





CALIBR TESTING

BI-BUNCH in VES

VERT GAZE & GAZE

COLD H2O CALIBR TESTING VISUAL ST

LEFT BRACING OPTOKINETIC VESTIBULAR HORIZONTAL

OC TEST CENTRAL AB GYMNA

DIVERGENCE CONVERGENCE ADULT ABD ACOMODAN SYNERGISTIC MVT BSM EYES

OBLIQUE ELEMENTS SC FEFs QUATREC ANCA

VERTICAL NYSTAGMUS

VOR VEST SVS

KEEP IMAGE STABLE ON RETINA VESTIGAN NON CANAL VEST NC

HORIZONTAL NYSTAGMUS

KEEP BOTH SIDES VEST i CTBL i CRITICAL i

GAZE

FOVER LGN VERGENCE C. HORIZONTAL LGN VERGENCE C. SAME TIME X

WIPING

SMOOTH PURSUIT

THANKING A SLOWLY MOVING OBJECT

VI WHOLE ABD IPSI OYE INITIATED ADD GYMNA SAME DIREC. L.R. VI AB MR III ATB NC

SACCADES

PROSAC

ANTISAC

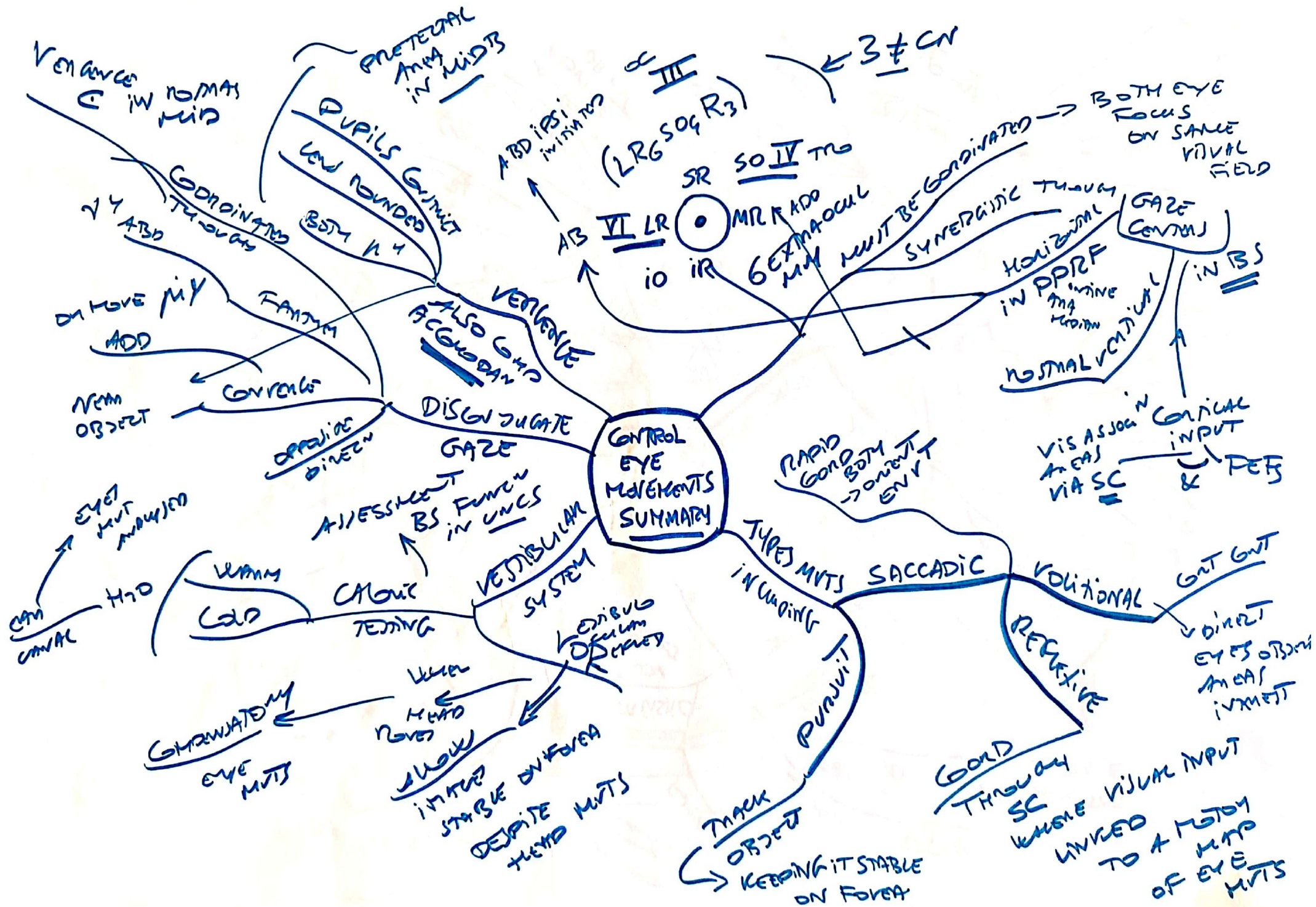
REM OMENT ON GAZE IN ENV'T FEFs SC PPRF

REFLEXIVE

RLGN

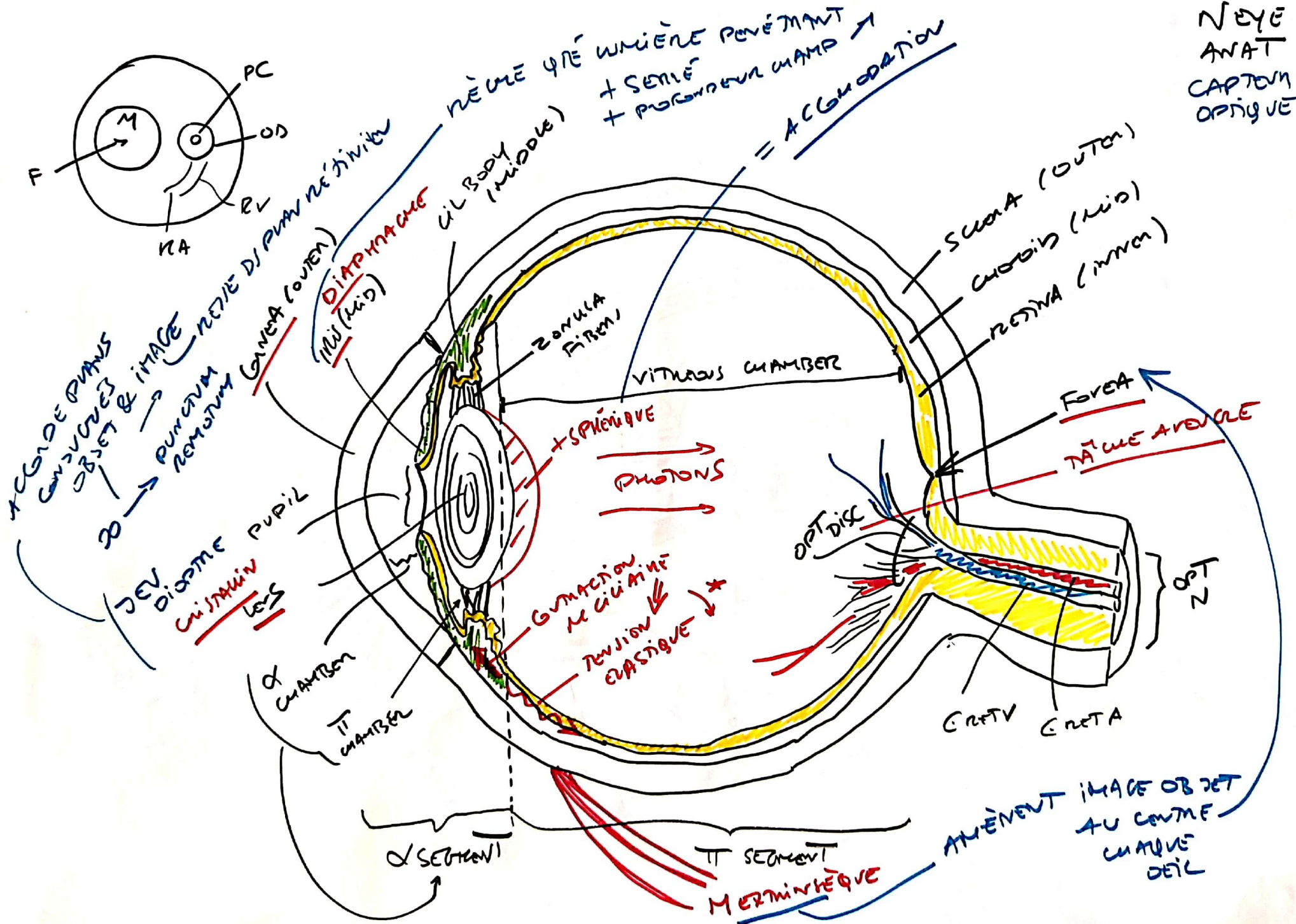
ACCOMODAN



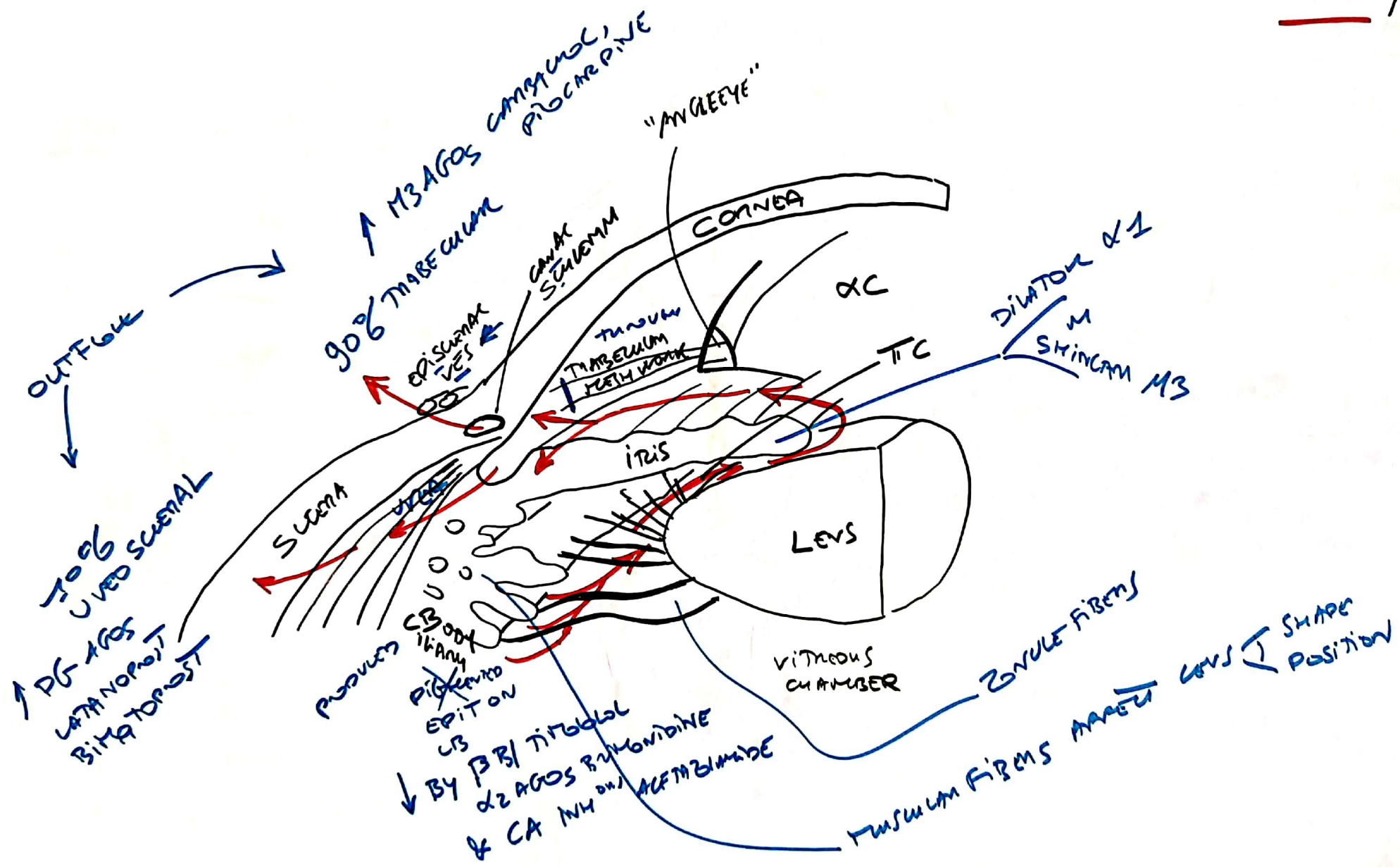




N'YE  
ANAT  
CAPTOM  
OPTIQUE



AQUEOUS HUMOR PATHWAY





L'ACTION AVEC LE M. VERTÉ

SELON POSITION — NEPOS.

ADD.  
ABD.

