

RADIO-ANATOMIE SECTIONNELLE CÉRÉBRALE

-

LOBES FRONTAL ET PARIETAL

Marc BRAUN

Départements d'Anatomie - Neuroradiologie

IADI - INSERM U 947

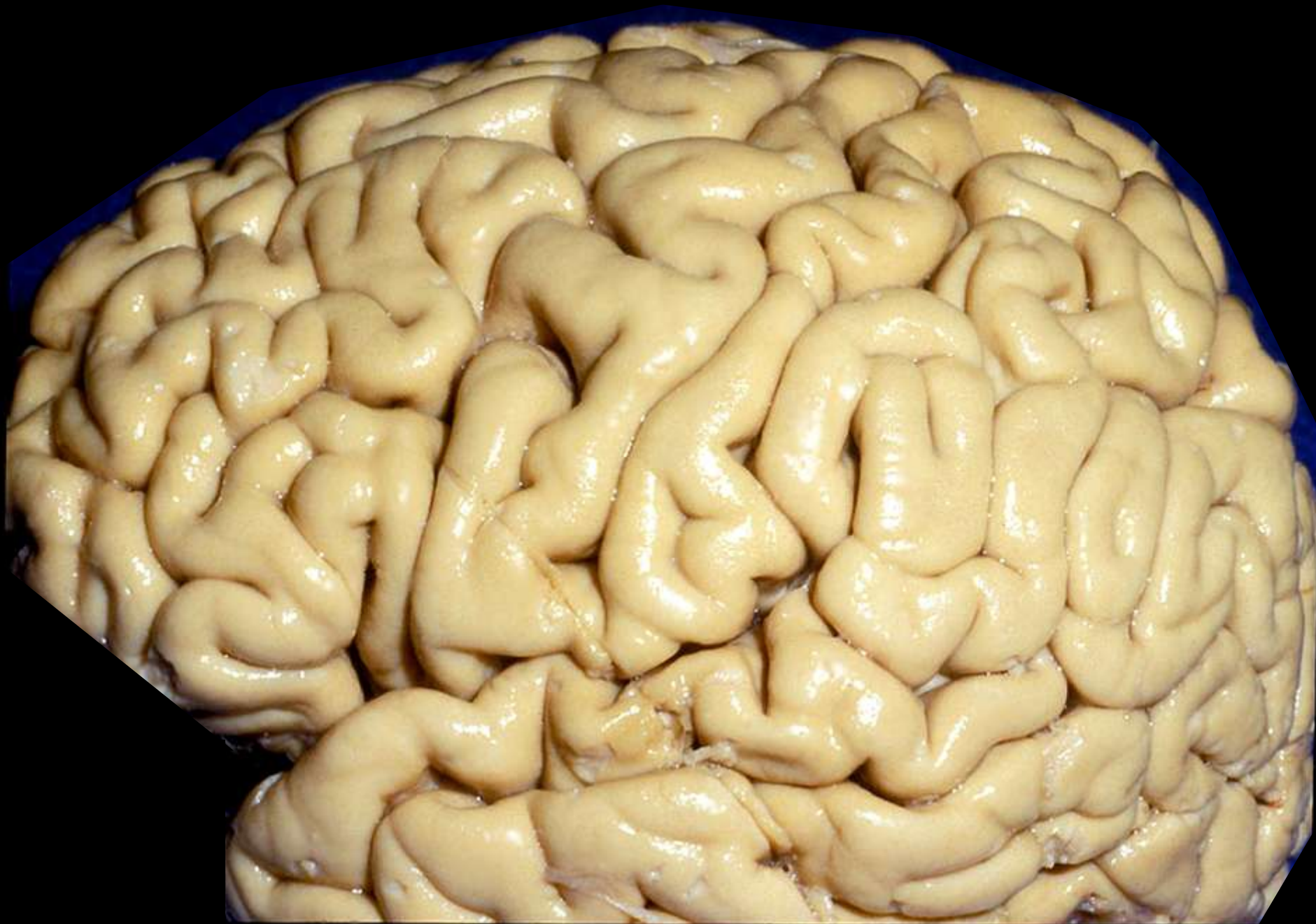
Faculté de Médecine

Université de Lorraine à Nancy

&

T Naidich (Mount Sinai Hosp - NYC) Contributions Multiples





LE LOBE FRONTAL



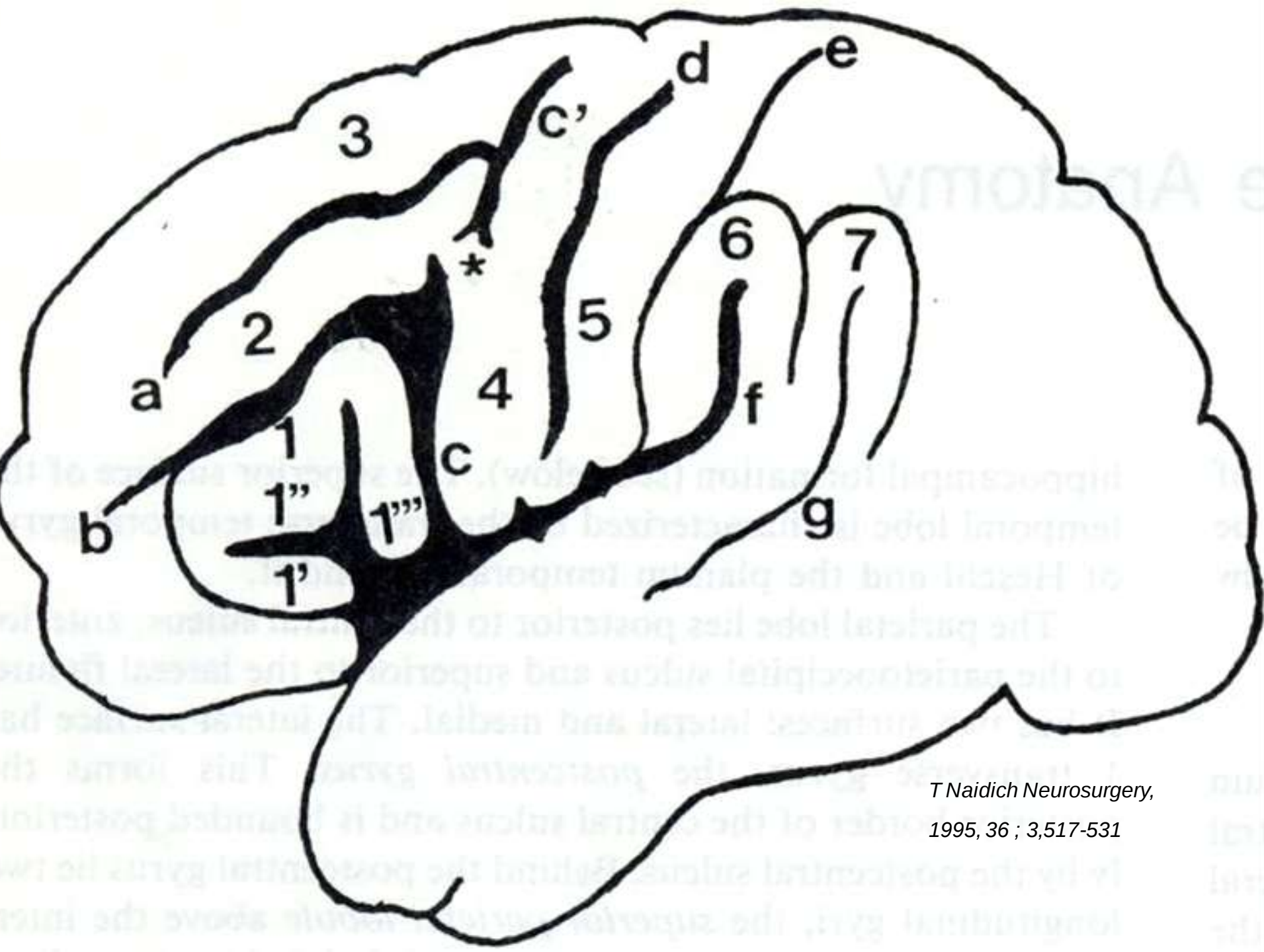
QUIZ

CETTE LESION EST ELLE :

TEMPORALE ?

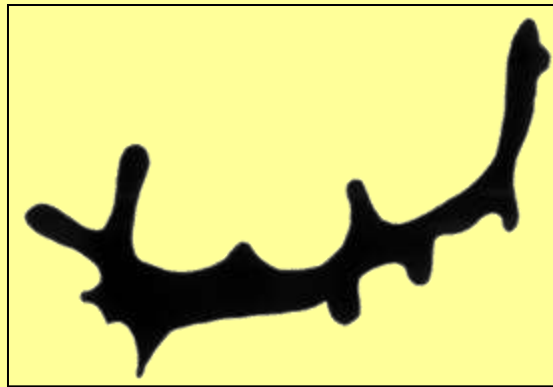
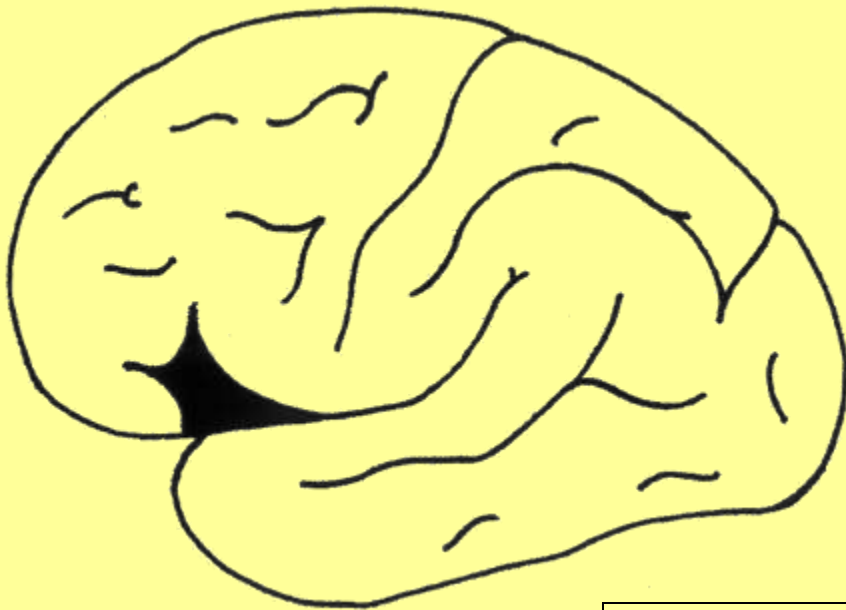
PARIETALE ?

FRONTALE ?



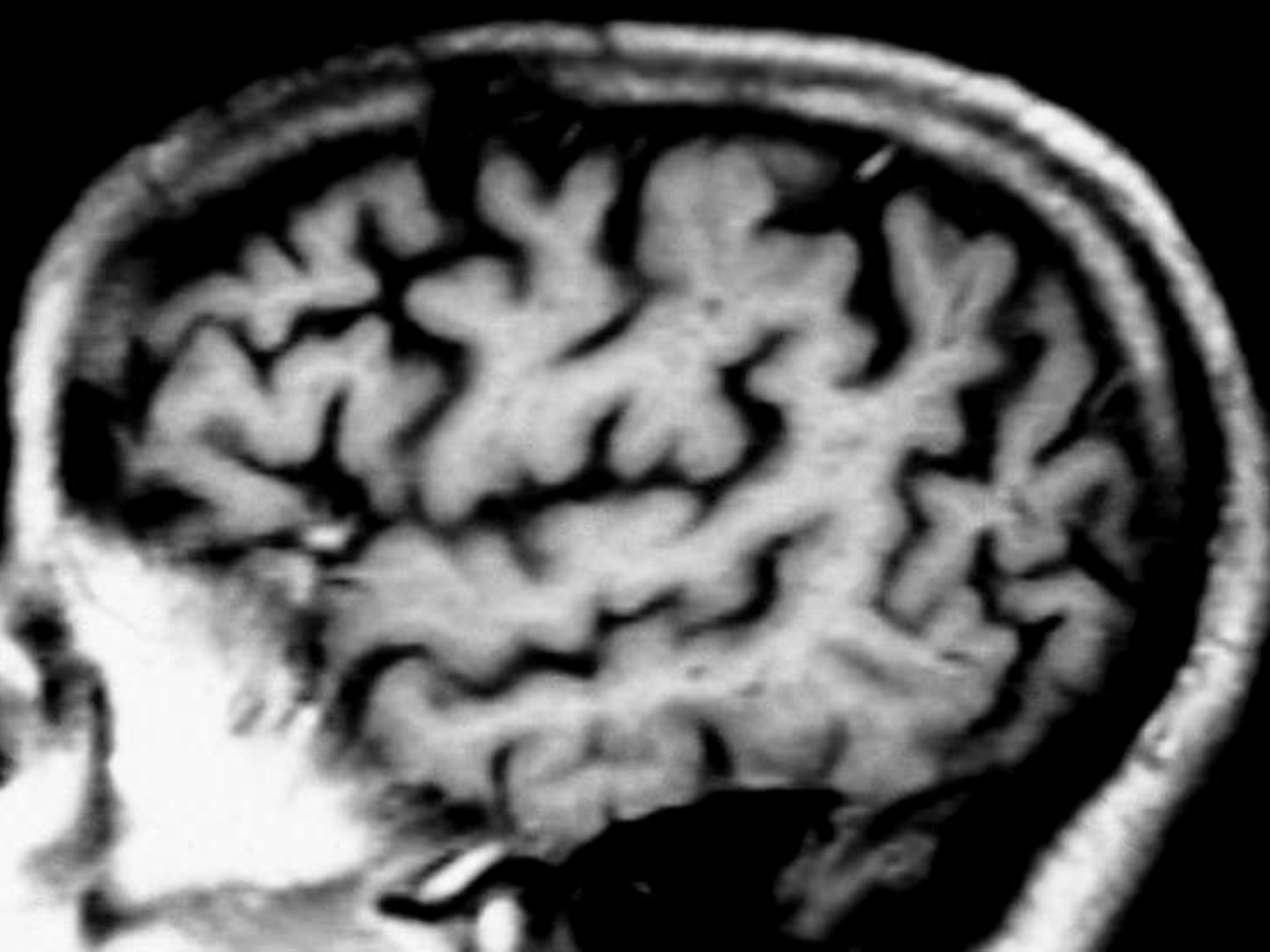
*T Naidich Neurosurgery,
1995, 36 ; 3,517-531*

DEVELOPPEMENT SULCAL CONVEXITE FRONTALE







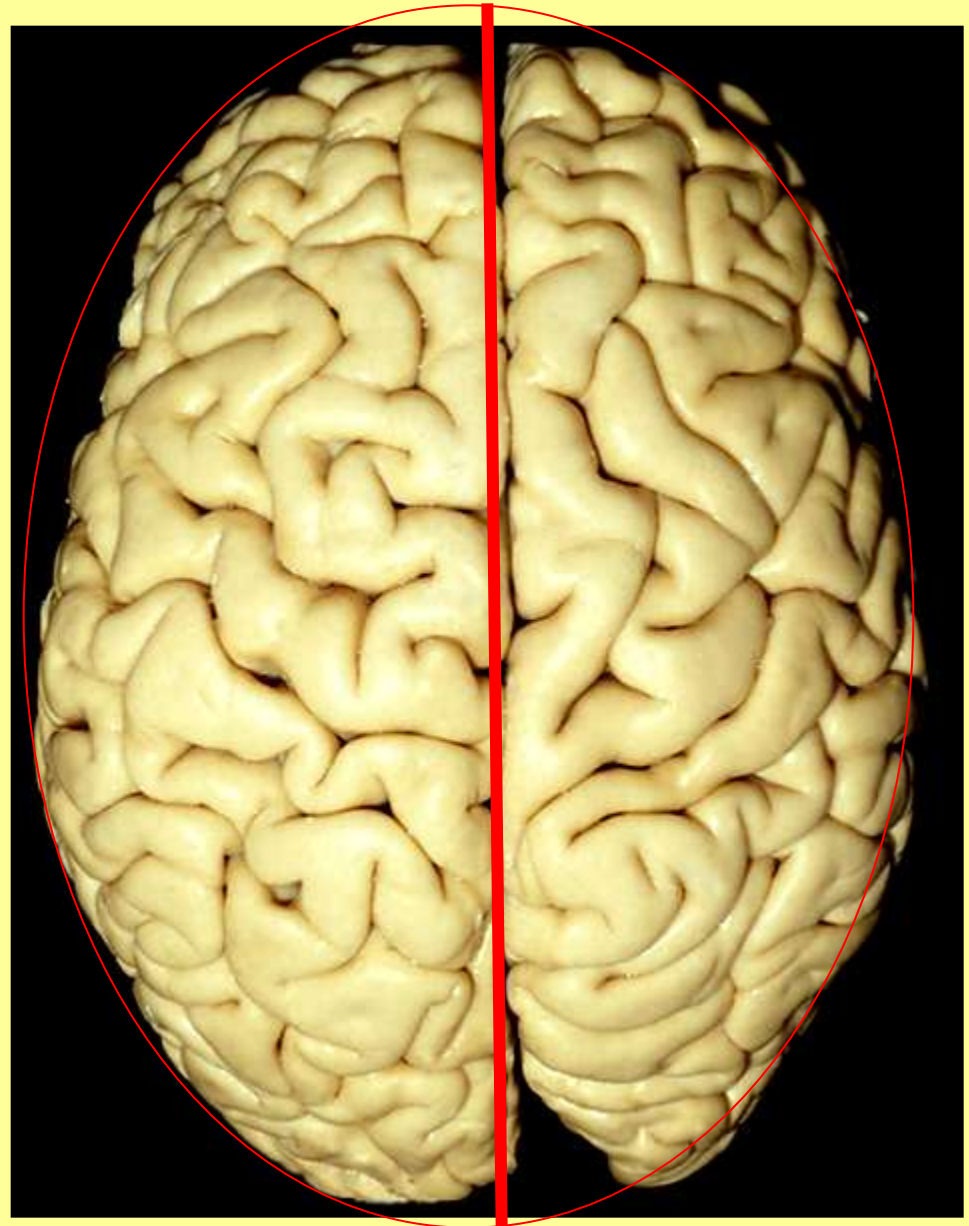


**SILLON FRONTAL
SUPERIEUR**

SURFACE SUPERIEURE



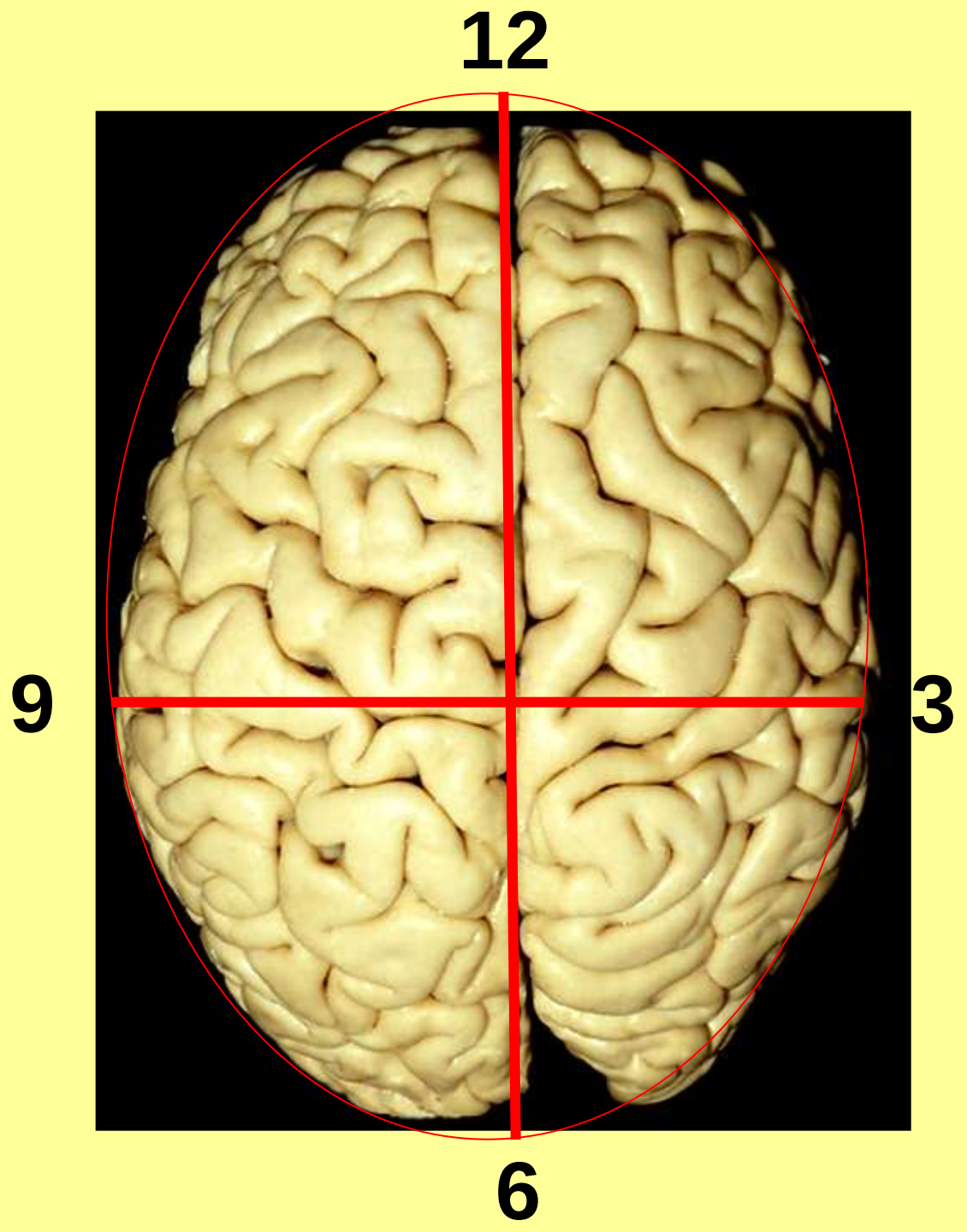
SURFACE SUPERIEURE



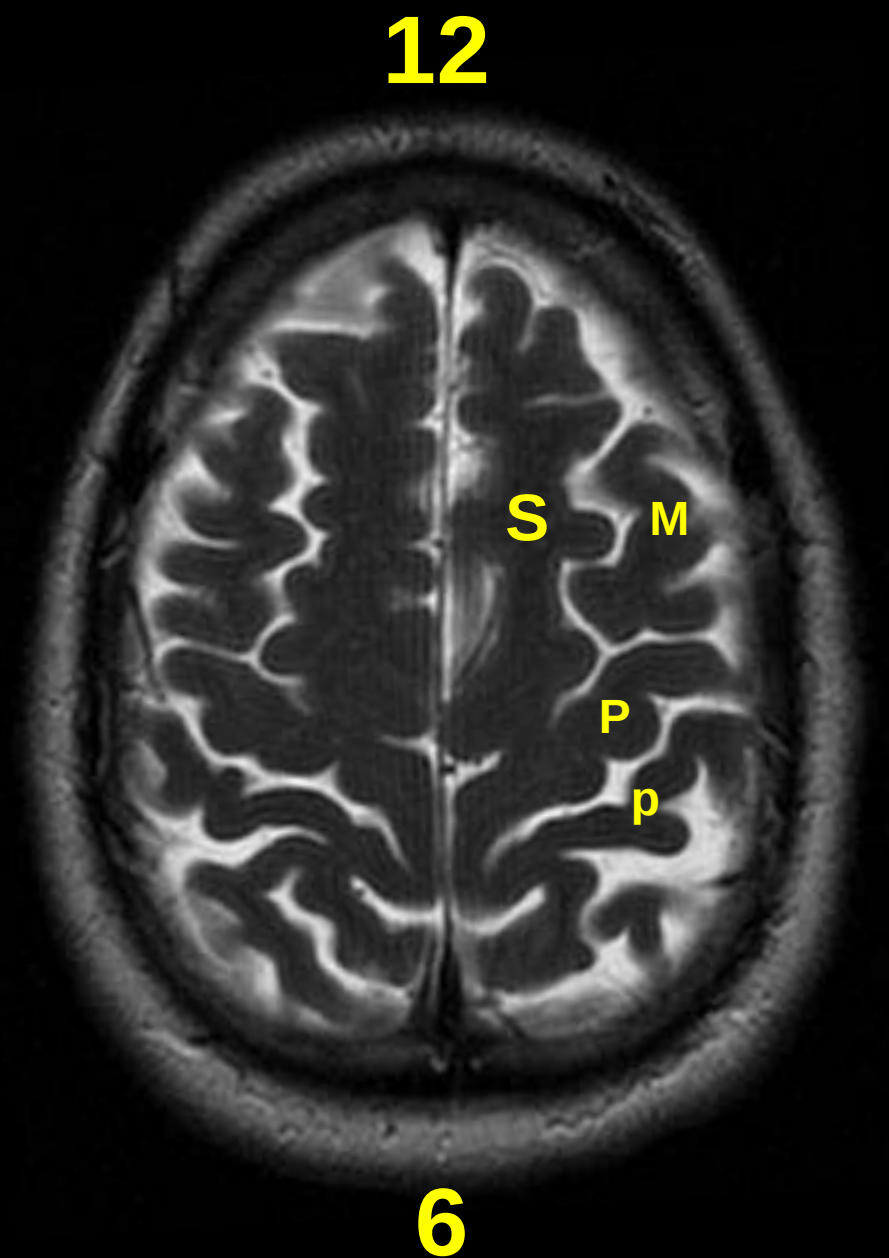
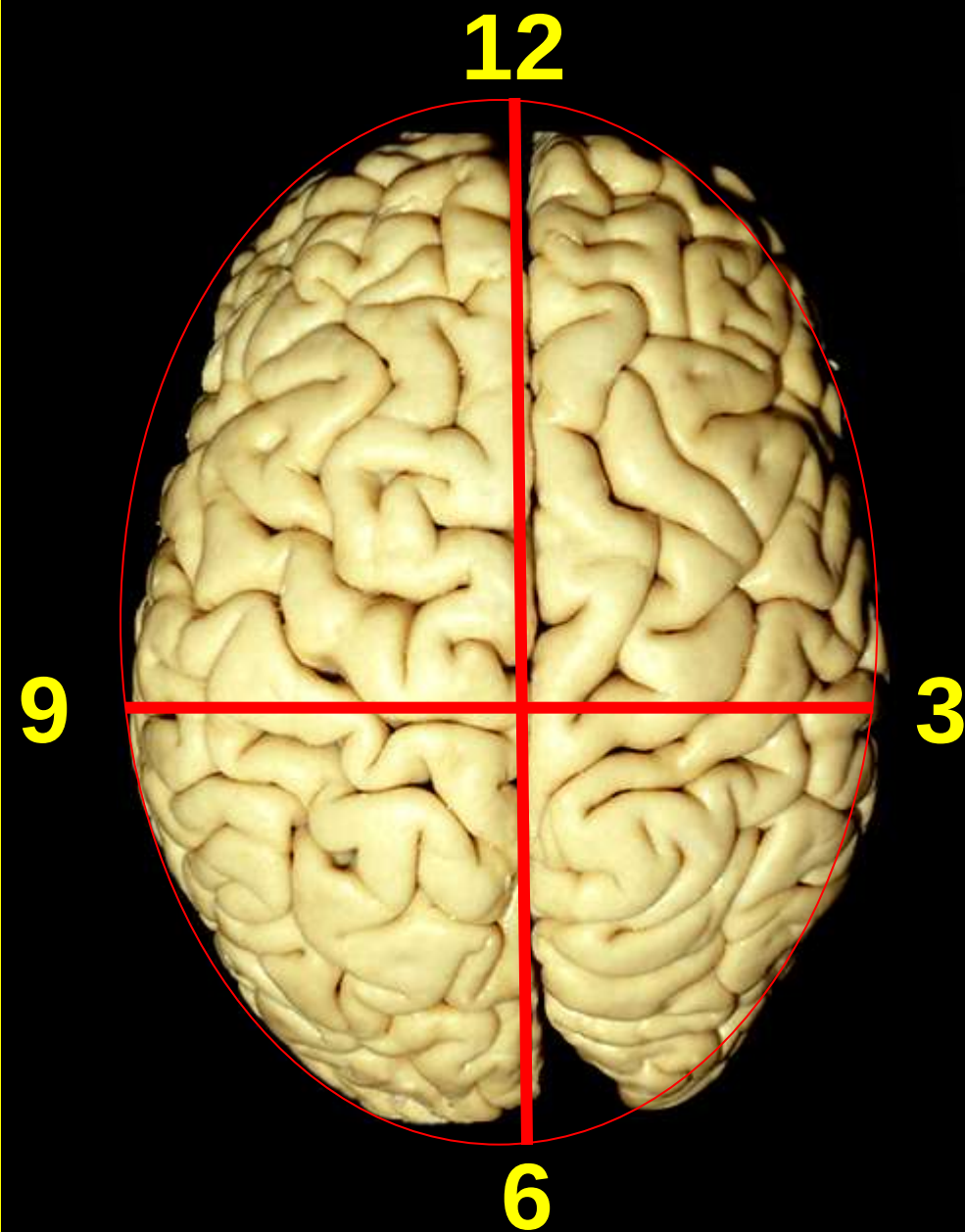
12

6

SURFACE SUPERIEURE



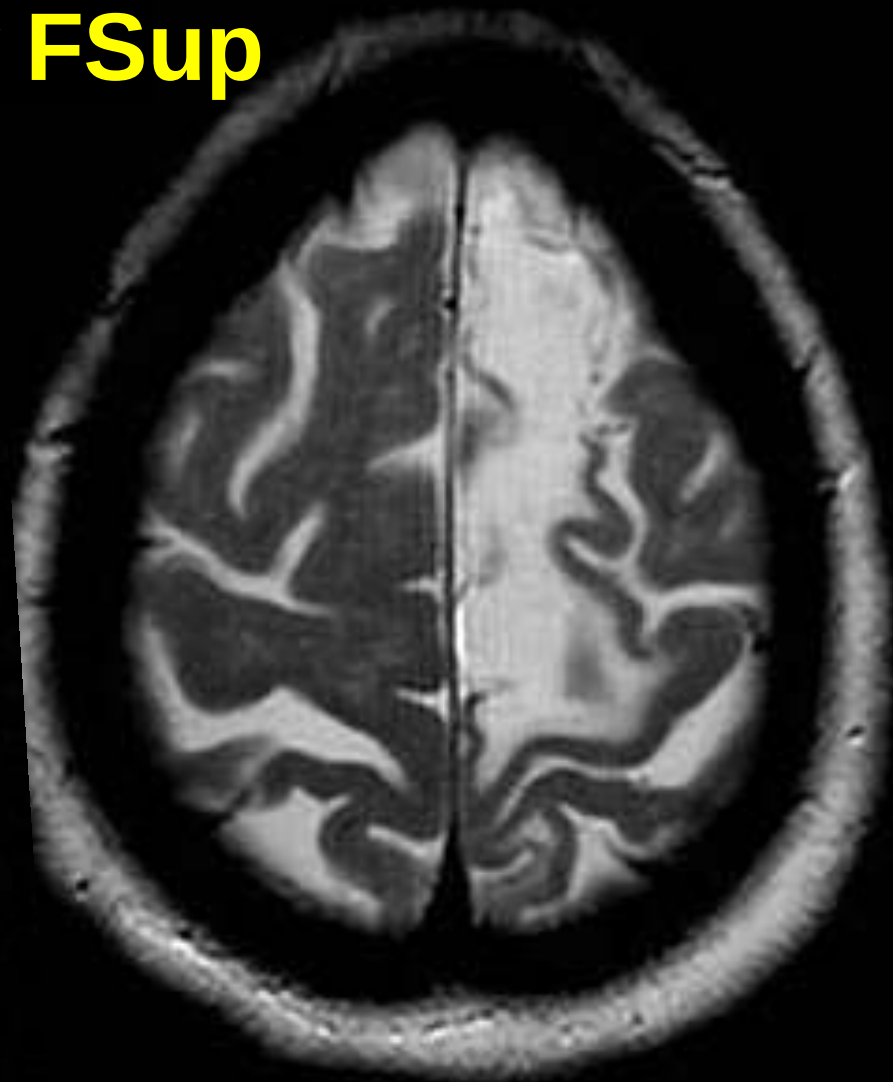
SIGNE DU SILLON FRONTAL SUP



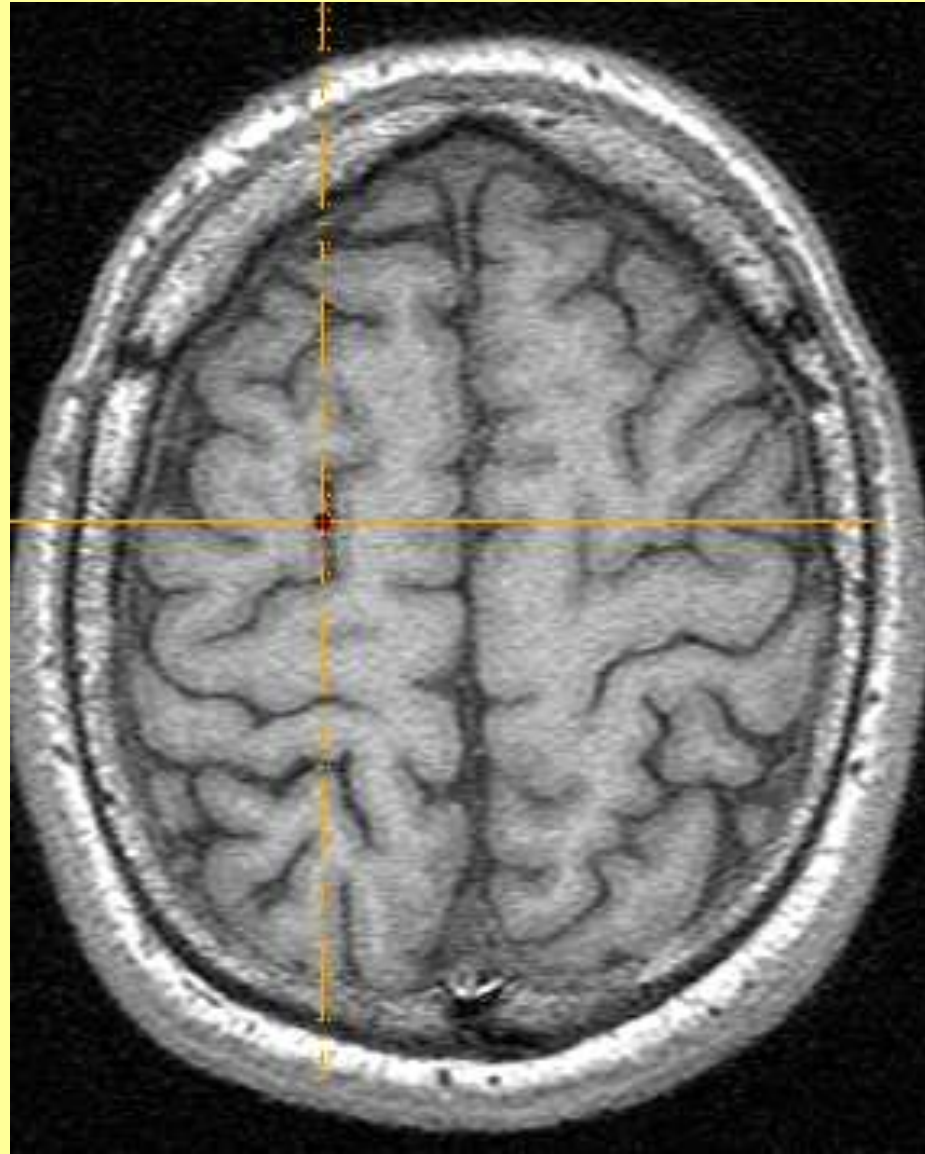
SIGNE DU SILLON FRONTAL SUP

Norm.

Gy FSup



SILLON FRONTAL SUP BIFIDE

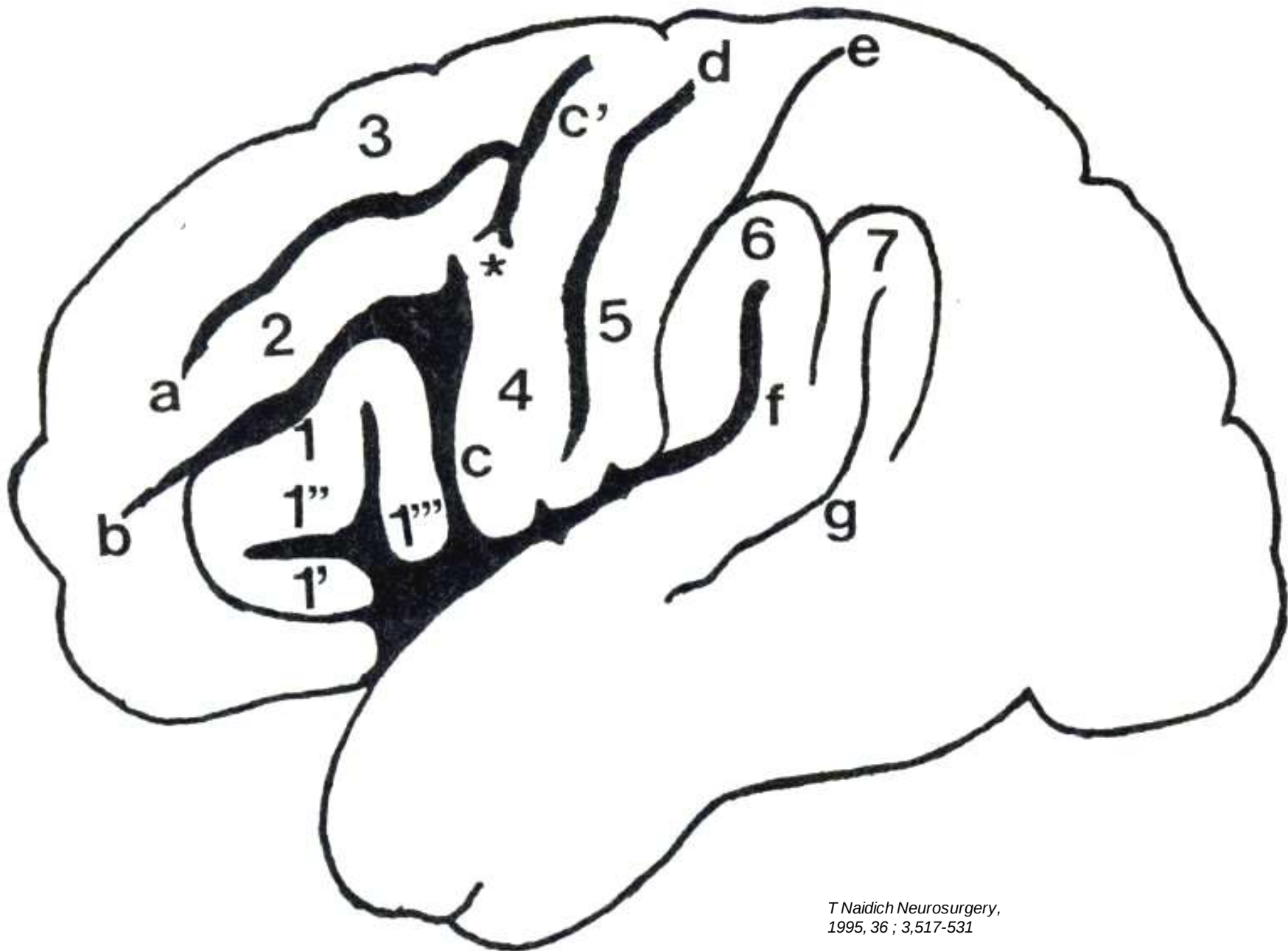


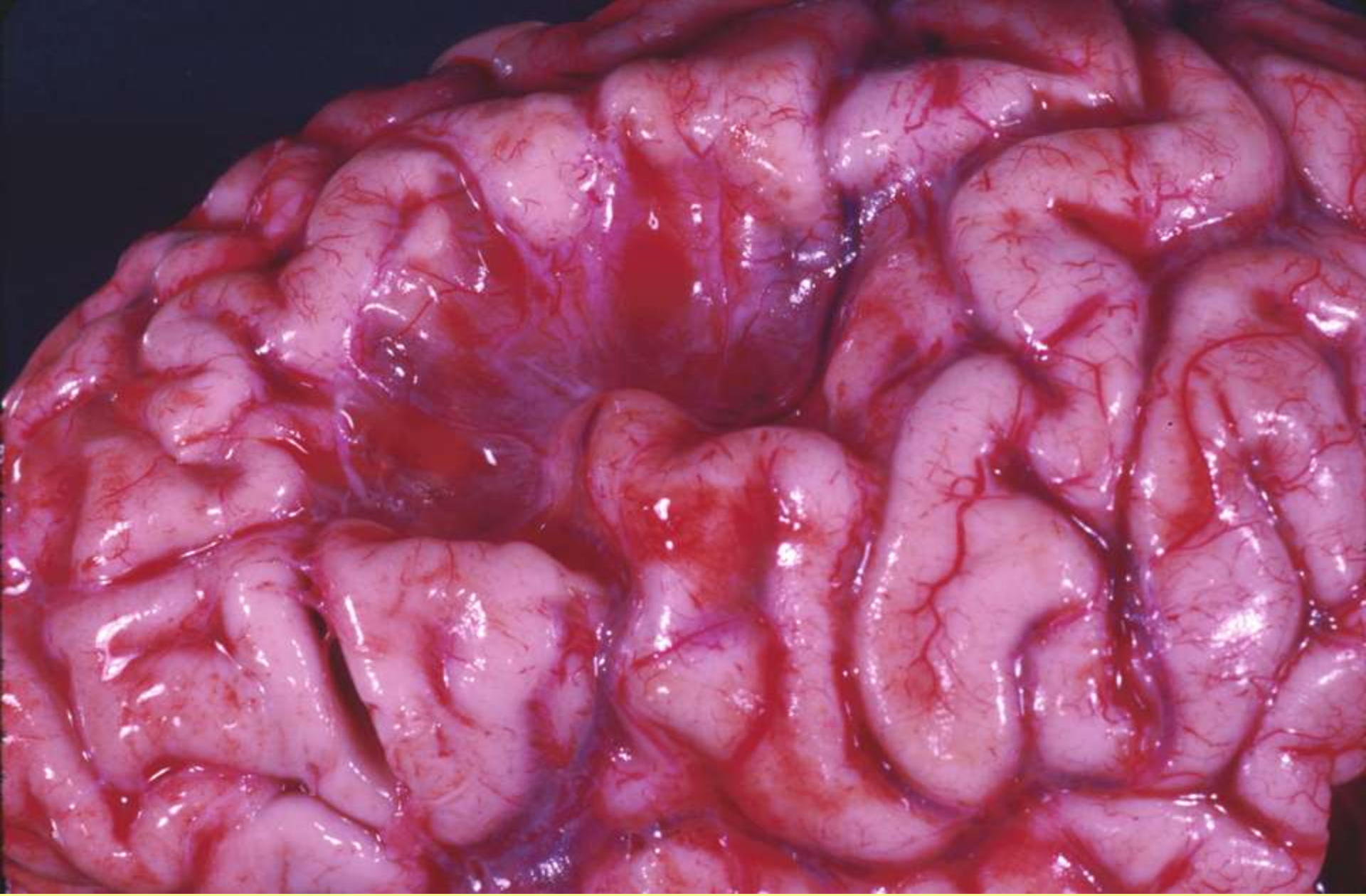
GYRUS FRONTAL MOYEN (F2)

LIMITES :

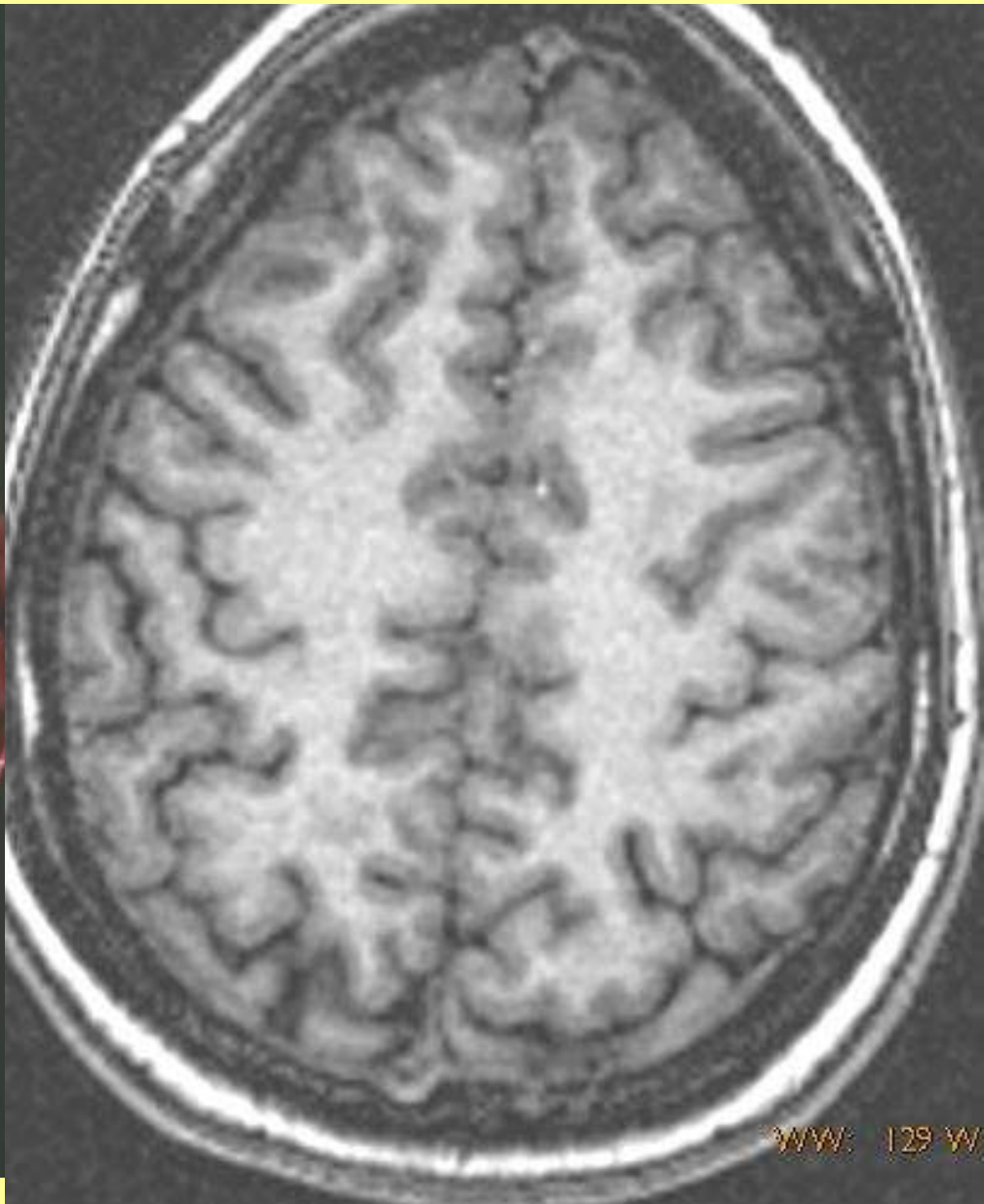
SILLON FRONTAL SUPERIEUR

SILLON FRONTAL INFERIEUR



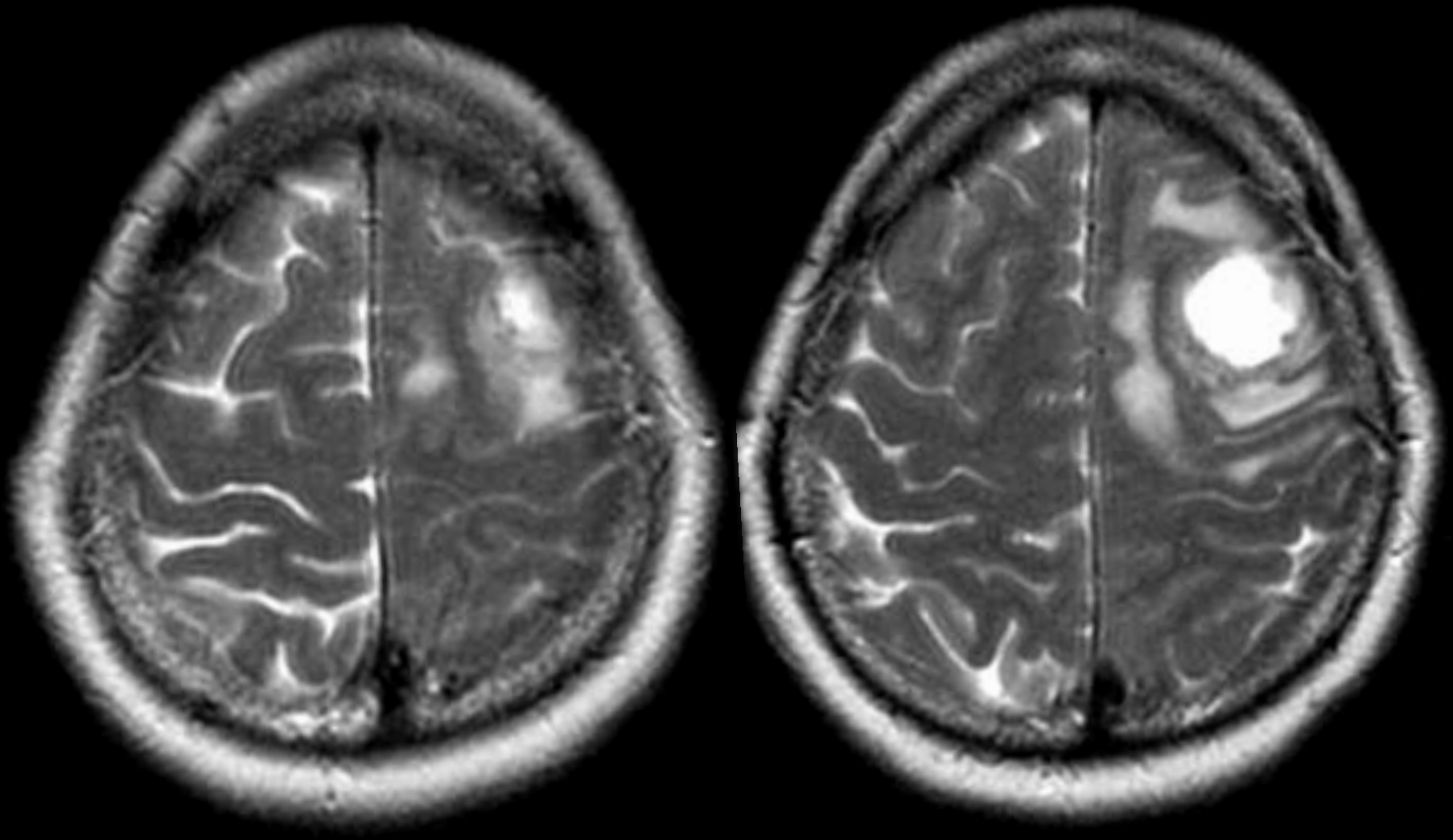


Courtoisie J Floquet (Nancy)



