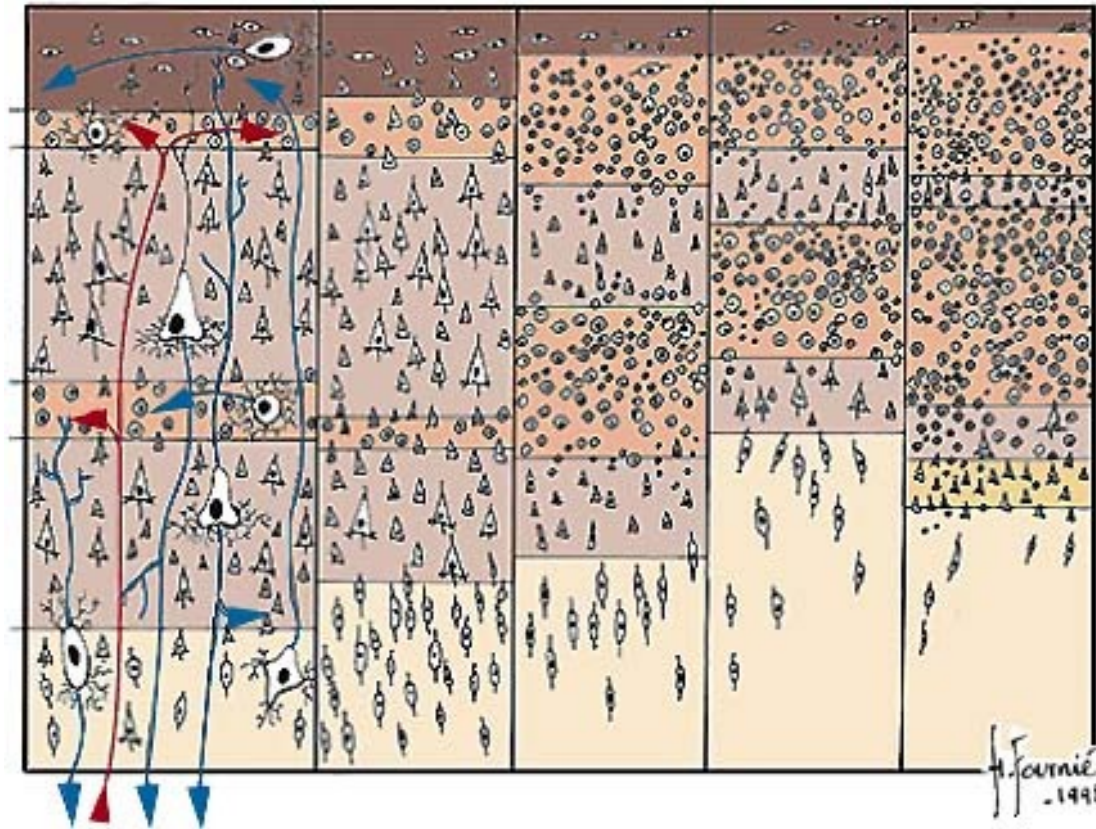


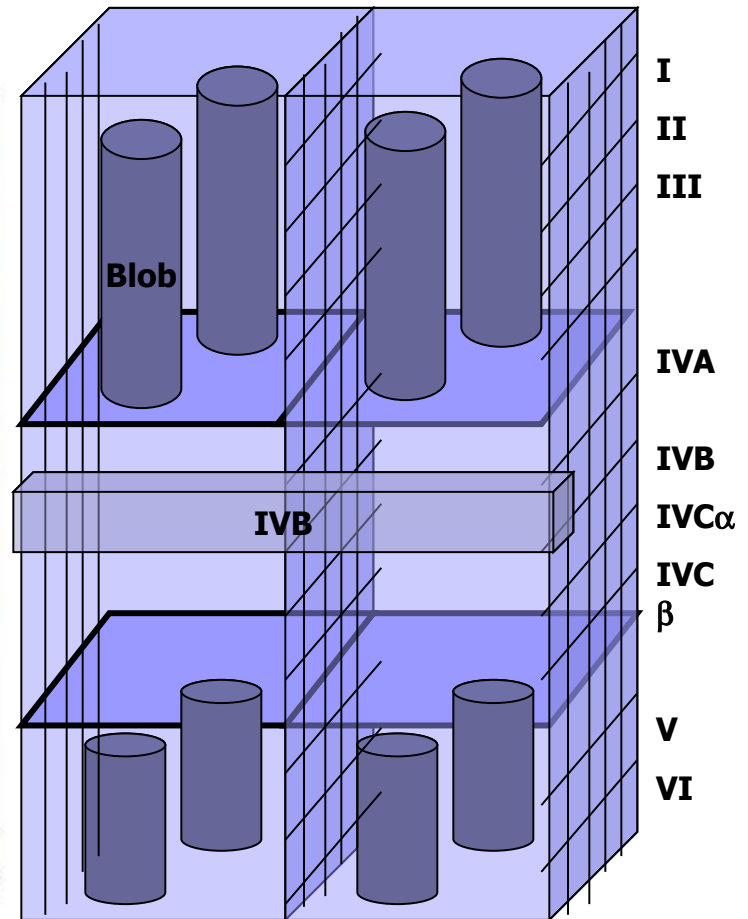
A decorative graphic on the left side of the slide consists of a vertical stack of overlapping squares in various shades of blue and purple. A solid dark blue horizontal bar spans across the middle of the slide, partially overlapping the squares. The text is centered on this bar.

Anatomie Fonctionnelle

Cortex : organisation fonctionnelle

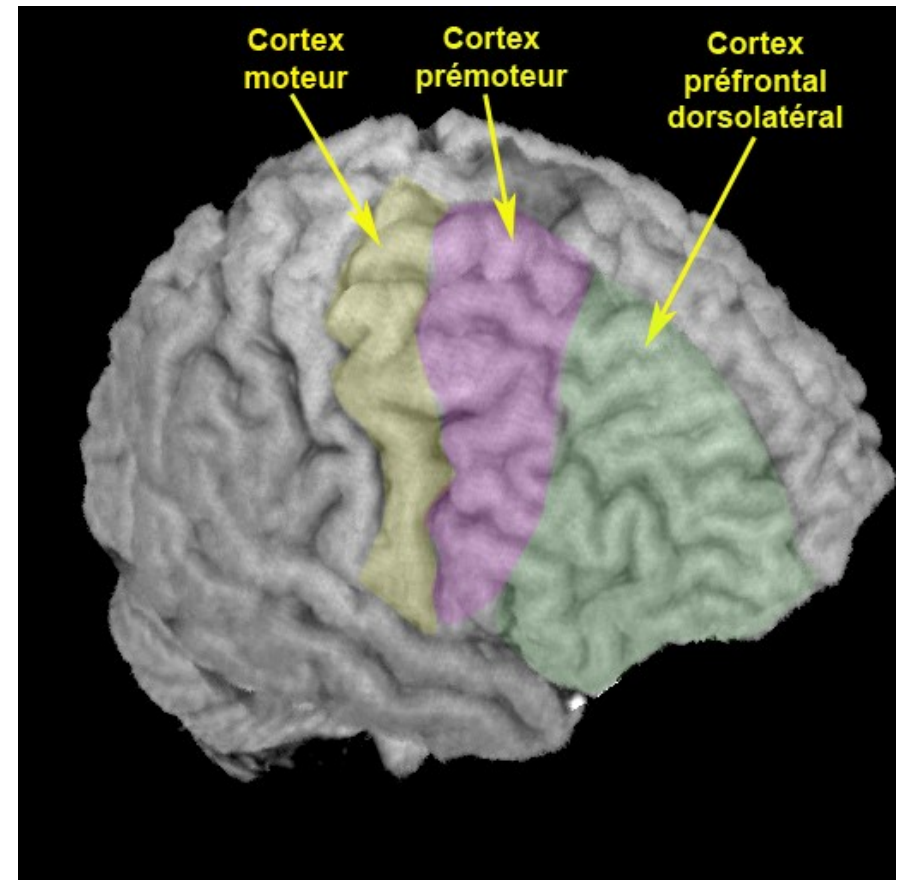
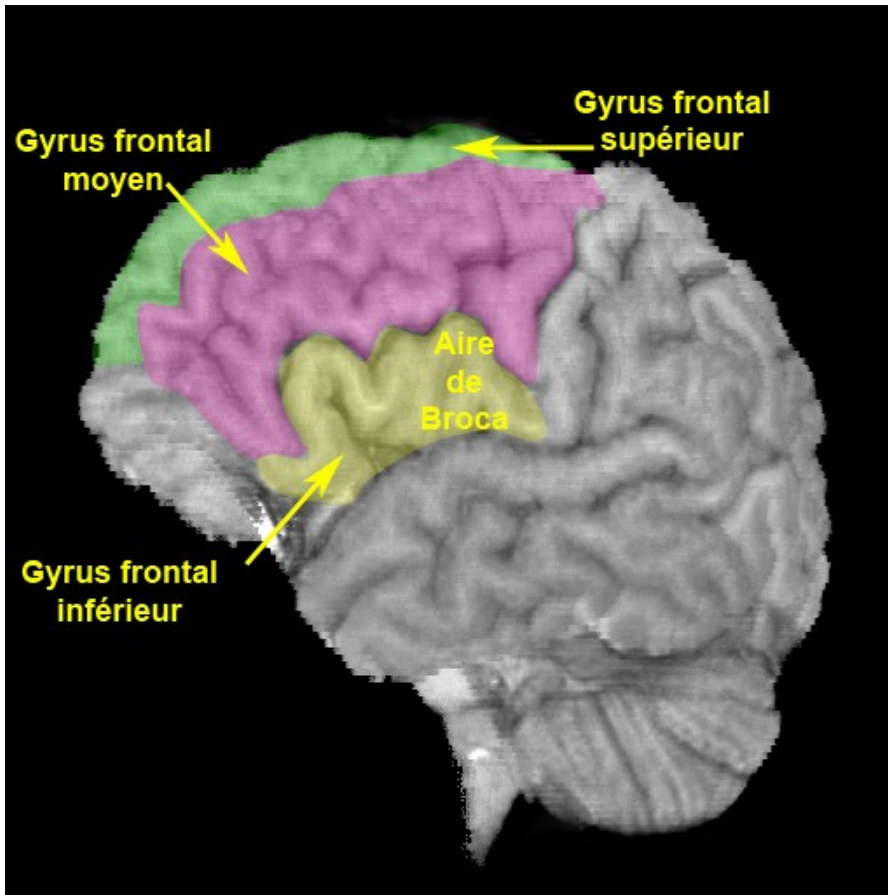


Différents types de cortex : histologie



2 colonnes du cortex visuel

Lobe frontal



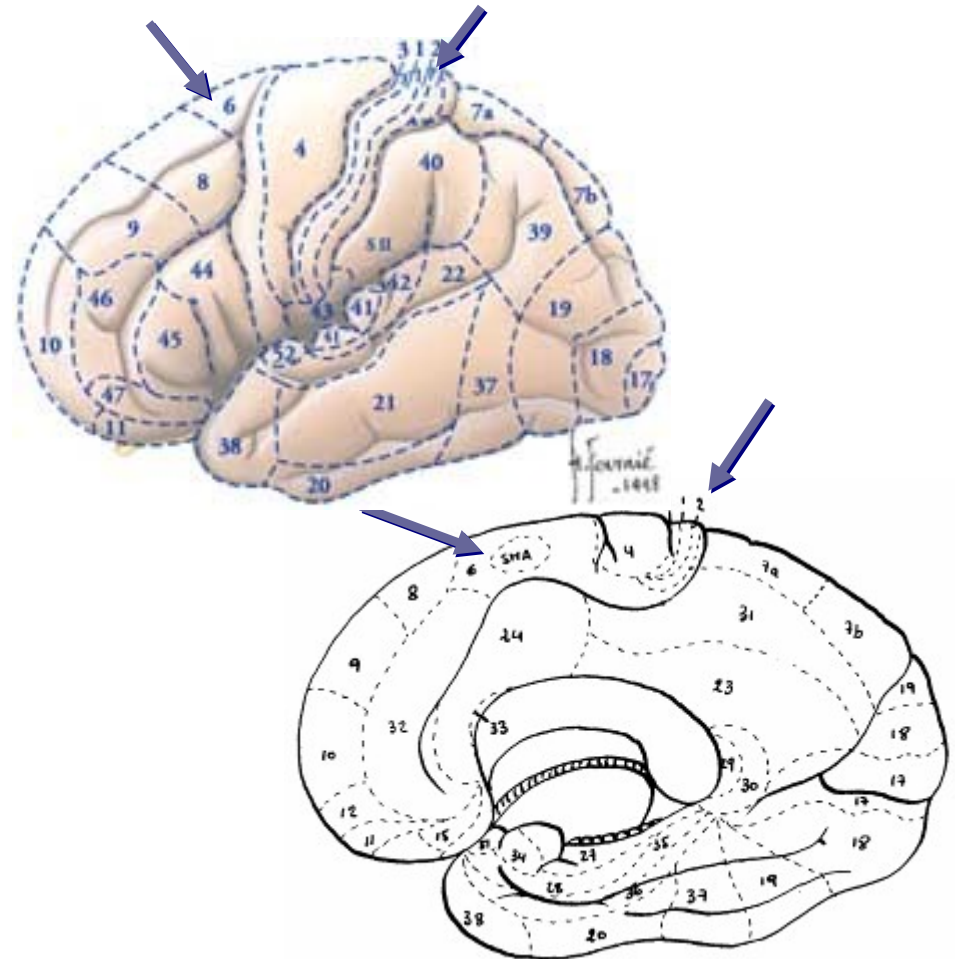
Motricité : Région centrale +

- Prémotrice

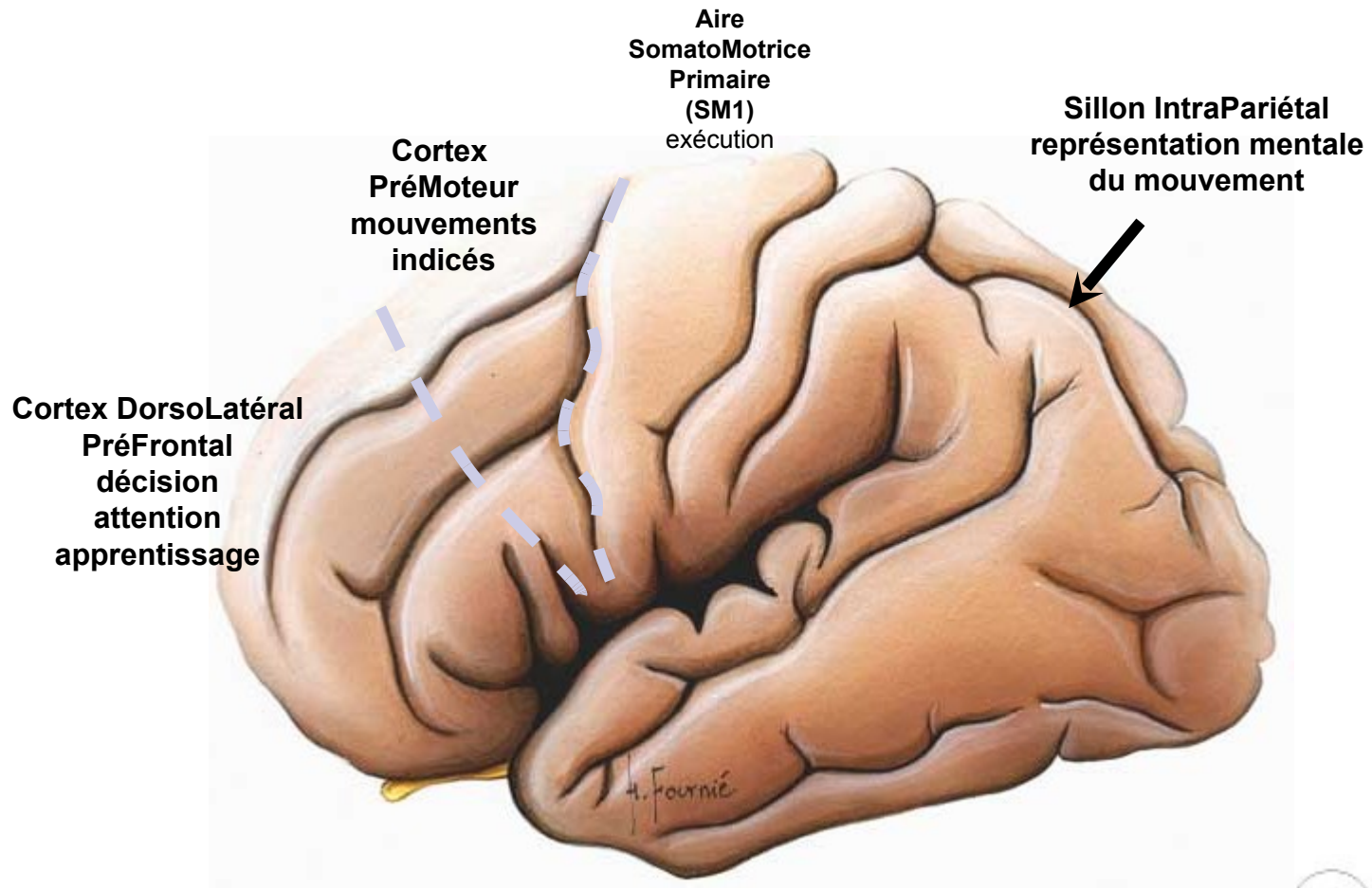
 - 6, SMA

- Pariétal

 - 3, 1, 2



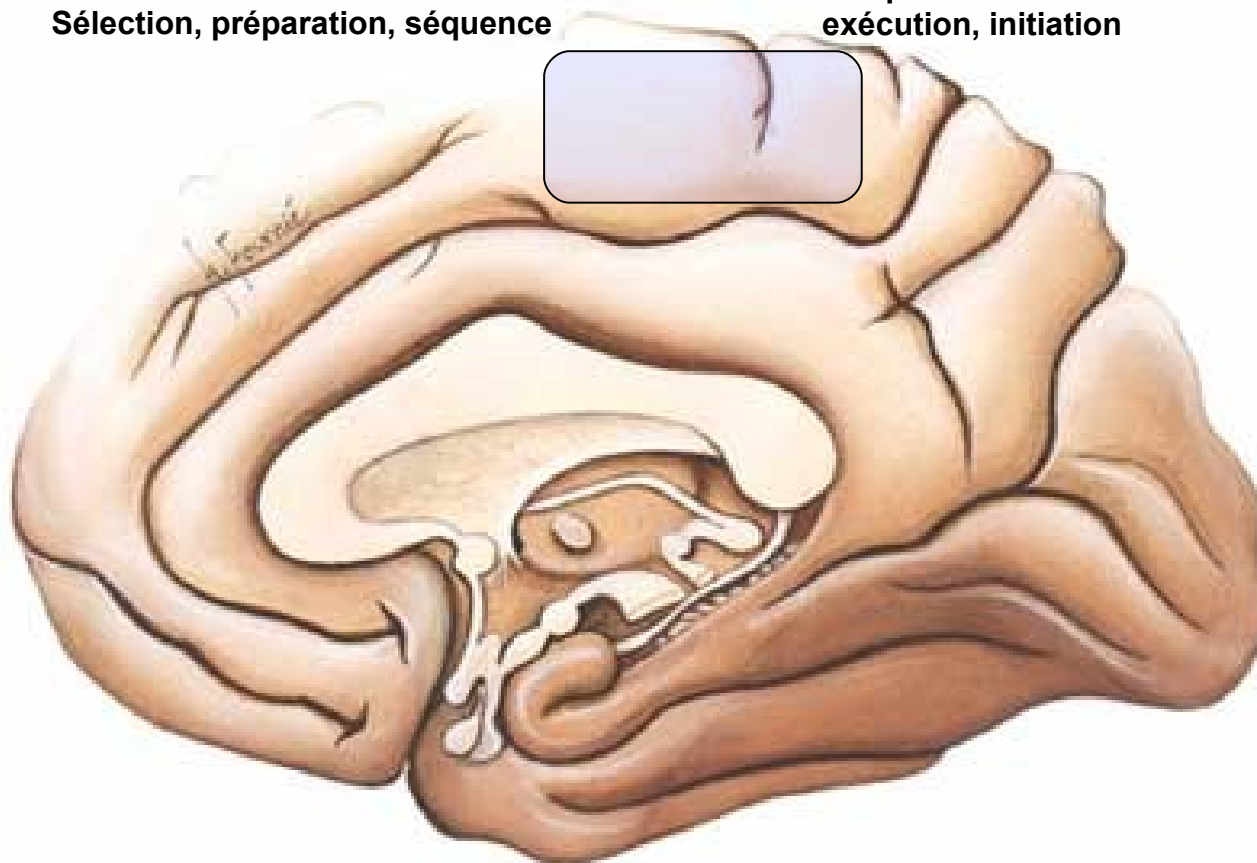
Motricité



Motricité

**Aire Motrice Supplémentaire
antérieure**
Sélection, préparation, séquence

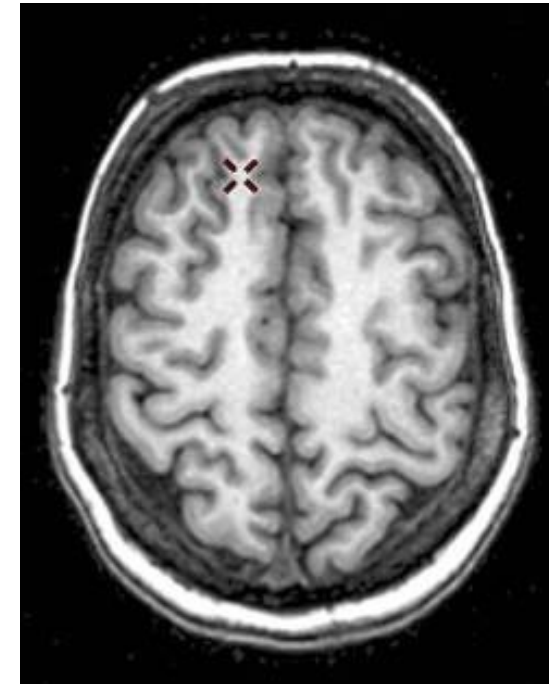
**Aire Motrice Supplémentaire
postérieure**
exécution, initiation



