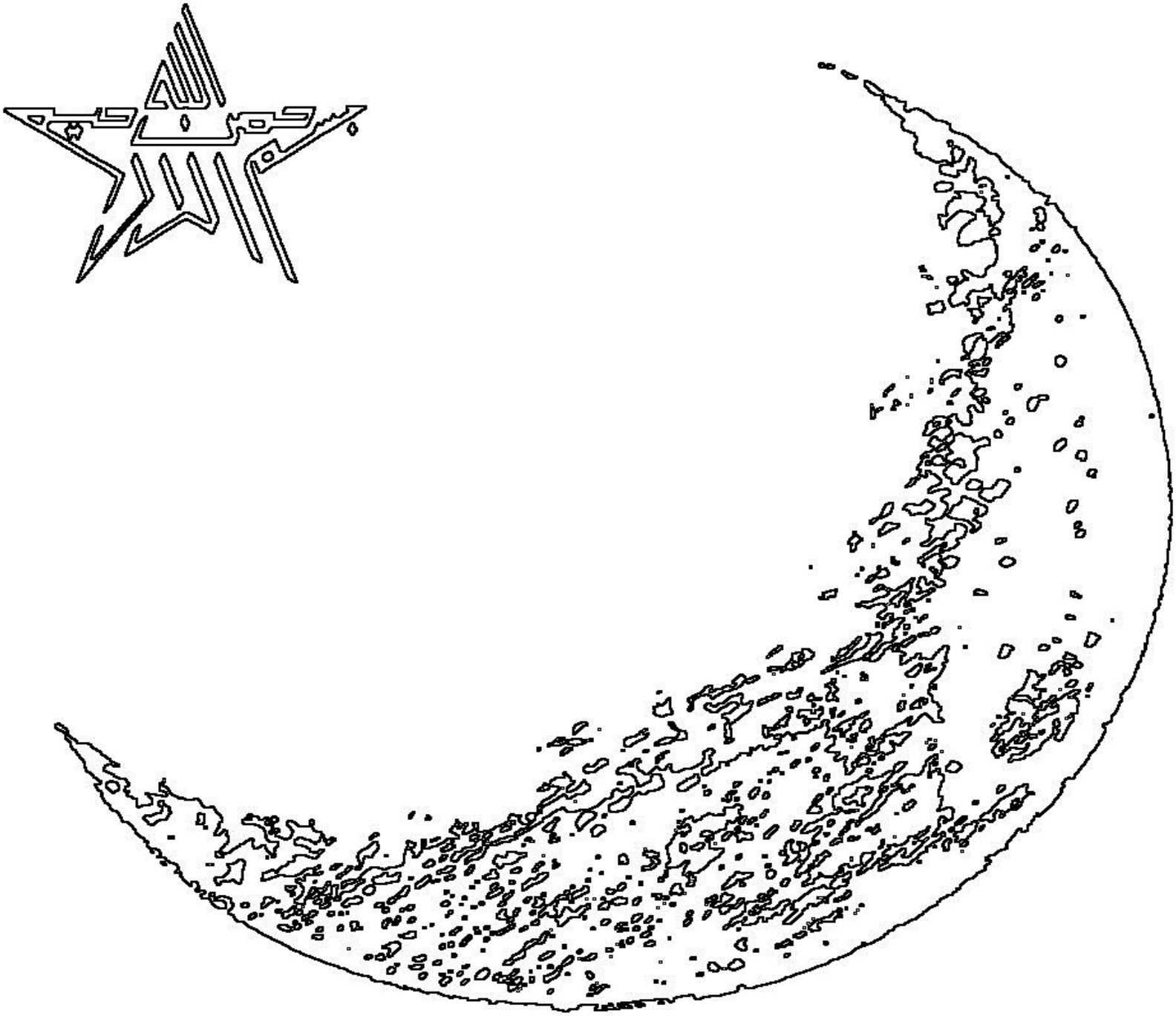
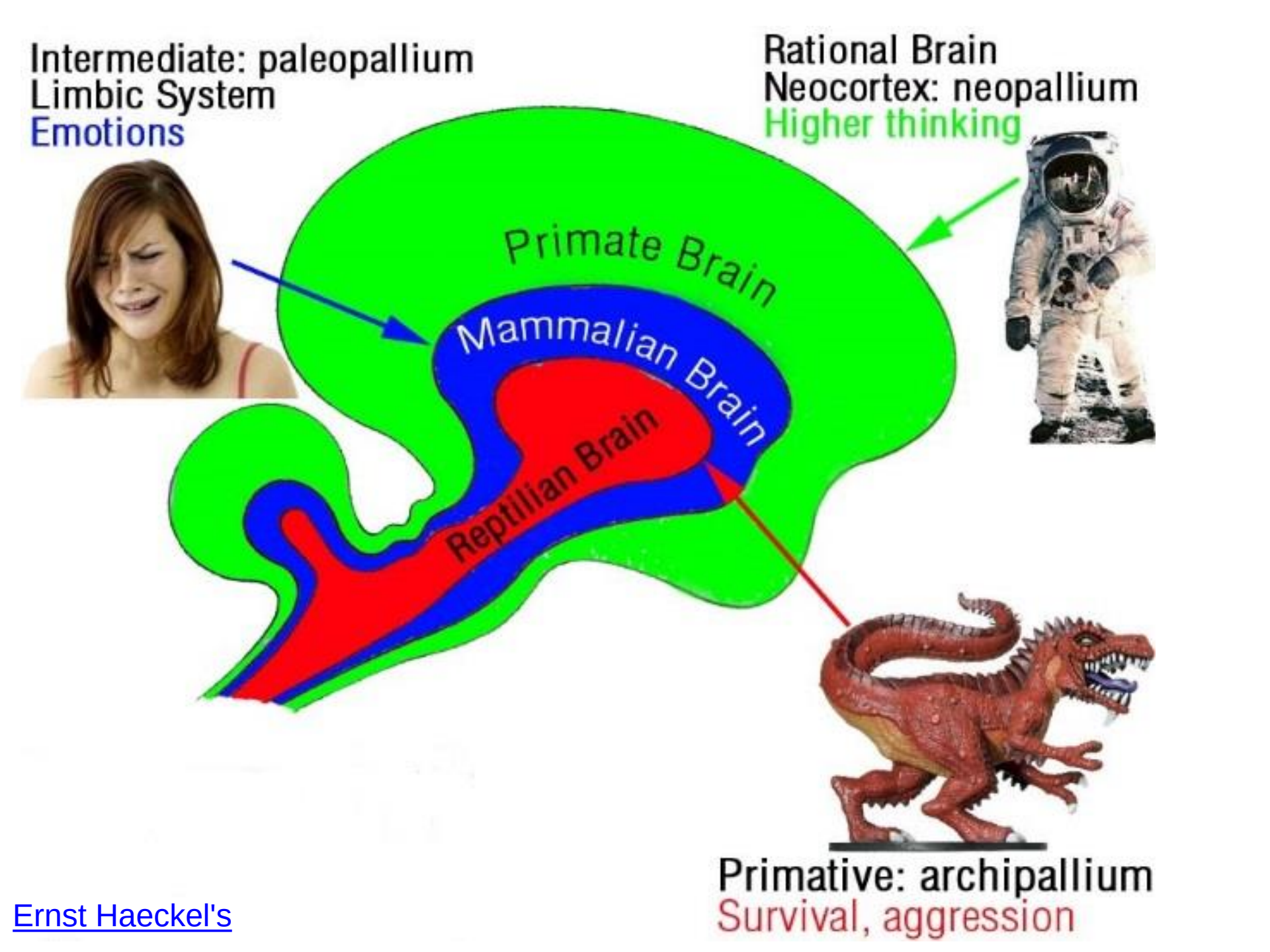


The Limbic System

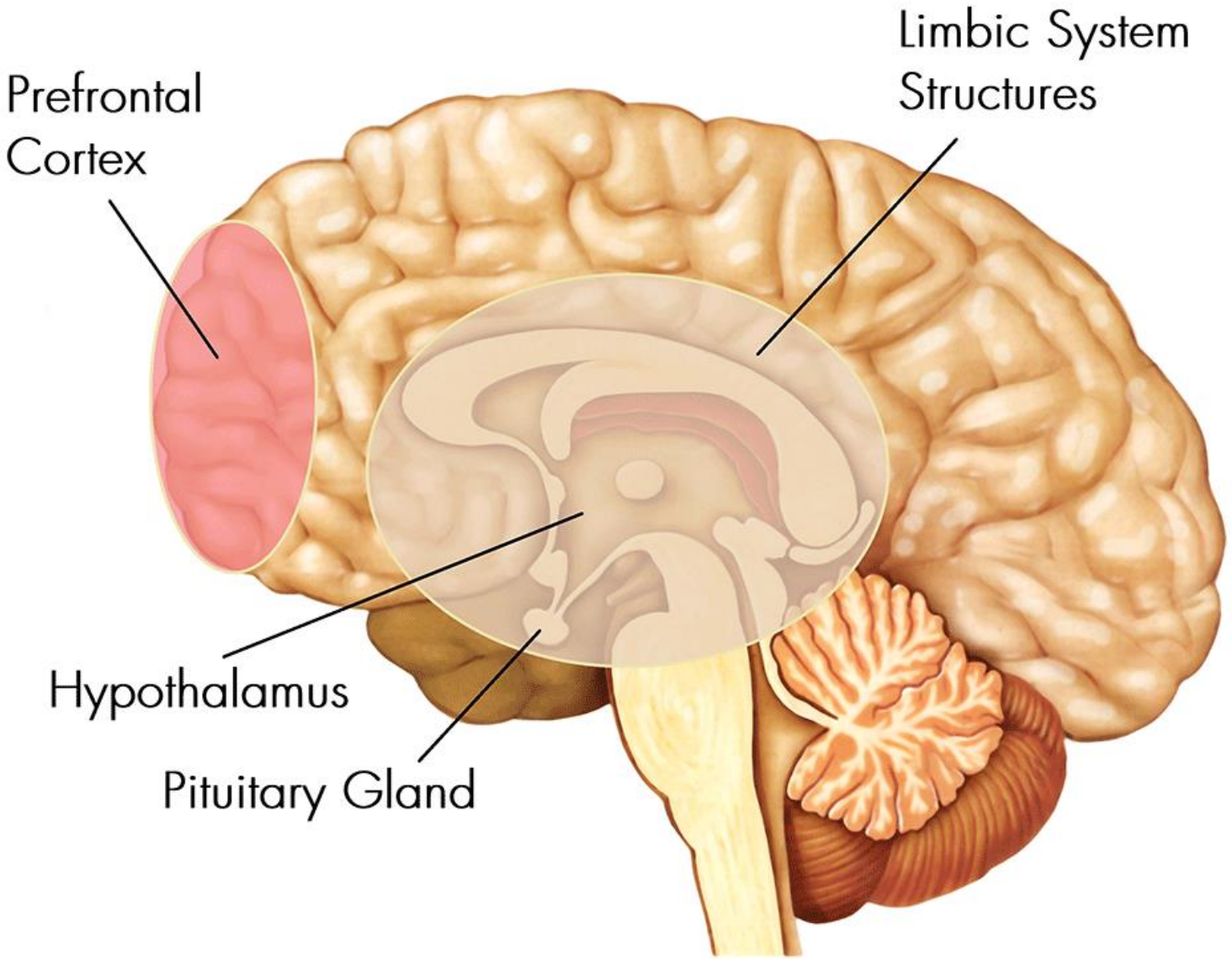
سازماندهی سیستم لیمبیک

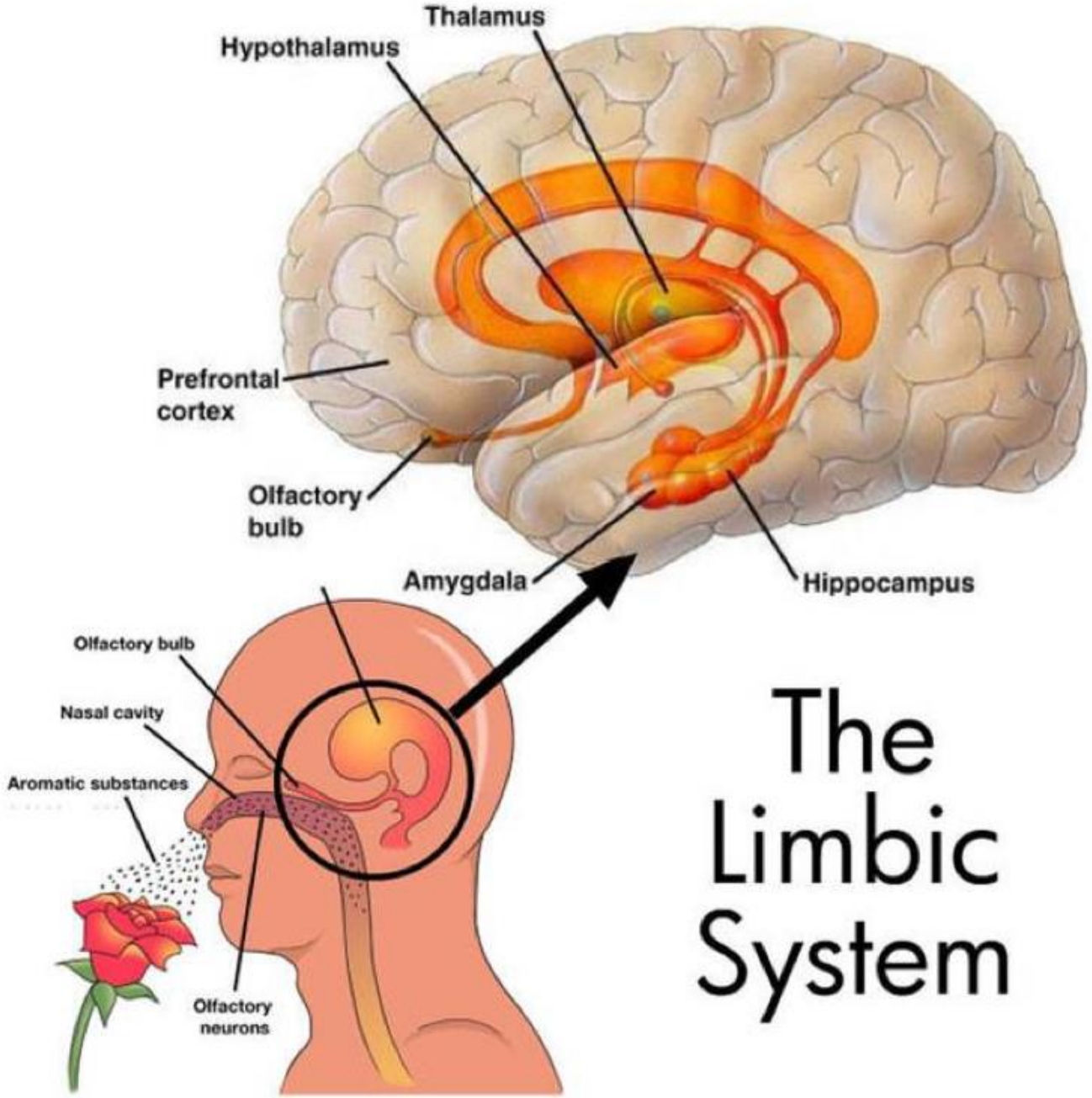
- ایده سیستم لیمبیک اولین بار توسط بروکا مطرح شد
- کشف مداری در سیستم لیمبیک توسط پاپز
- مک لین و ایده نقش سیستم لیمبیک در فرایندهای احشایی
- کشف مداری در سیستم لیمبیک توسط نوتا
- عناصر تشکیل دهنده سیستم لیمبیک:
- پیاز بویایی ، تراکت بویایی ، استریاهای بویایی ، لوب پیریفورم ، کمپلکس هسته ایی آمیگدالوئید، جیروس سینگولیت، تراکت مامیلوتالامیک ، هسته های گروه قدامی تالاموس ، اجسام پستانی ، جیروس فاسیولاریس ، ایندایزیوم گرایزیوم و نوارهای طولی، ناحیه سپتال ، ونترال استریاتوم ، هیپوتالاموس، فورنیکس ، رابط قدامی ، هابنولا ، تشکیلات هیپوکمپ و پاراهیپوکمپ ، جیروس انتورینال