Courtoisie J Floquet (Nancy)

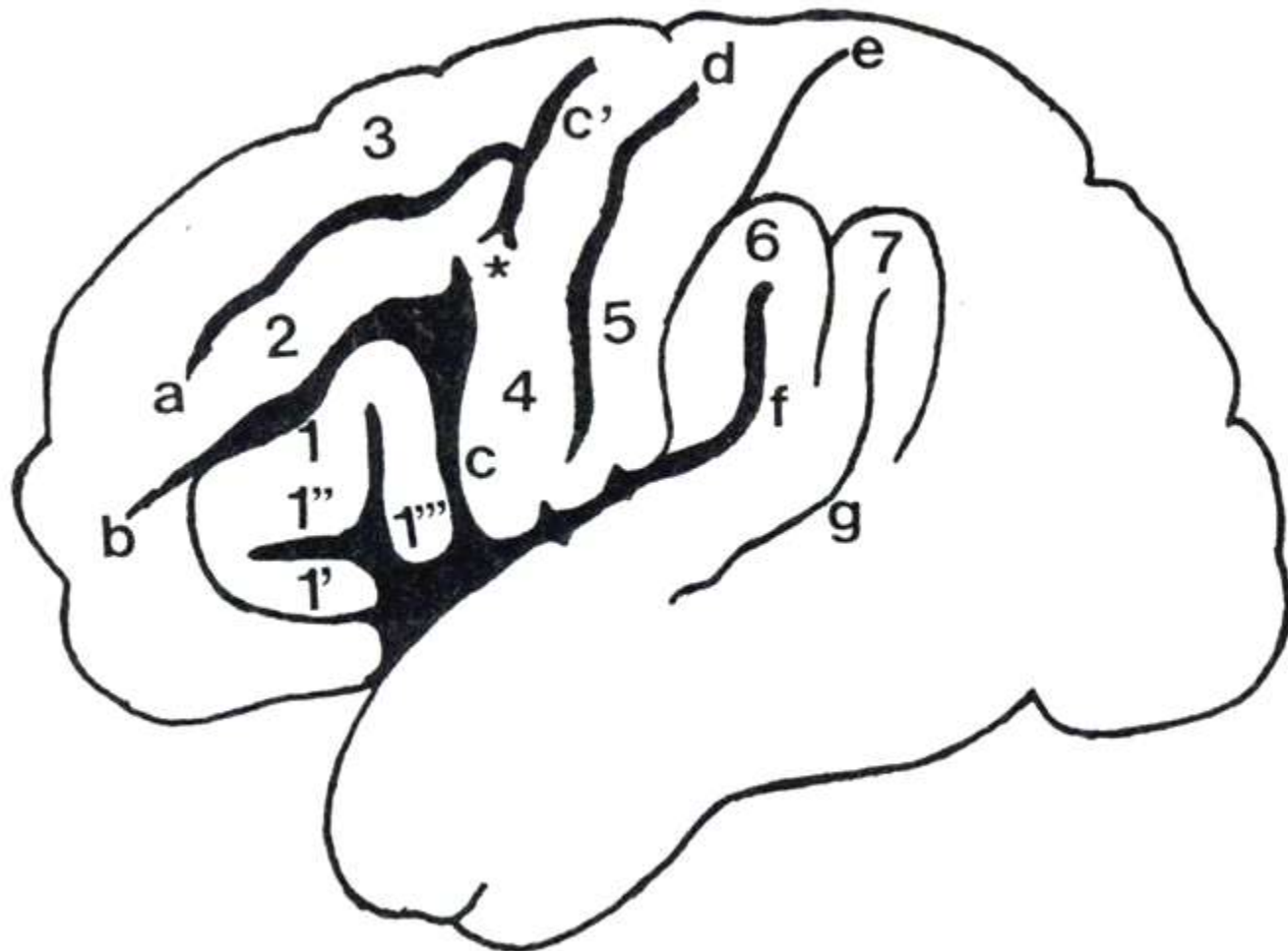
Gyrus Frontal Moyen

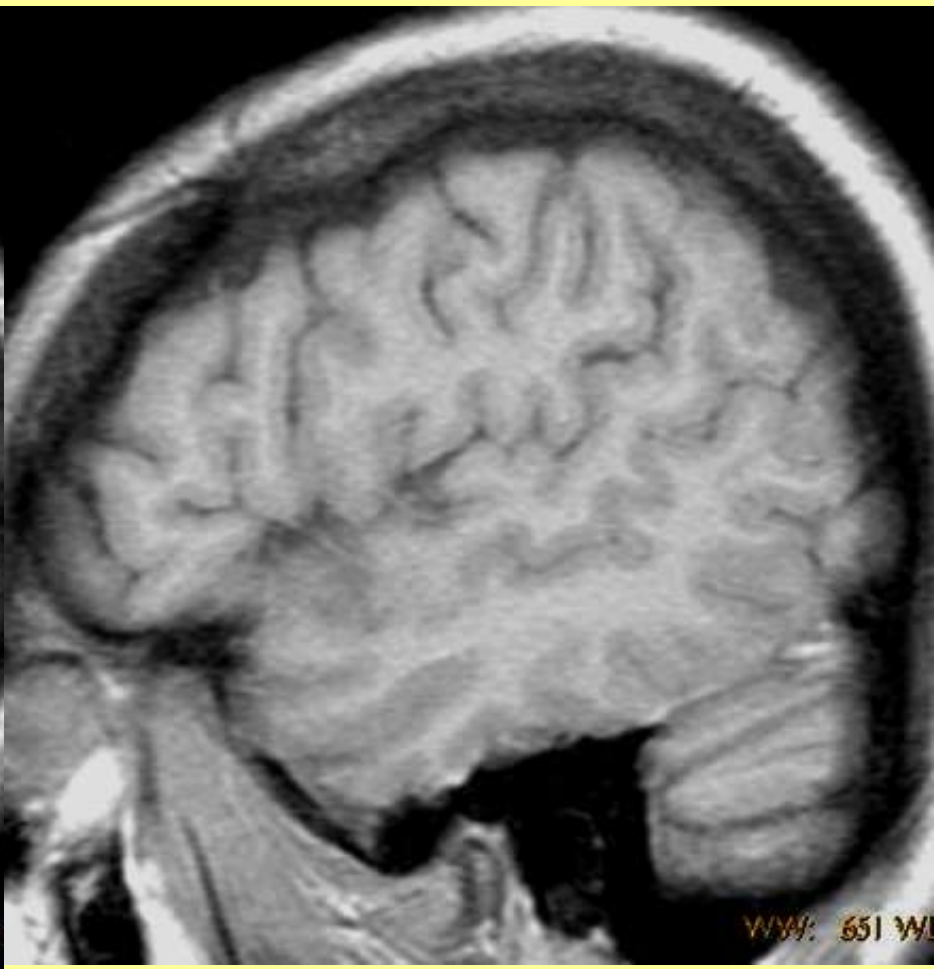


GYRUS FRONTAL INFERIEUR

SILLON FRONTAL INFERIEUR

FACE INFERIEURE



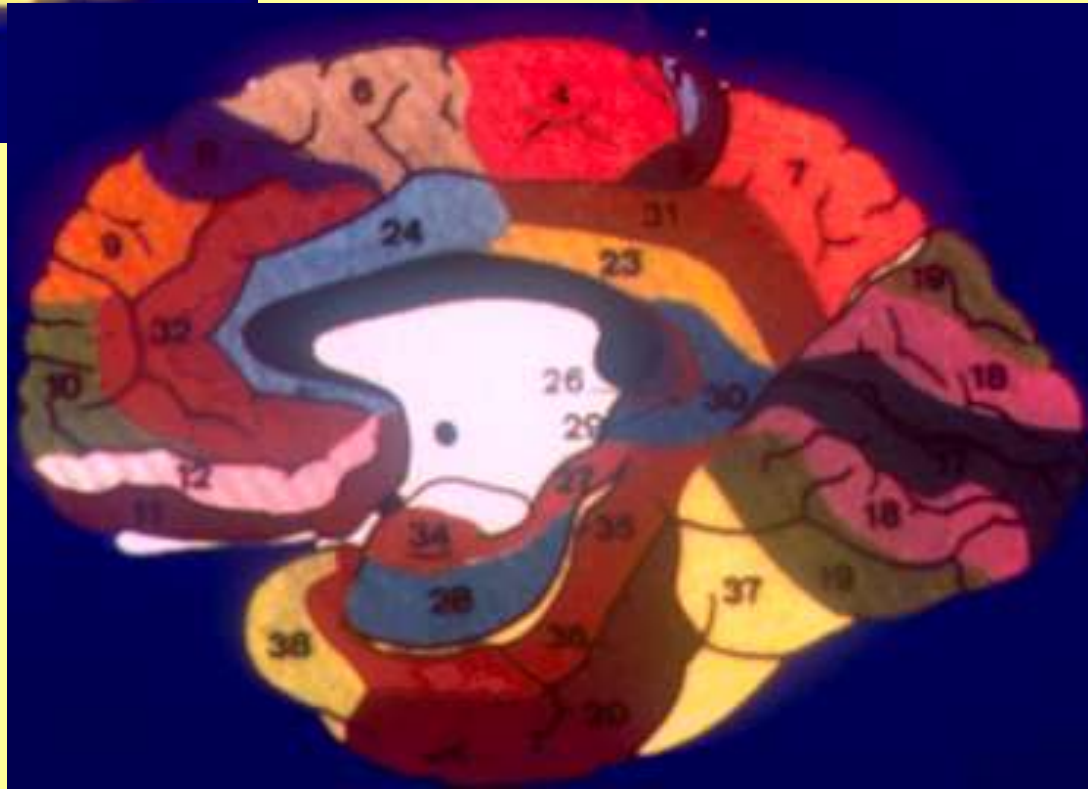


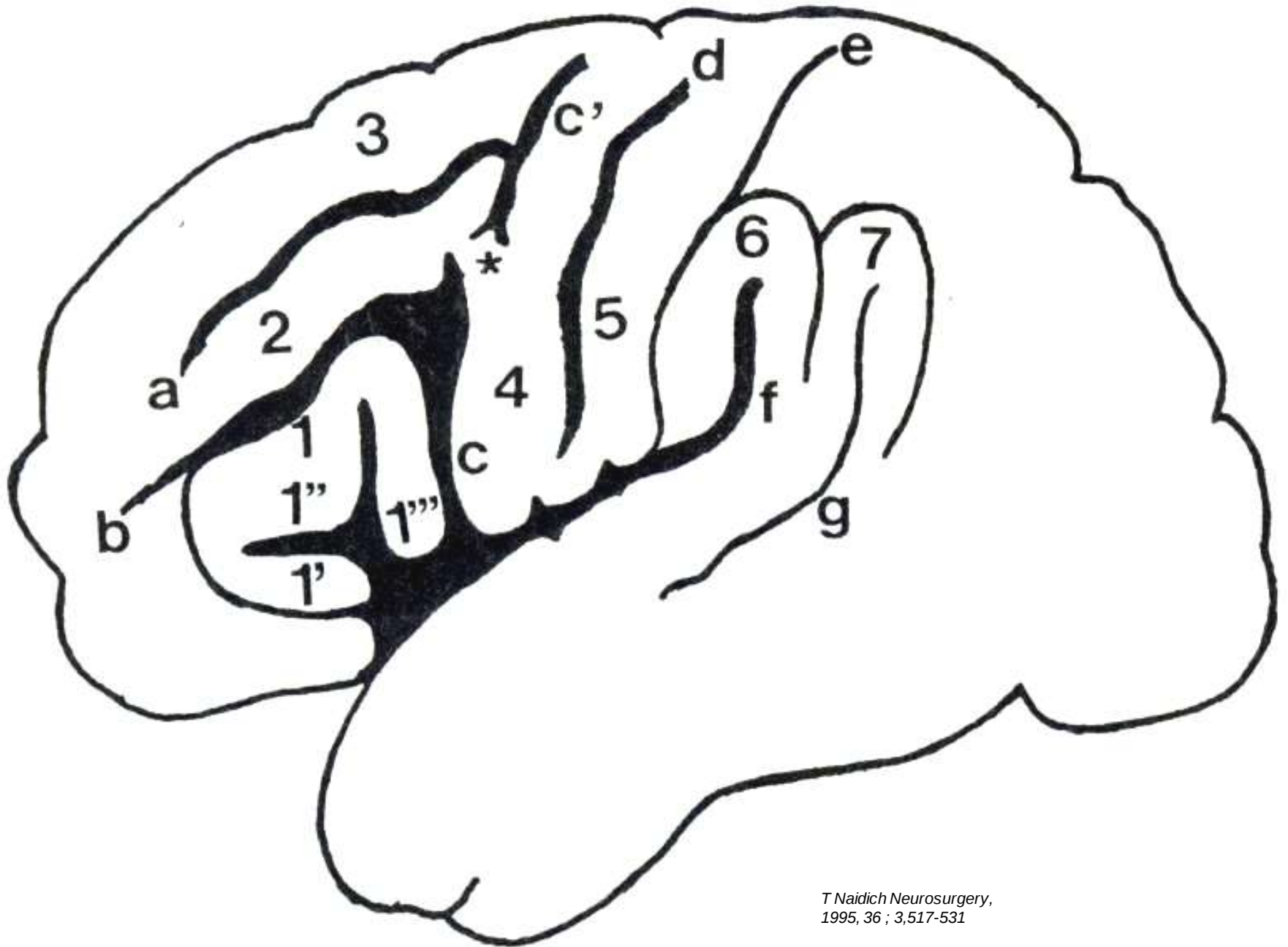


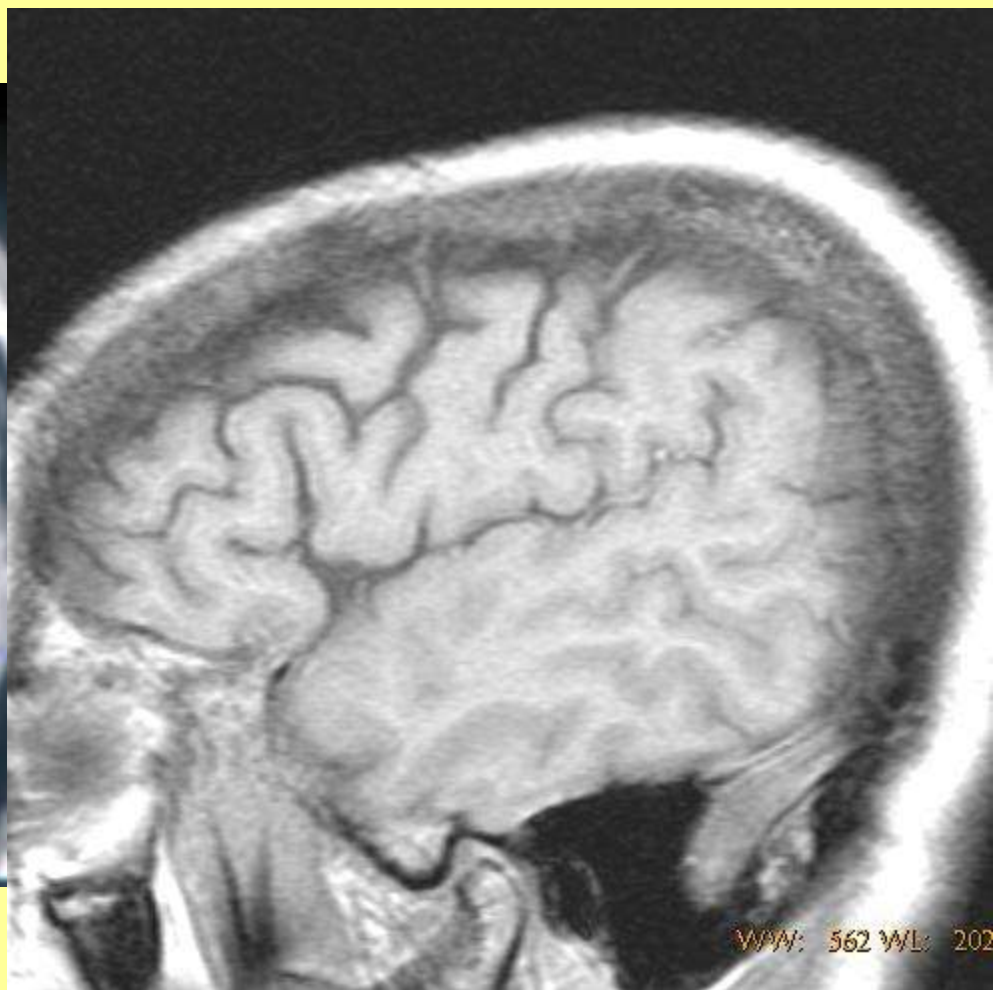
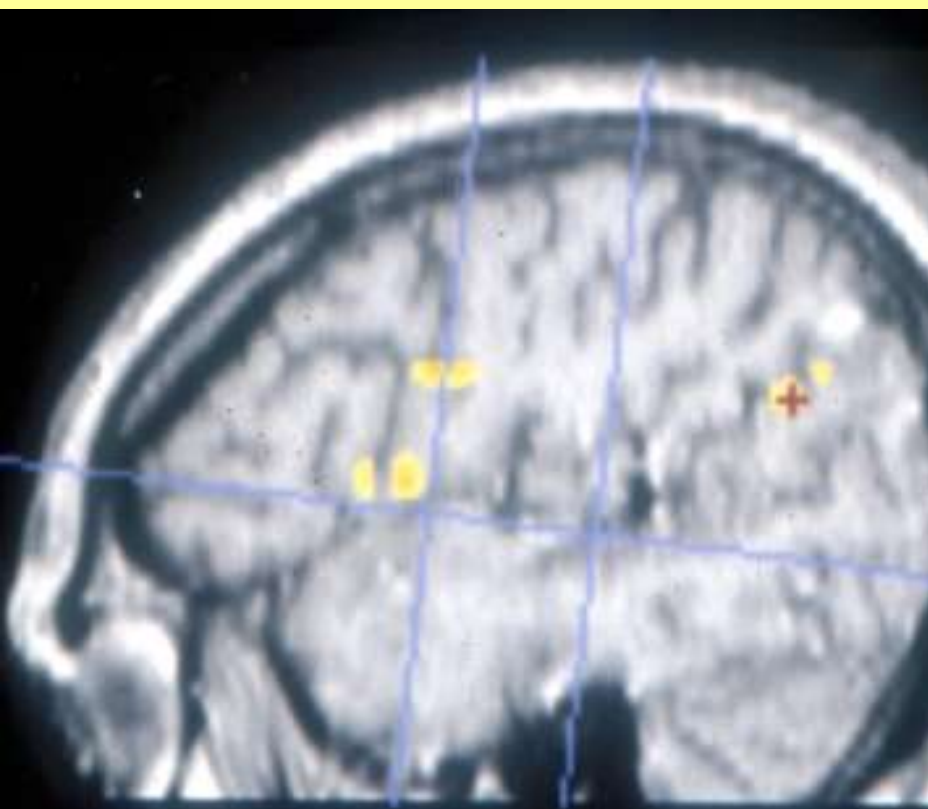
**NAIDICH,
KANG et al.**

AIRES DU LANGAGE (I)

- **AIRE DE BROCA (F3, 45 et 44)**
- **FAISCEAU ARQUE**
- **AIRE DE WERNICKE (Gy.
Angulaire 39, aires Visuelles 17-19)**

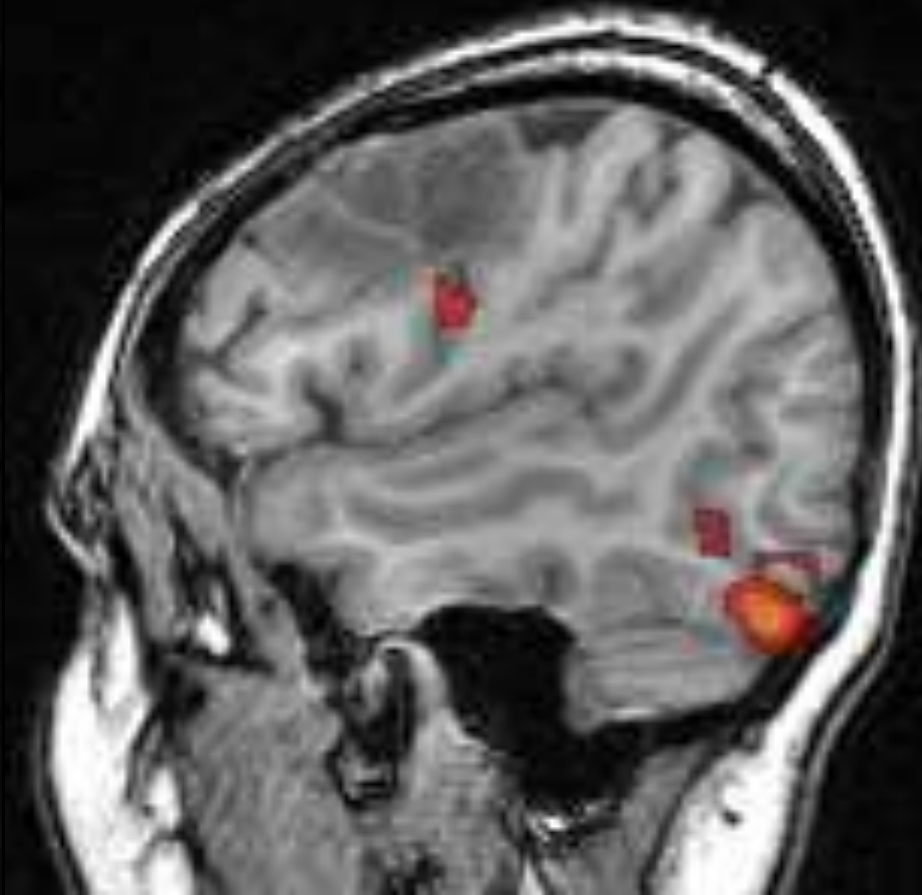




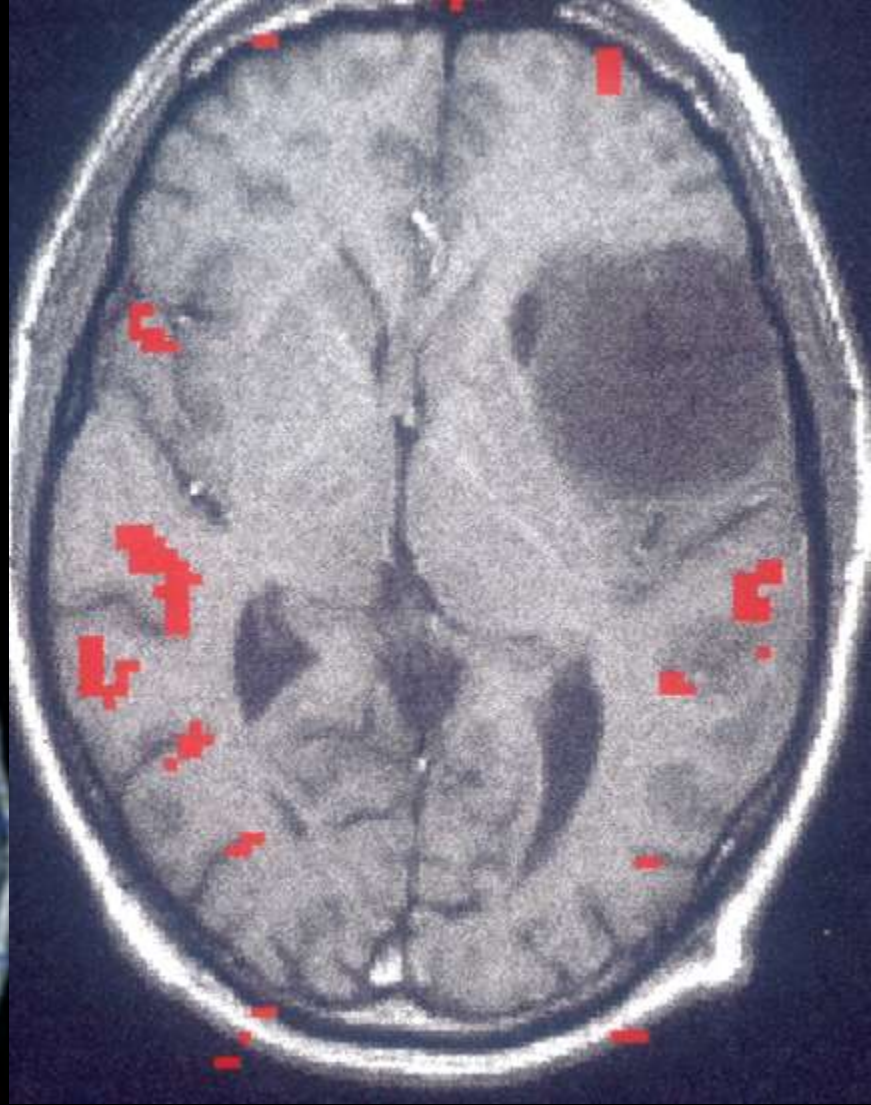
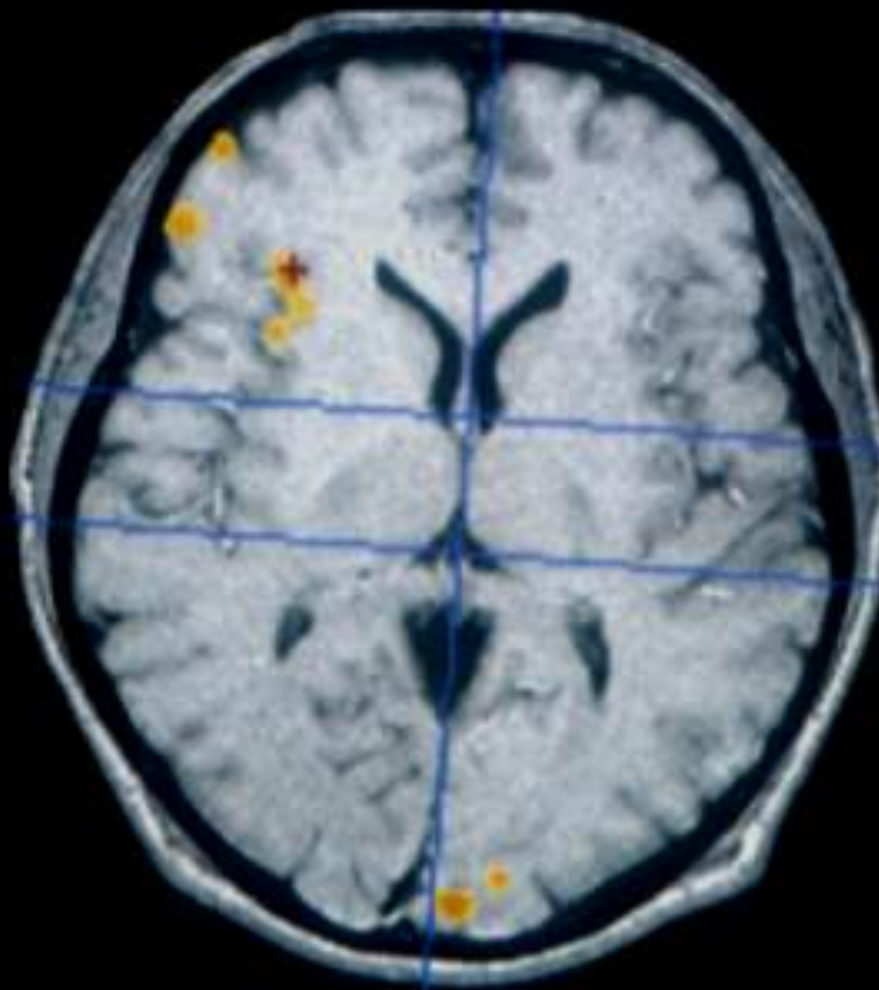


GENERATION VERBES

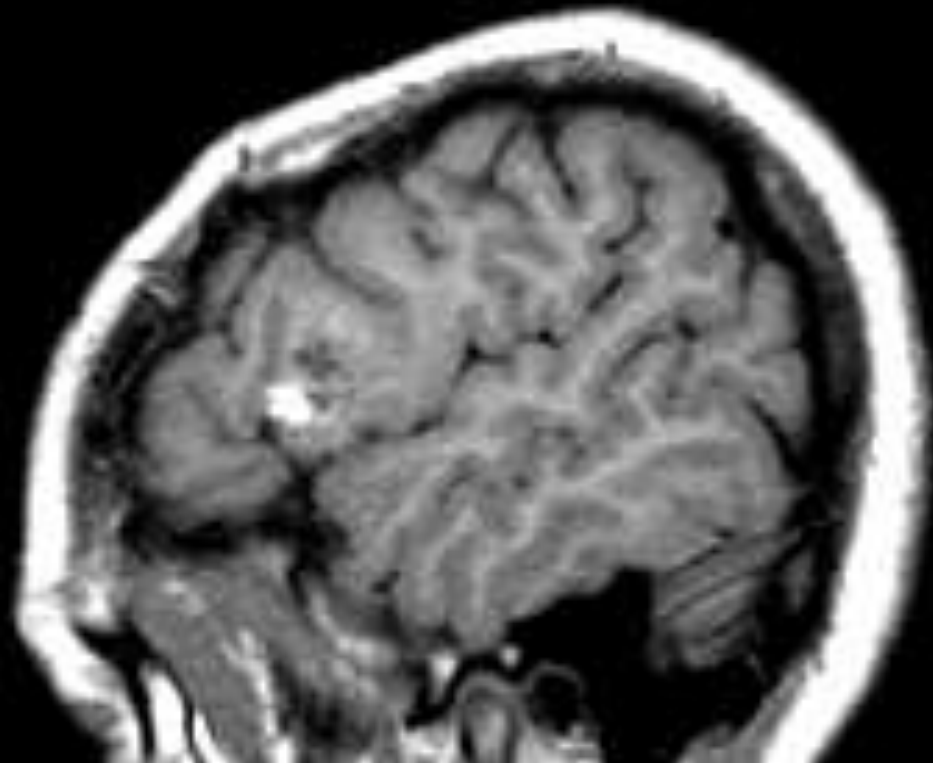
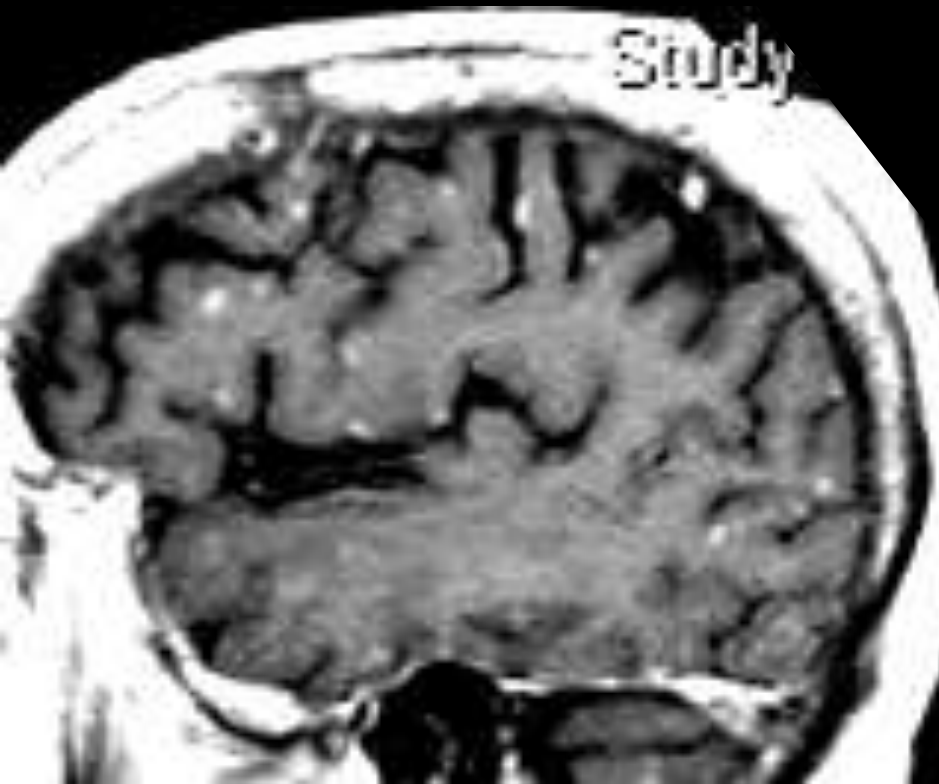
LECTURE



T. Yousry et coll. Londres



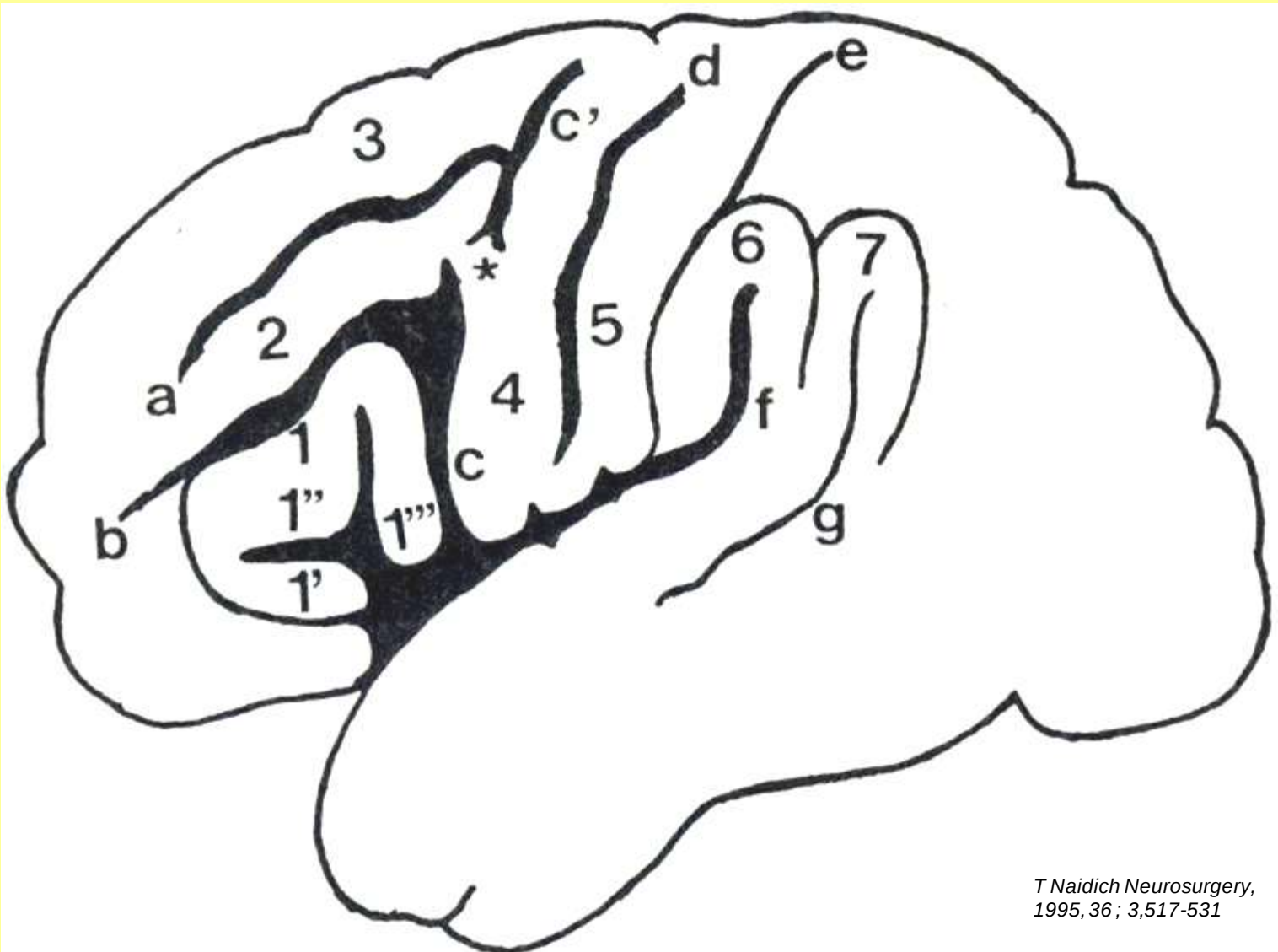
Gy Fr Inf – PARS OPERCULARIS



AIRES DU LANGAGE (II)

- Gy FRT INF : FORMULATION D'UN PROGRAMME COORDONNEE DE VOCALISATION
- LESIONS DOMINANTES : *APHASIE MOTRICE*
- LESIONS DROITES : *APROSODIE* (monotone et amélodique)

IDENTIFICATION DU SILLON CENTRAL et POST-CENTRAL



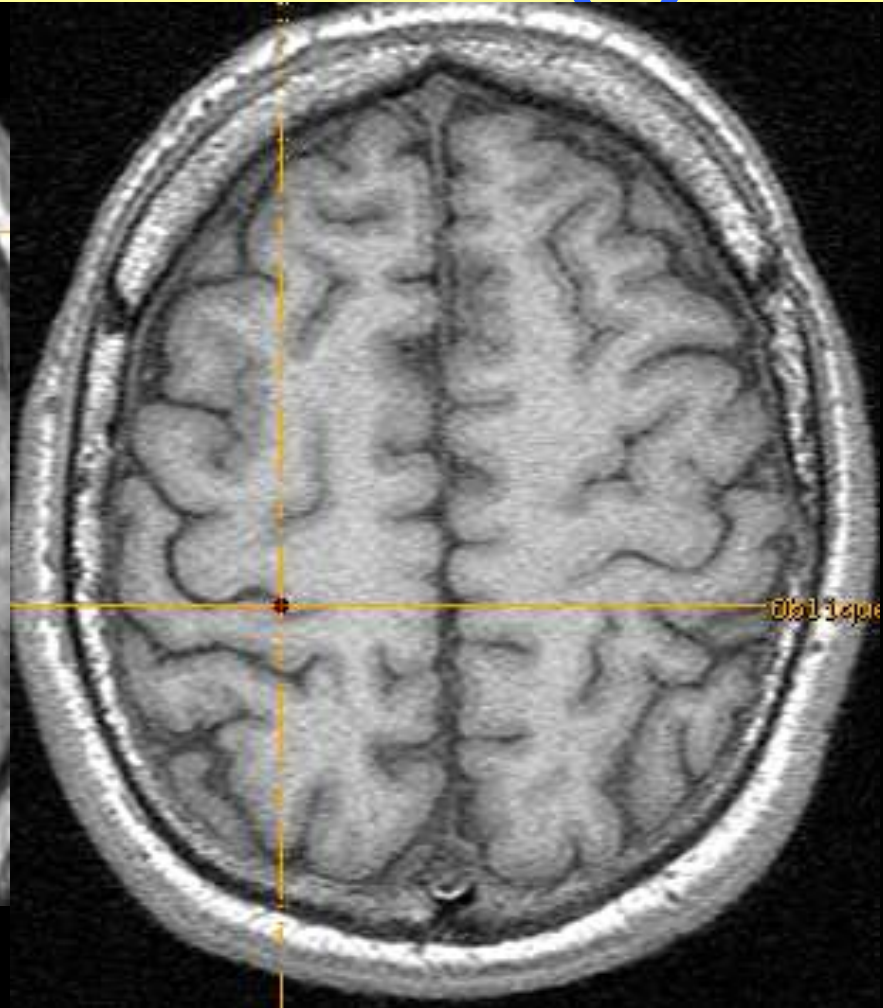
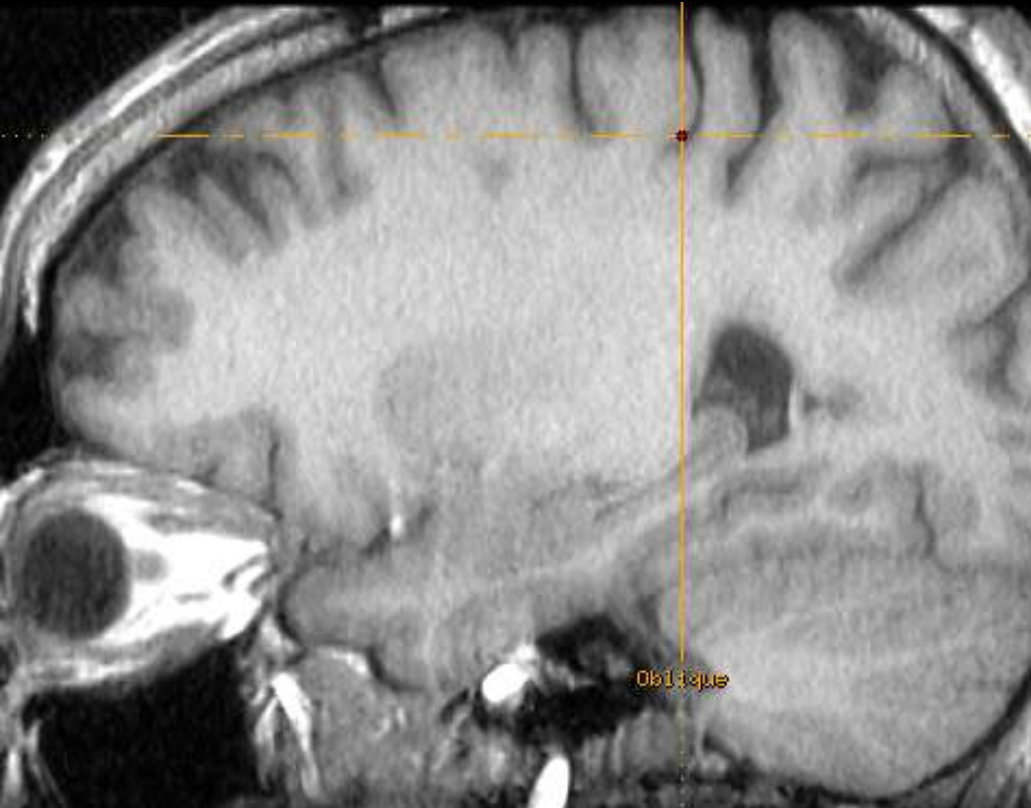
IDENTIFICATION DU SILLON CENTRAL et POST- CENTRAL

- **DEUX MANIERES INDEPENDANTES :**
 - A. LECTURE DE LA SURFACE SUPÉRIEURE**
 - B. LECTURE DE LA FACE MÉDIALE**

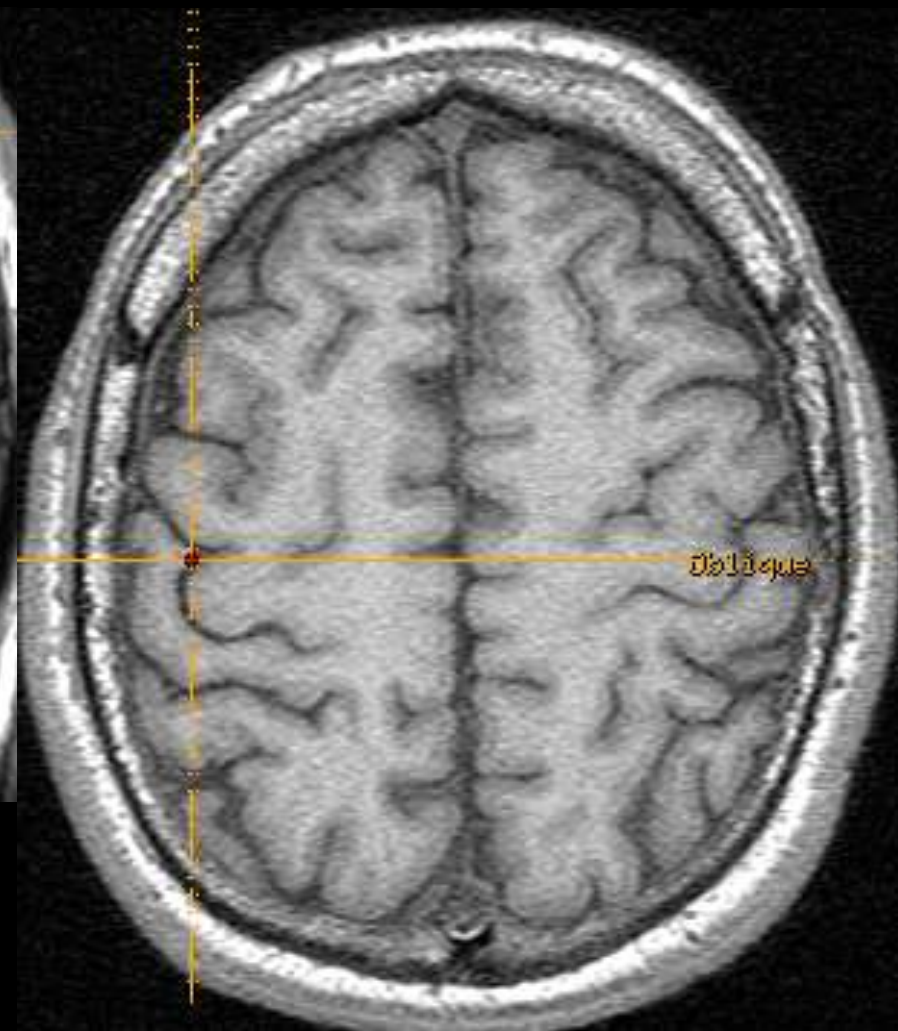
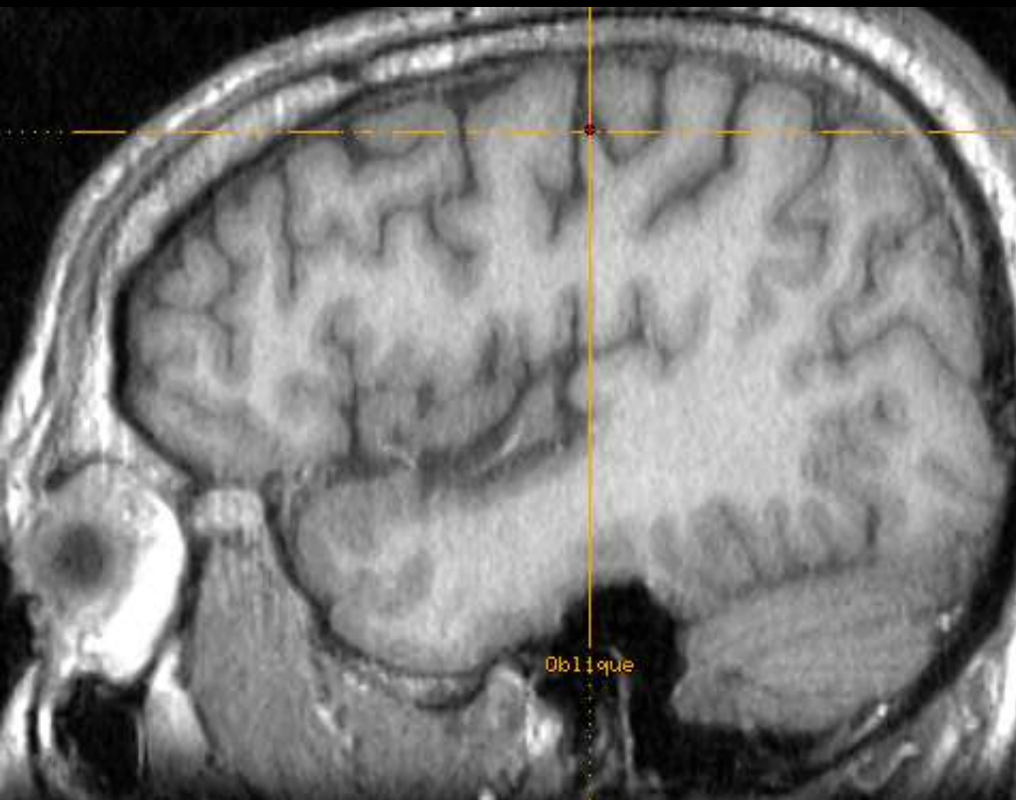
A. LECTURE DE LA SURFACE SUPÉRIEURE (1)