• POSITION PRIMARIÉ

APR VILVER SAGITALE

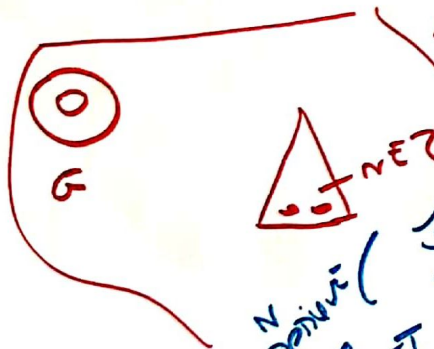
VERTICALE → (DS) ÉLEVAY

(DINF) ABASIT  
GO

• ADD<sup>N</sup>

(ORBIQUES GO ABASIT  
PO ÉLEVAY GO

DS, DINF → NOTATIONS

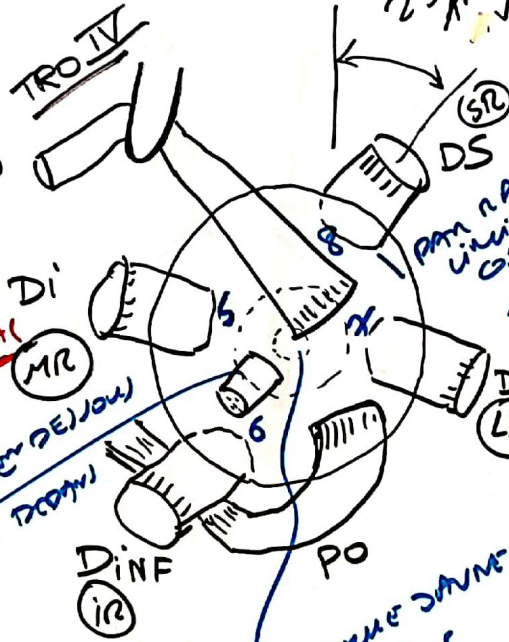


• ABD

OSIT DS ÉLEV  
DINF-ABASIT

OSILIER  
→ ASYMETRIE

VX NET  
TACHE AVEUGLE



ADD  
MUSCLE

Imm en dessous  
Symm dessous

MV → TACHE JAUNE  
ON ÉLEV  
GIVES

DISYMETRIE  
RIVE  
VISION GLOBALE

NOTATION  
INTERNE  
EXTERNE

INTROSION EXTENSION

23° ANGLE VERTICAL

STABILISATION  
ANATOMIQUE  
PRÉCISION  
ABSOLUE

INTENSION  
SUR SCÉNIQUE

DE MOUOY  
AB VI  
PROMÉTHANIE

NOYAU VI  
2 COUP  
MEMOES

SYNCRIE  
M. OCULAIRES  
& SYNCHRONISME  
PARFAIT  
MUT LATÉRALITÉ

OEIL  
DROIT  
VUE  
POSTÉRIEURE

OC III MÉS  
PRESTE  
PROXIMALE

SMABISME  
SIT  
PINEA  
SIT  
FENTE  
SUI L'OP  
M OCUAIRE

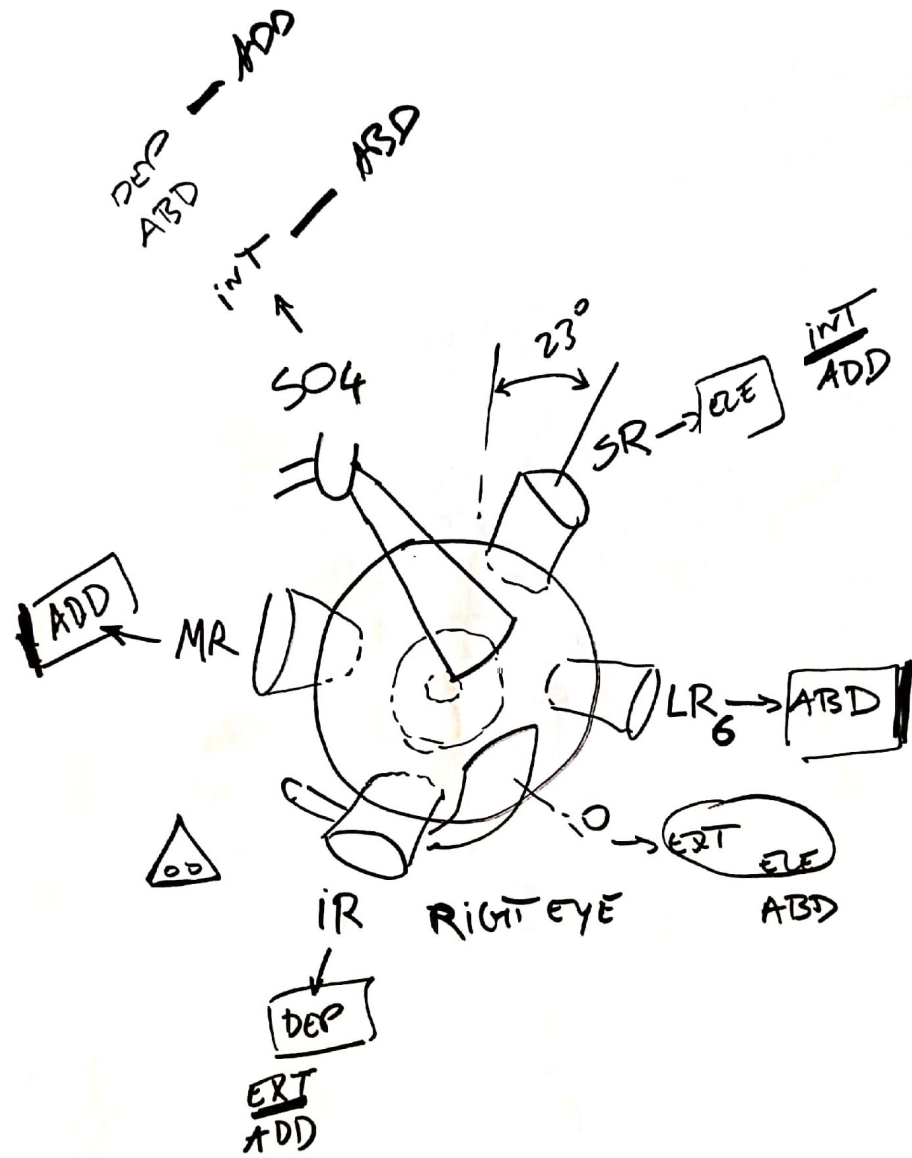
ADDUCTEUR  
CORNE  
→ DE DANS

DI

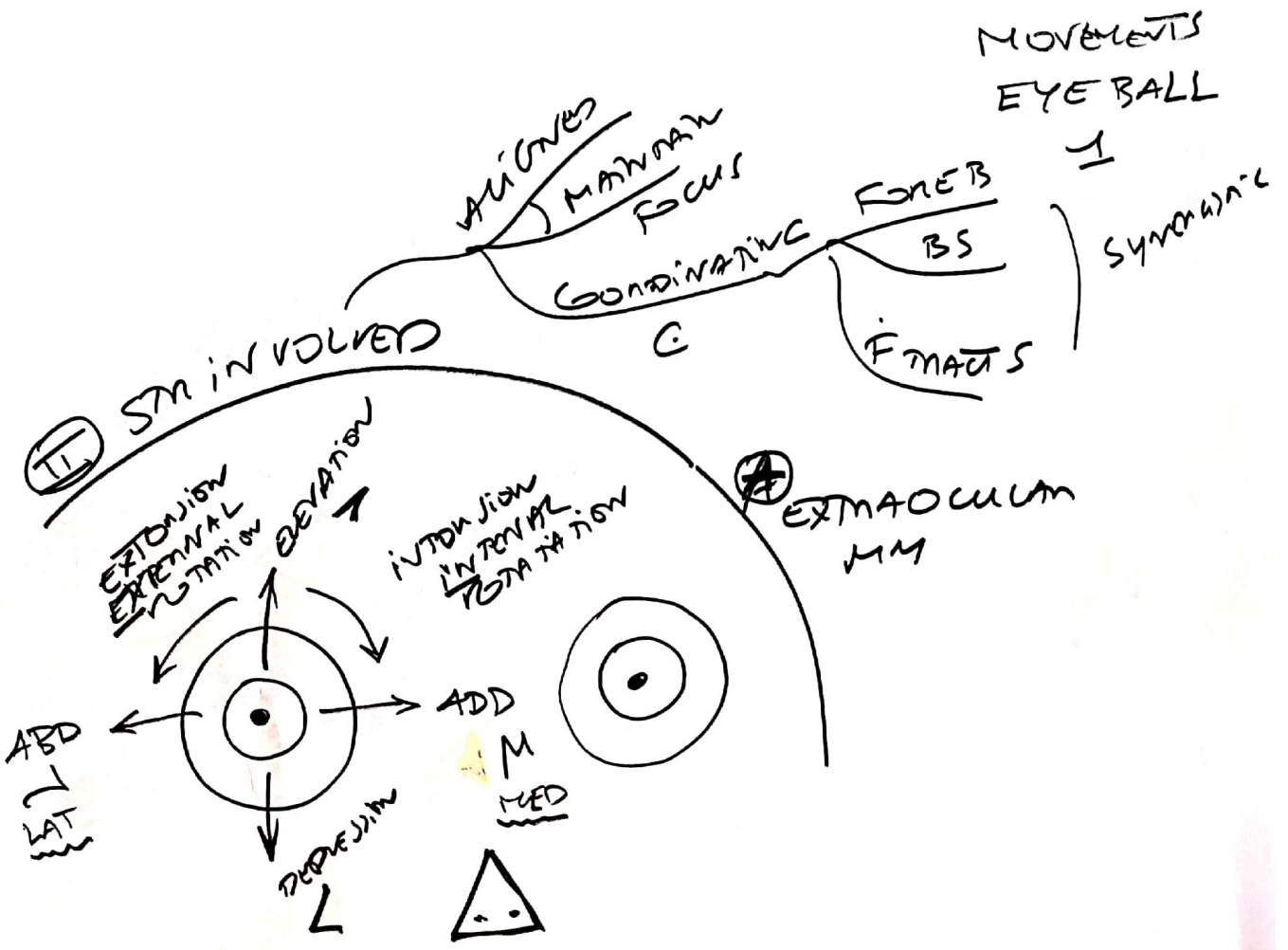
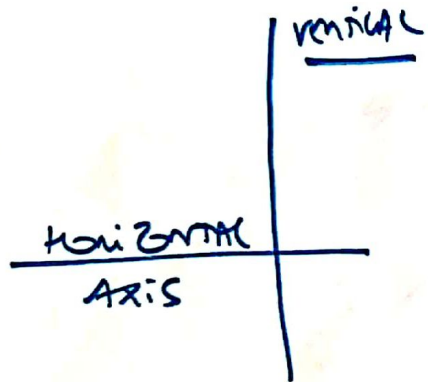
NOYAU III

BANDELETTE  
LONGITUDINALE  
POSTÉRIEURE

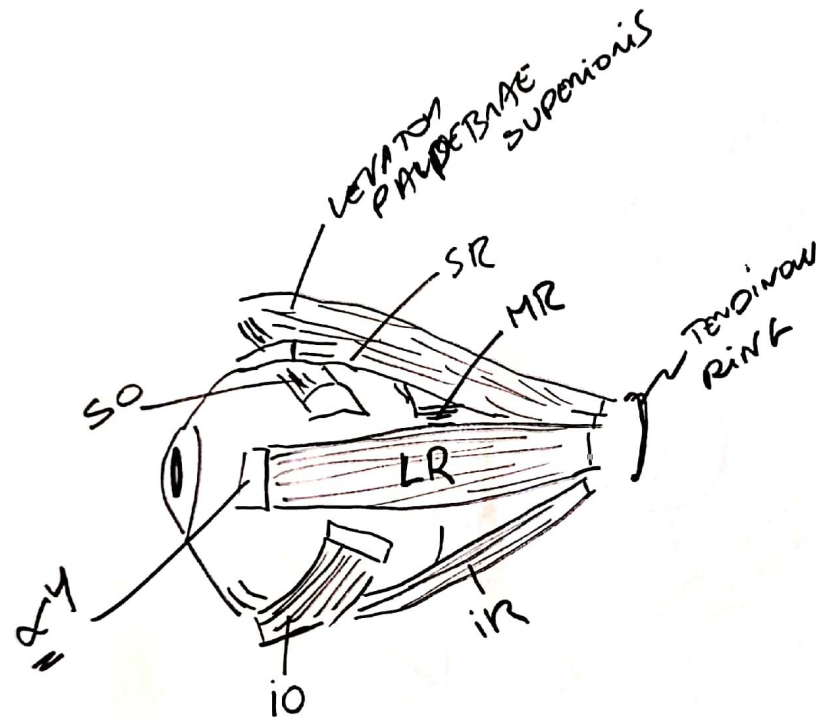
+ FINE  
DEPLAGE A  
NEPOS.  
⇒ DIPLOPIE





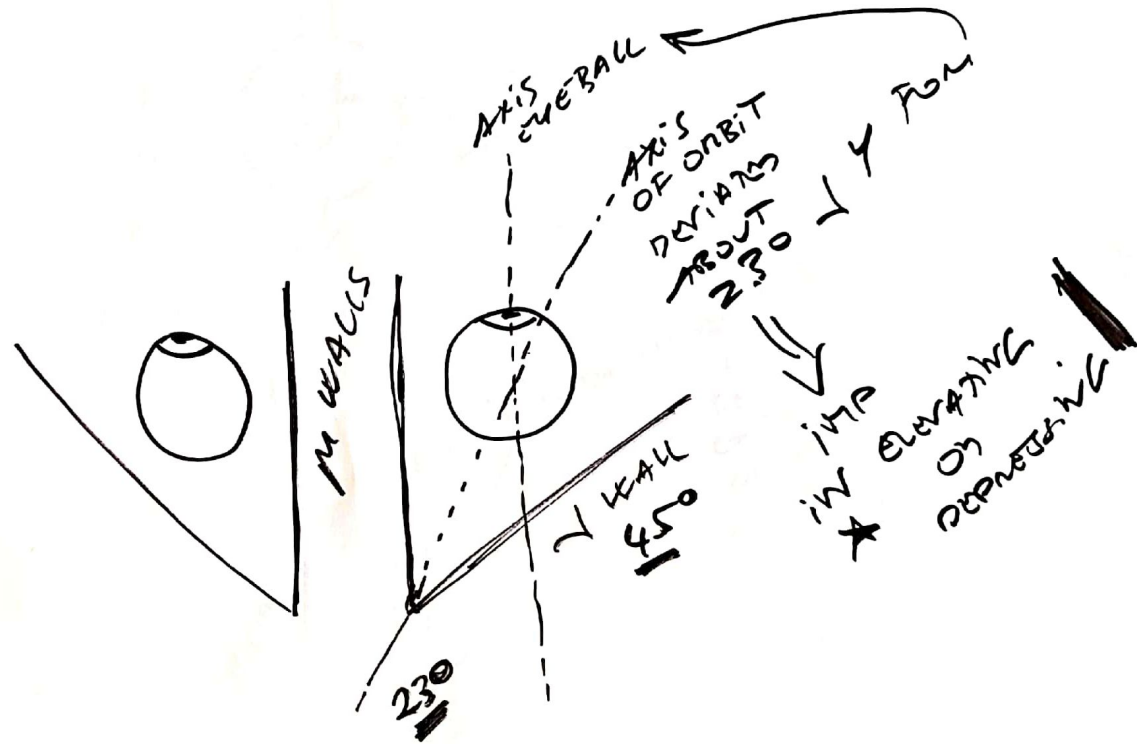


3  
OVERVIEW  
EXTRAOCULAR  
MM IN ORBIT



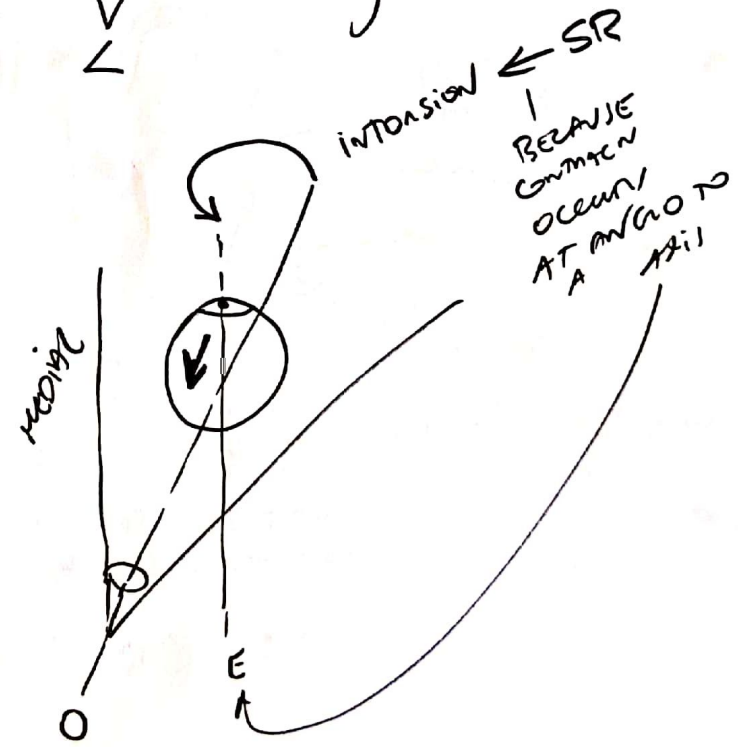
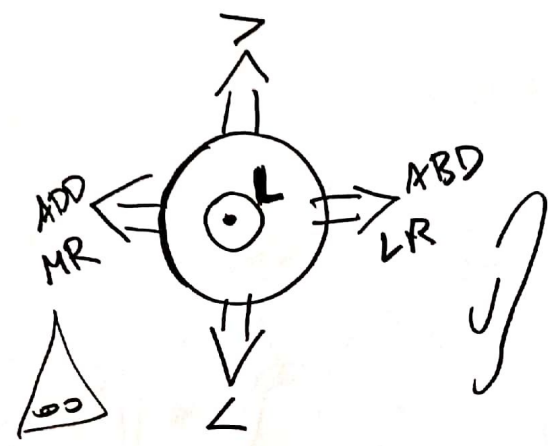