Trajet : *corona radiata*

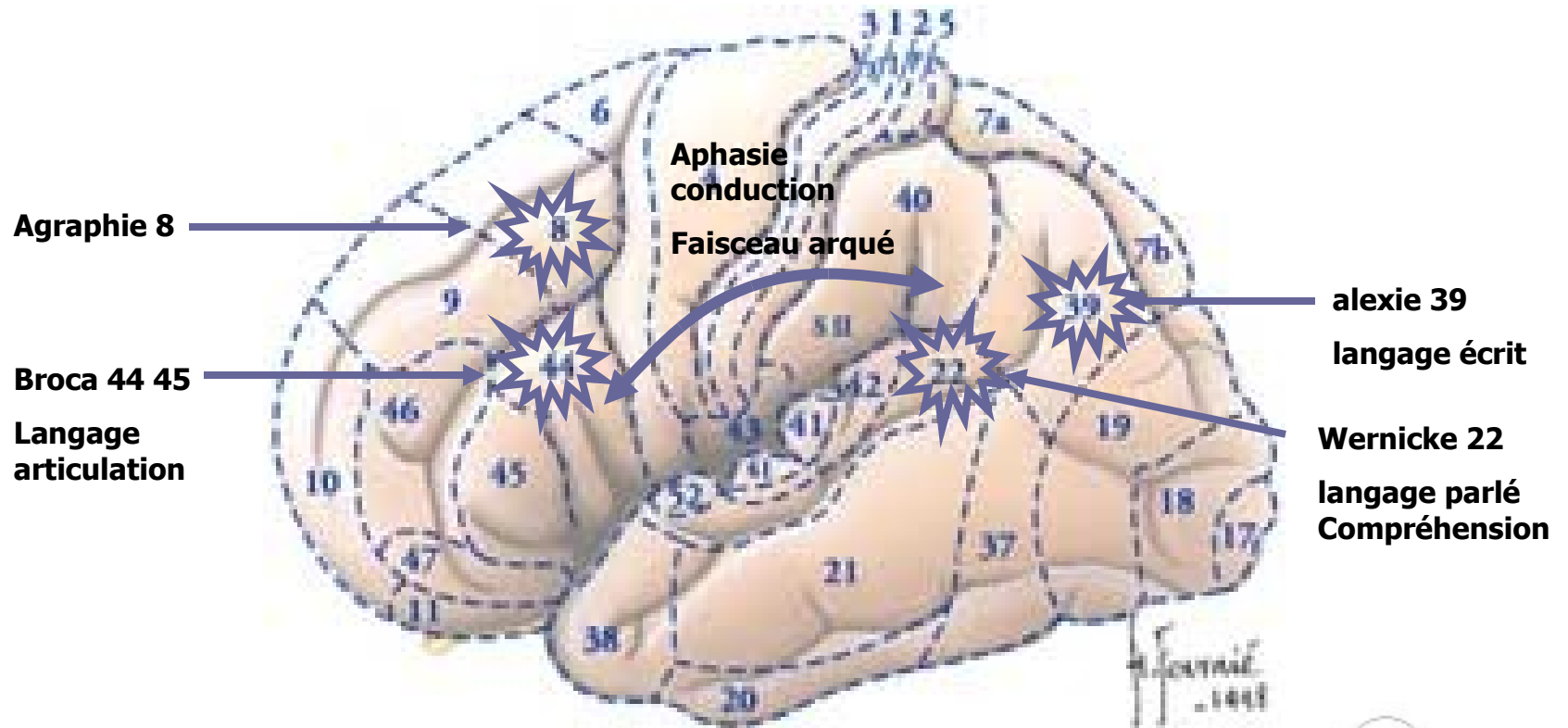


Coupe coronale



Coupes axiales Anatomique – IRM T1

Langage



Aphasies

■ Pour en savoir plus....

	Broca	Wernicke	Conduction	Trans-corticale motrice	Trans-corticale sensorielle
Langage spontané	Non fluent	Fluent	Fluent	Non fluent	Fluent
Dénomination	- à +/-	-	+/-	-	-
Compréhension	+ à +/-	-	+	+	-
Répétition	-	-	-	+	+
Lecture	-	-	+	+	-
Ecriture	-	-	-	-	-
Lésion	Aires 44-45 G	Aire 22 G	Faisceau arqué G Opercule pariétal	Lobe préfrontal G	Partie inférieure du lobe temporal G

Cortex cérébral

Glu

Putamen + N. Caudé

GABA
Enk

DA

GABA
Subst P

GPe

LNc

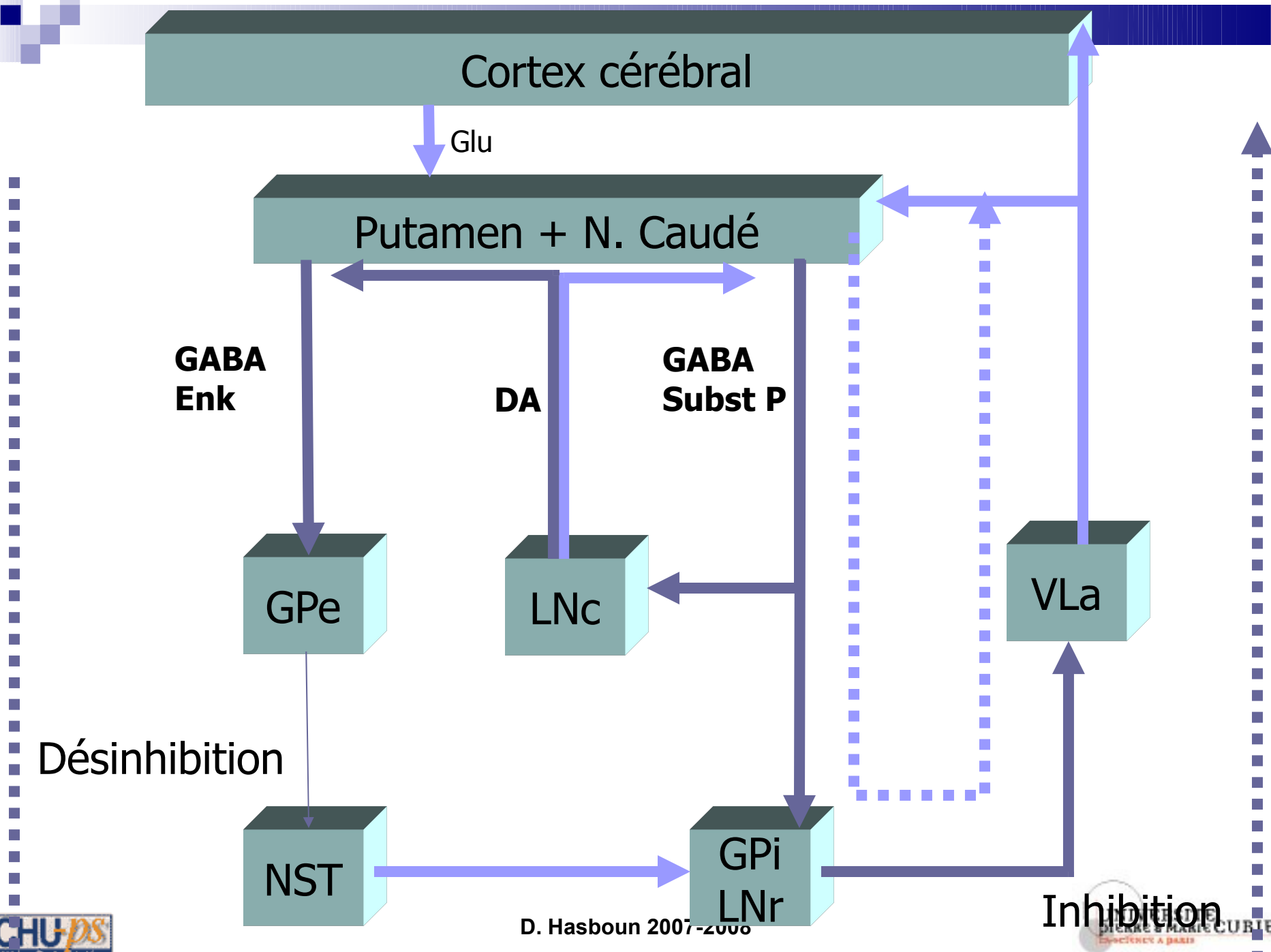
VLa

Désinhibition

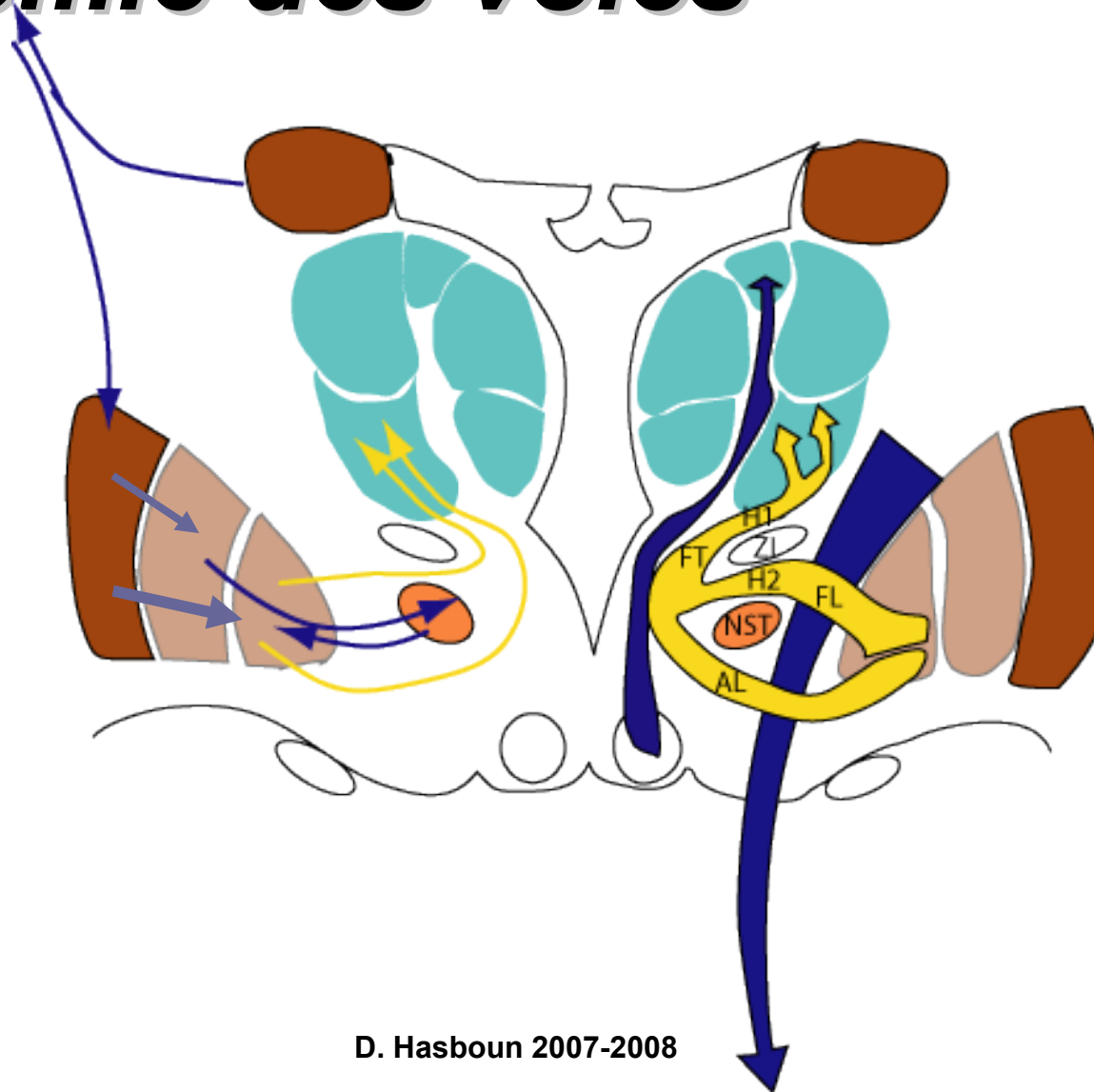
NST

GPi
LNr

Inhibition

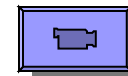
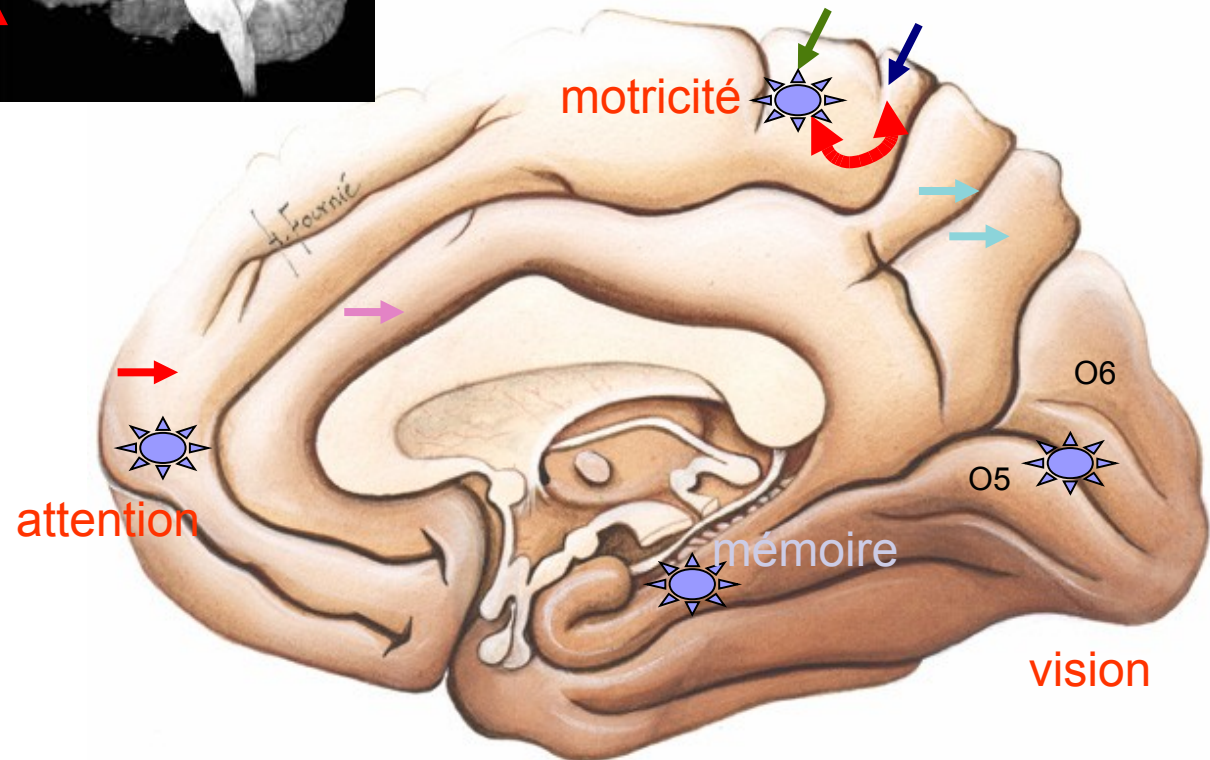
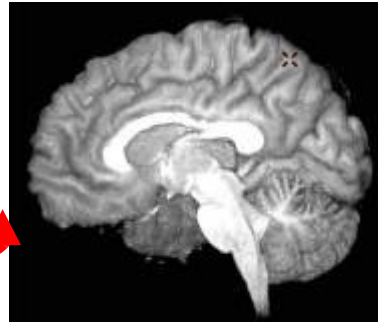