A. LECTURE DE LA SURFACE SUPÉRIEURE (2)



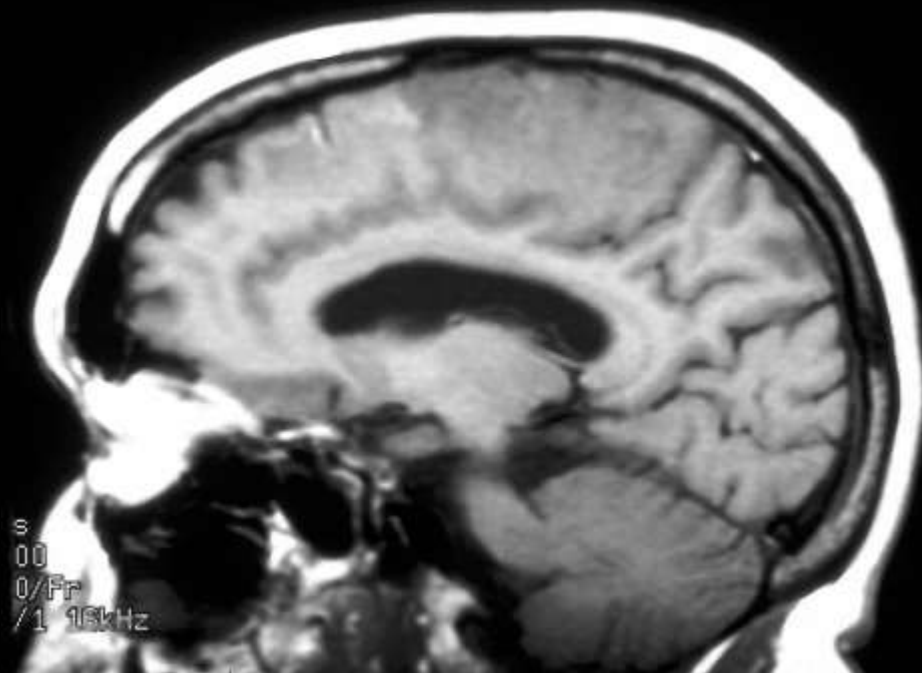
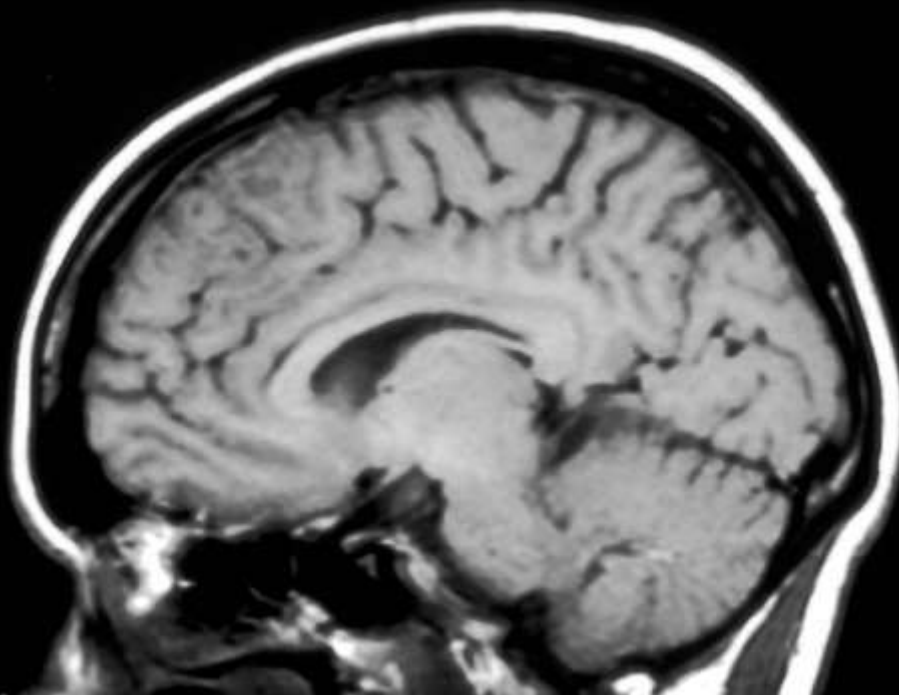
A. LECTURE DE LA SURFACE SUPÉRIEURE (3)



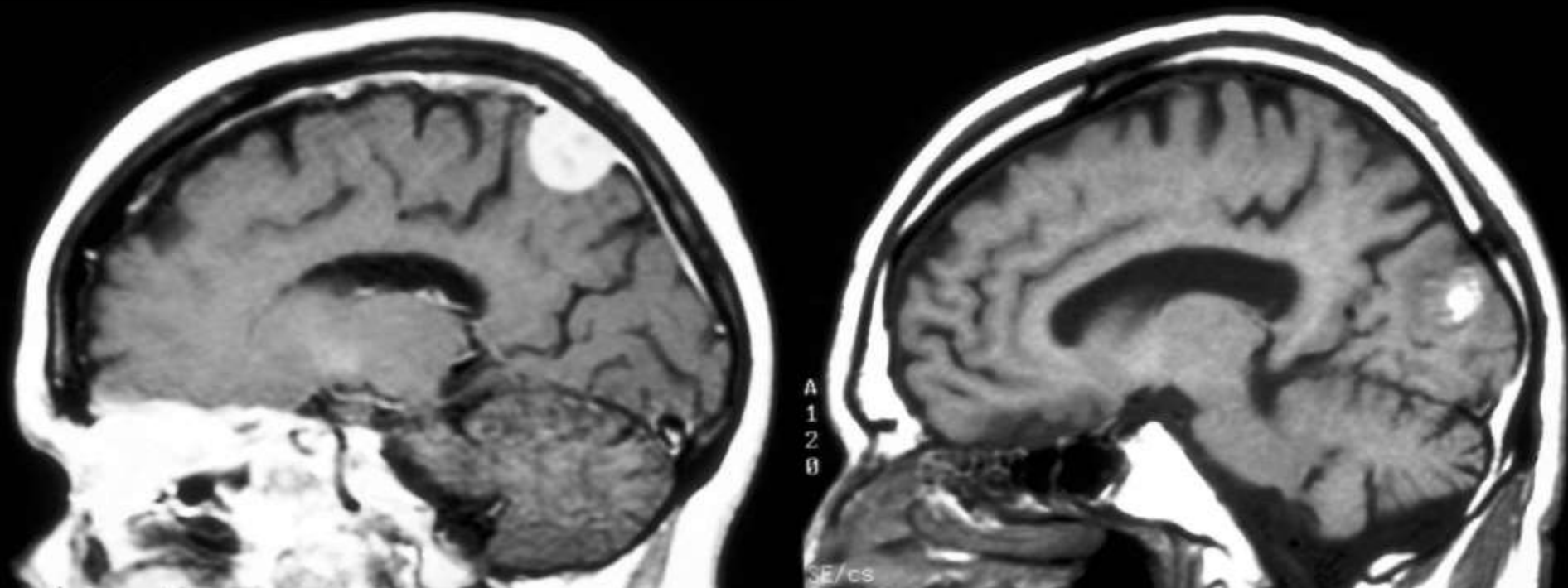
B. LECTURE DE LA FACE MÉDIALE



SURFACE MEDIALE



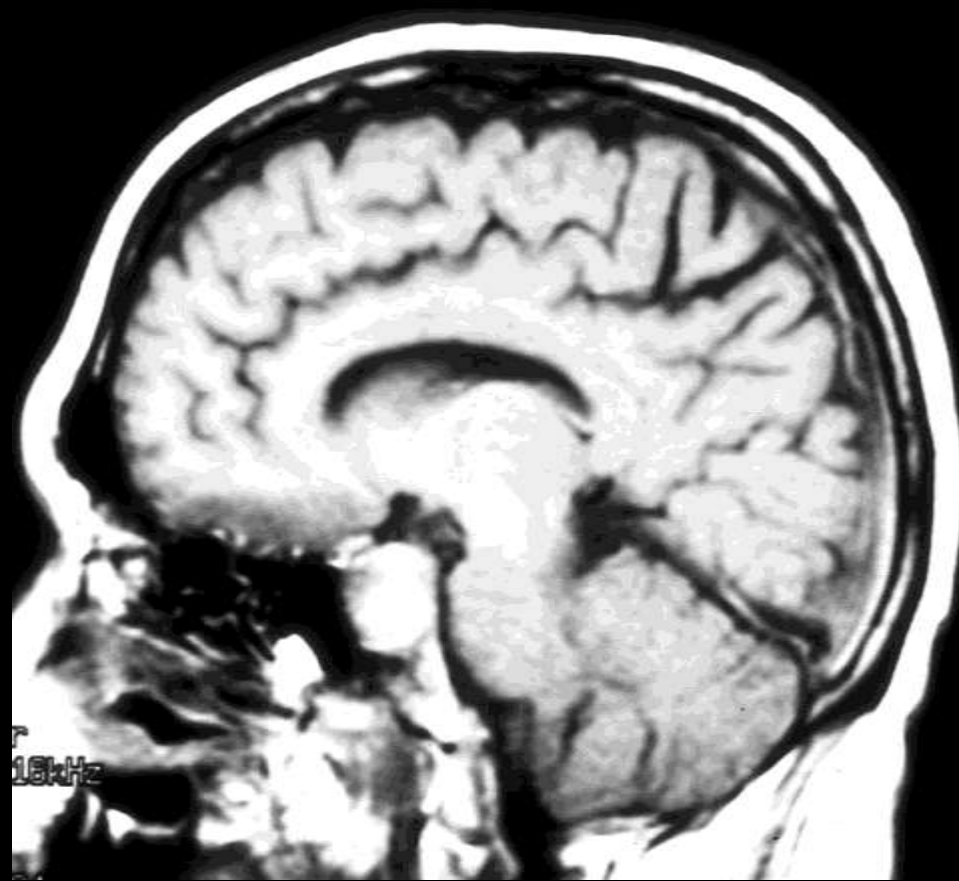
SURFACE MEDIALE



PARS MARGINALIS: CONFIGURATION

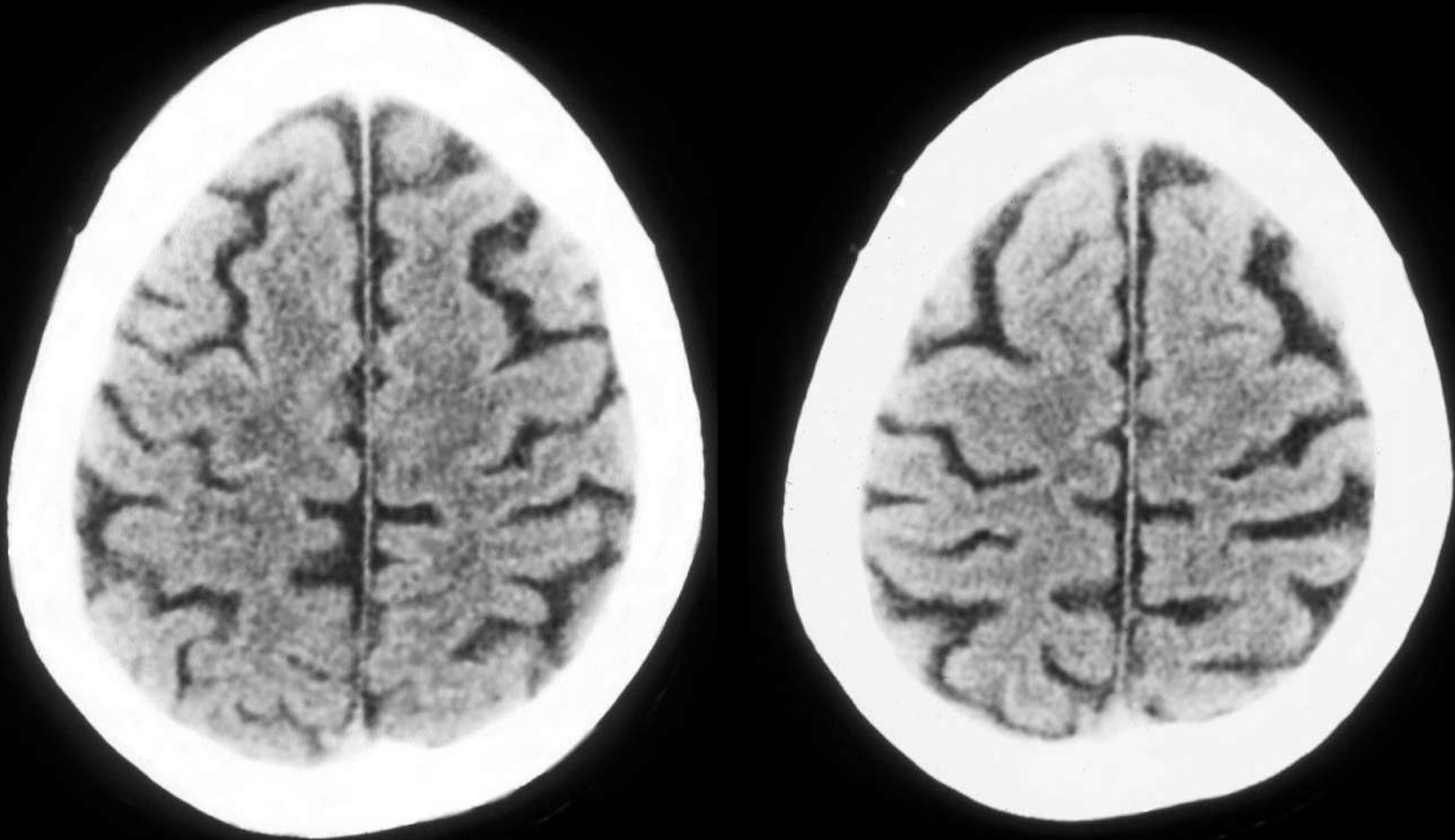


Mode simple



MODE BIFIDE

PARS MARGINALIS: CONFIGURATION



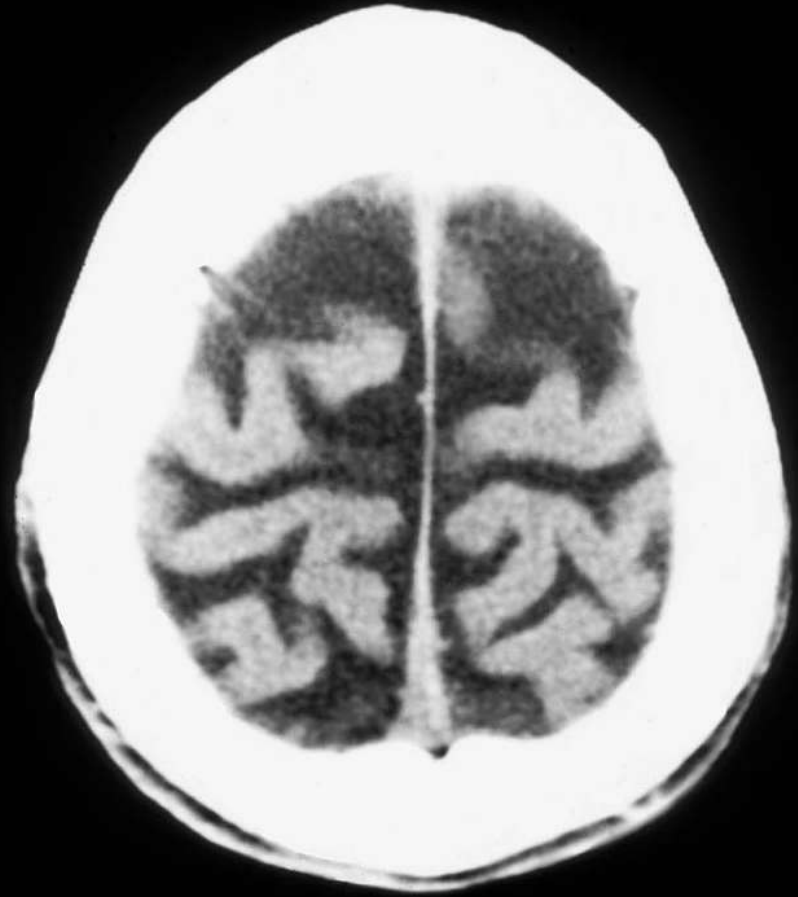


**PARS
MARGINALIS**

PARS MARGINALIS – partie basse

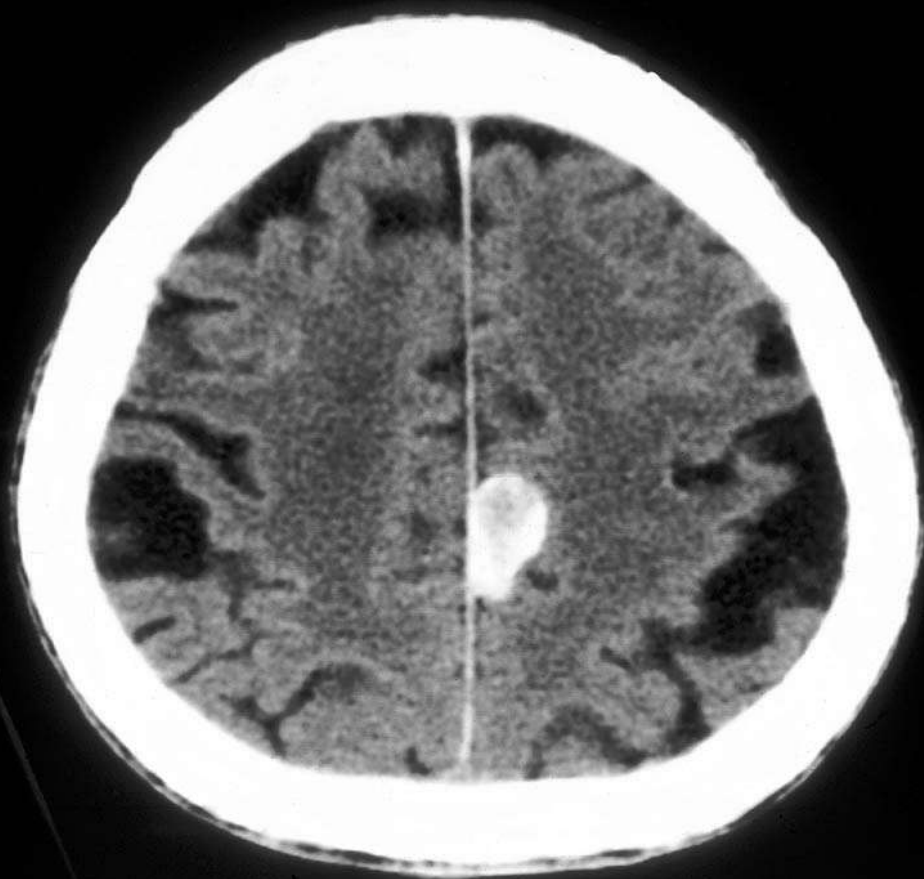


PARS MARGINALIS – Portion haute



PARACENTRAL vs. PRECUNEUS

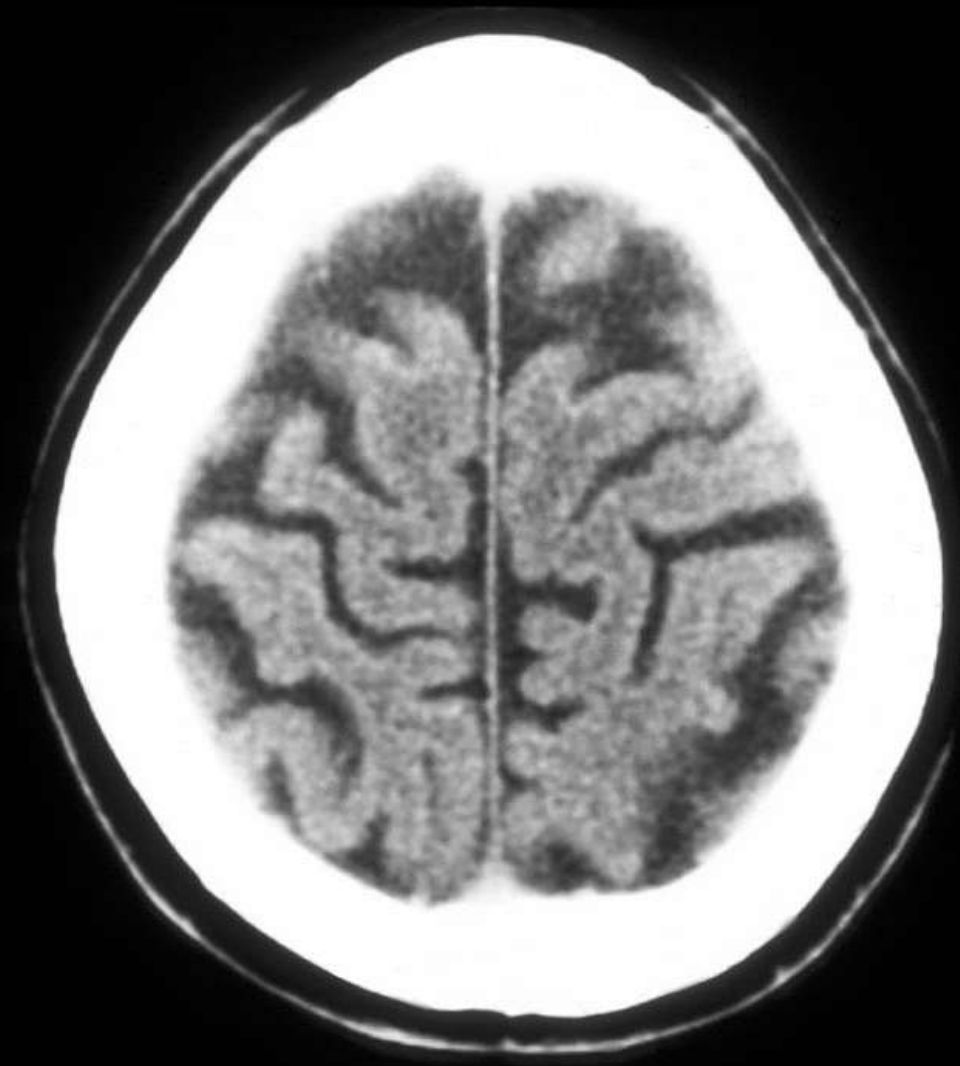




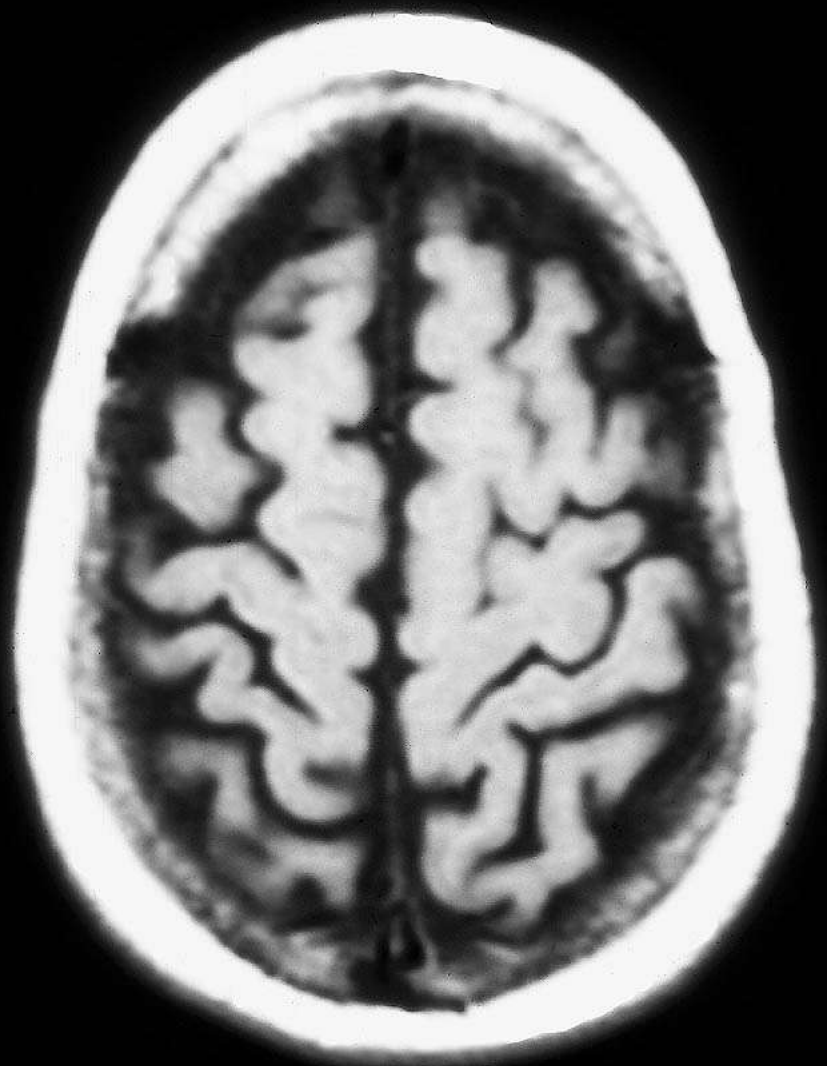
INCLINATION des COUPES



CT – INCLINE



IRM –” à PLAT”



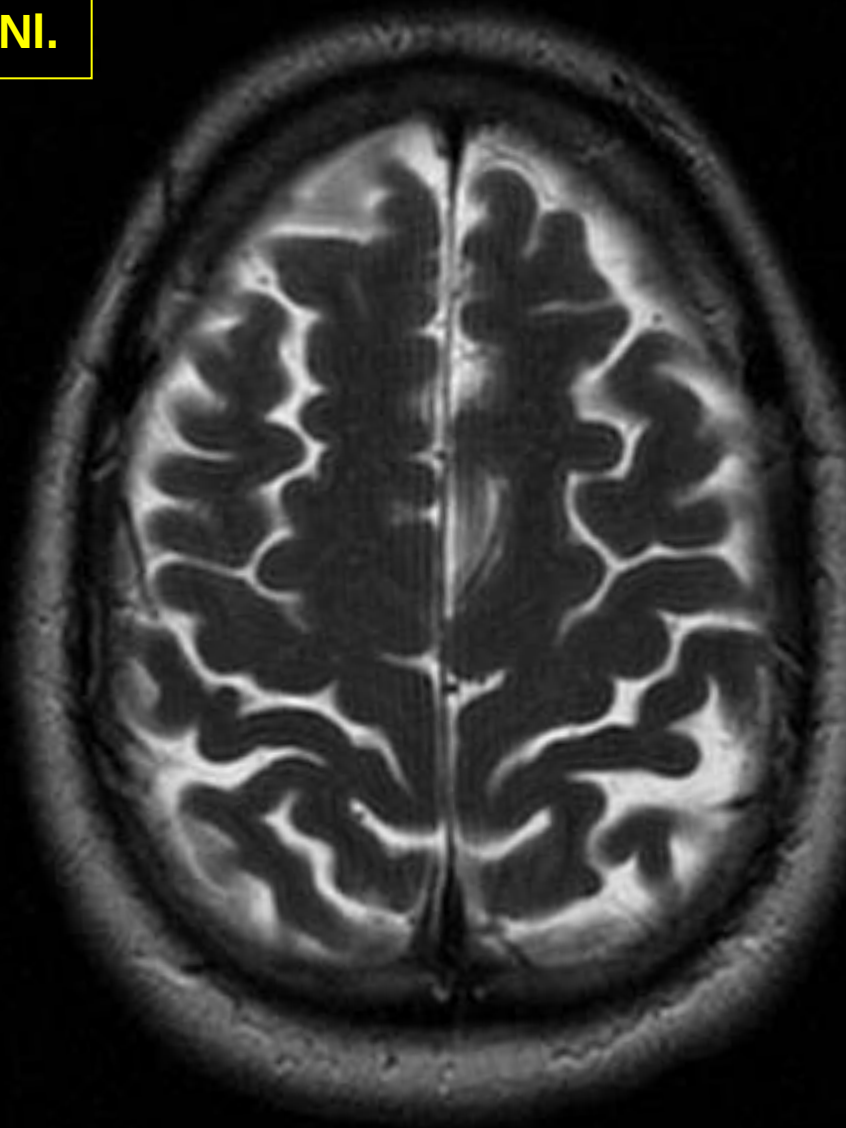
SIGNE DE LA PARENTHÈSE



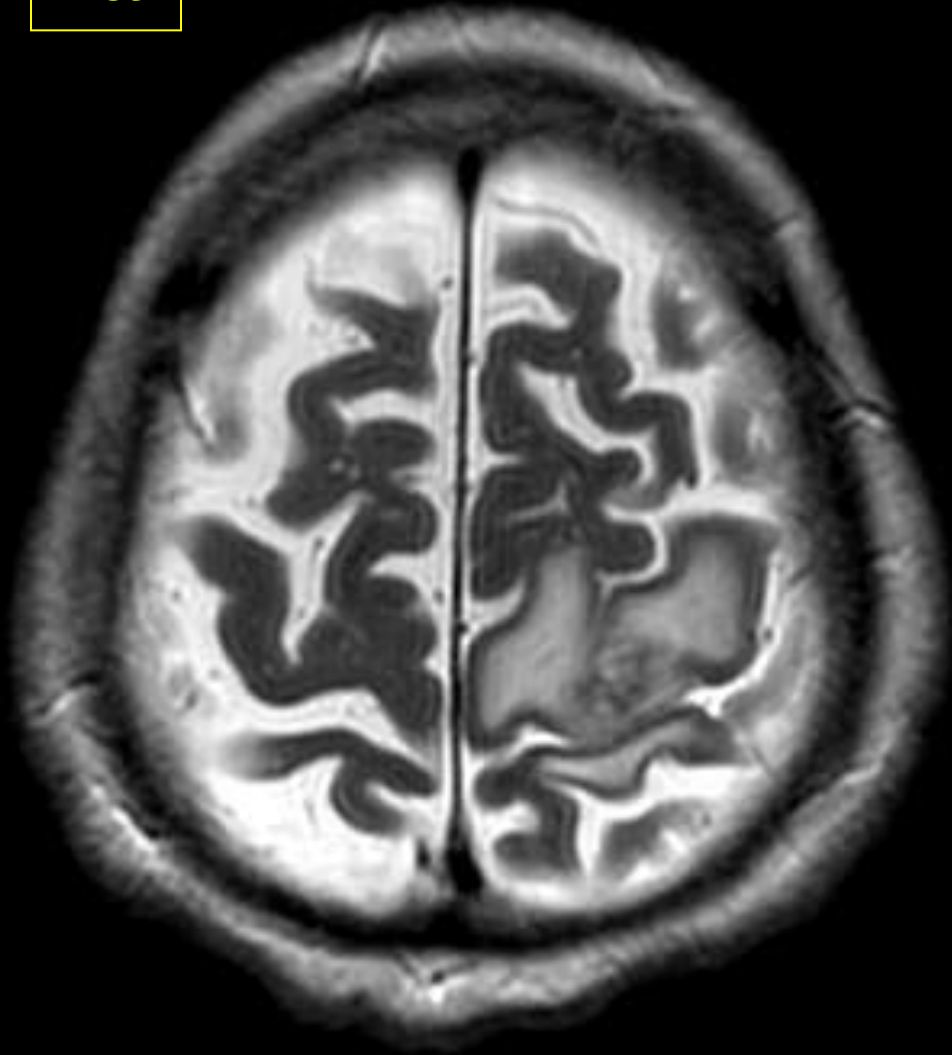
S. Central entre dans la parenthèse 96%, POST Central 3%

SIGNE de la Parenthèse

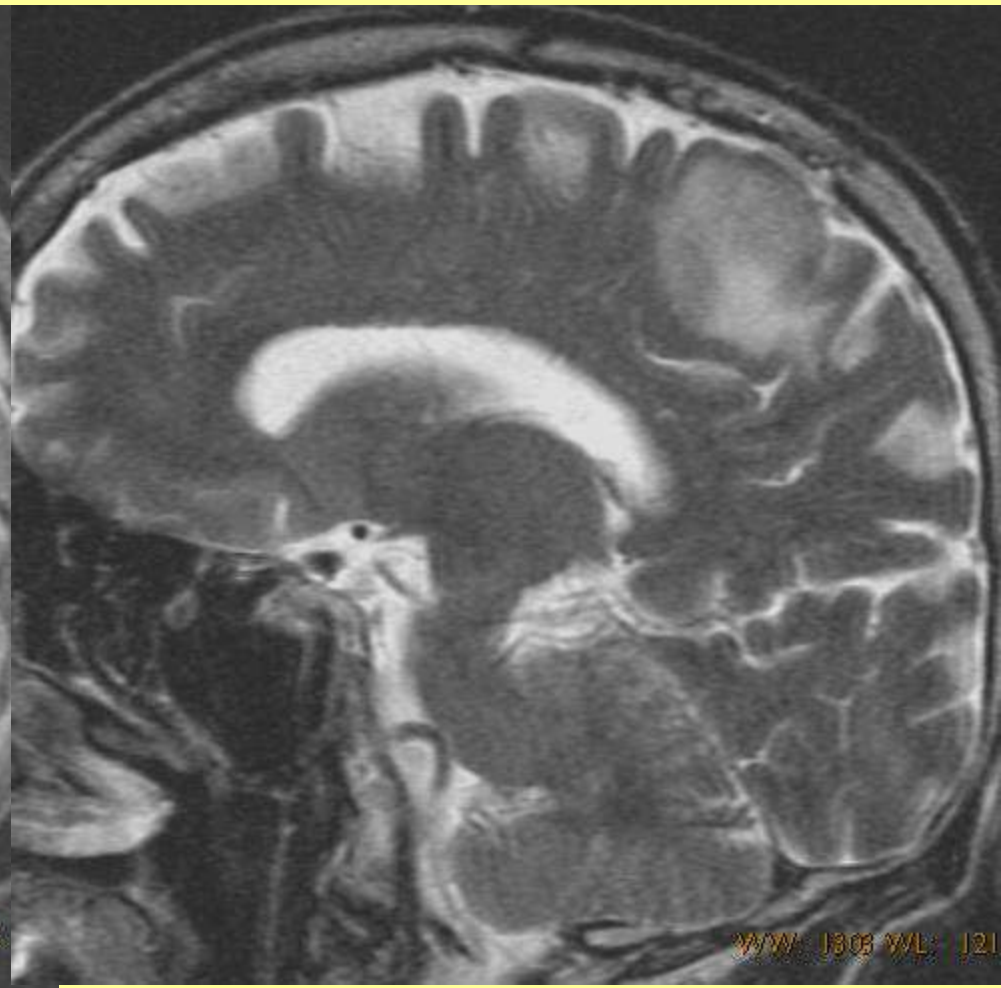
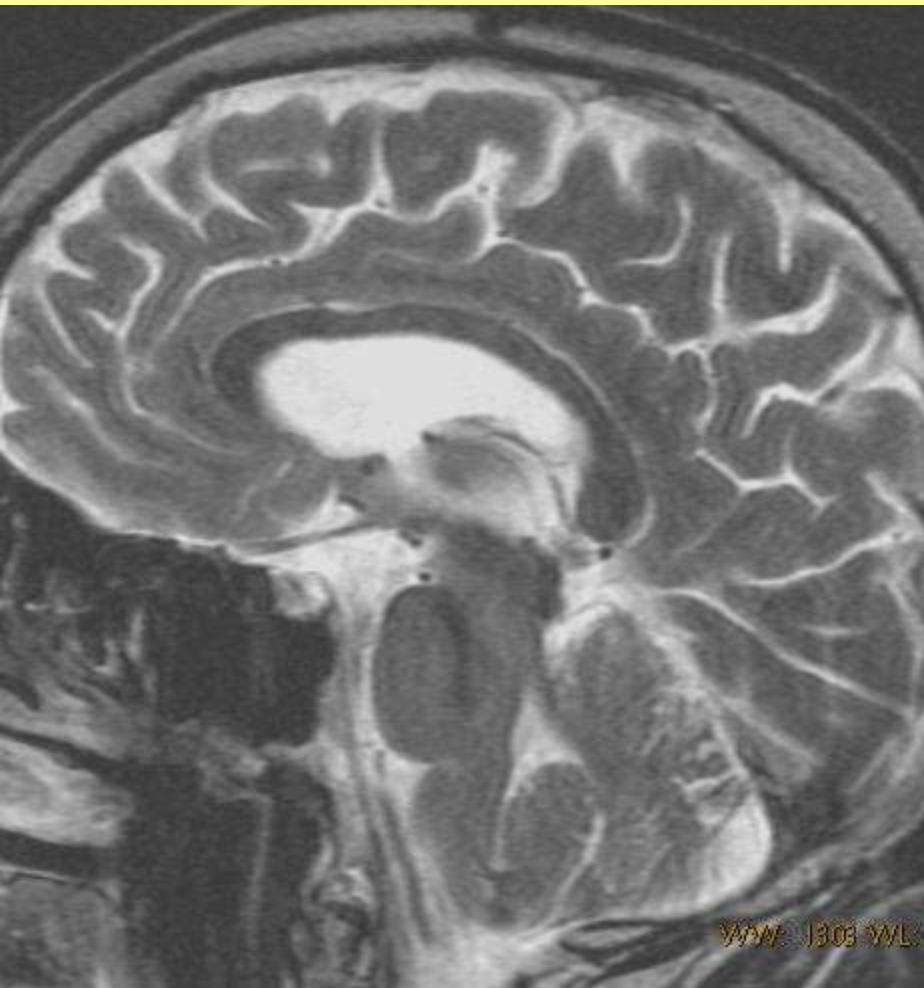
Ni.

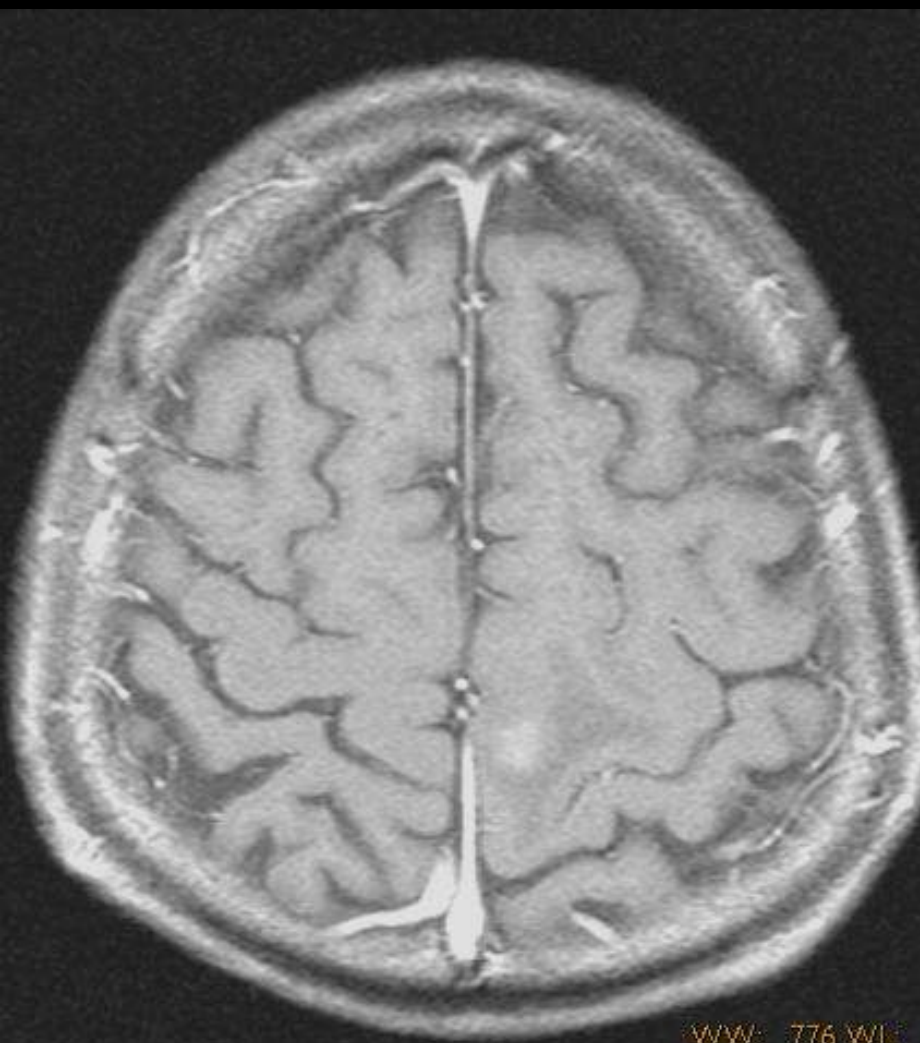


Met.

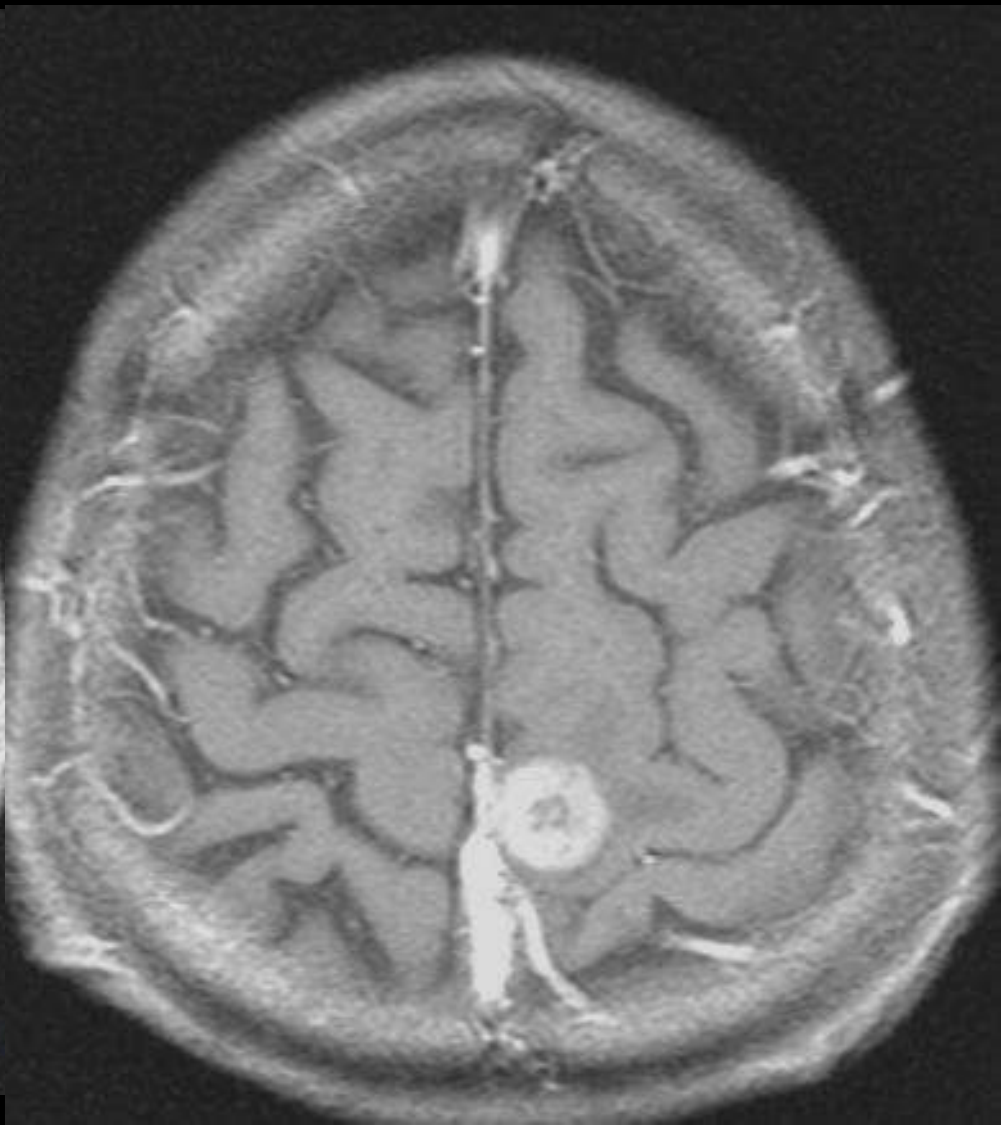


SYNTHESE LOCALISATION



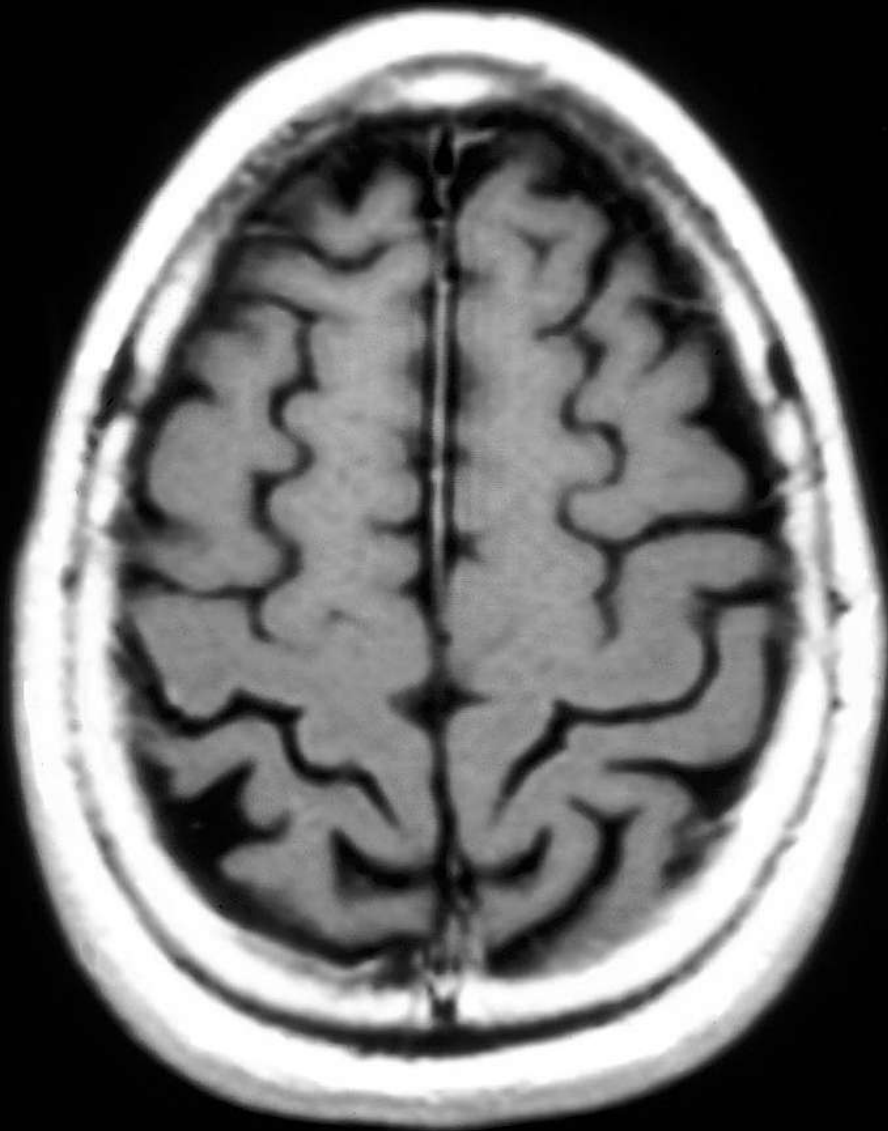


WW: 776 WL:



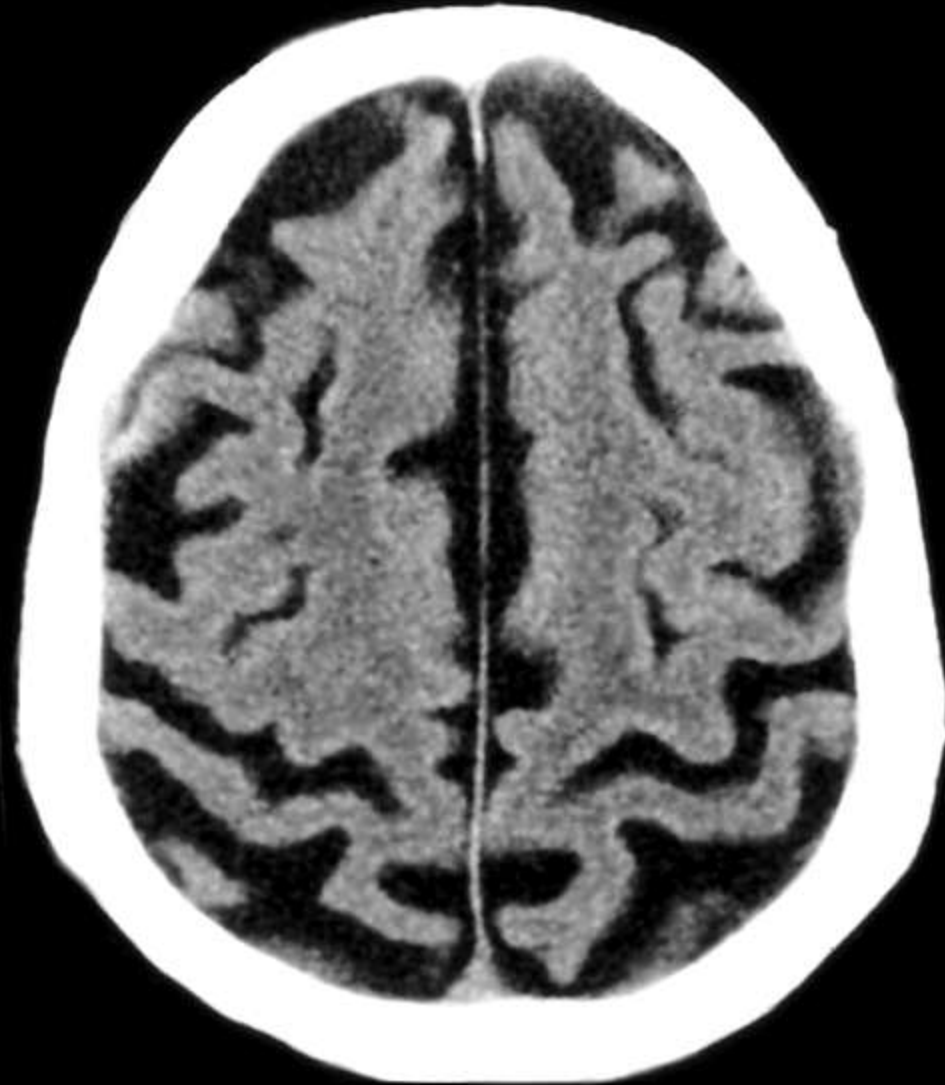
AIRE MOTRICE DE LA MAIN

OMEGA de Aire Motrice Main (AMM)