Ernst Haeckel's

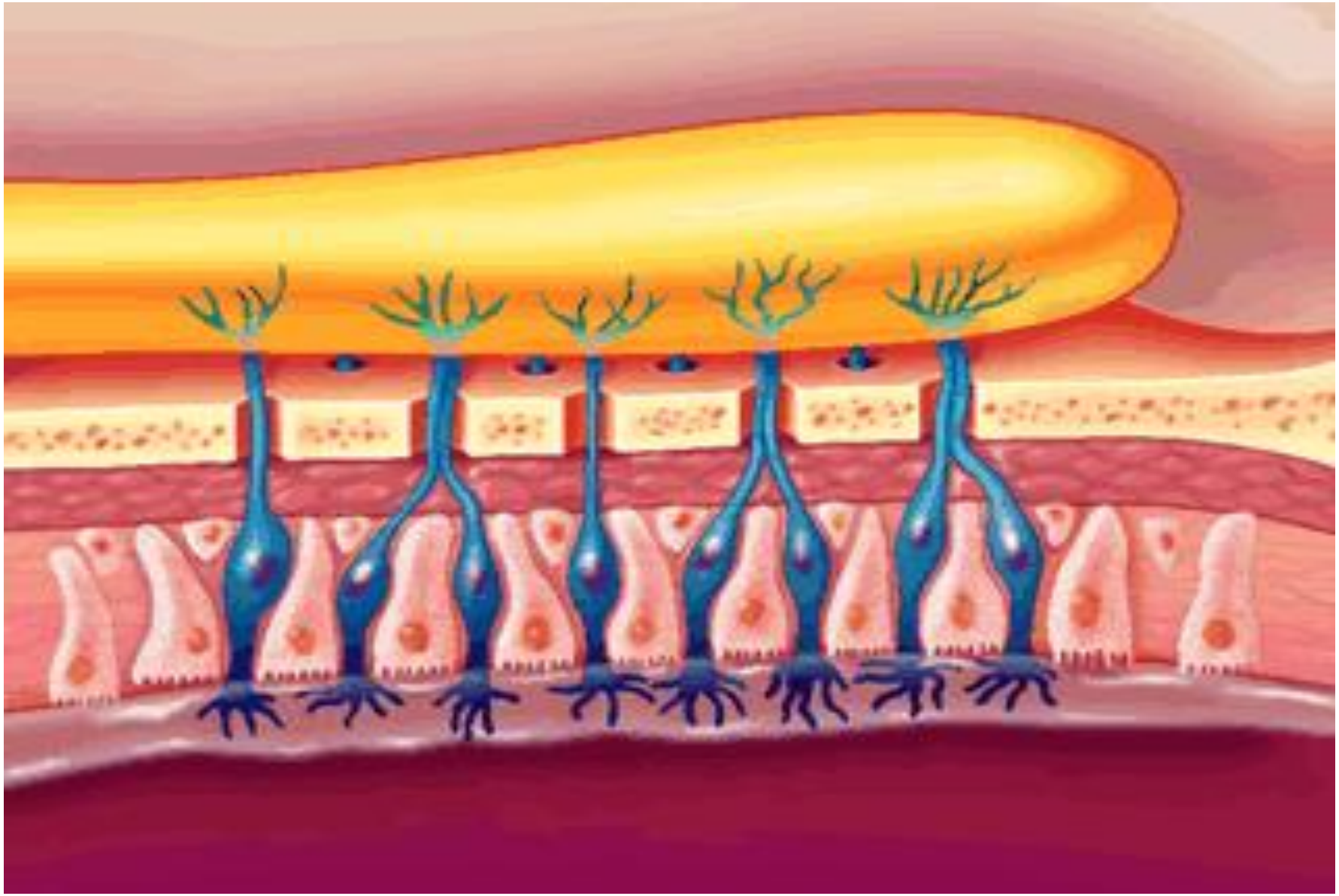
Neocortex and limbic system

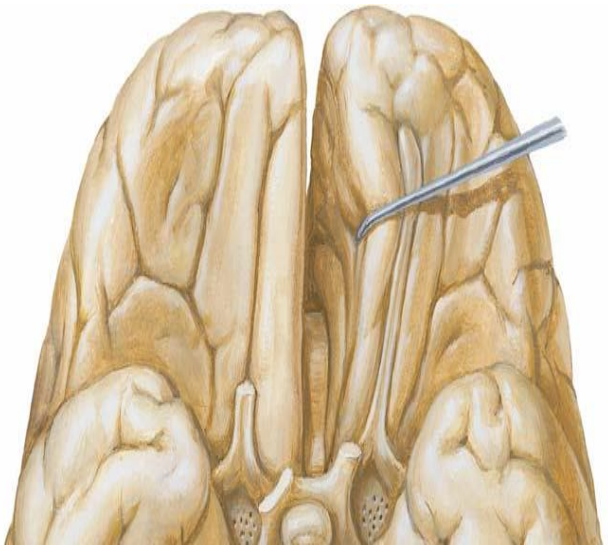


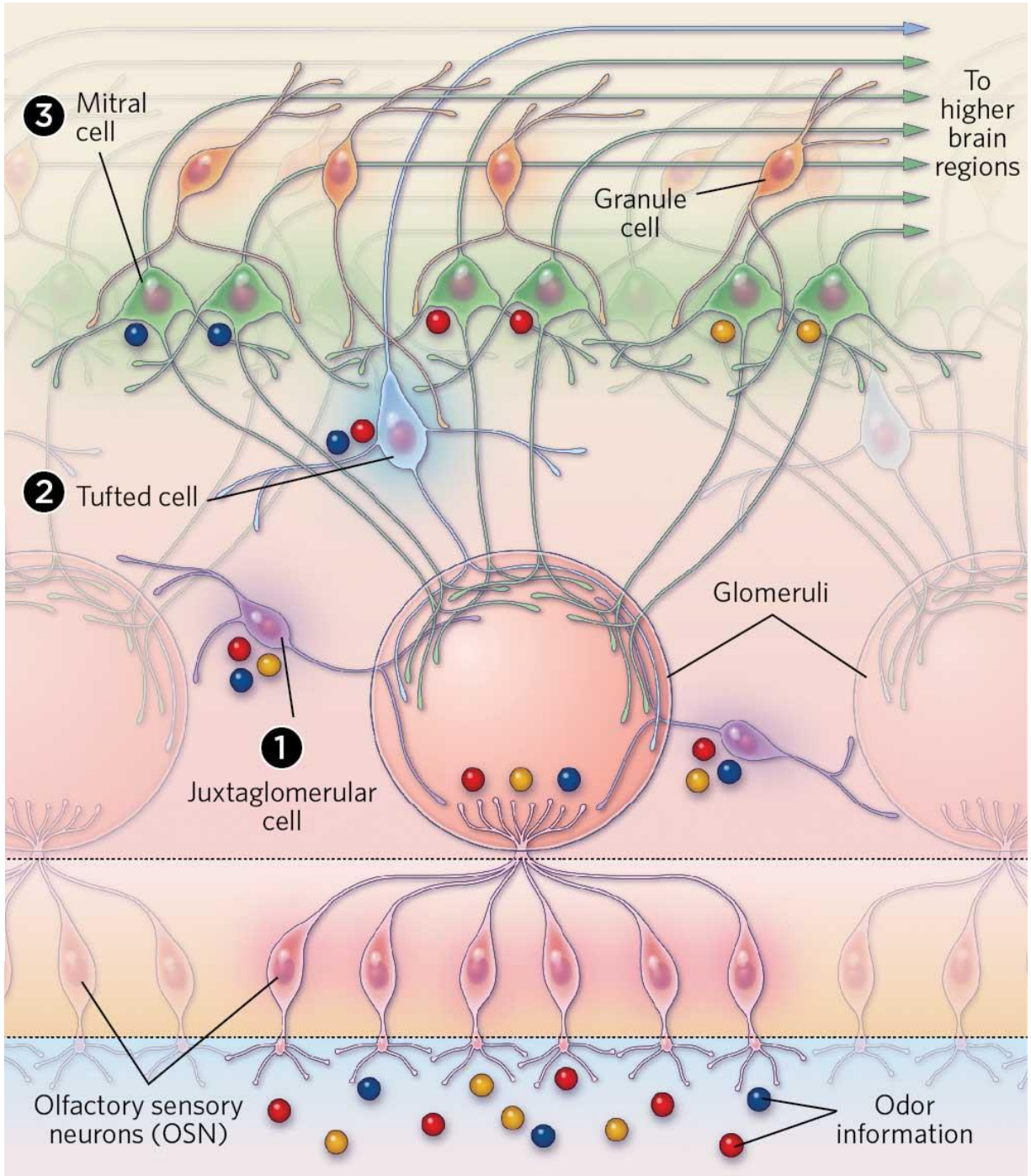


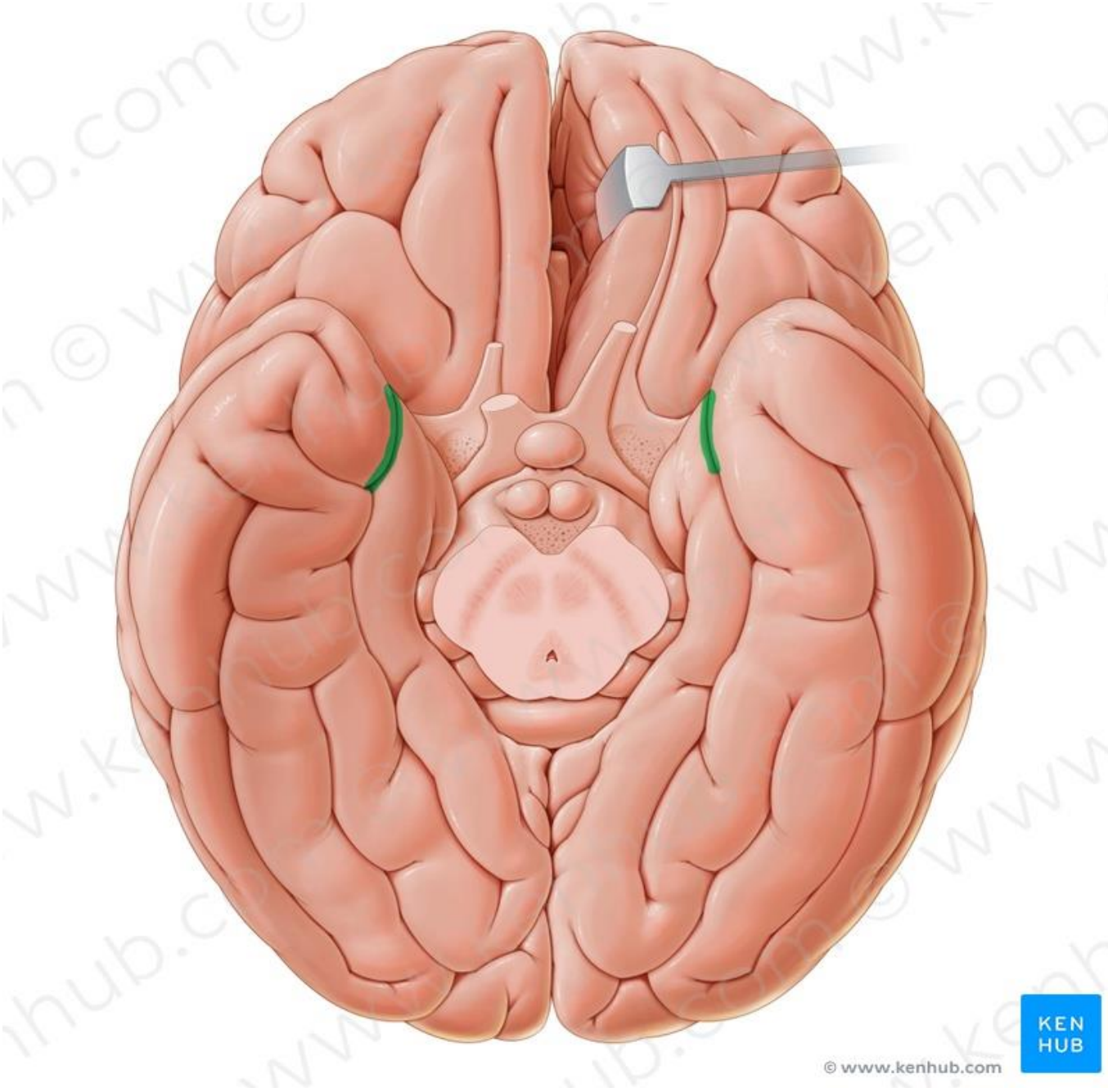
The Limbic System

سیستم بویایی






3 Mitral cell
To higher brain regions
Granule cell
2 Tufted cell
Glomeruli
1 Juxtaglomerular cell
Olfactory sensory neurons (OSN)
Odor information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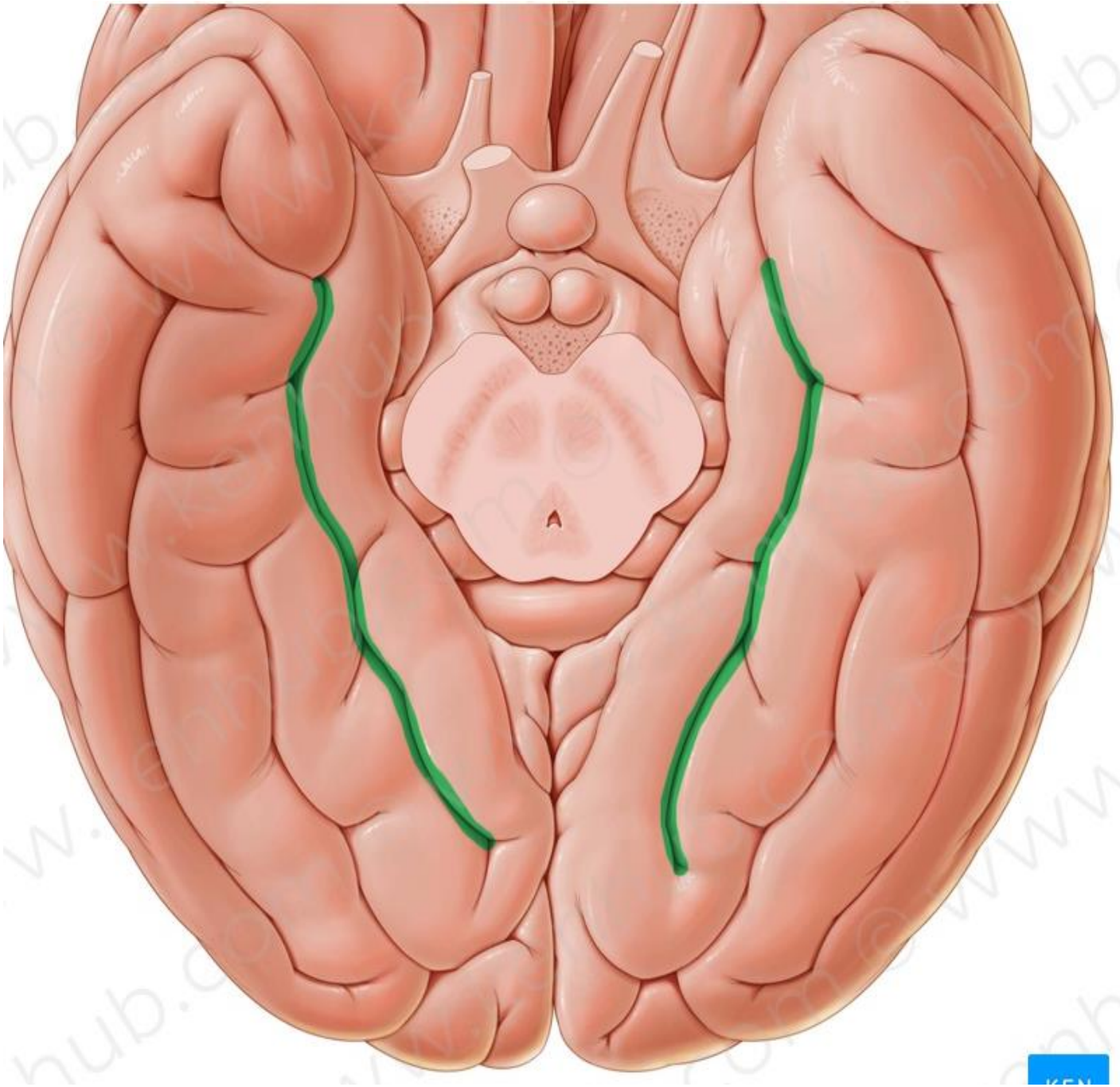
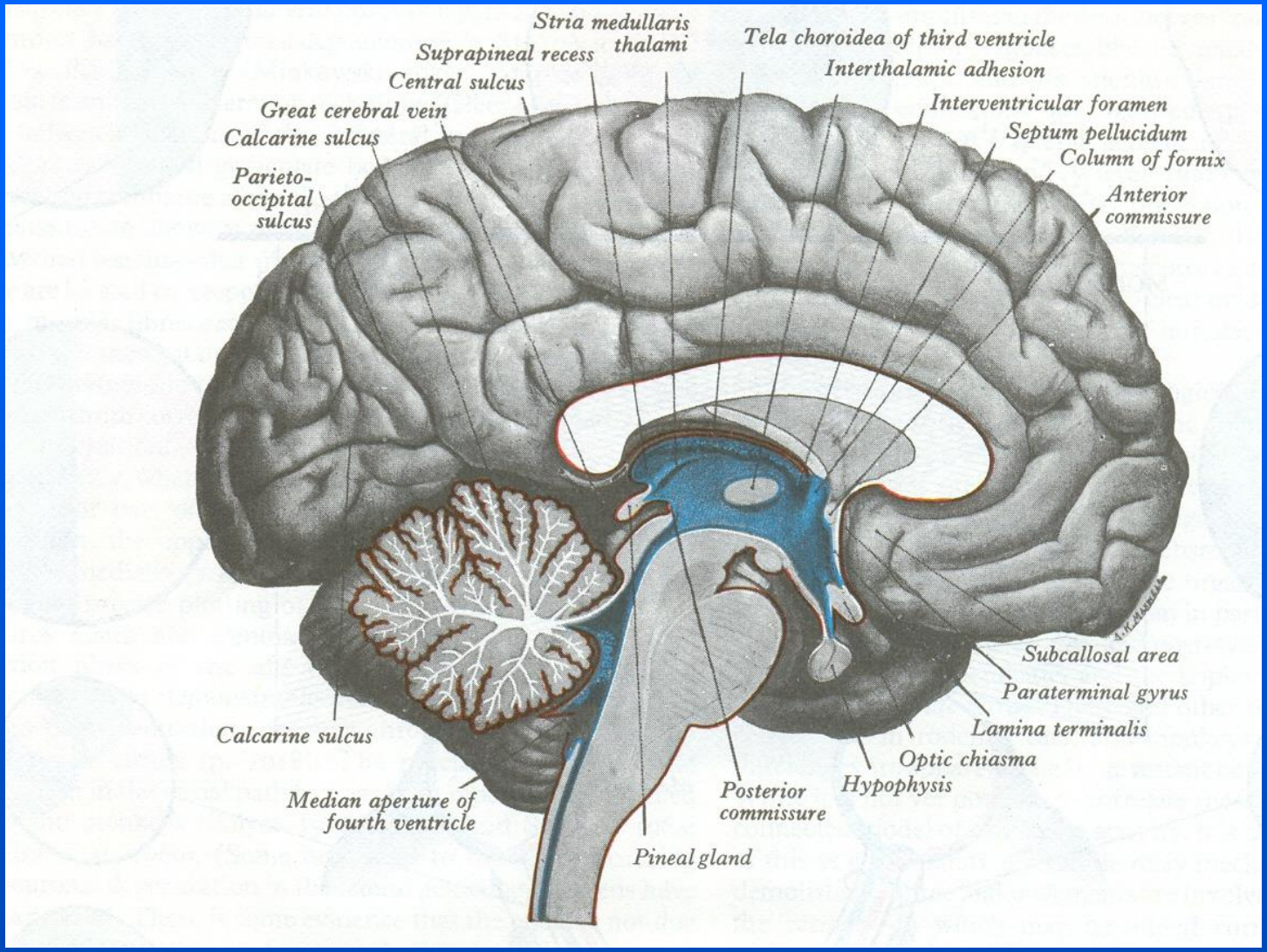
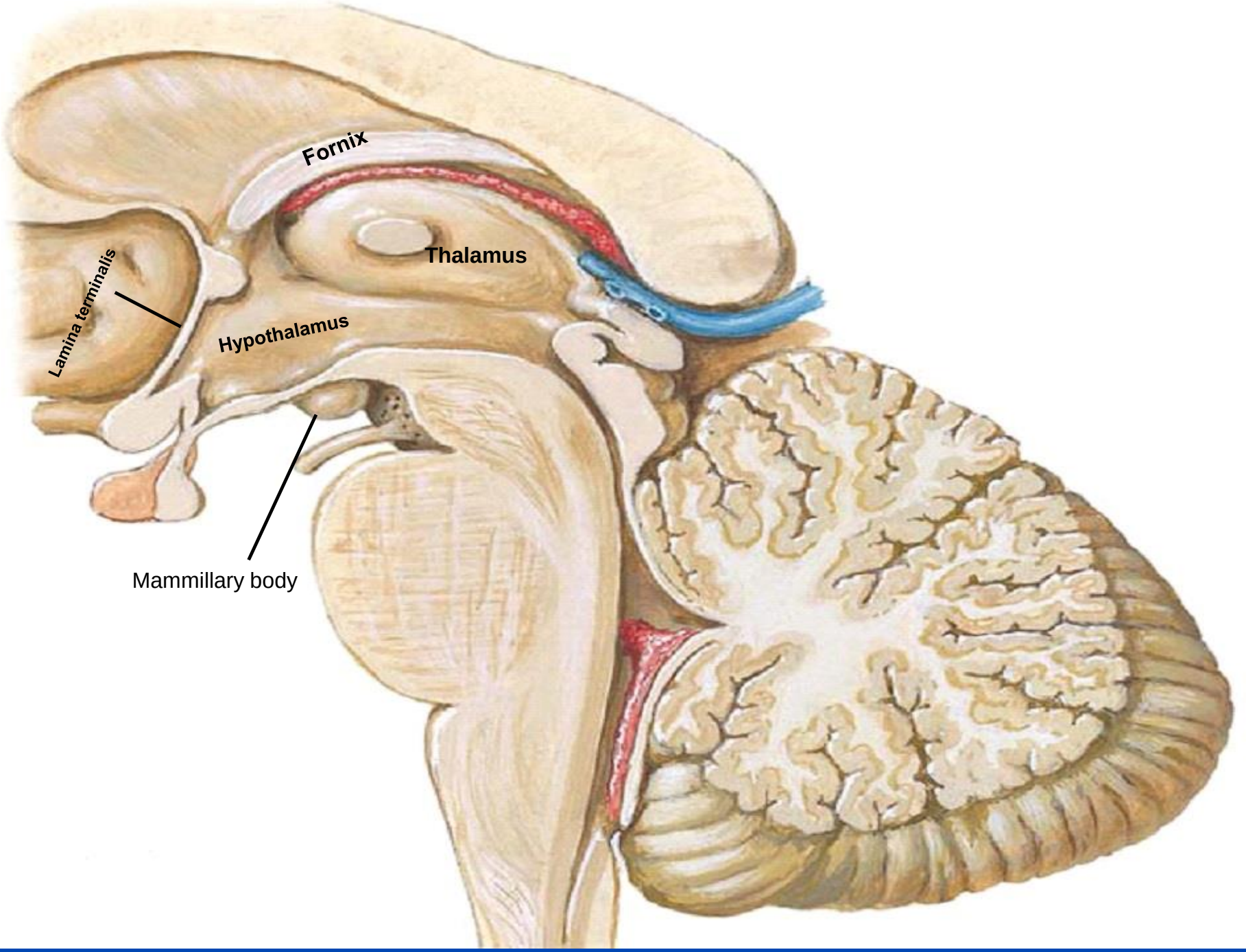