Anatomie des voies

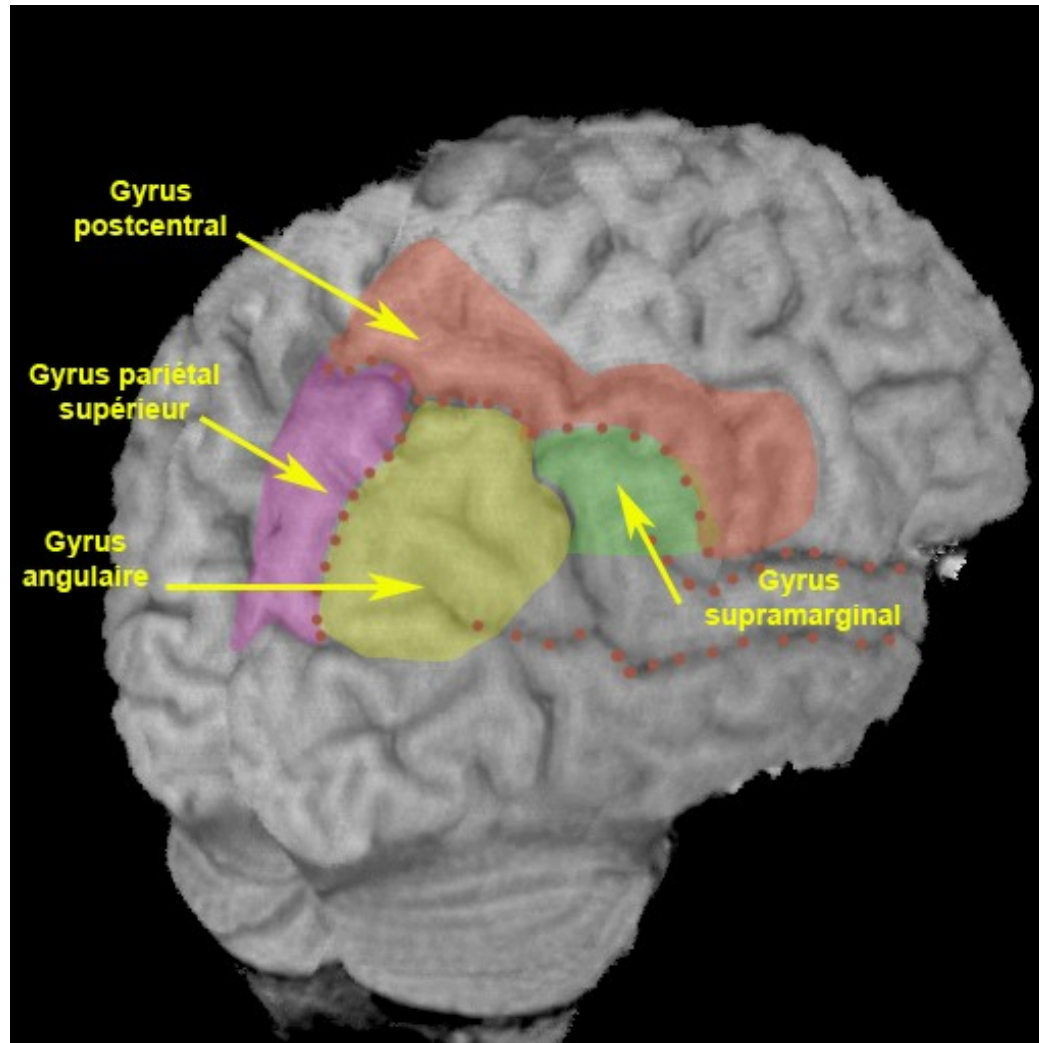


Télencéphale

- Frontal
 - F1 →
 - Gyrus précentral →
 - Lobule paracentral →
- Pariétal
 - Gyrus postcentral →
 - Précunéus →
- Lobe limbique
 - Gyrus cingulaire →
- Occipital
 - Cunéus O6
 - Gyrus lingual : O5
 - Gyrus fusiforme : O4
 - O3
- Temporal
 - T5, T4, T3

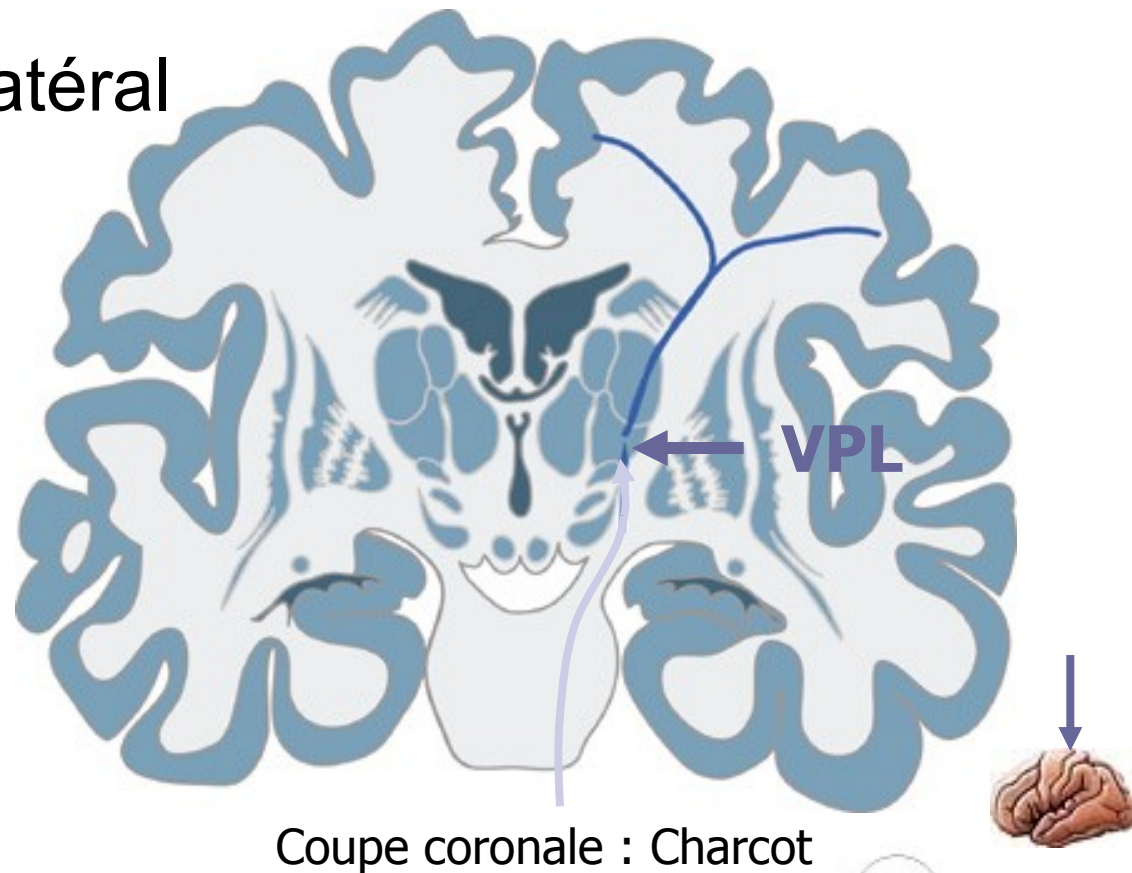


Pariétal : Praxies

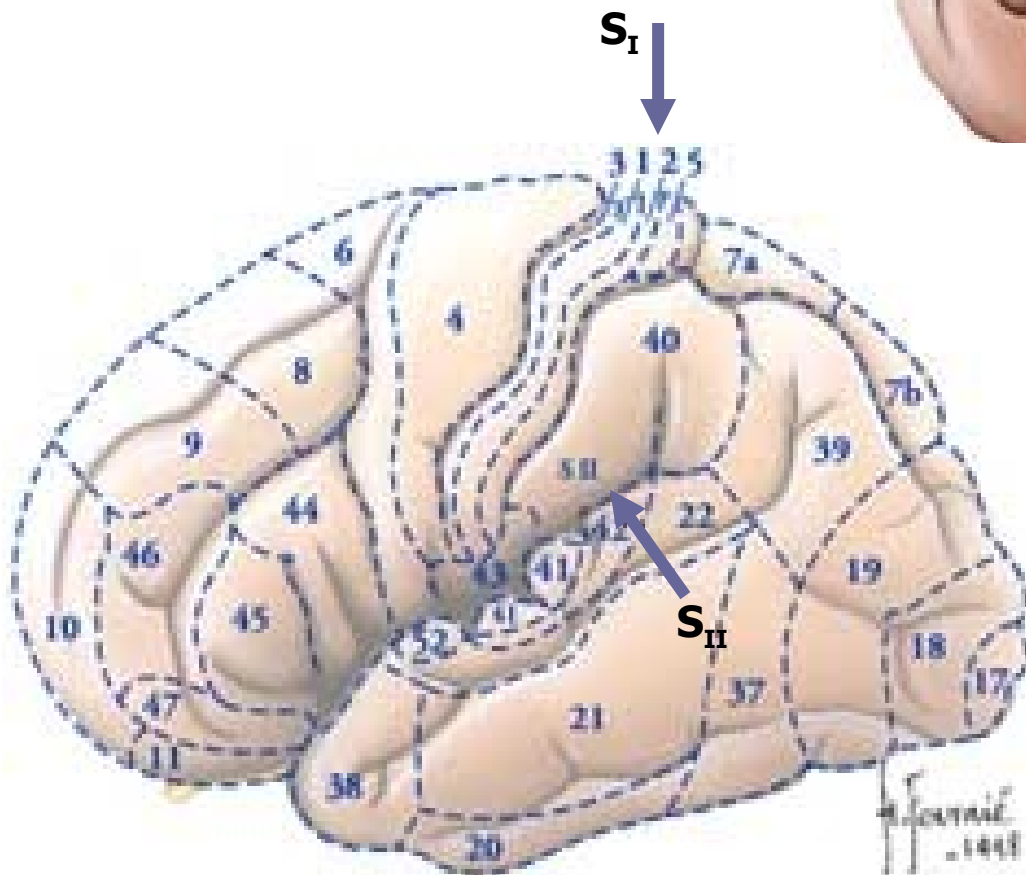
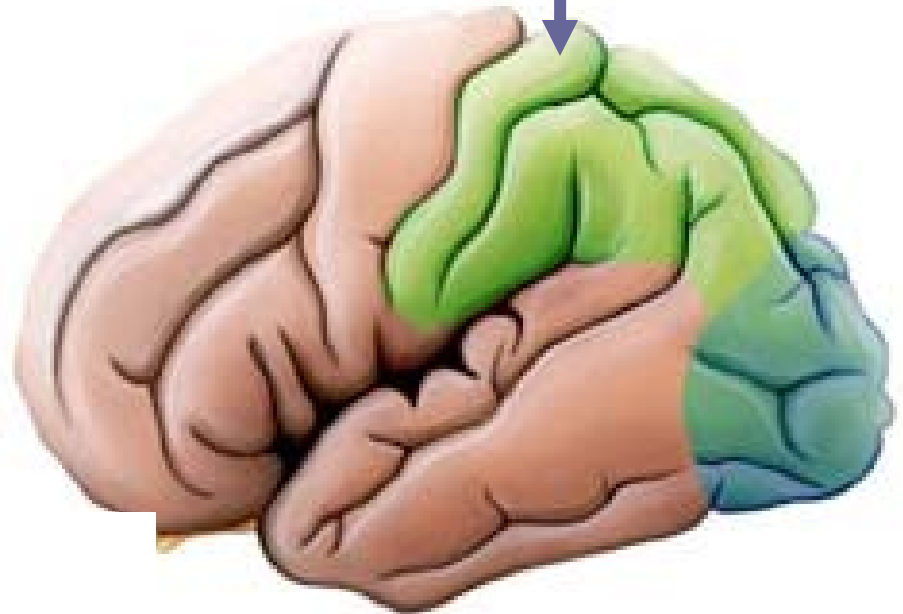


sensibilités

- Nx Ventral Postéro-latéral
- Somatotopie
 - Dh -> Dd
 - MI -> MS
- Interaction avec ST



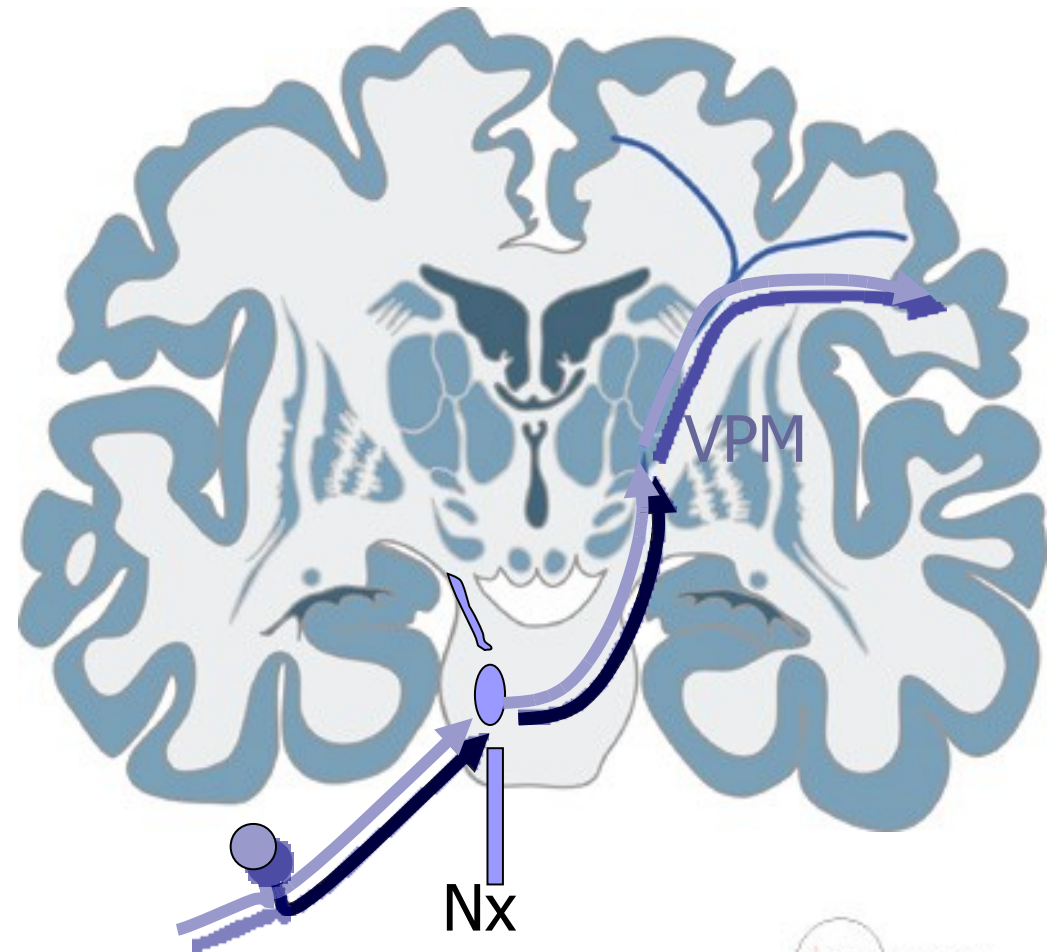
Cortex S_I , S_{II}



- Gyrus postcentral
- Aires 3, 1, 2
- Somatotopies
- Face latérale : ACM
- Face médiale : ACA
- Via le bras postérieur de la Capsule Interne
- Organisation en colonnes

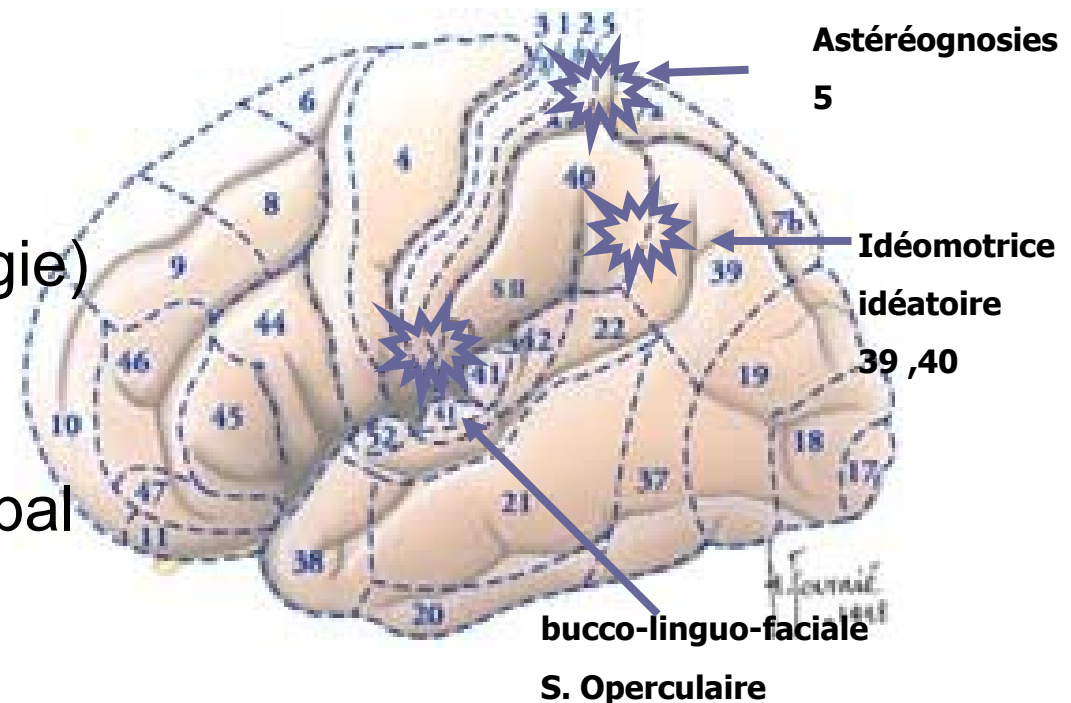
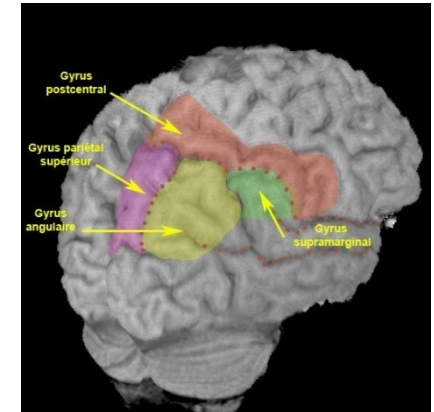
Sensibilité de la face

- Fx quintothalamique
 - Nx V -> VPM
- Relais thalamique
 - VPM
- Gyrus postcentral opercule Rolandique



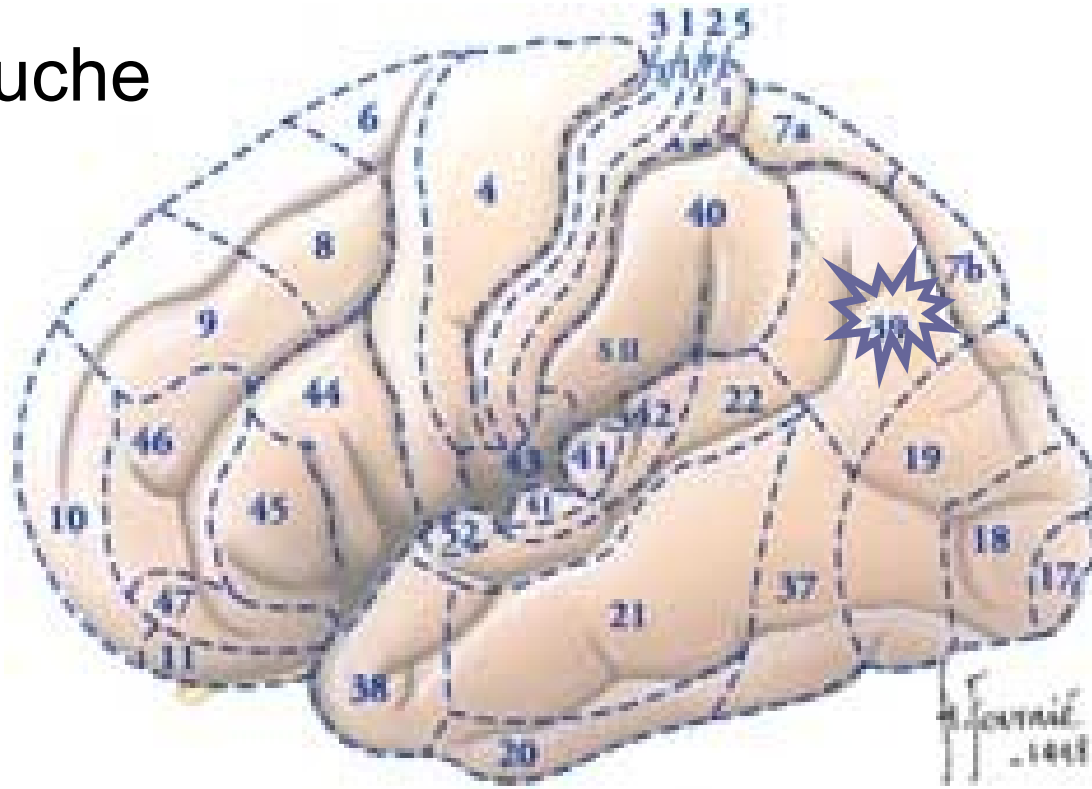
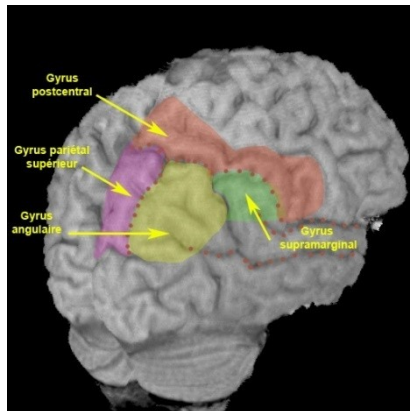
Pariétal : Praxies