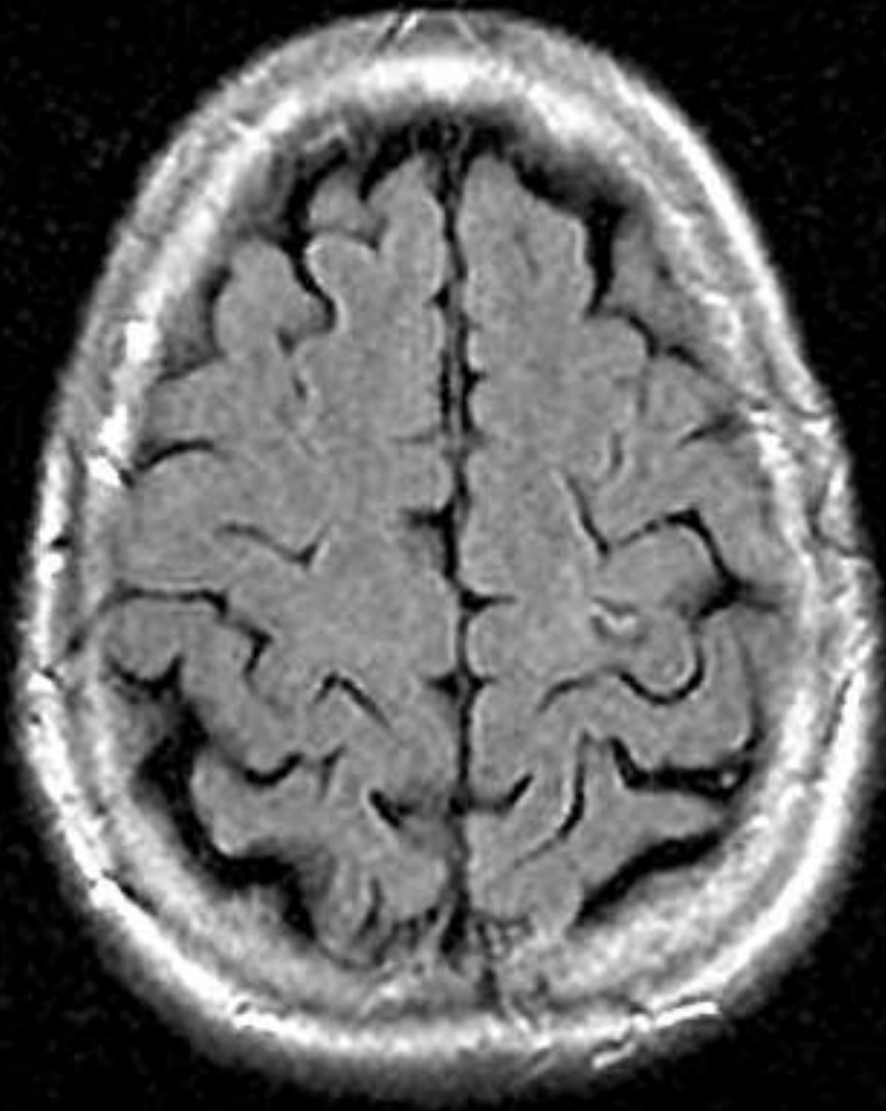


**Le CROCHET
& l'INFLEXION
IDENTIFIENT
l'AMM,
Les S Pre C & Cent.
dans 98%.
YOUSRY: AMM**

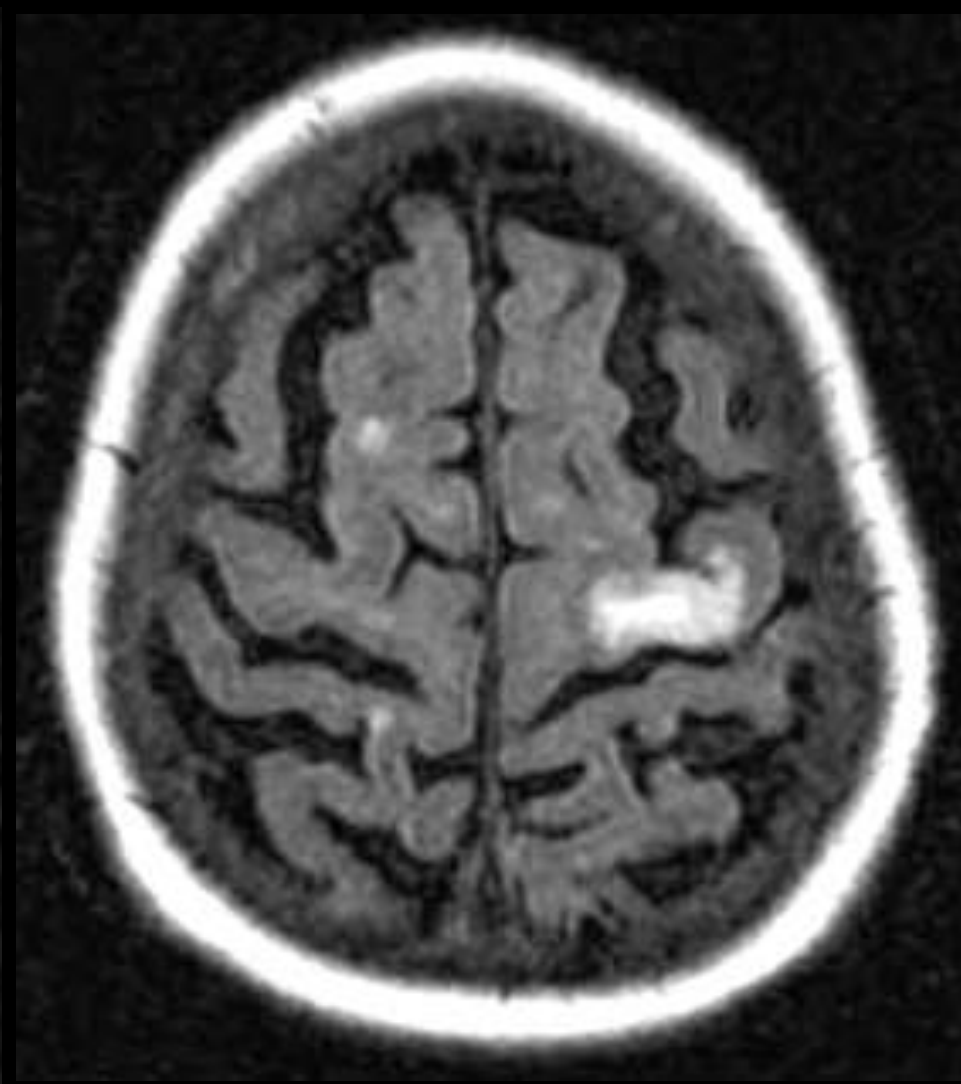
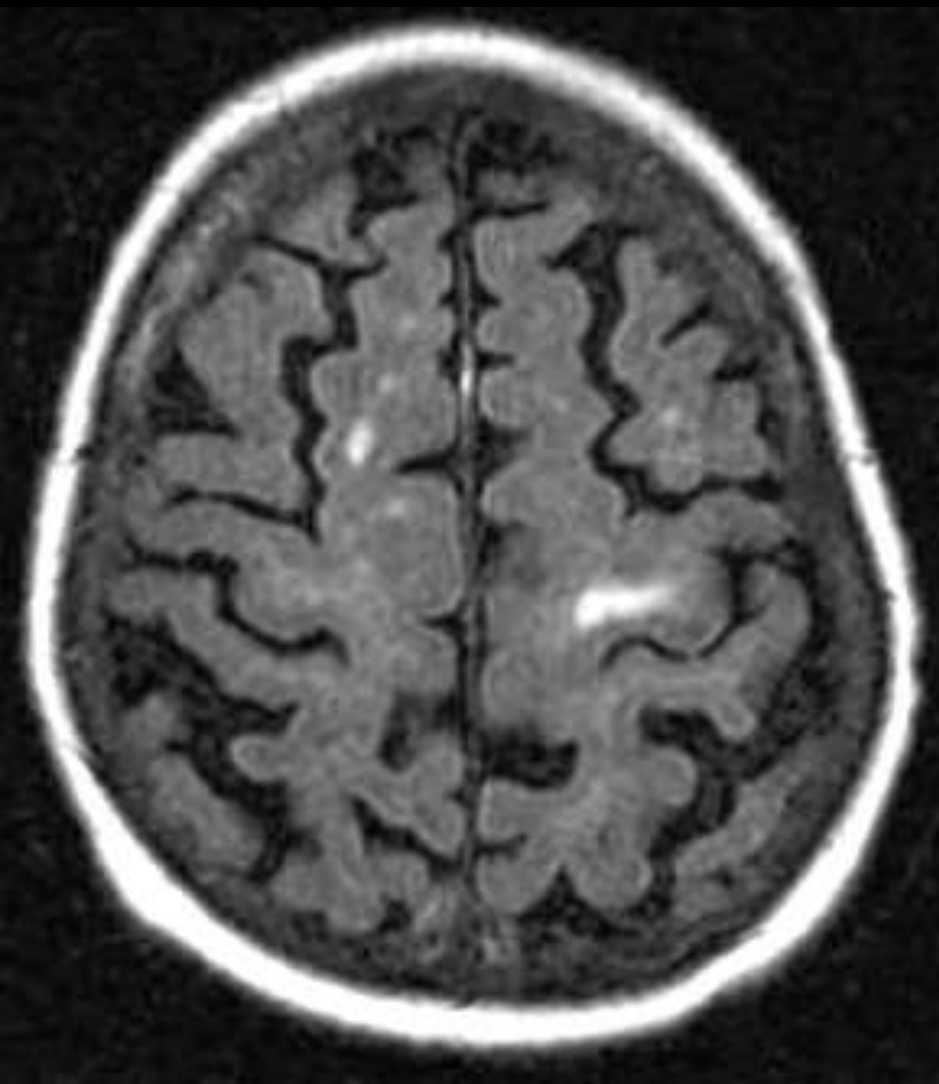
OMEGA de Aire Motrice Main (AMM)



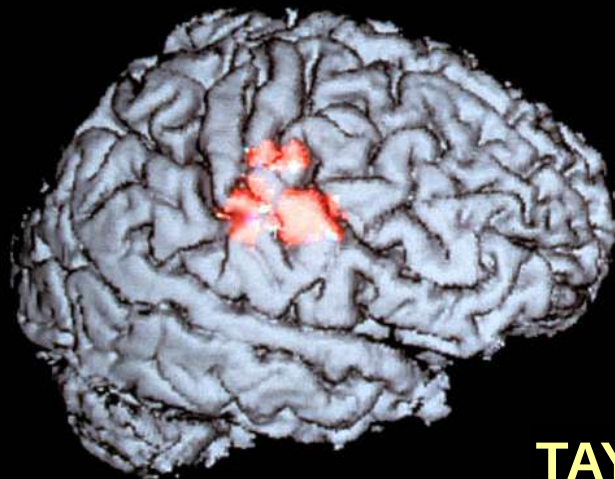
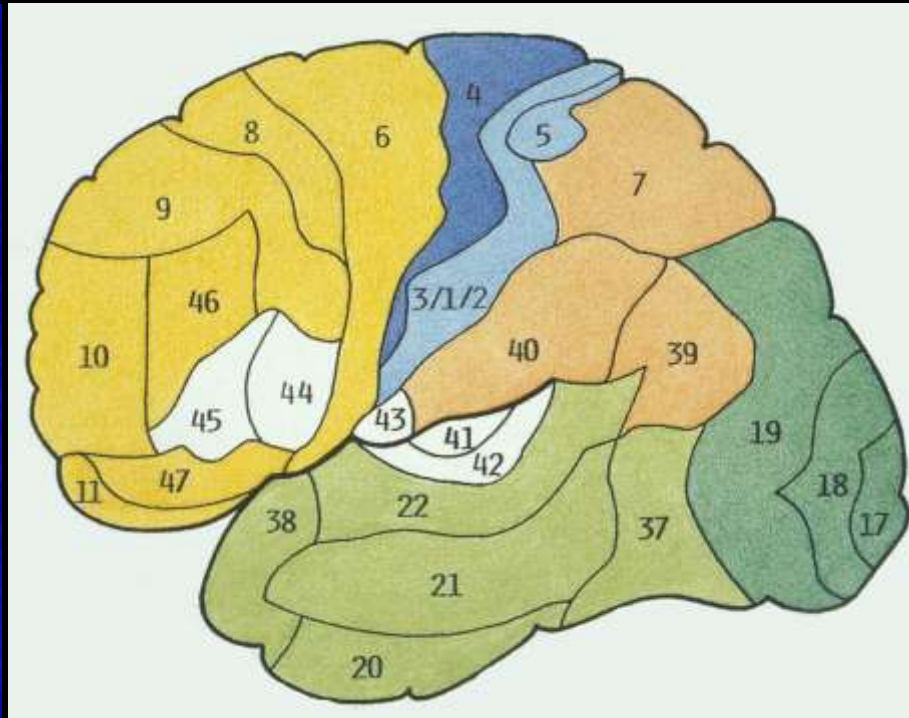
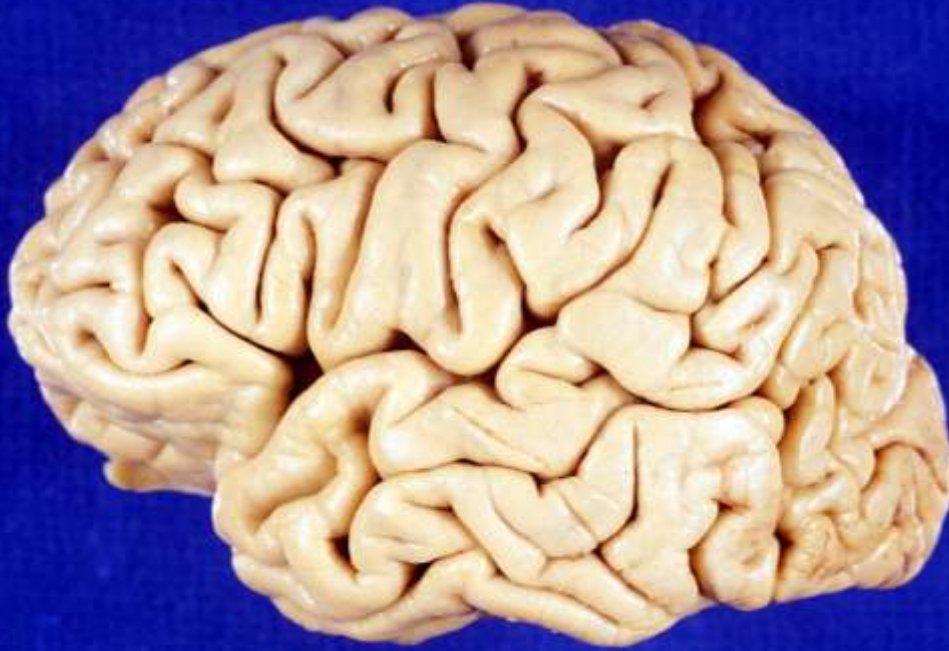
OMEGA de Aire Motrice Main (AMM)



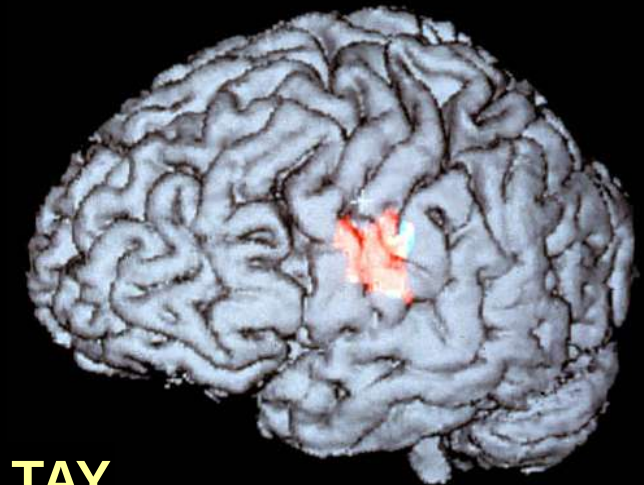
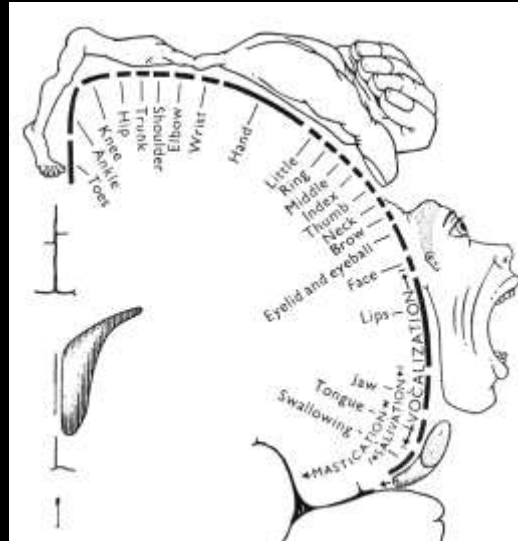
OMEGA de Aire Motrice Main (AMM)



M1 CORTEX MOTEUR PRIMAIRE : AB 4

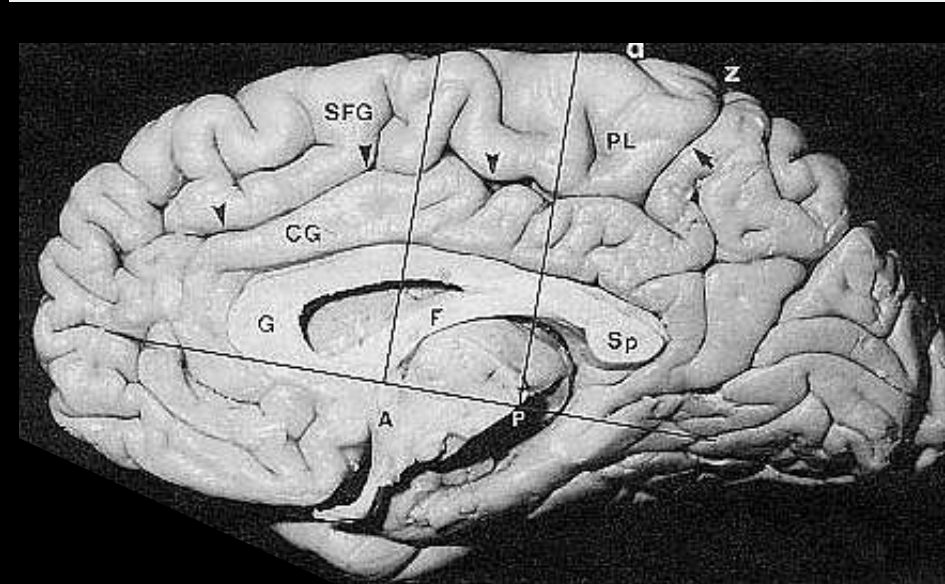
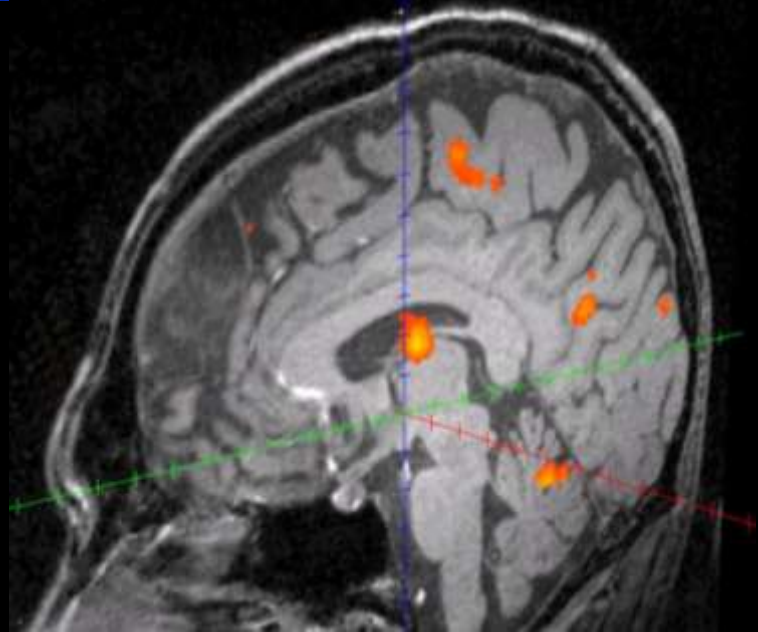
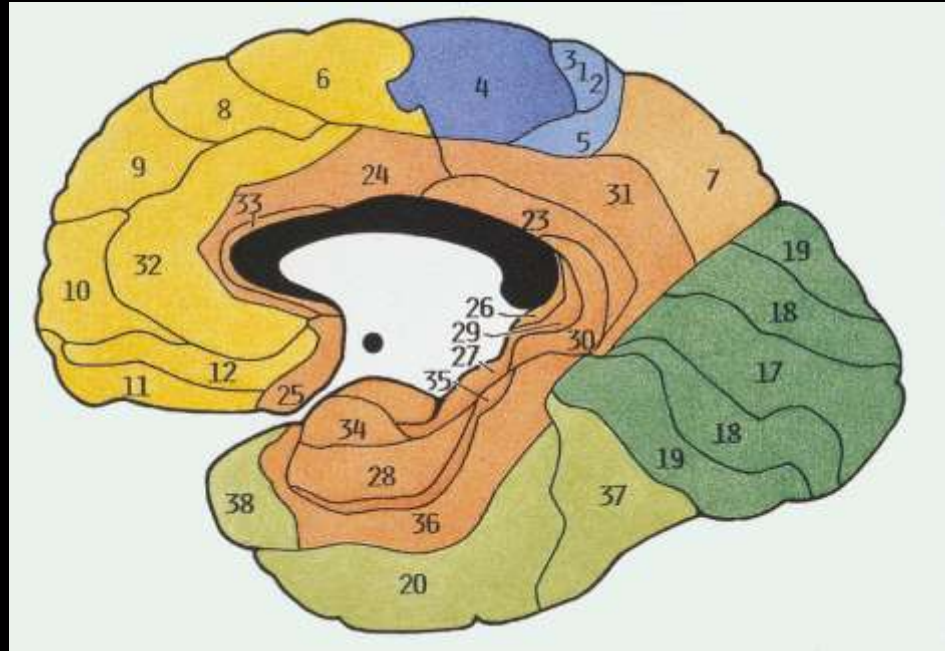
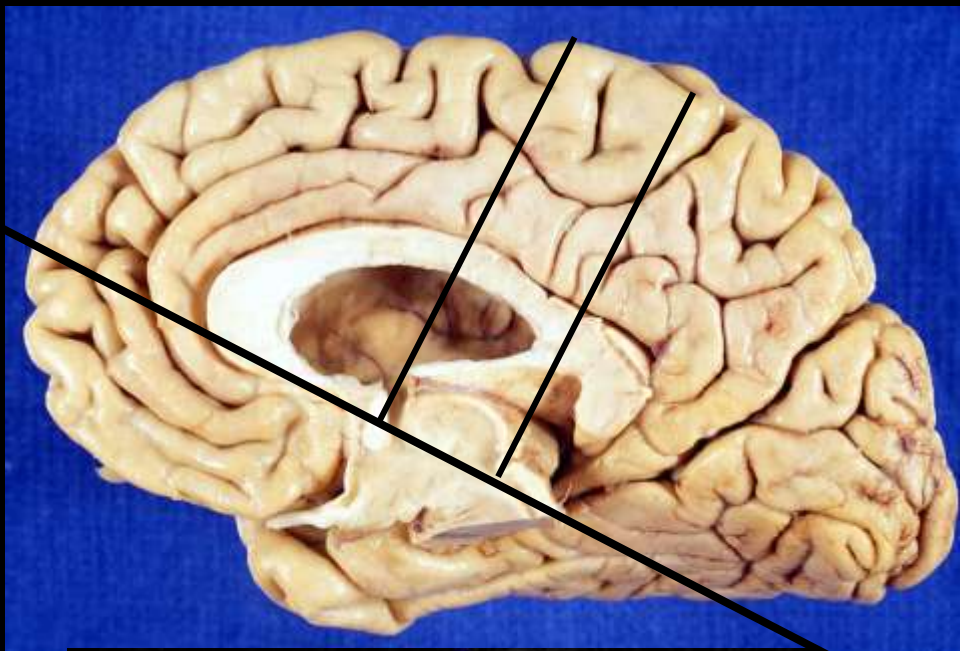


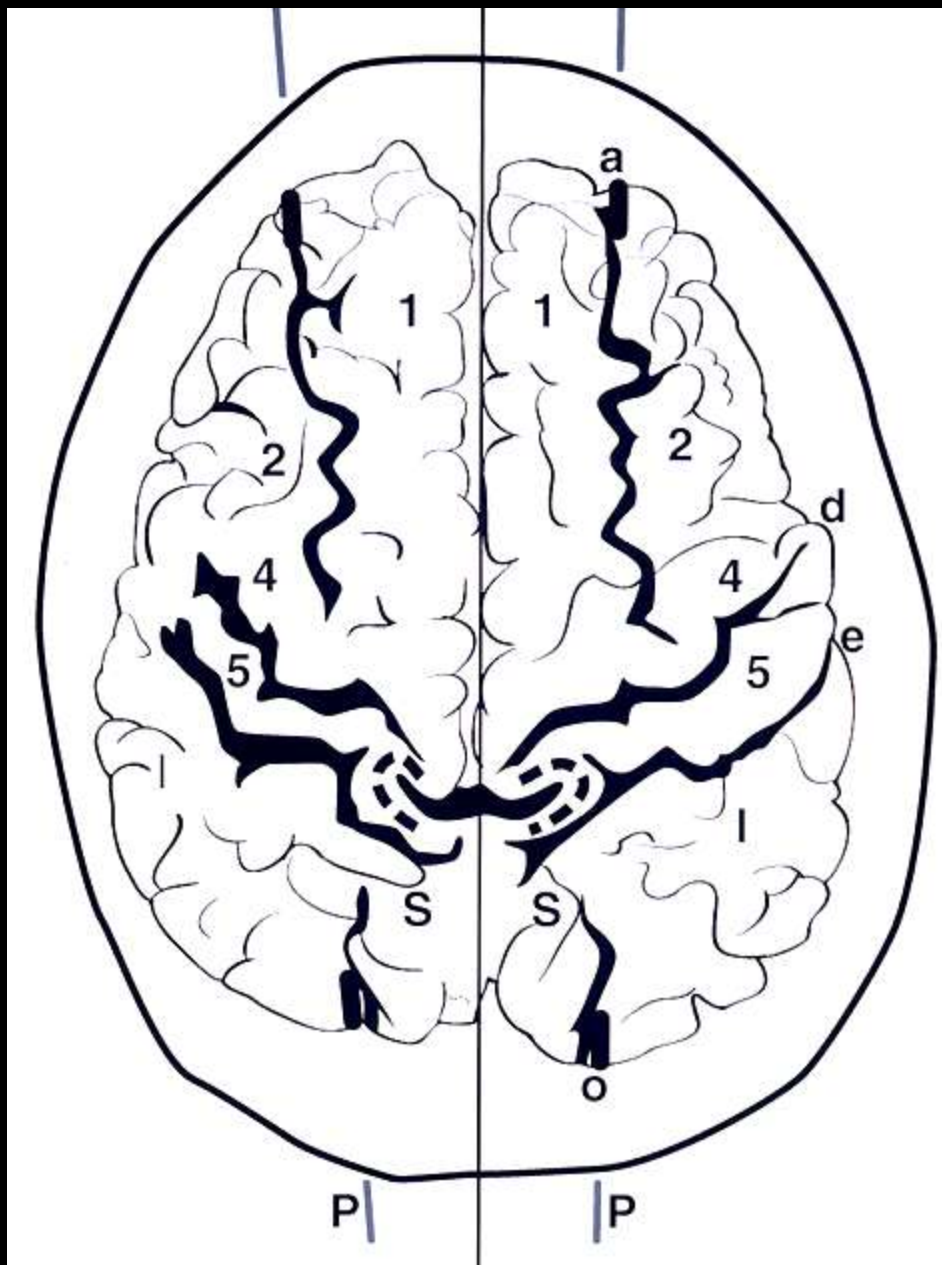
TAY



TAY

AIRE SUPPLEMENTAIRE MOTRICE AB 6aα





MAIN DT
Orange = MEDIUS (III)
VERT = AURICULAIRE

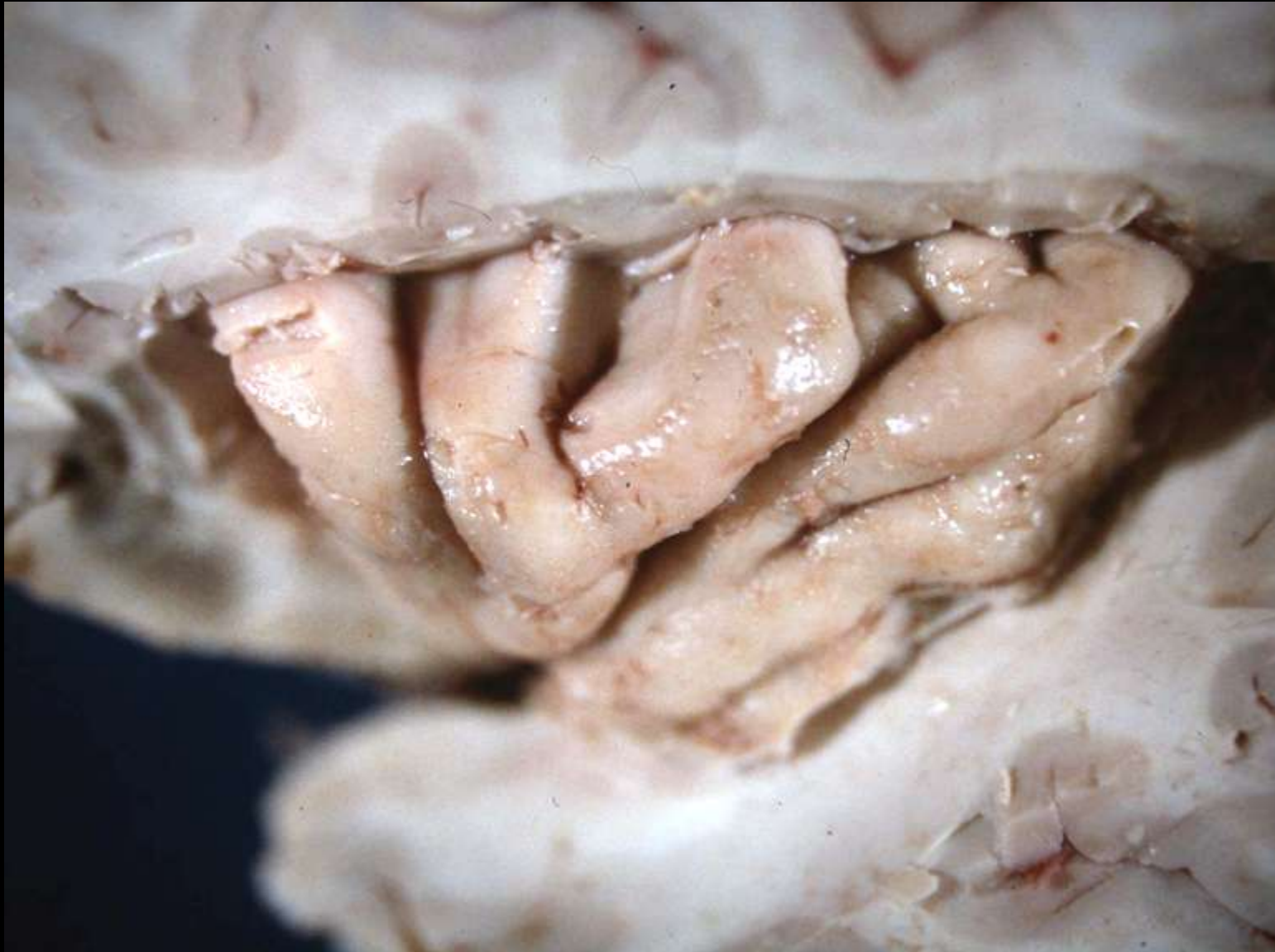
INSULA

- **Cytoarchitecture :**
 - Antérieur : agranulaire
 - Sillon central insulaire
 - Postérieur : pariétal
- **Somatotopie : très frustré**
- **Stimulation : effets viscéro-sensibles, salivation, motricité gastrique, nausées et « sensations abdominales »**
- **Lésions : mutisme similaire aux lésions cingulaires**

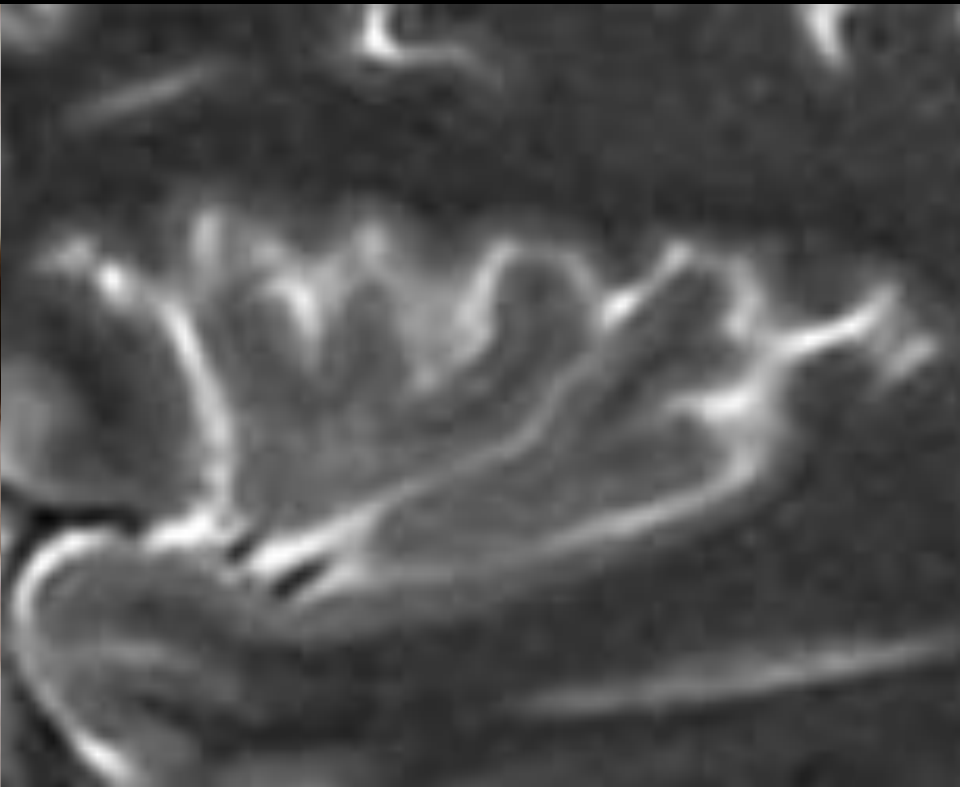


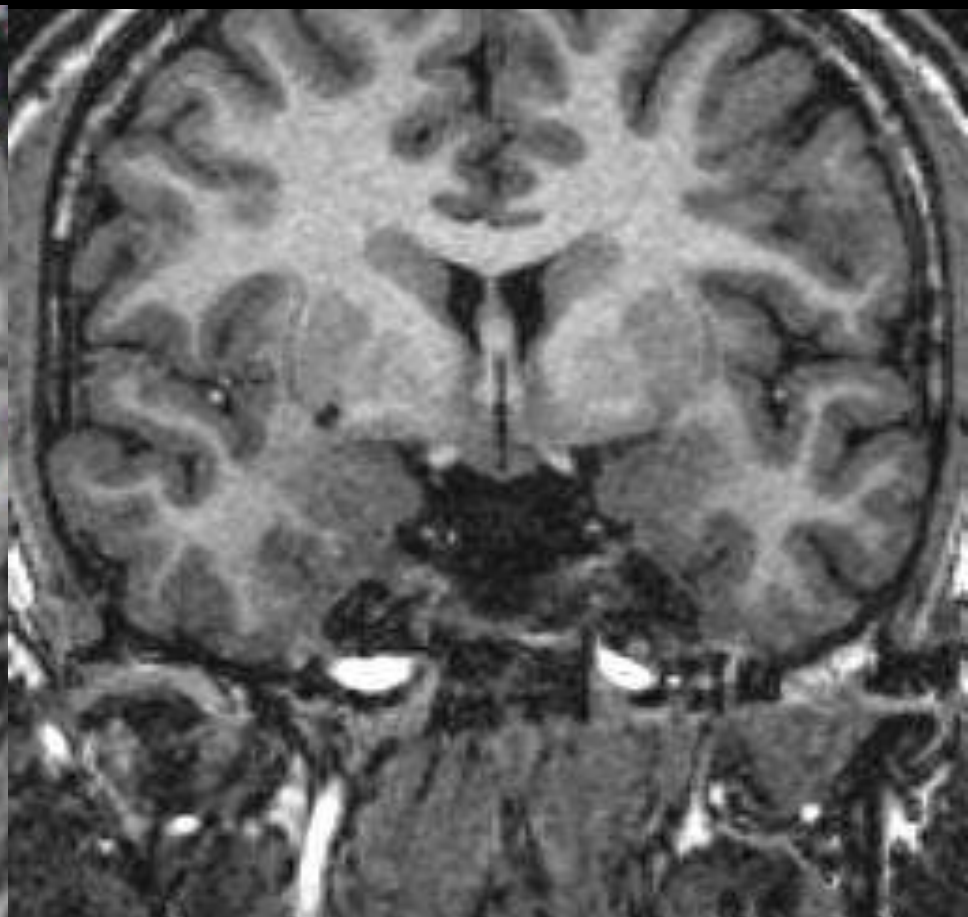
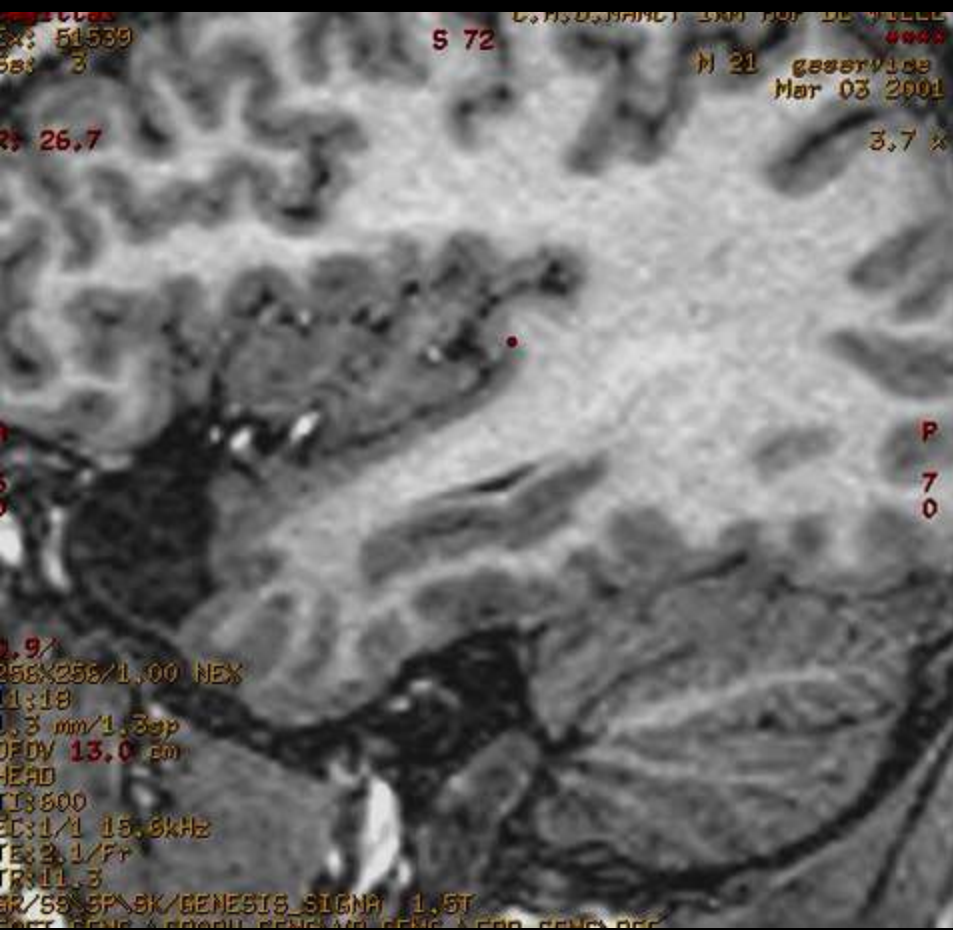
**NAIDICH,
KANG et al.**

INSULA: LOBULES ANTERIEUR & POSTERIEUR

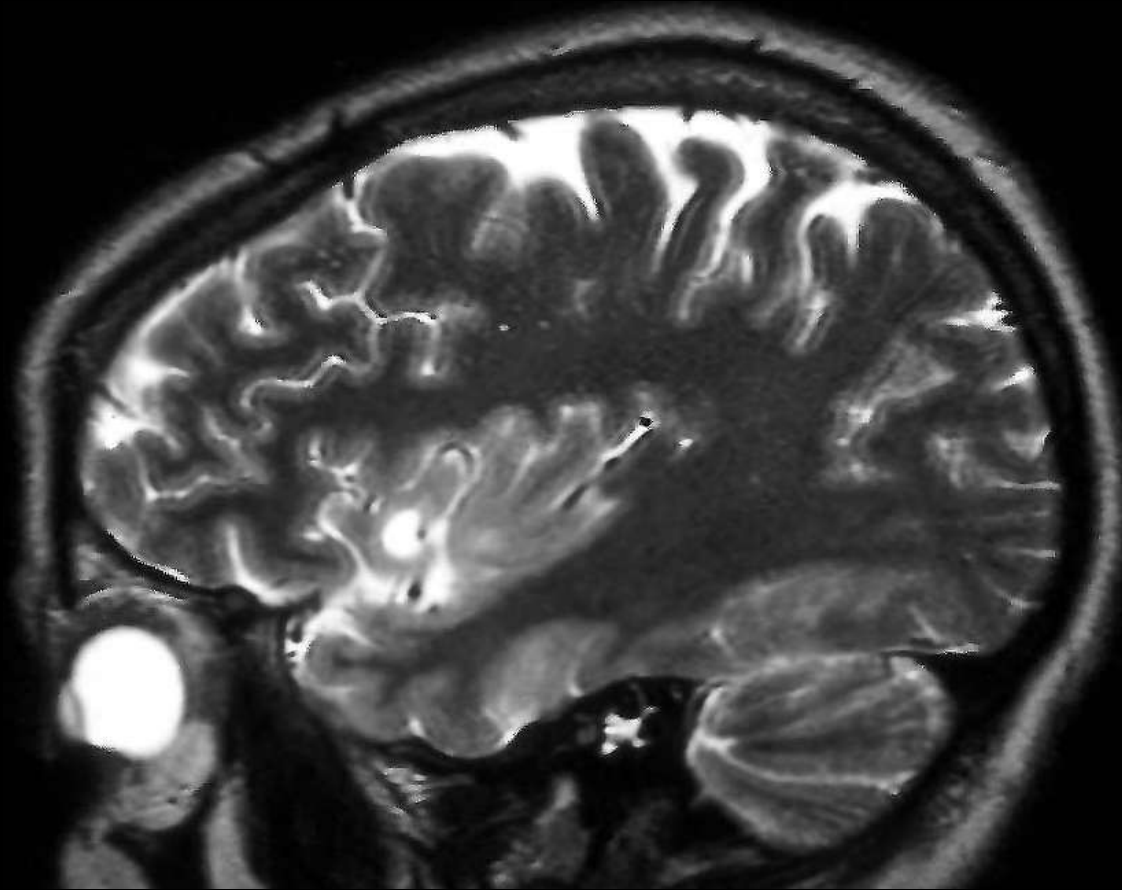
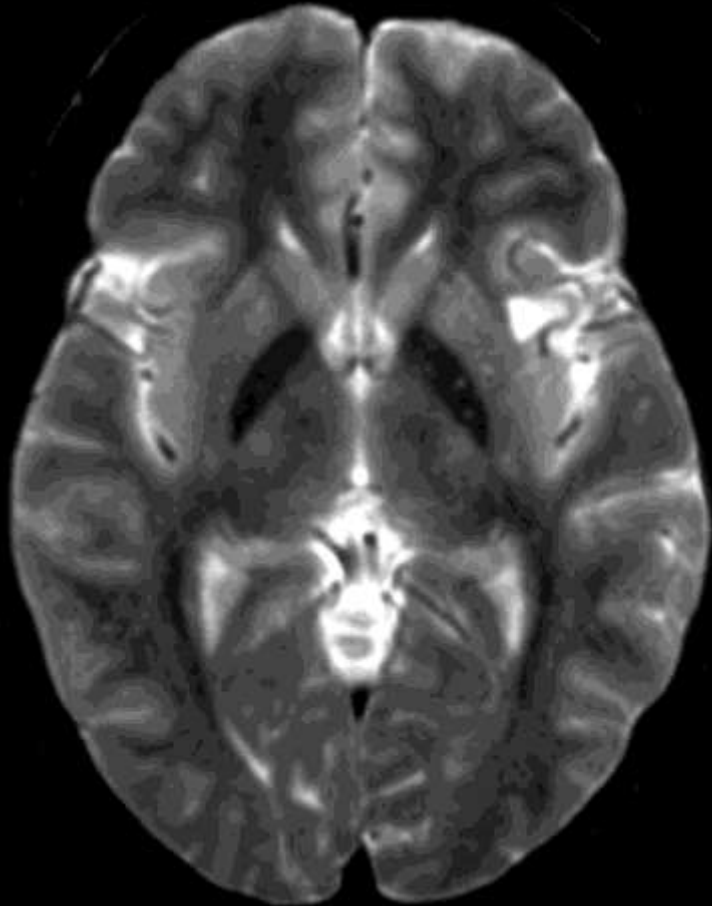


INSULA: LOBULES ANTERIEUR & POSTERIEUR



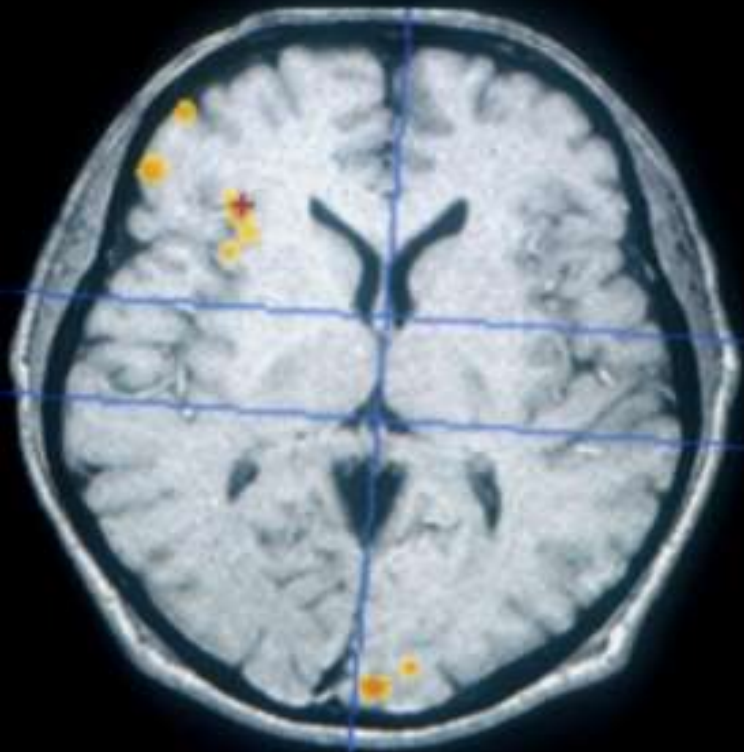


L'aire de BROCA : INSULA ANTERIEURE ?



