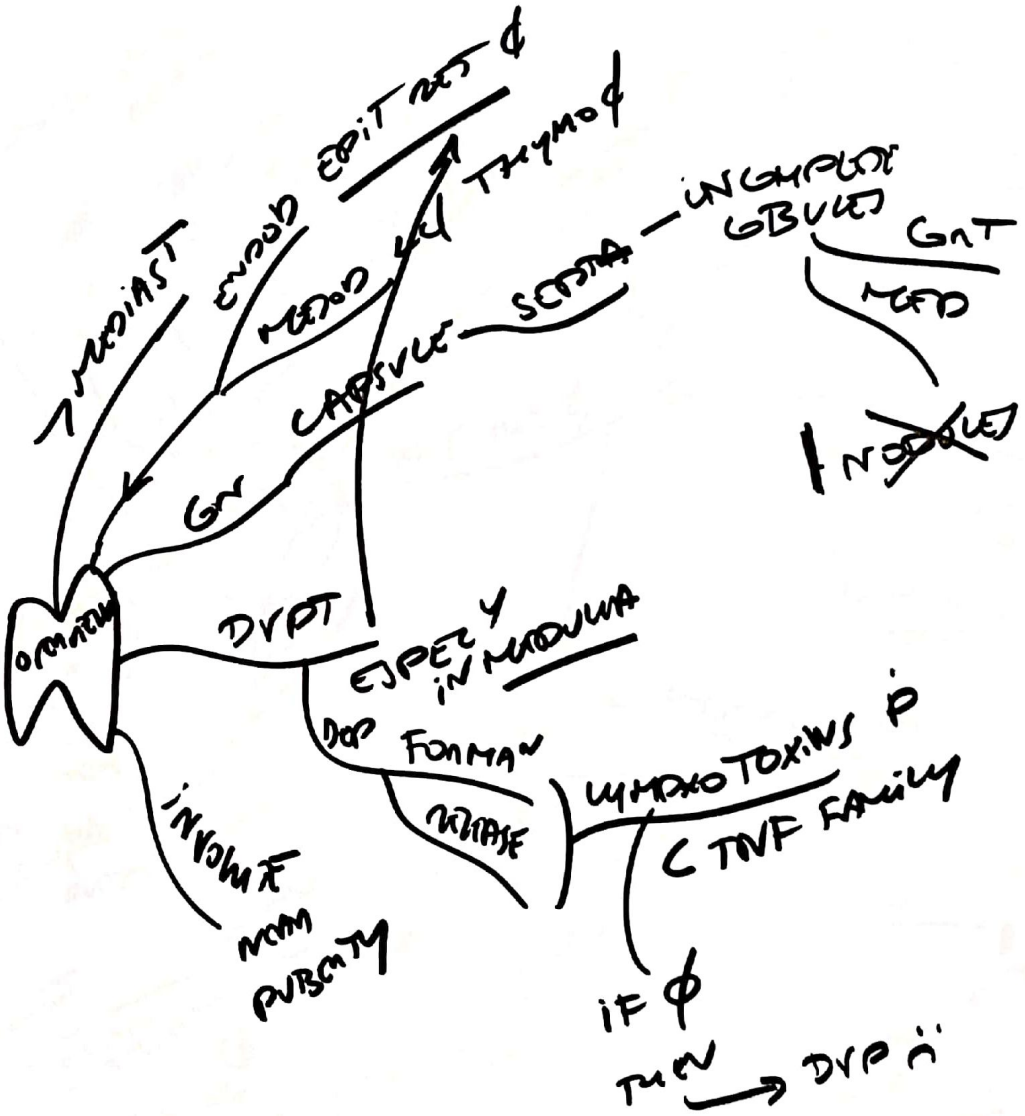
- CLON DEL — STRONG REACT^N TO SELF ▲ — M — LOCAL REGULATION DEL — NO
- AVIDITY — P — d FUNC^{AL}, LACK G STIM^N — NO
- CLON IGNORANCE WEAK — P — —— WEAK BINDING — YES