2  
FROM  
ABOVE



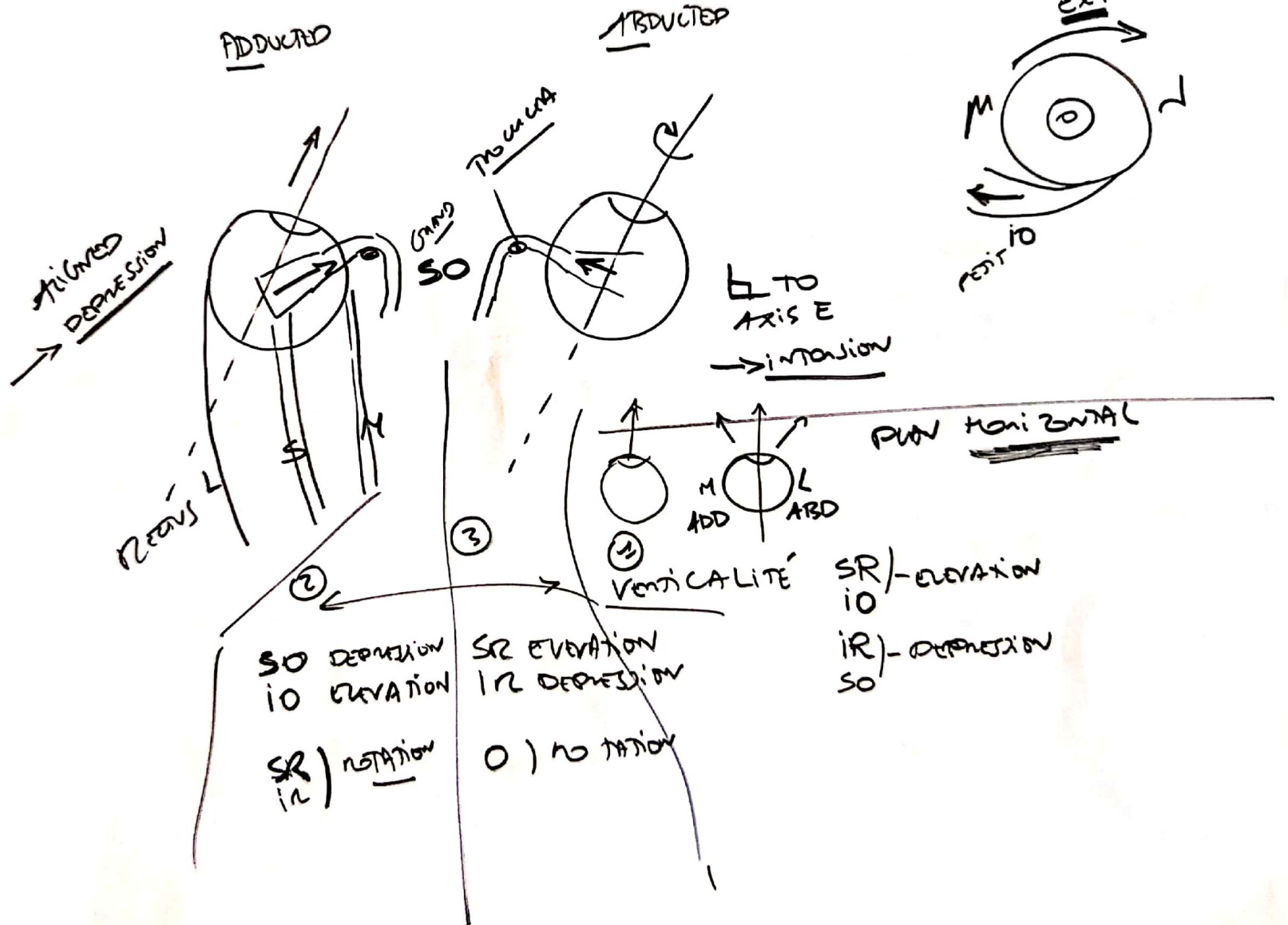
4

ACTIONS  
RECTUS MM  
FOR MOVING  
EYE BALL





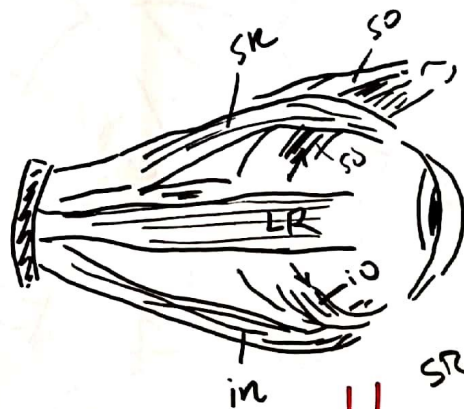
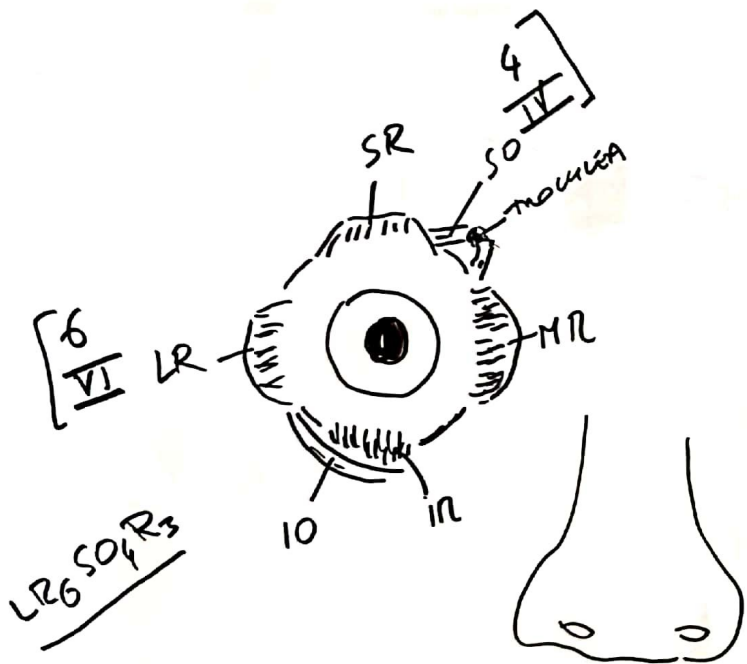
5  
ACTIONS  
OBLIQUE  
MM



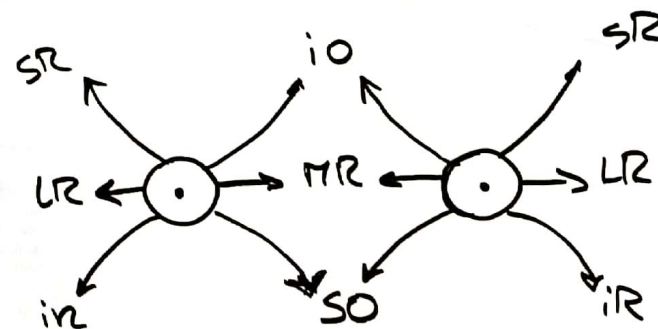




OCULAR MOTILITY

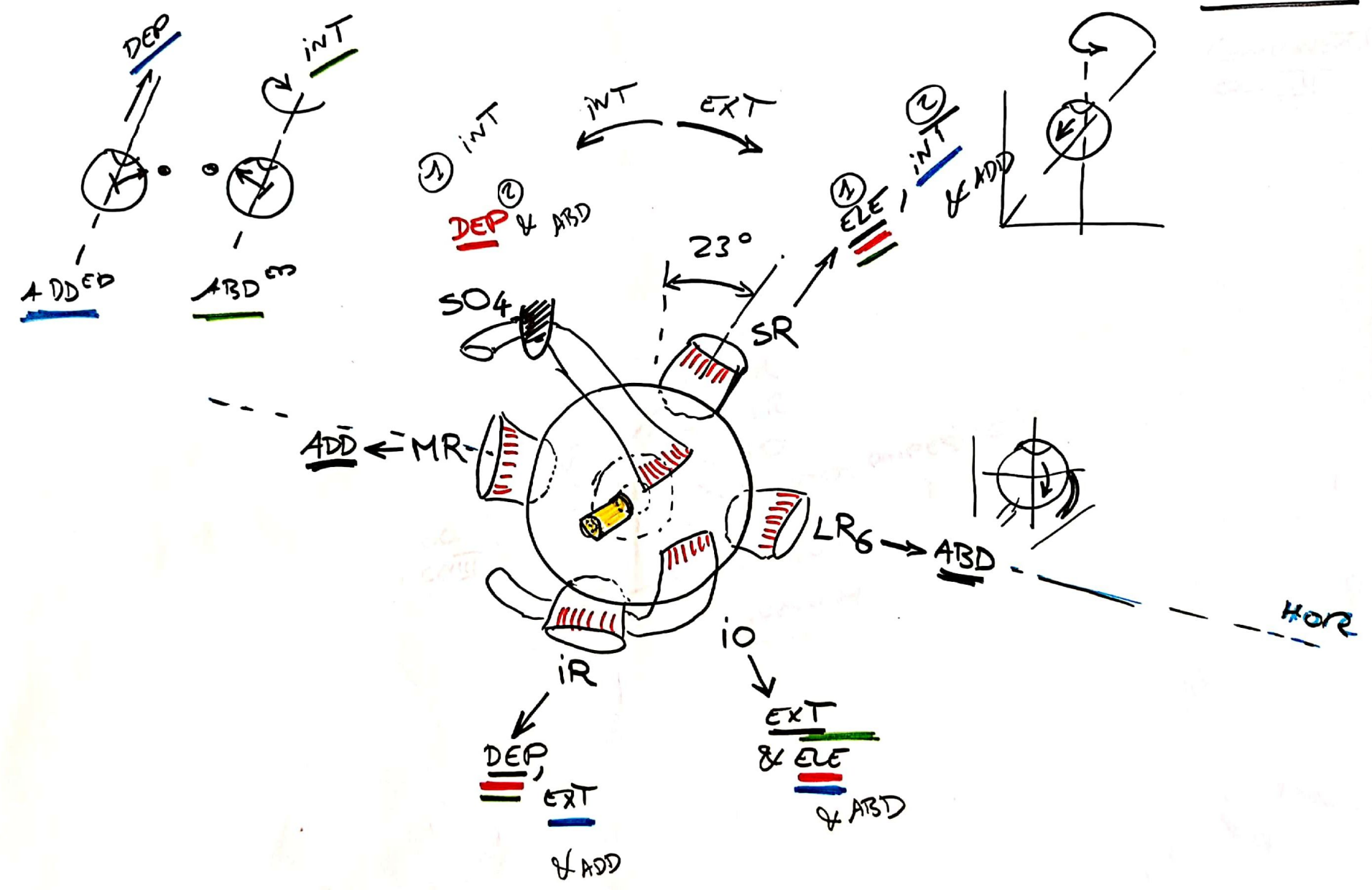


**NB!**



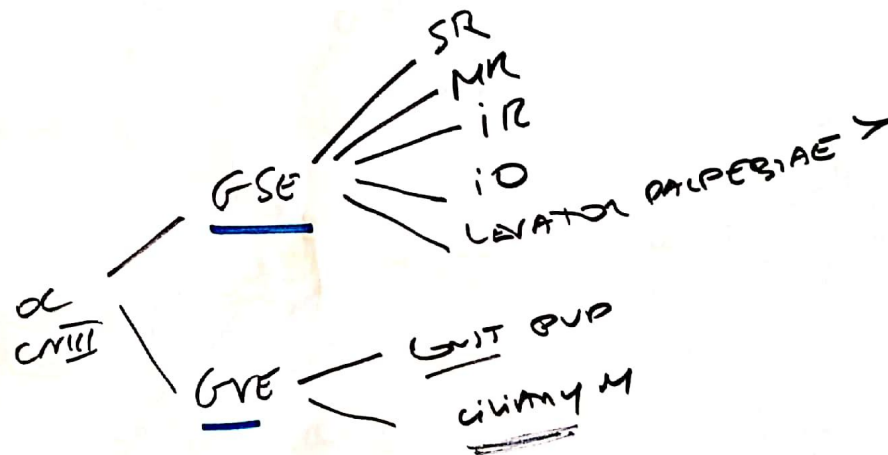
OBLIQUES GO OPPOSITE (LEFT SO & IO TESTED LEFT PATIENT GOING RIGHT)  
IOU: IO TESTED GOING UP

SUMMARY

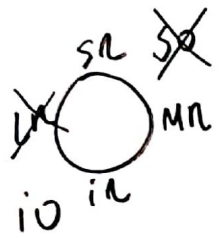


ABDUCTION  
 ADDUCTION  
 POSITION PRIMAIRE

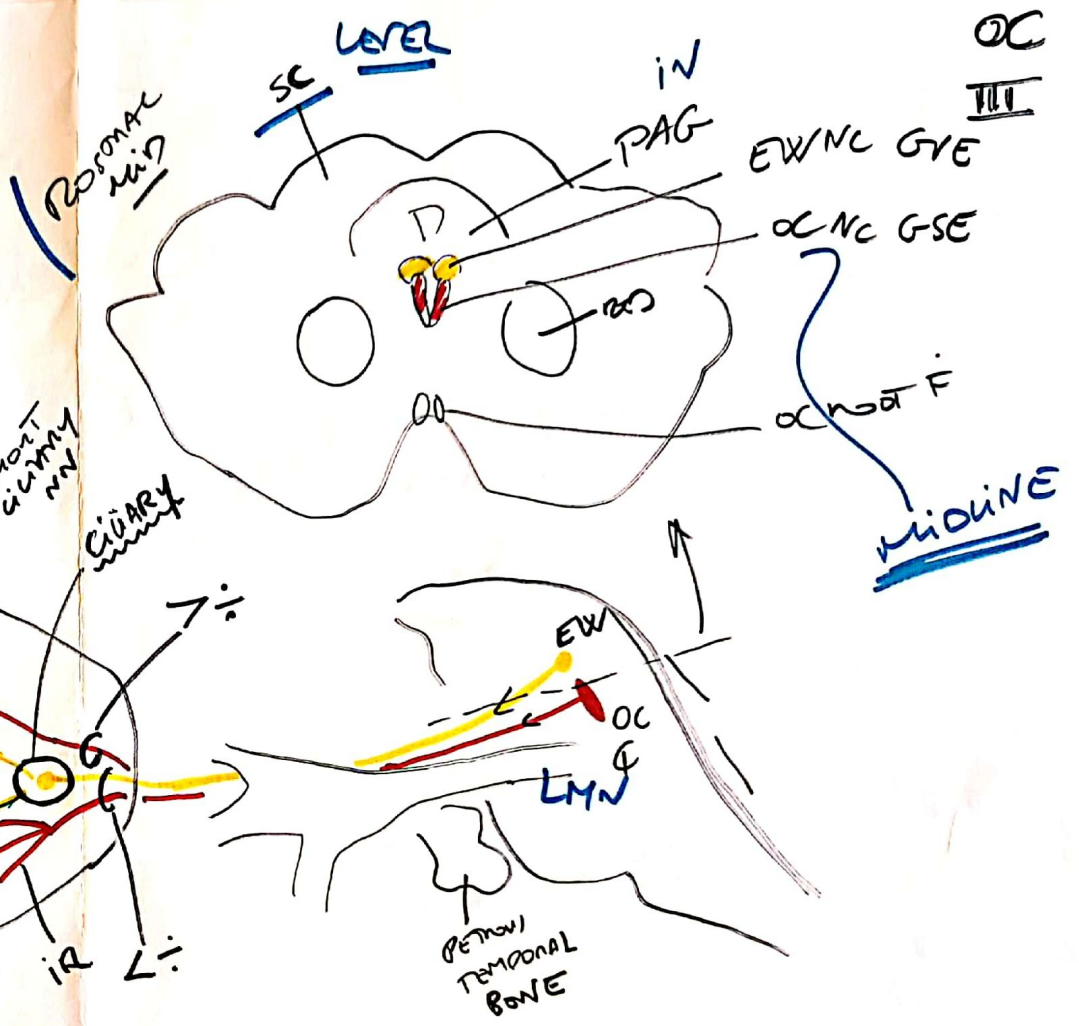
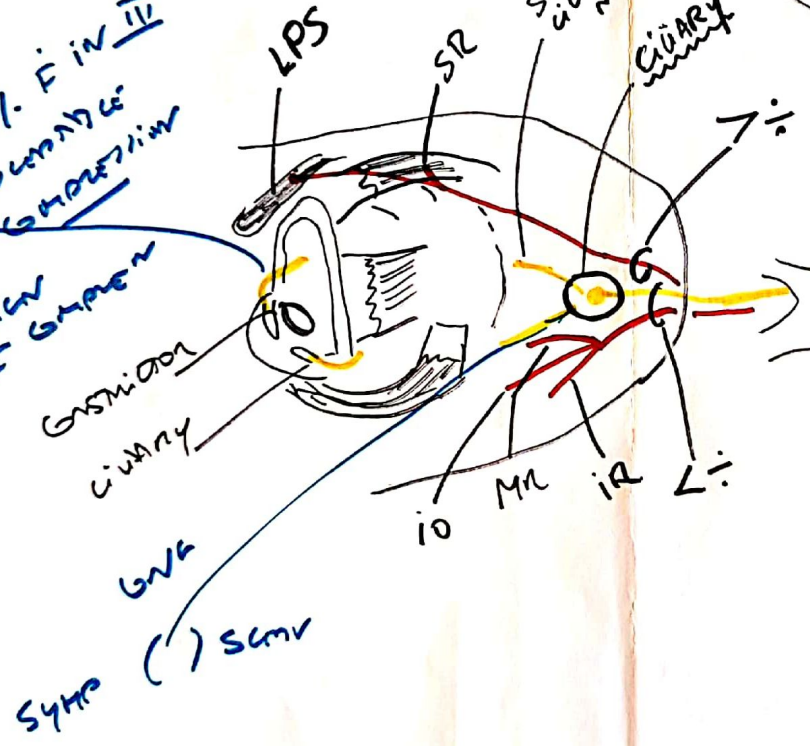
7  
Components  
OC III