AIRE DE DRONCKERS

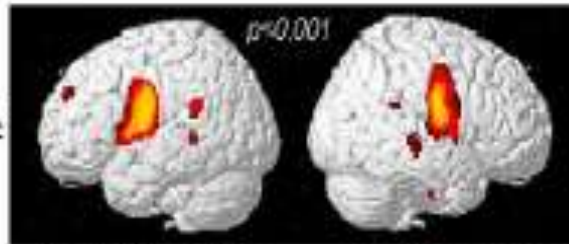
Nature 384 : 159-161, 1996



- Gyrus precentral de l'insula dans les gyri courts de l'insula antérieur
- Stimulation profonde : manque du mot
- Lésion : Apraxie orale
- Confirmée par les études en IRMf (C.J. Price et al *NeuroImage* 20 (2003) S30–S41)

Speech Output

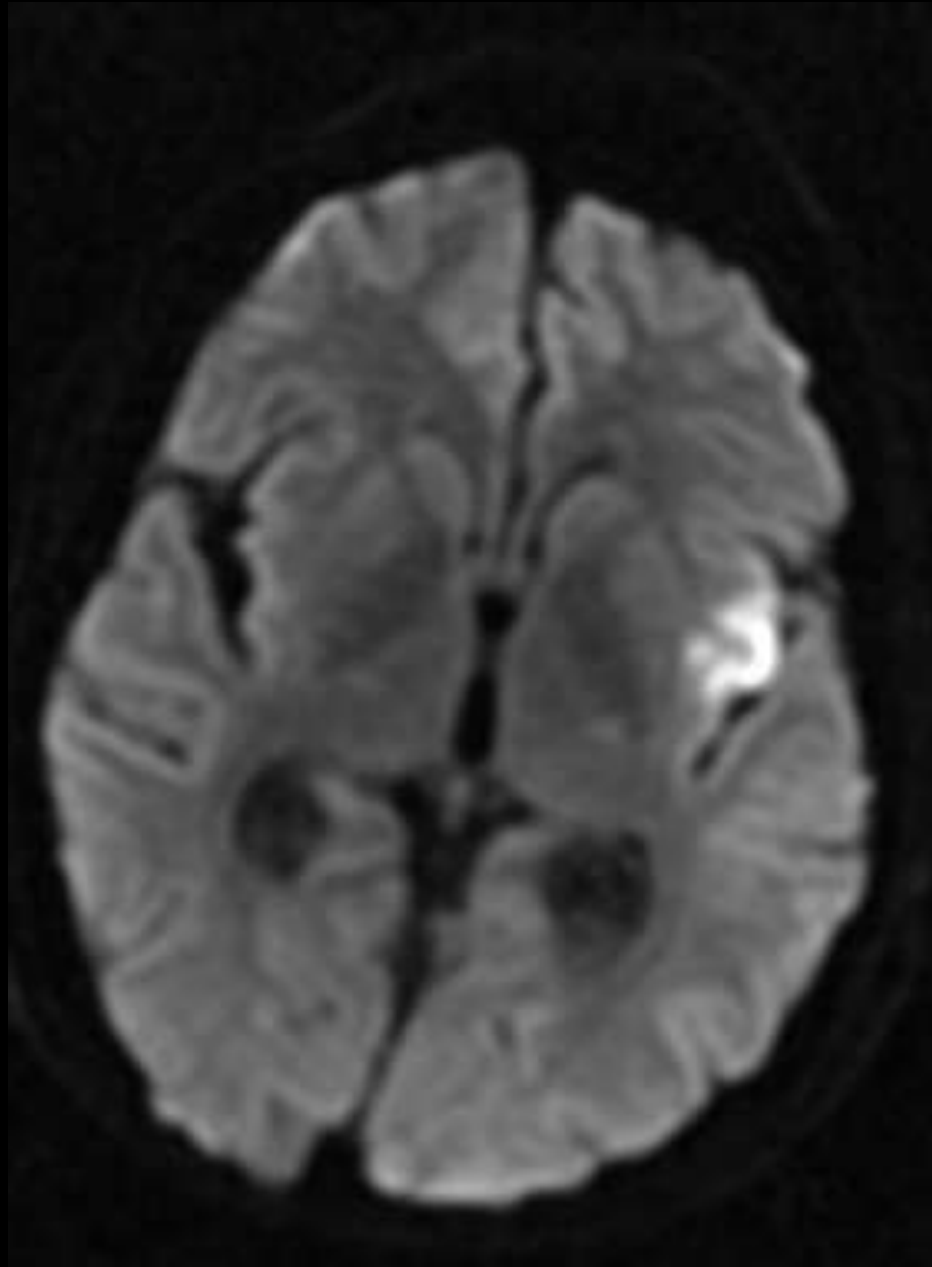
Say OK silently > detect circle
in response to viewing noise:



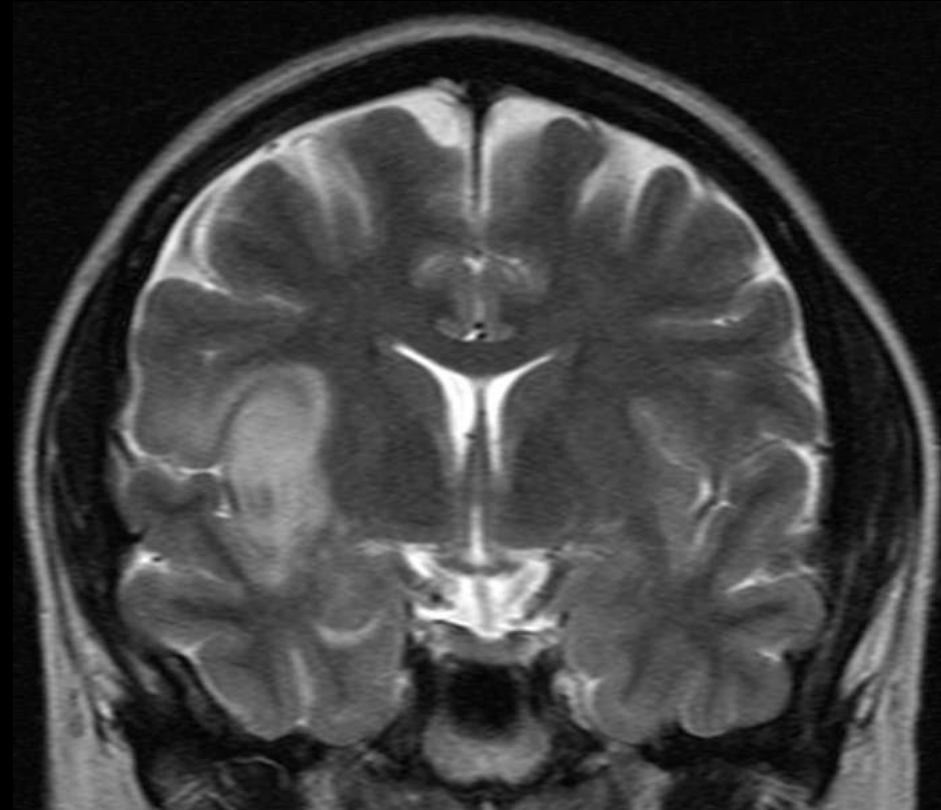
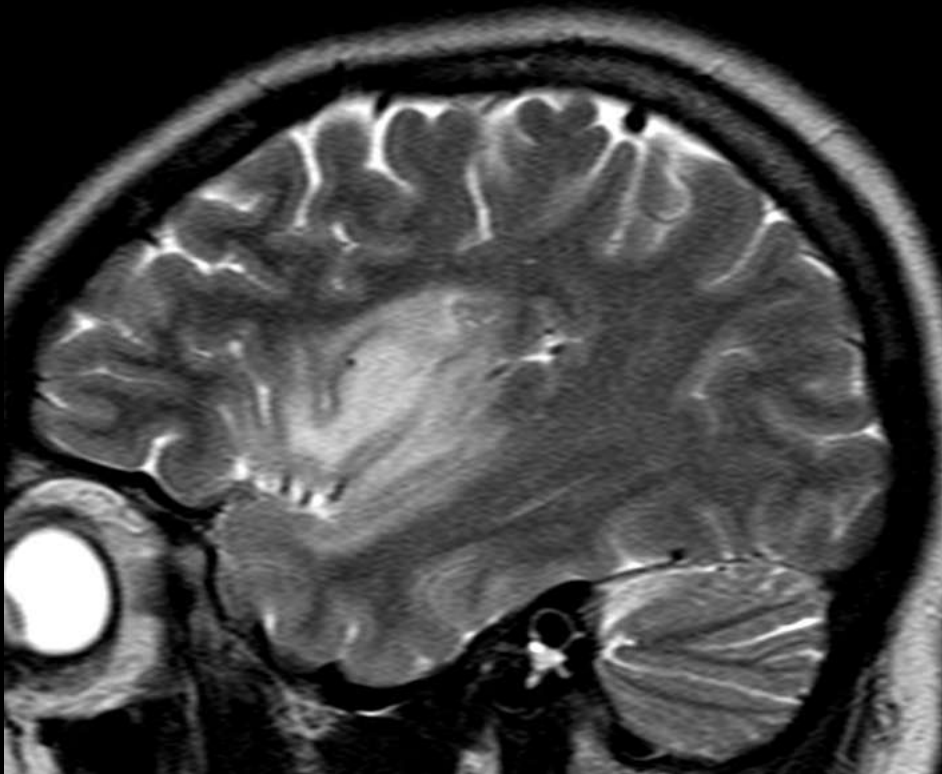
x	y	z	Zscore
-58,	-4,	32	4.9
-62,	-4,	18	6.2
-46,	10,	2	4.0
-58,	-16,	24	3.6
-54,	-44,	4	3.4

x	y	z	Zscore
64,	-6,	32	4.4
62,	-8,	18	4.4
70,	-42,	22	5.4
40,	-32,	12	3.8

APRAXIE ORO-FACIALE



INSULA: ANT. & POST. GLIOME



LOBE FRONTAL

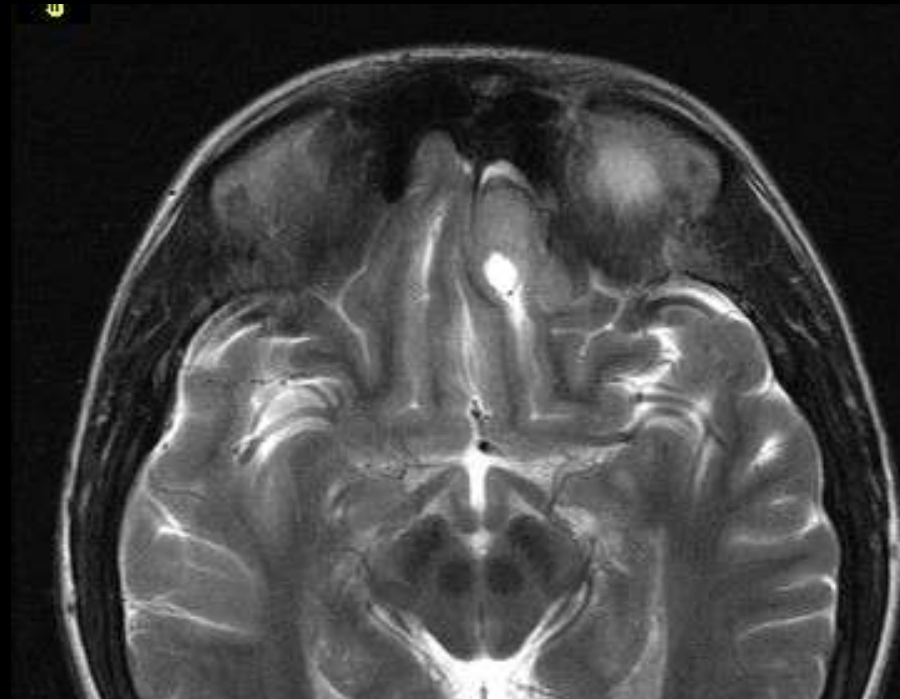
FACE INFÉRIEURE

**GYRUS RECTUS,
GYRI ORBITAIRES
MEDIAL, MOYEN,
LATERAL**

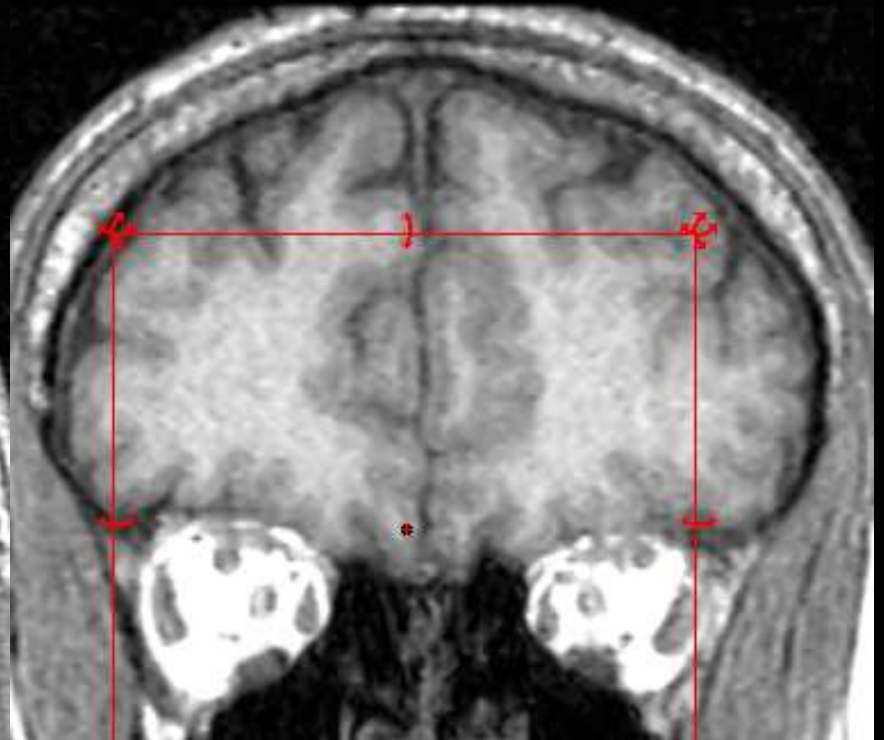
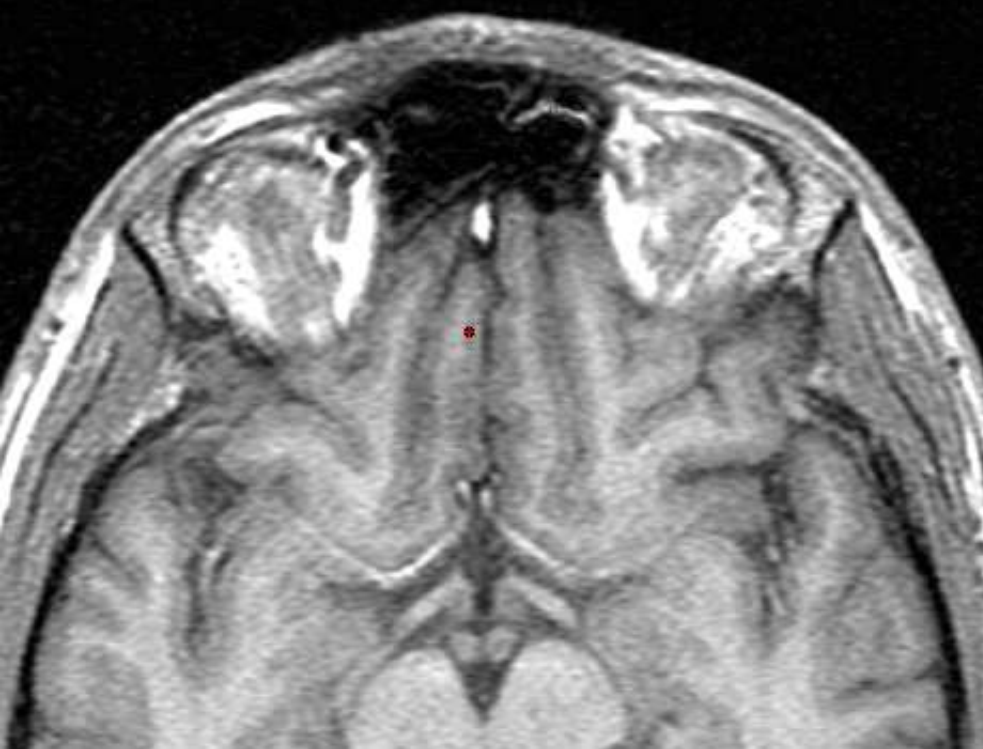
ORBITAL SURFACE of the FRONTAL LOBE



MENINGIOME du SILLON OLFACTIF



GYRUS RECTUS



RAPPORTS AVEC L'INSULA





LOBE PARIÉTAL

FACE LATÉRALE



FACE MÉDIALE



LOBE PARIETAL

- **FACE MEDIALE :**
- **Sillon INTRAPARIETAL**
- **Limites :**
 - **Sillon cingulaire**
 - **Sillon P-Occipital médial**
 - **Sillon central**

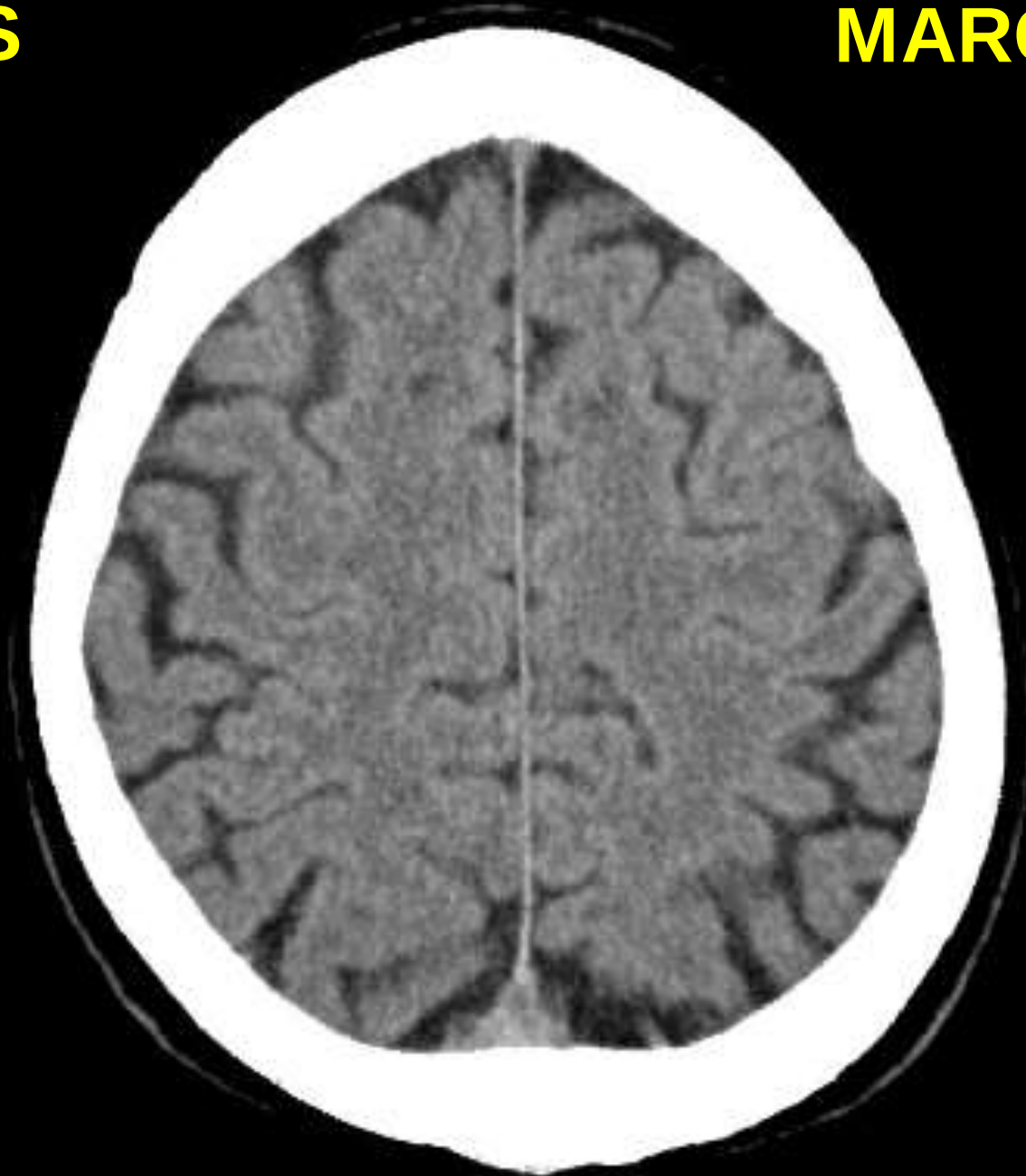
LOBE PARIETAL

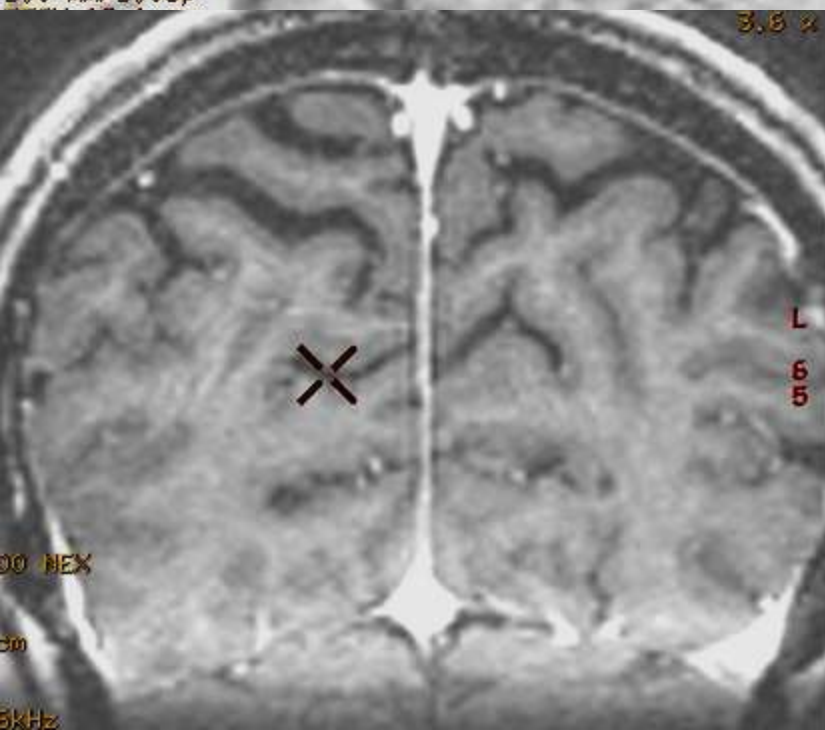
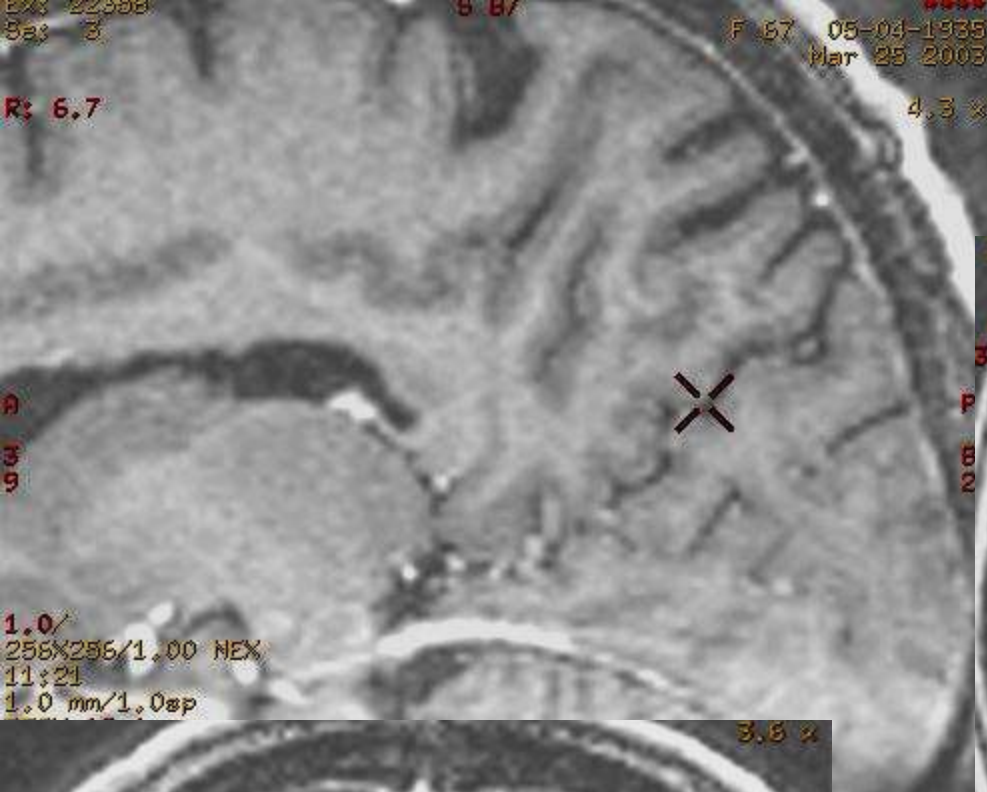
FACE MÉDIALE : PRE CUNEUS



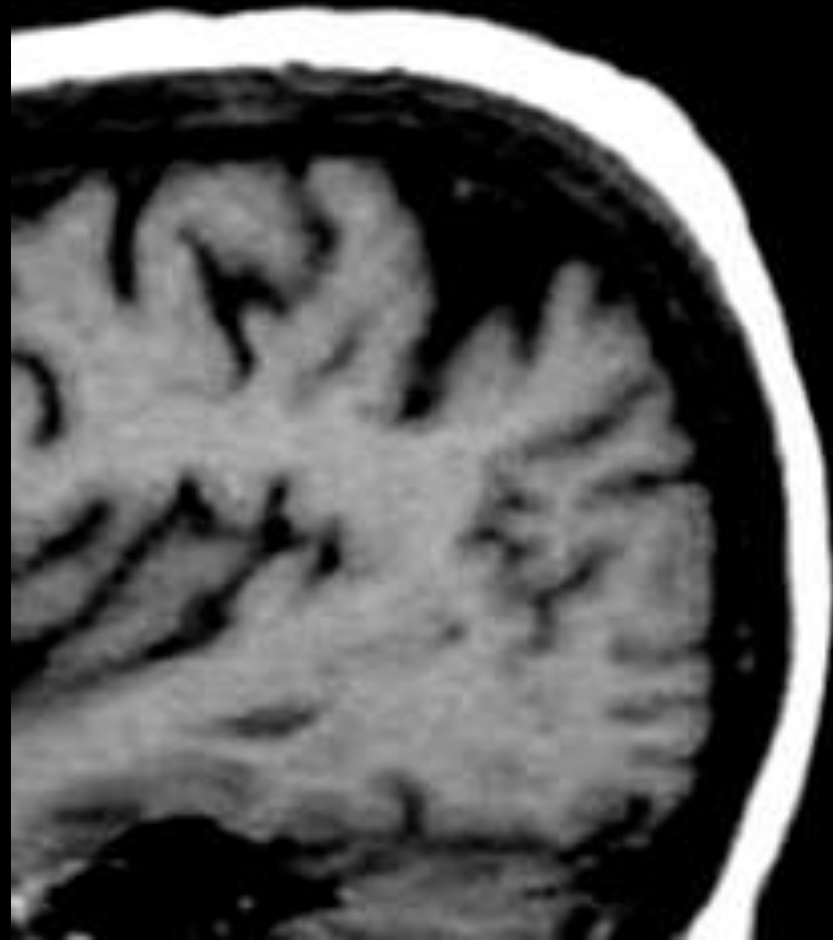
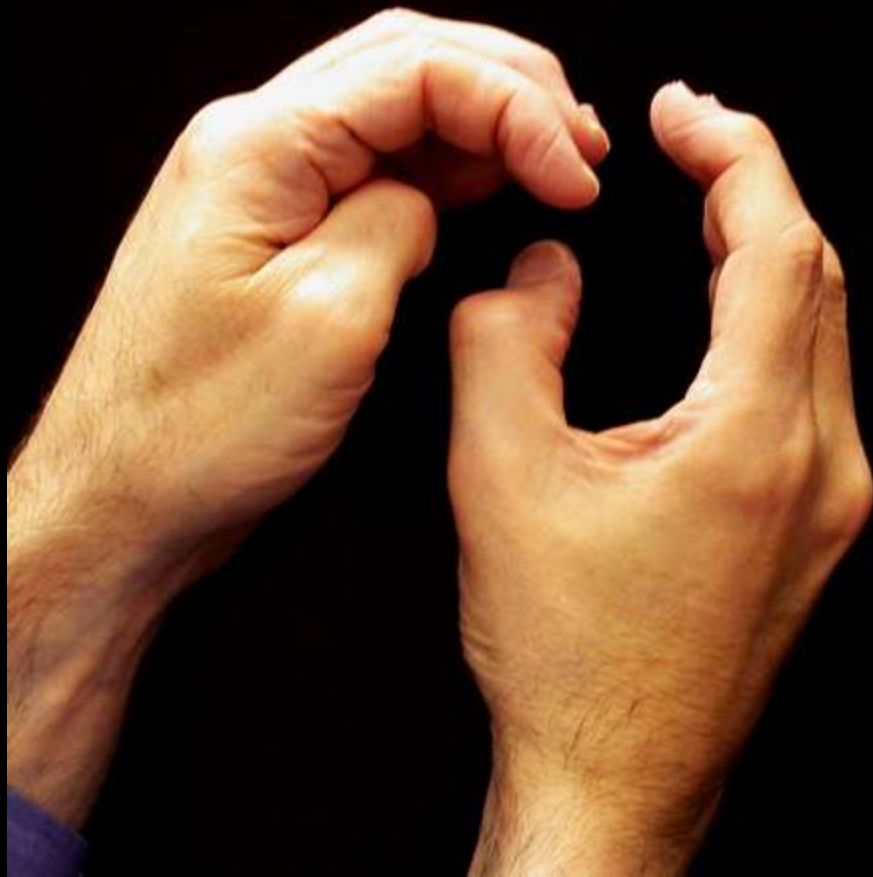
PARS

MARGINALIS

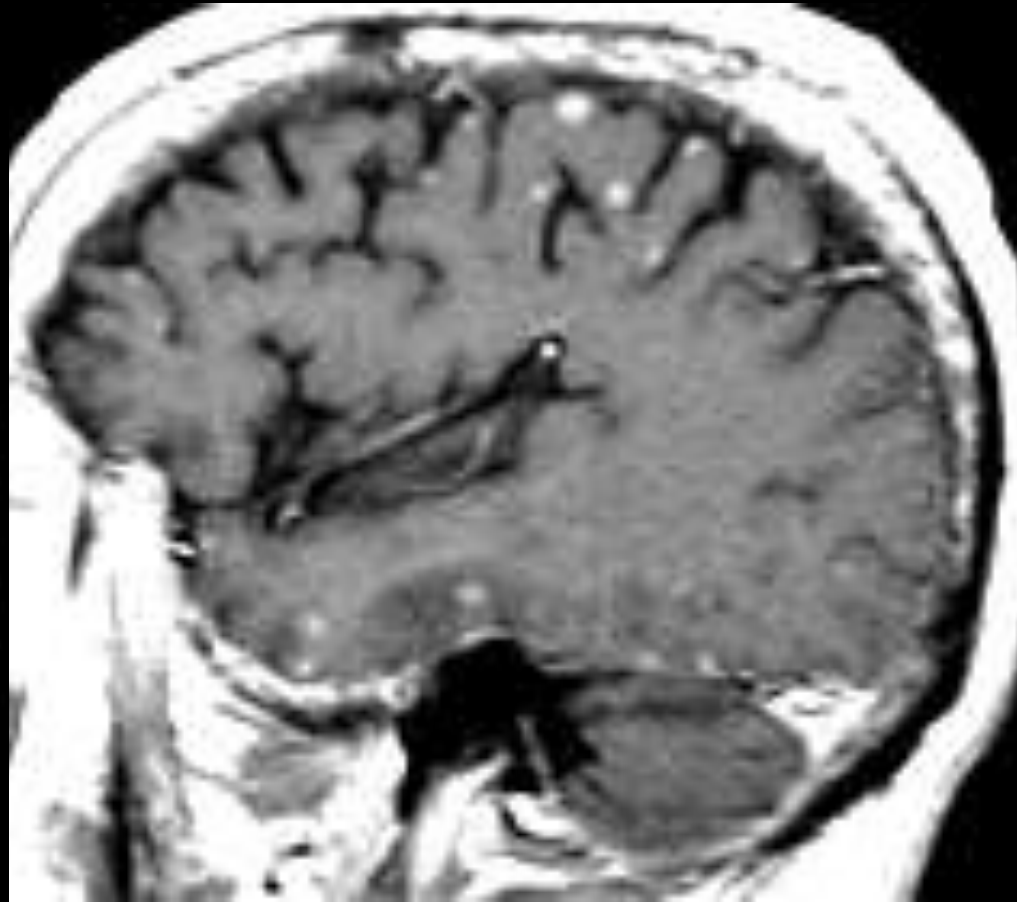
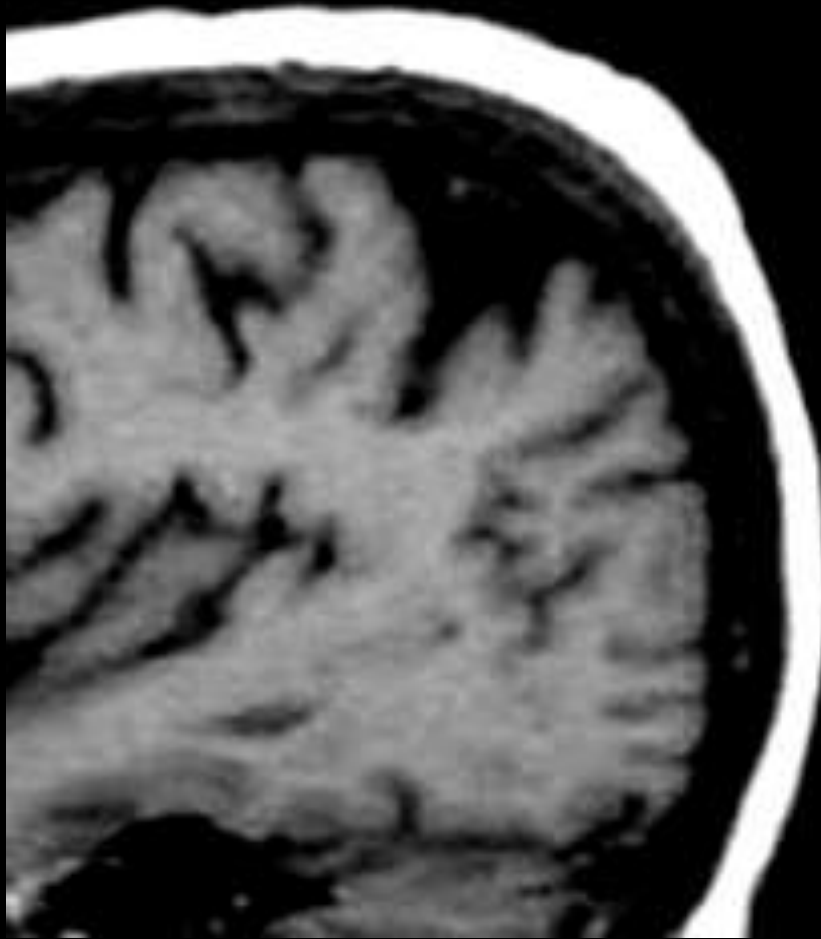


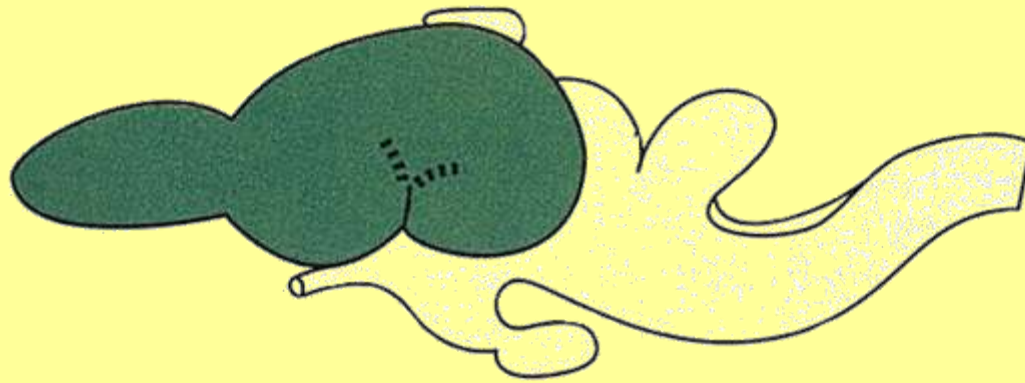


GYRI PRE- & POST- CENTRAUX : AMM

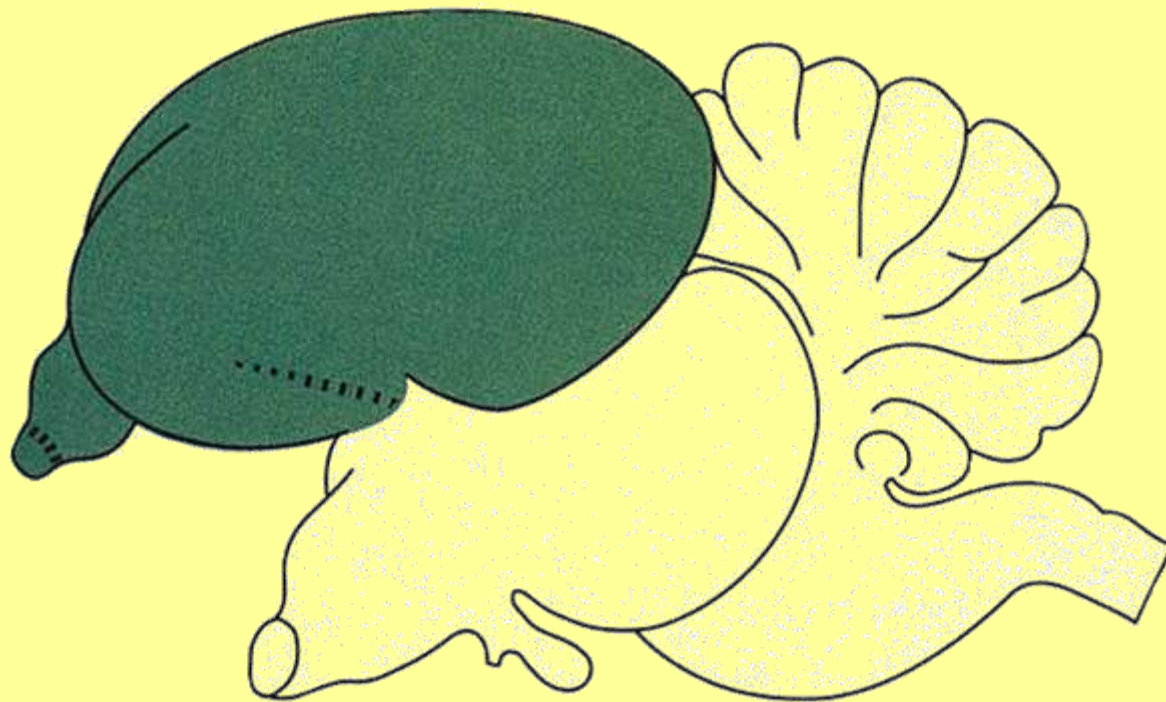


GYRI PRE & POST- CENTRAUX , GyFINF

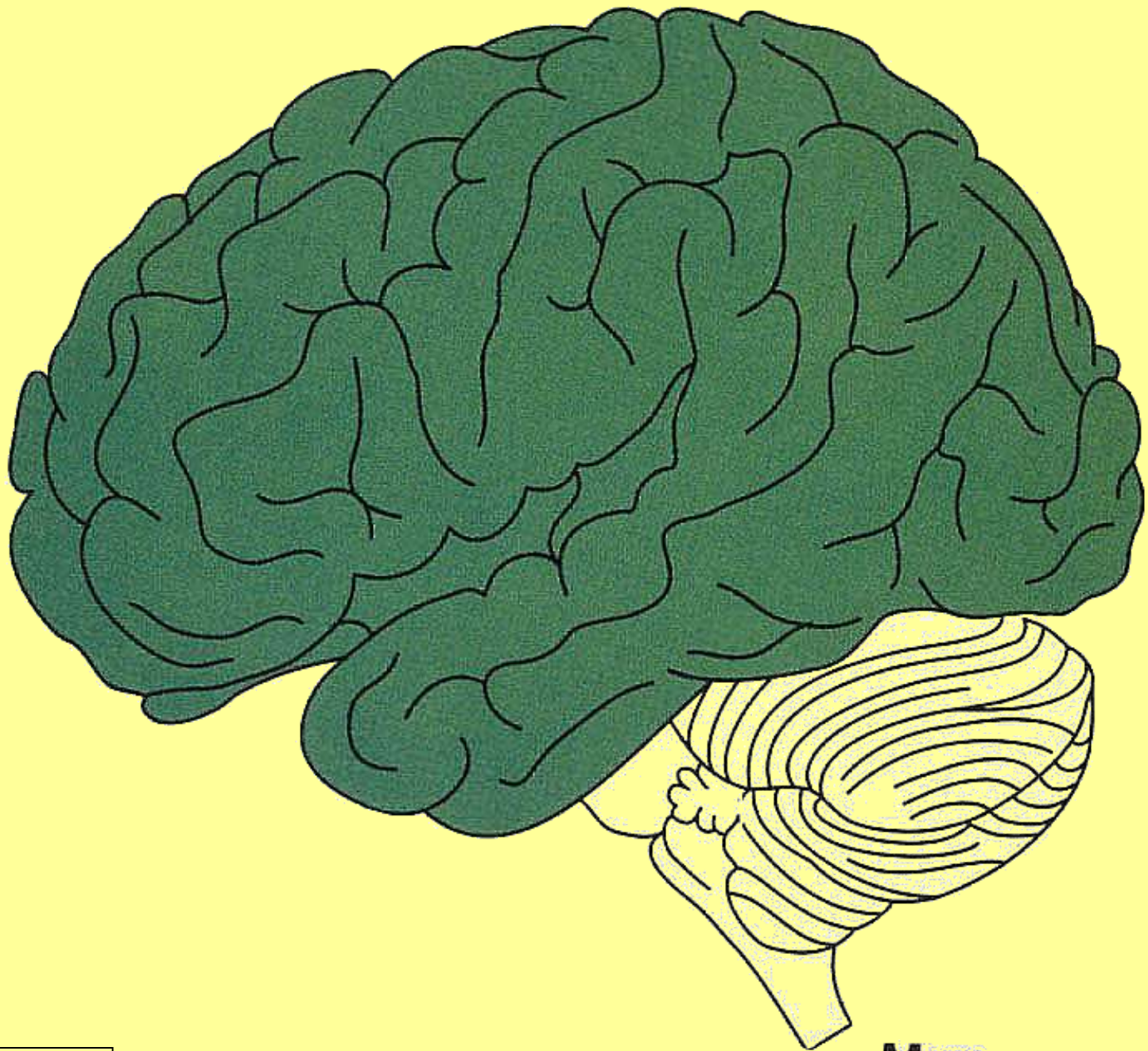




Turtle

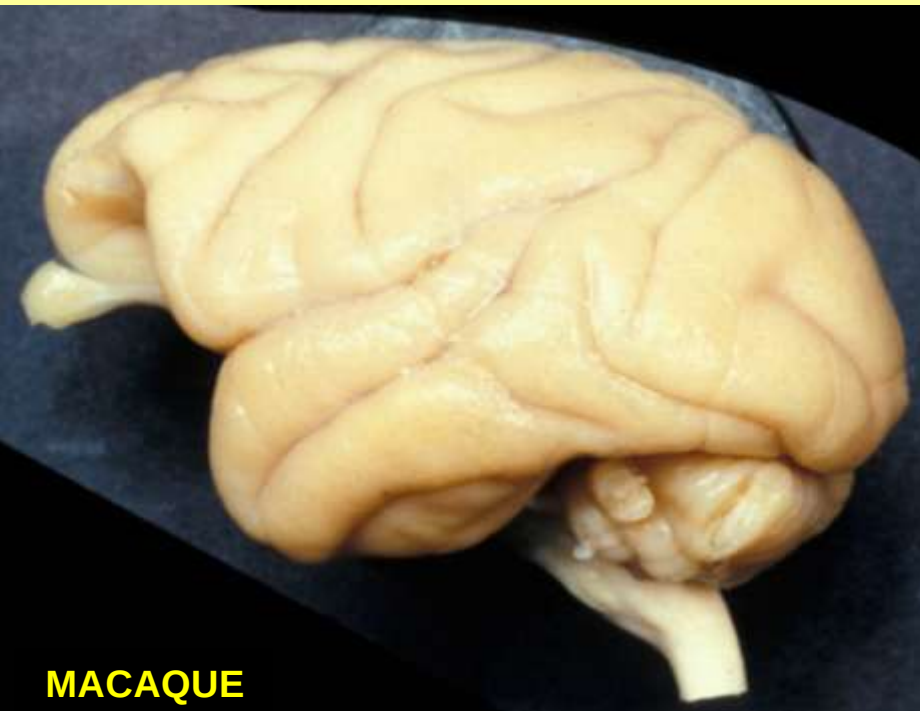


Pigeon

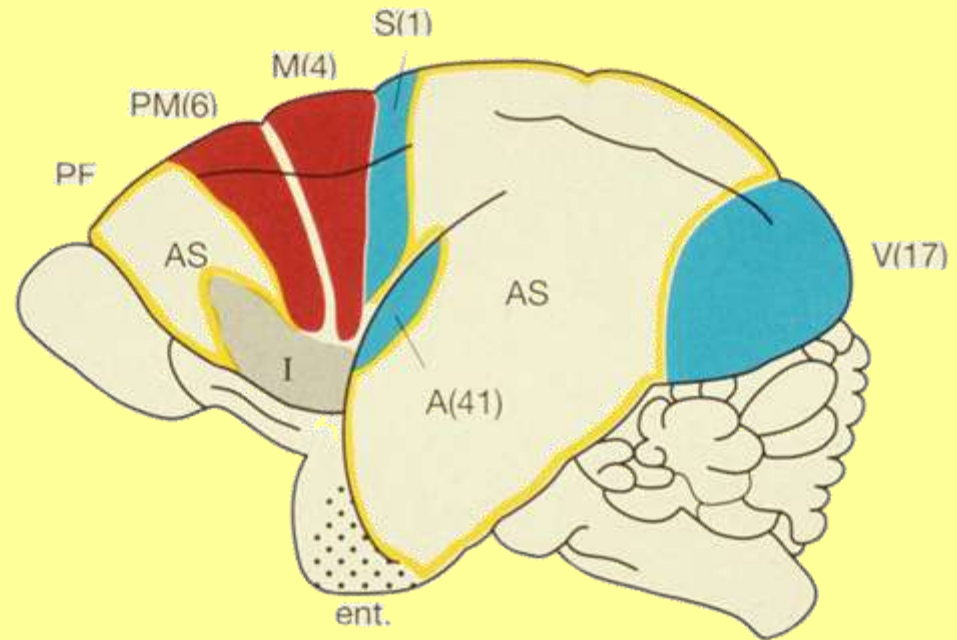


NIEUWENHUYS

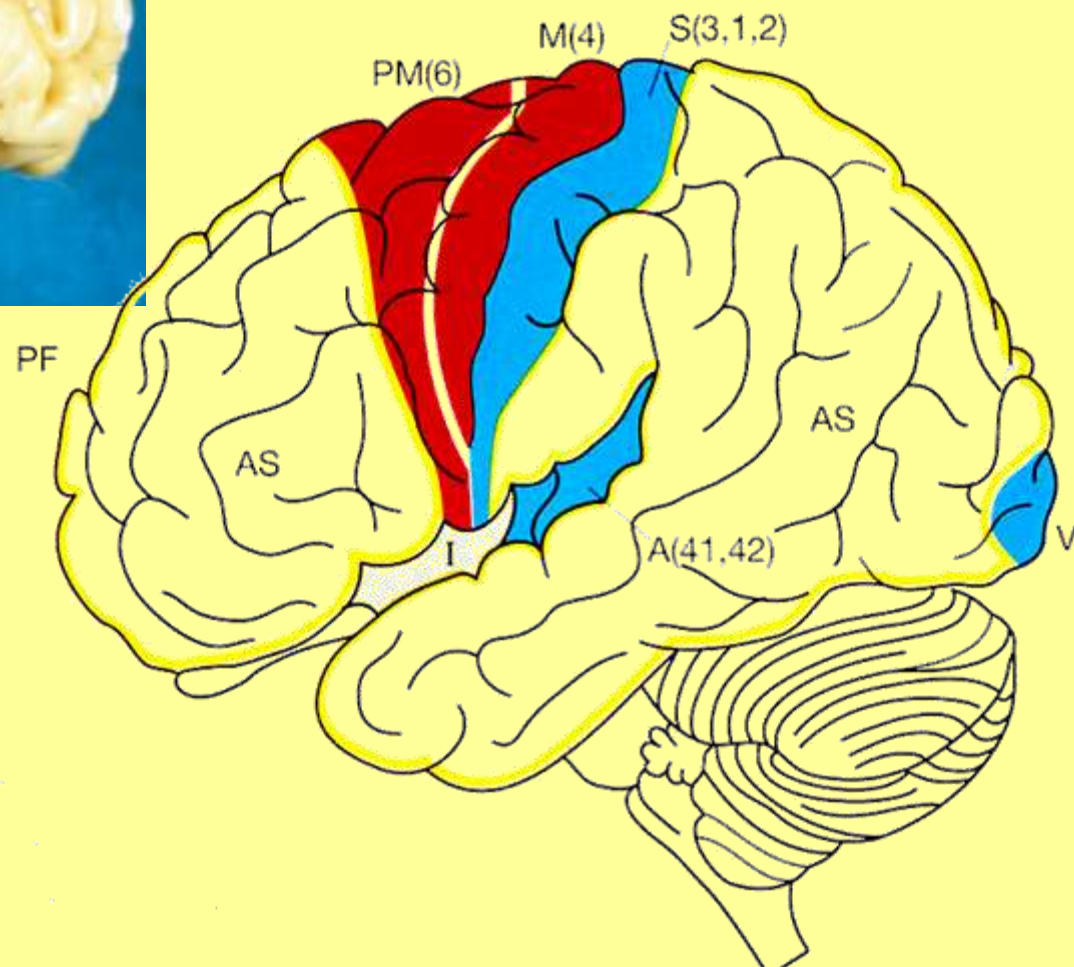
Man

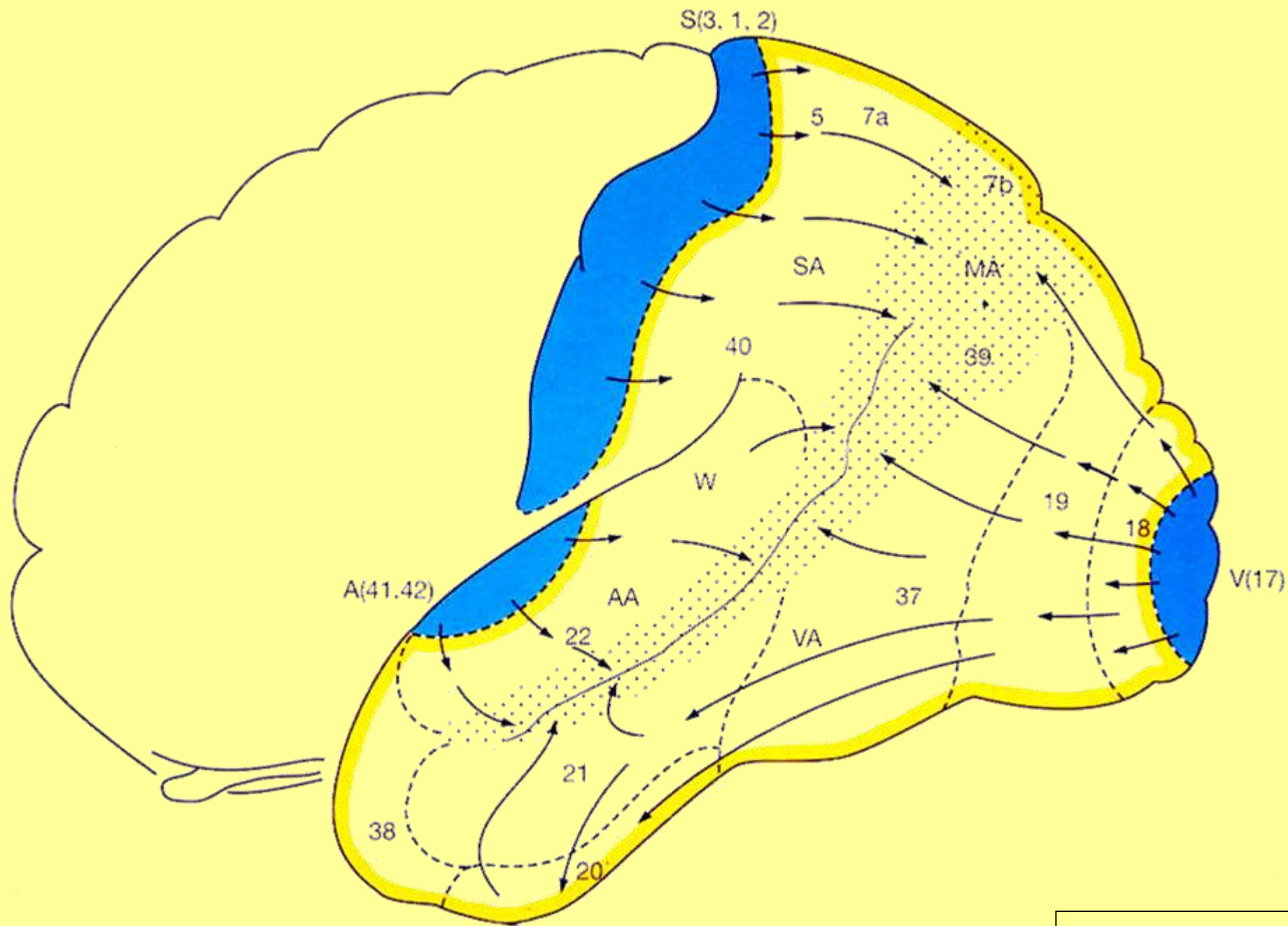


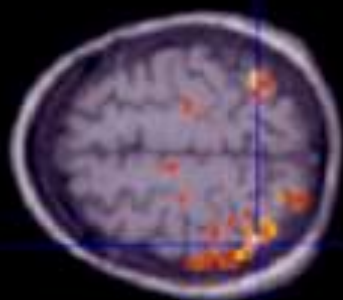
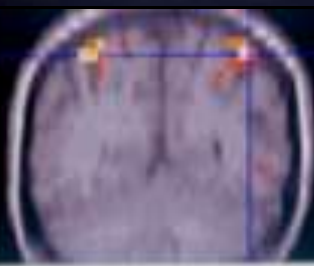
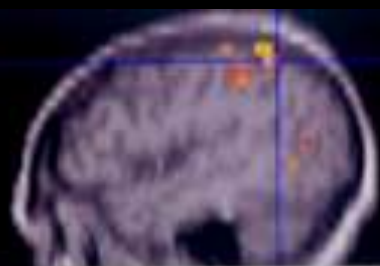
MACAQUE