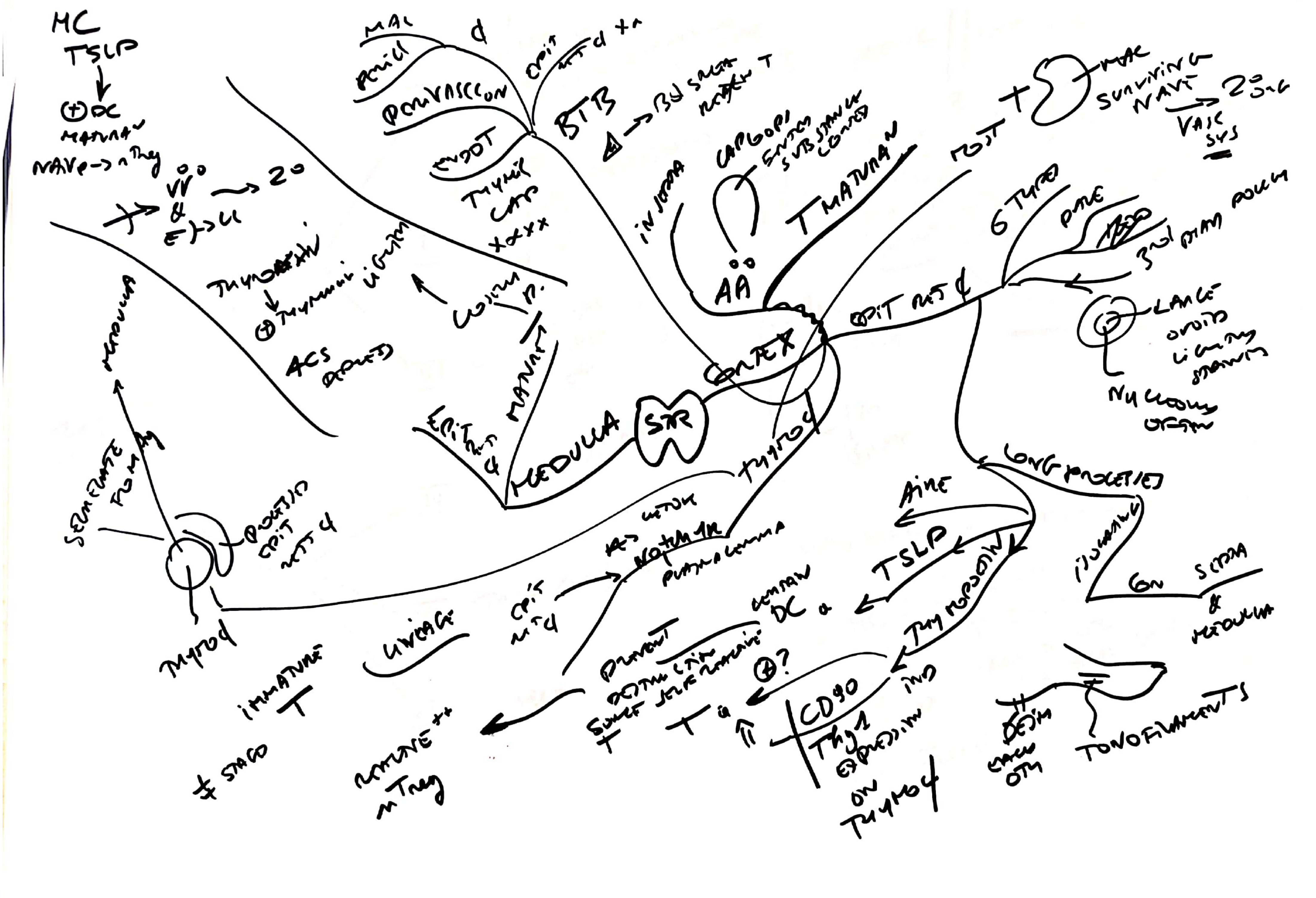


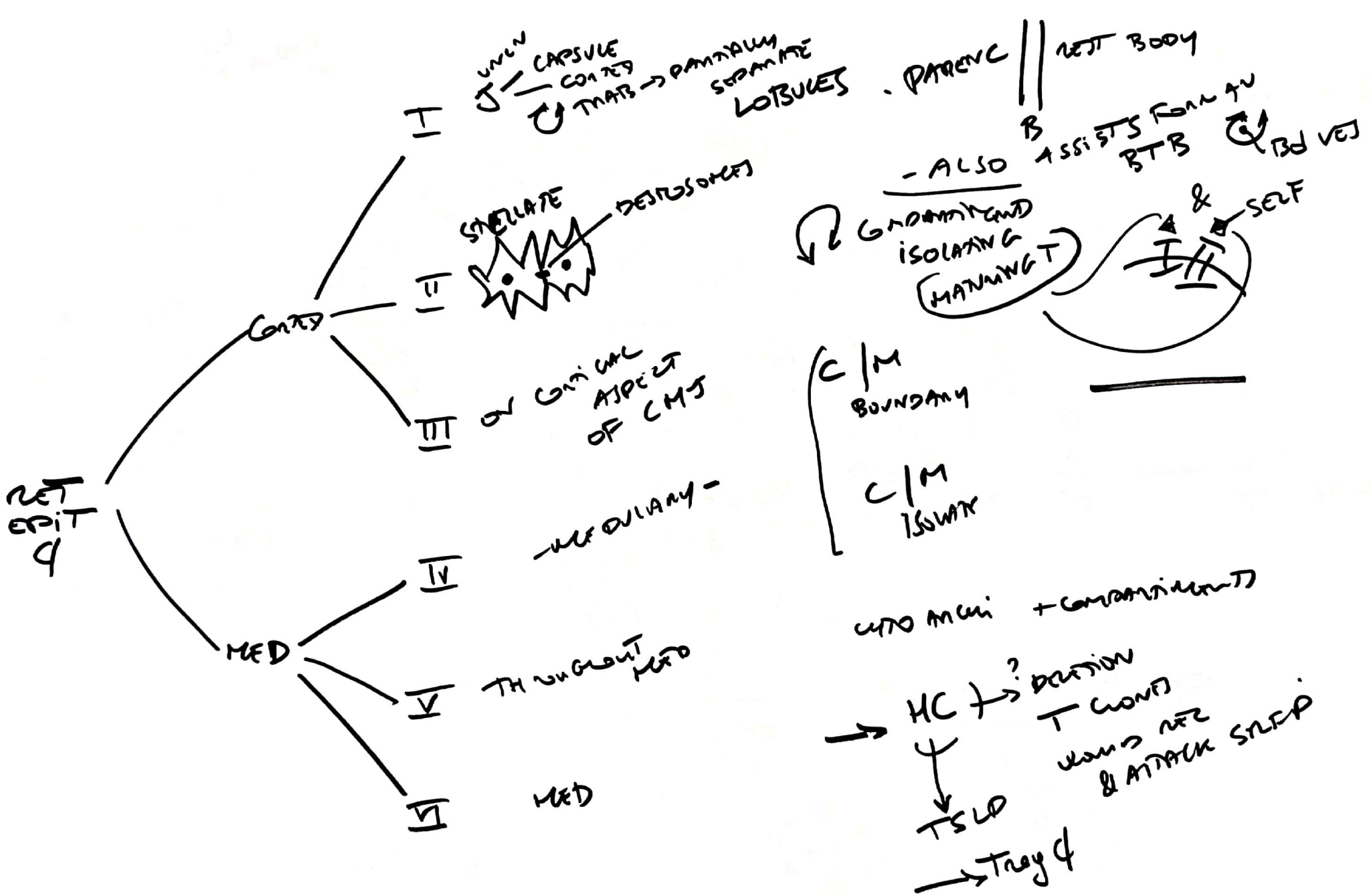


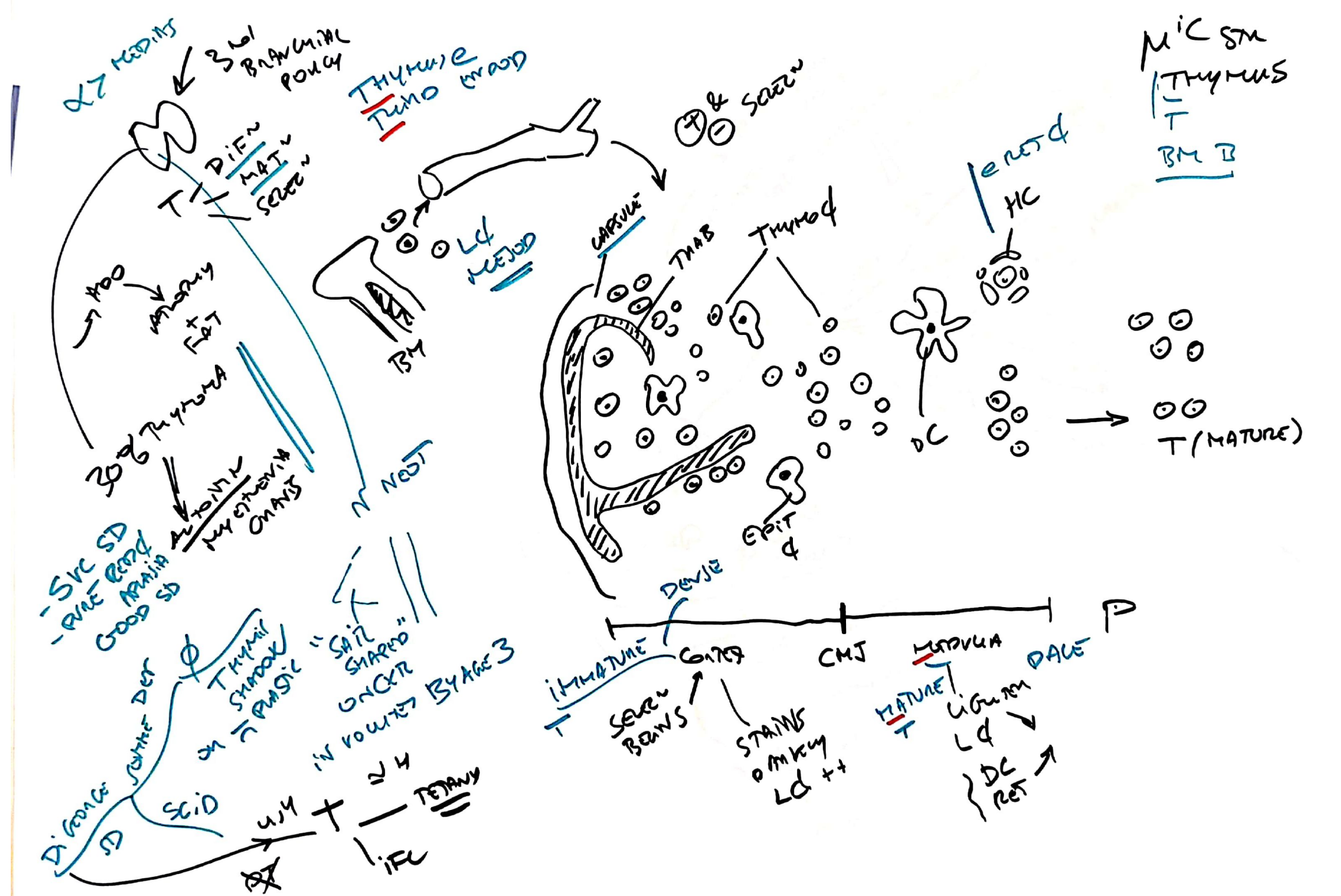


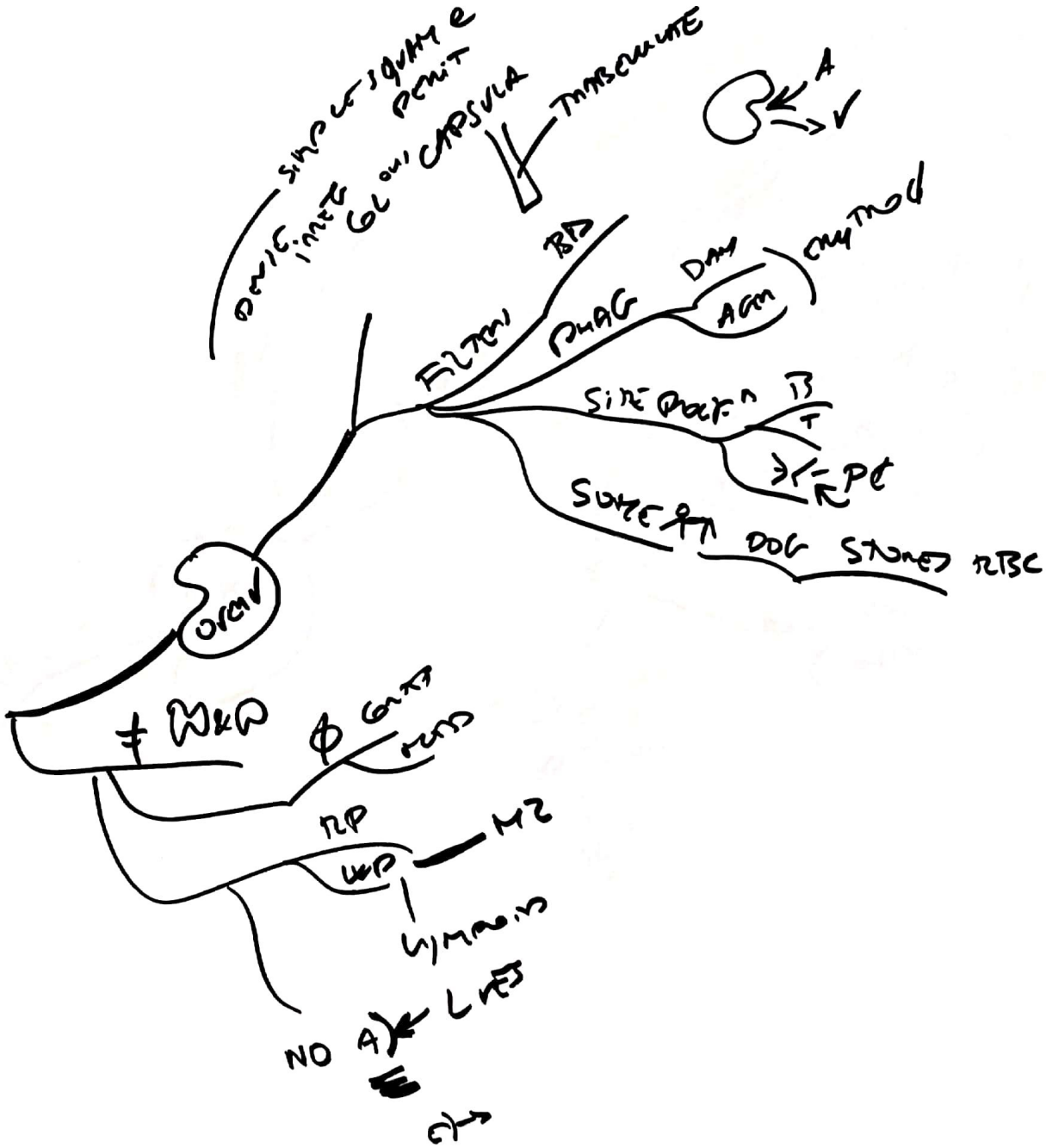