PANAS F  
 = PUT I. F IN III  
 => PUT SURVIVANCE  
 TO GROWTH  
 DILAN AVAIL  
 SKIN TIF JAW  
 OK III GARDEN



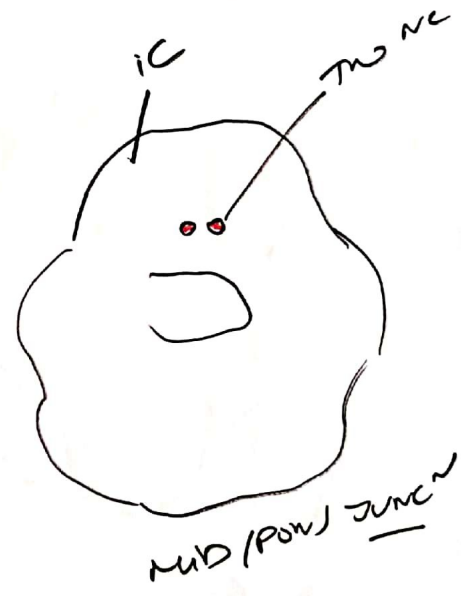
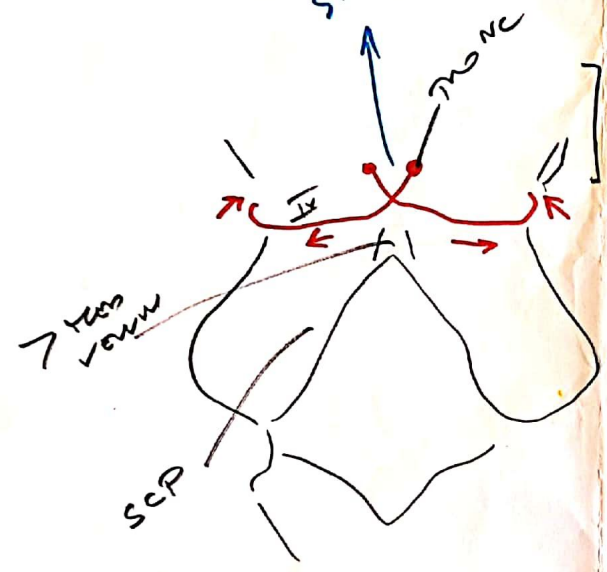
~~TR IV SMAUET CN~~

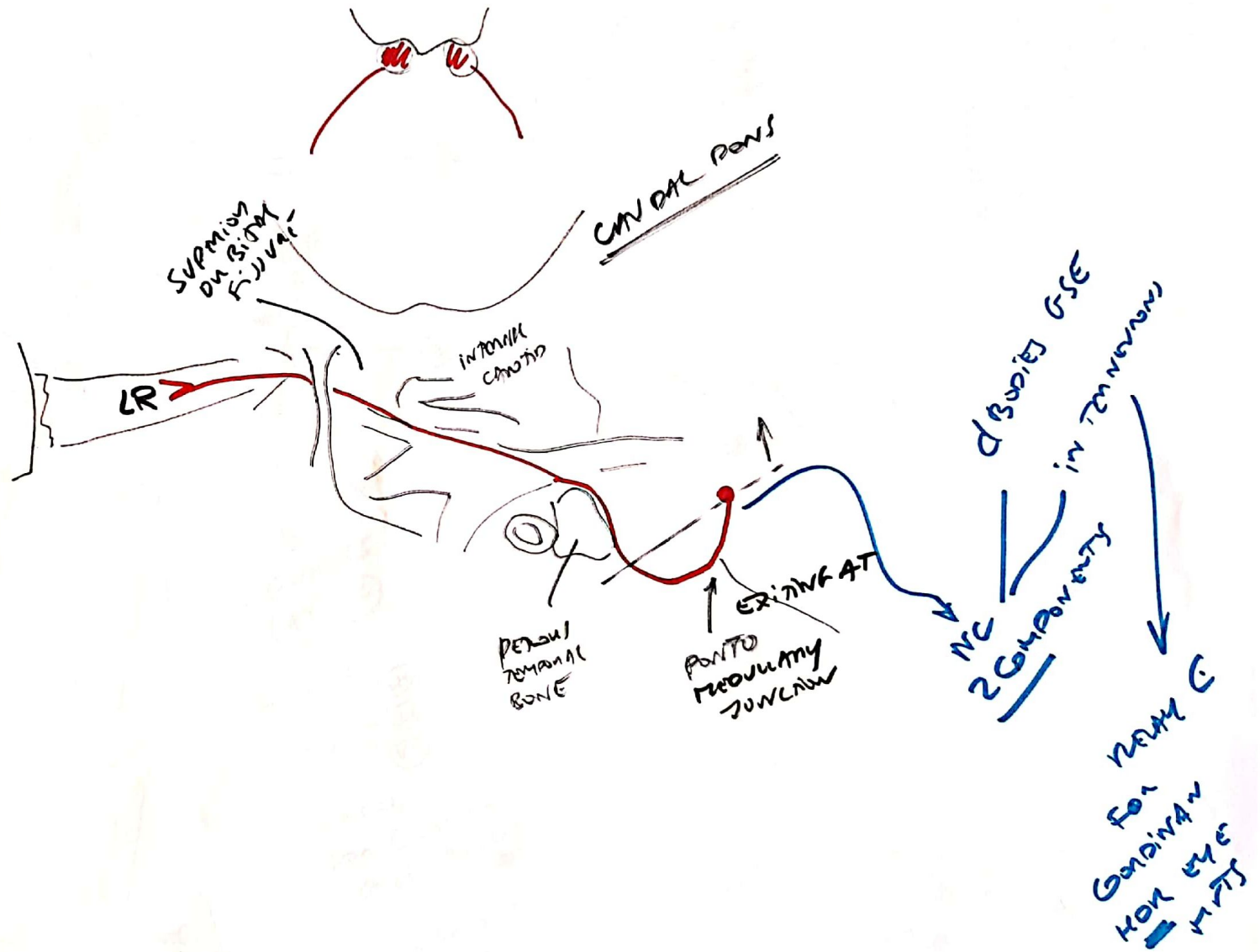
~~Notes~~

SPARK GONALAT SO9

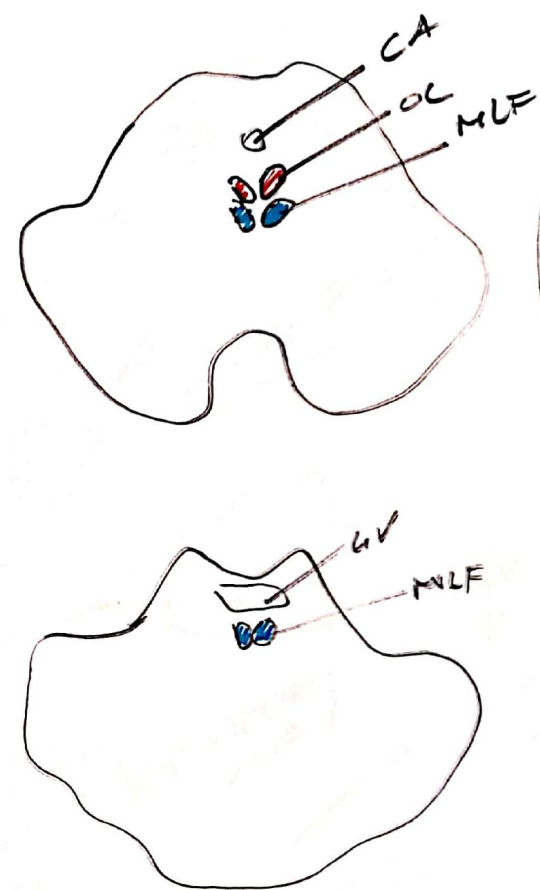
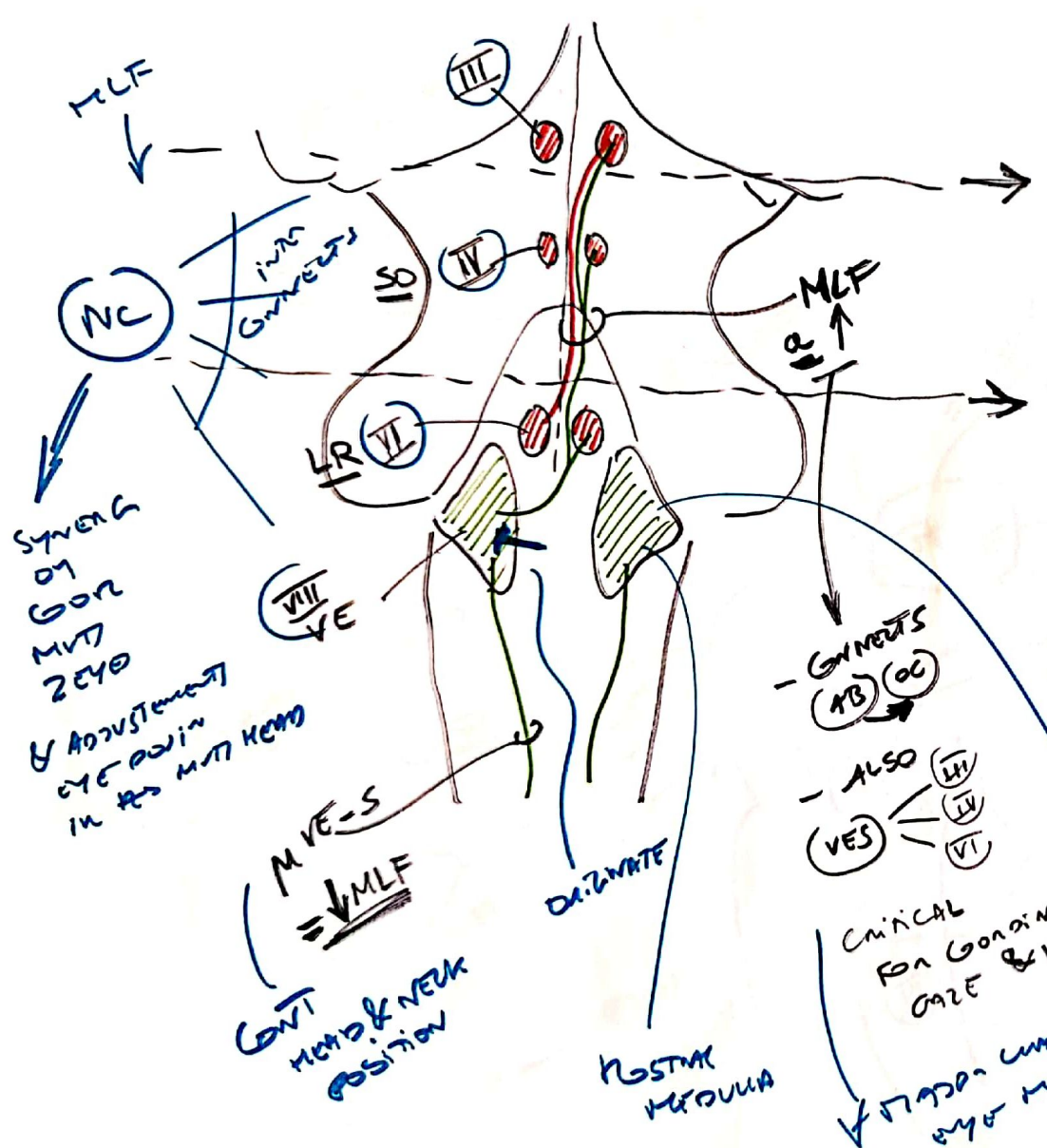
LOCATION OF  
MC → NC

9  
TR IV  
SMAUET  
CN









↑ & ↓ MLF  
 VESTIBULAR INPUT TO MLF IS BOTH CROSS & UNCROSSED (NOT SHOWN)

SYNCHRONIZATION OF GON MVT 2 EYE  
 & ADJUSTMENT EYE POSN IN THE MVT HEAD

CONT. HEAD & NECK POSITION

- GONNETS (IV) (OC)

- ALSO (VI) (VII) (VIII)