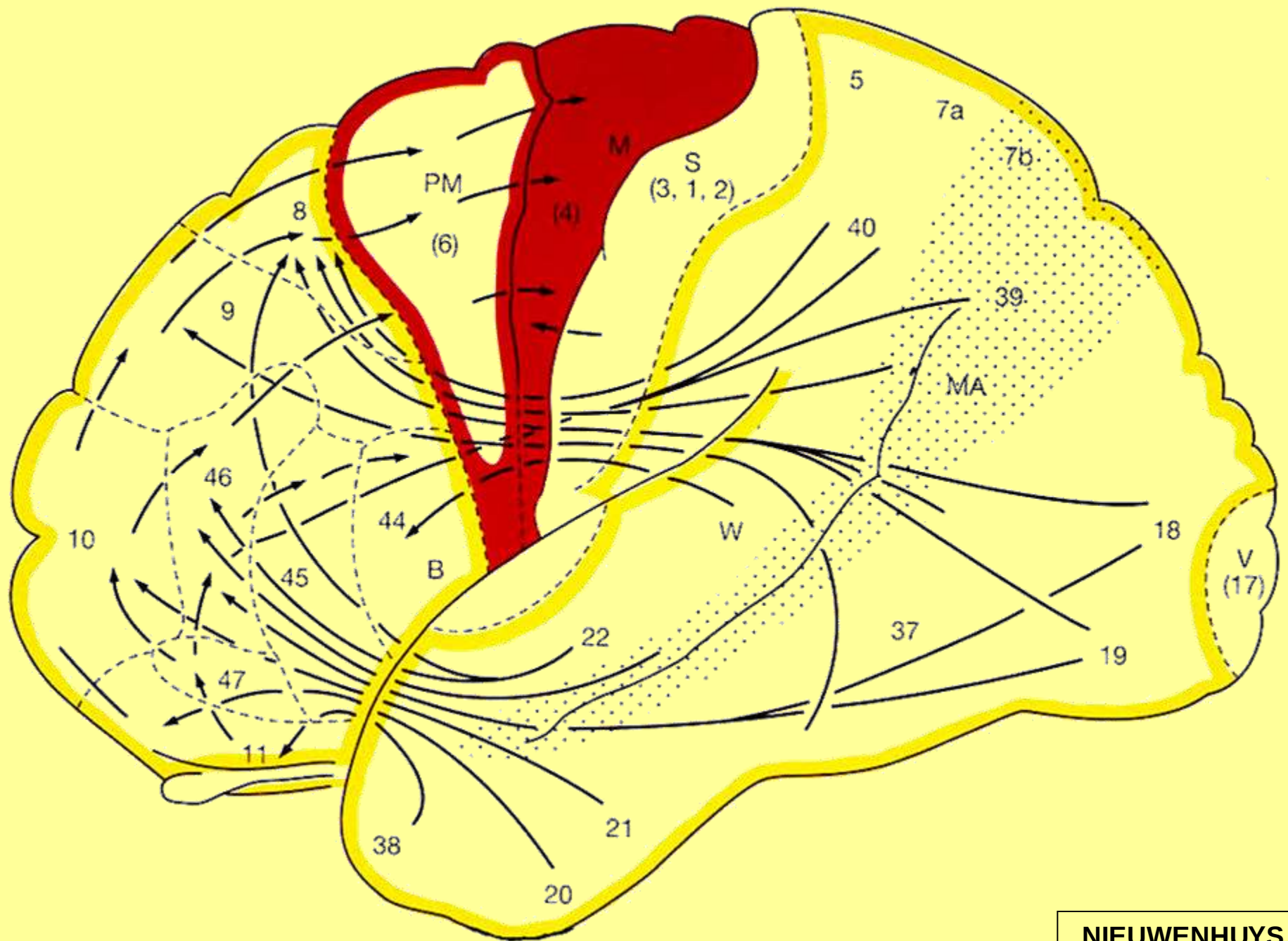


Galago (Prosimian)





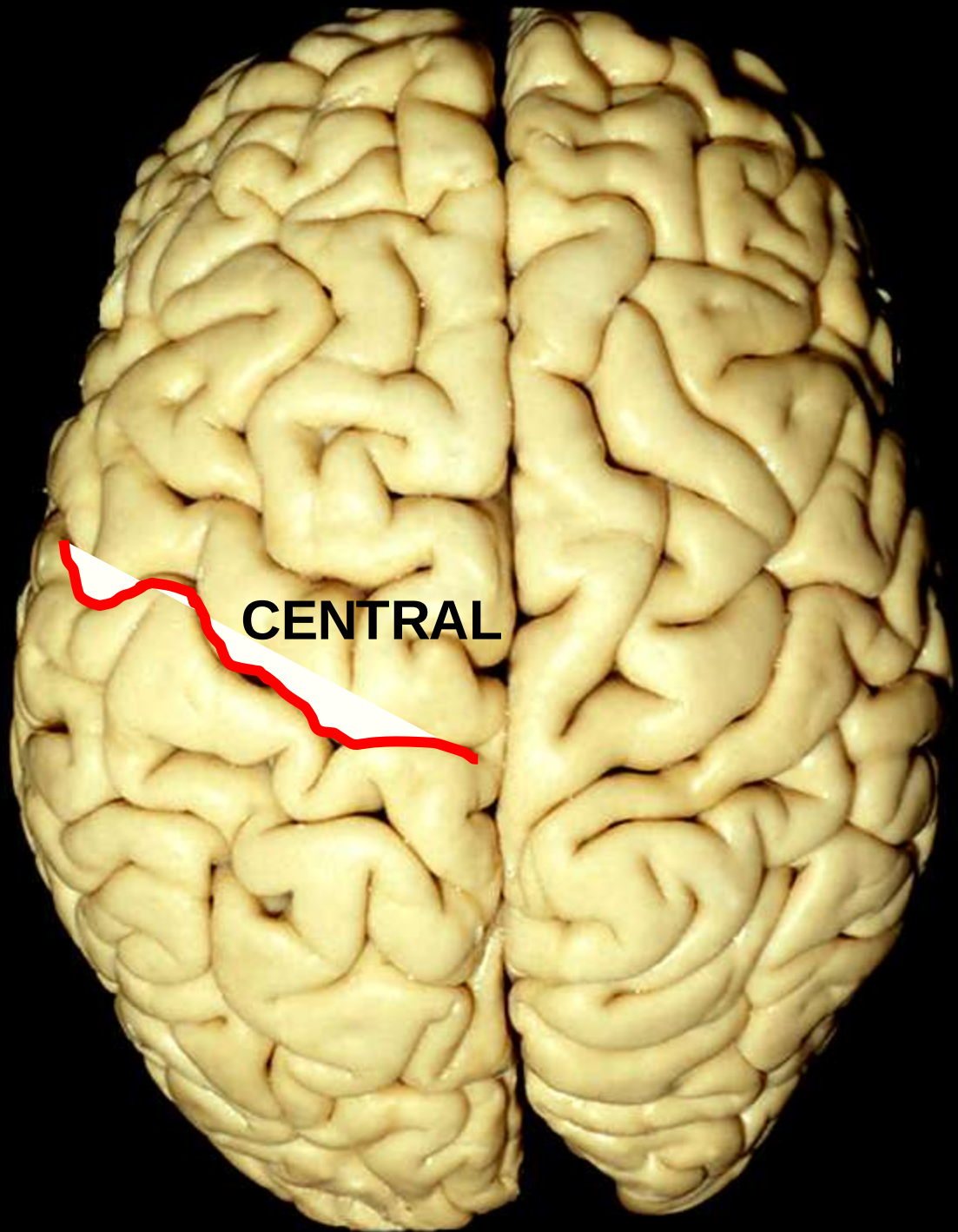




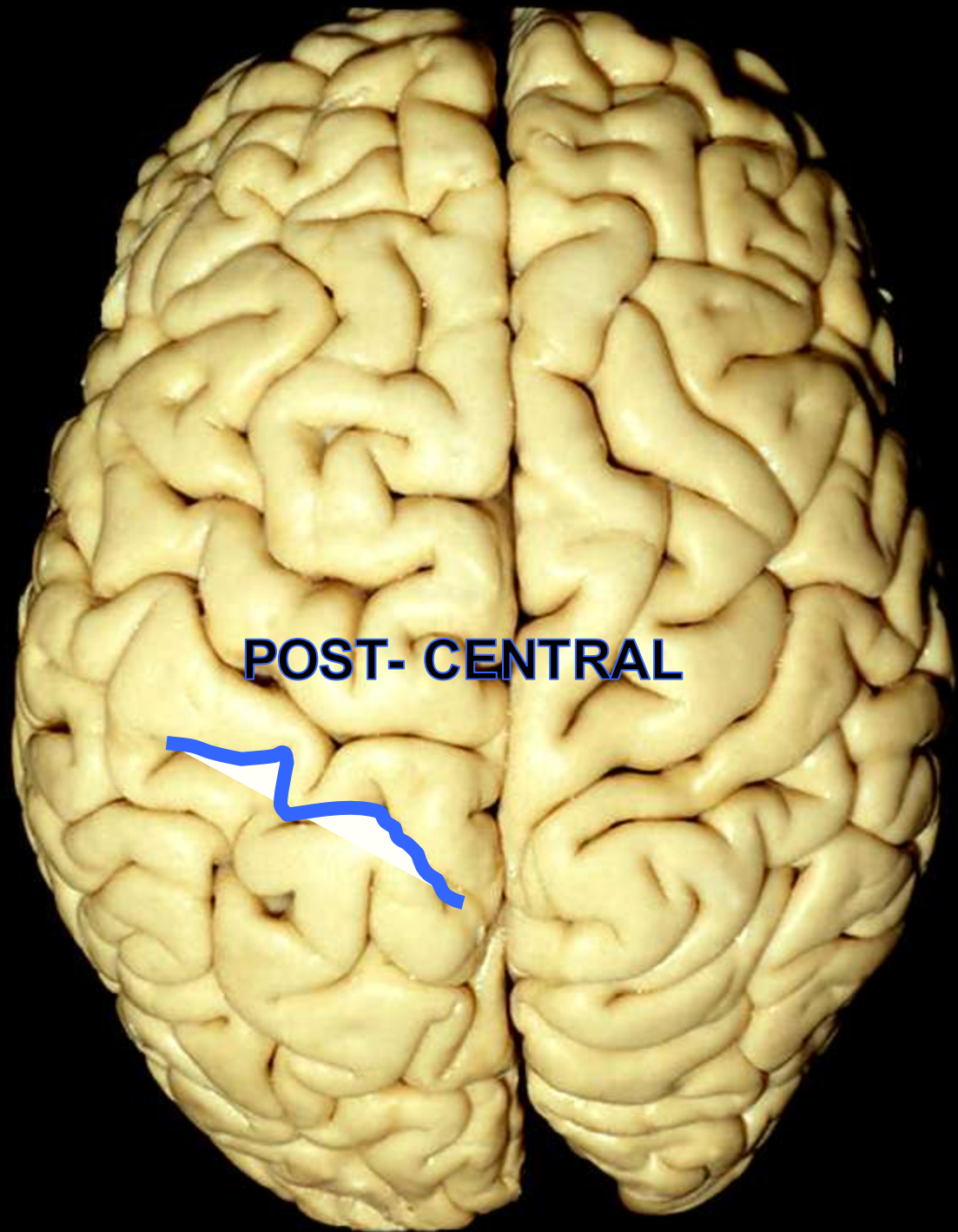
**LOBE
PARIETAL
--
CONVEXITÉ
LATÉRALE
& SUP**



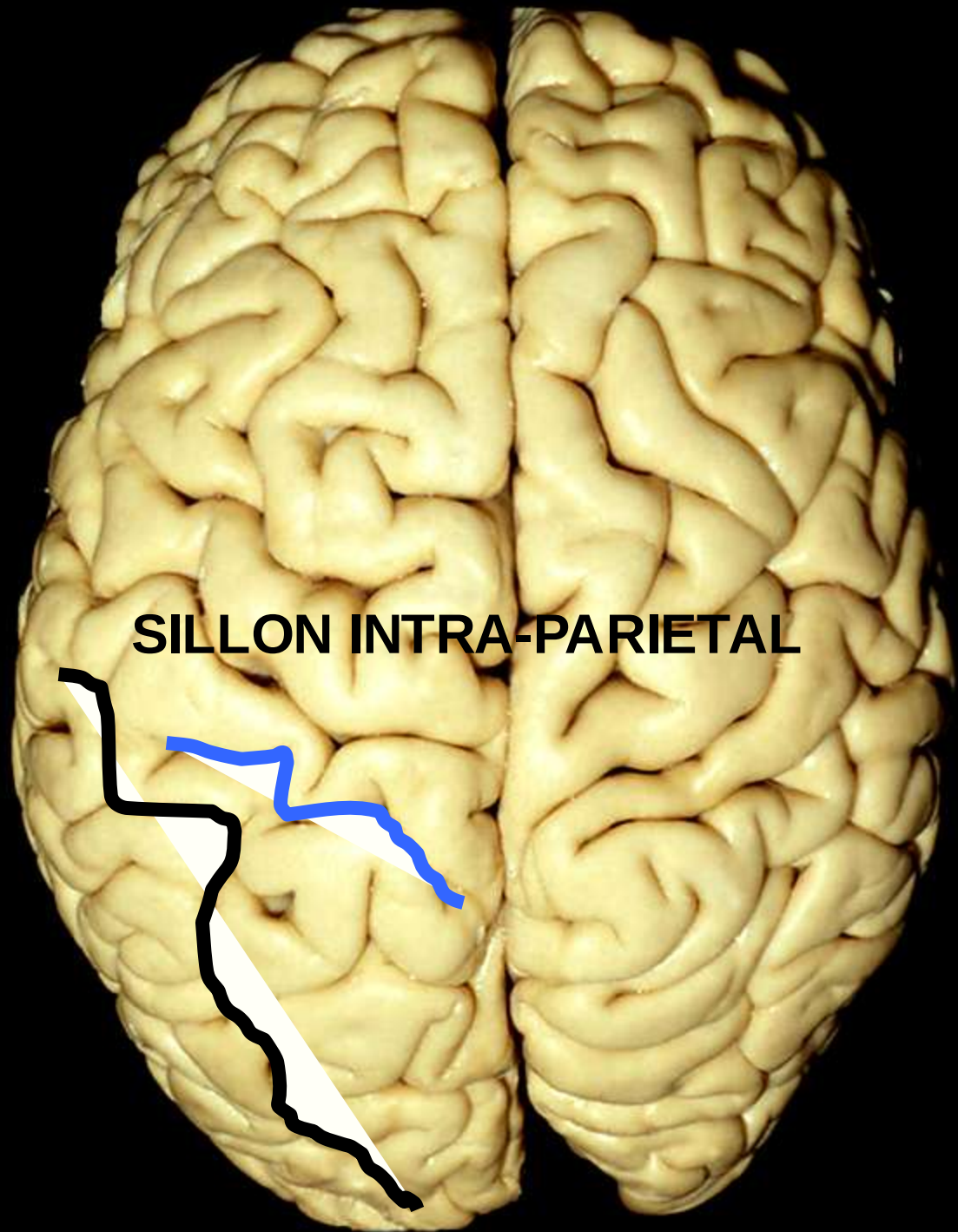
**LOBE
PARIETAL
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CONVEXITÉ
LATÉRALE
& SUP**



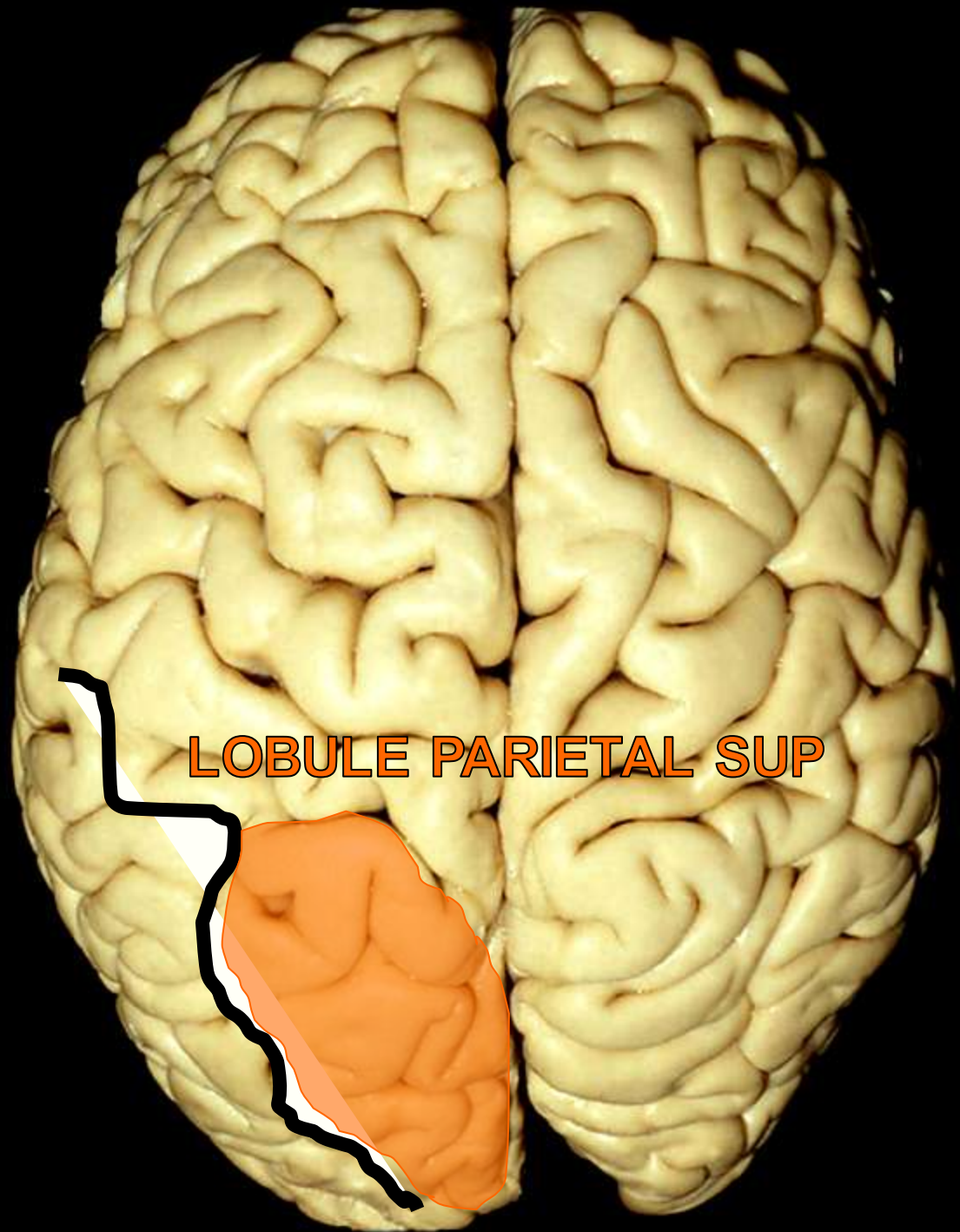
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PARIETAL
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CONVEXITÉ
LATÉRALE
& SUP**



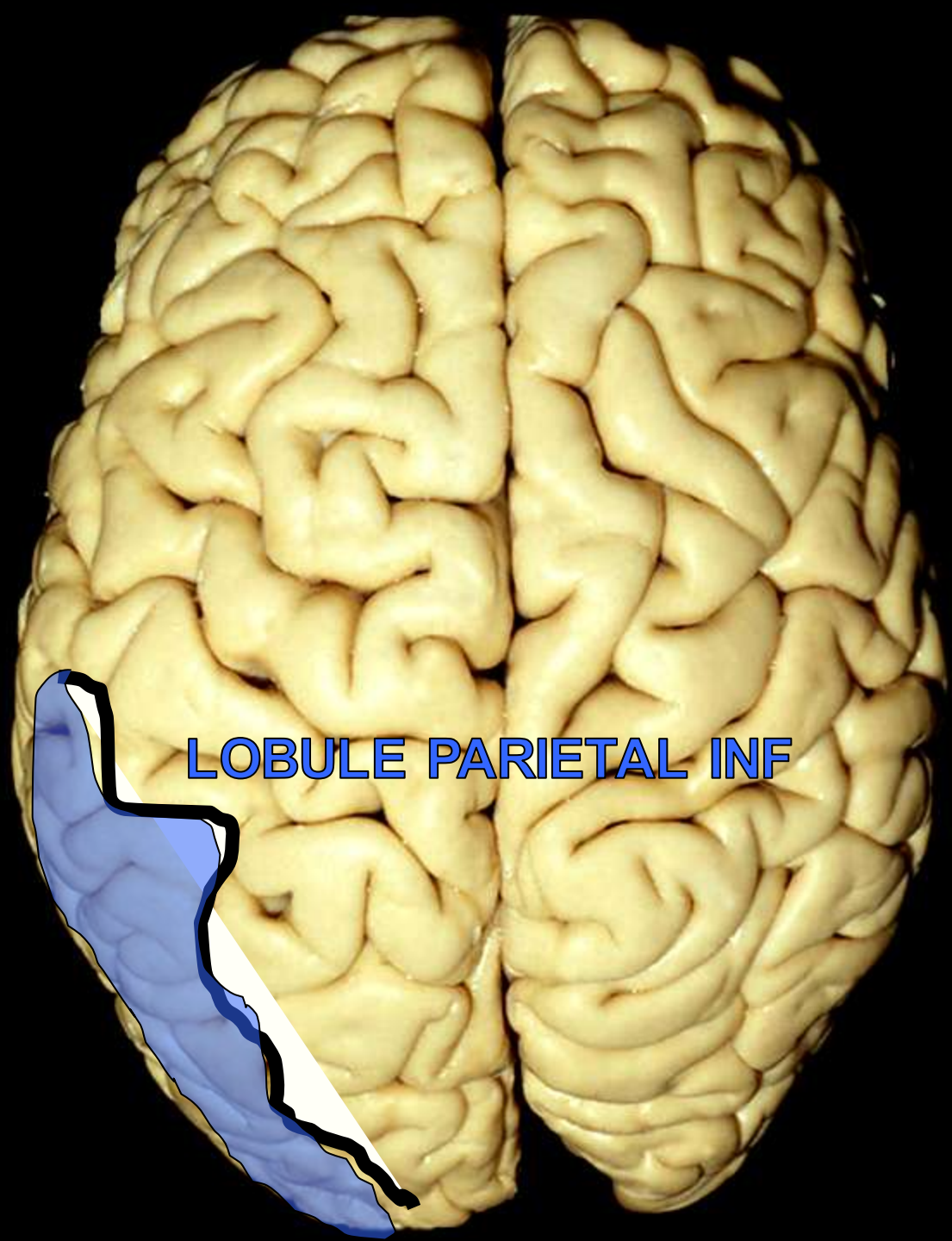
**LOBE
PARIETAL
--
CONVEXITÉ
LATÉRALE
& SUP**



**LOBE
PARIETAL
--
CONVEXITÉ
LATÉRALE
& SUP**

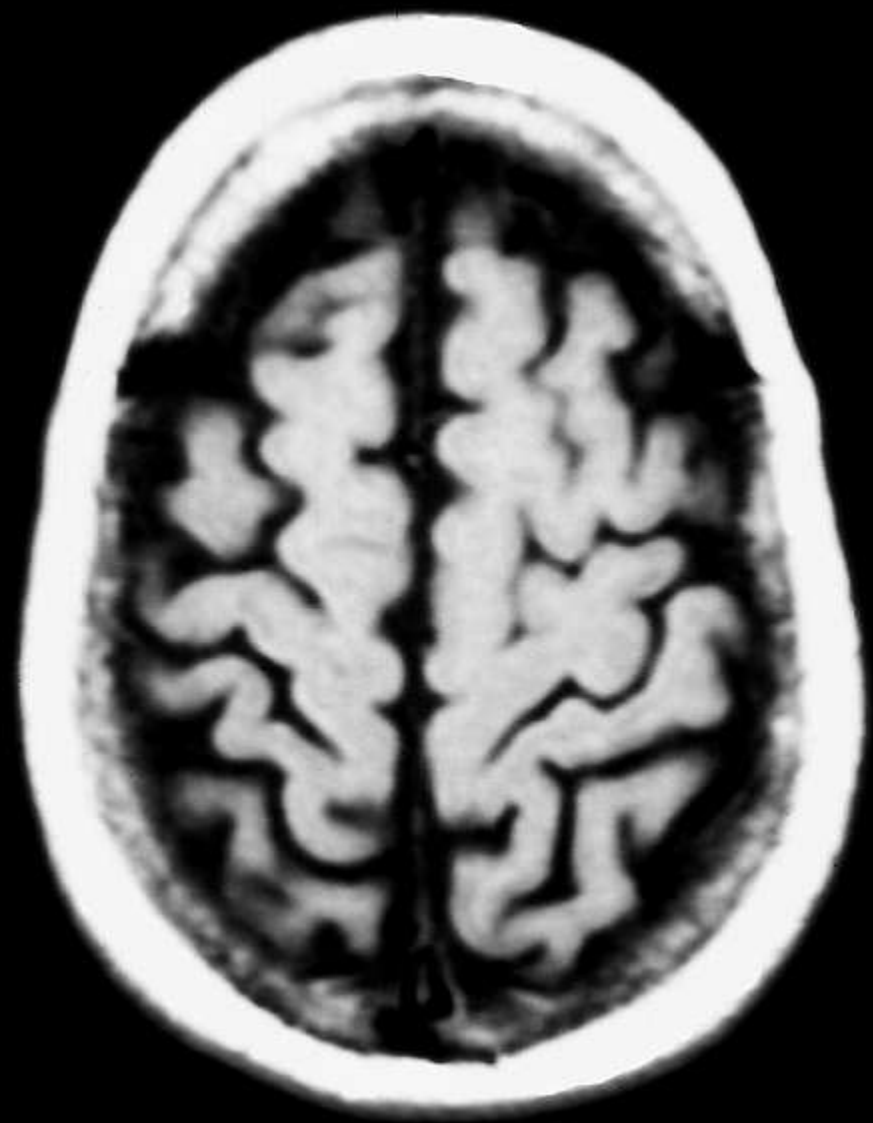


**LOBE
PARIETAL
--
CONVEXITÉ
LATÉRALE
& SUP**

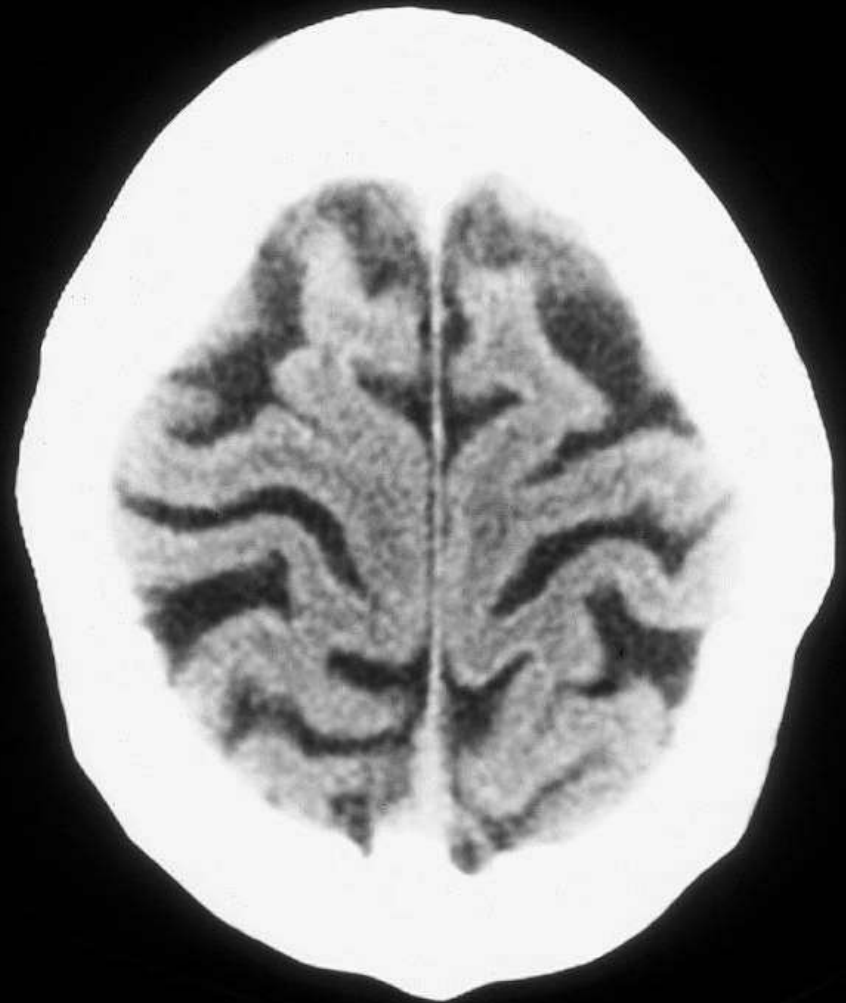
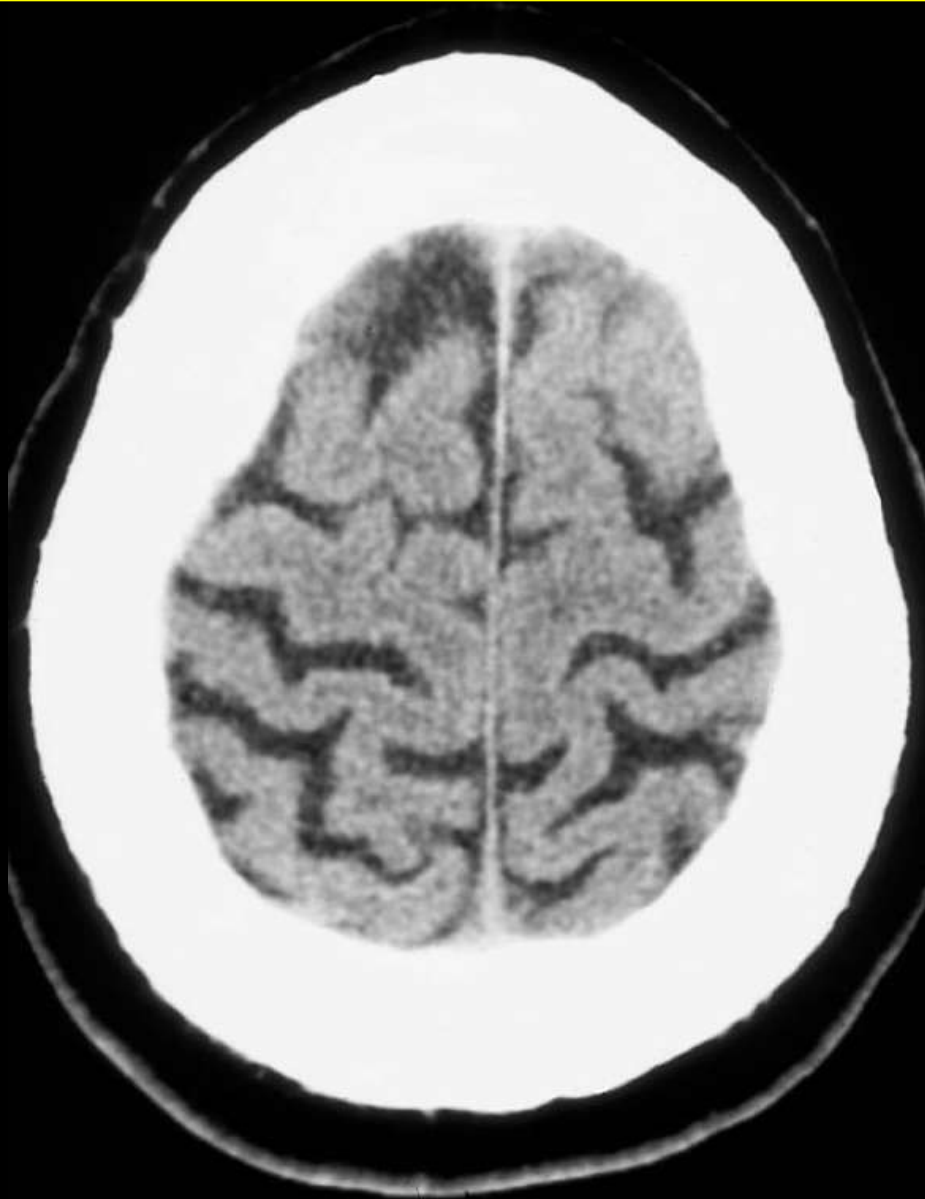


LOBULE PARIETAL INF

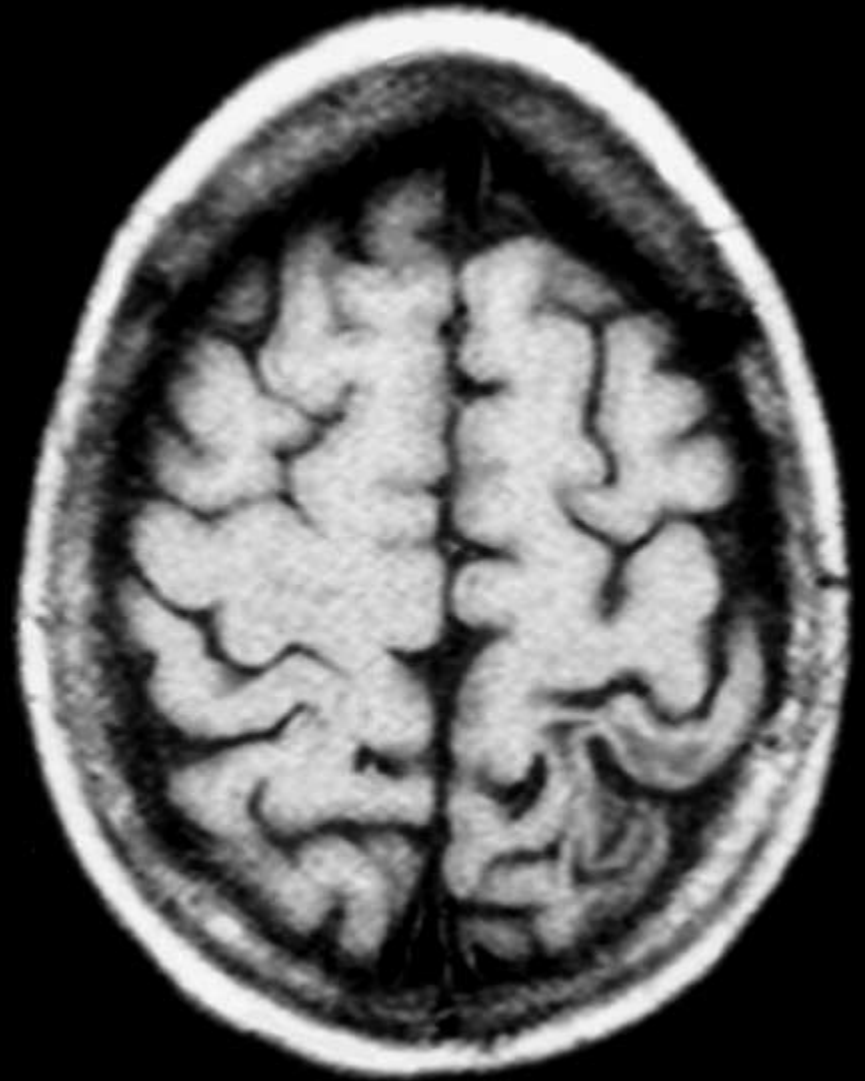
PARENTHESE POSTCENTRALE



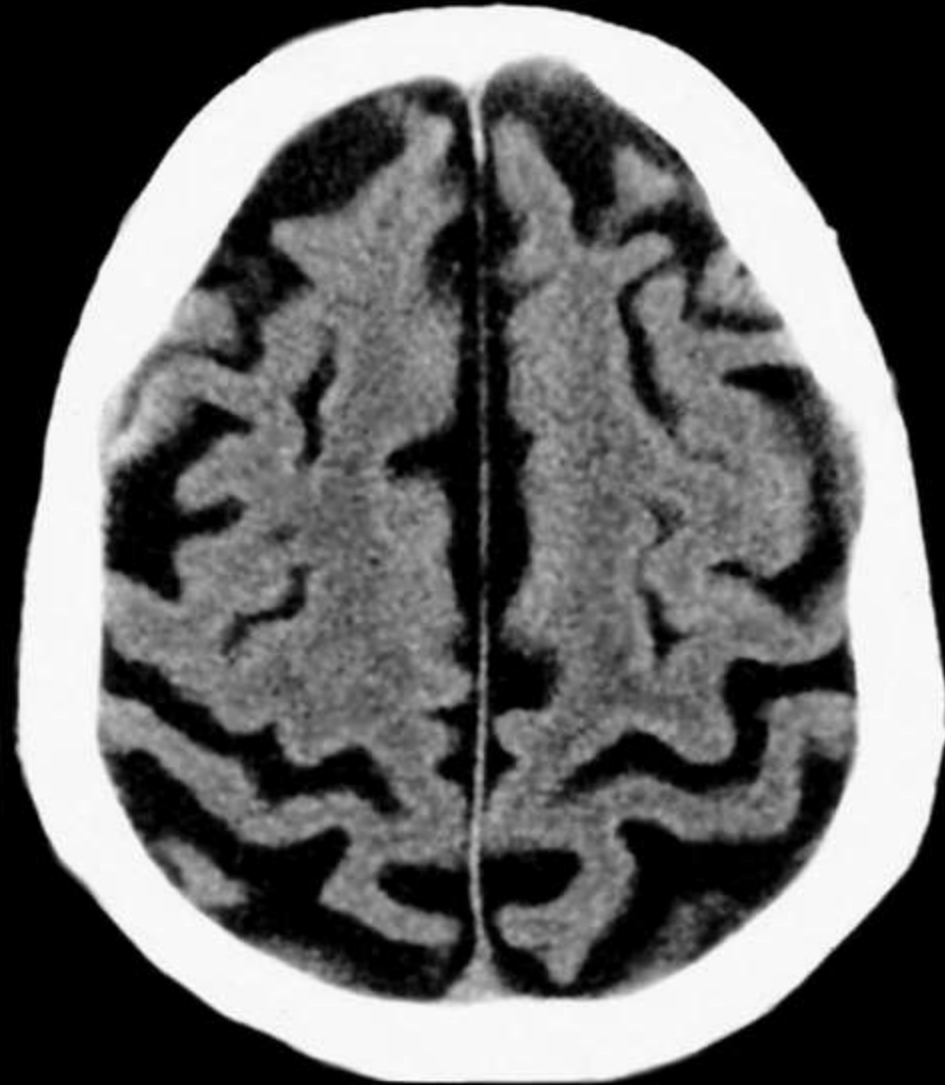
PARENTHESE POSTCENTRALE

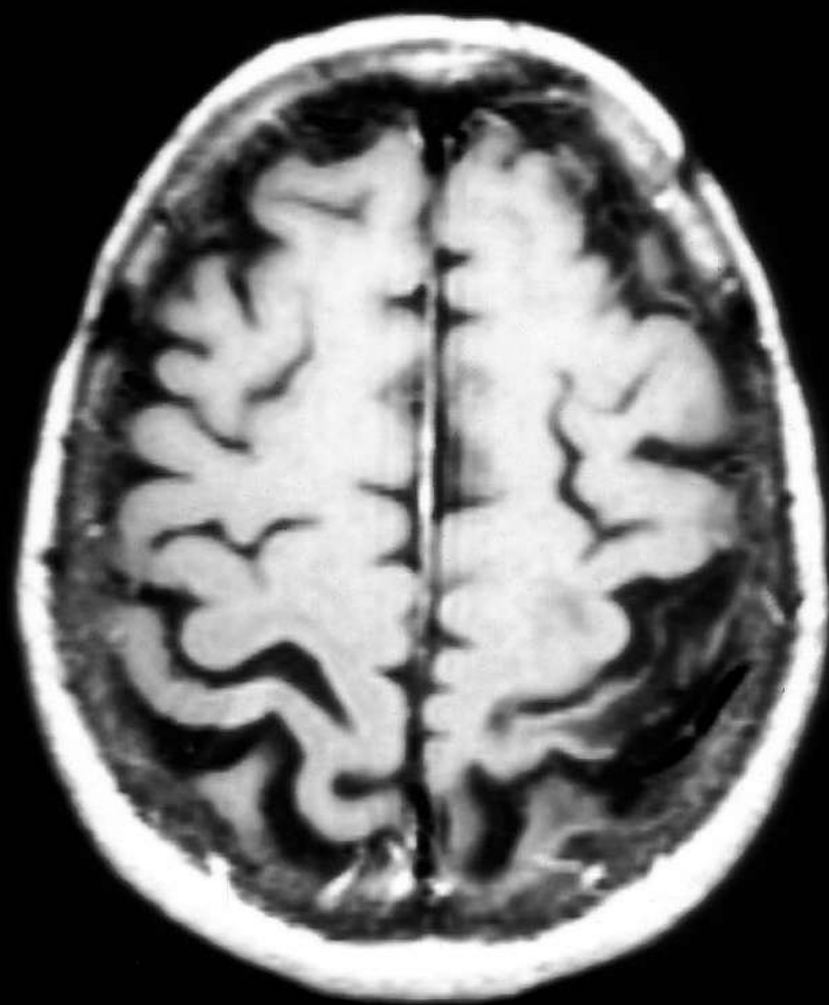
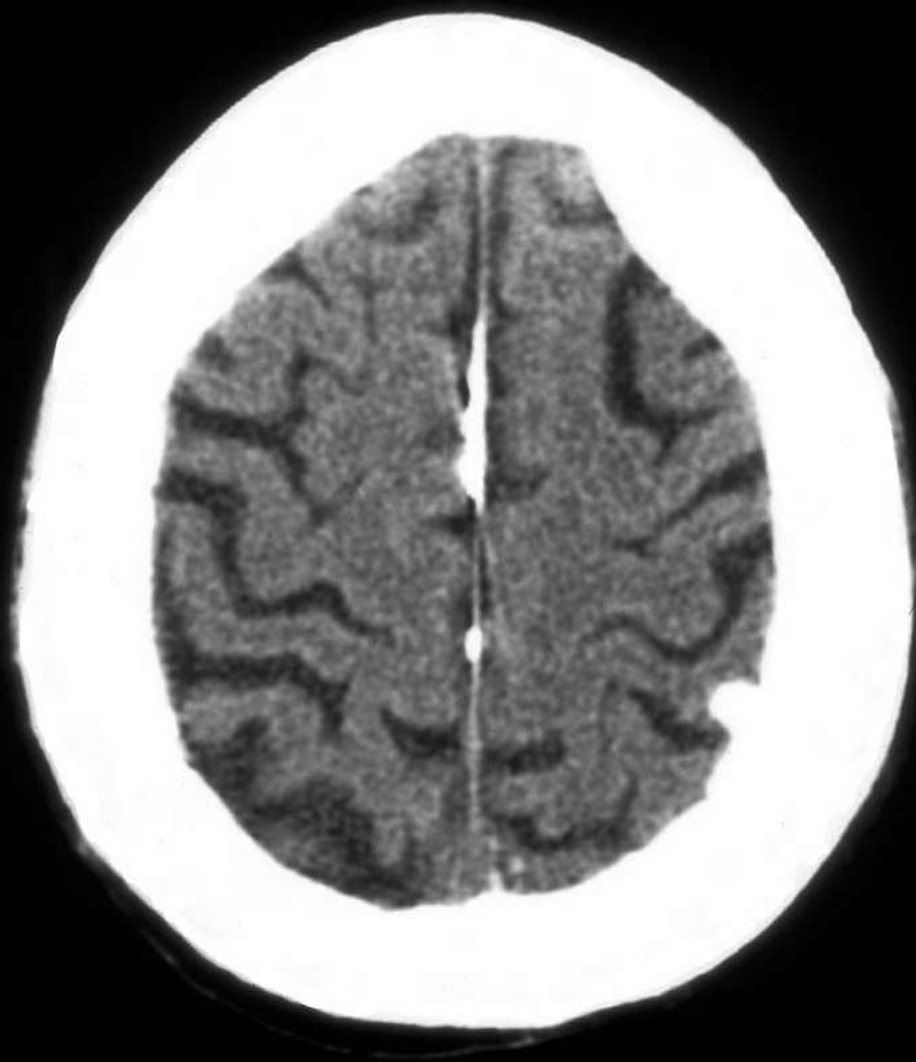