- Idéomotrice
 - Intransitifs, symboliques
 - PG
- Idéatoire
 - Enchaînements de gestes simples (bougie)
- Constructive
 - Ppost D/G
 - Dessin sur ordre verbal
- Bucco-faciale, habillage, marche



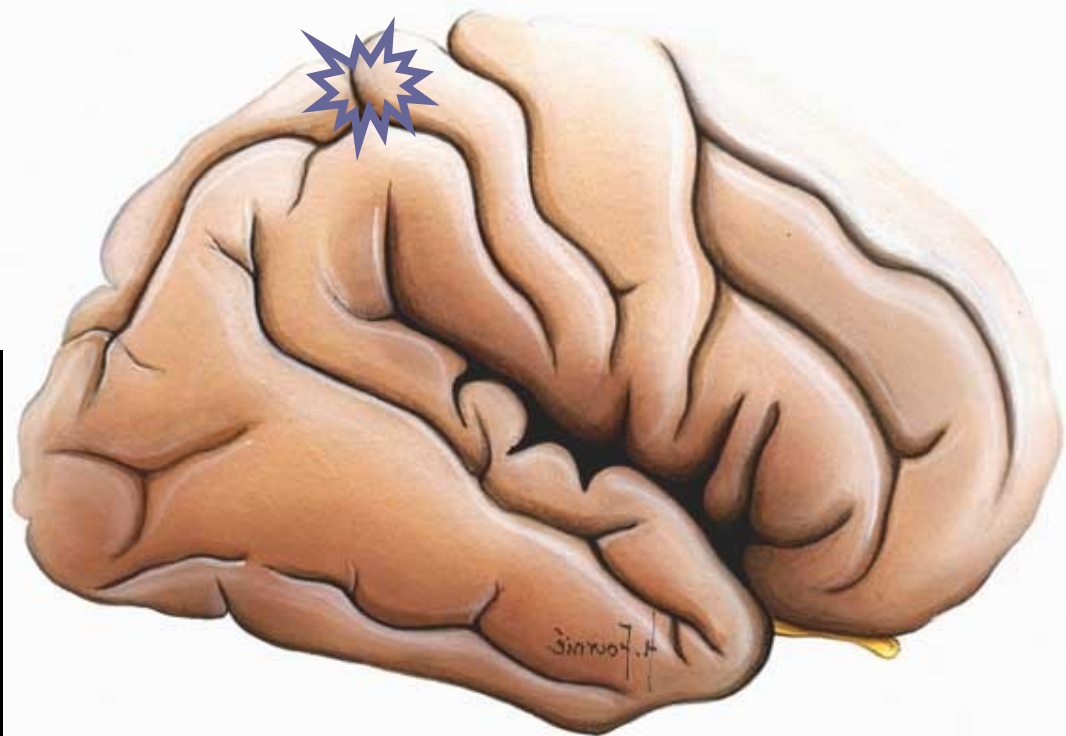
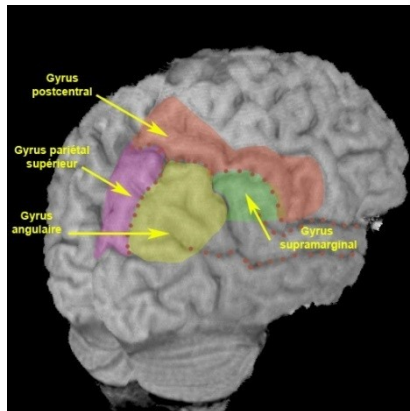
Syndrome de Gerstmann

- Gyrus angulaire (39) - Gauche
- Indistinction droite-gauche
- Agnosie digitale
- Acalculie
- Agraphie

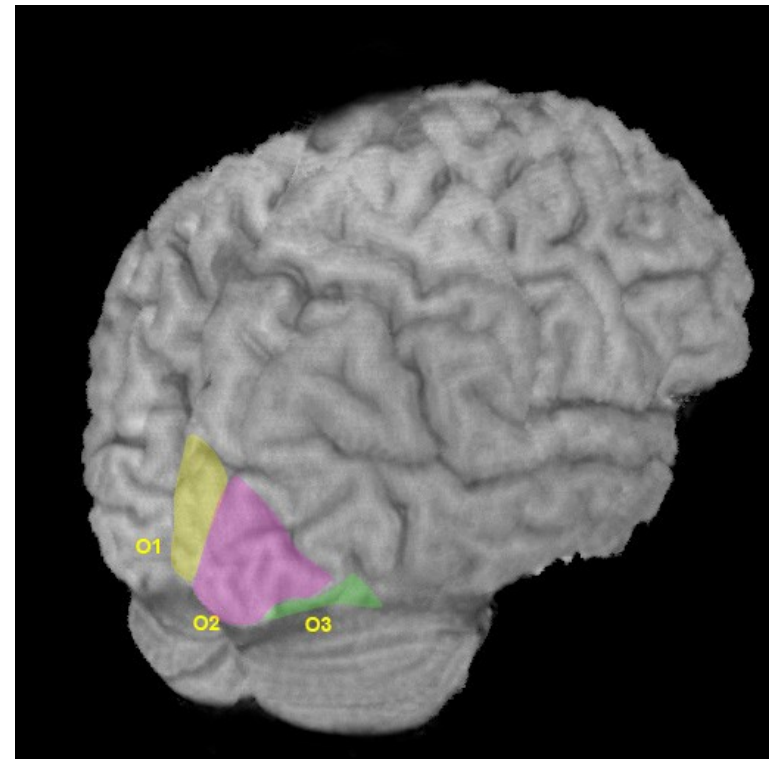
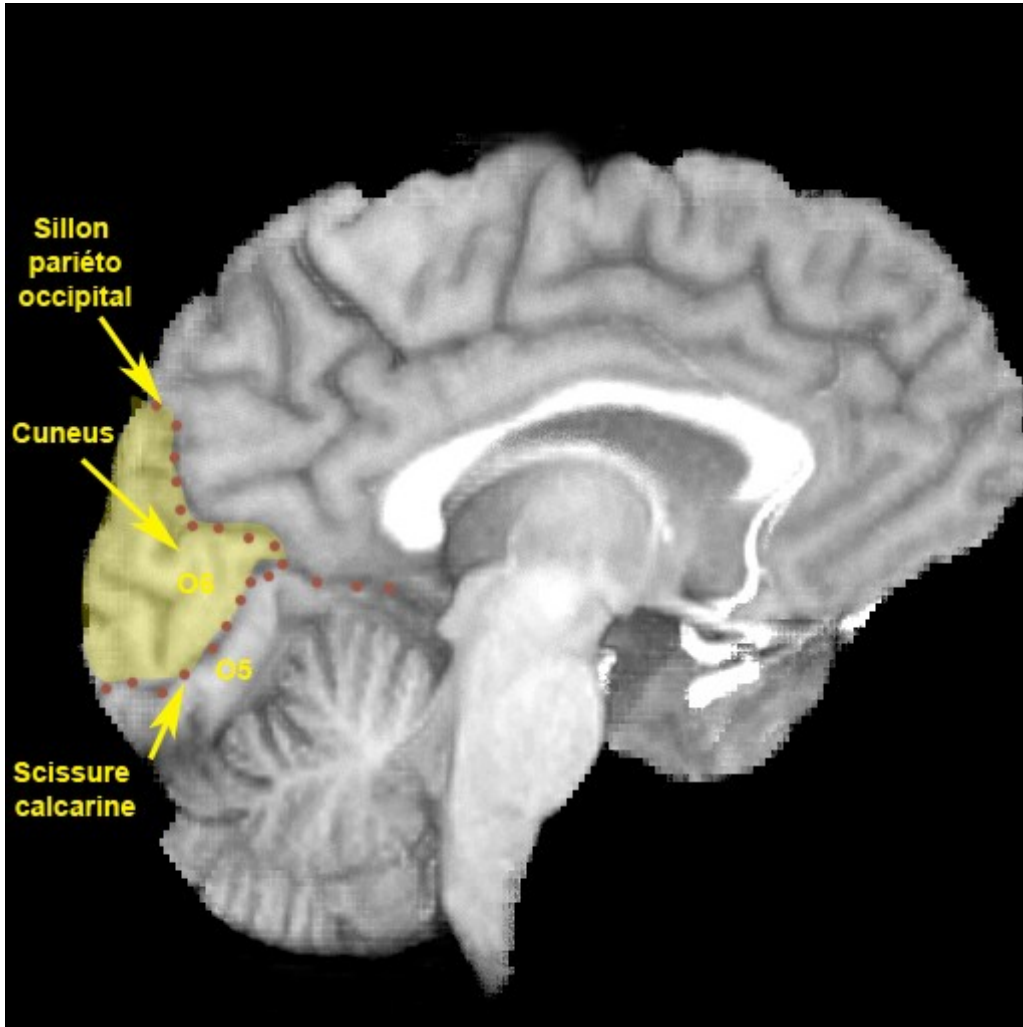


Syndrome d'Anton-Babinski

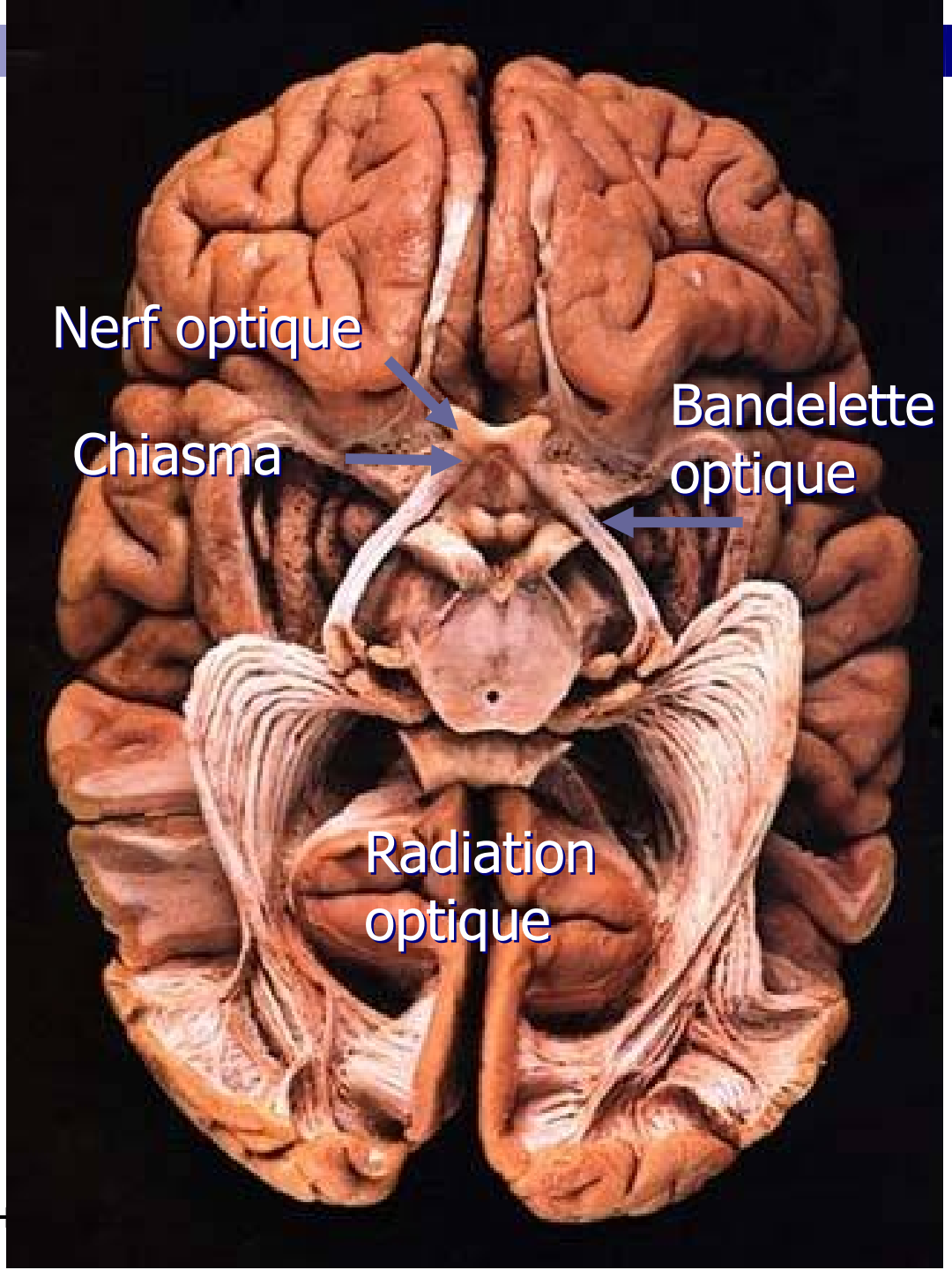
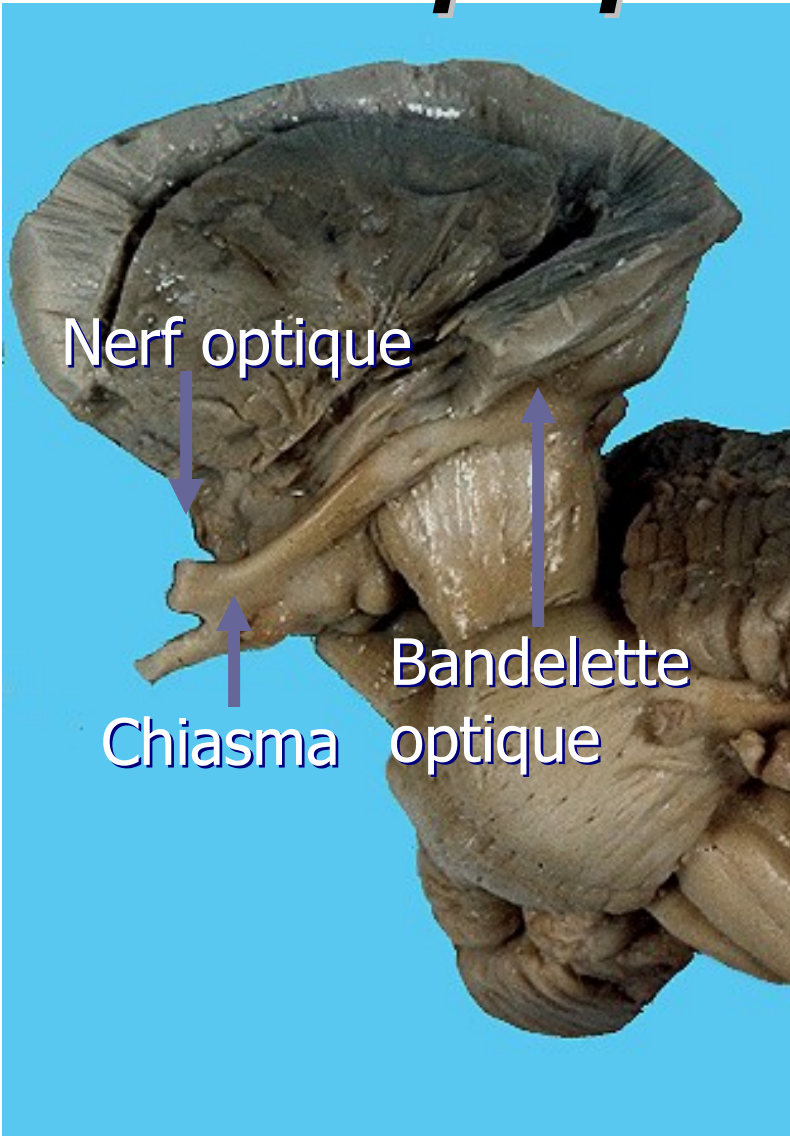
- cortex somato-gnosique droit (aire 5)
- Hémiasomatognosie
- Anosodiaphorie
- Anosognosie



Occipital

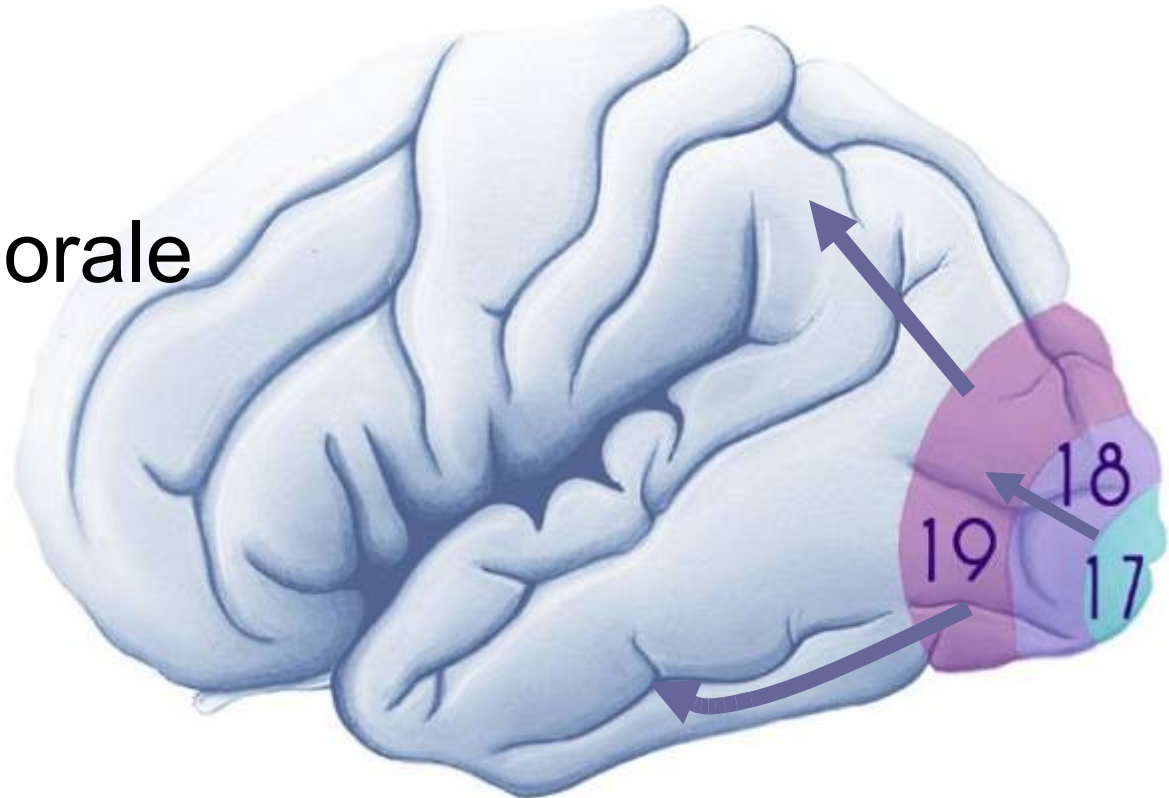
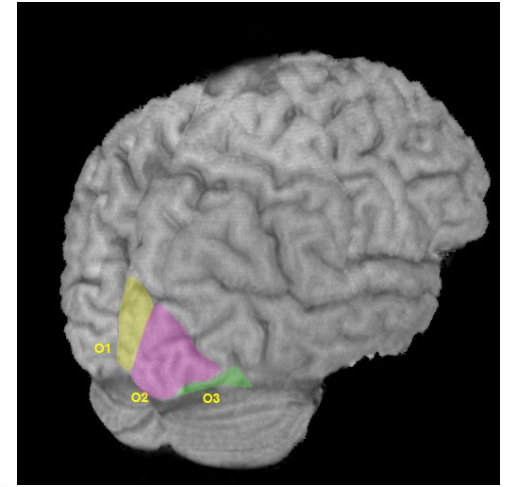