CRITICAL FOR GONDIARMS GAZE

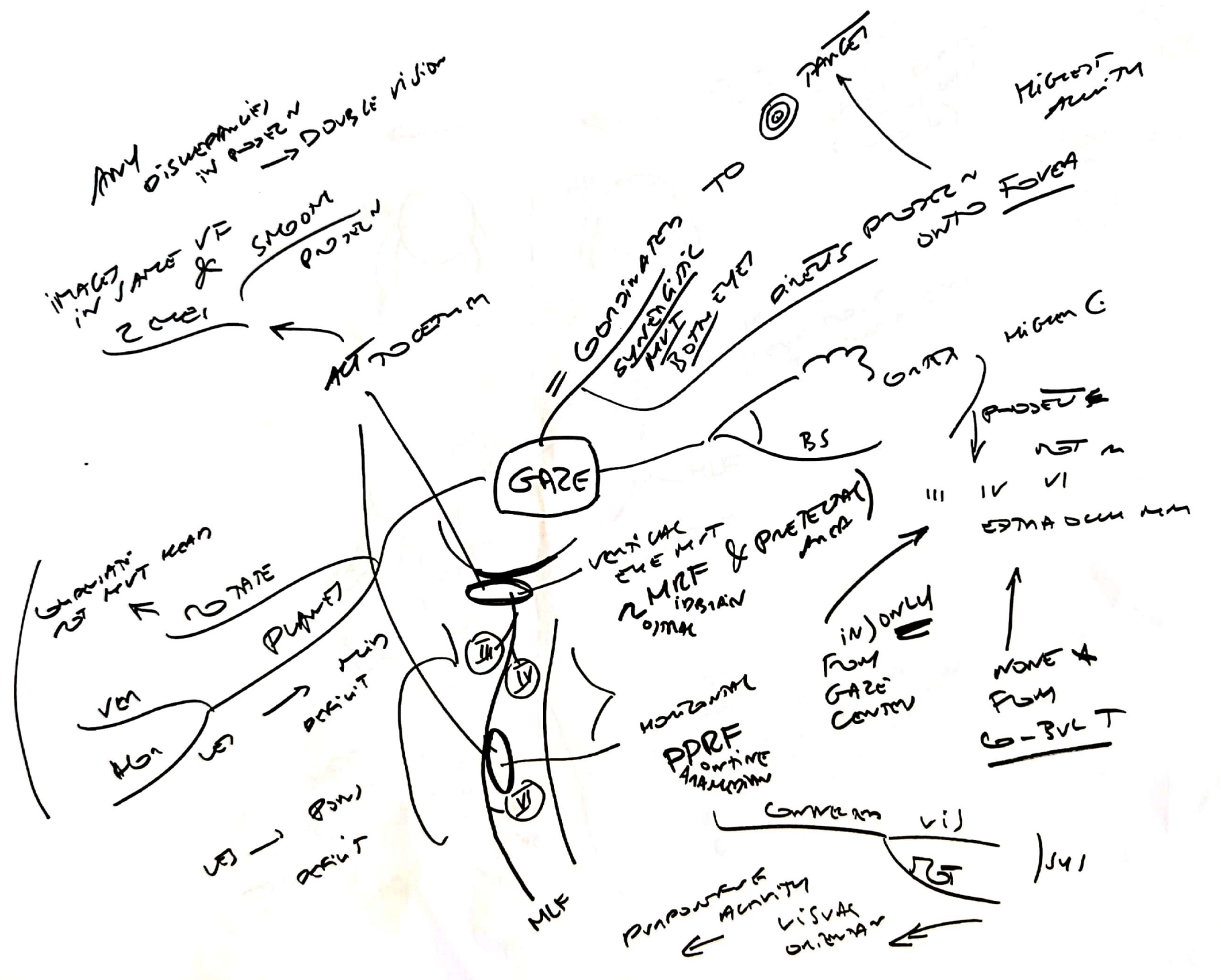
STAGON LUNDIA EYE MVT

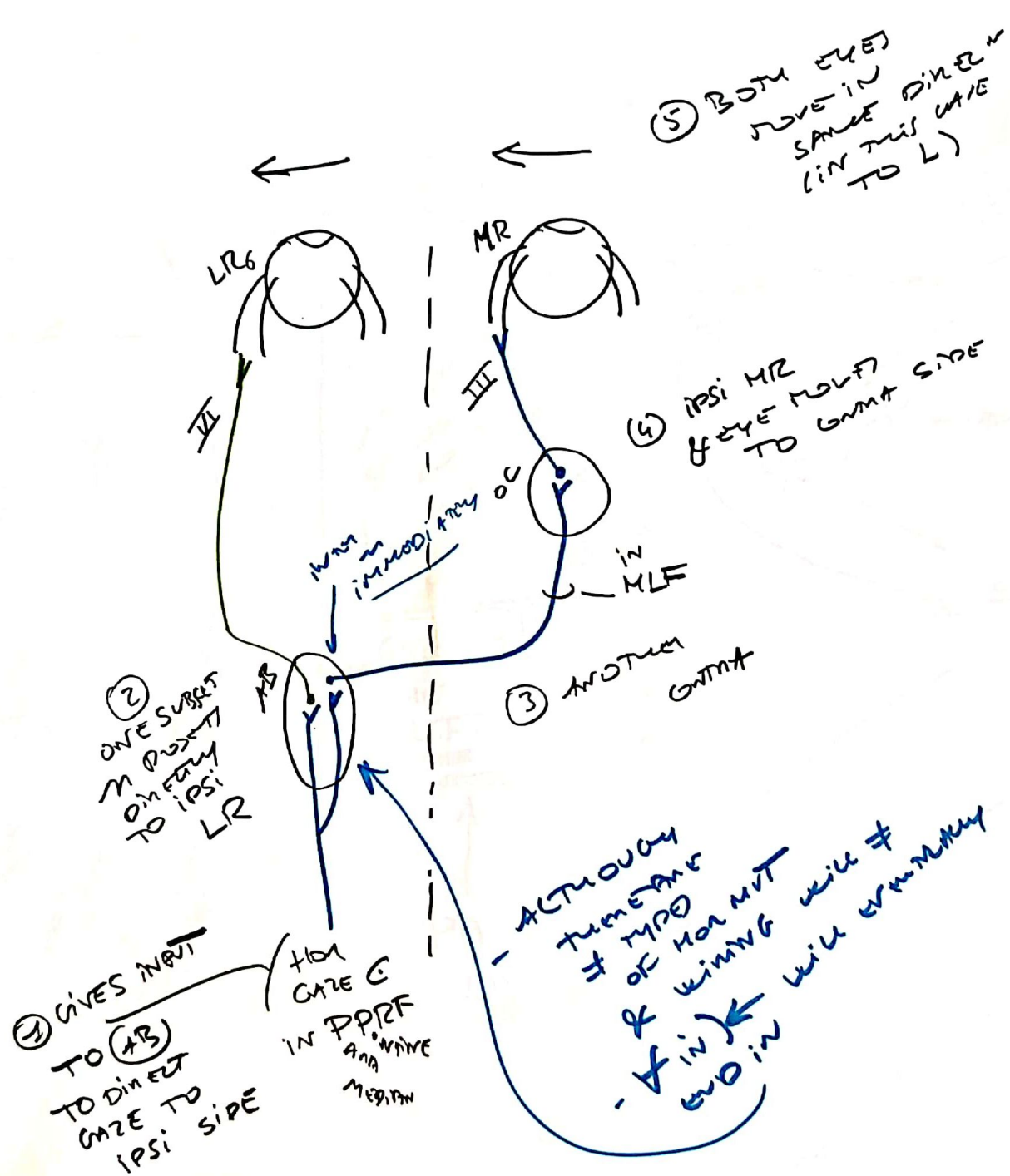
ADJUSTS EYE MVT TO HEAD

GONDIARMS INK DIARRHAE CAN OCCUR

• e MLF SHOWN BY STROKE PAIN HEAVY MVT WITH NERVE SUIT & TO SU

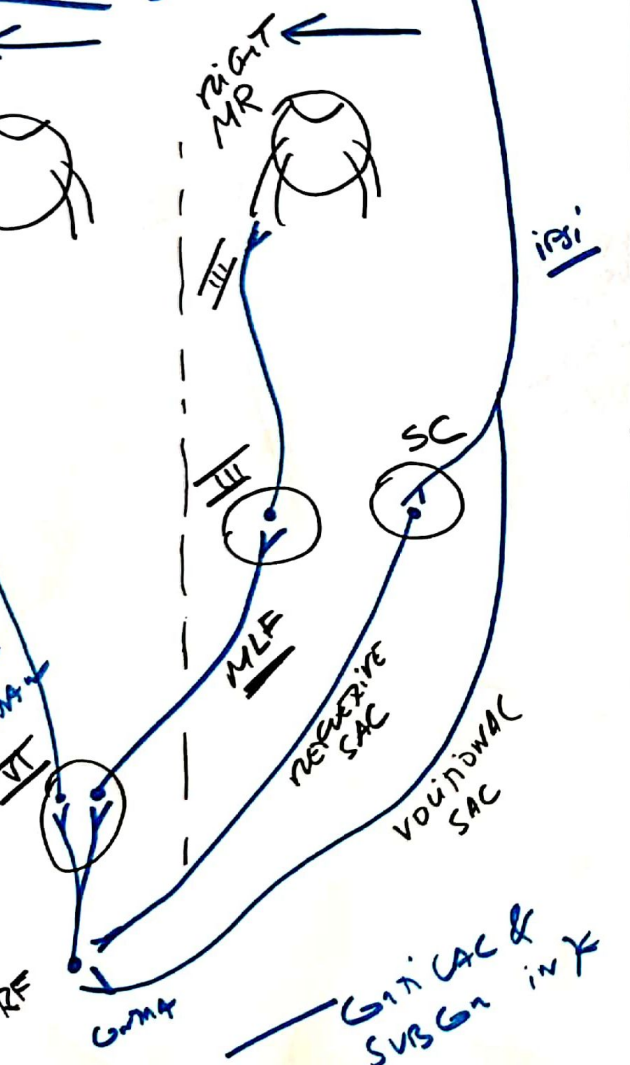
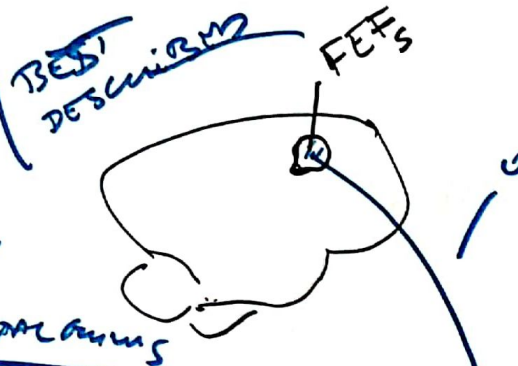
INDIRECT INPUT MID BR





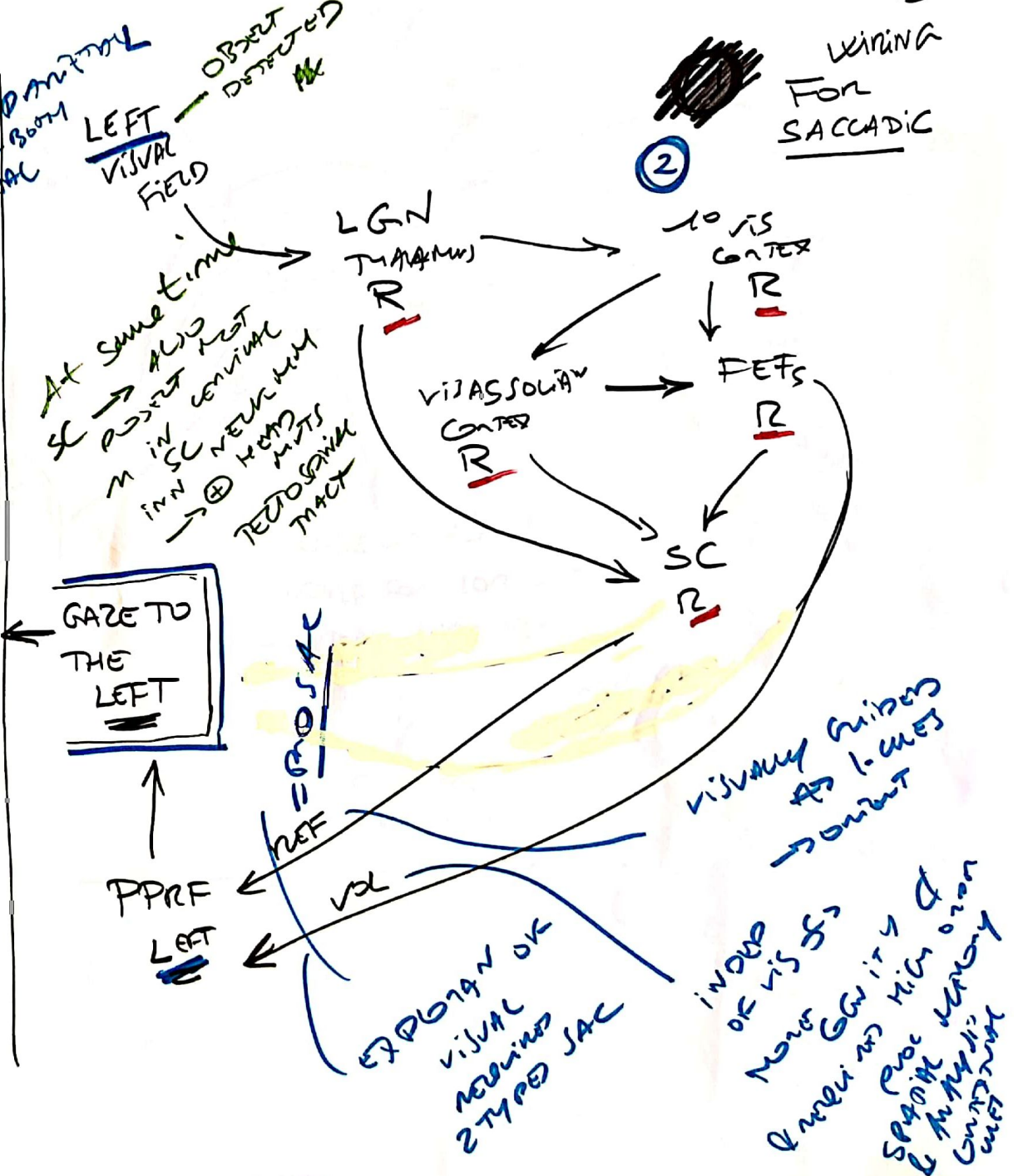


Whereas previous studies in effer animals identified an area in middle frontal gyrus



as key cut LEFT VR  
 mac select val mapping  
 key be more II on border of precentral gyrus out of to area in 10 HAND REPRESENTATION  
 Non-GMA  
 PPRF  
 GMA  
 GMA & SUBGMA in X

Waiting For SACCADIC



At same time SC also get input from SC nucleus in neurogenic tract

GAZE TO THE LEFT

REF = PROSAC

PPRF LEFT

EXPLORE OK VISUAL NEURONS 2 TYPED SAC

INFORM OF VIS OF 2. NEW GMA 3. PROSAC HIGH ORON 4. PPRF 5. GMA 6. PPRF

UNIT SKE  
NORMAL VISION

SUPERVISOR  
CONNECTION

LAYERS

ROLE

SC  
IN REFLEXIVE  
SAC

MAKES  
OUT  
PPRF  
MRF  
IOB

MAIN INPUT  
FOR

RETINA

VIA  
LGN

VISUAL

MOTOR

NOT VISIONS

GAZE CENTERS

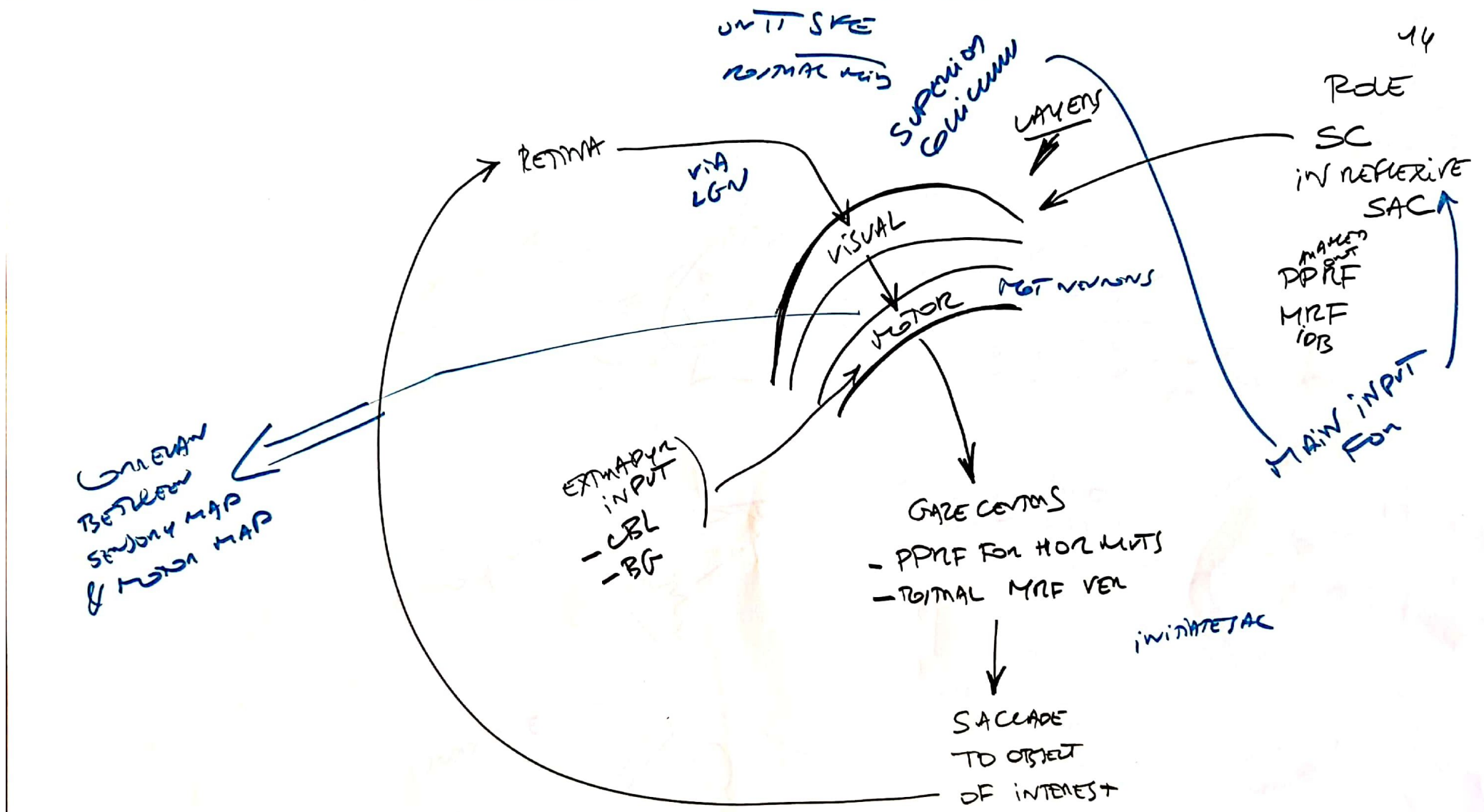
- PPRF FOR HORZ MTS
- TONIAL MRF VER

INITIATE SAC

SACCADE  
TO OBJECT  
OF INTEREST

EXTRA INPUT  
- CBL  
- BG

LINKAGE  
BETWEEN  
SENSORY MAP  
& MOTOR MAP



15  
TYPES  
VOLITIONAL  
SACCADES

MOVING EYE  
FROM S →  
ANTI



INVOLVE MAKING  
A DECISION  
TO AVOID EYE  
& RELATED SITUATION, by

⊖ REFLEXIVE SAC  
THAT WOULD MOVE  
EYE TO ... →

MEMORY



DEP ON  
INTACT WORKING  
MEMORY → PROVISION  
A) WELL  
A) SPATIAL ORIENTAN  
↓  
FIND

PREDICTIVE



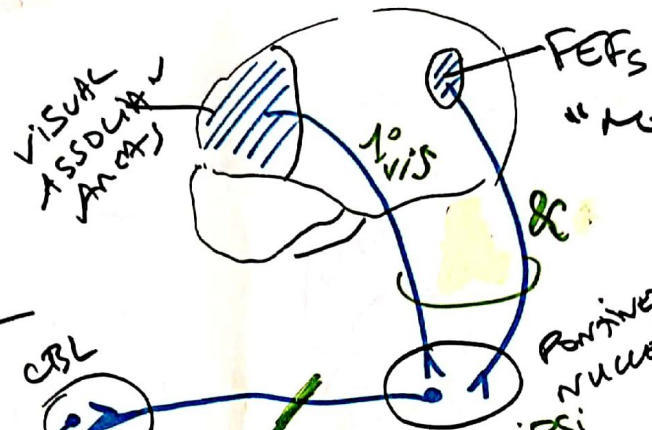
⊙ EXPERTS  
"KEEP YOUR EYE  
ON BALL"  
→ PREDICT TRAJECTORY  
& ANTICIPATE IT CAUSING