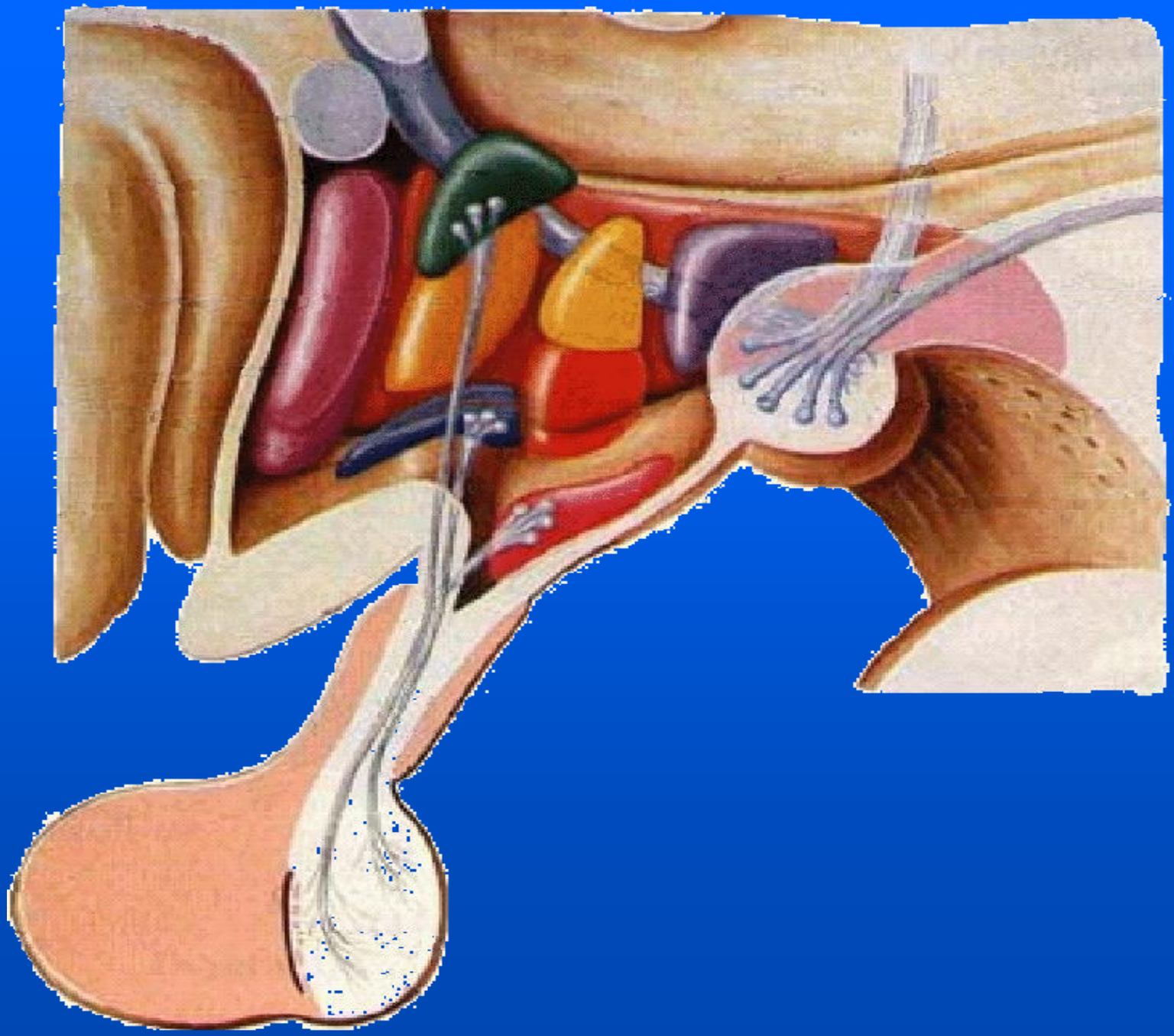
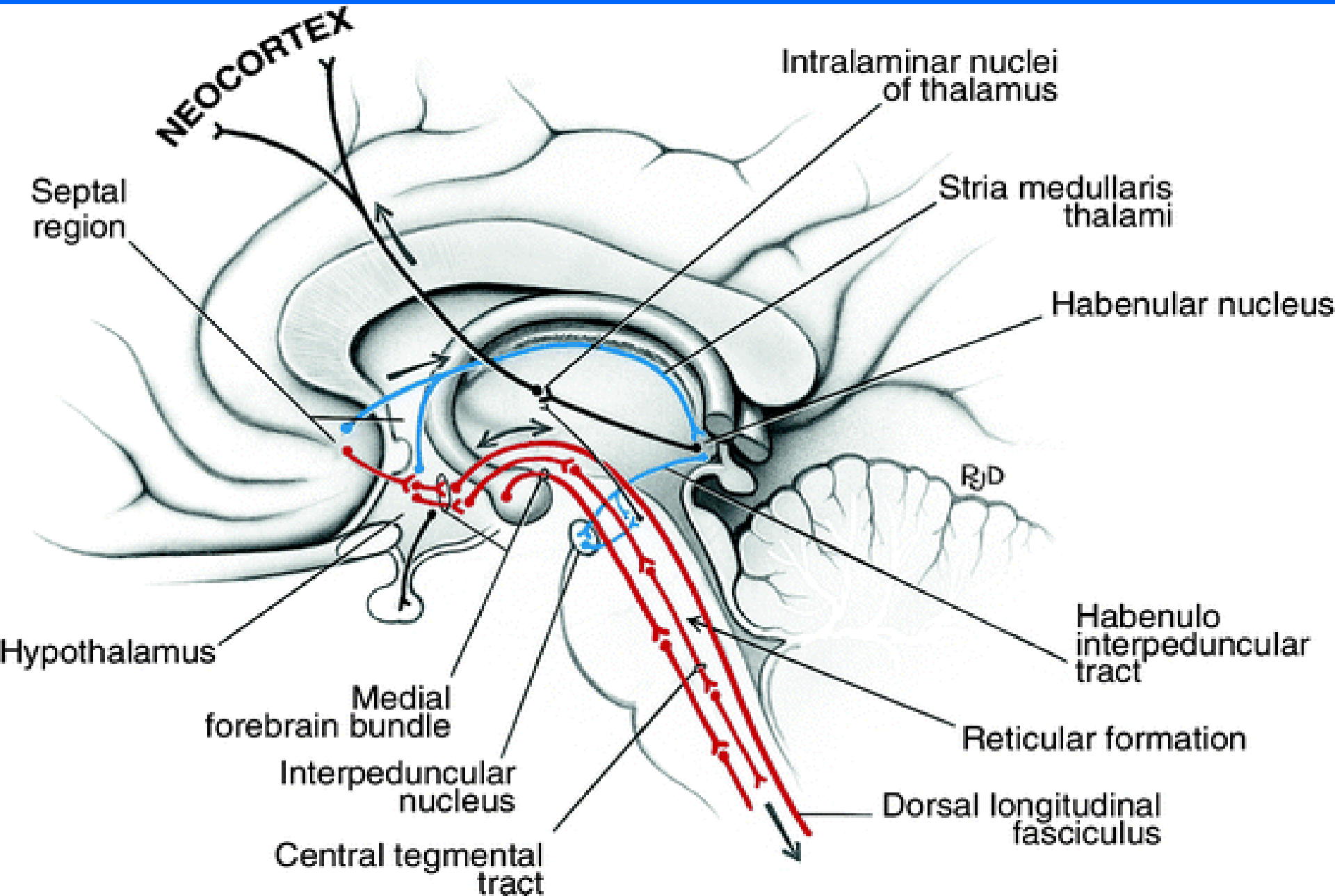


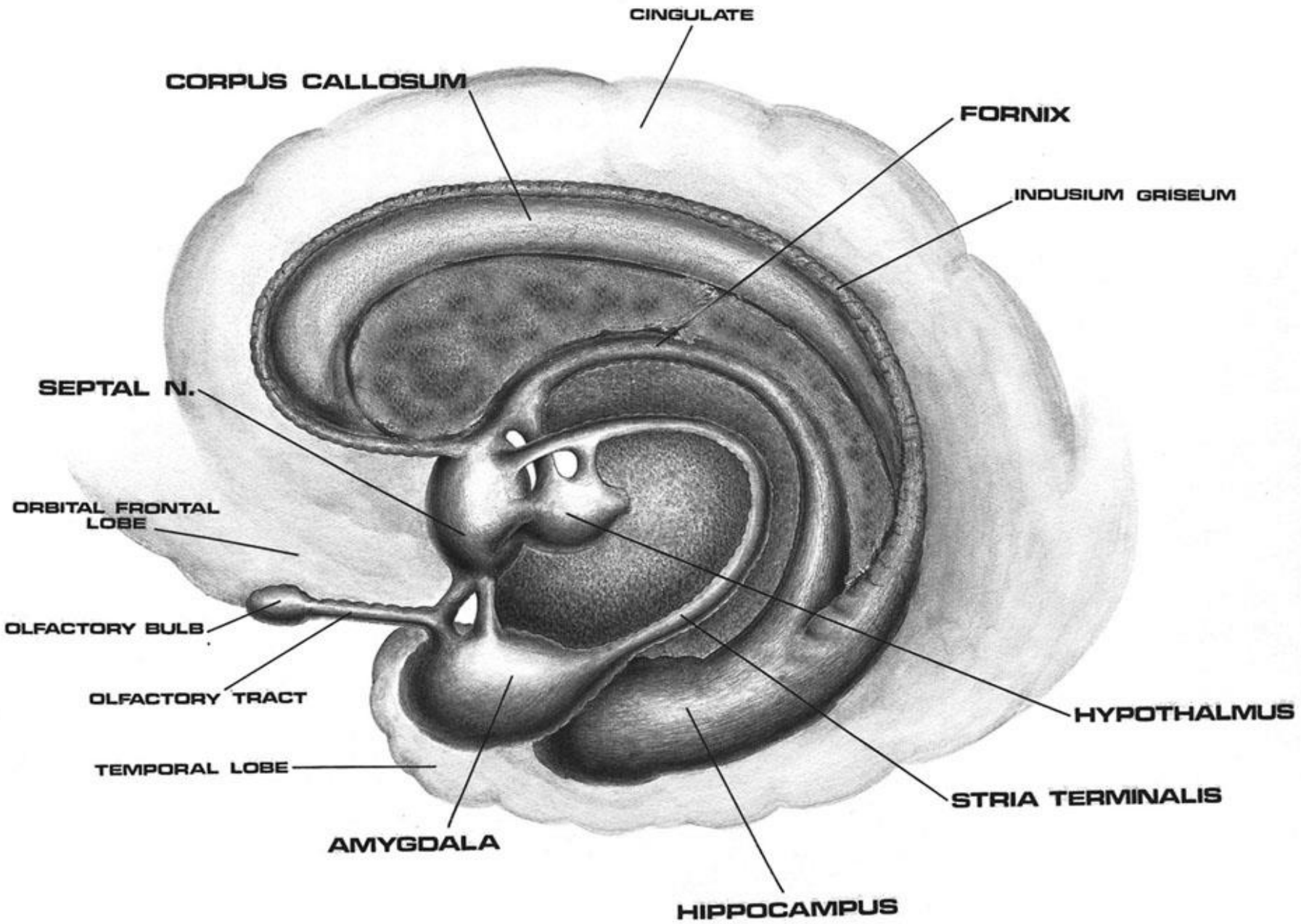

Stria medullaris thalami
Tela choroidea of third ventricle
Suprapineal recess
Interthalamic adhesion
Central sulcus
Interventricular foramen
Great cerebral vein
Septum pellucidum
Calcarine sulcus
Column of fornix
Parieto-occipital sulcus
Anterior commissure
Subcallosal area
Paraterminal gyrus
Lamina terminalis
Optic chiasma
Hypophysis
Posterior commissure
Calcarine sulcus
Median aperture of fourth ventricle
Pineal gland