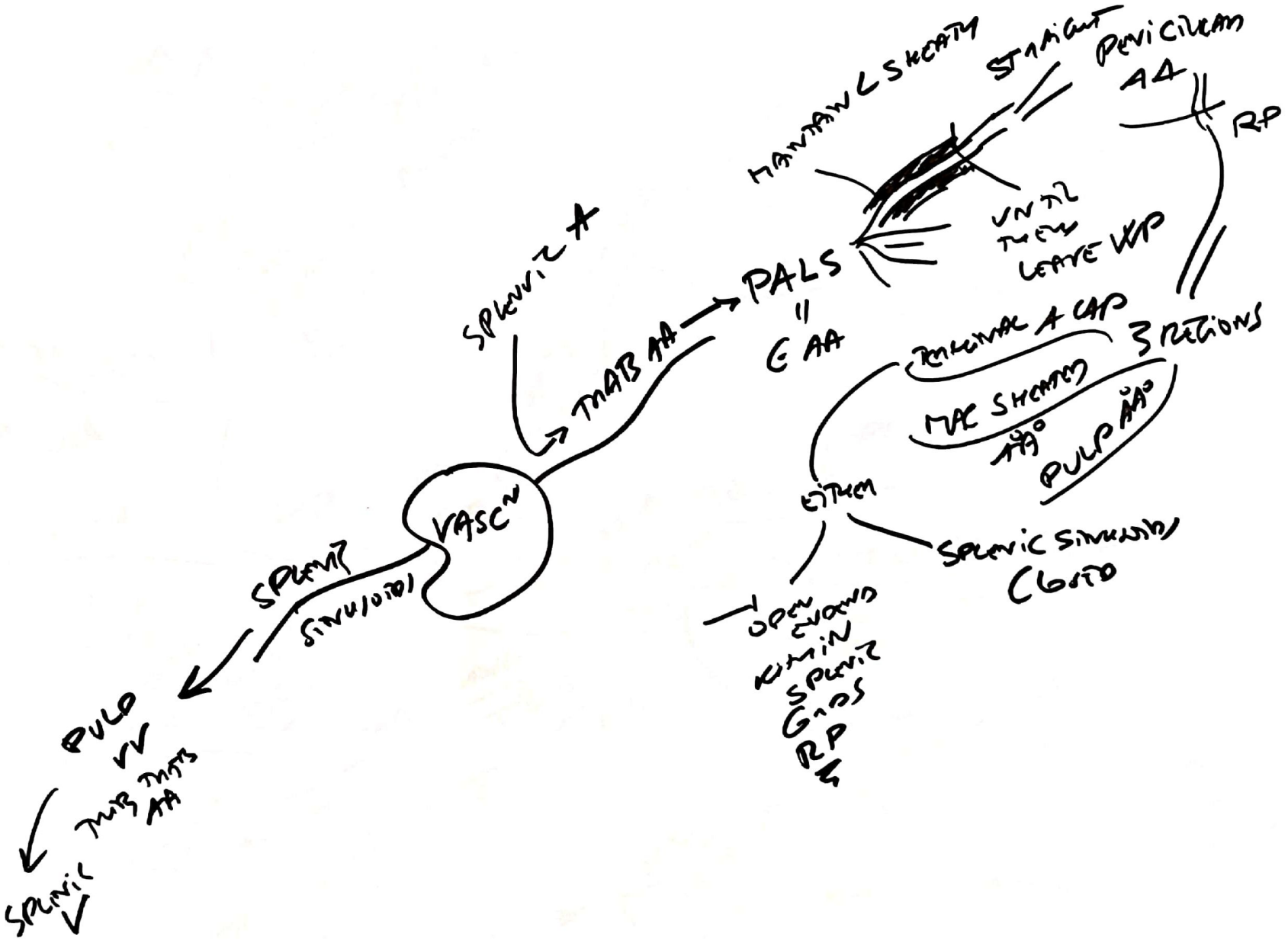


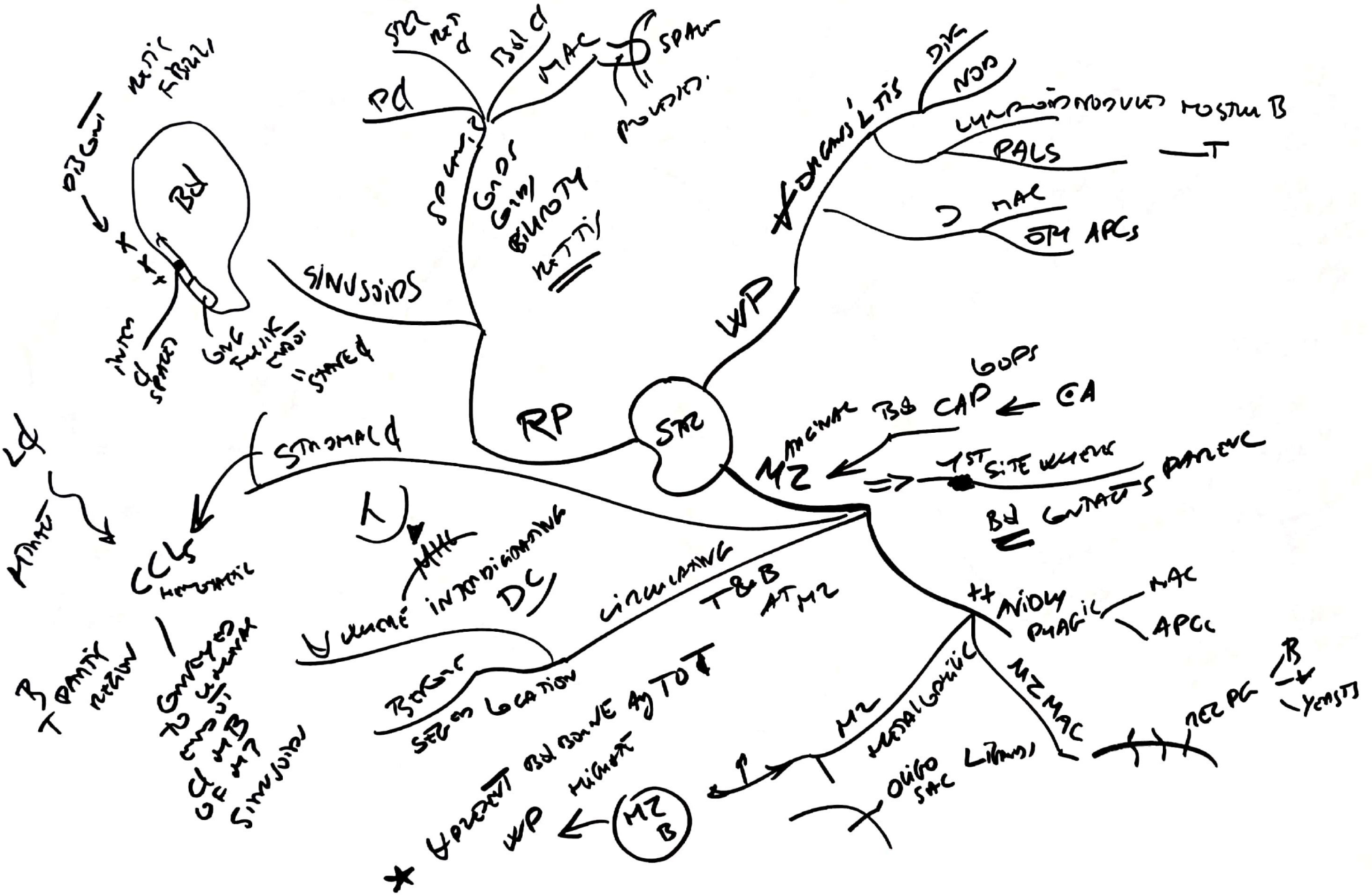


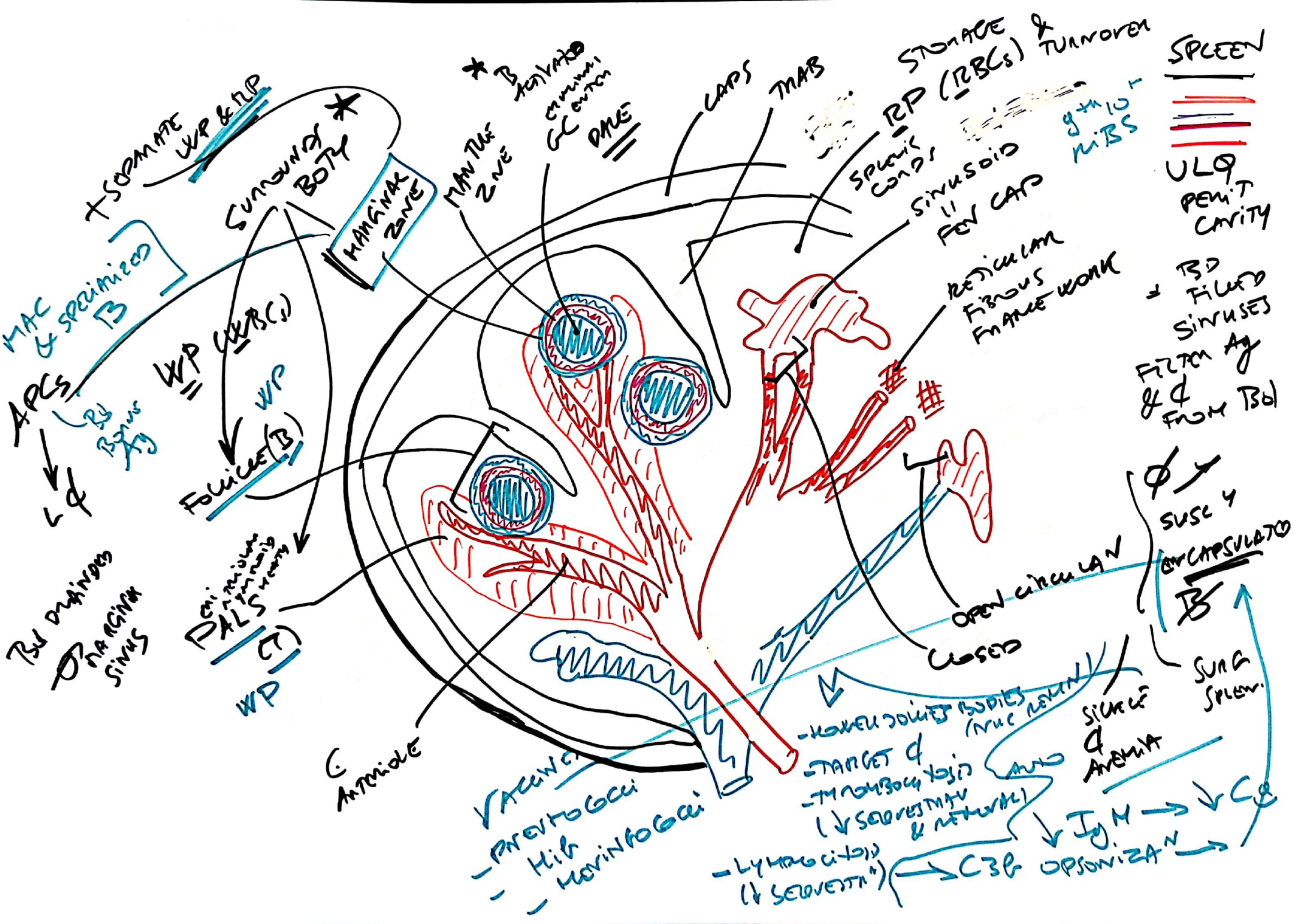


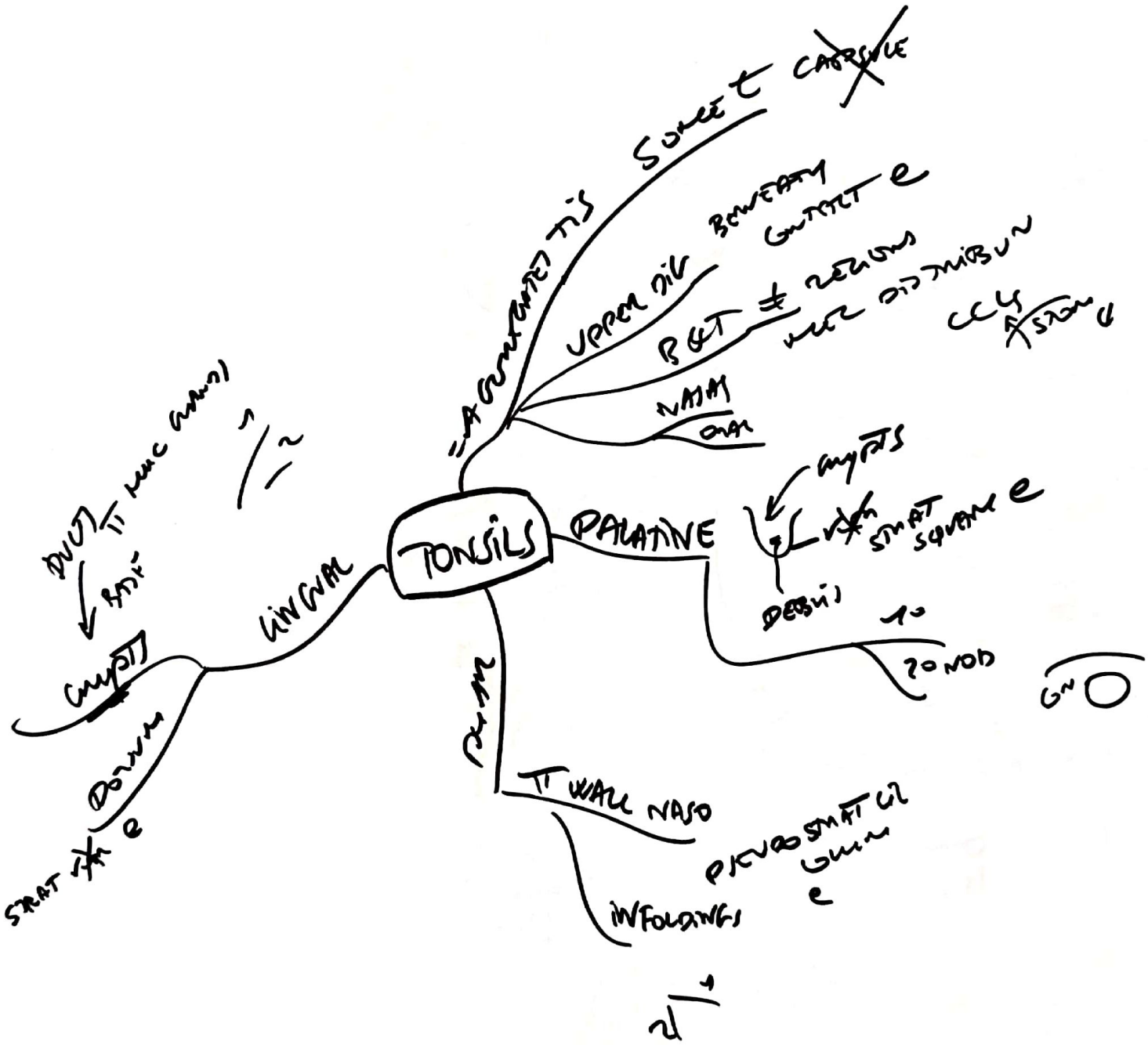