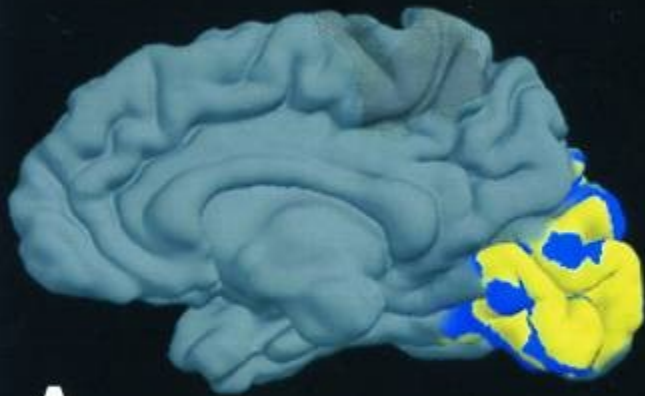
Voies optiques



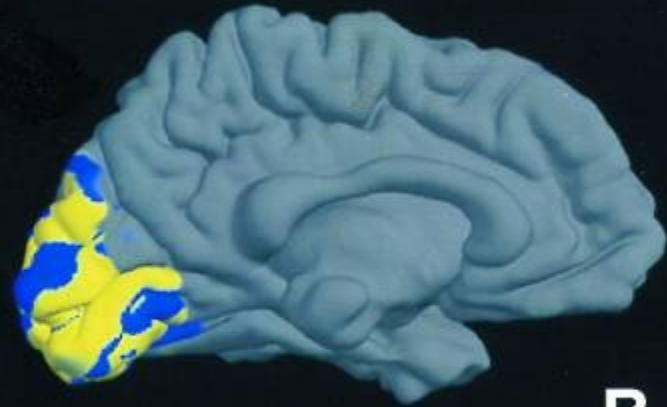
Cortex visuel

- V1 : 17
- V2 : 18
- V3- V4 : 19
- Aire inféro-temporale
- Aire pariétale postérieure





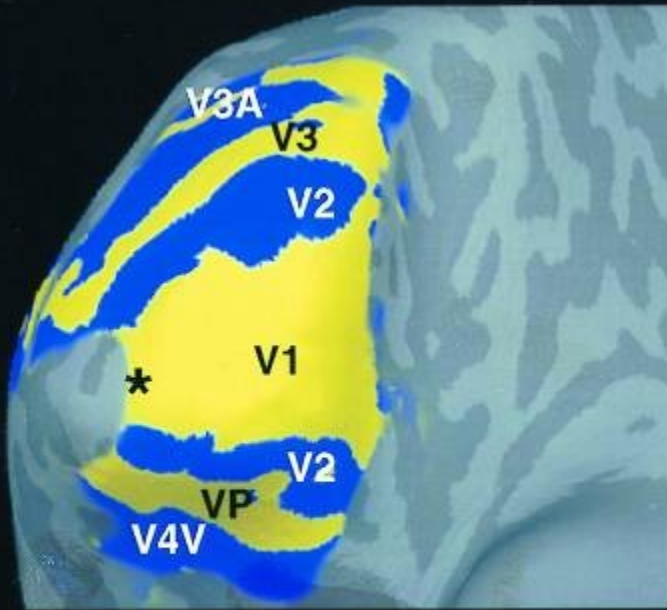
A



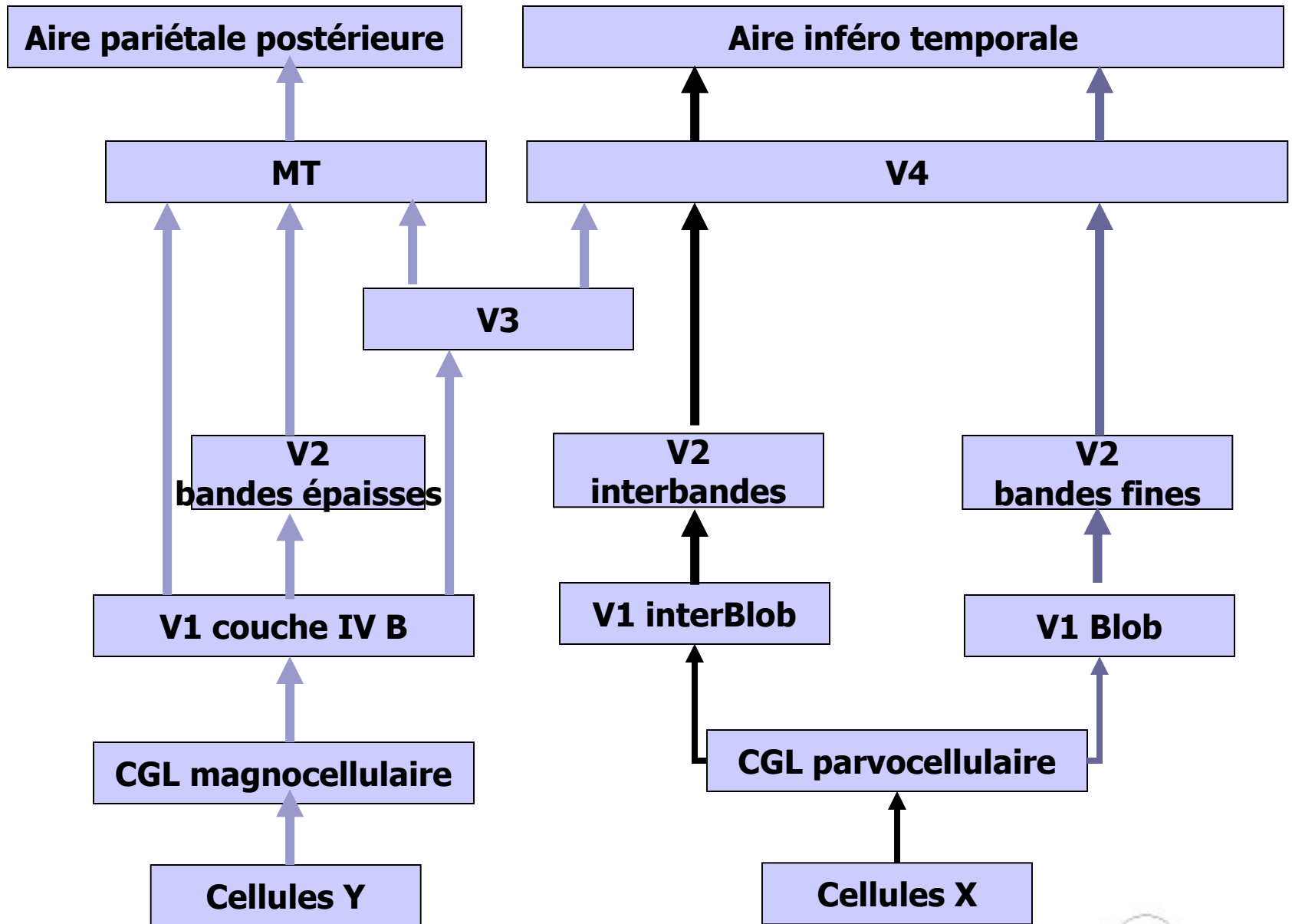
B



C

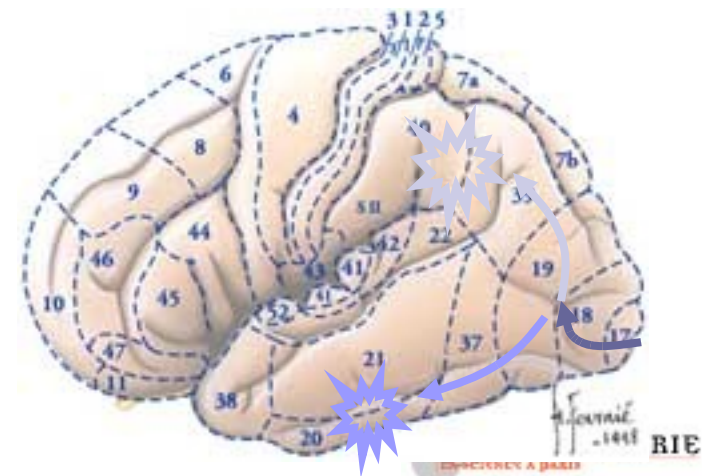


D



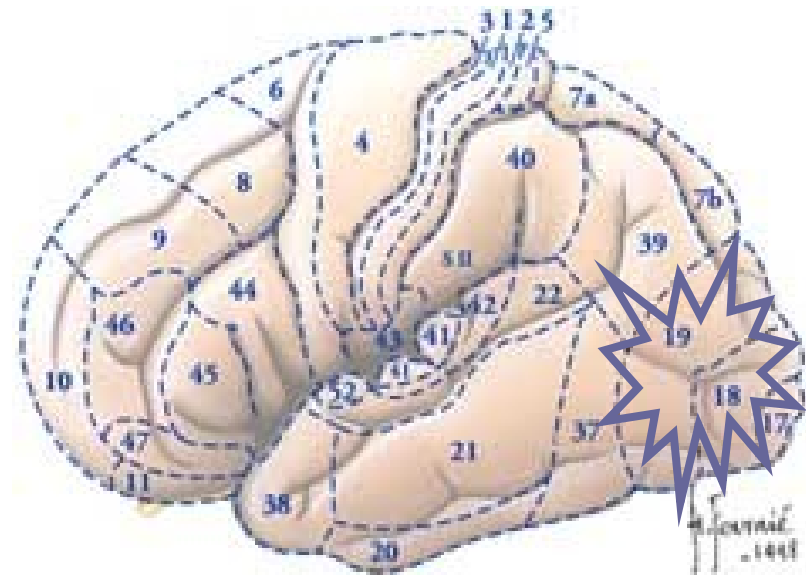
Occipital

- unilatérale
 - hémianopsie latérale homonyme
 - quadranopsie
- bilatérale
 - cécité corticale conserve les réflexes pupillaires
- Crises visuelles
- agnosies
 - Agnosie visuelle
 - Objets, images, couleurs
 - prosopagnosie



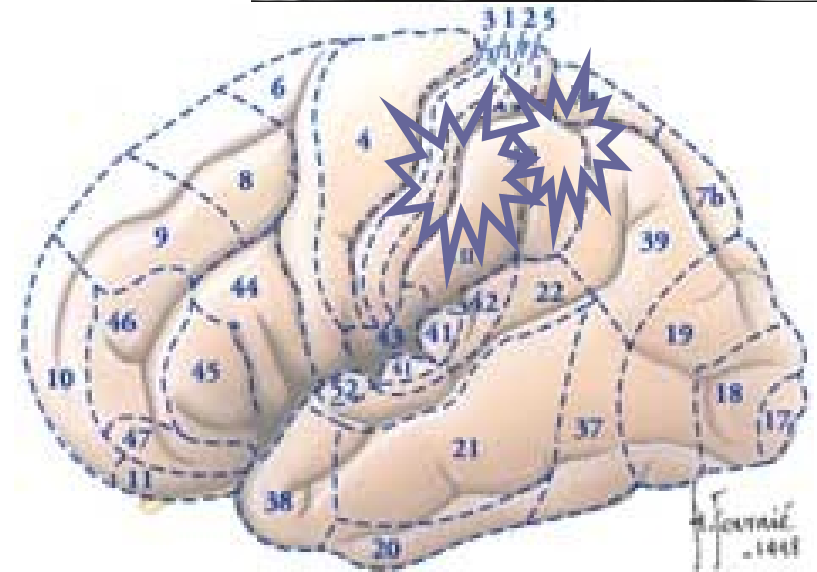
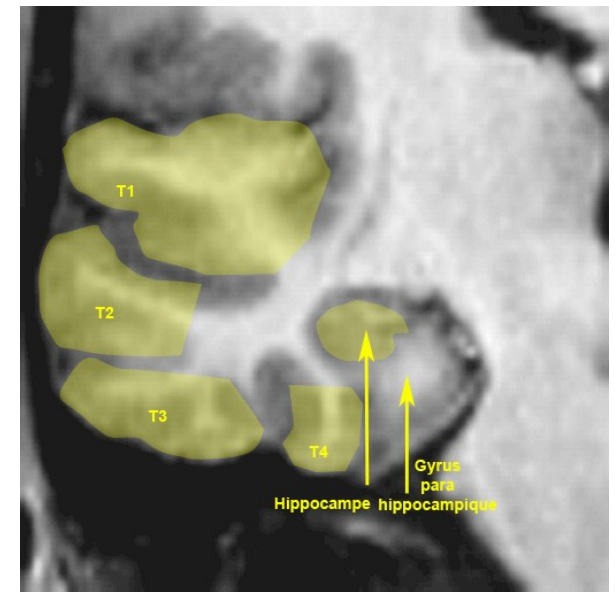
Syndrome de Balint

- Lésion bilatérale cortex visuo-gnosique 18-19
- apraxie du regard
 - diriger le regard vers un stimulus périphérique
- Asimultagnosie
 - vue d'ensemble
- ataxie optique
 - saisir un objet périphérique

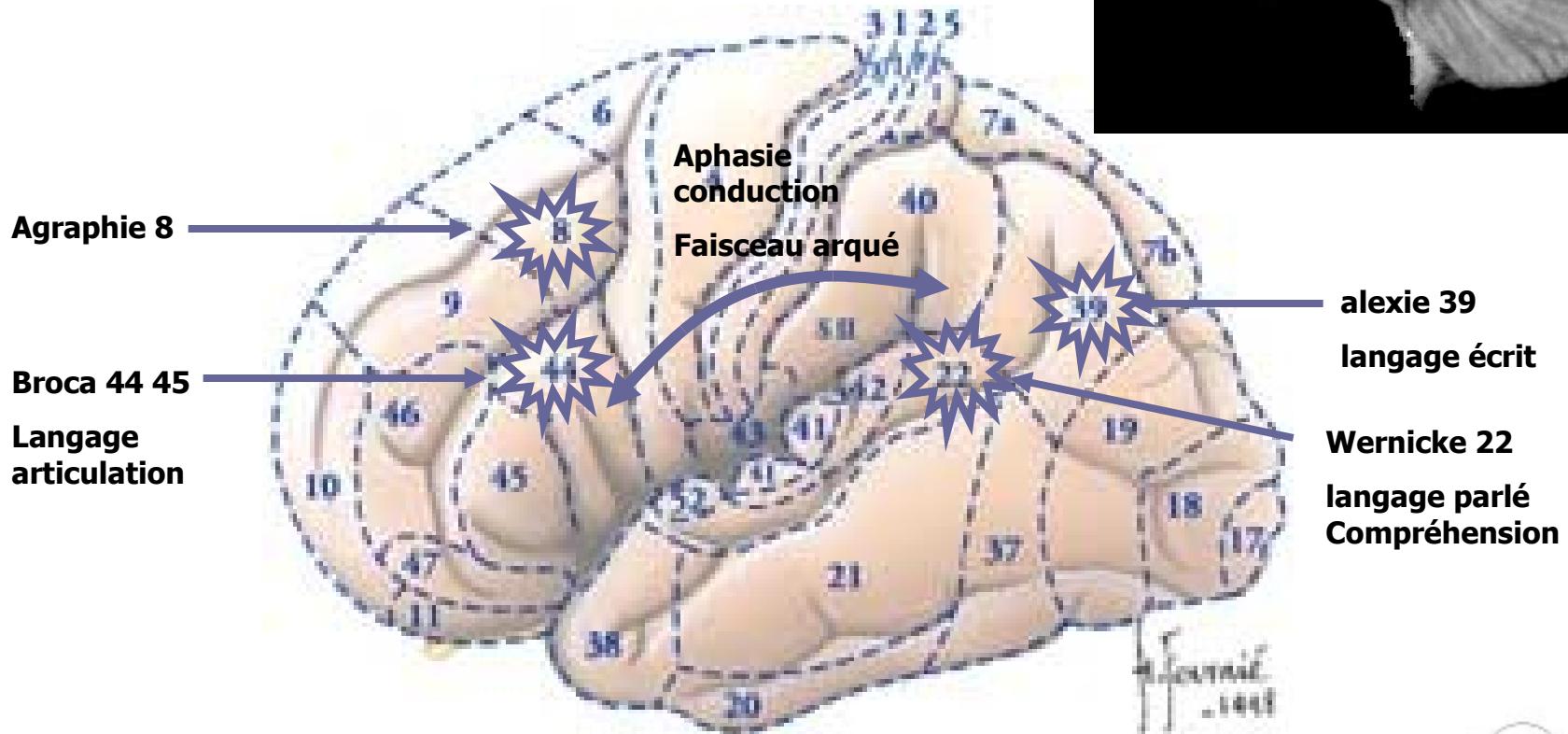
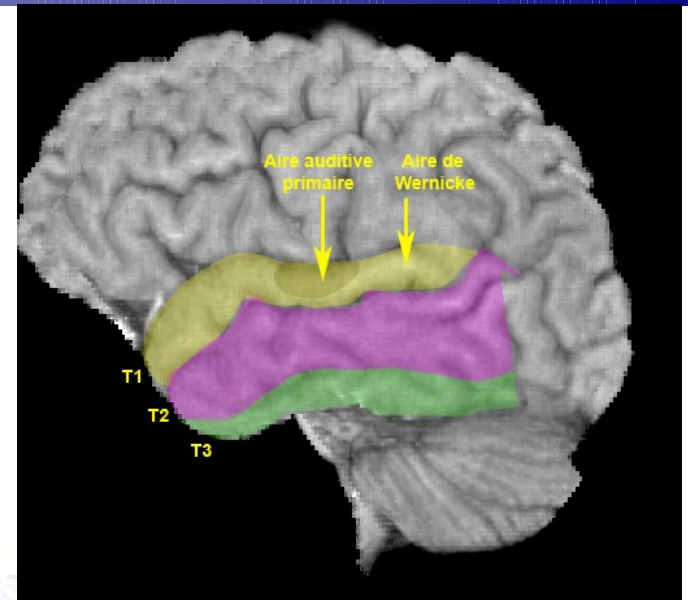


Temporal (latéral)

- Aires primaires 41 et 42
 - Déficits
 - Gauche : surdité verbale
 - Droite : agnosie auditive
 - bilatérale : surdité corticale
 - crises
 - Illusions, hallucinations auditives
- Aphasie de Wernicke