Fornix
Thalamus
Lamina terminalis
Hypothalamus
Mammillary body

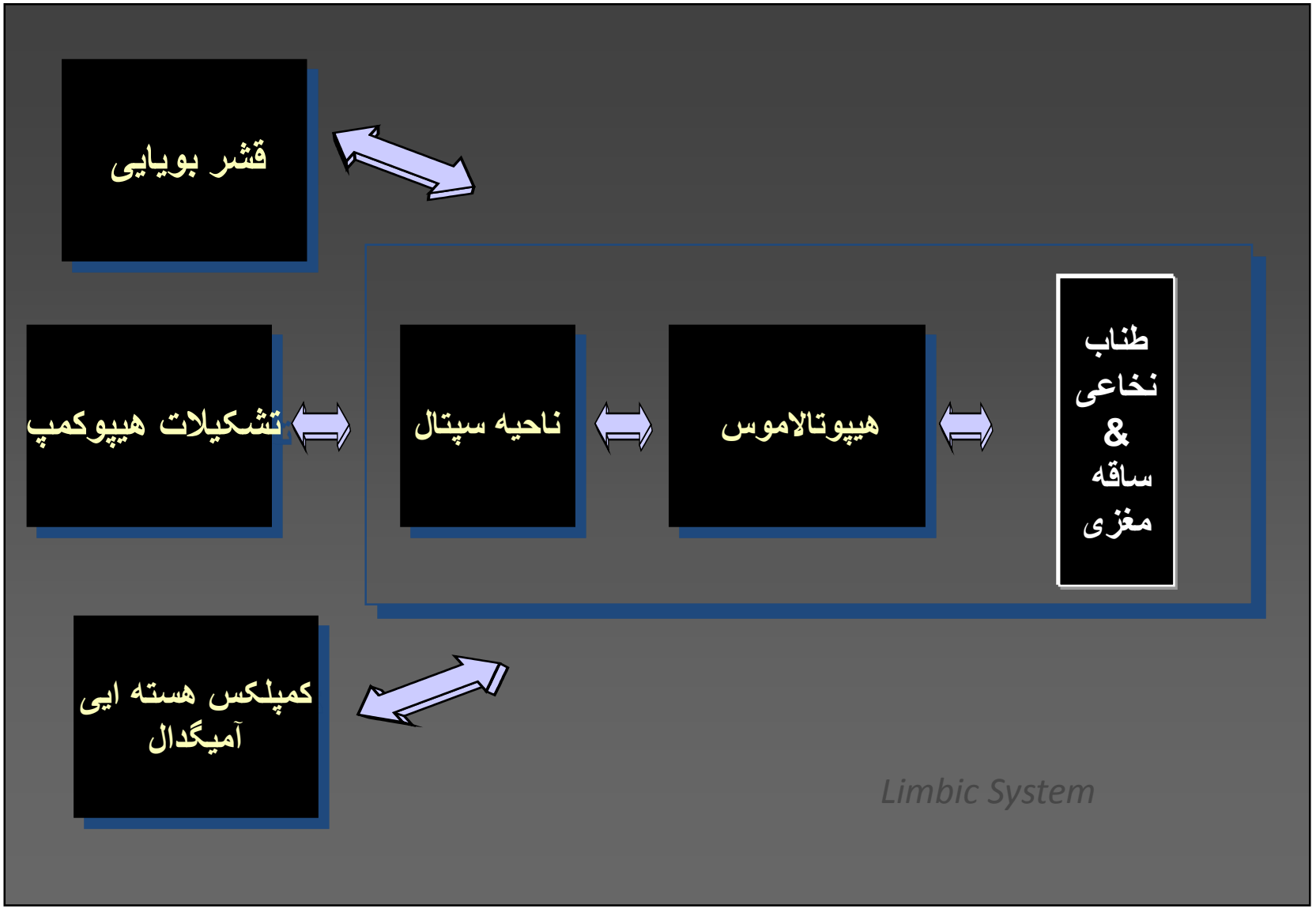


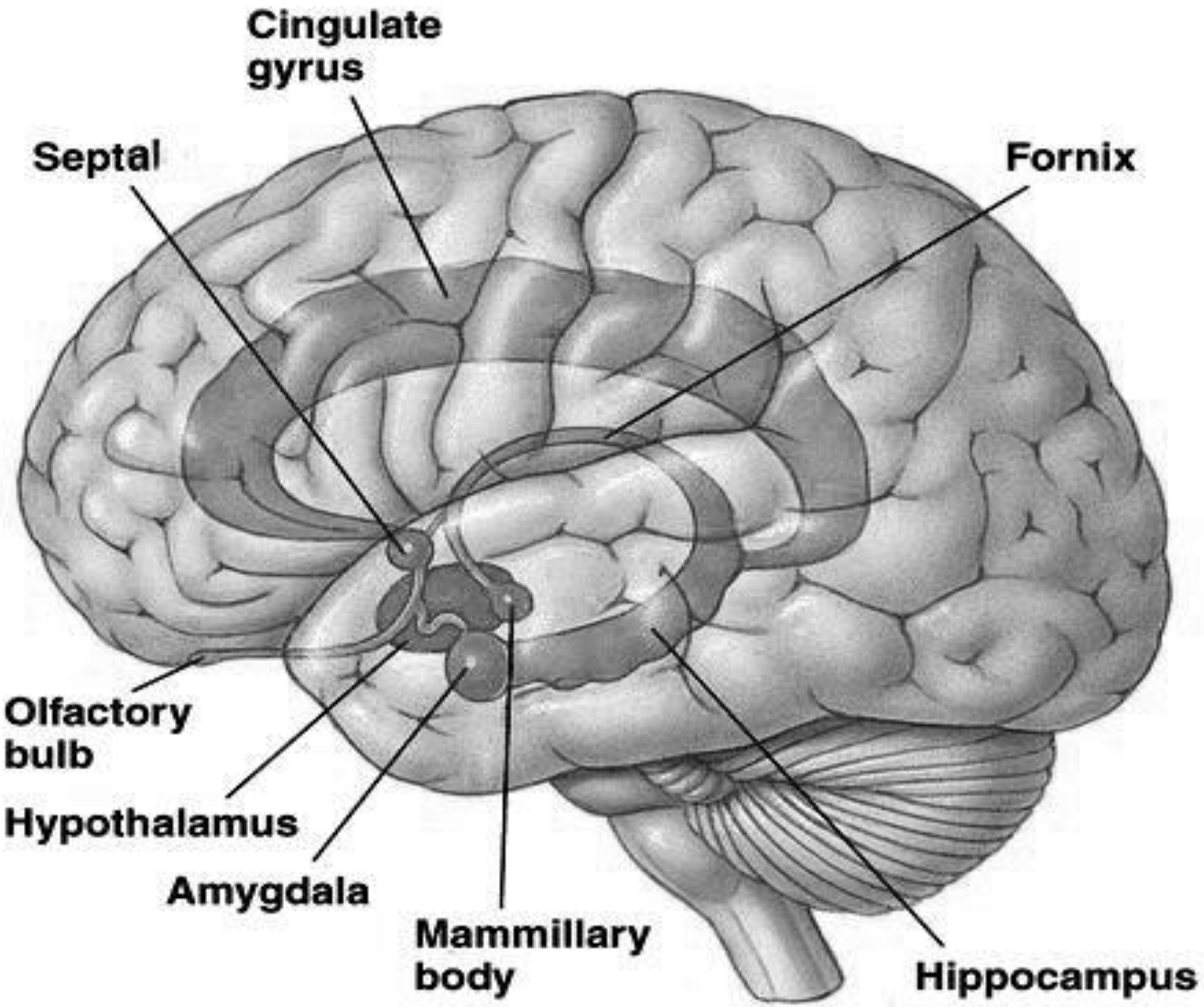
Hypothalamic afferents and efferents



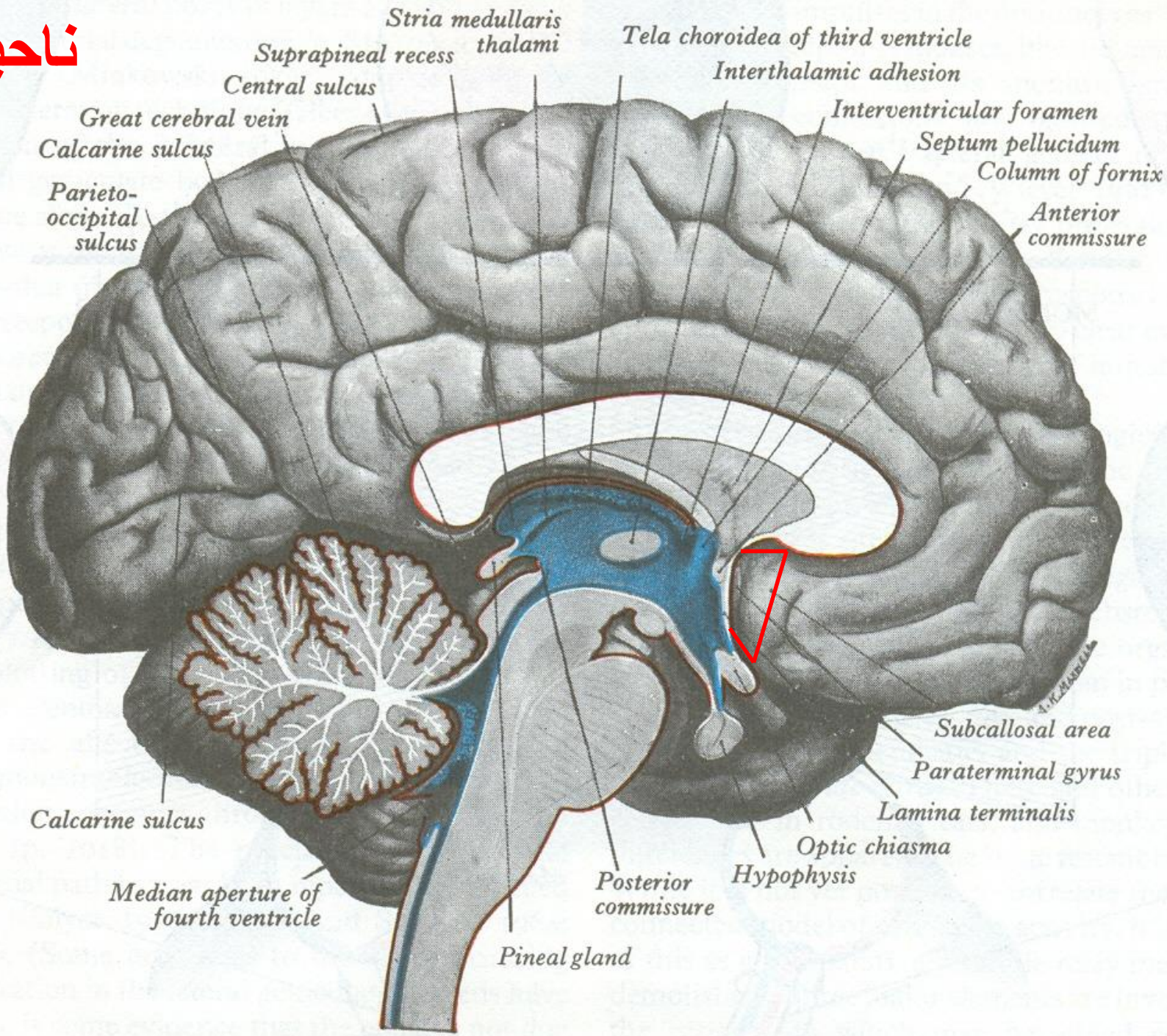

CINGULATE
CORPUS CALLOSUM
FORNIX
INDUSIUM GRISEUM
SEPTAL N.
ORBITAL FRONTAL LOBE
OLFACTORY BULB
OLFACTORY TRACT
TEMPORAL LOBE
AMYGDALA
HIPPOCAMPUS
HYPOTHALMUS
STRIA TERMINALIS

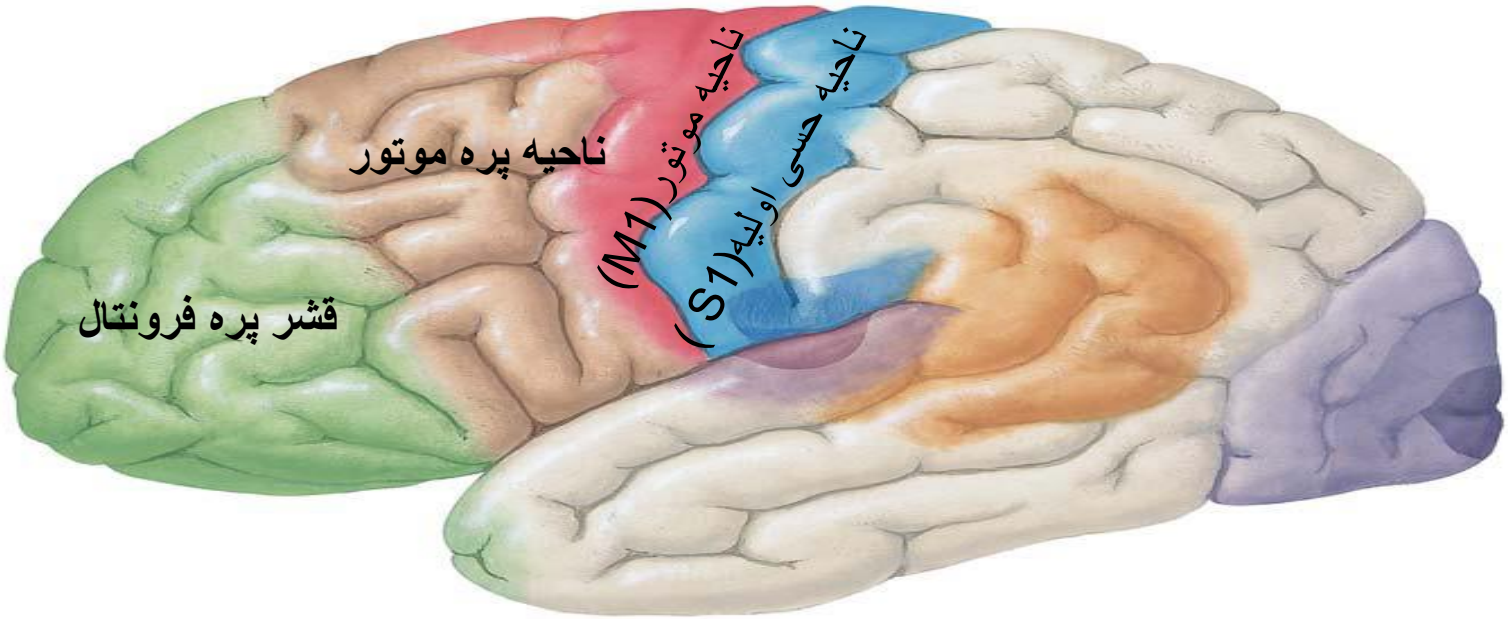
Main Components of Limbic System

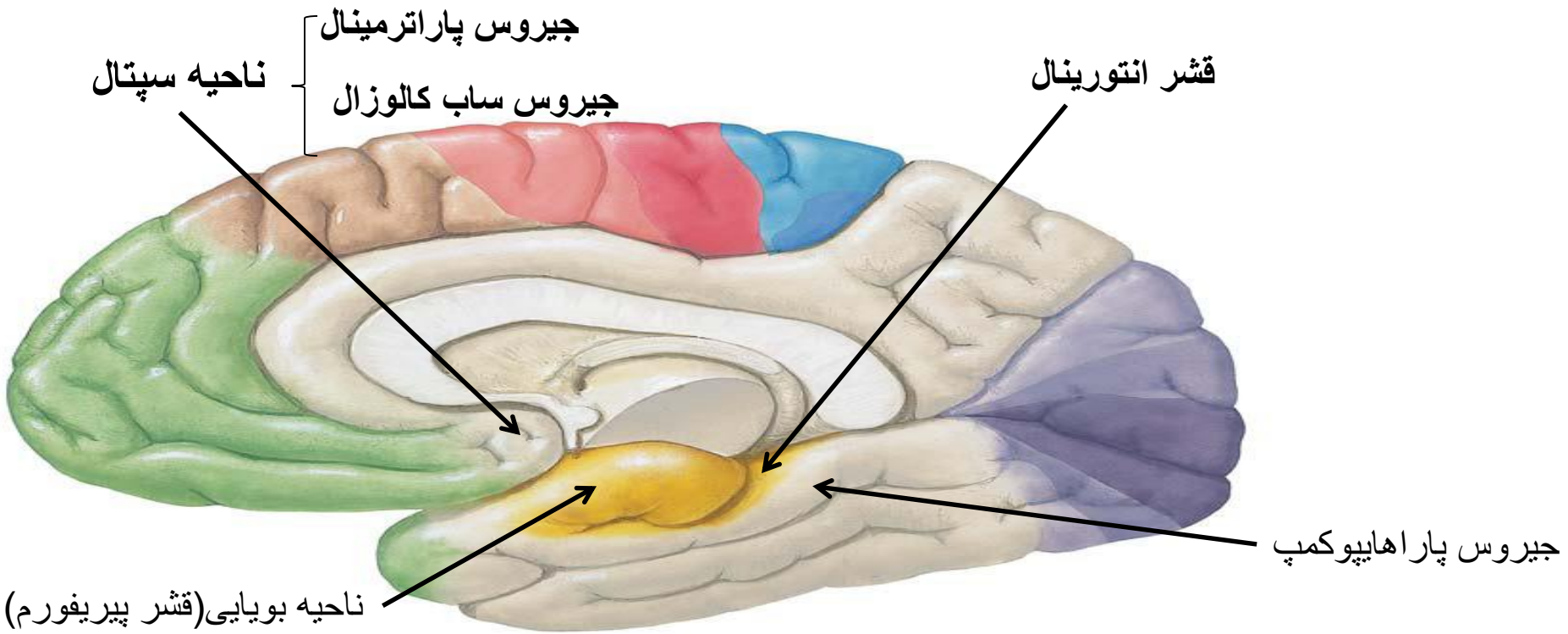



Cingulate gyrus
Septal
Fornix
Olfactory bulb
Hypothalamus
Amygdala
Mammillary body
Hippocampus