↓ PREDICTED  
VOL  
THW  
NEURINE  
"CURVE"



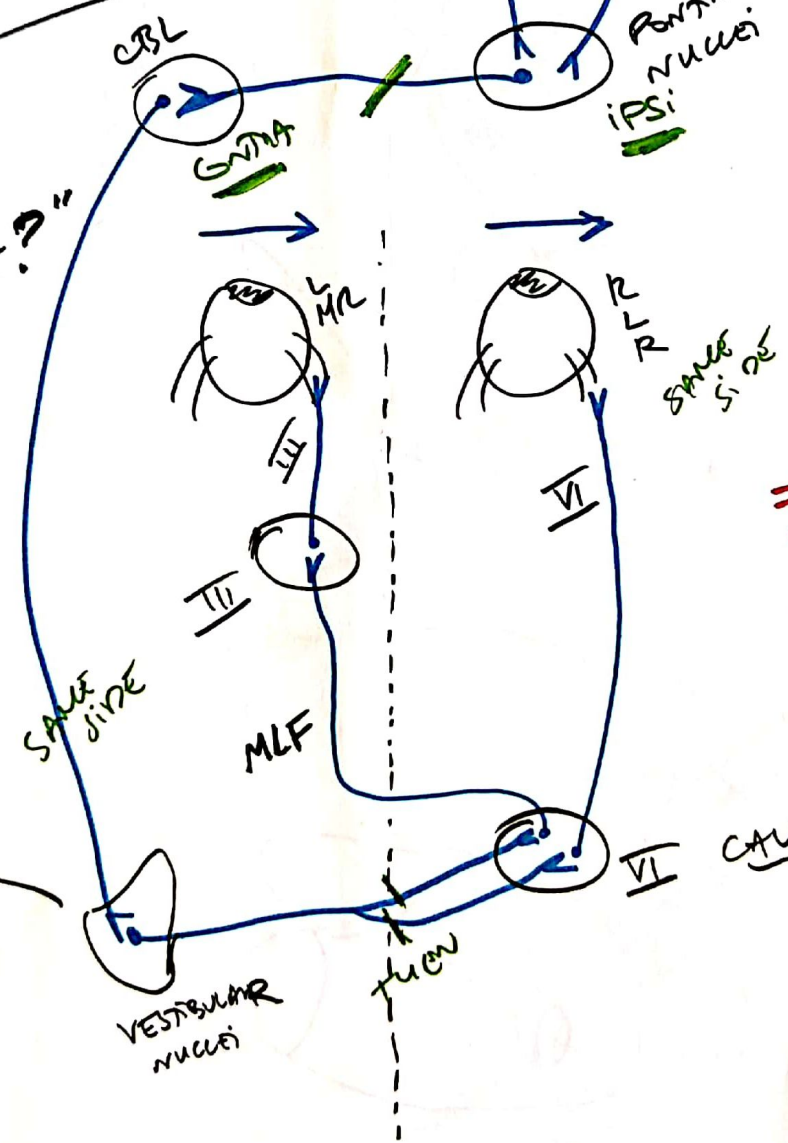
INTENTION  


CORTICAL  
no VIS &  
VIS  
"SEE OBJECT"



16 WIRING FOR SMOOTH PURSUIT  
- BOTH SIDES GTER  
only →   
KEEP → 

CBL  
"HOW AM I MOVING IN ENVIRONMENT?"



+ IN TERN  
VI  
one side  
VIA MLF

SYN EYE MUS

VEST  
"WHERE AM I IN ENV?"

POSTAL MED  
MLF

≠ SACCADE  
WIRING IPSE  
L SIDE GTER → EYES TO L  
ONLY WITH SLOWLY  
QUICK → SAC

rapid

KEEP IMAGE STABLE ON RETINA DESPITE MVT

HOW WE FASTEN DOWN MARKING

on  
slow  
parallel  
base eye  
MVT →

LLR

RMR



MLF

VI

VESTIBULAR  
NUCLEI

VESTIBULAR  
GANGLION

DP

rotation



OTHER  
GAINING  
TO BEHIND  
SEC & EOMM  
→

17  
WIRING  
FOR  
VOR

NOT TO RIGHT  
→ COMPENSATORY  
EYE MVT TO  
LEFT

HEAD  
MVT  
↓  
VESTIB ORGAN - AXES  
→ → → → →  
EXTRAOCUL  
MUSCLES  
TO COMPENSATE

RIGHT HORIZONTAL  
CANAL  
SHOWN FROM ABOVE

NYSTAGMUS  
FAST COMPONENT  
SLOW COMPONENT

EYE MIT INVOR \*  
NEHT \*

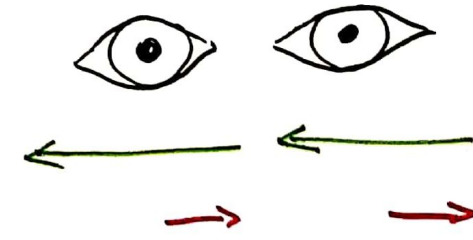
⊙ VOR APP  
⊙ VOR

CONDITION THAT CAN BE GUARANTEED BY VOR

ROTATION HEAD  
→ INNER EAR

⊙  
VESTIBULAR NYSTAGMUS

\* STIMULAN  
VES SYS

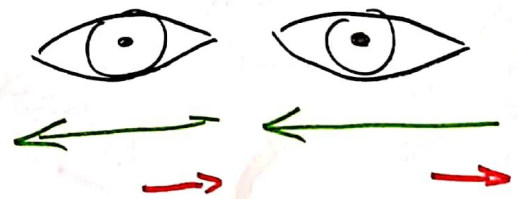
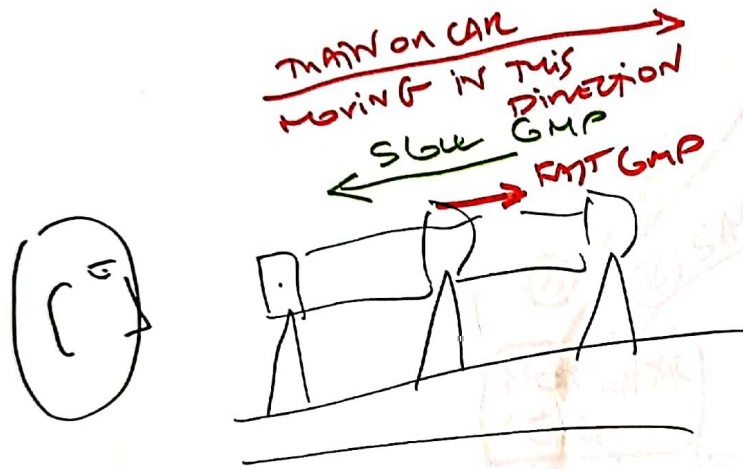