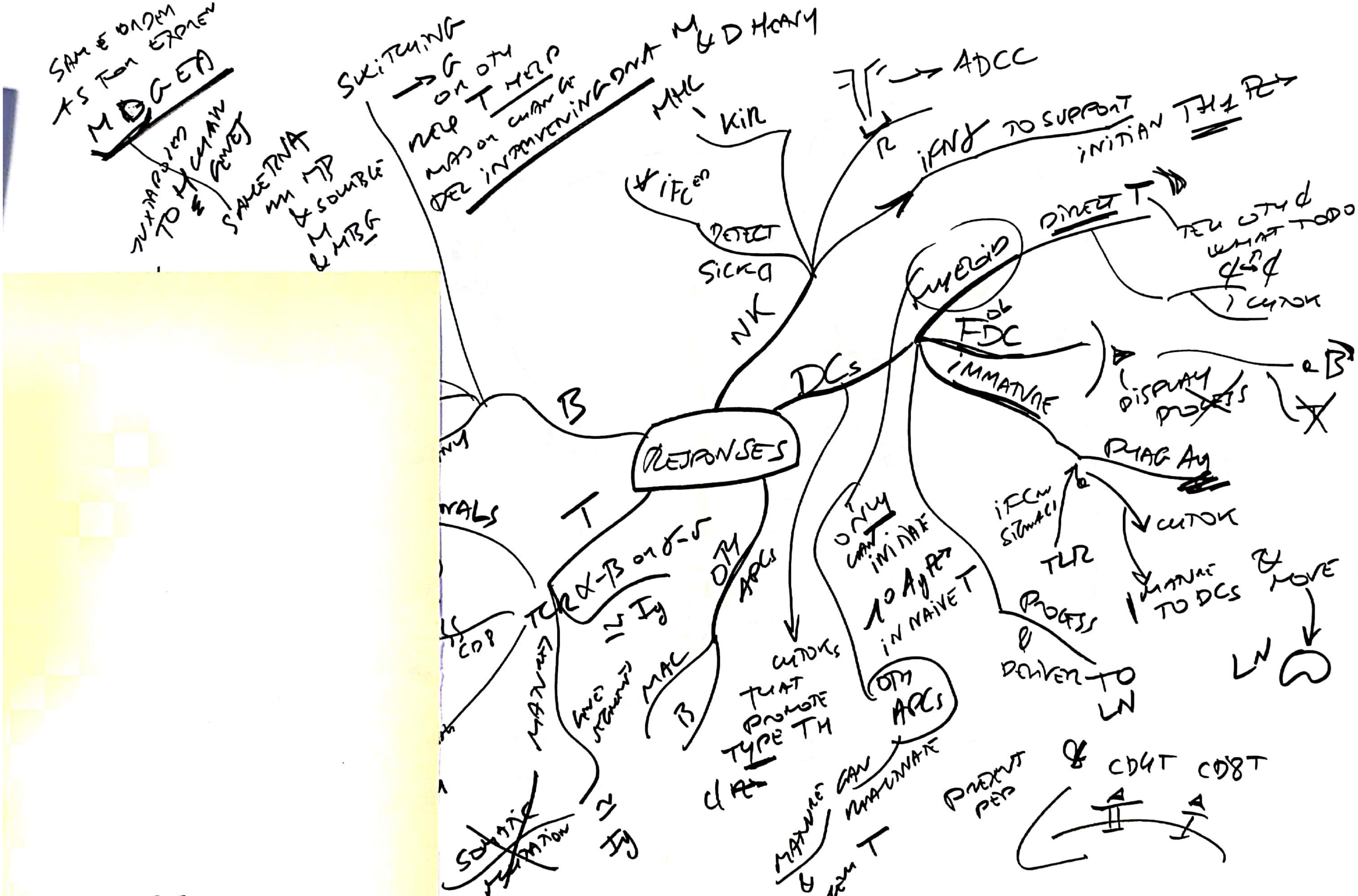











RESPONSES
B
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DCs
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