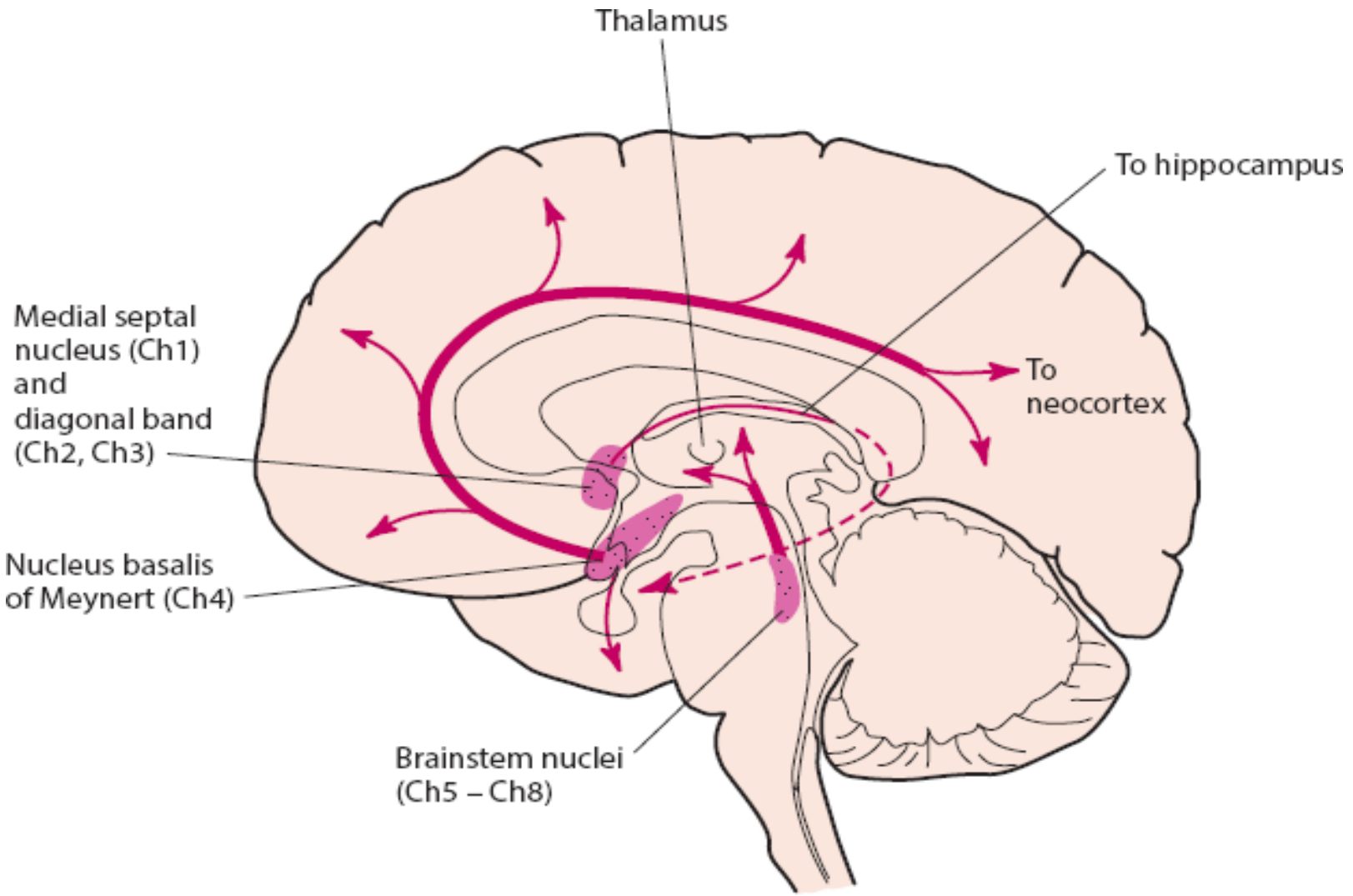
ناحیه سپتال


Stria medullaris thalami
Tela choroidea of third ventricle
Suprapineal recess
Interthalamic adhesion
Central sulcus
Interventricular foramen
Great cerebral vein
Septum pellucidum
Calcarine sulcus
Column of fornix
Parieto-occipital sulcus
Anterior commissure
Subcallosal area
Paraterminal gyrus
Lamina terminalis
Optic chiasma
Hypophysis
Posterior commissure
Pineal gland
Median aperture of fourth ventricle
Calcarine sulcus

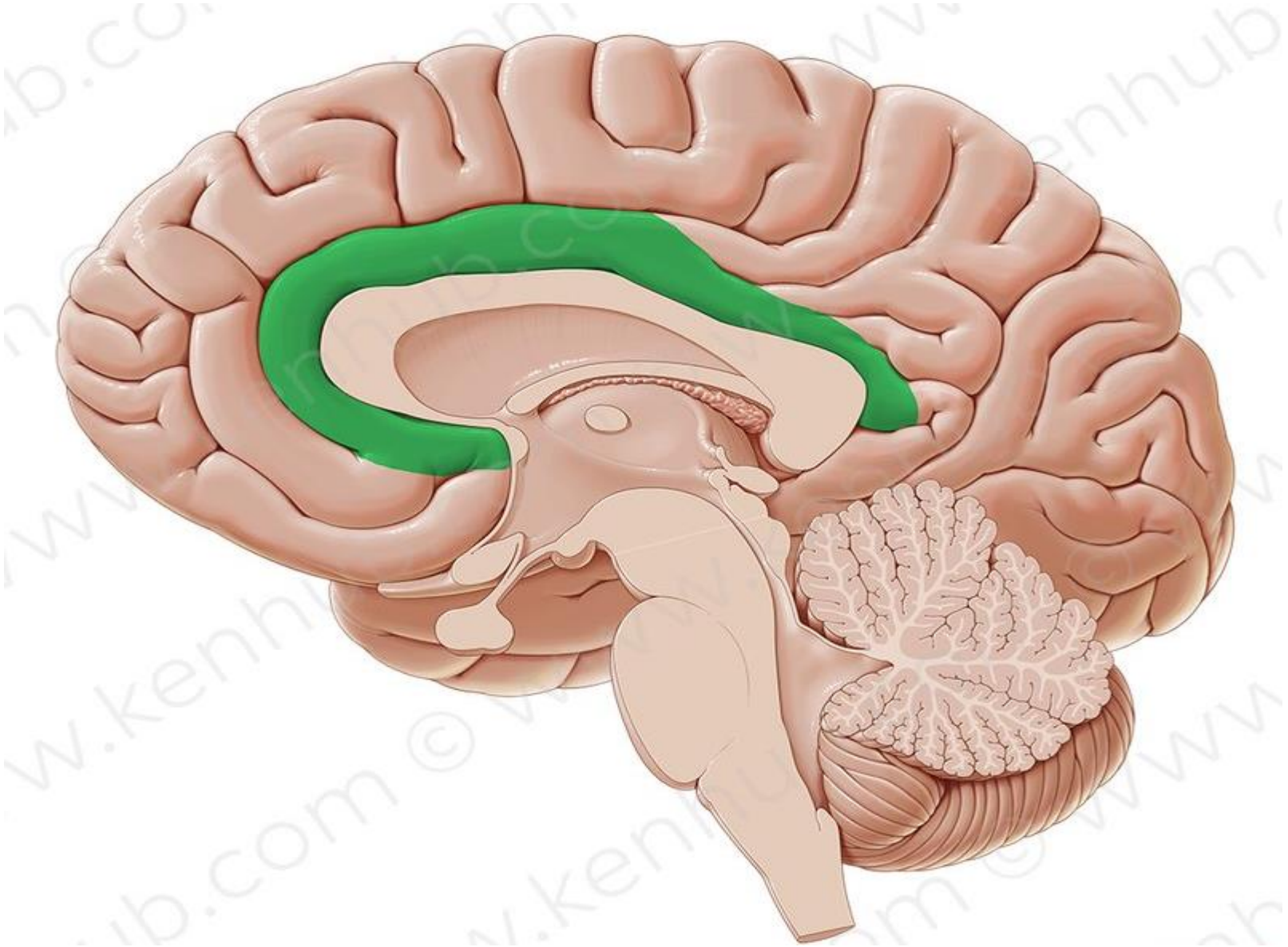

ناحیه پره موتور
قشر پره فرونتال
ناحیه موتور(M1)
ناحیه حسی اولیه(S1)


جیروس پاراترمینال
ناحیه سپتال
جیروس ساب کالوزال
قشر انتورینال
جیروس پاراهایپوکمپ
ناحیه بویایی(قشر پیریفورم)

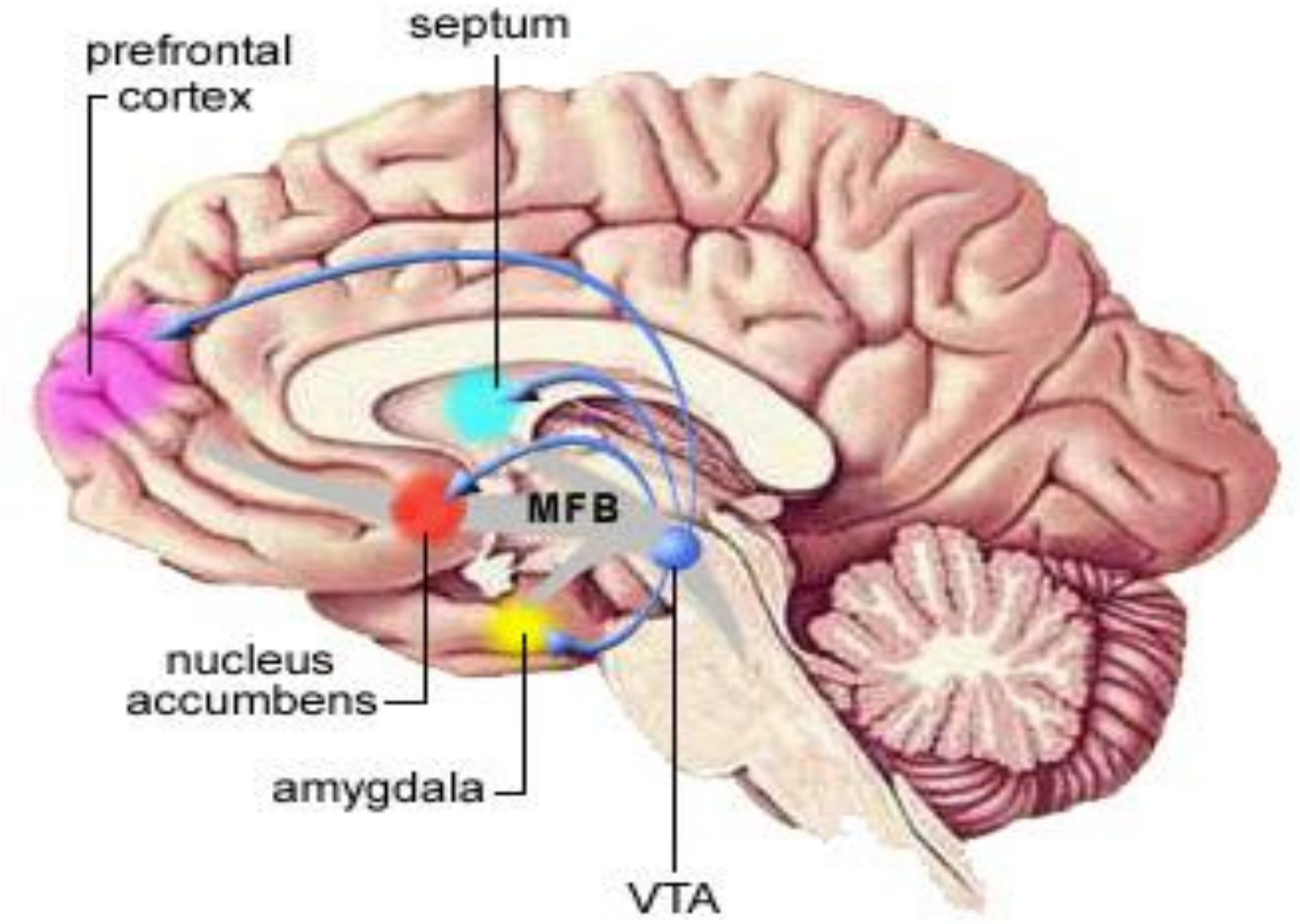
Necleus basilis of Meynert



Cingulate gyrus



Reward circuit



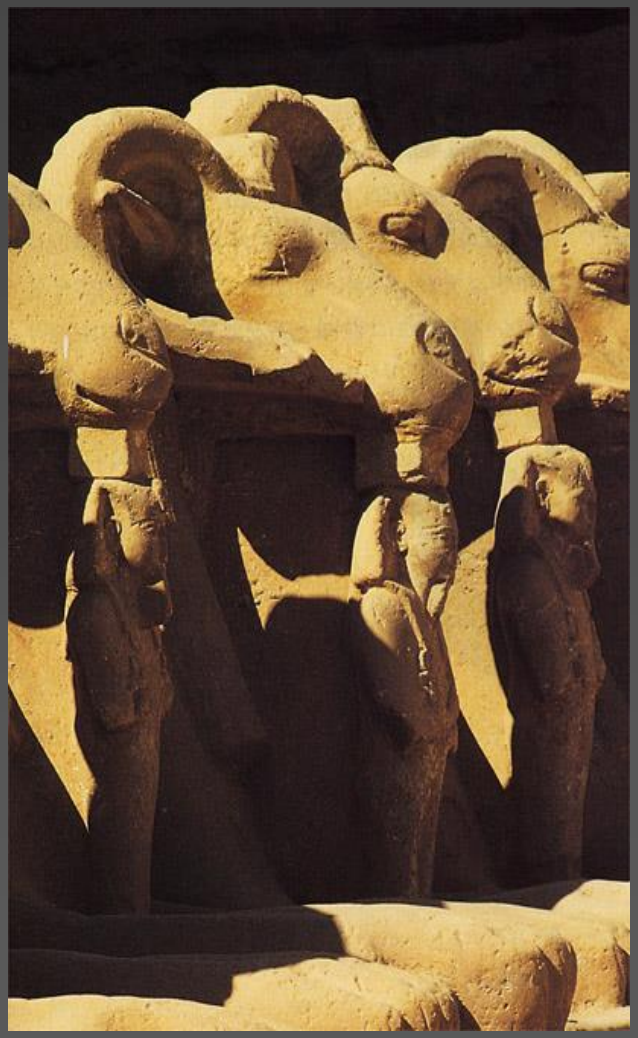
Hippocampus

Uncus

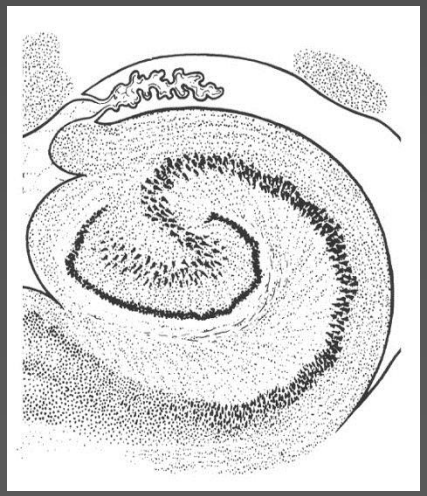
Hippocampal formation

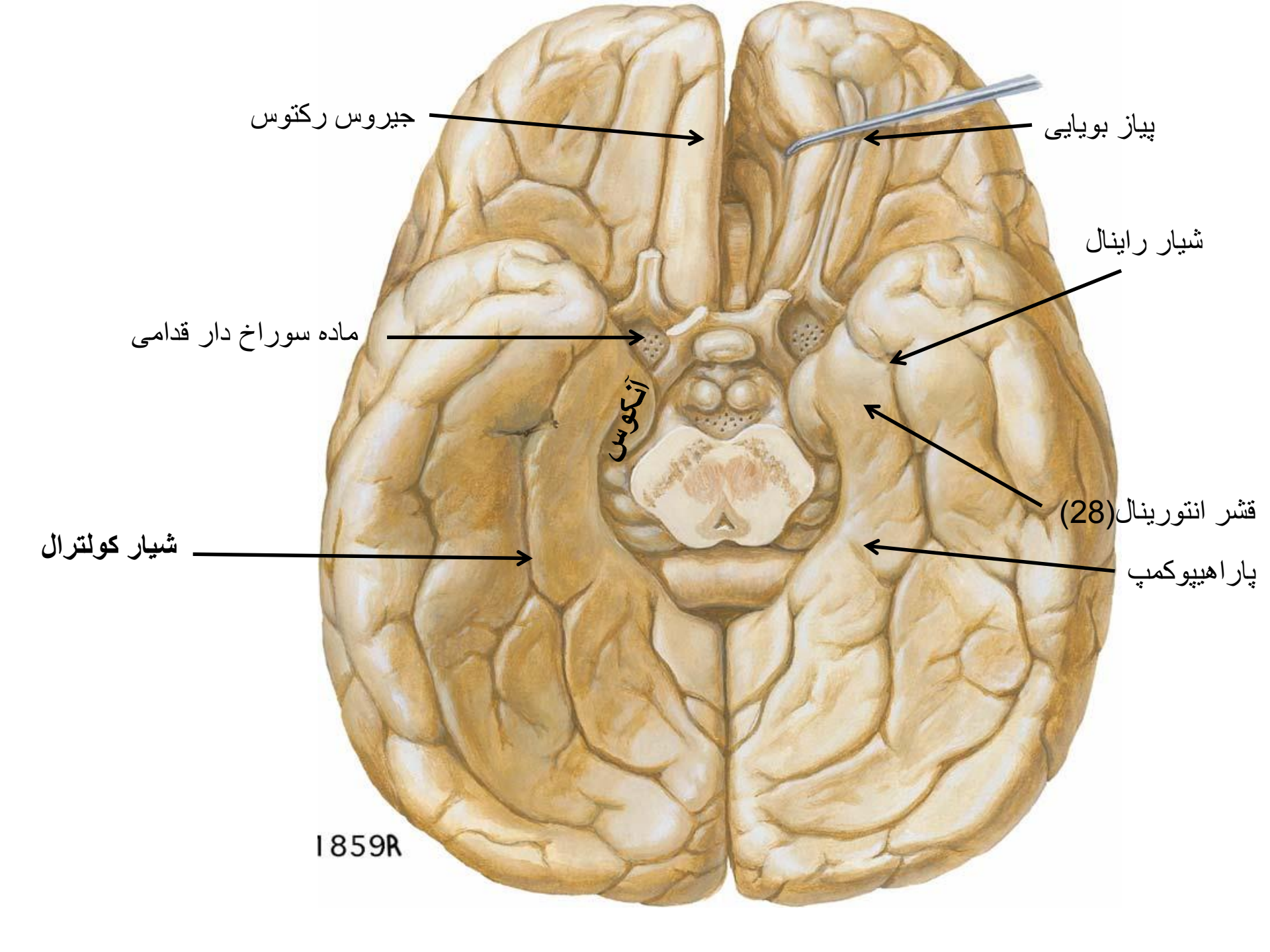
Corpus callosum (ventral aspect)