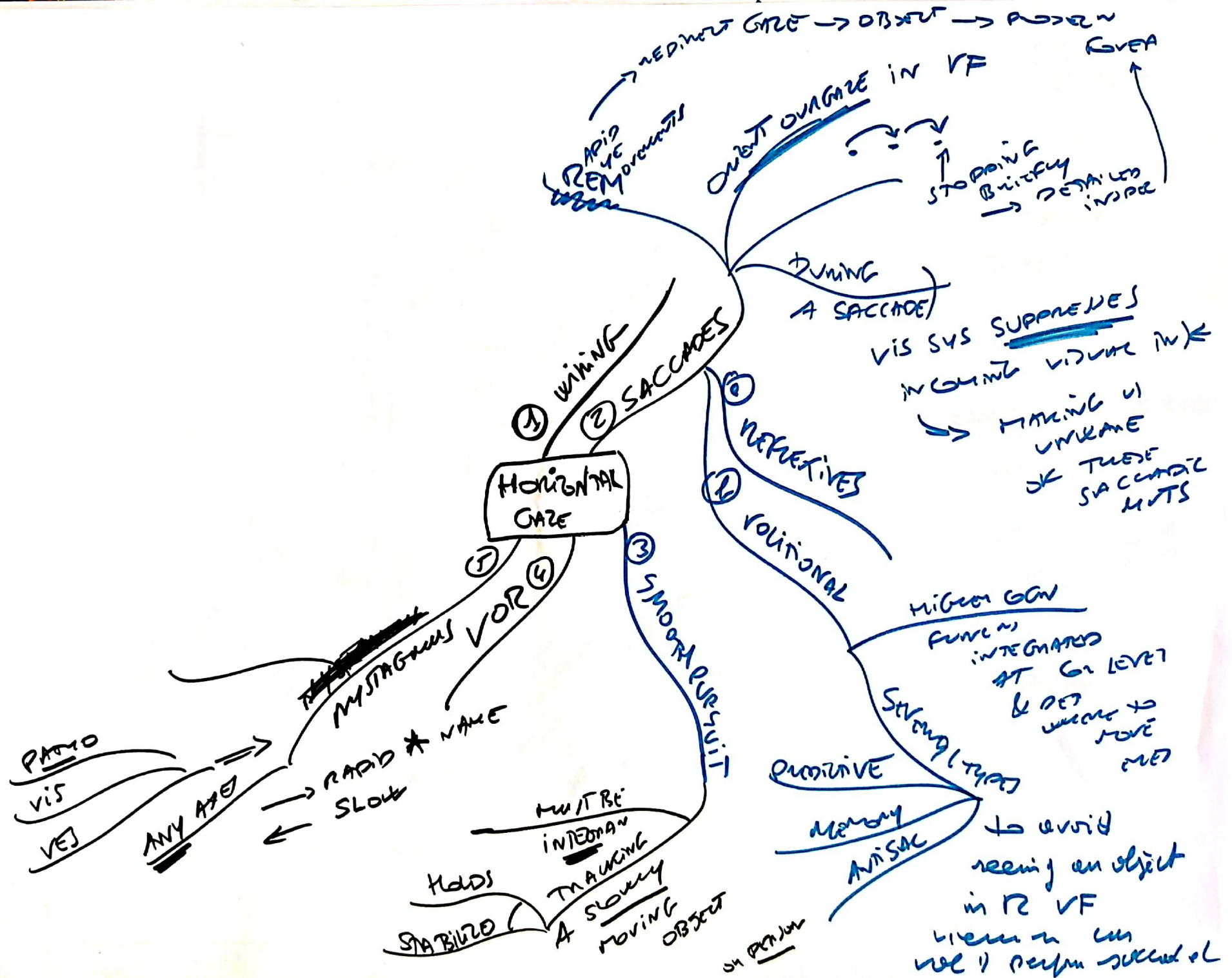
LEFT  
BEATIVE  
NYSTAGMUS



13  
OPTOKINETIC  
NYSTAGMUS

↓  
\* VISUAL  
→

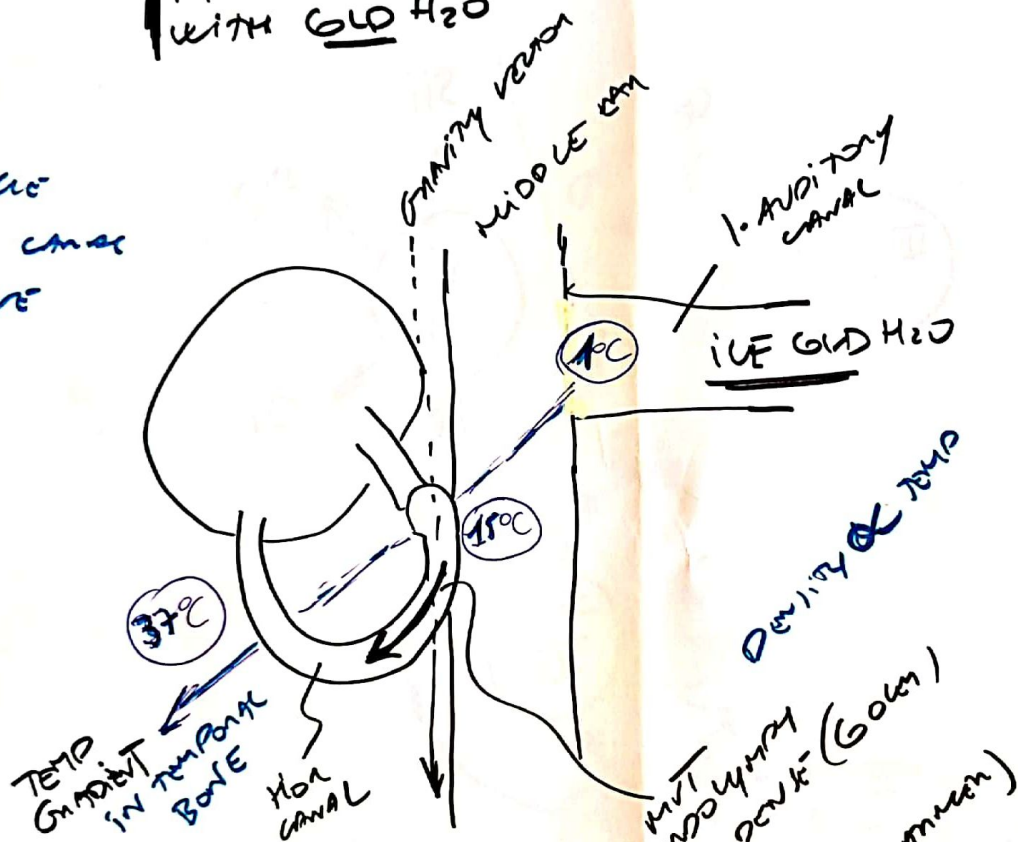




- BS FUNCTION  
IN UNCONSCIOUS

- SURVIVE  
HEARS APPROX  
FORWARDS  
AT 300 ANGLE
- DIRECTION FOR CANAL  
IN HOR PLANE

RIGHT EAR  
IRRIGATED  
WITH COLD H<sub>2</sub>O



CALORIC  
TESTING

WITH  
COLD H<sub>2</sub>O

GRAVITY  $\nabla$   
IS  $\perp$  \*  
TO HORIZ  
CANAL

VESTIBULAR  
NYSTAGMUS

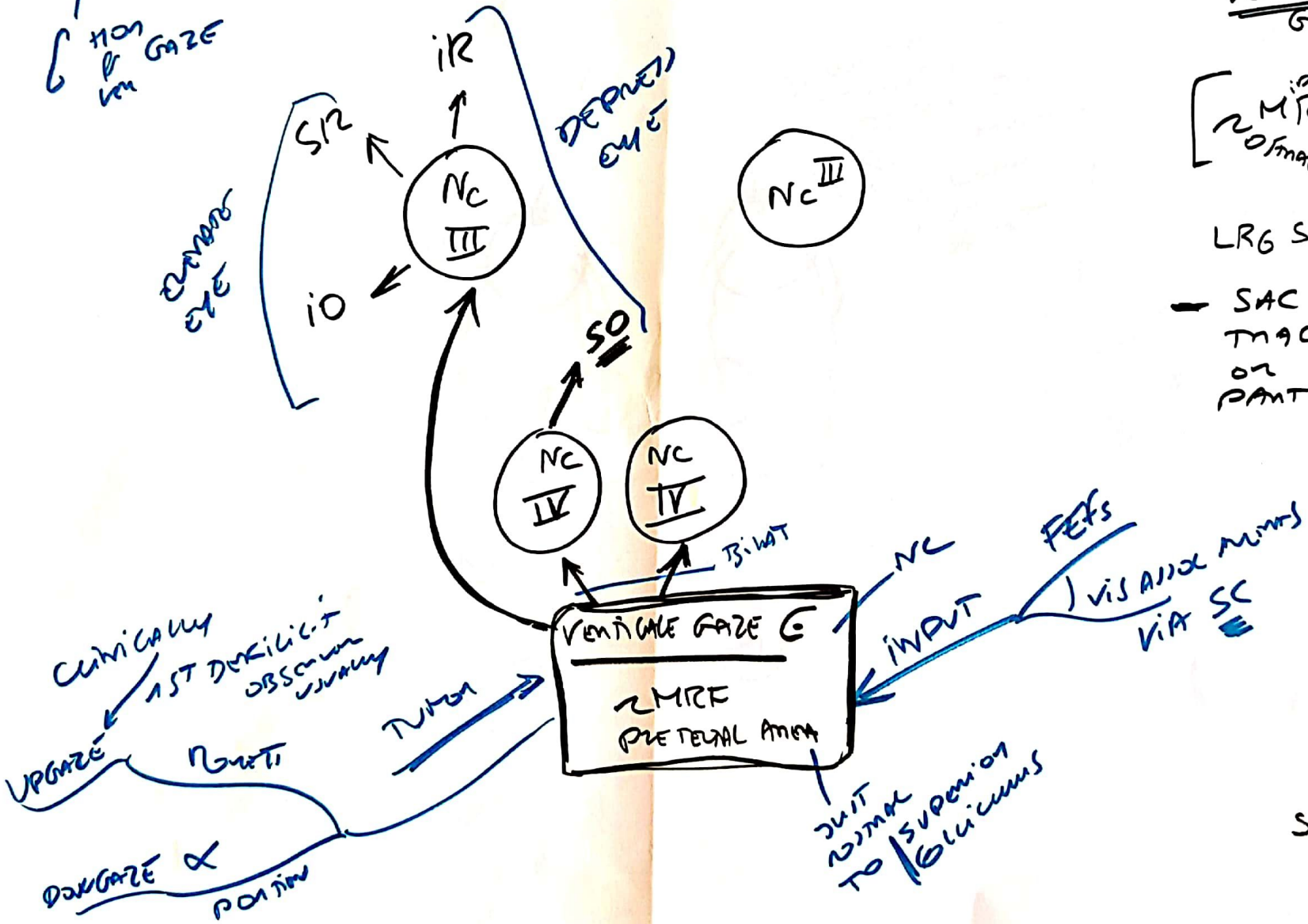
ON MUT  
ENDOLYMPH

COLD OPPOSITE  
COWS  
ARM  
ANGLE

IRRIGAN	MUT TEMP	TYPE HEAD MUT (SITUATION)	SLOW EYE MUT (VOR)	FAST (DIRECTION OR NYST)
TEMP COLD	↻	L	↻	L
WARM	↻	R	L	R
TEMP COLD	↻	R	L	R
L-WARM	↻	L	R	L



OBlique  
 ↗  
 ↘  
 NON  
 Vm  
 GAZE

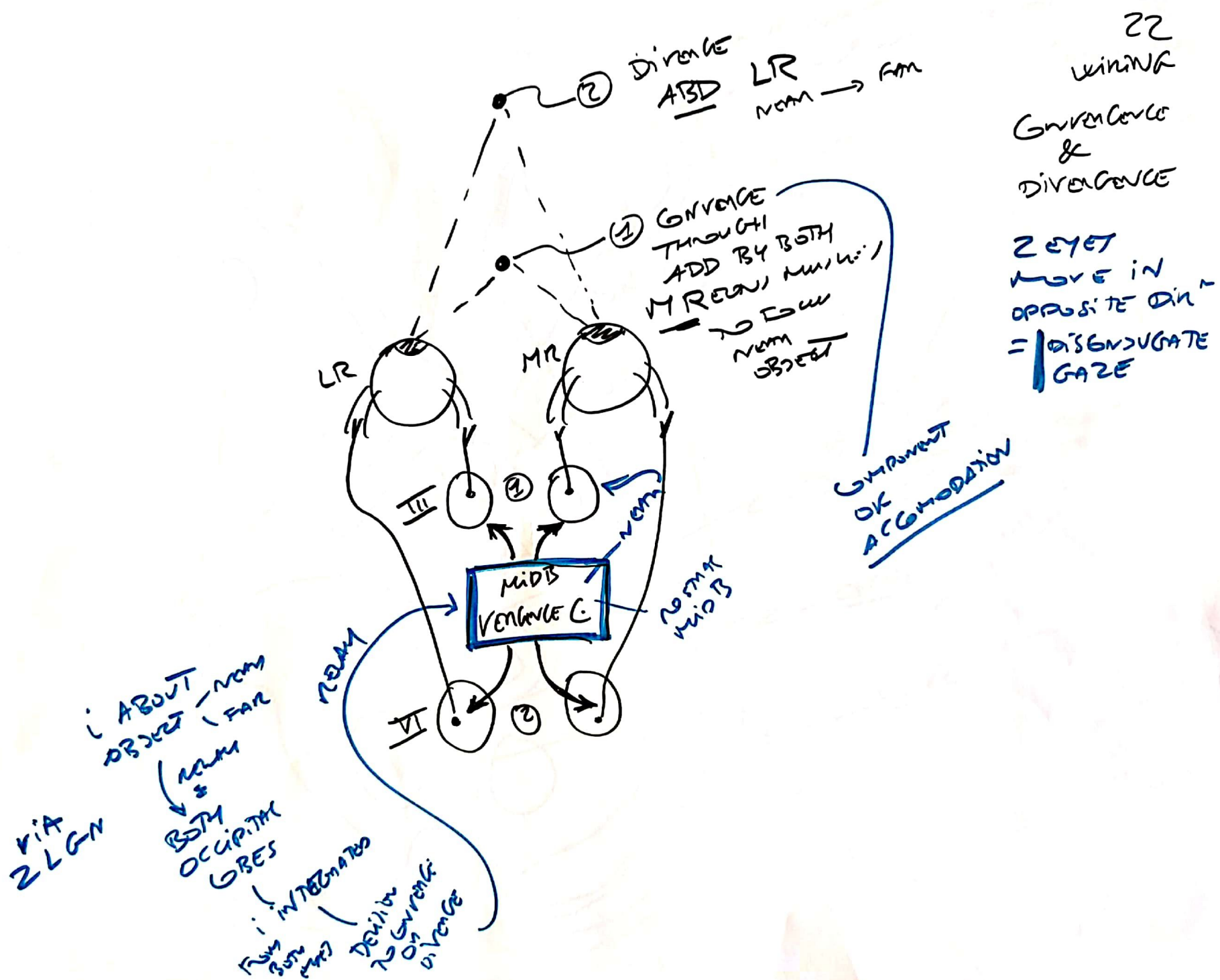


— VISION FOR VERTICAL GAZE  
 [ 2 MRF ]  
 normal

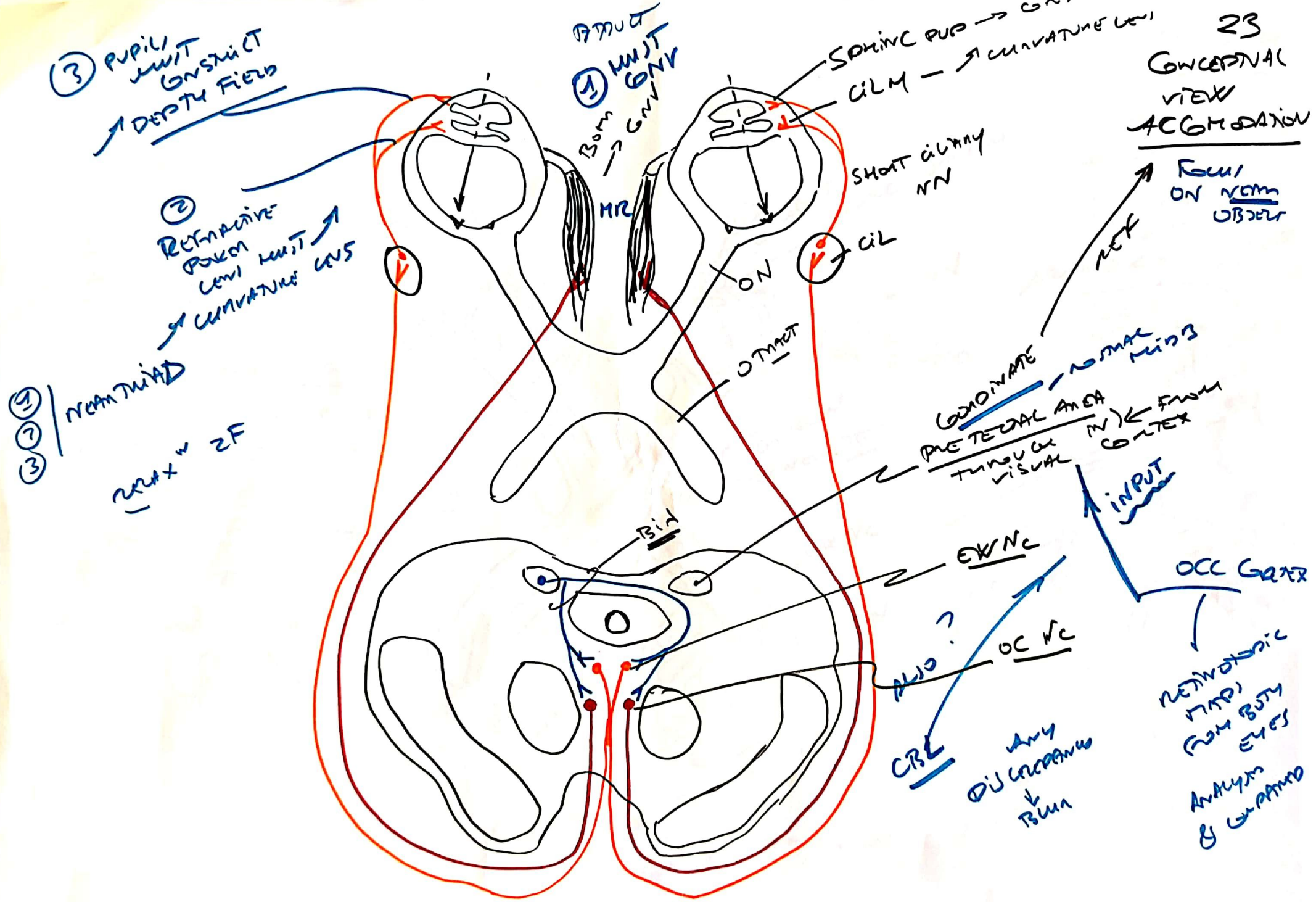
LR6 SO4 R3

— SAC TRACKING ON PART VON

SO4



CONCEPTUAL VIEW ACCOMMODATION



③ PUPIL MUST CONSTRUCT DEPTH FIELD

② REFRACTIVE POWER MUST CURVATURE LENS

① / FROM TRIAD

max = ZF

① MUST GIVE

SPRING PUP → ON  
CILM → CURVATURE LENS

SHORT ALTHY NN

CIL

ON

OTectum

BIN

COORDINATE - NORMAL VISION  
PRE TECTAL AREA  
THROUGH VISUAL CENTER

EXNc

ALSO? OC Nc

CERE

any DISCREPANCY → BLIND

OCC GEAR

RETINOTOPIC MAPS FROM BOTH EYES  
ANALYSIS & CORRECTION

FOCUS ON NORMAL OBJECT



**MYDRIASIS**  
DILATION, SYMP

- 1 HT → C12 SPINAL C BUDGE C8-T2
- 2 (T1) → CONV CERVICAL SYMP LUMBAR NEUR LUMBAR APOX SUBCUTAN VEI

- 3 PLEXUS TONGA INTERCANT → CAV SINUS → DIAM LONGOR
- ORBIT → LONG OR N → PUP DILATION MM

ALSO INN SYM EYELIDS (MINOR REMACTIONS) & E SWEAT GL FURROWING FUR

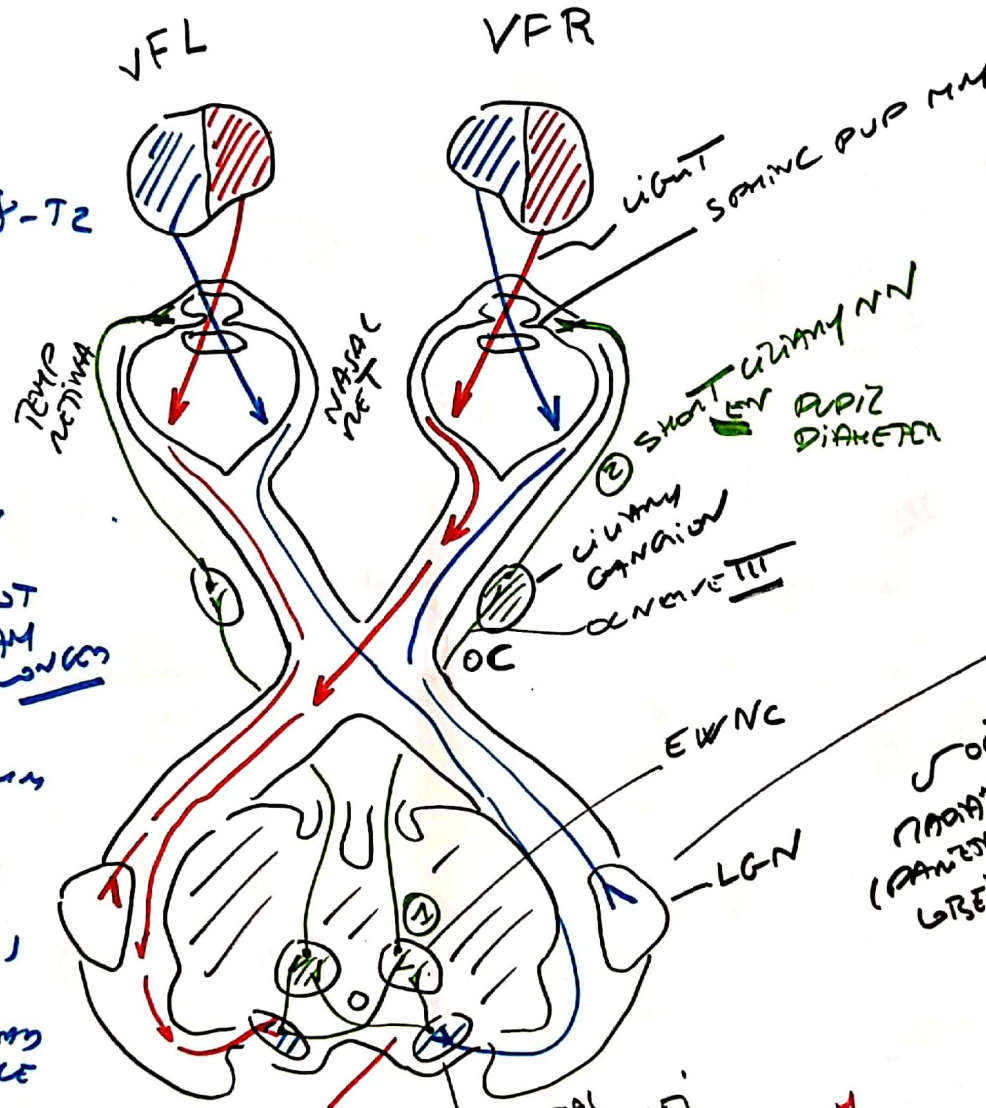
**PUPILARY CONTROL**

MIOSIS  
CON STRICTOR PARS

PUPILARY LIGHT REF AROUND < HORN & VENT

LOWER RETINA MEYER GOOP (TEMPORAL LOBE)