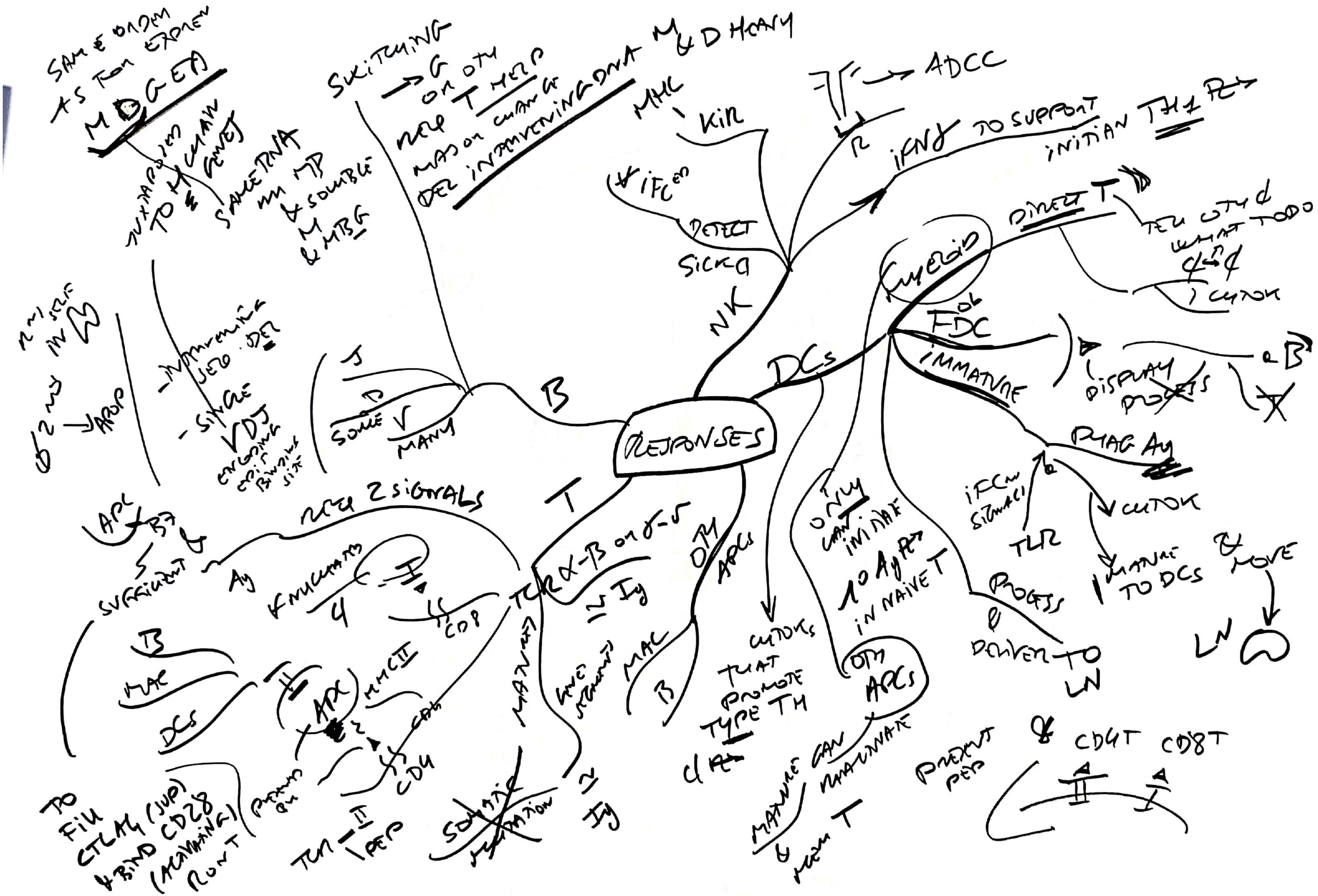
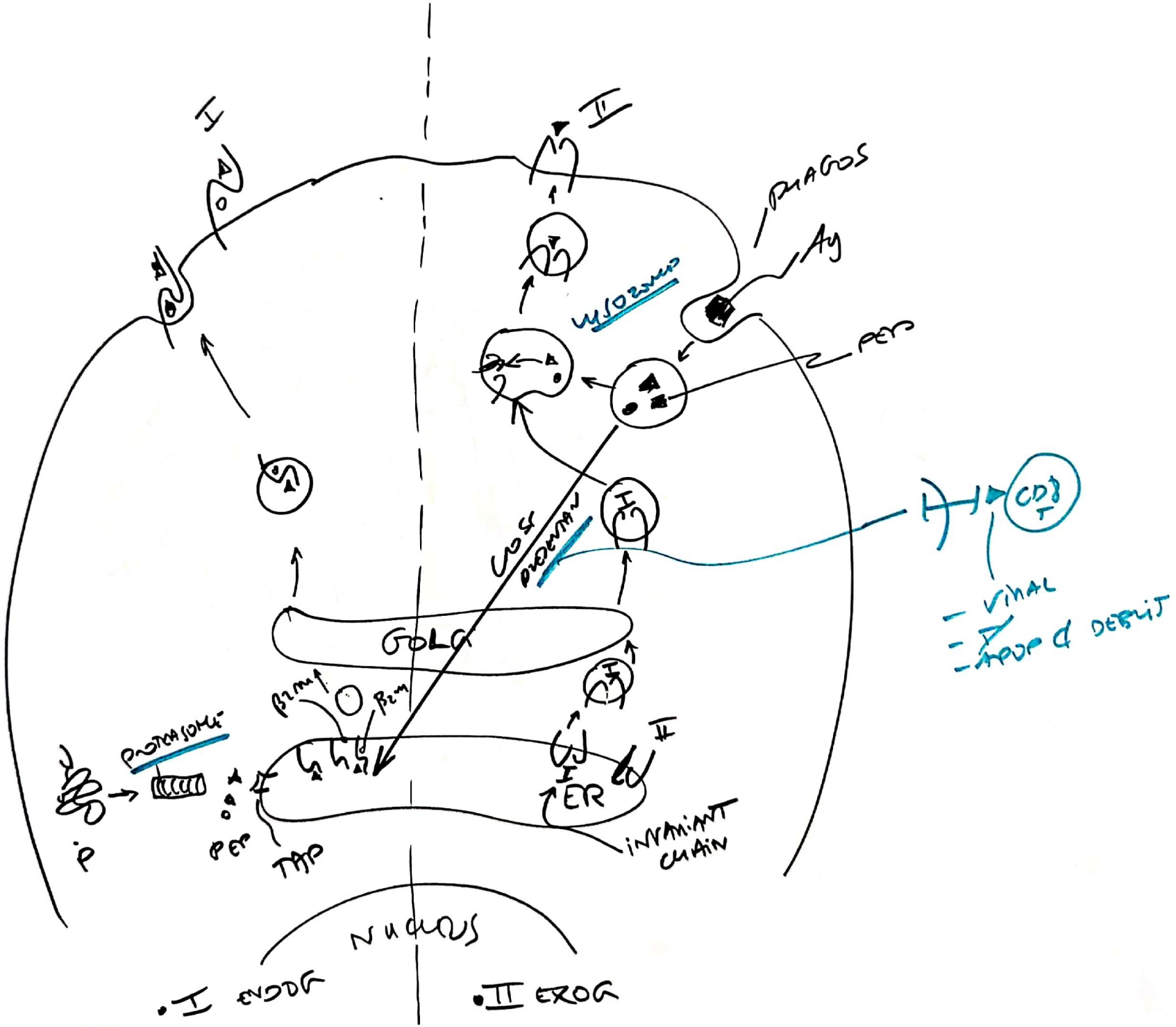
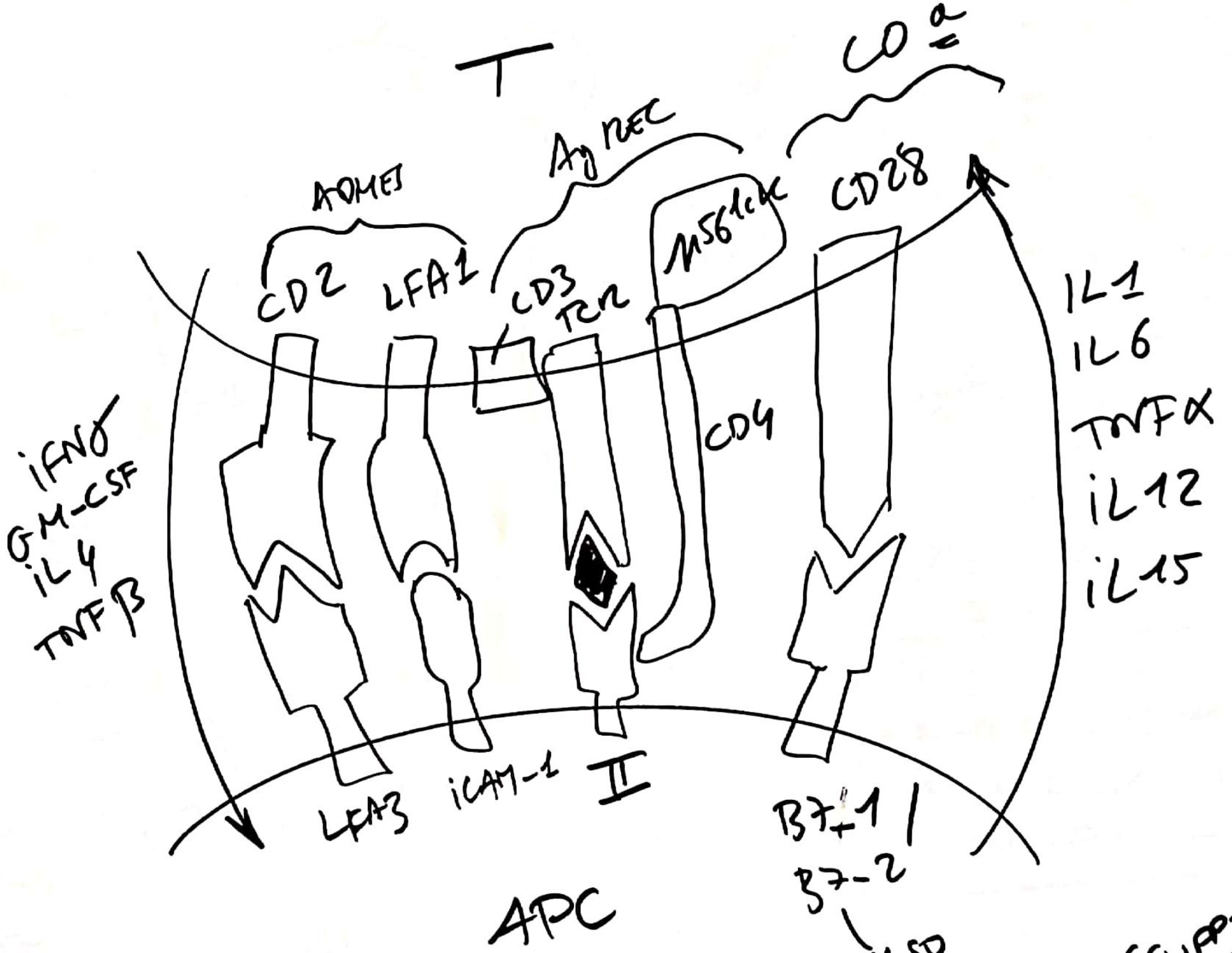
KIR
MHC
DETECT
SICK C
ADCC
iFNγ TO SUPPORT
INITIAN TH1 RES
MYELOID
DIRECT T
TELL OTH C WHAT TO DO
1 CYTOK
FDC
IMMATURE
DISPLAY
PHAG Ag
CYTOK
MATURE TO DCs
& MOVE
LN
TLR
PROCESS
& DELIVER TO LN
ONLY CAN INITIATE
1o Ag RES
IN NAIVE T
OTH APCs
CYTOKS THAT PROMOTE TYPE TH
OTH APCs
MAC
TCR α-β or γ-δ
MATURE
CD4T CD8T
II
I
PRESENT PEP
& MEM T
SWITCHING