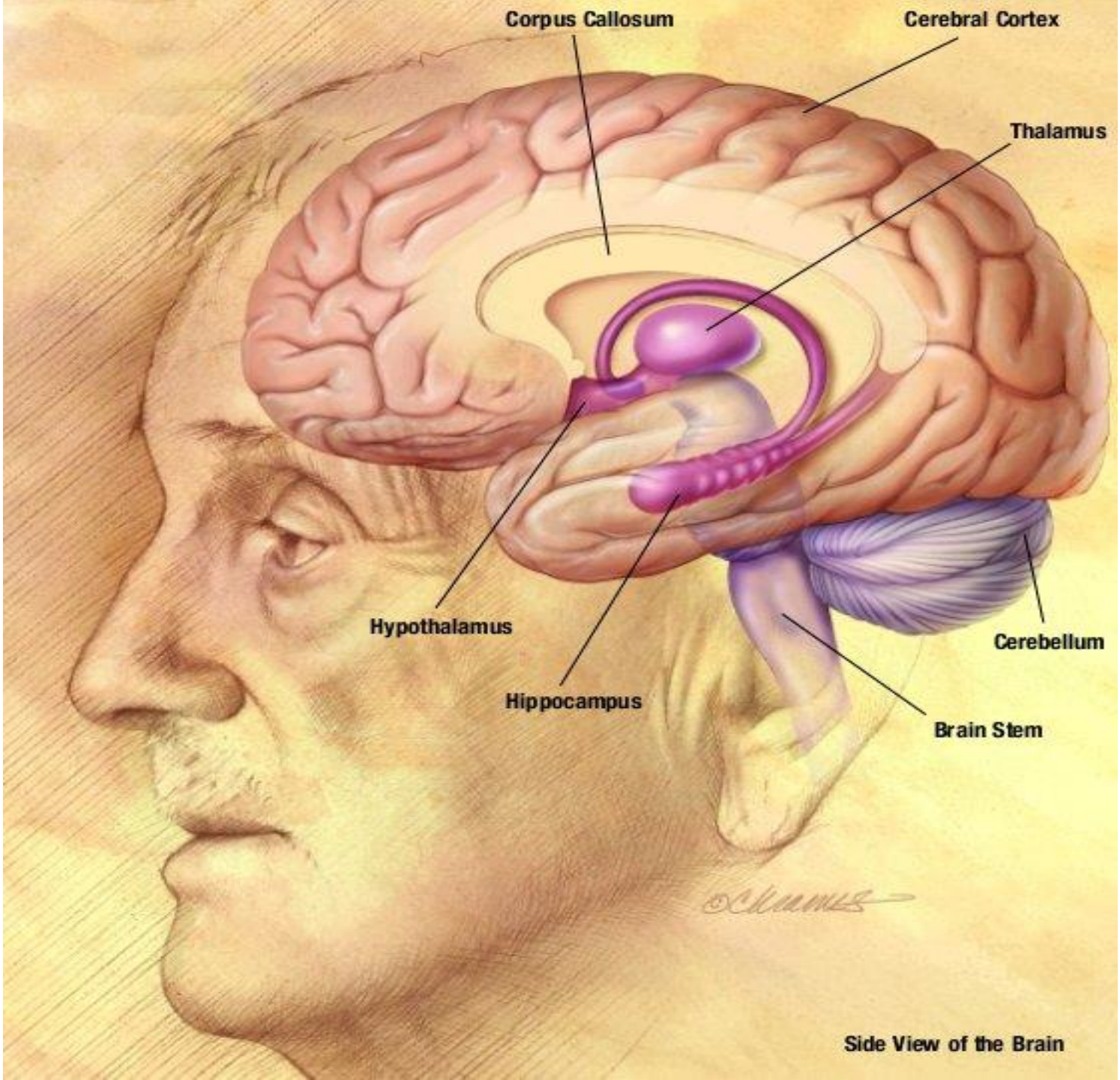
Lateral ventricle

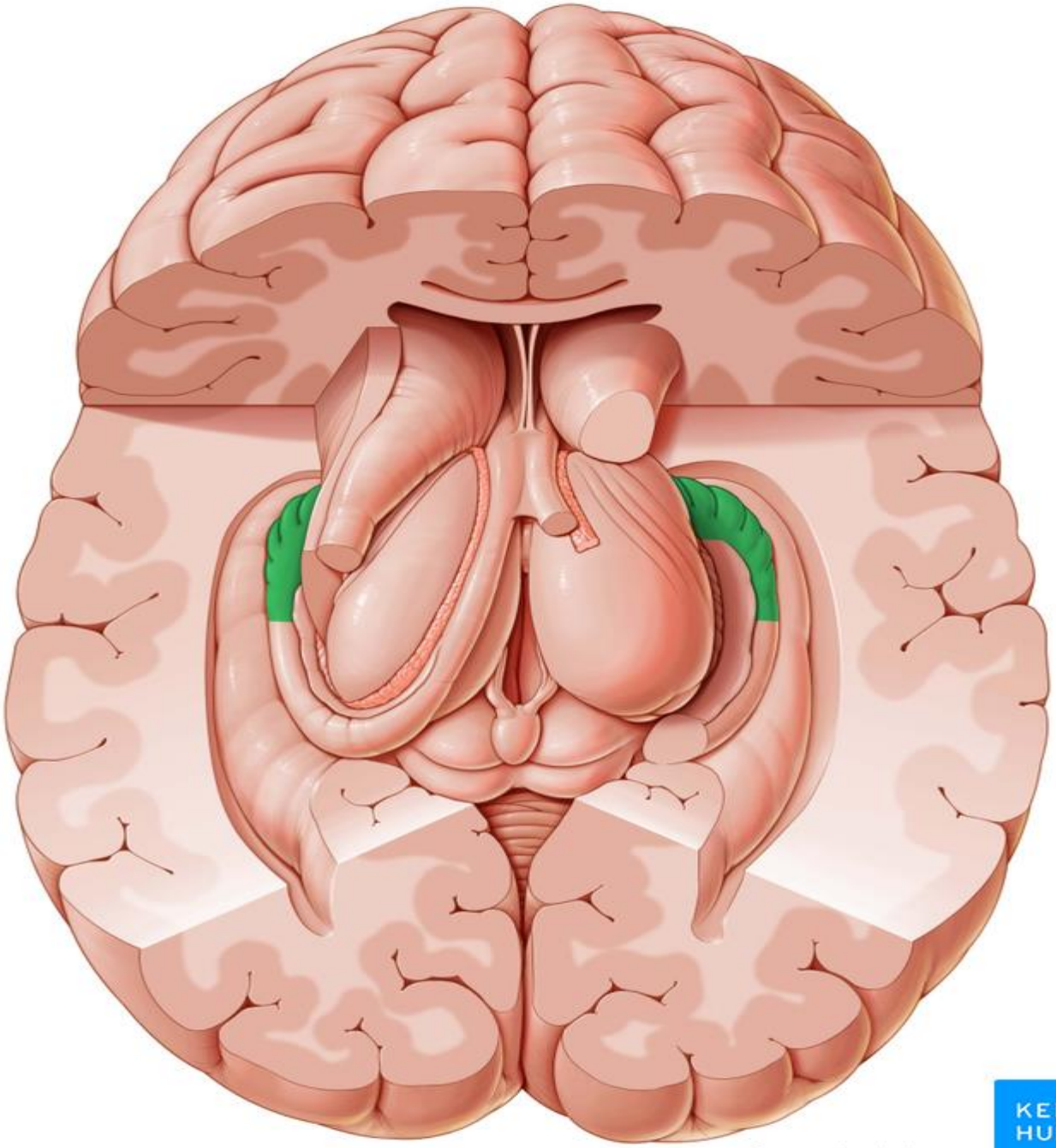


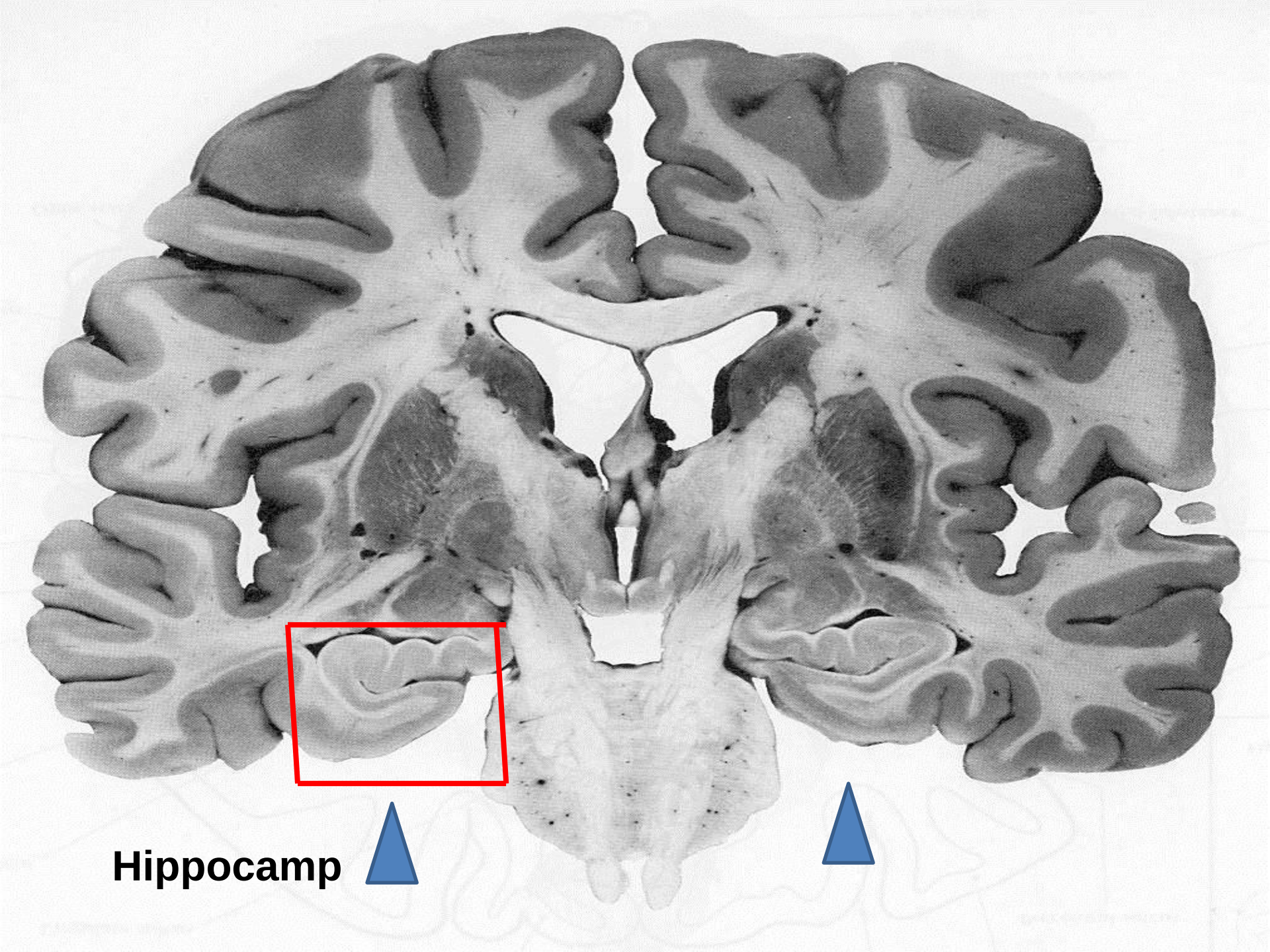
Ammon's horn (Cornu Ammonis)

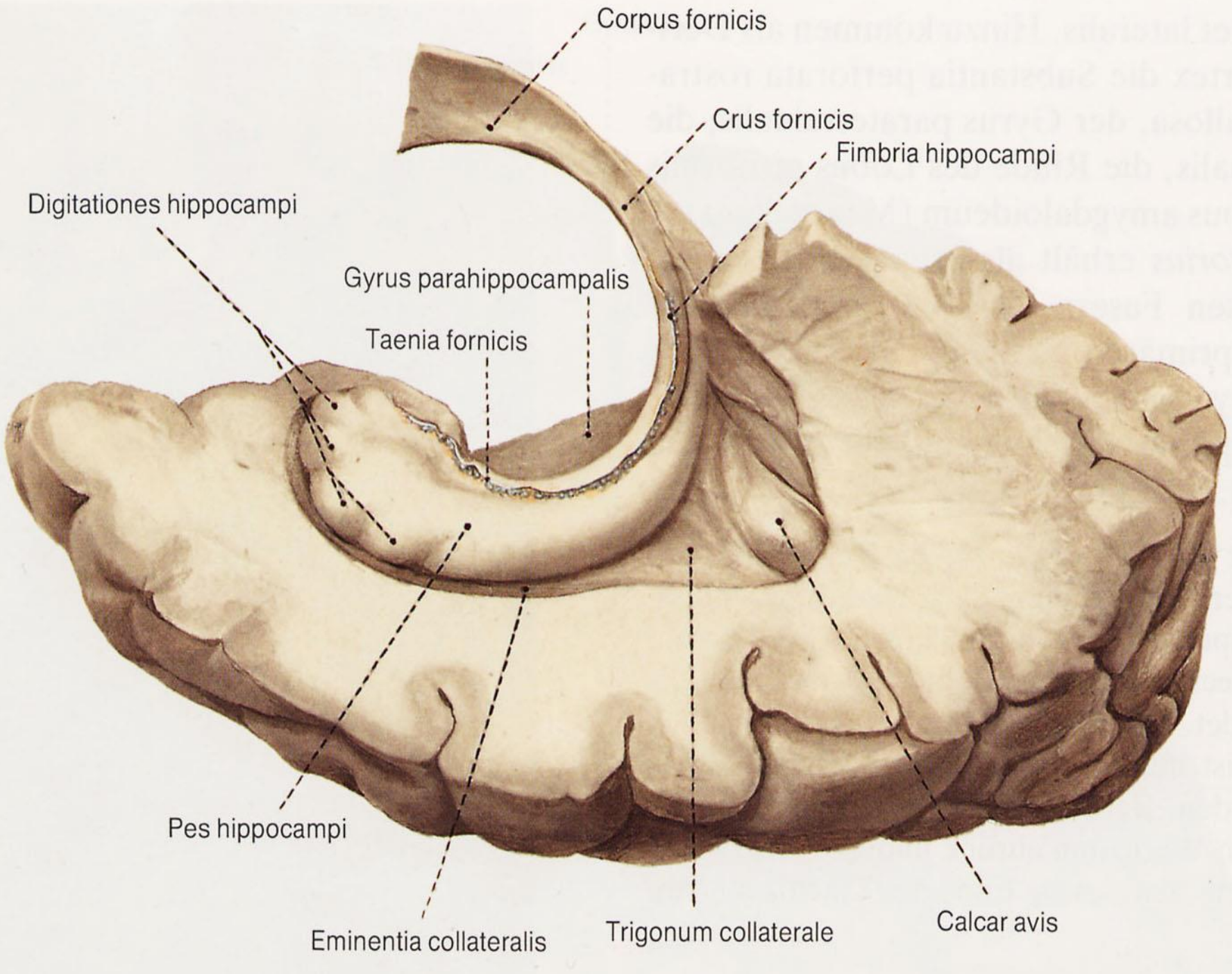



جیروس رکتوس
پیاز بویایی
شیار راینال
ماده سوراخ دار قدامی
آنکوس
قشر انتورینال(28)
شیار کولترال
پاراهیپوکمپ
1859R


Corpus Callosum
Cerebral Cortex
Thalamus
Hypothalamus
Hippocampus
Cerebellum
Brain Stem
Side View of the Brain