PARENTHESE POSTCENTRALE



GYRUS POSTCENTRAL FIN





LOBE PARIETAL

FACE LATERALE

- **SILLON PARIETO-OCCIPITAL LAT.**
- **SILLON CENTRAL**
FISSURE LATERALE
- **SILLON POST-CENTRAL**

LOBE PARIETAL CONVEXITÉ LATÉRALE & SUP

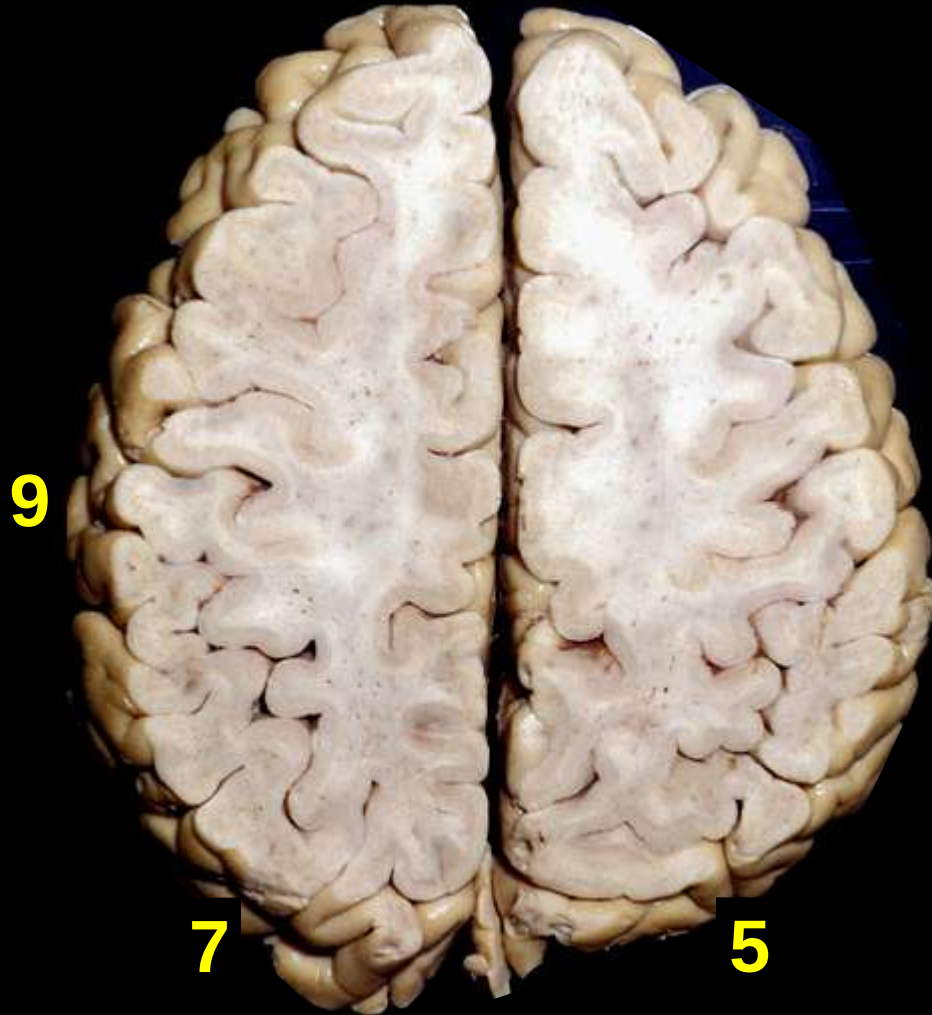




**LOBE
PARIETAL
--
CONVEXITÉ
LATÉRALE
& SUP**

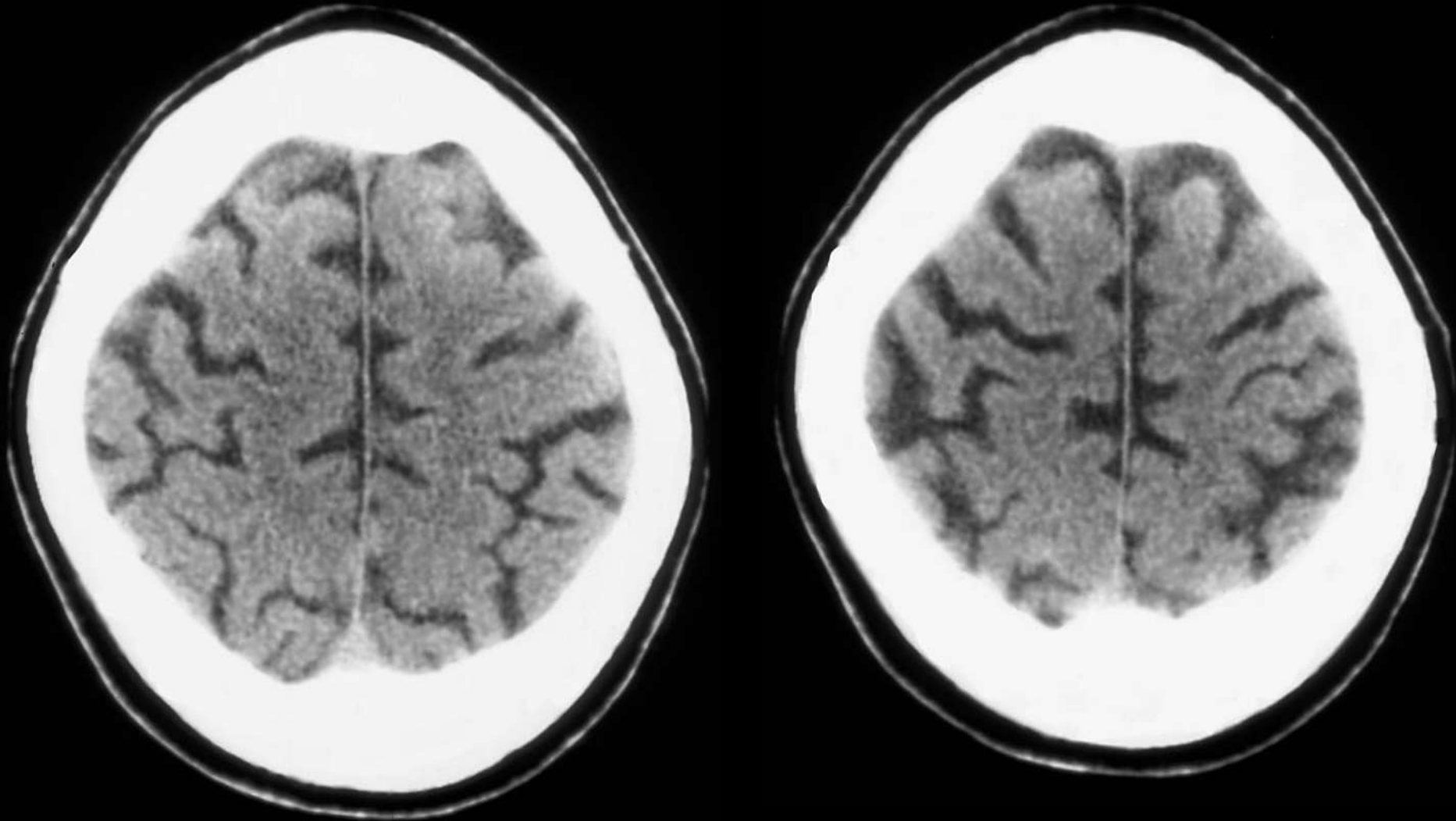


**SILLON
INTRAPARIETAL :
SIGNE 1
(Nbre segments)**



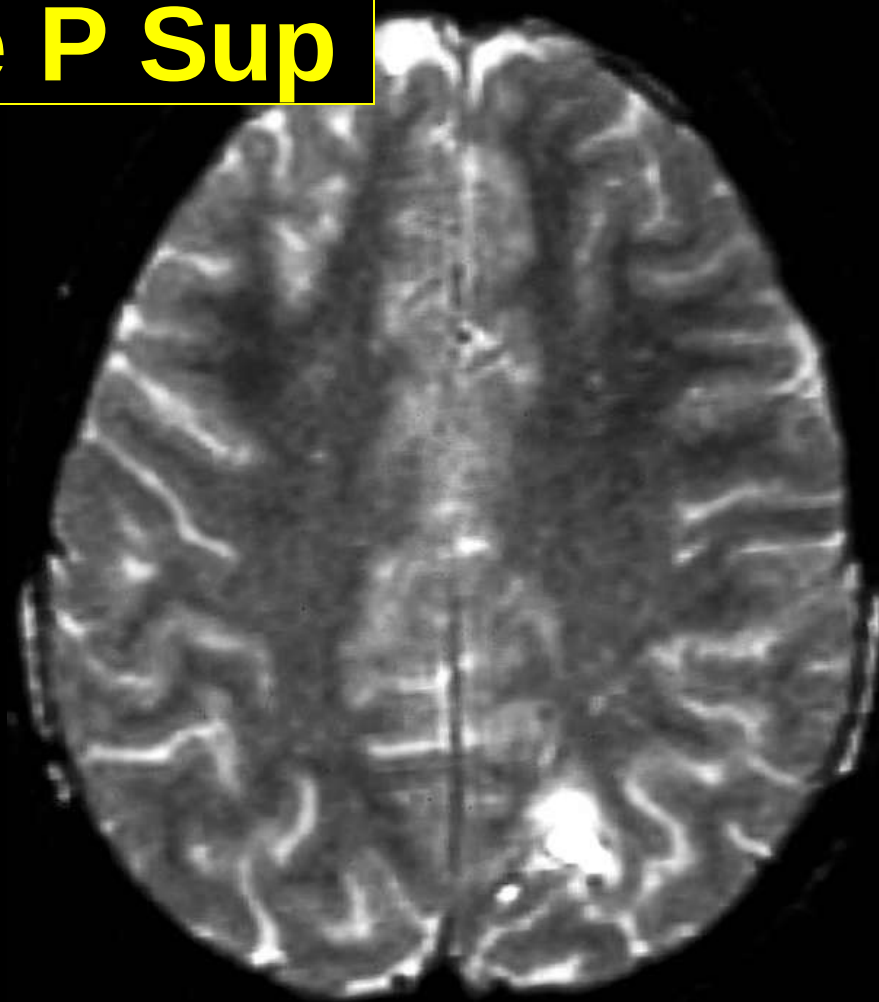
<u>SULCUS</u>	<u>G</u>	<u>D</u>
UN SEG.	72	28
DEUX SEG.	28	68

SILLON INTRAPARIETAL SIGNE 1

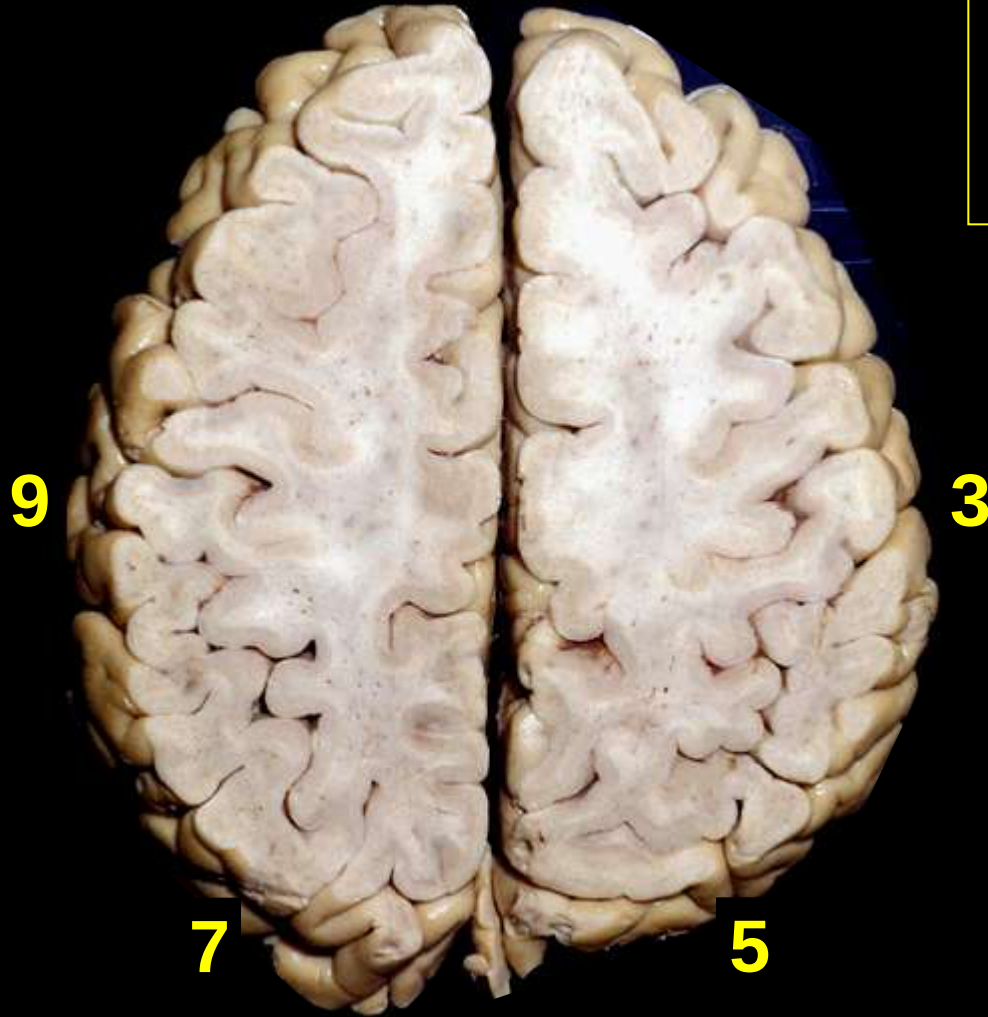


SILLON INTRAPARIETAL SIGNE 1

Lobule P Sup



SILLON INTRAPARIETAL SIGNE 1



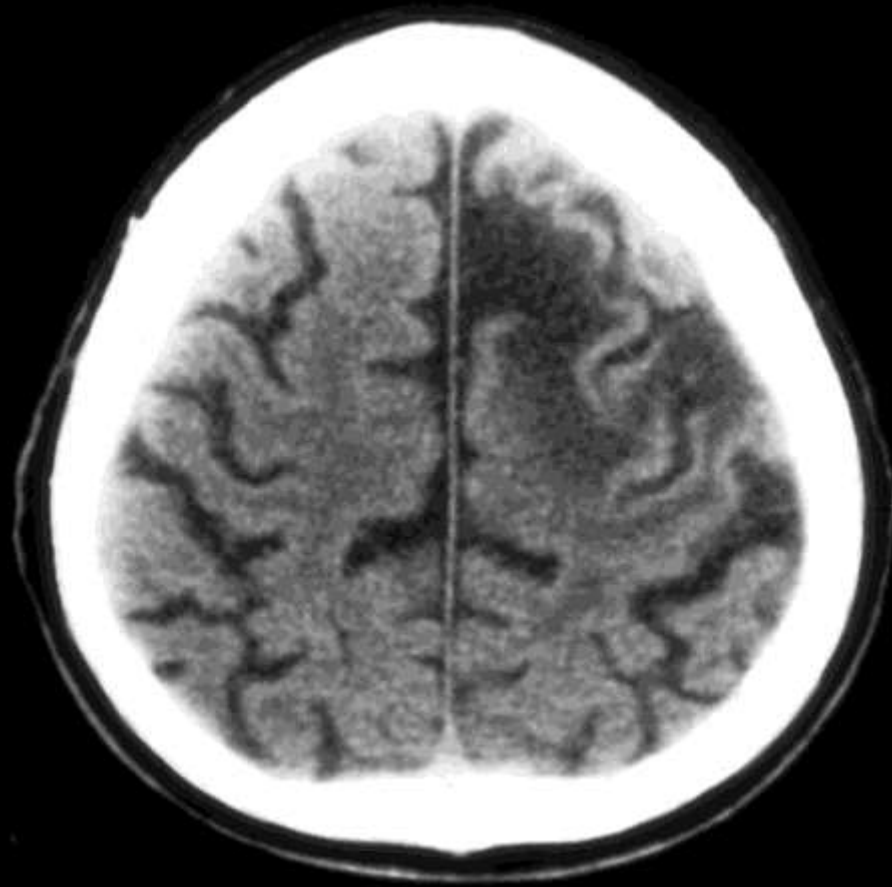
SILLON

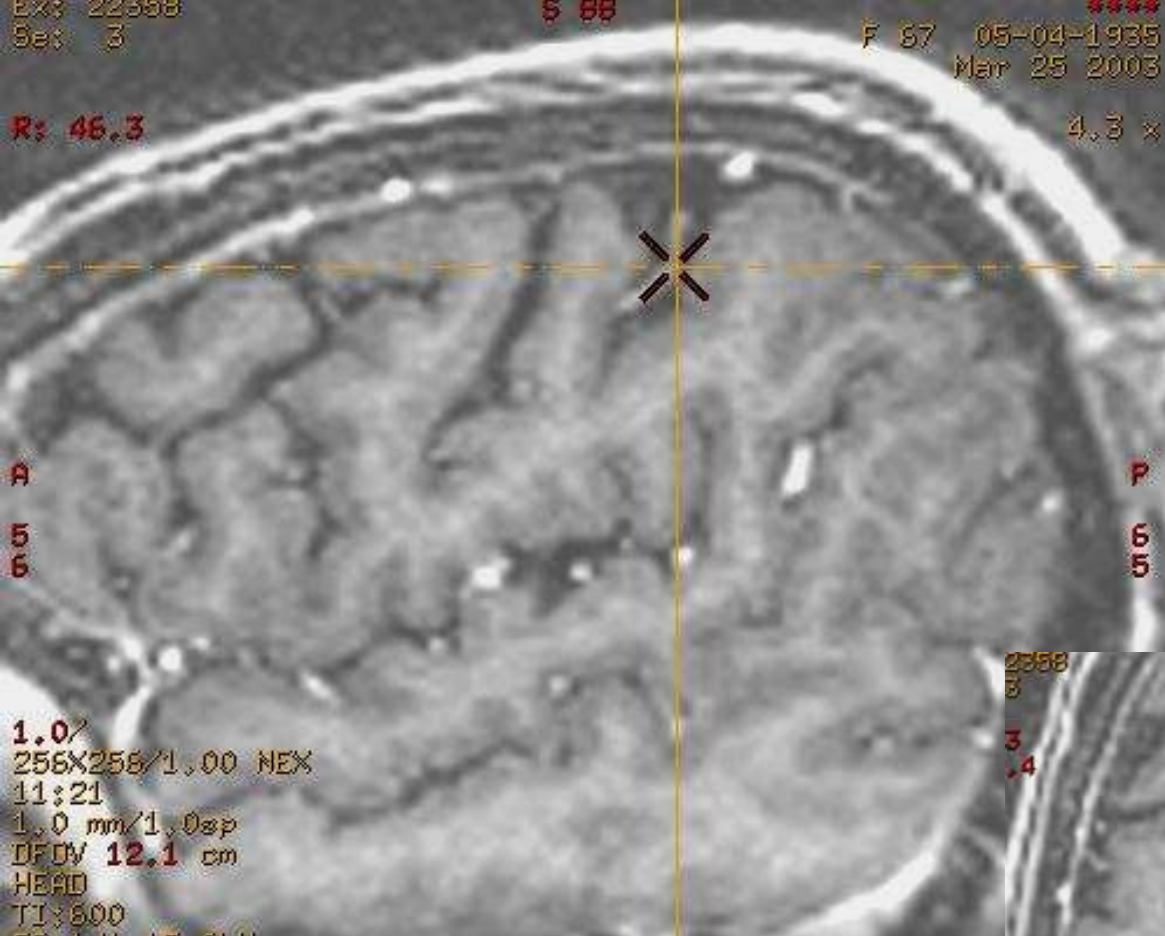
G

D

SIP fusion
au S. Po Ce 81 93

SIP SIGNE 2 : FUSION au S. POST-Ce







QUIZ

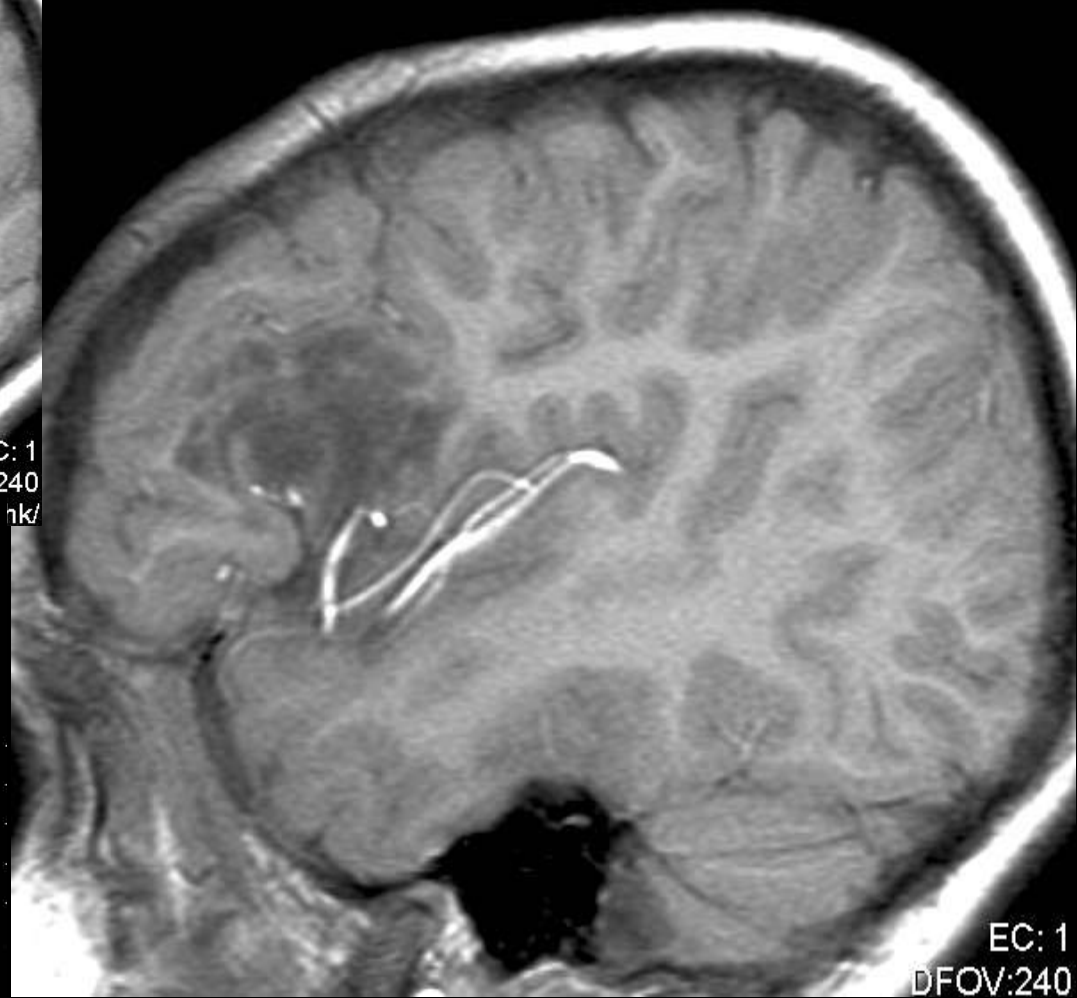
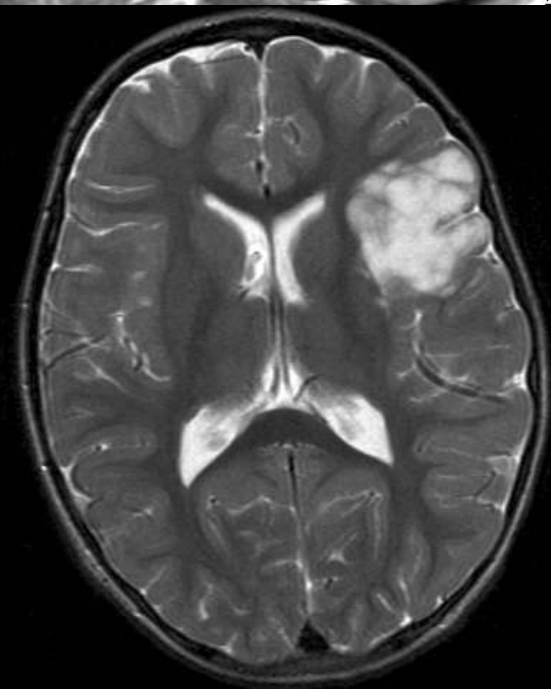
CETTE LESION EST ELLE :

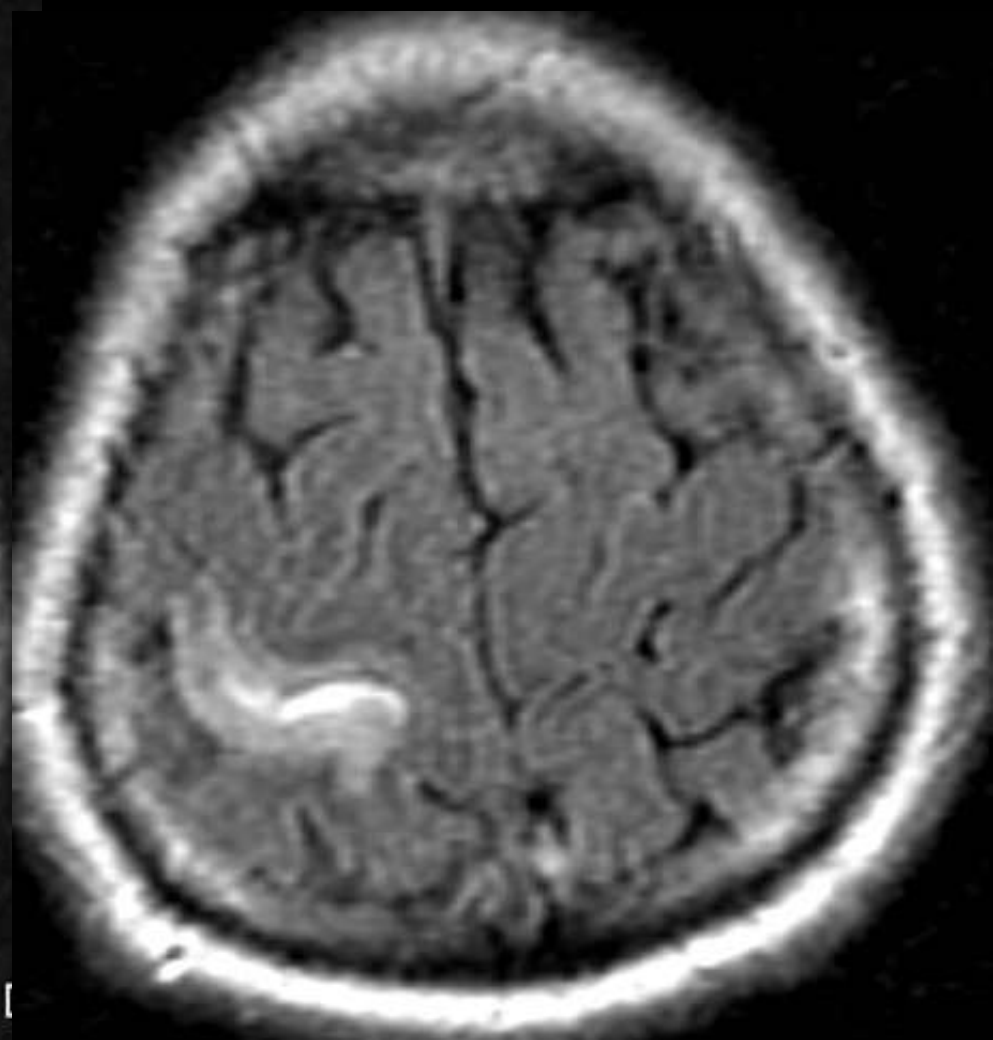
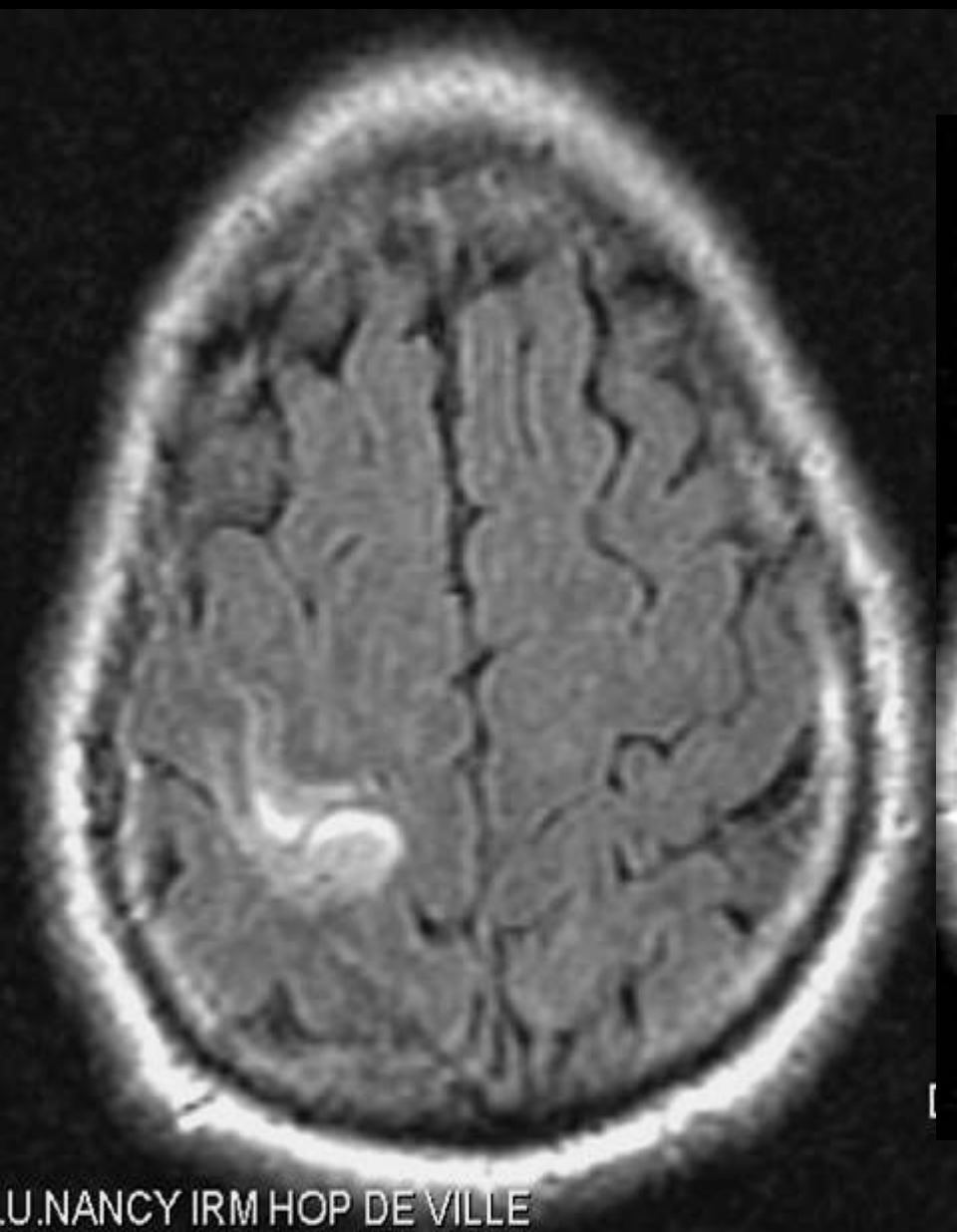
TEMPORALE ?

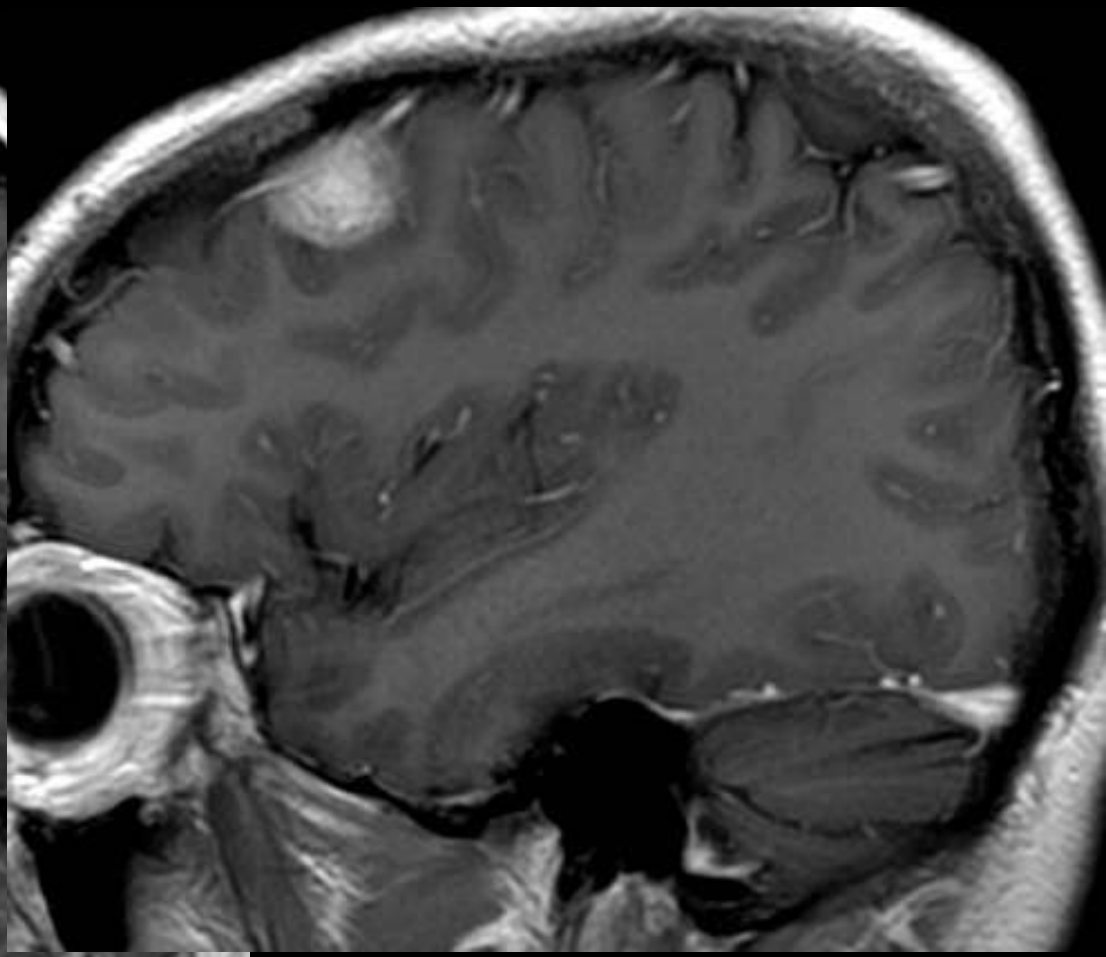
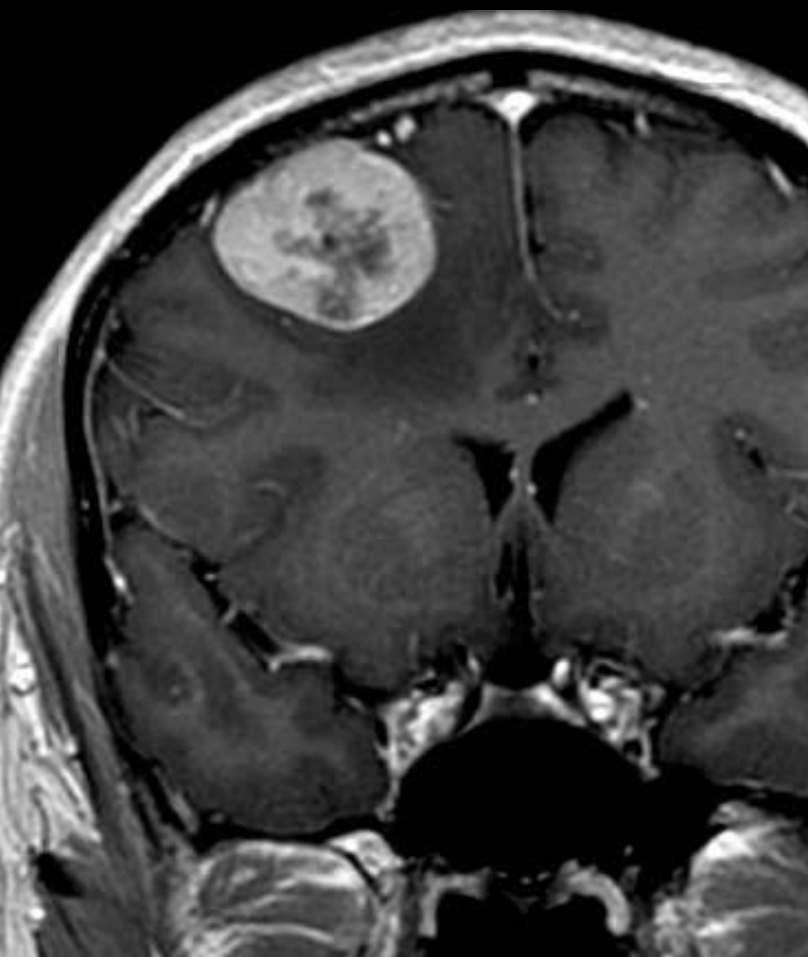
PARIETALE ?

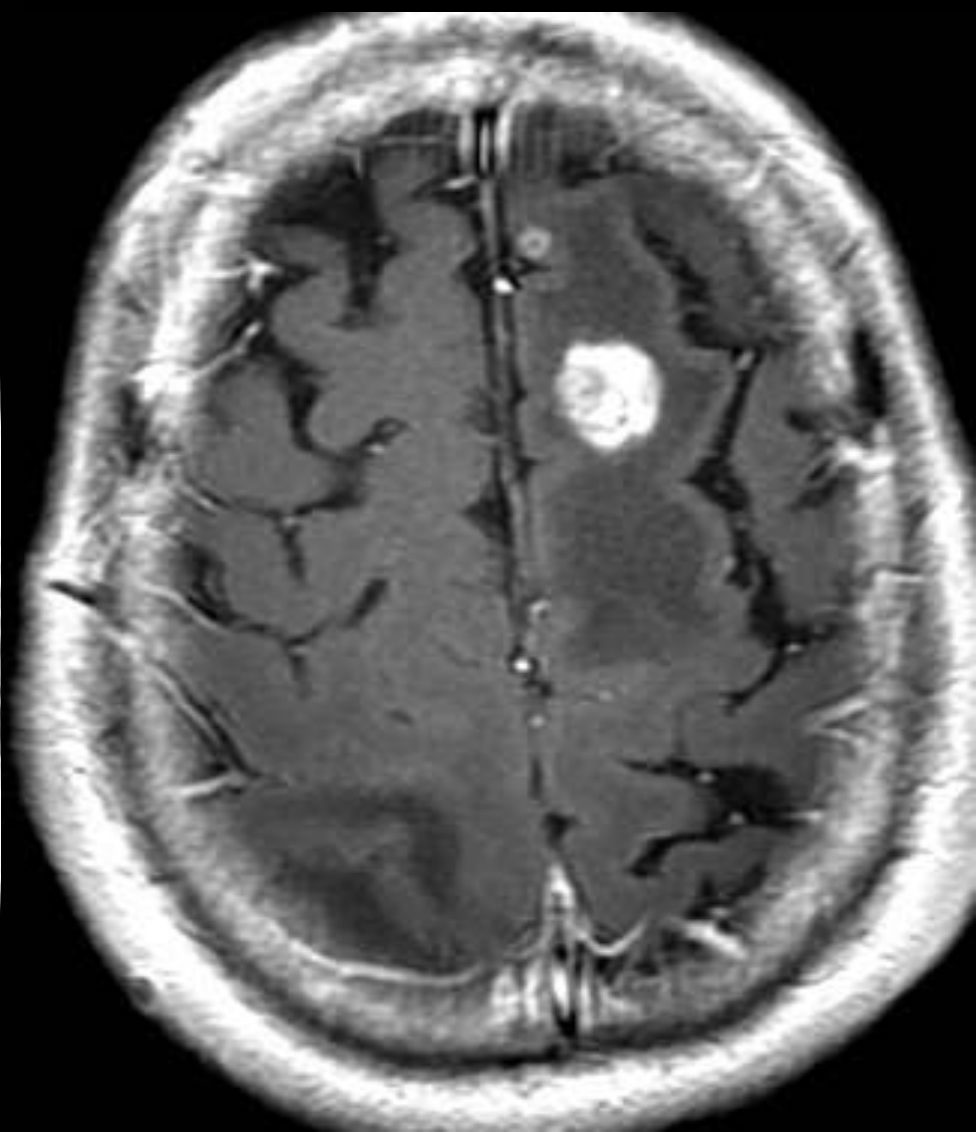
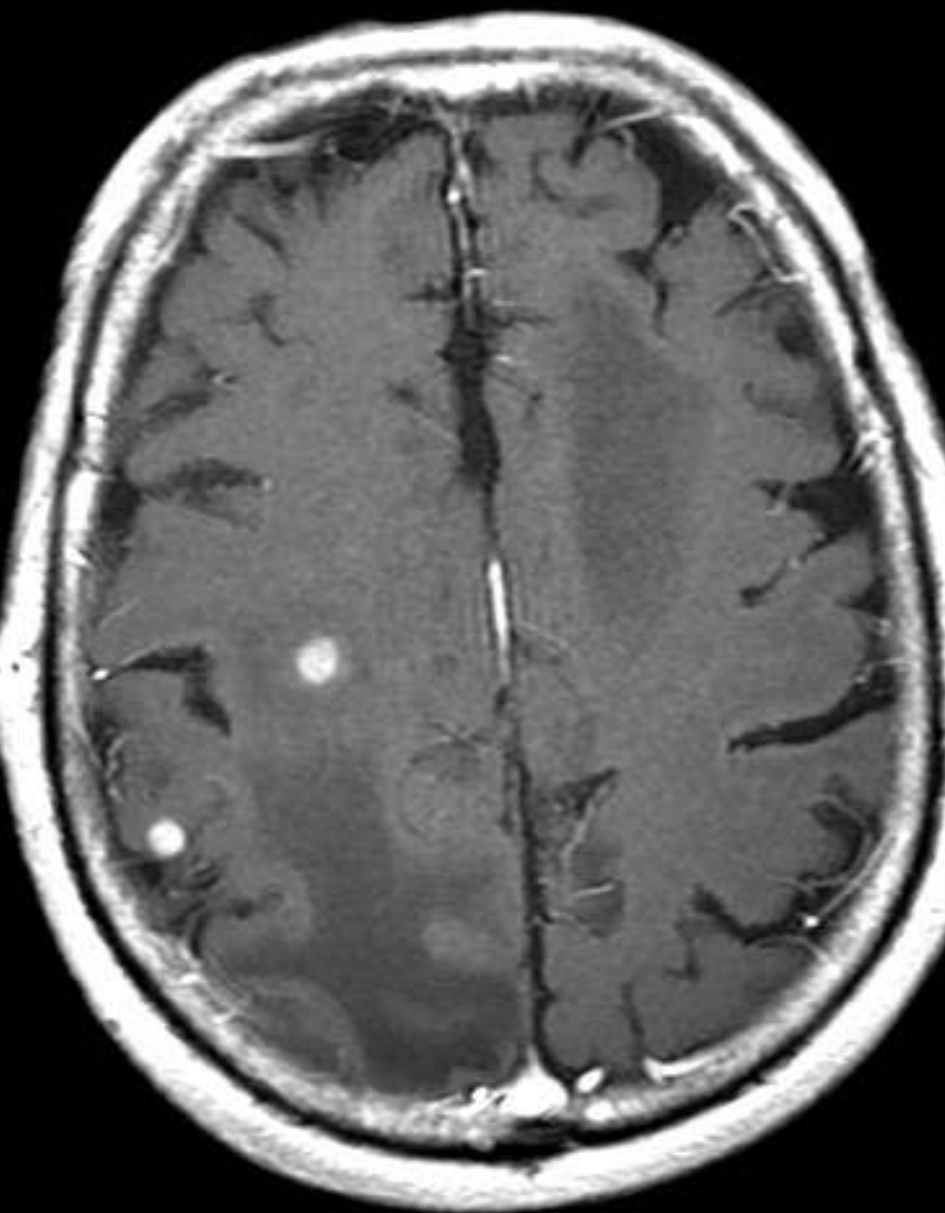
FRONTALE ?