Langage



Noyaux cochléaires

cortex

Radiation auditive

CGM

CGM

Bras conjonctival

col

col

Lemniscus latéral

Mésencéphale - colliculus

OS

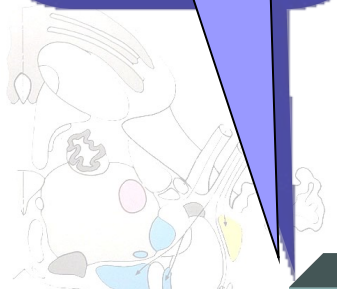
CT

OS

Pont- Corps trapézoïde

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Noyaux cochléaires



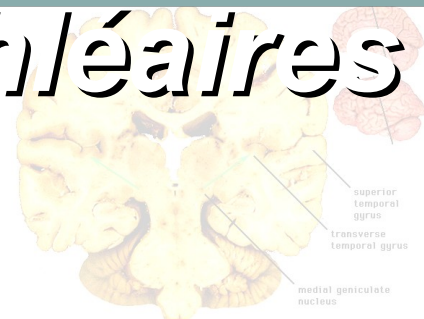
Bulbe
Nx Cochléaire

VIII

NCD

NCV

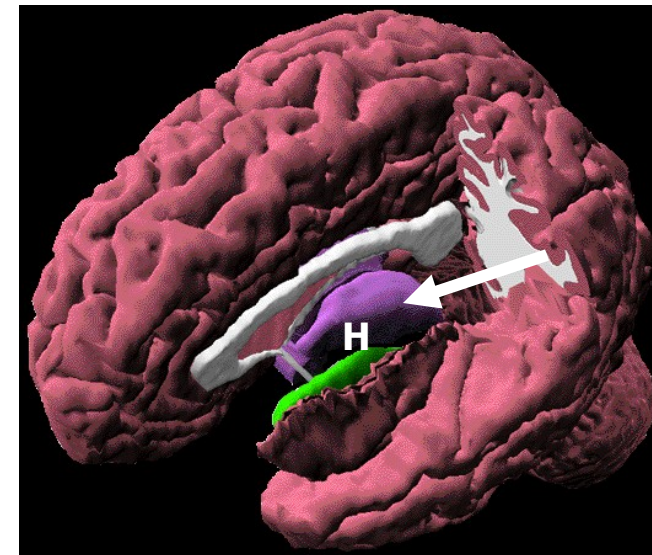
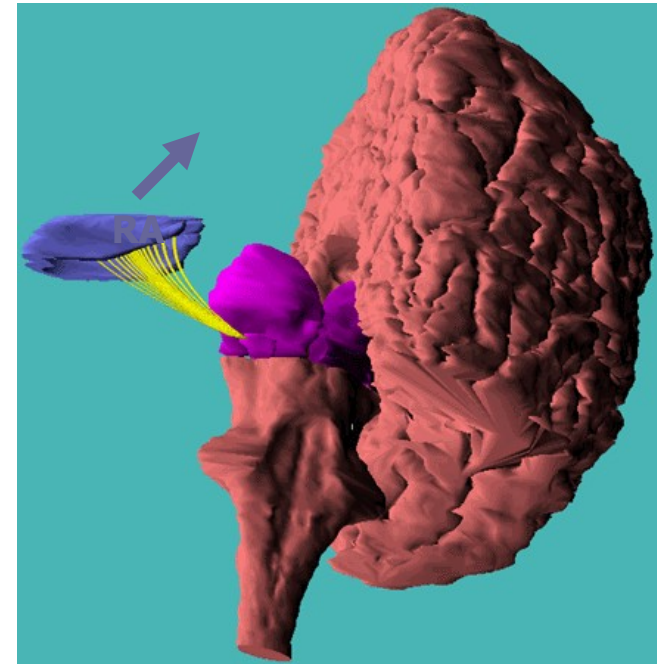
NCV



superior
temporal
gyrus
transverse
temporal
gyrus
medial geniculate
nucleus

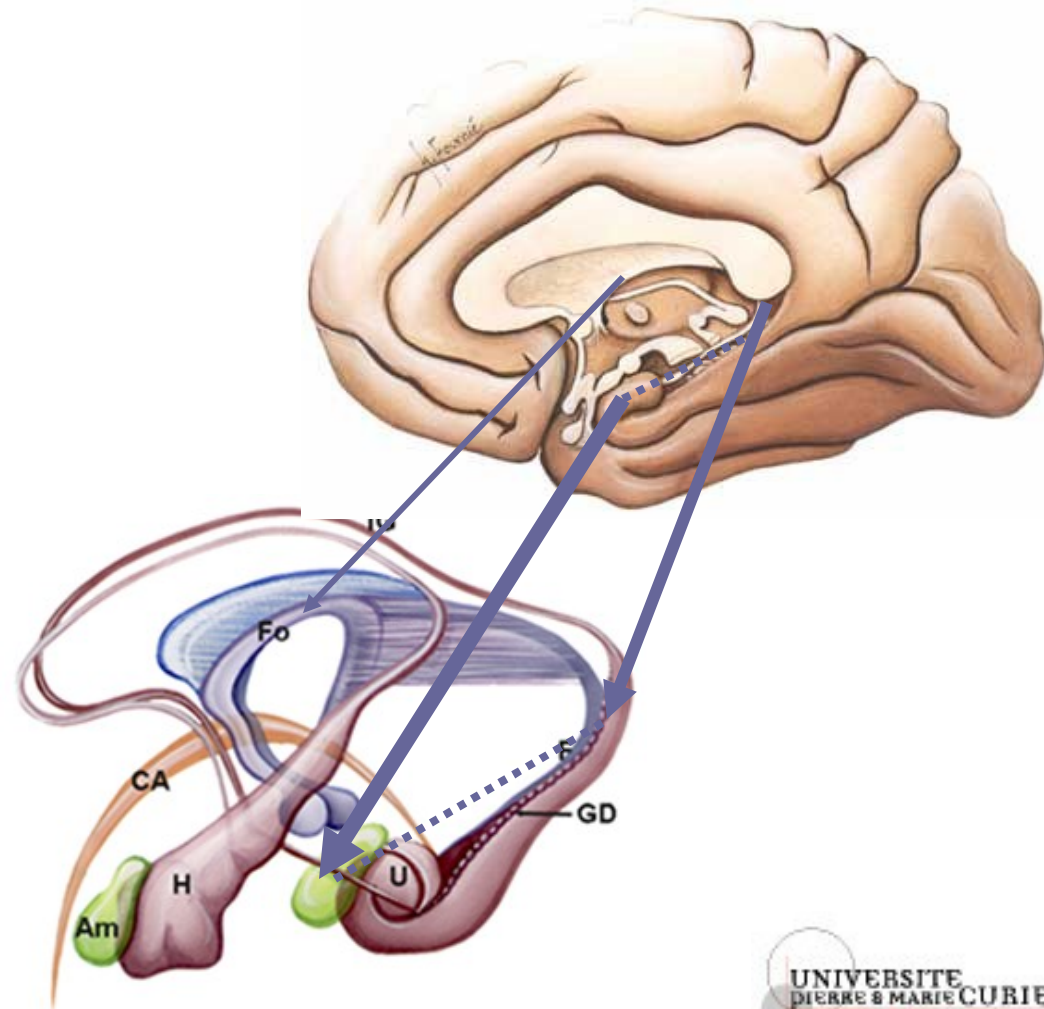
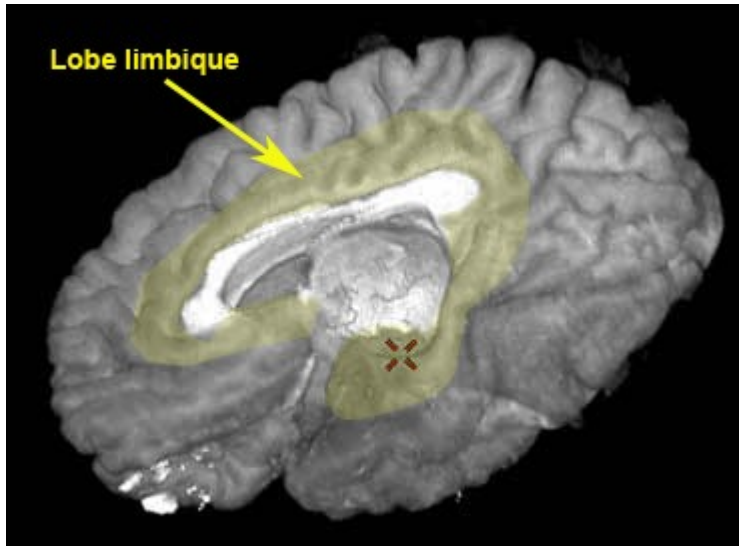
Cortex auditif

- Radiations auditives (RA)
 - CGM -> T1
- Cortex
 - Gyrus temporal transverse de Heschl (H) : 41, 42
 - Gyrus temporal supérieur : 22
 - Planum temporale
- Tonotopie
- Afférences binauriculaires



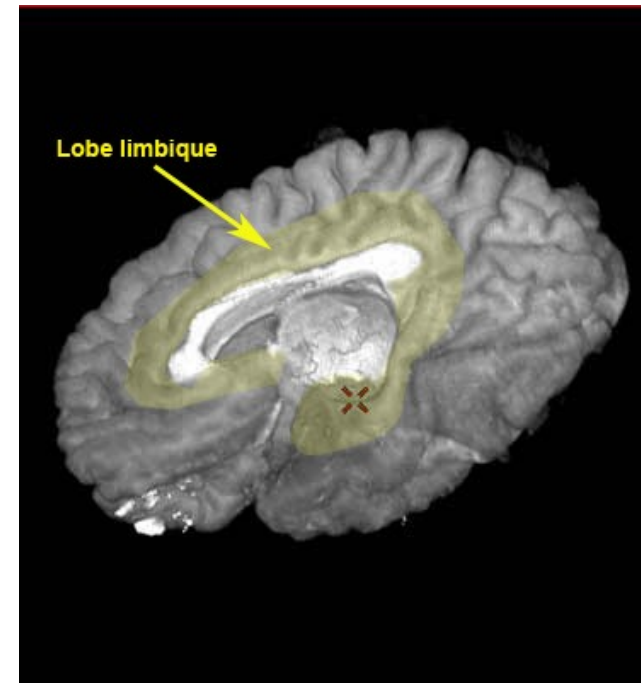
Temporal (médial)

- Crises temporeales mésoiales
 - Aura épigastrique
 - Étrangeté, déjà vu...
 - Troubles de la conscience
 - Automatismes
 - Olfactives : amygdale

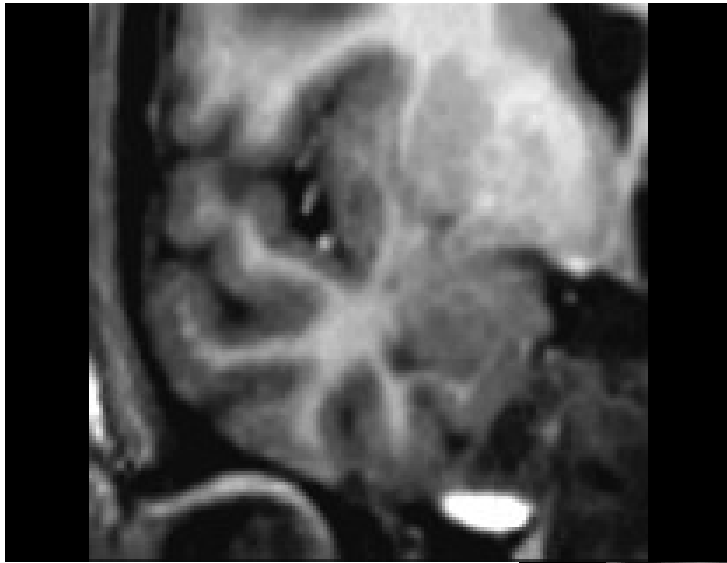


D. H

Temporal

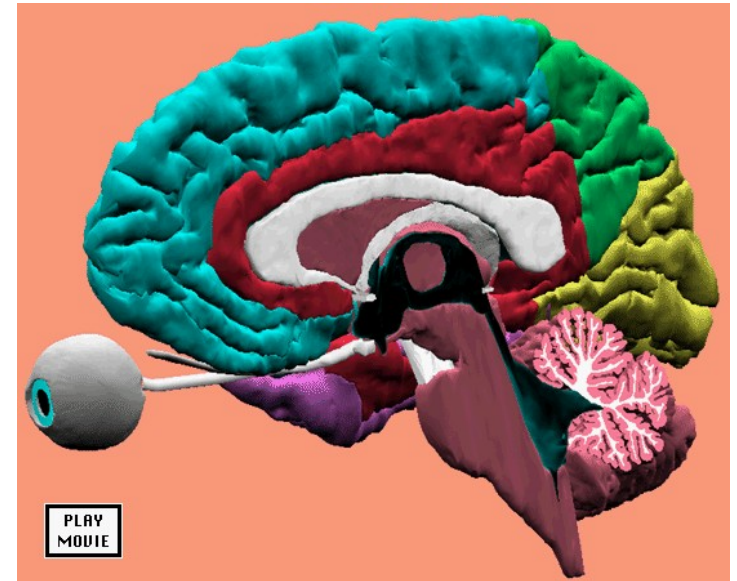


Temporal (médial)