Hippocamp


Corpus fornicis
Crus fornicis
Fimbria hippocampi
Digitationes hippocampi
Gyrus parahippocampalis
Taenia fornicis
Pes hippocampi
Eminentia collateralis
Trigonum collaterale
Calcar avis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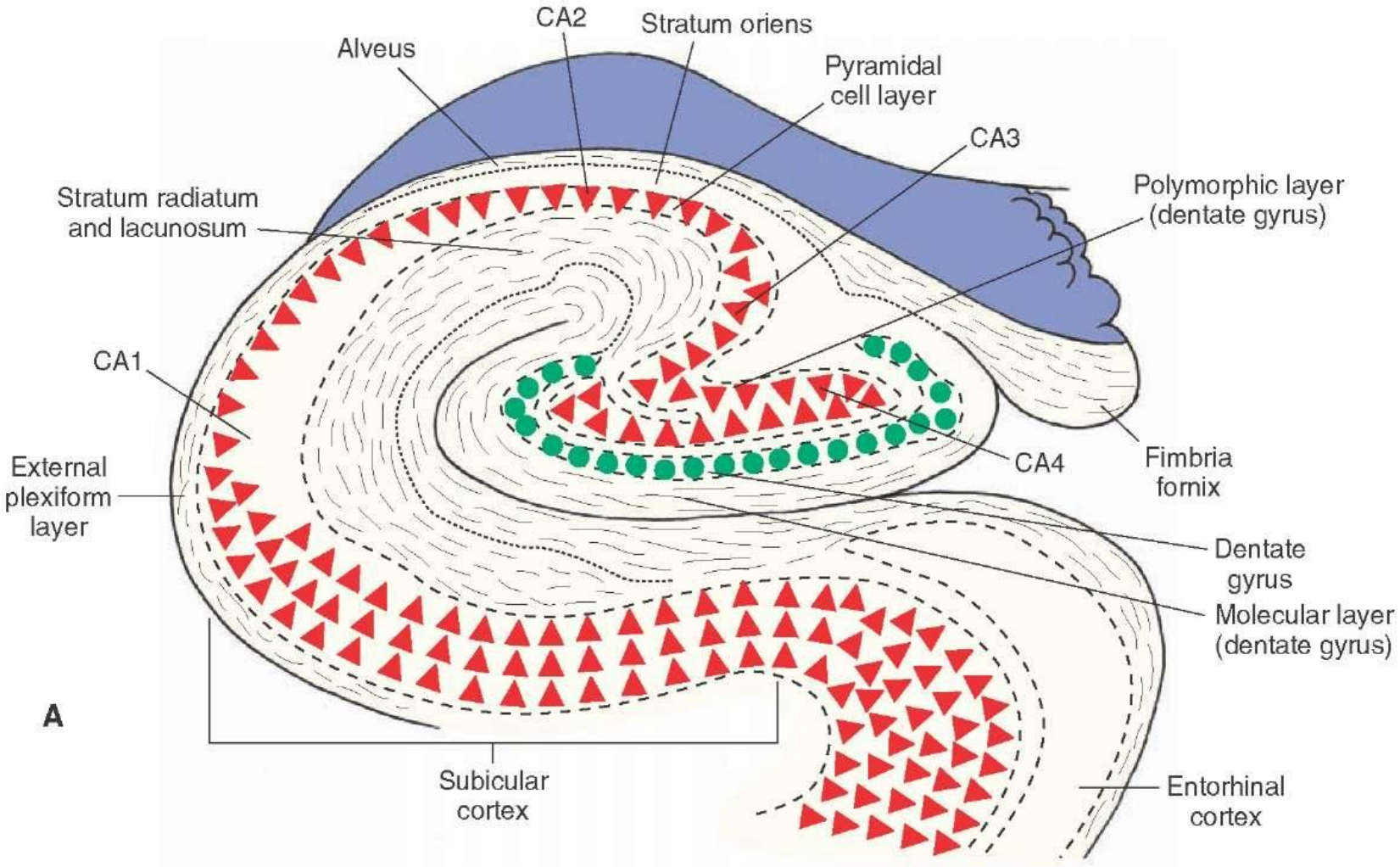
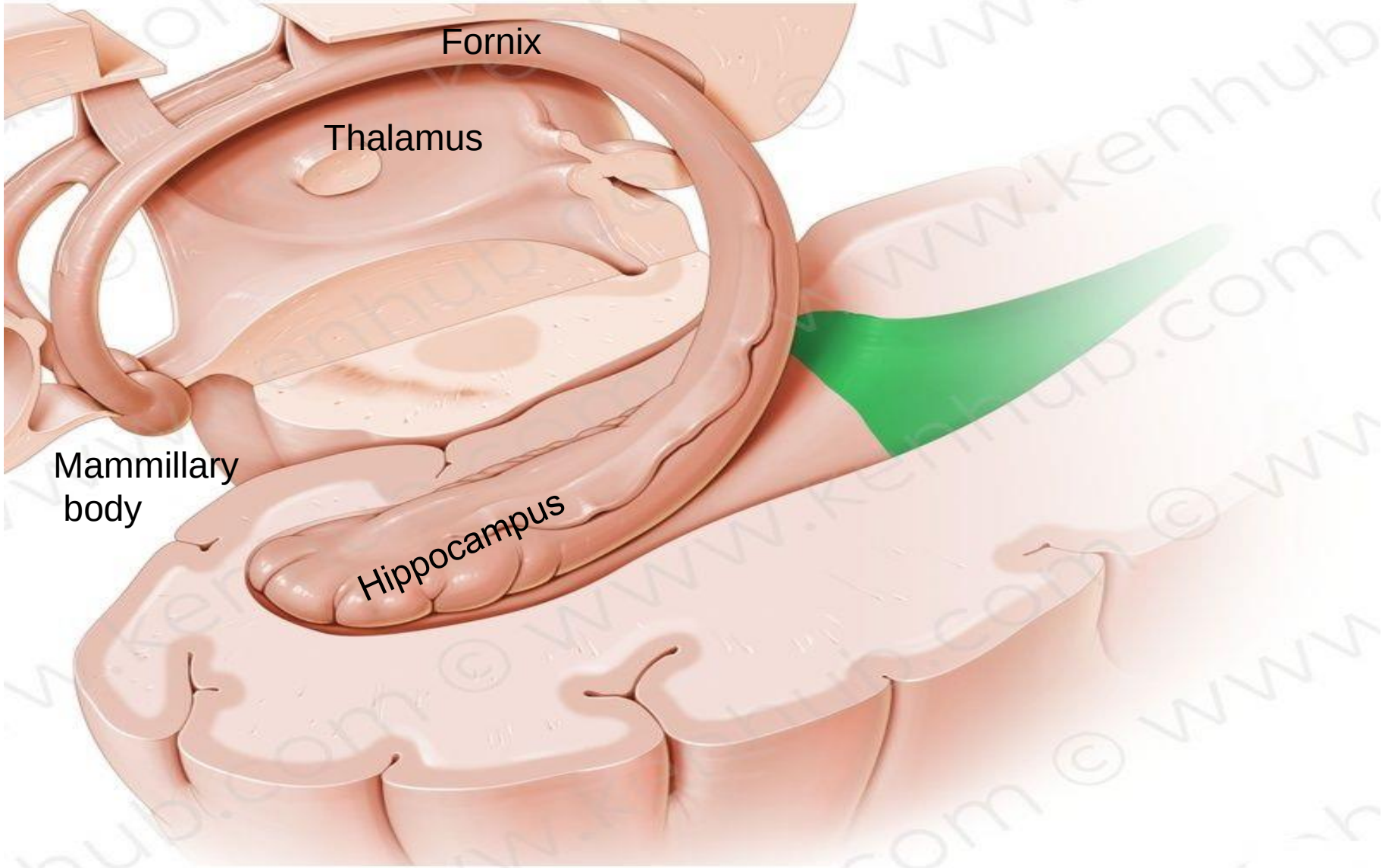
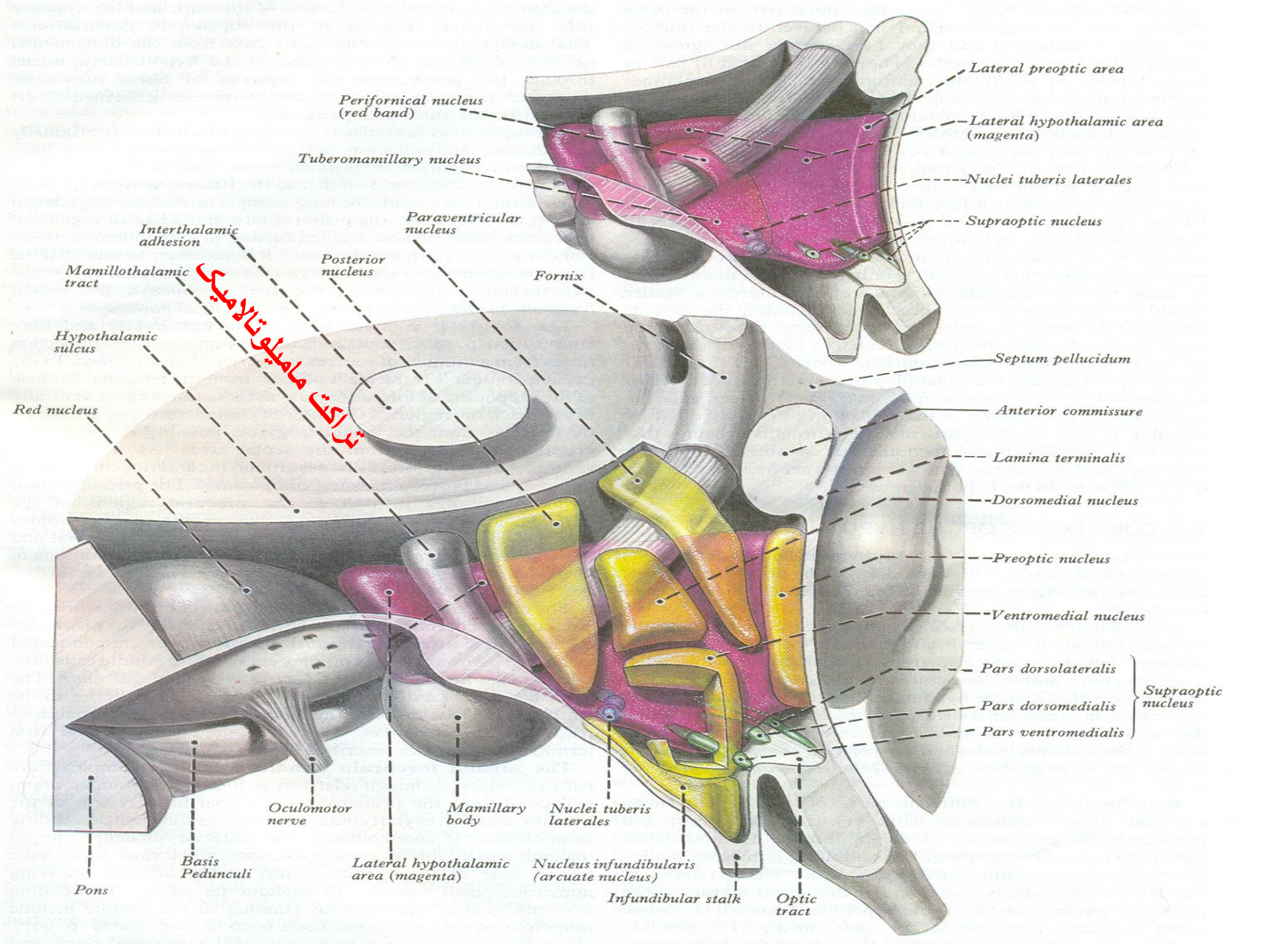
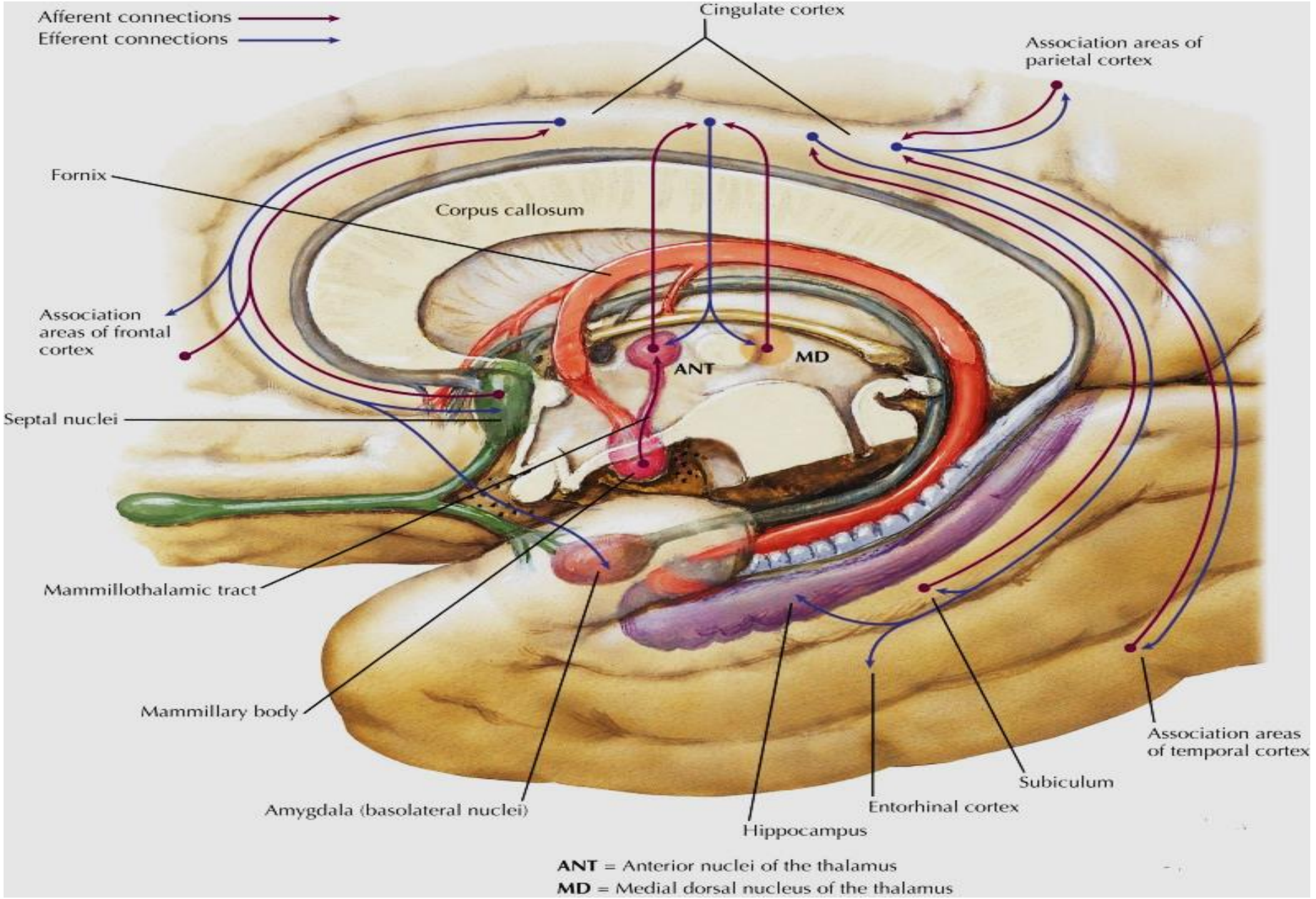
5
2
7
6
هایپوکمپ
1
جیروس
دنتاتوس
3
پارا هایپوکمپ
4


CA2
Stratum oriens
Alveus
Pyramidal cell layer
CA3
Polymorphic layer (dentate gyrus)
Stratum radiatum and lacunosum
CA1
CA4
Fimbria fornix
External plexiform layer
Dentate gyrus
Molecular layer (dentate gyrus)
A
Subicular cortex
Entorhinal cortex

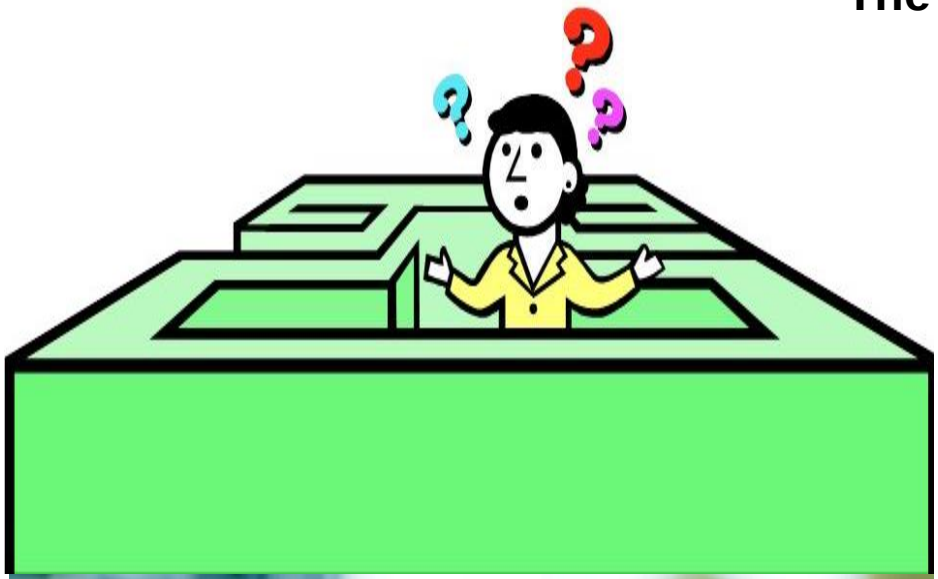

Fornix
Thalamus
Mammillary body
Hippocampus


Lateral preoptic area
Perifornical nucleus (red band)
Lateral hypothalamic area (magenta)
Tuberomamillary nucleus
Nuclei tuberis laterales
Supraoptic nucleus
Paraventricular nucleus
Interthalamic adhesion
Posterior nucleus
Mamillothalamic tract
تراکت مامیلوتالامیک
Fornix
Hypothalamic sulcus
Septum pellucidum
Red nucleus
Anterior commissure
Lamina terminalis
Dorsomedial nucleus
Preoptic nucleus
Ventromedial nucleus
Pars dorsolateralis
Pars dorsomedialis
Pars ventromedialis
Supraoptic nucleus
Oculomotor nerve
Mamillary body
Nuclei tuberis laterales
Basis Pedunculi
Lateral hypothalamic area (magenta)
Nucleus infundibularis (arcuate nucleus)
Infundibular stalk
Optic tract
Pons