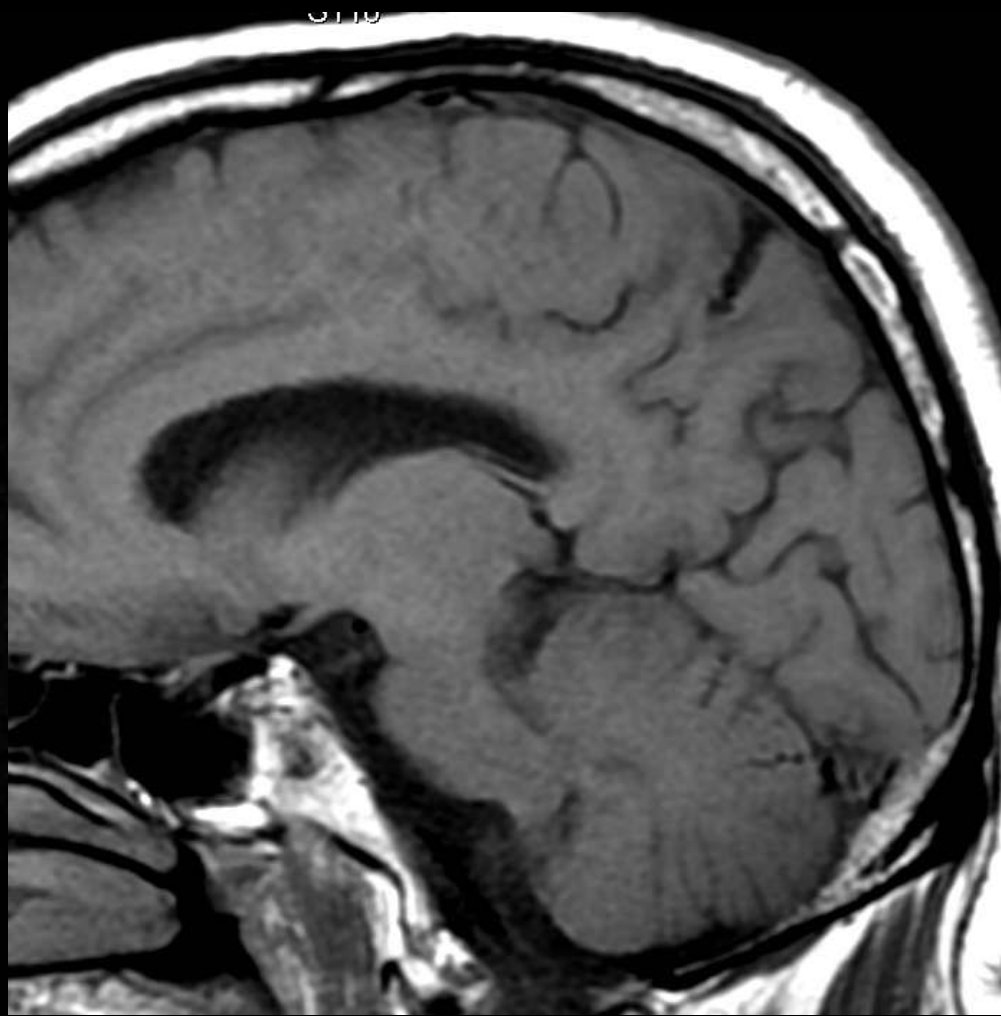
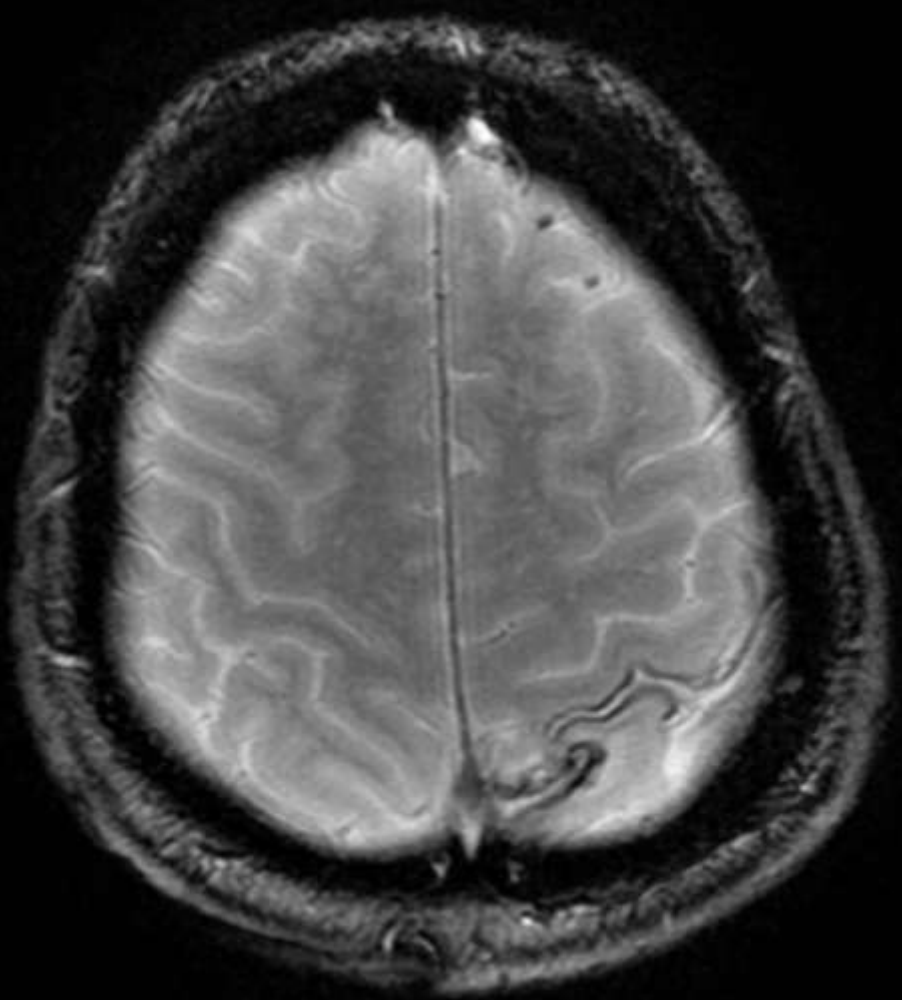
Exercices de localisation

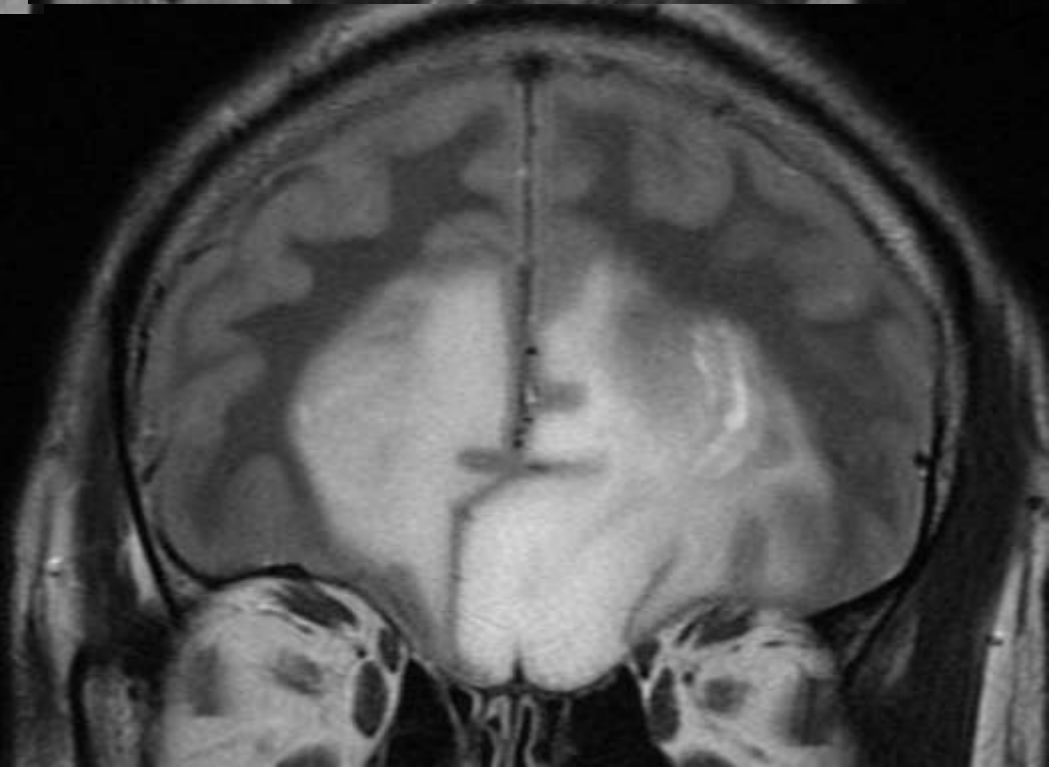
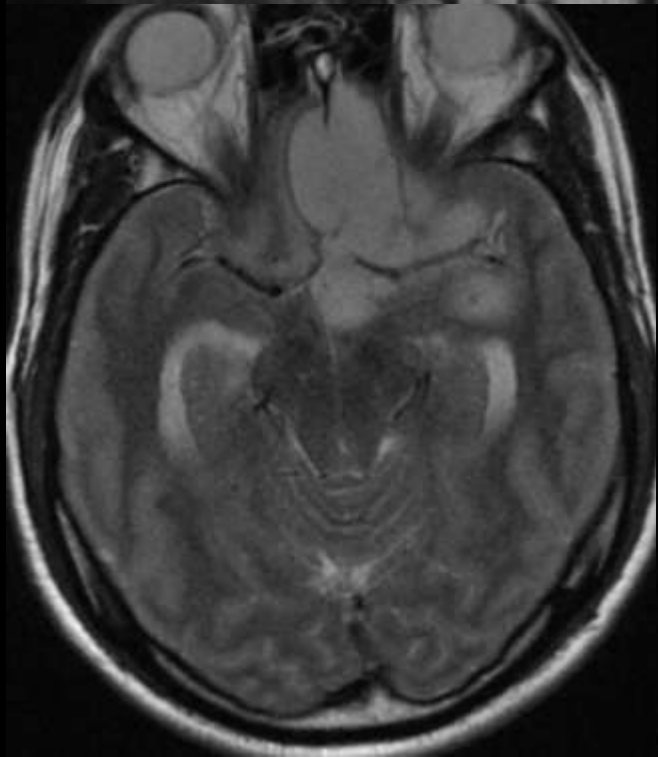
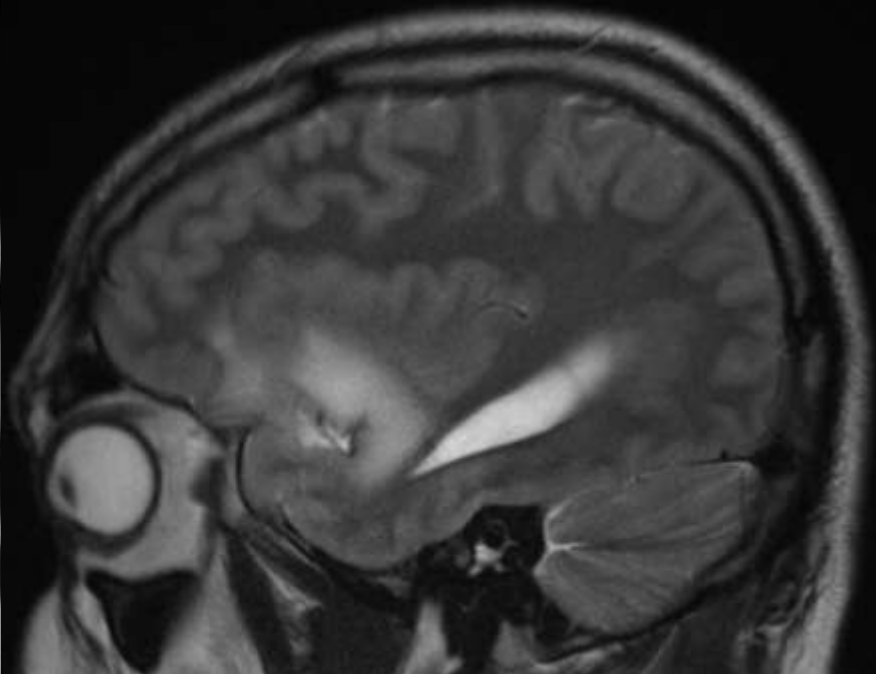
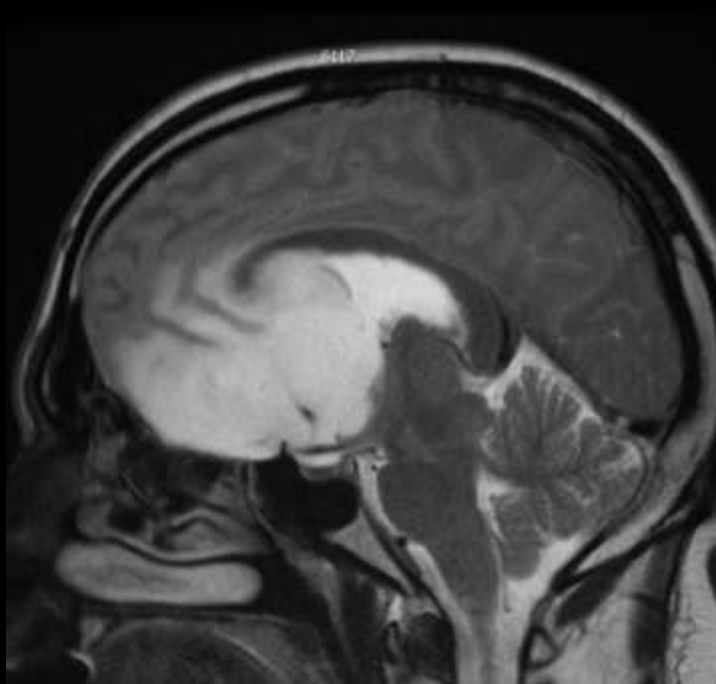


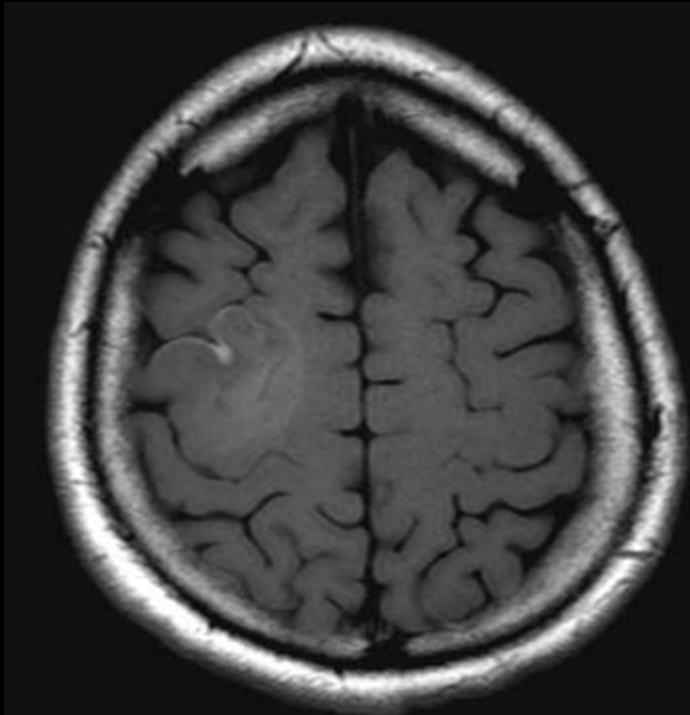
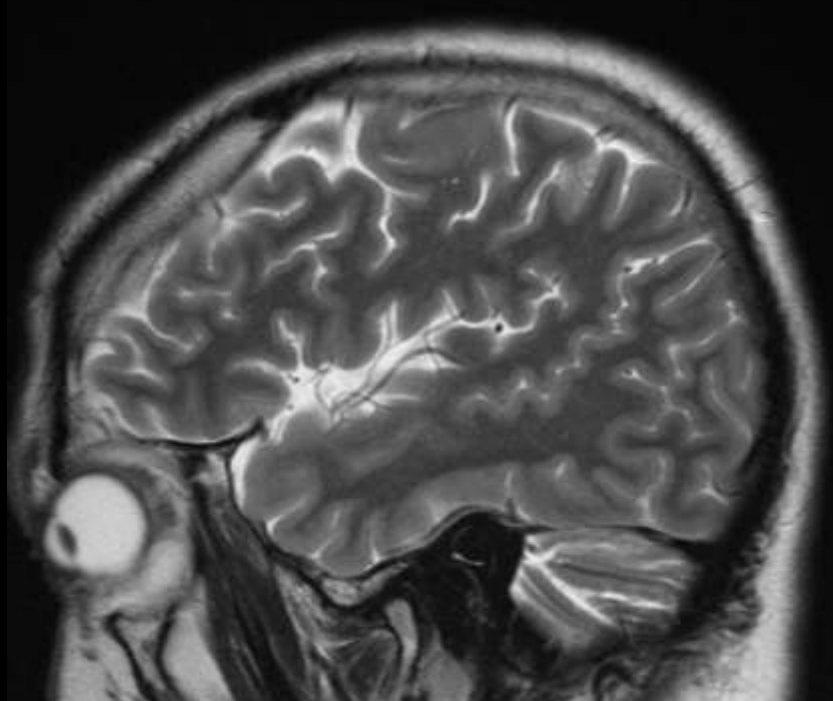
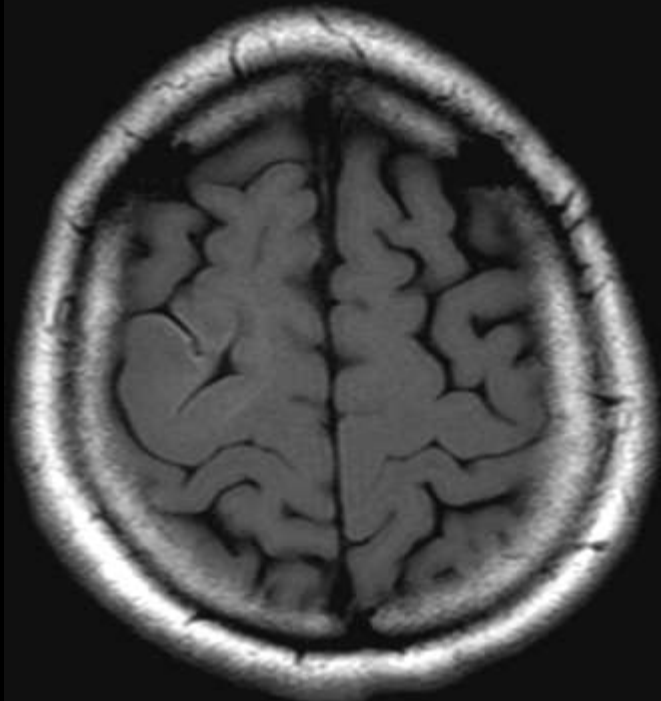


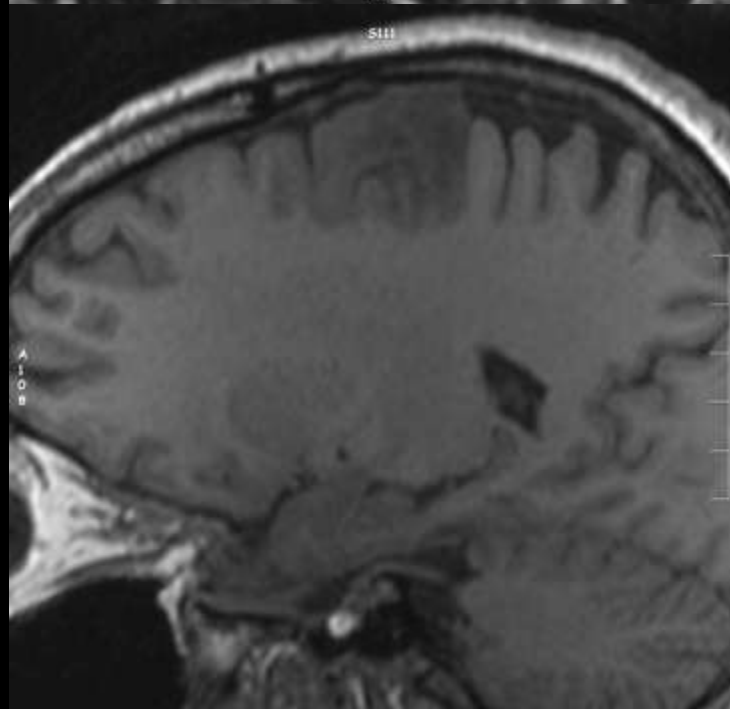
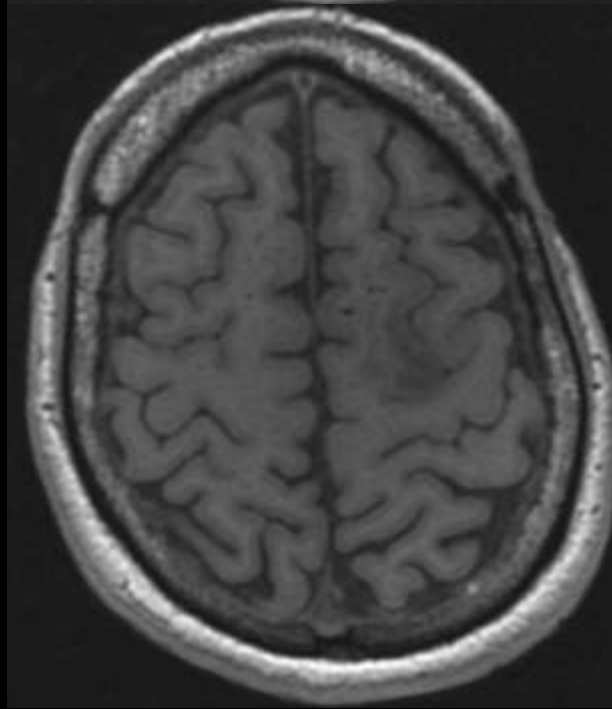
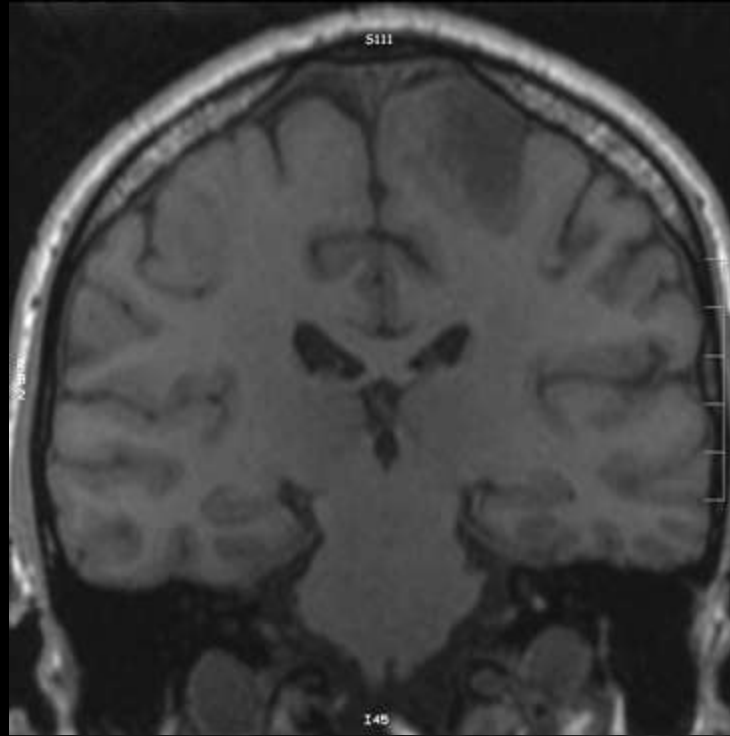
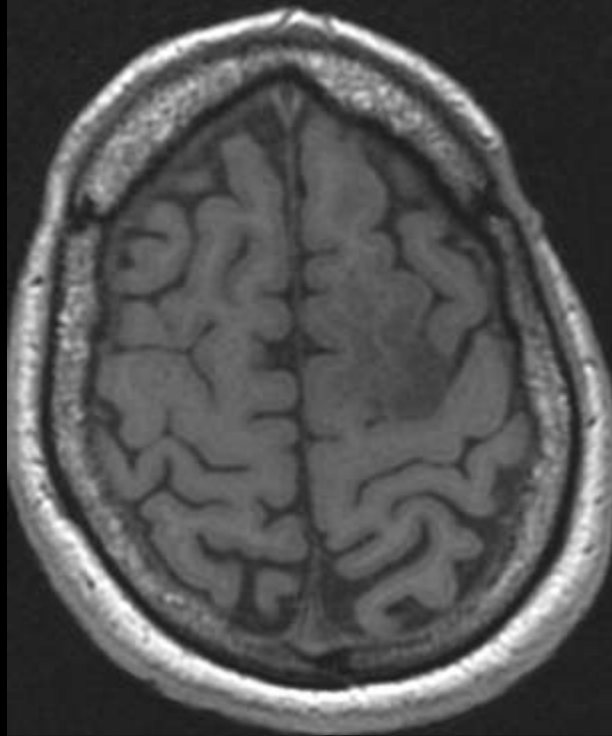


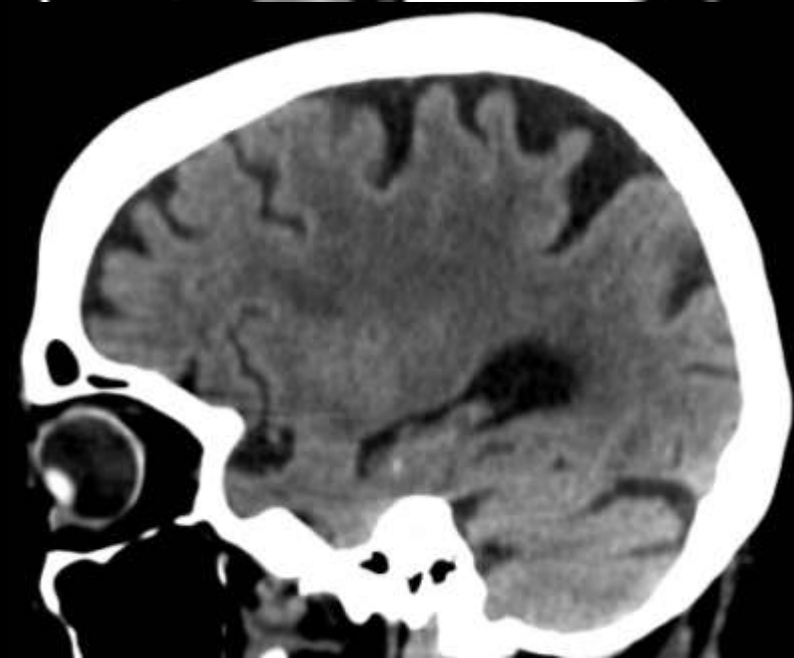
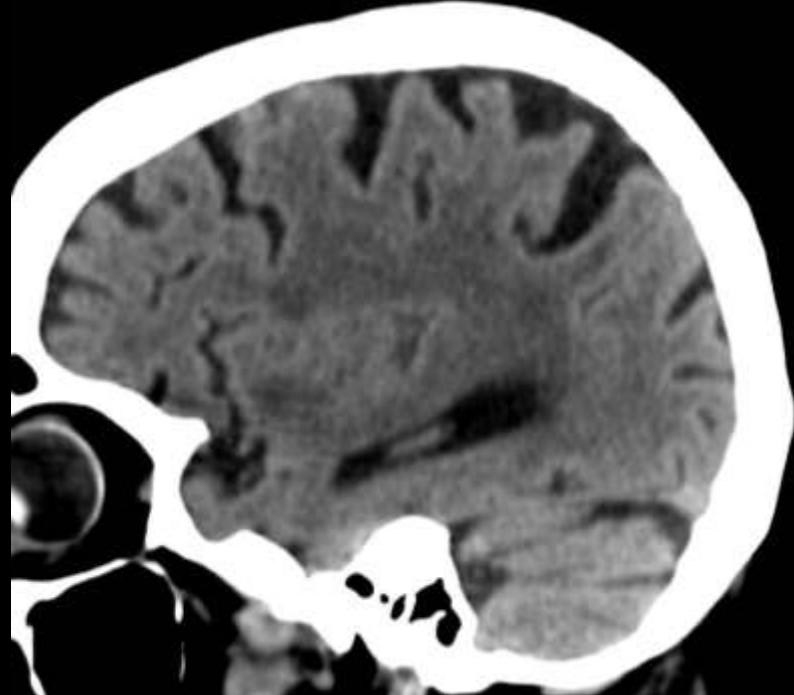
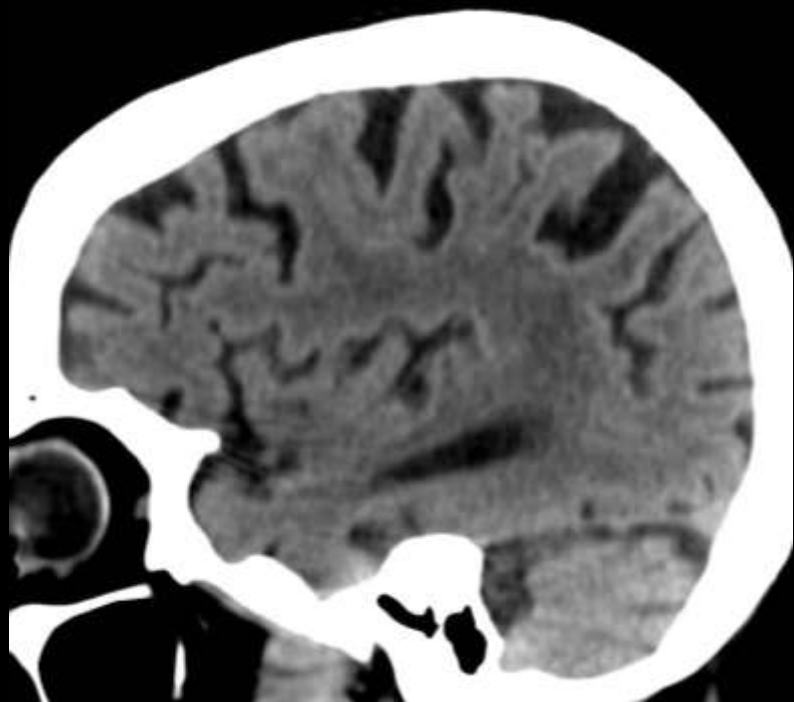


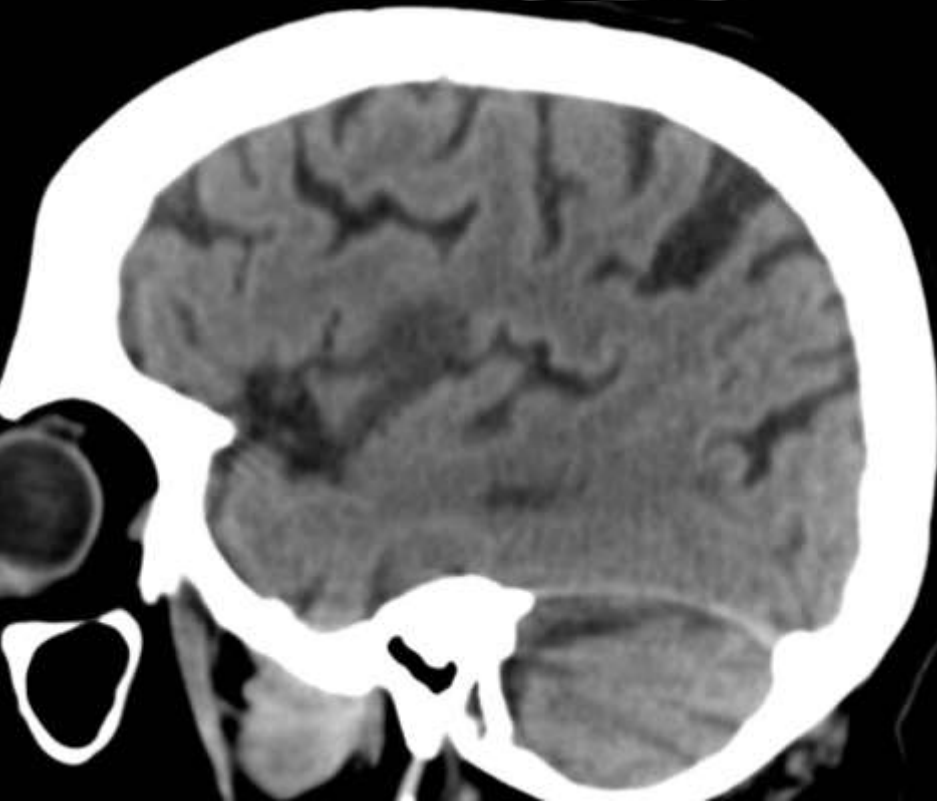
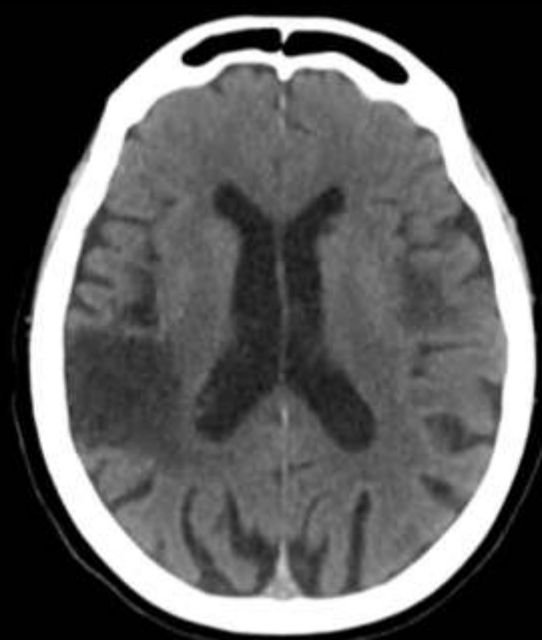
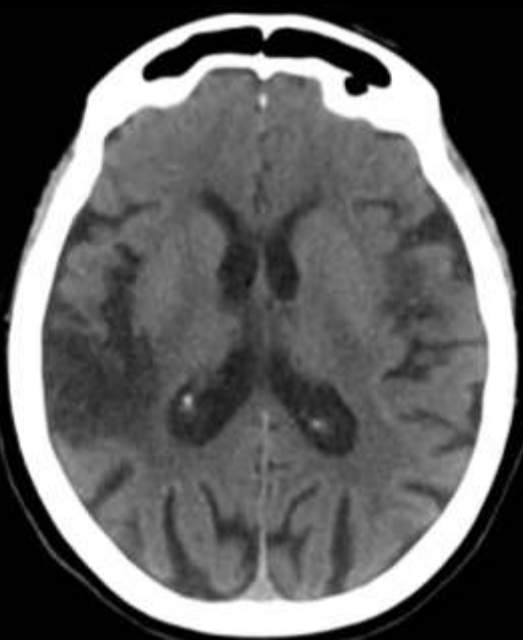


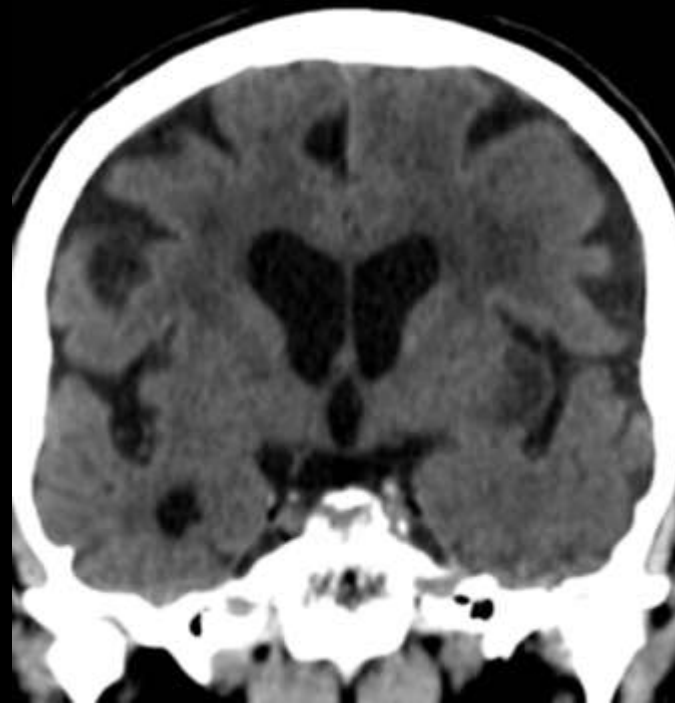
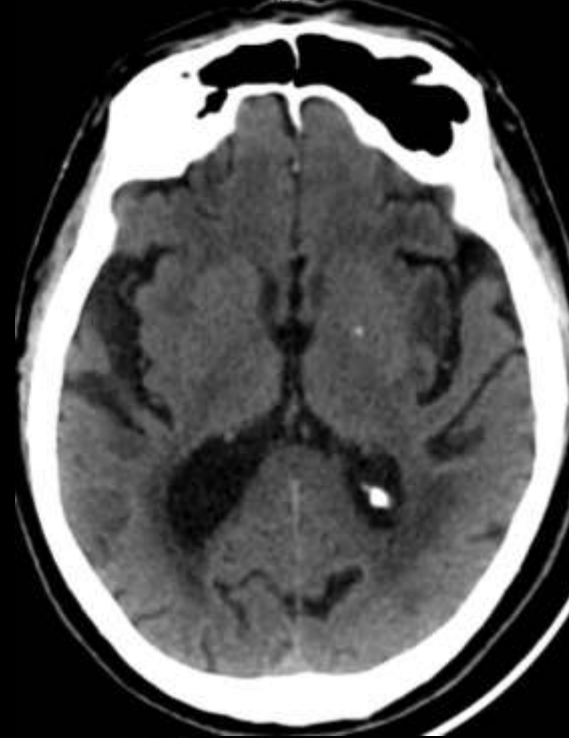
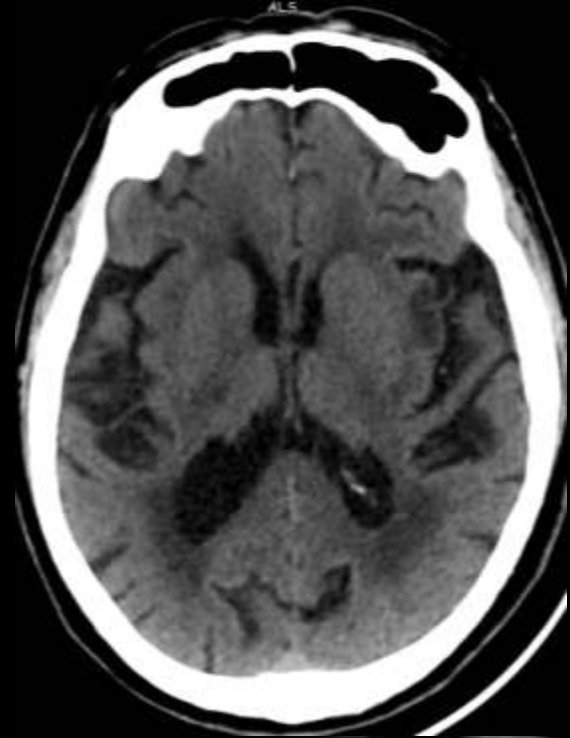




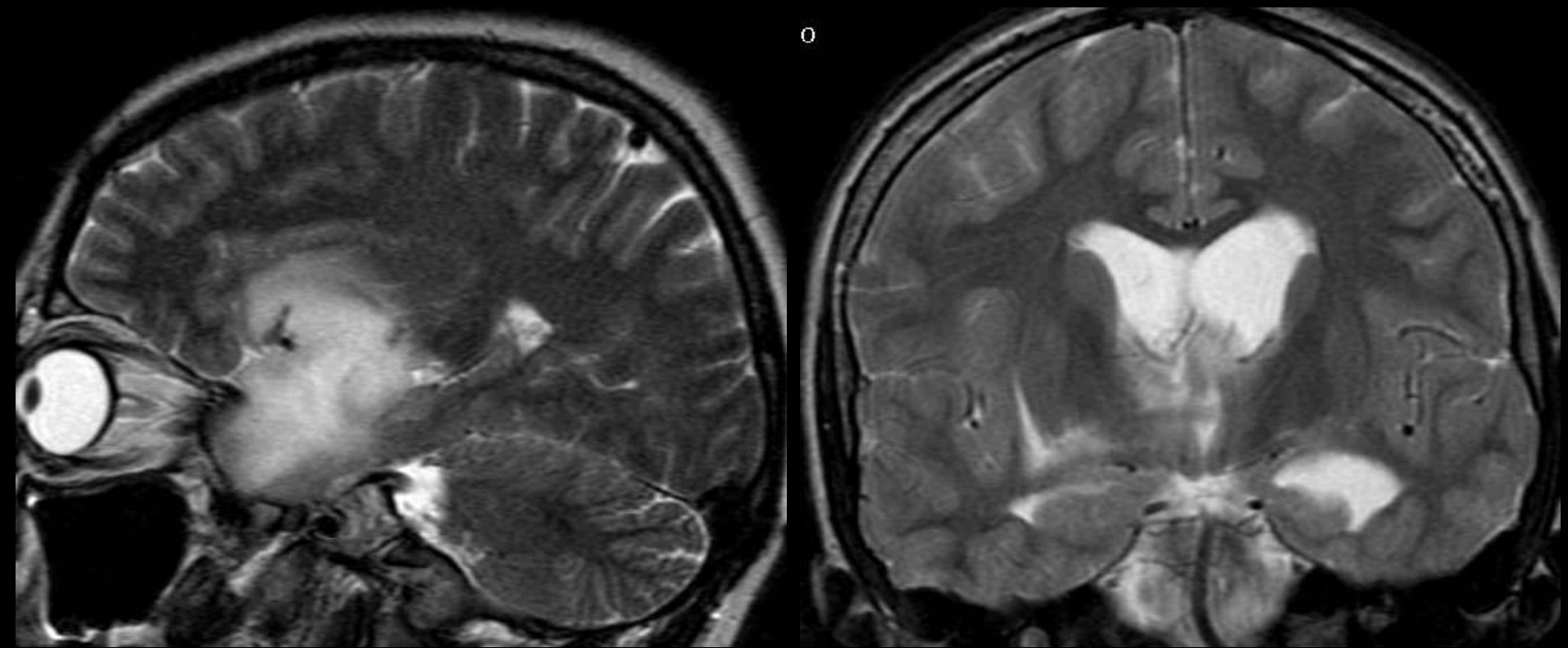


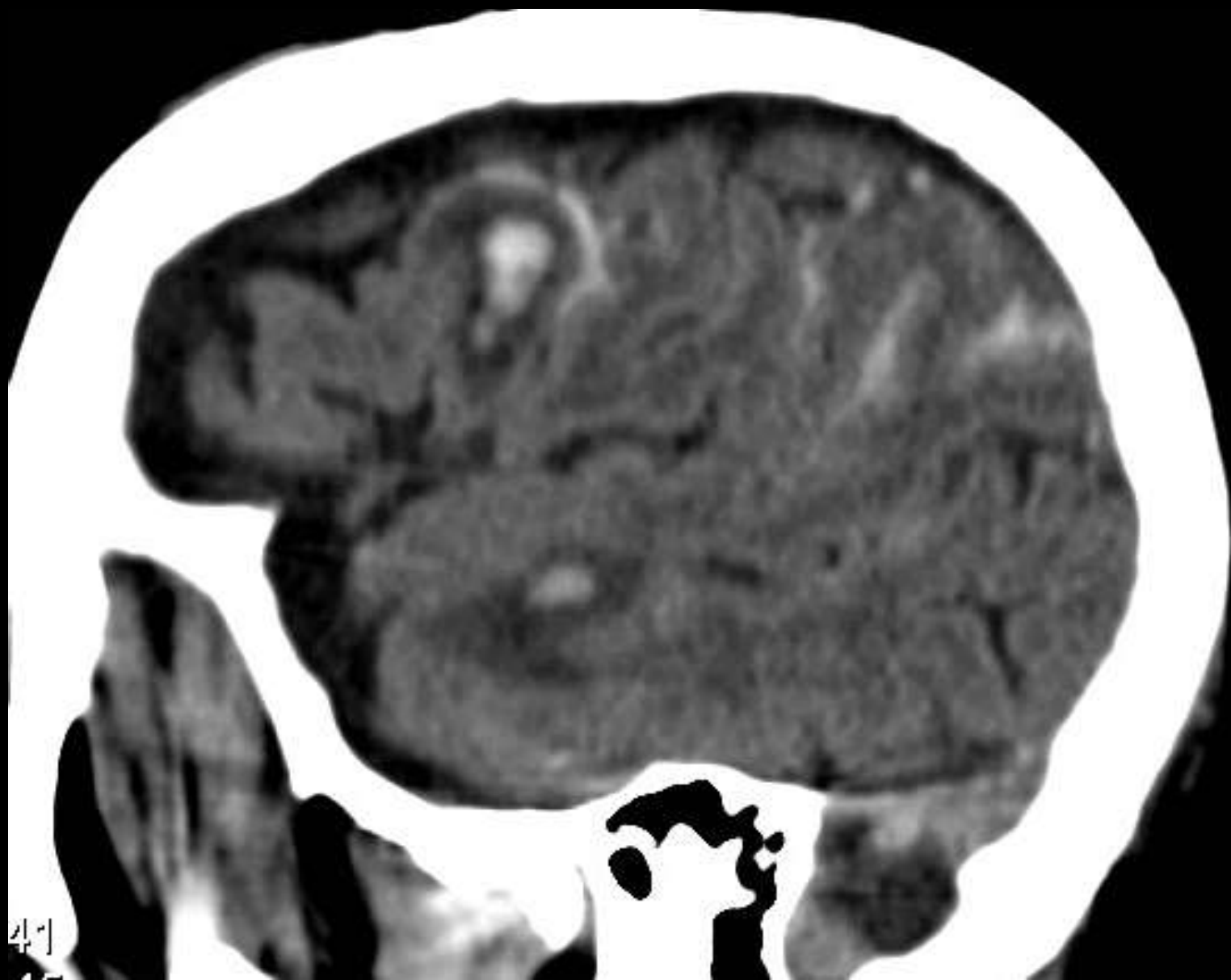


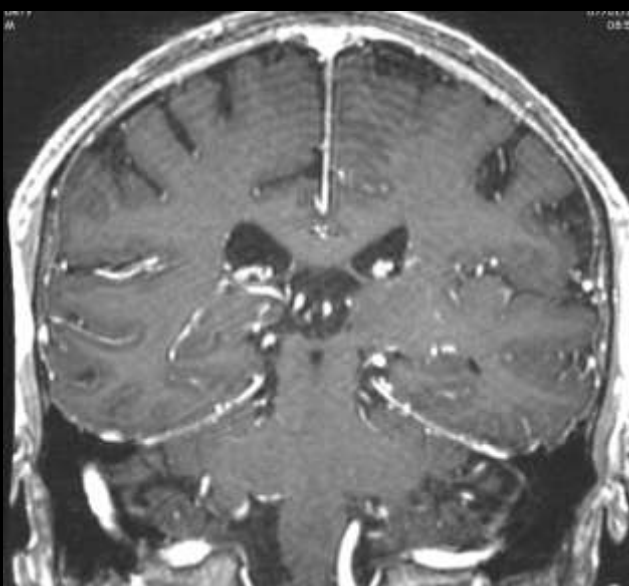
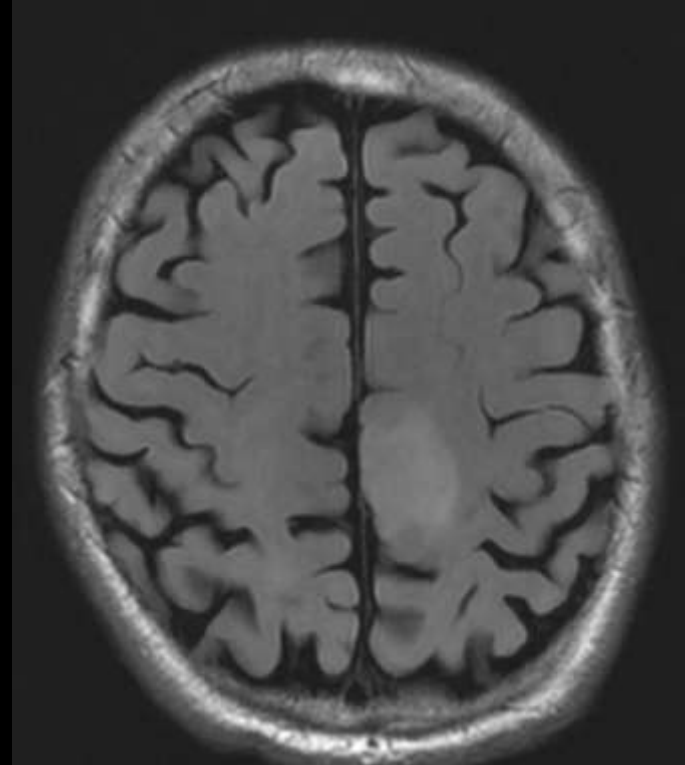
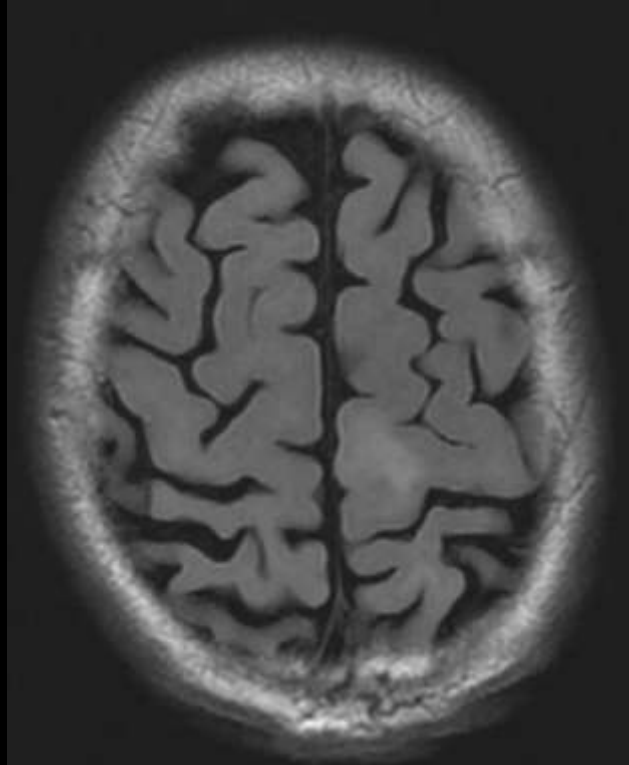


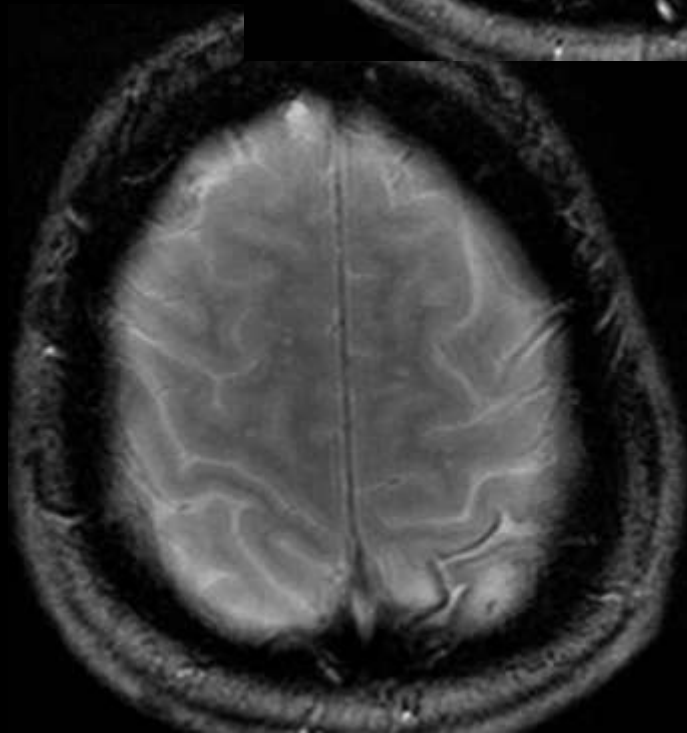
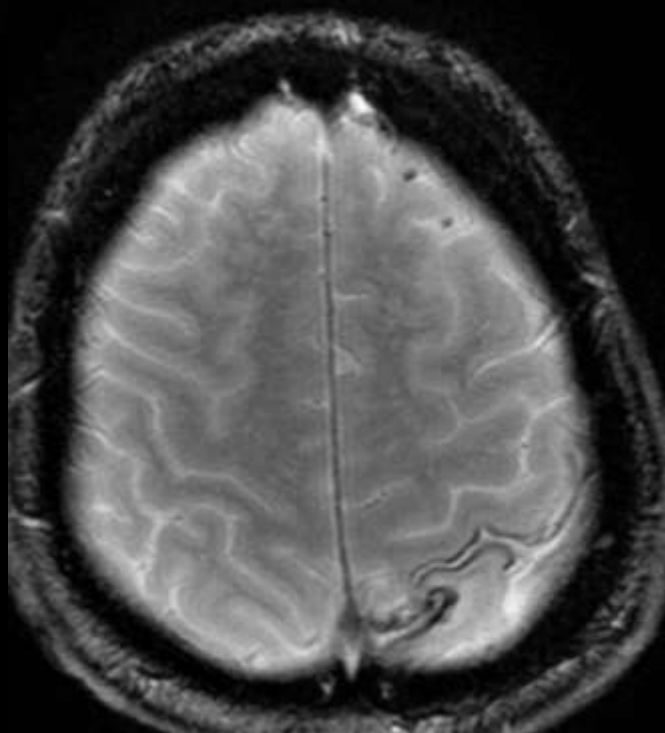
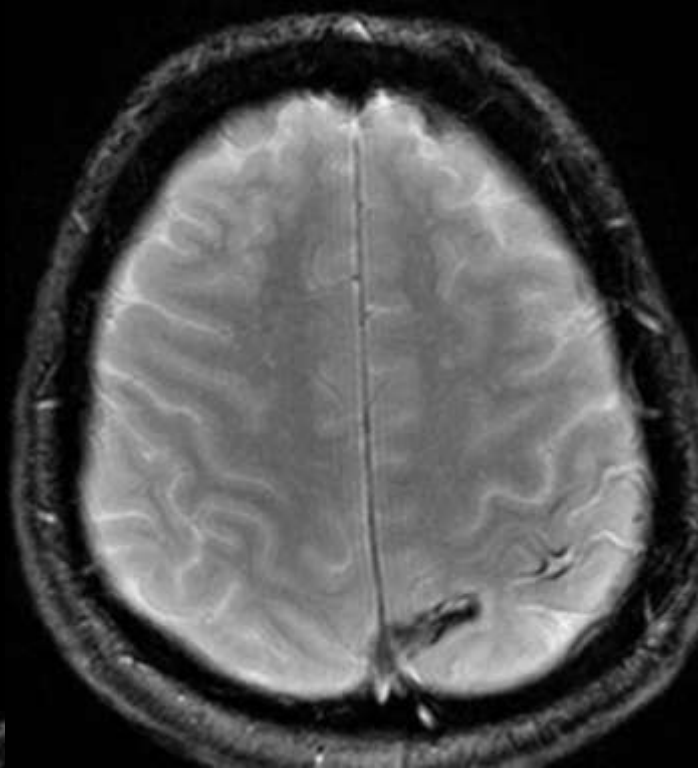
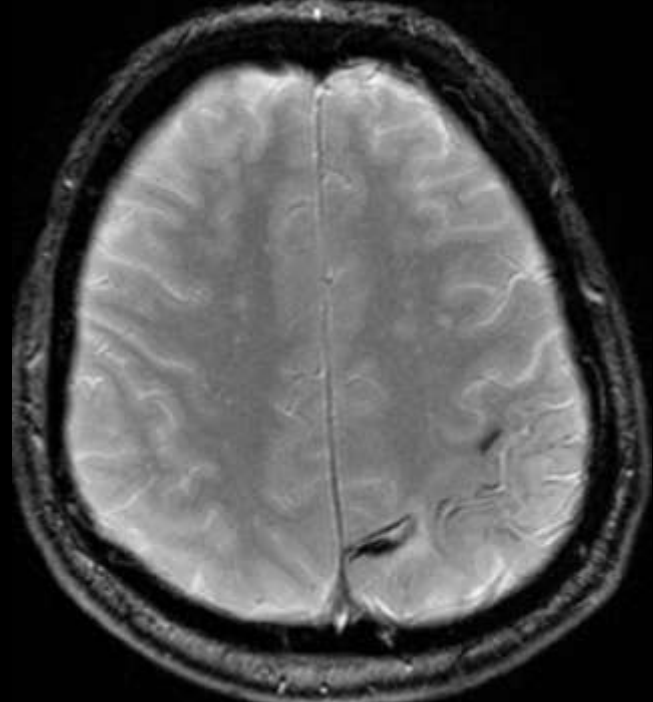


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Merci