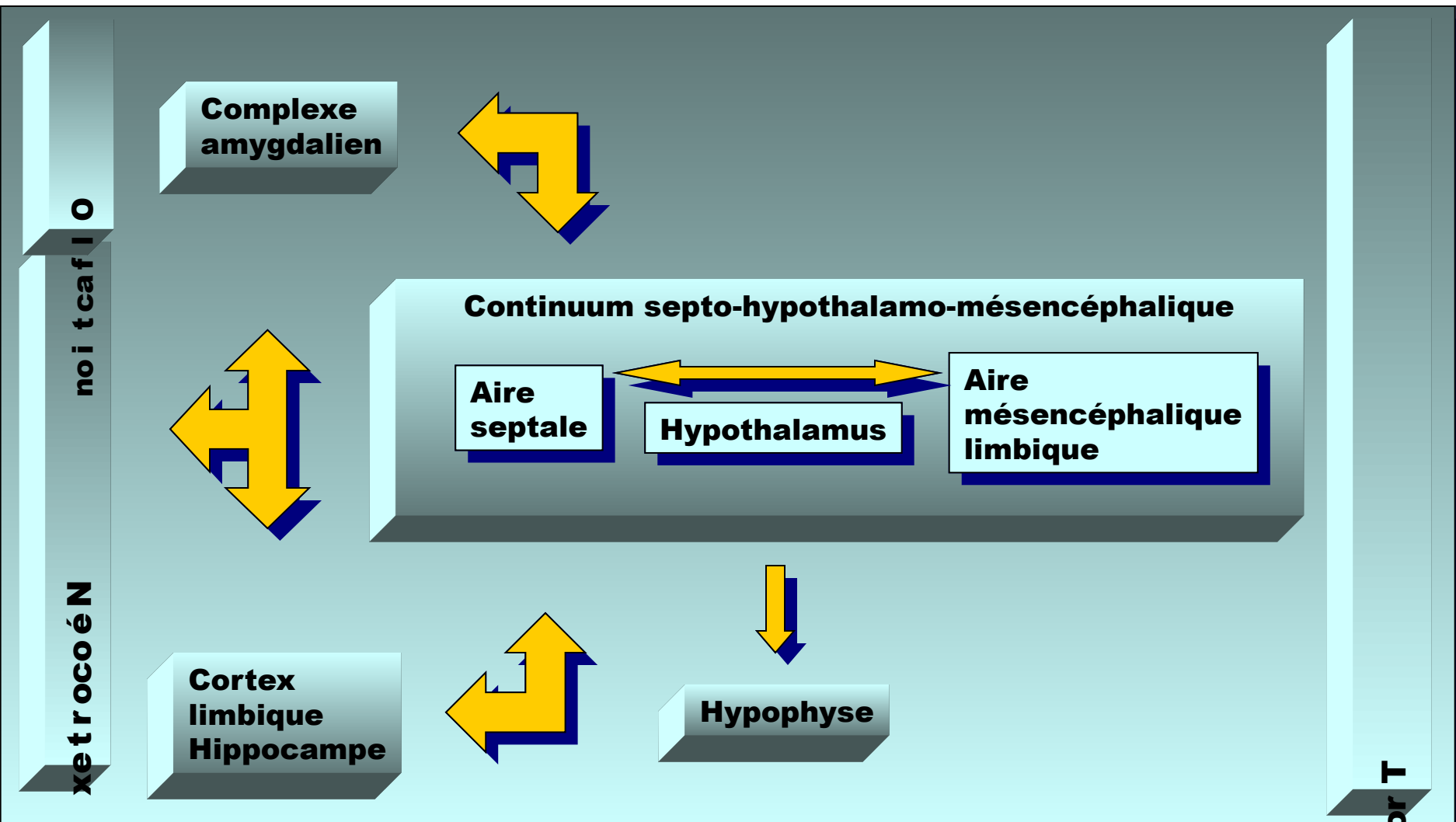


Systeme limbique

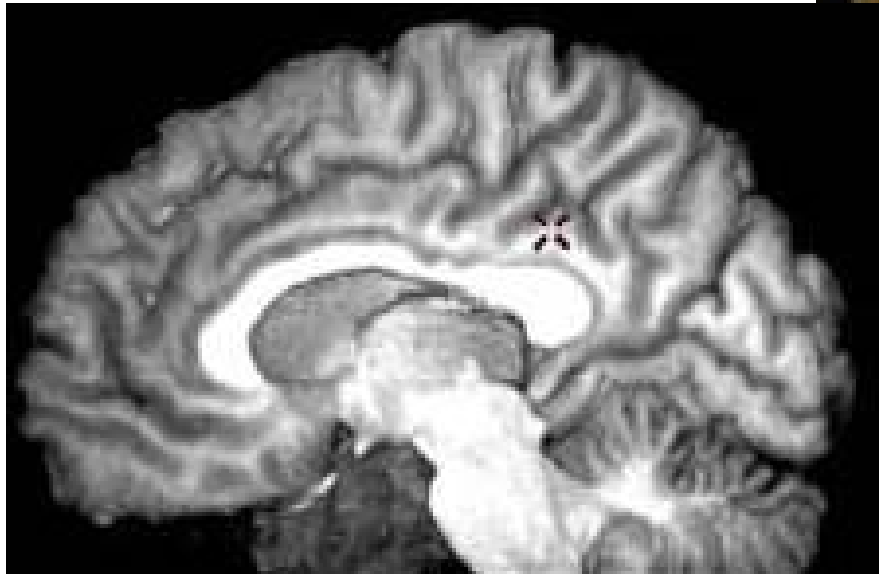
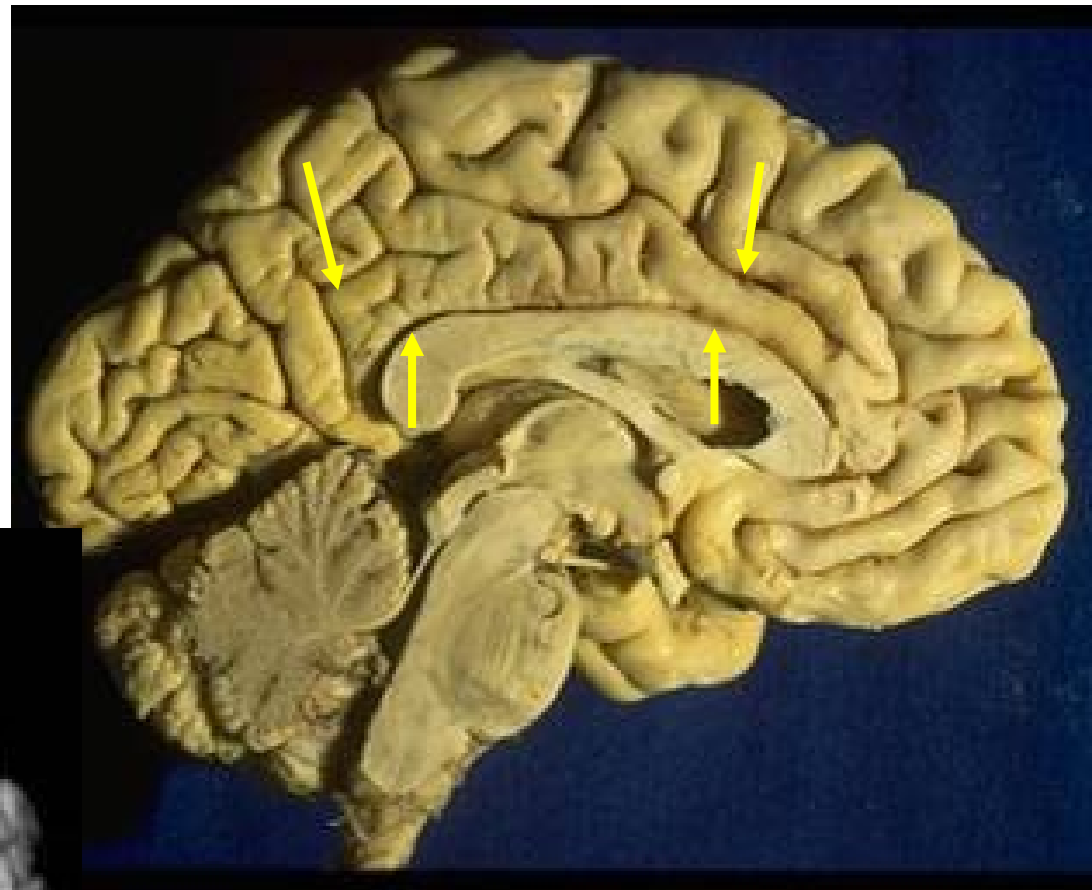
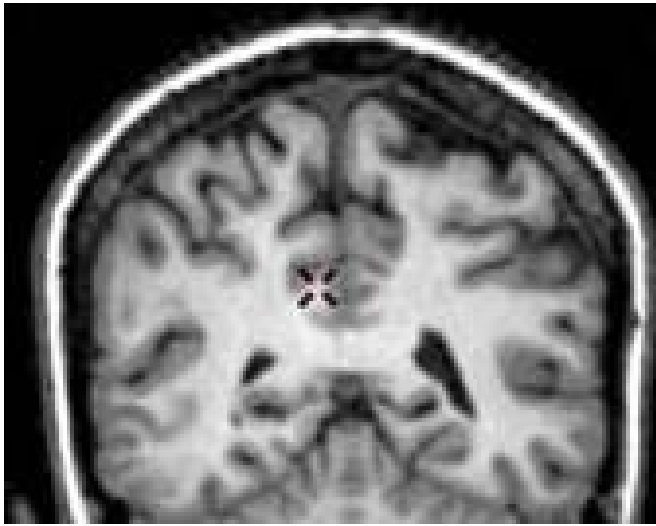
- Broca (1877) « la raquette olfactive- Grand Lobe Limbique »
- Papez (1937) - 'Limbic Circuit' - emotion
- MacLean (1952) - cerveau tri-unitaire :
 - reptilien : TC NGC
 - paléo-mammalien : Systeme Limbique
 - néo -mammalien : néocortex
- Nauta (1972) - 'Septo-hypothalamo-mesencephalic continuum'



Hiérarchie anatomique



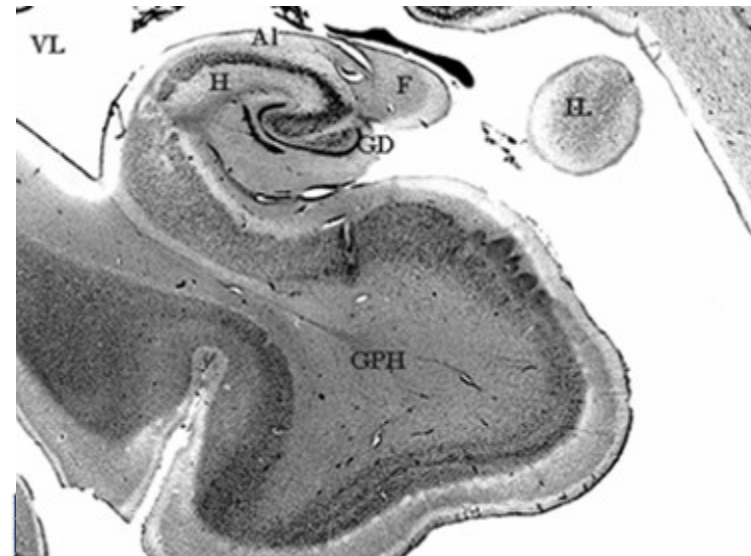
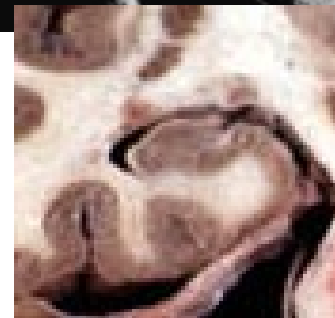
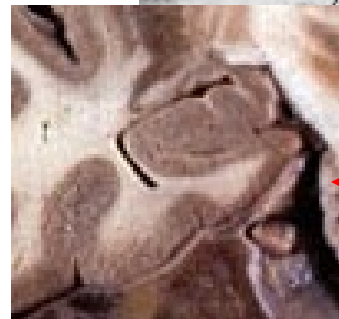
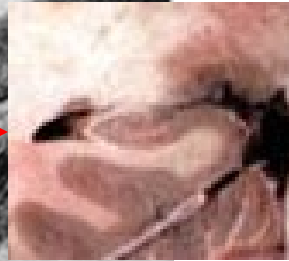
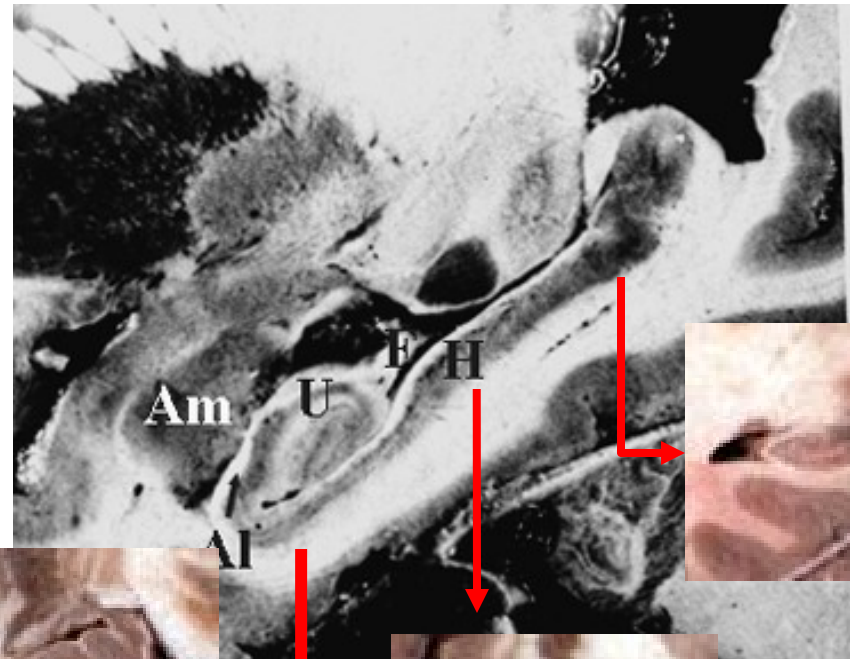
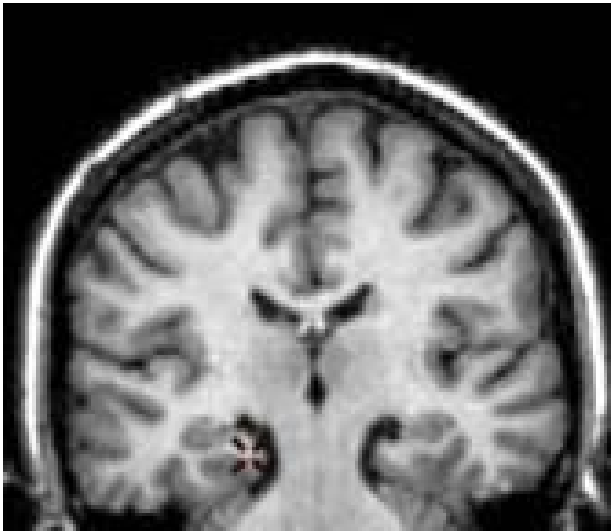
Gyrus cingulaire



Réactions émotionnelles

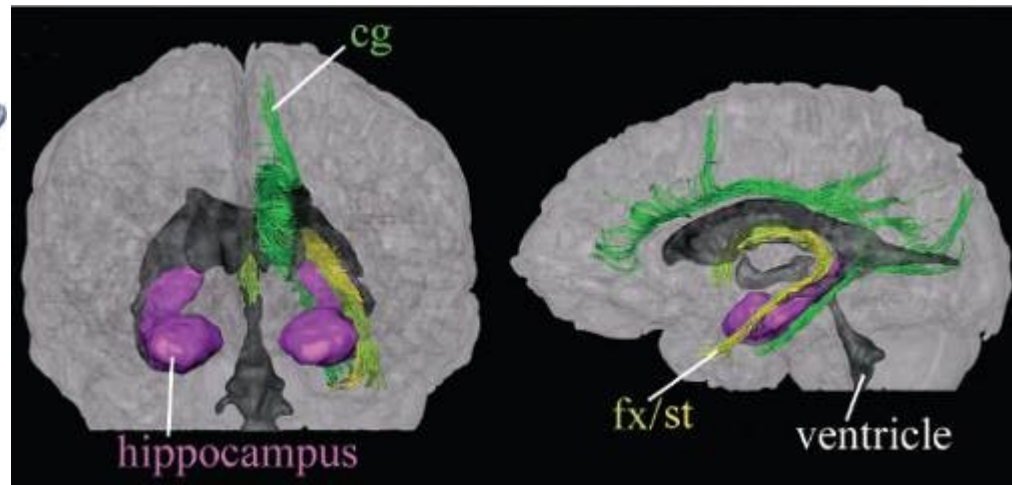
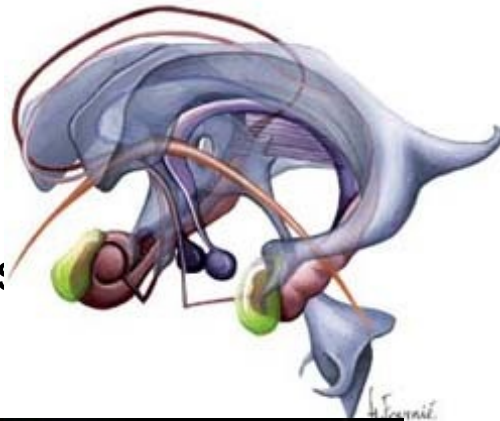
24, 23, 31

Hippocampe

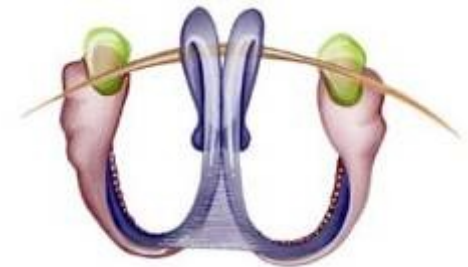
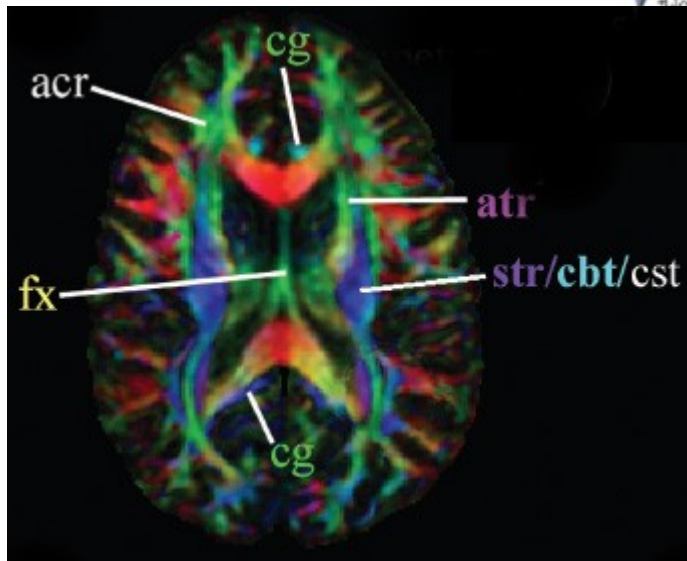


Fornix

- Mixte
- Colonne
- Corps
- Crus fornicis
- fimbria

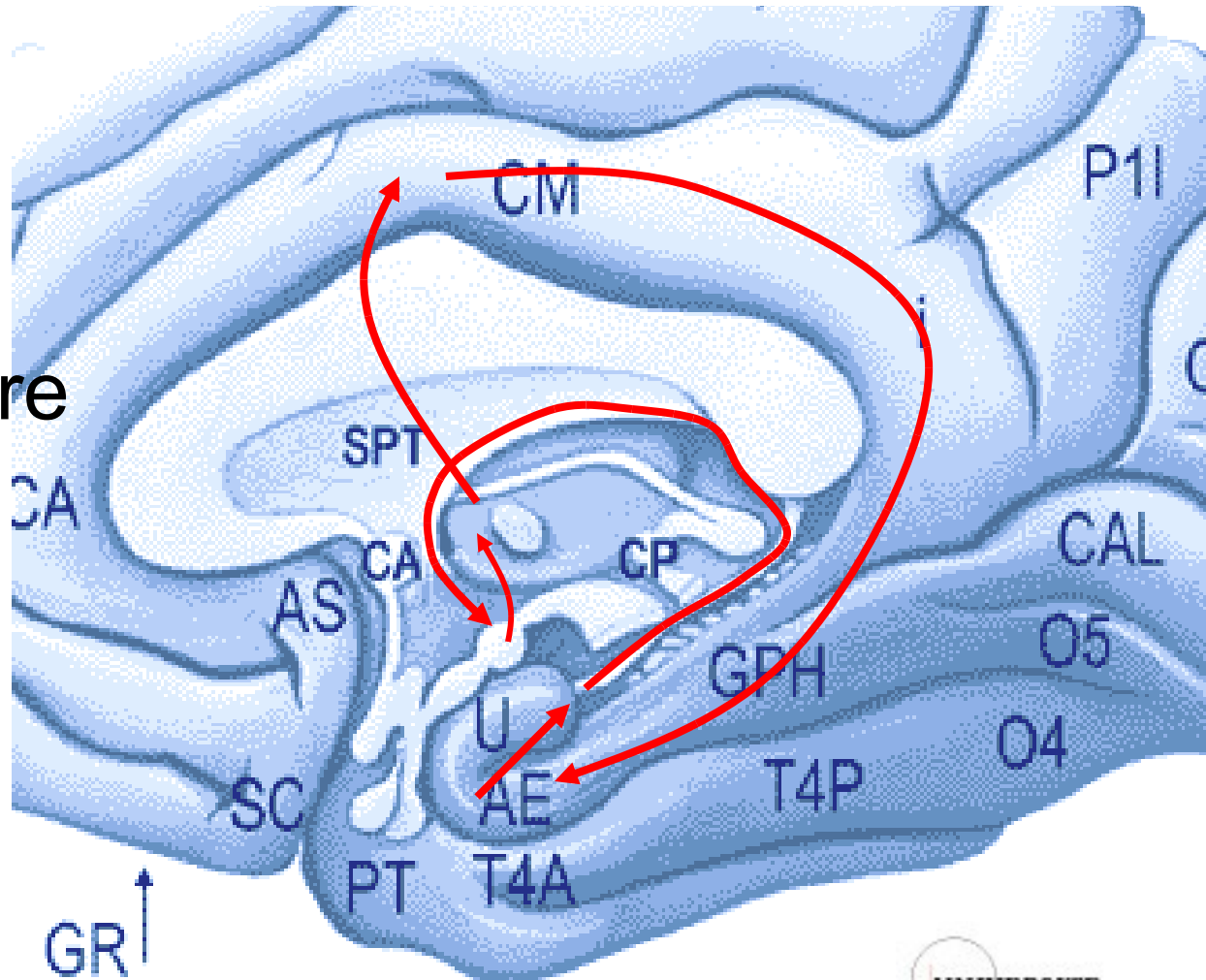


Setsu Wakana, Radiology 2004; 230:77-87



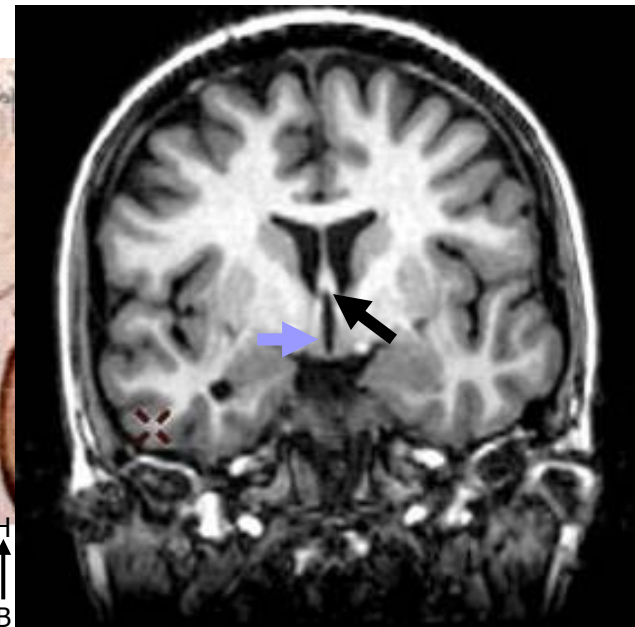
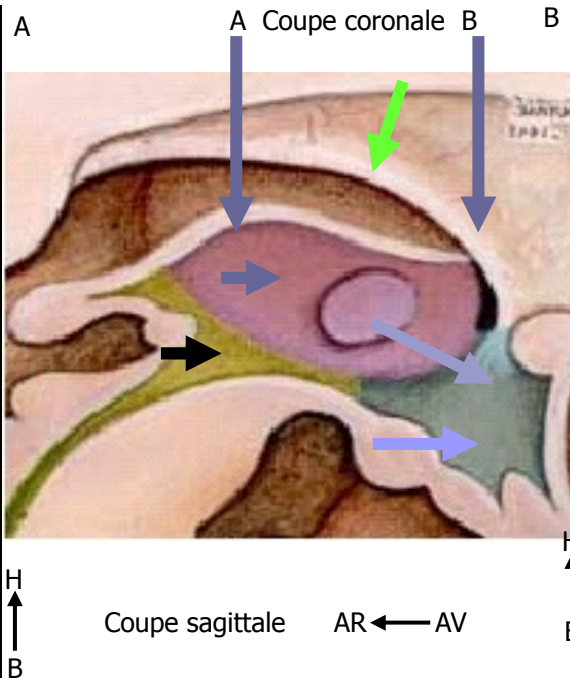
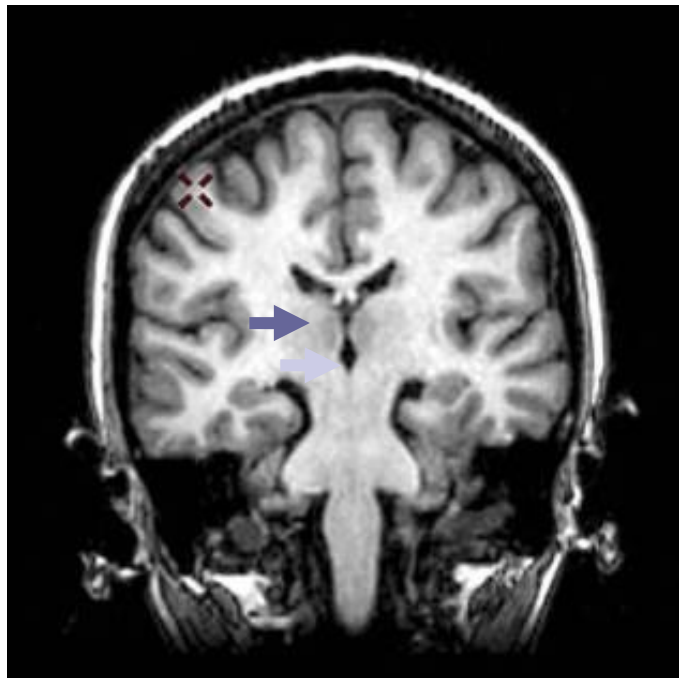
Circuit de Papez