RESPONSES


RESPONSES
B
T
DCs
NK
KIR
MHC
ADCC
R
IFNγ TO SUPPORT
INITIAN TH1 R
DETECT
SICK
DIRECT T
FDC
IMMATURE
DISPLAY
PHAG Ag
CYTOK
TLR
MATURE TO DCs
& MOVE
LN
DELIVER TO LN
ONLY CAN INITIATE
1° Ag R IN NAIVE T
CYTOKS THAT PROMOTE TYPE TH
OTH APCs
MATURE CAN REACTIVATE
& MEM T
PRESENT PEP
CD4T
CD8T
II
I
TCR α-β OR γ-δ
≃ Ig
OTH APCs
MAC
B
MANY
SOMATIC
Ig
REQ 2 SIGNALS
APC
B7
SUFFICIENT Ag
CD8
CD4
MHCII
TCR
PEP
B
MAC
DCs
CTLA4
BIND CD28
SWITCHING
MDGEA
SOME
MANY
VDJ



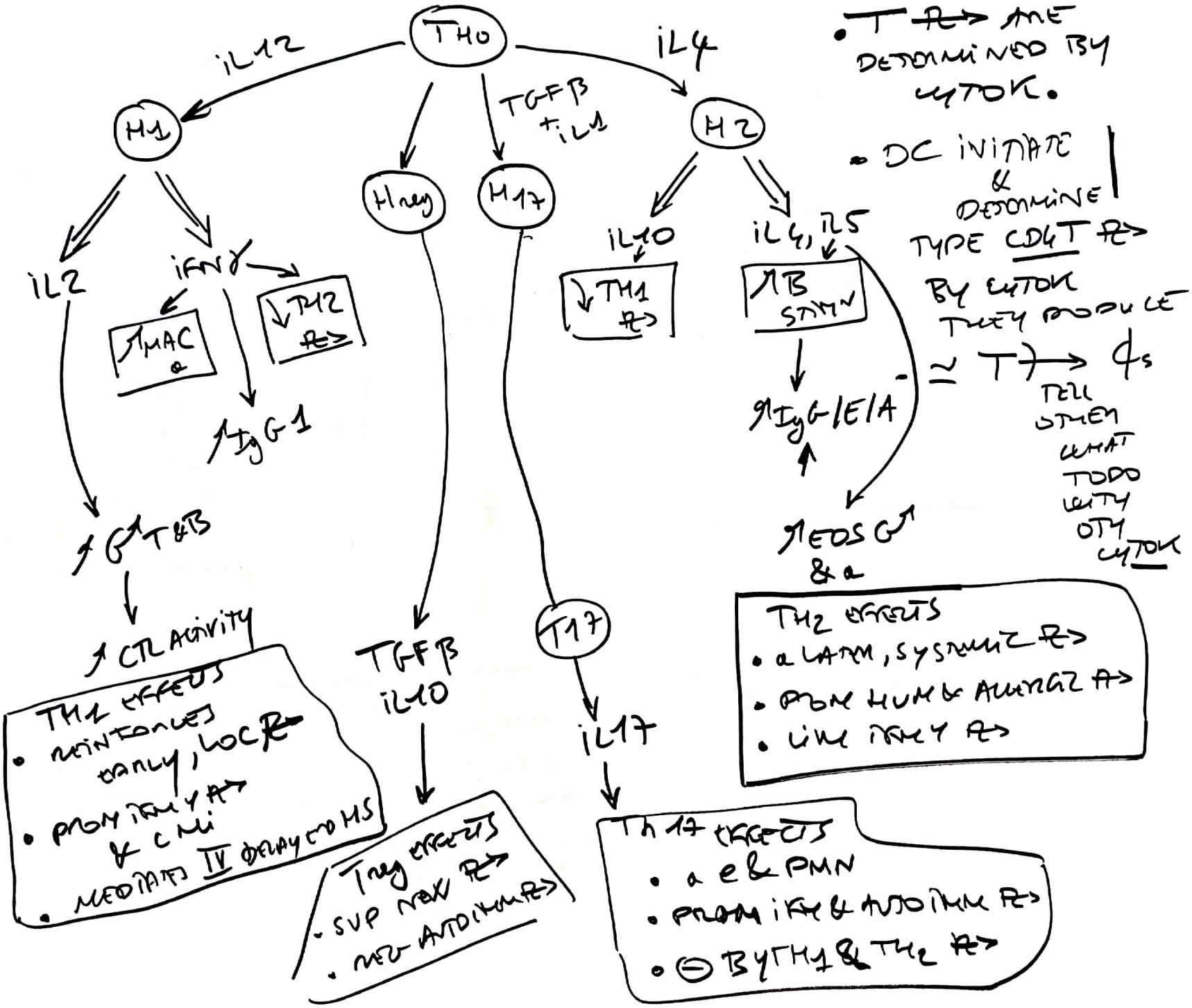
APC ⟷ CD4T



ALSO BIND TO CTLA4 (SUPPRESSIVE)

WHEN IT IS SATURATED THEY BIND TO CD28 (ACTIVATION)

ENSURING PROPER a OF T



TH1 VS TH2