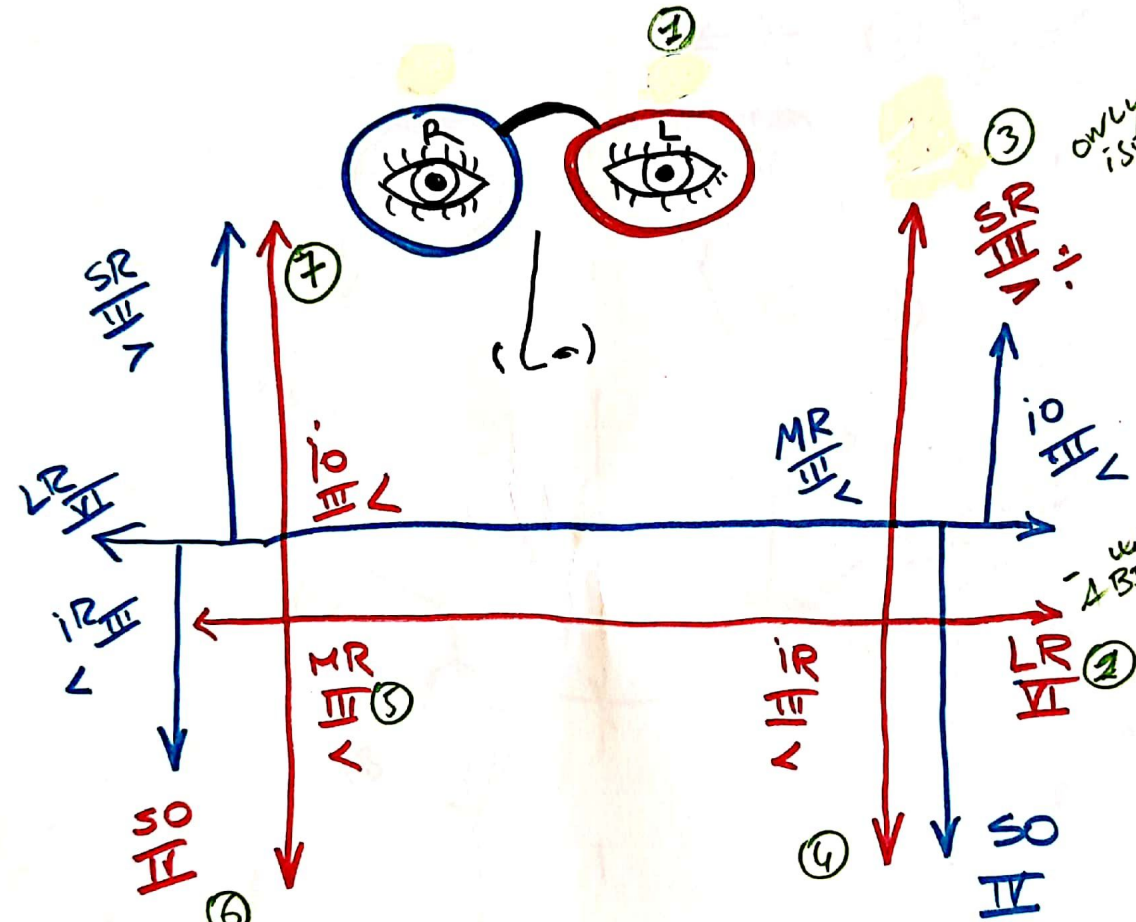
RET TAKES SHORTER PATH VIA IC



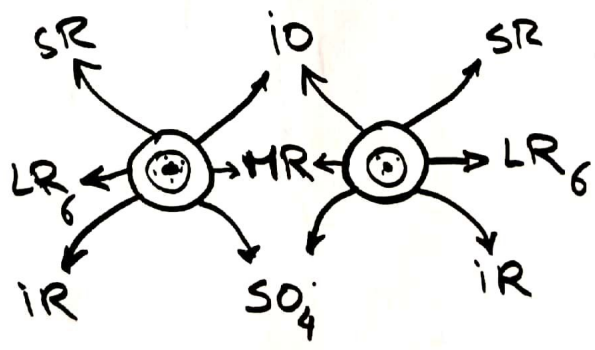
(4) BILAT EWNC → PUP CONTRICT BILAT (DIRTY & CONJUNCTIVAL APOX) NETVET: ILLUMINATE EYE → BILAT PUP CONTRICT

H-TEST FOR ASSESSING EYE MOVEMENTS

TEST OAC EOM TEST FCM



ADDUCTION ALIGNS EYEBALL WITH ORBIT & TR  
- WHEN ABDUCTED



OBLIQUES GO OPPOSITE  
(LEFT SO & IO TESTED WITH PATIENT LOOKING RIGHT)  
IOU: IO TESTED LOOKING UP

DIPLOPIA  
 & ↓  
 NYSTAGMUS ←

PARALYSIS IN LOW PASS  
 ↓ SLOWLY ON PANITIMY  
 (5) L ABD & MOVE → L  
 R NOT REMAIN MIDLINE

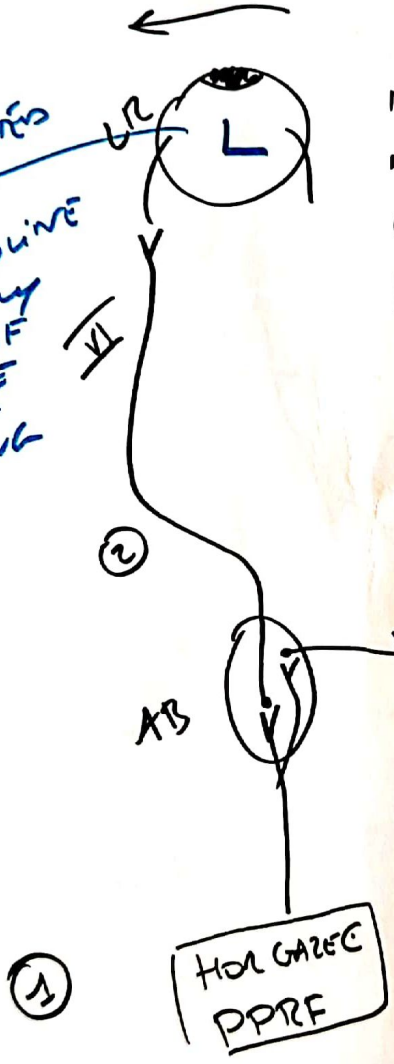
DEFICIT IN IND  
 ↓ DISMPTN SYN CRT IN HOR GAZE

ABDUCTS  
 WILL DRIFT TO MIDLINE & ESTABLISH FIXATION WITH R EYE WHEN IT NOT MOVING

LEFT BEATING MUST

↑ DRIVE TO PARALYSIS ADDU GAZE (ATTEMPT TO INITIATE ADD)

↑ INN VI ABDUCTING  
 → OVER MOST ABDUCTING SAC  
 ADD HOW MOVES SLOWLY BACK TO MIDLINE



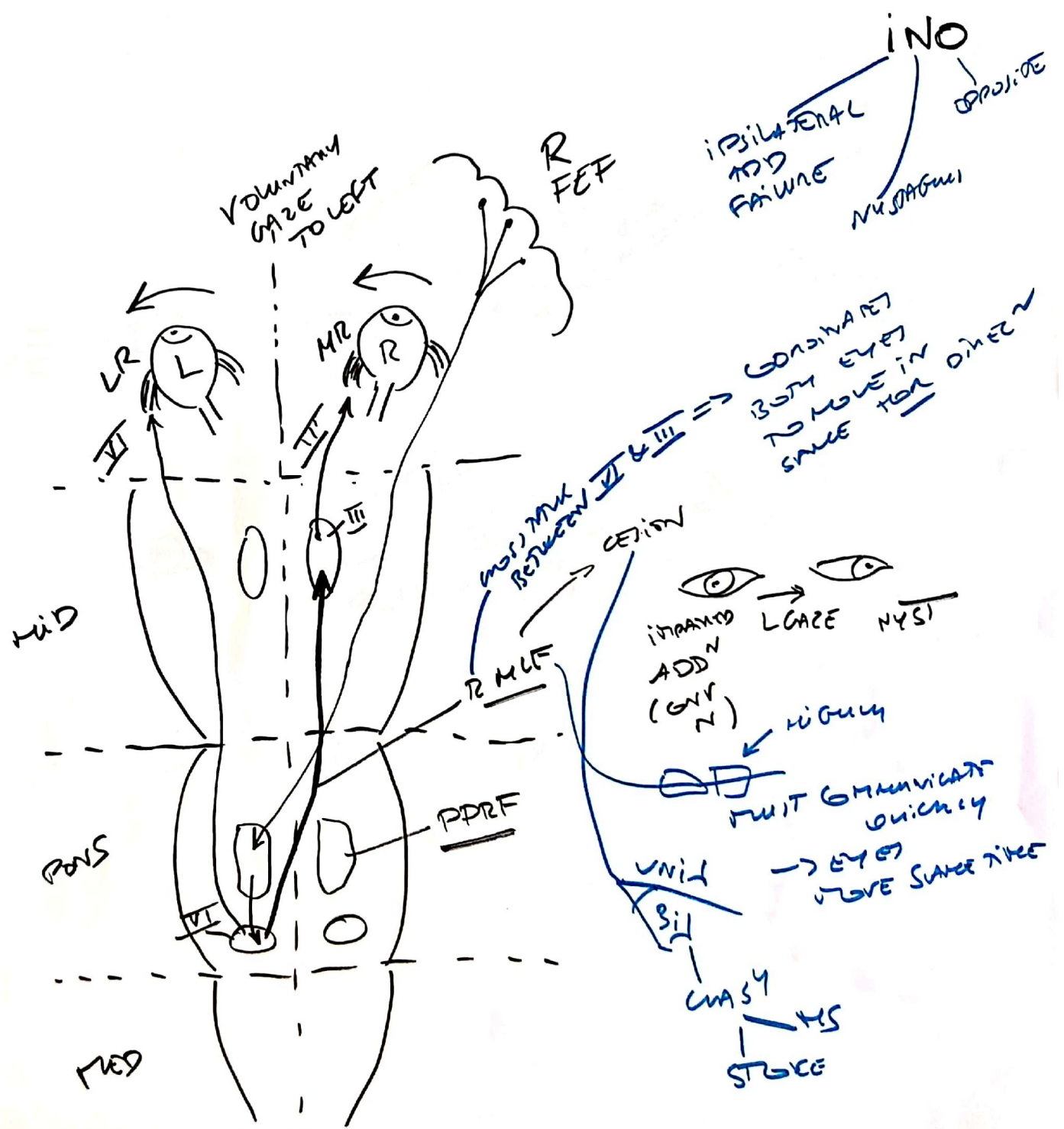
COMPLETE UNILATERAL LES  
 HIBURN

INTERRUPTED  
 MLF  
 (3) (4)

1ST 1/2 PPTN DDD  
 MS

FEW POINT MIDLINE  
 → VENTRAL C SEMI INFLI BOTH  
 → BOTH EYES ADD  
 IK PATIENT CAN ADD IN VENTRAL BUT NOT HOR LES IN MLF



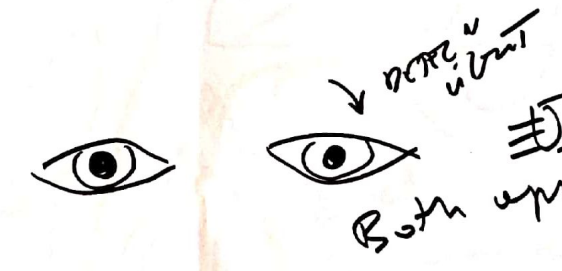




RAPD 24  
 RELATIVE  
 A ←  
 PUPILLARY DEFECT  
 (MARCUS GUNN PUPIL)



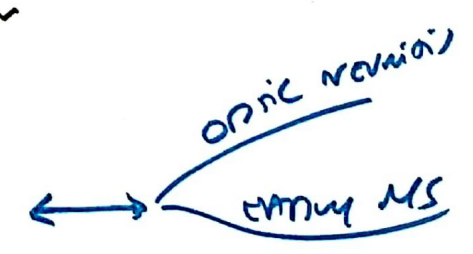
Both direct & consensual GOMIN occurs



↑↑ INCREASES CONSCIOUS LIGHT SIGNAL FROM INDIVIDUAL OPT N



Anisocoria

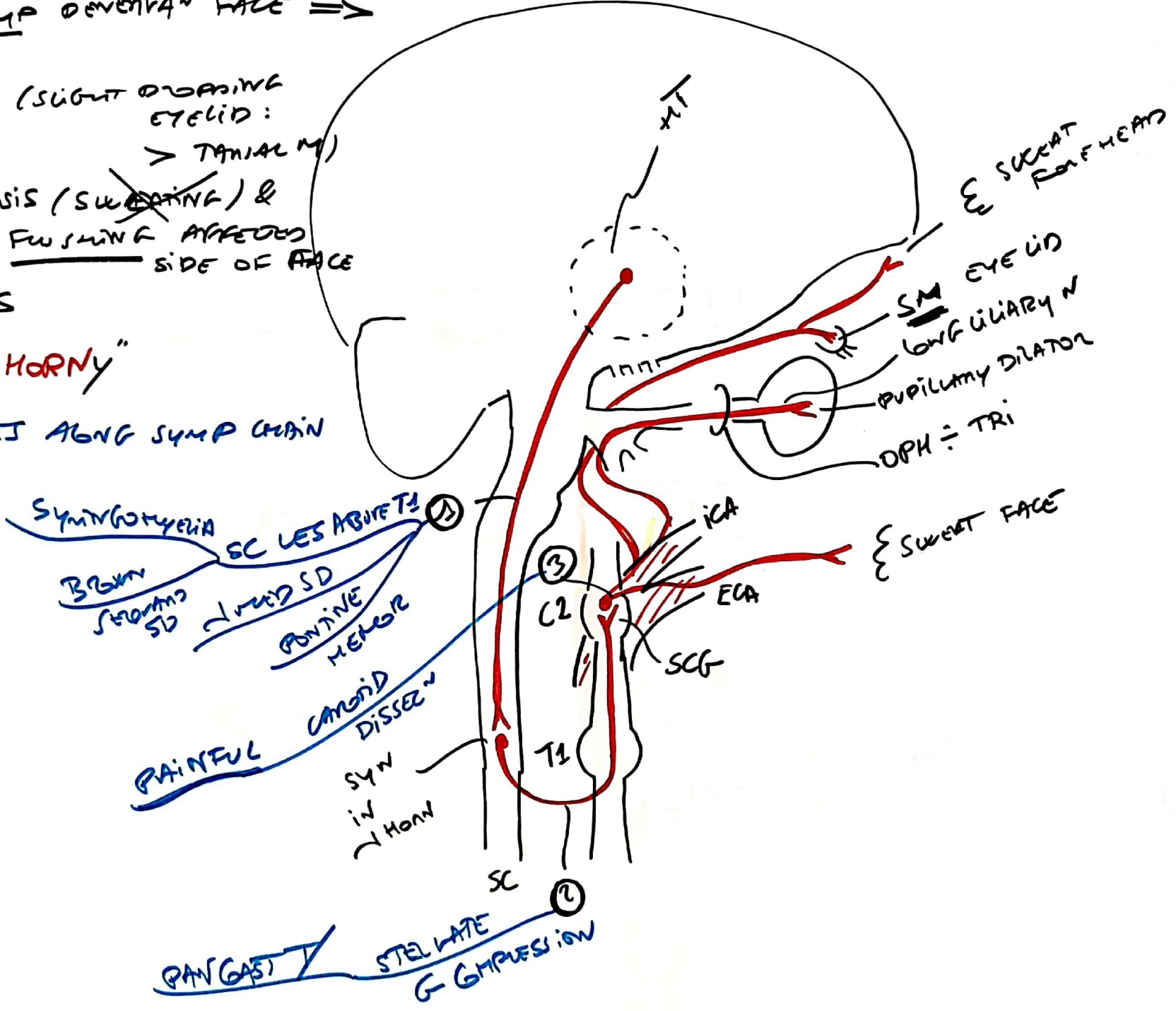


SYMP DENERVATION FACE =>

Hornwer  
SD

- PTOSIS (slight drooping eyelid: > TARIAL M)
  - ANhidrosis (sweating) & FURROWING AFFECTED SIDE OF FACE
  - HIOSIS
- "PAM is HORNY"

← LES ALONG SYMP CHAIN





25  
position  
EYES  
ADDITION  
TO...  
DALSY

III  $\alpha$



V AB



IV TRO



open eye  
also strabismic out