- A. Entorhinale
- Hippocampe
 - Fornix
- Corps mamillaire
 - Fx MT
- Thalamus
- G. Cingulaire
- A. Entorhinale



Diencéphale : contrôles et régulations

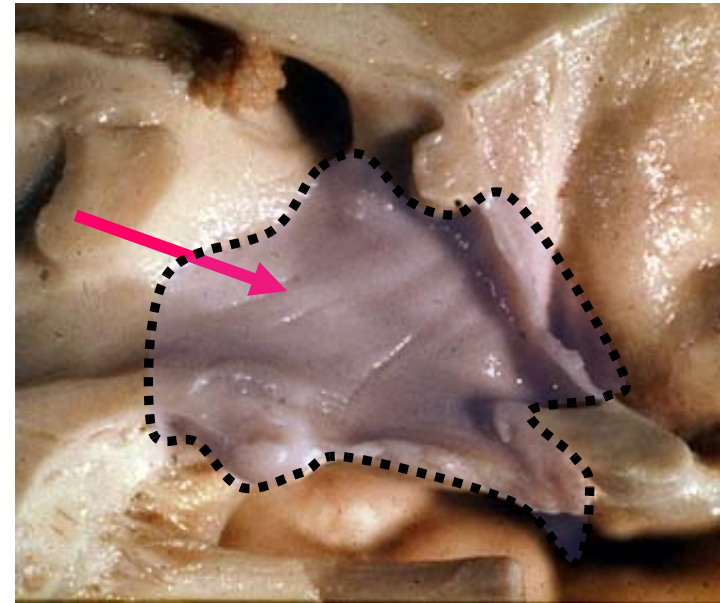
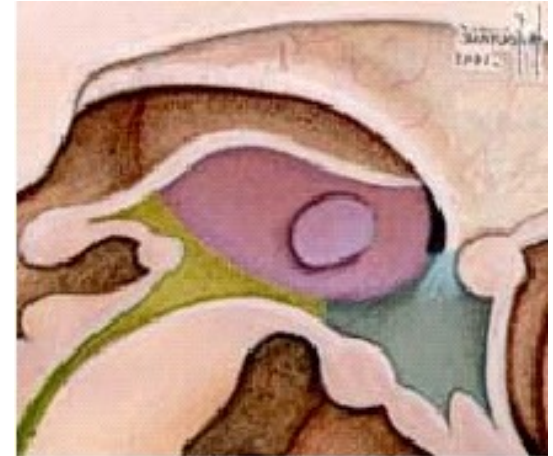
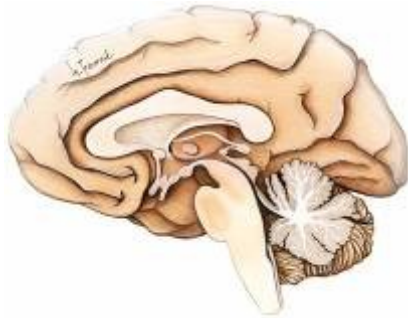
- Thalamus →
- Hypothalamus →
- Sous-thalamus →
- fornix →
- foramen interventriculaire (trou de Monro) →



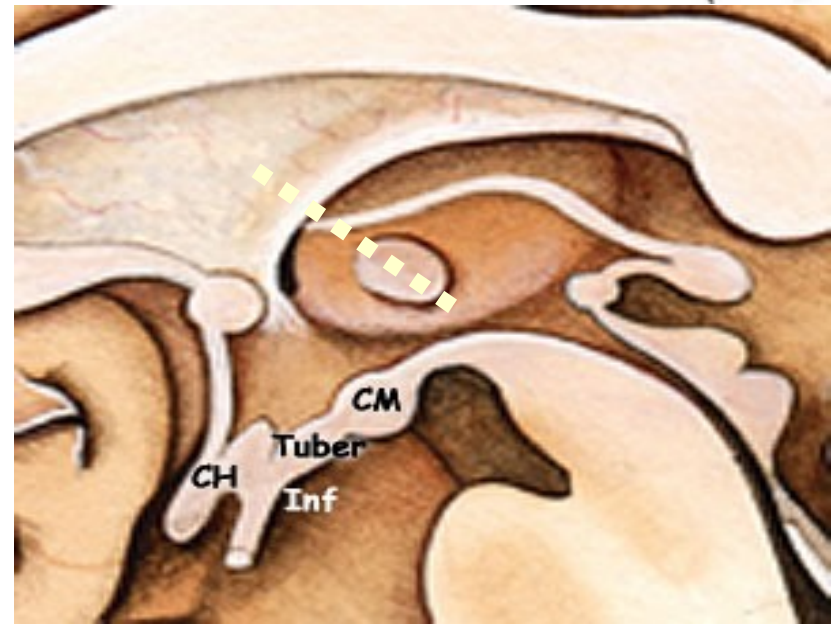
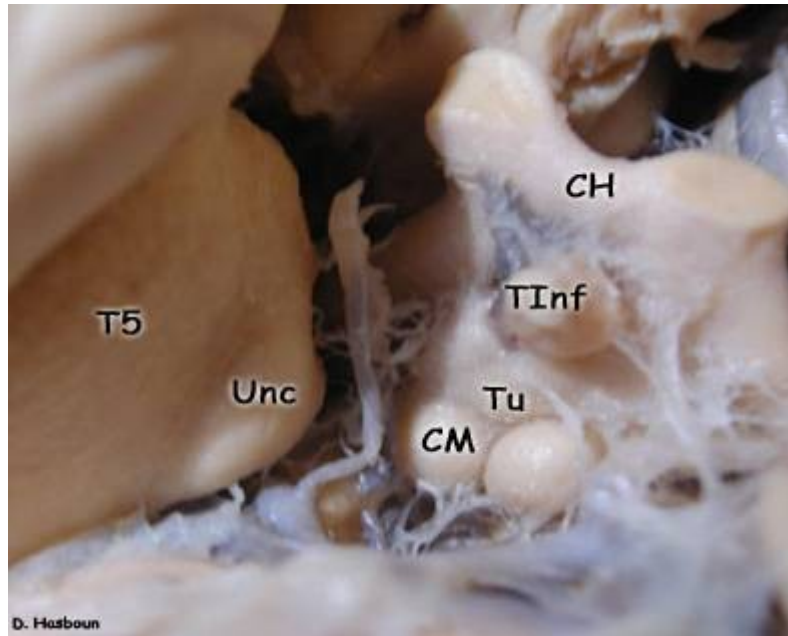
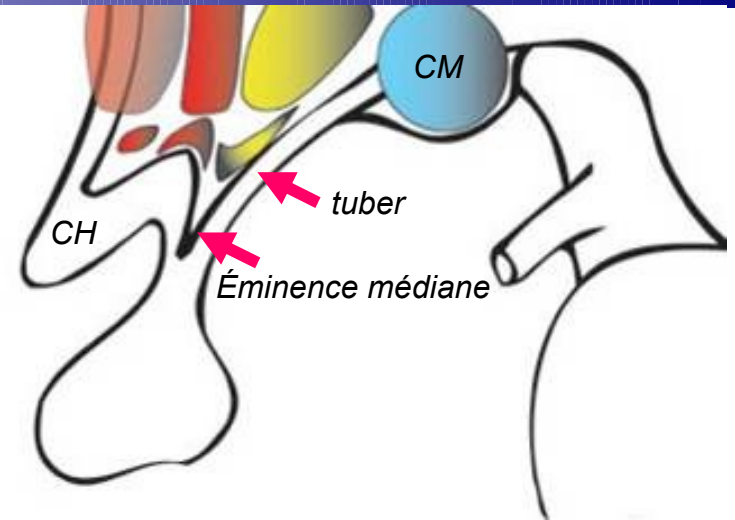
D. Hasboun 2007-2008

Hypothalamus

- Paroi latérale du V3
- Plancher du V3
 - En avant du thalamus
 - Sillon hypothalamique
 - En avant du Sous thalamus



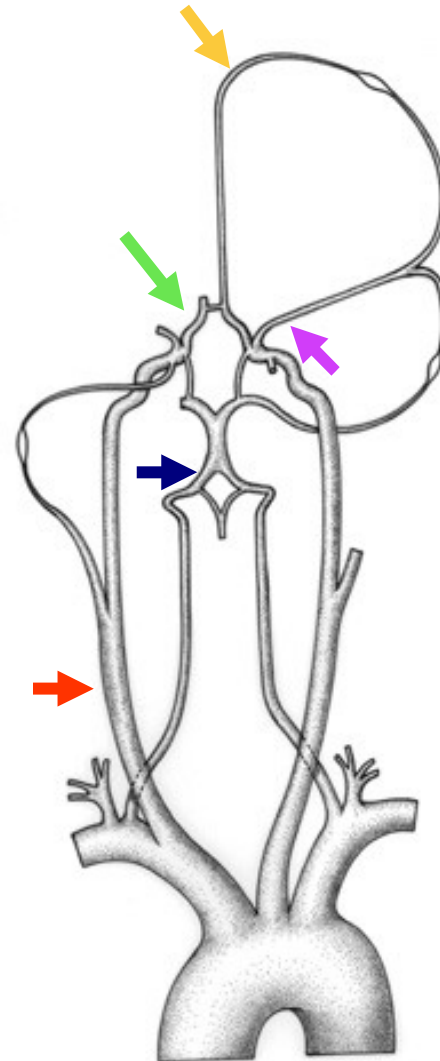
Hypothalamus



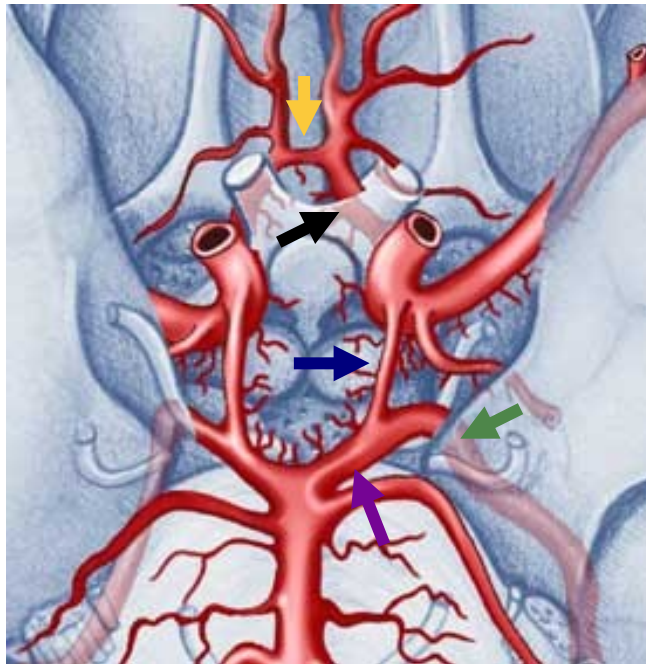
D. Hasboun

Vascularisation

- **voies d'apport**
 - Artères carotides internes →
 - Artères vertébrales et **tronc basilaire** →
- **polygone de Willis** →
- **artères cérébrales**
 - *trajet basal* →
 - *trajet périphérique* →
- **anastomoses**



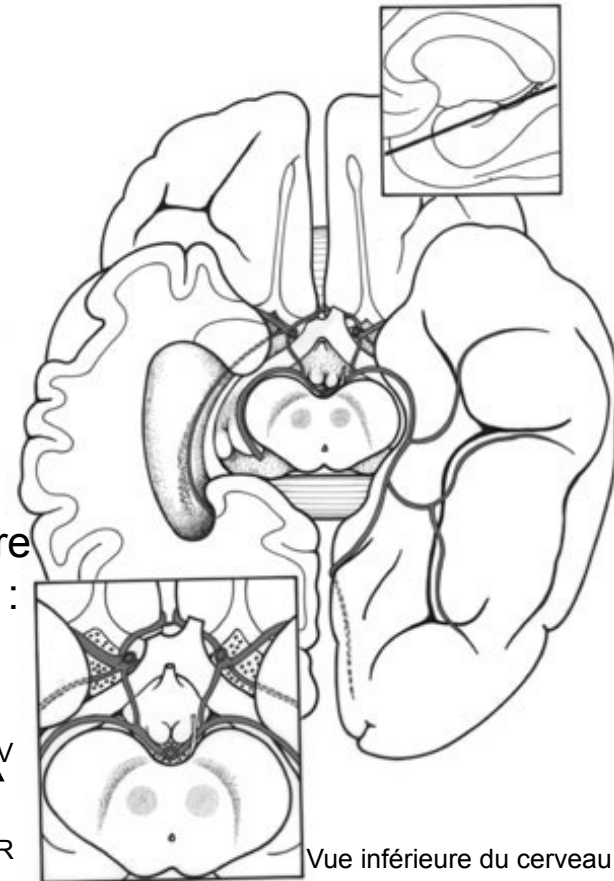
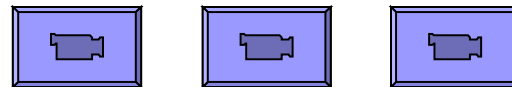
Polygone de Willis



Vue inférieure du cerveau

- Artère communicante antérieure →
- Artères cérébrales antérieures →
- Artères communicantes postérieures →
- Artères cérébrales postérieures
- Sgt Précommunicant :
- ➡ Communicante basilaire
- Sgt post communicant :
- ➡ ACP
- variantes

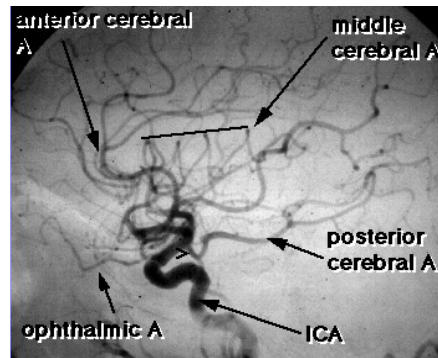
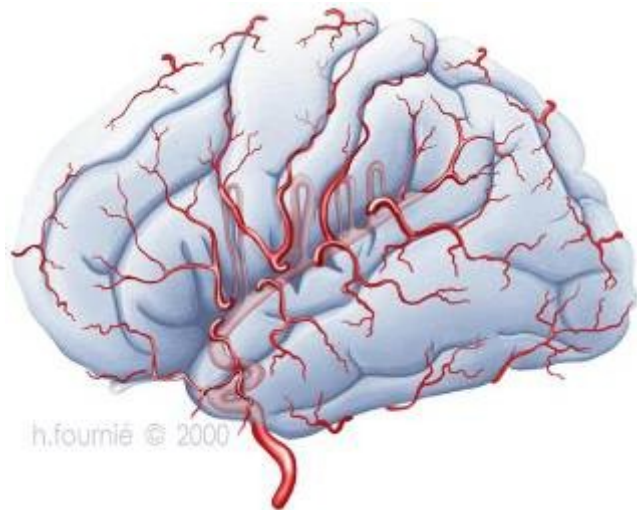
AV
↑
AR



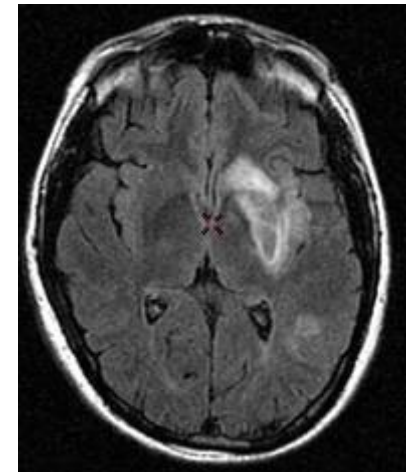
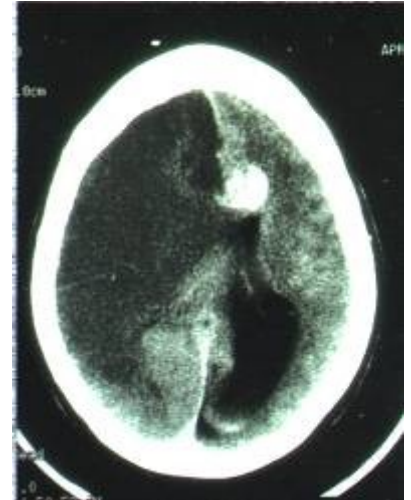
Vue inférieure du cerveau

AV
↑
AR

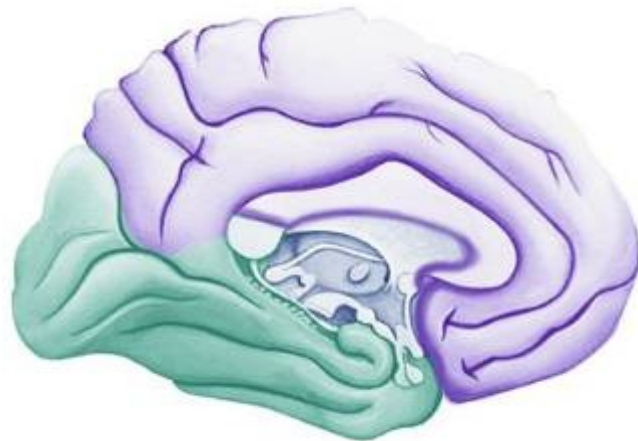
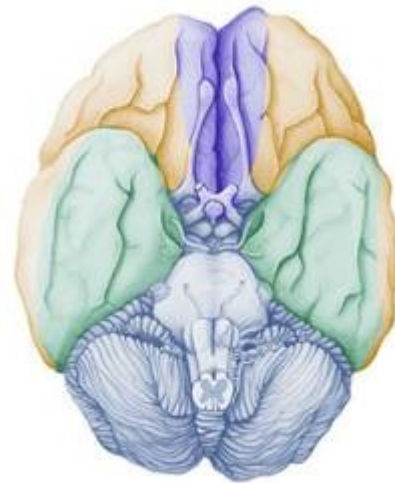
Artères cérébrales



> = posterior communicating A



Territoires vasculaires



Conclusion

- Système très spécifique
- Hiérarchisé mais distribué
- Compréhension spatiale et temporelle
- Évolution et embryologie

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