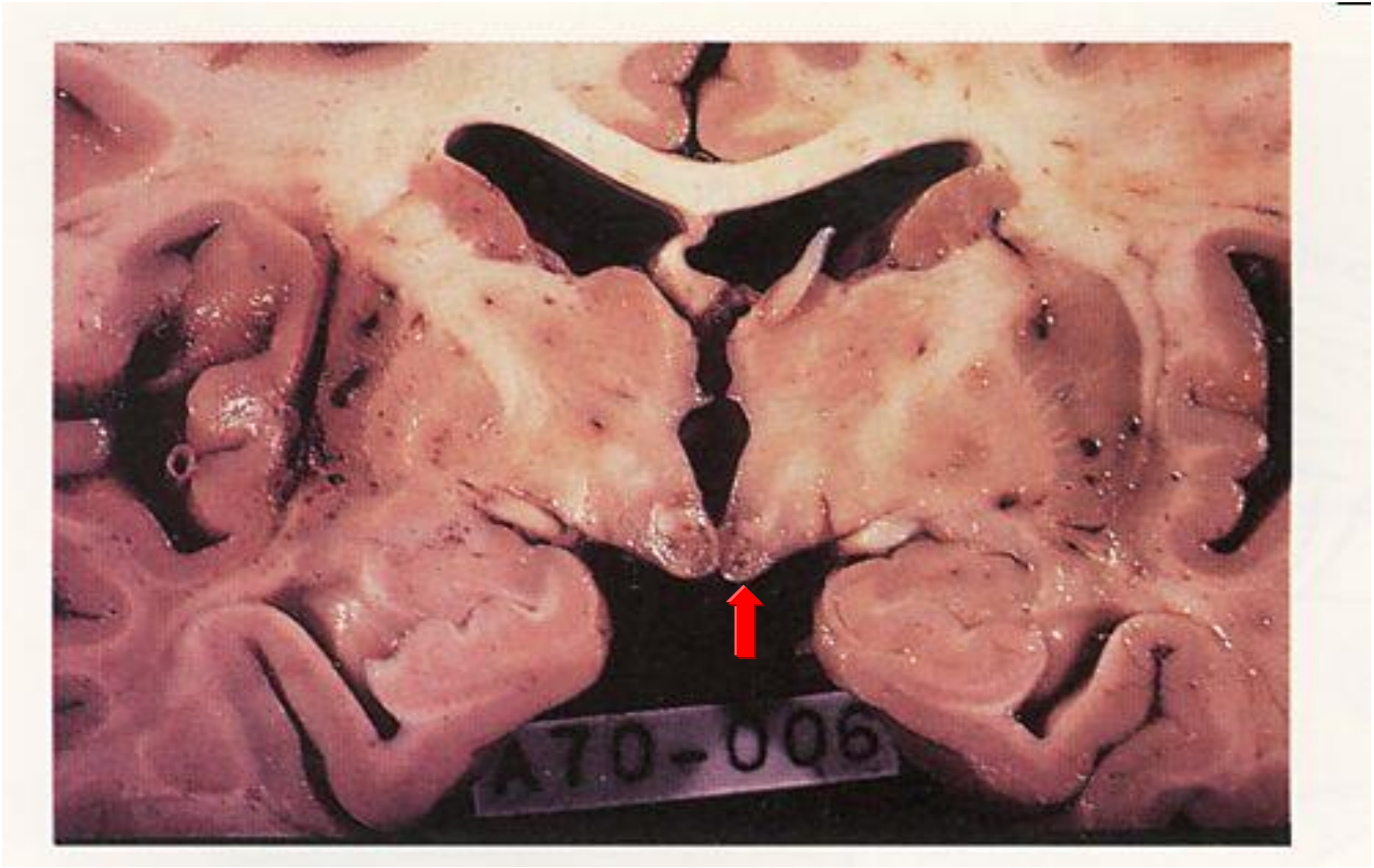
papez circuit

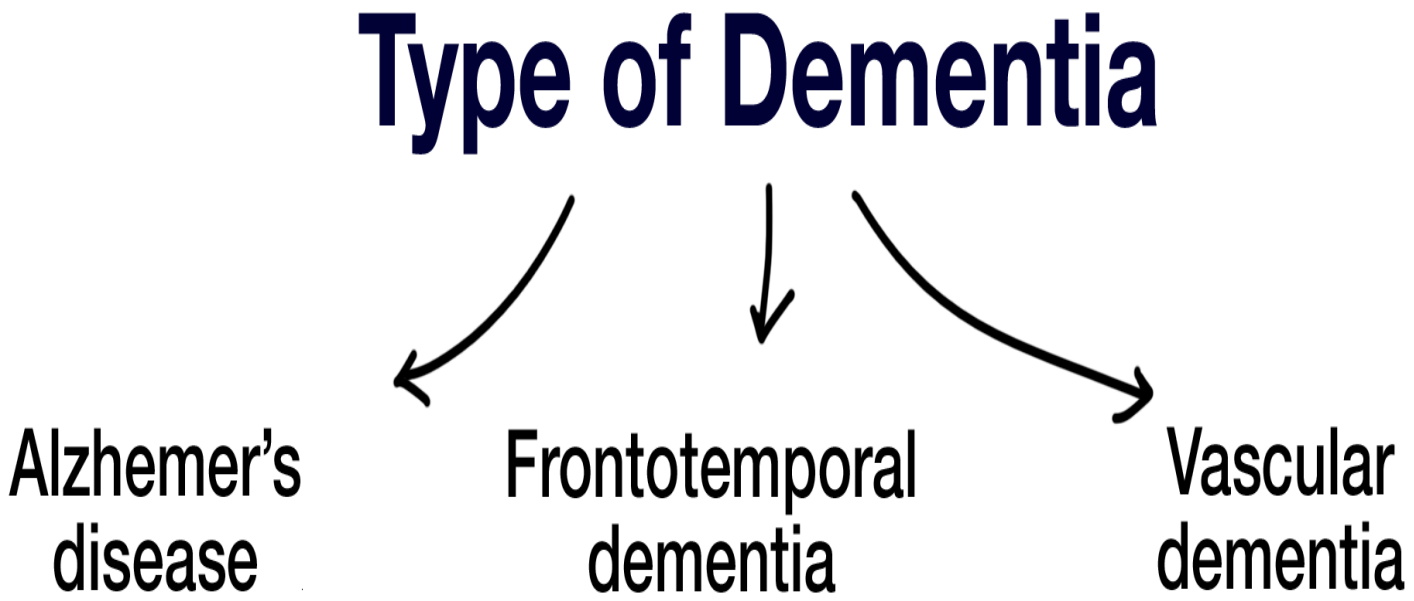


The Hippocampus — Your Brain’s GPS!

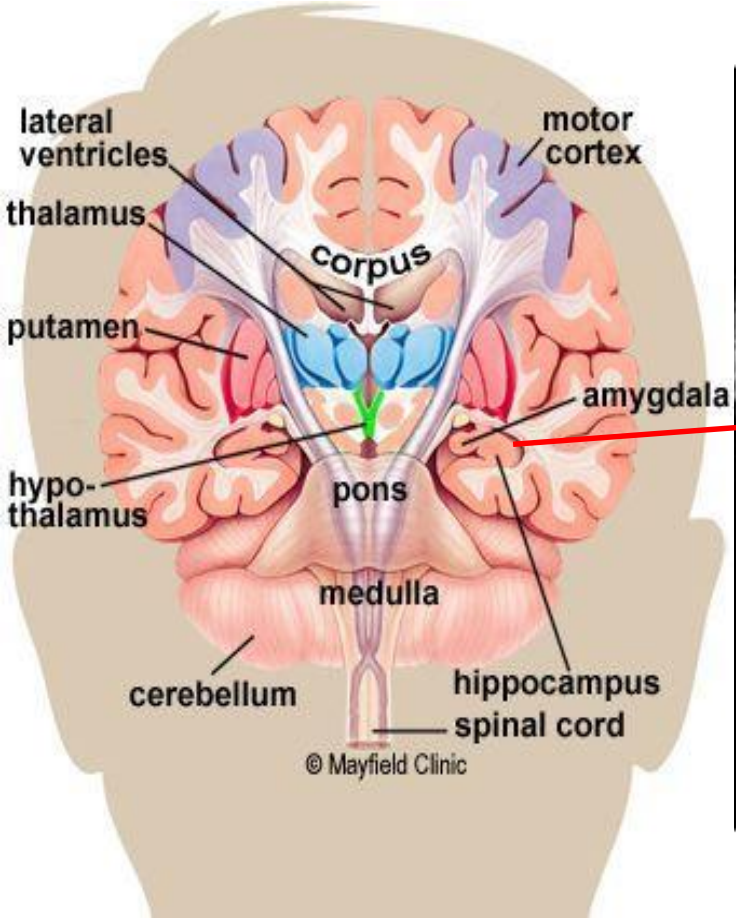


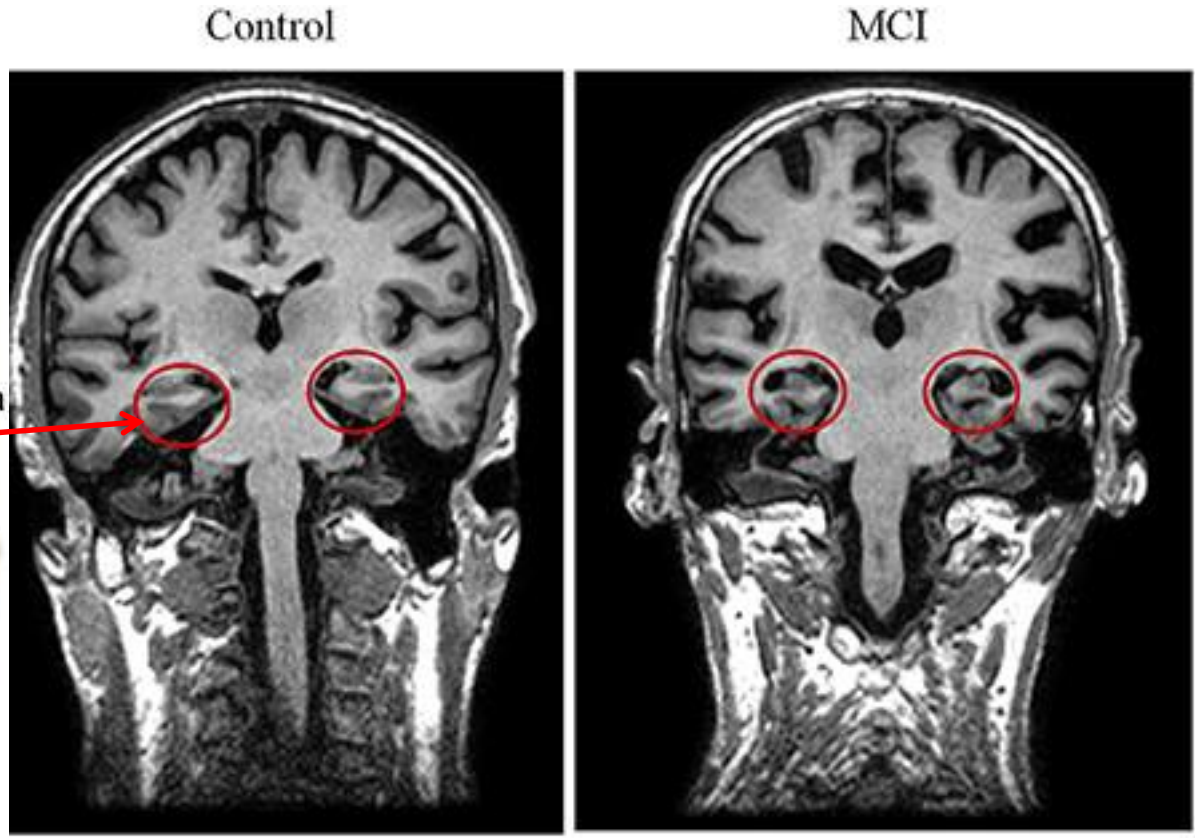
سندرم کورساکف

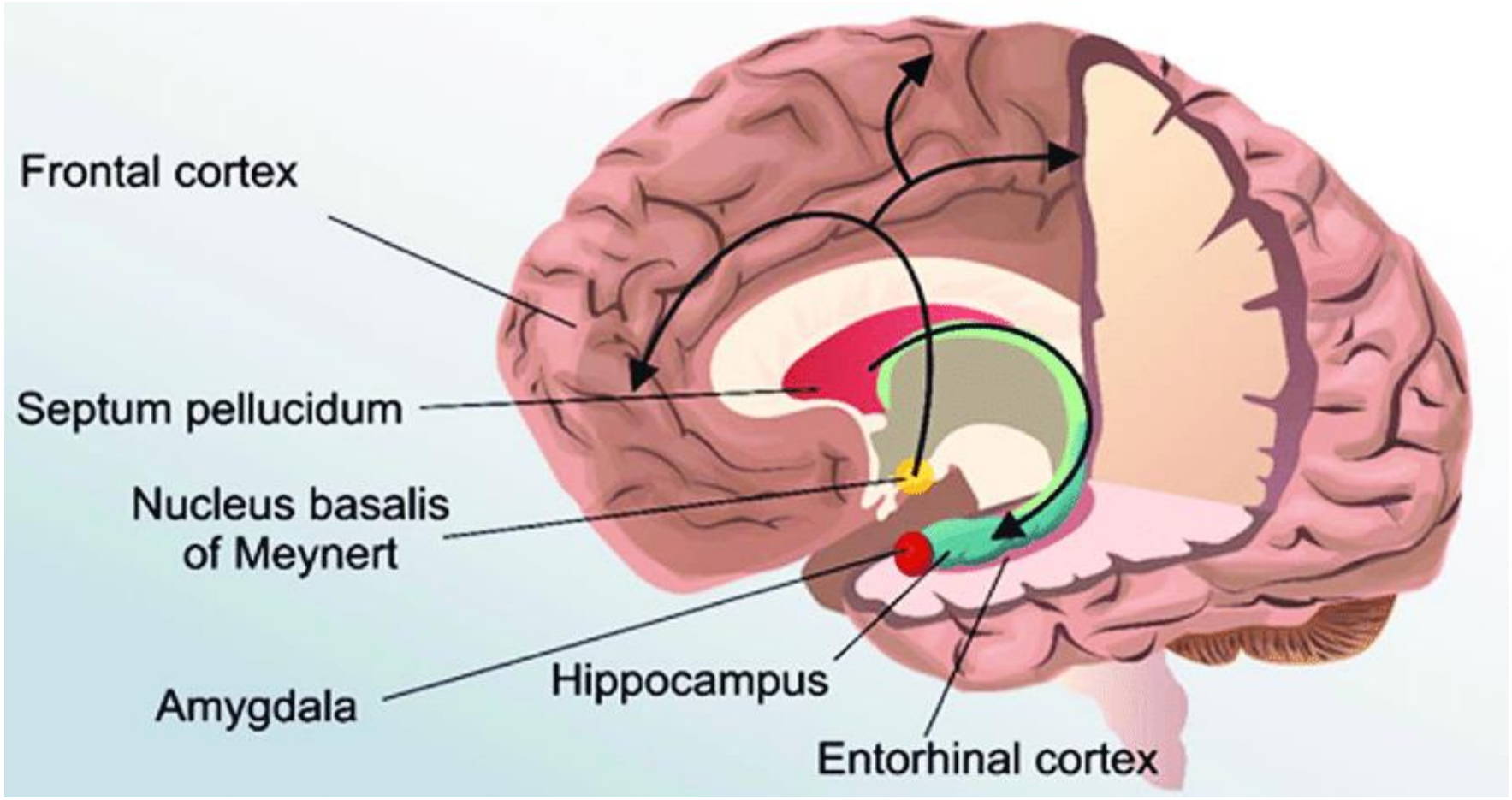



Type of Dementia
Alzhemer's disease
Frontotemporal dementia
Vascular dementia

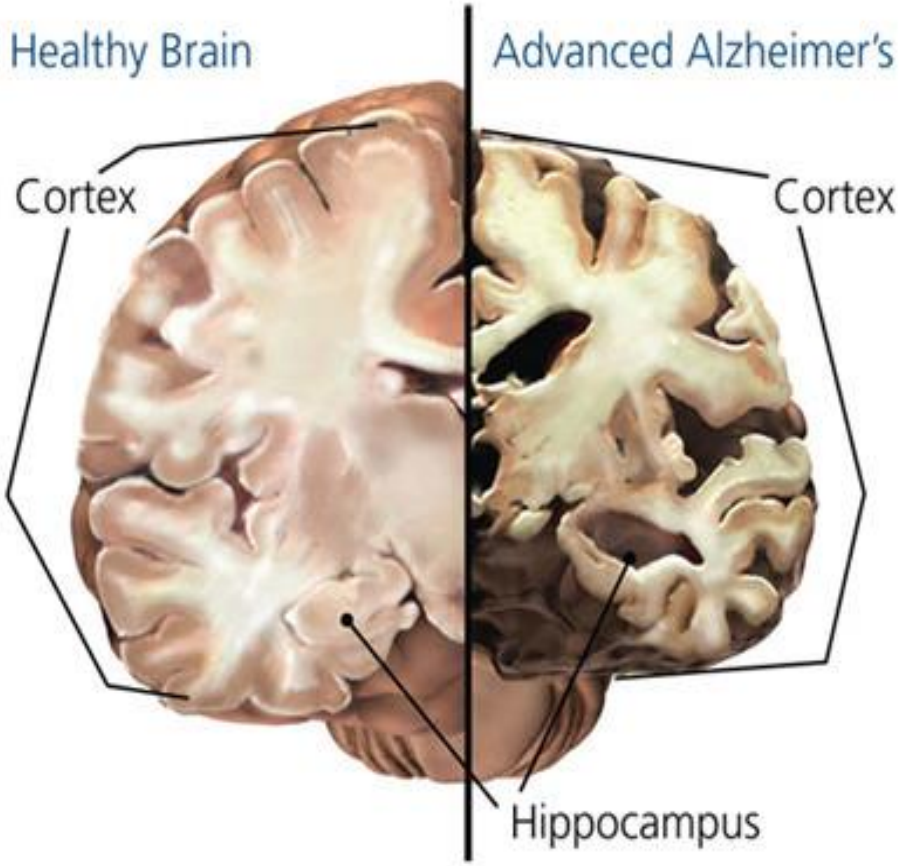
Mild Cognitive Impairment(MCI)

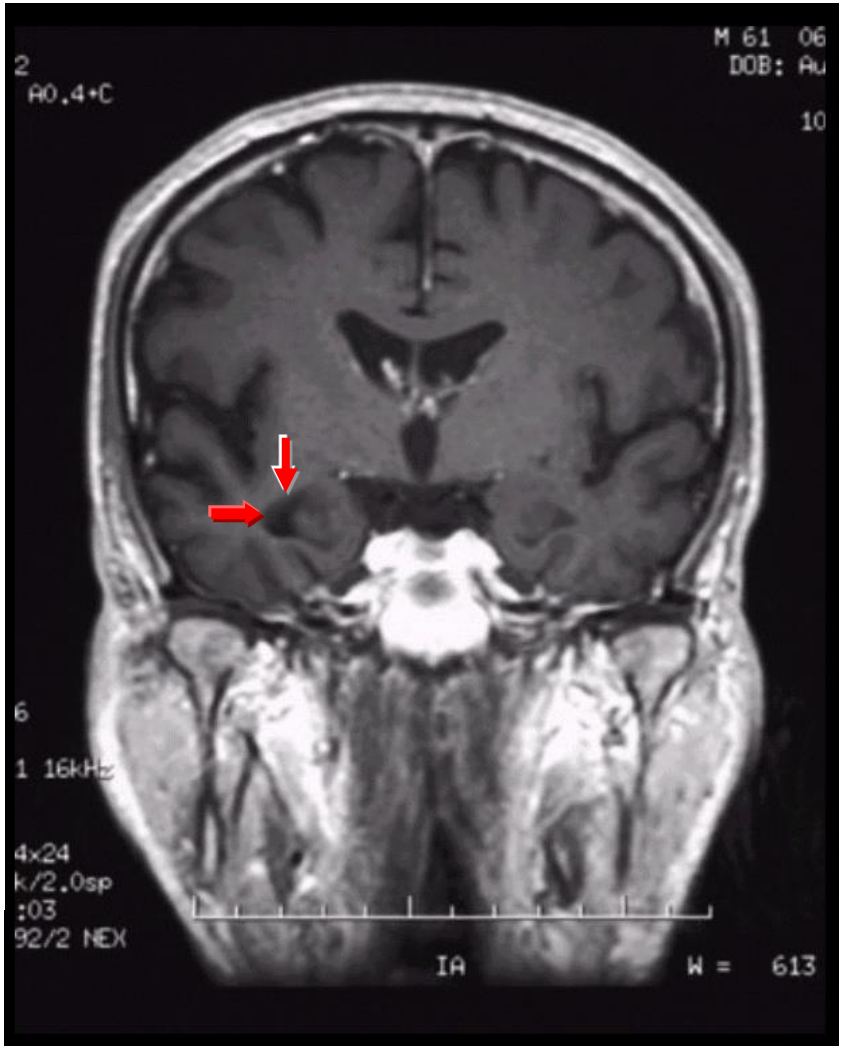




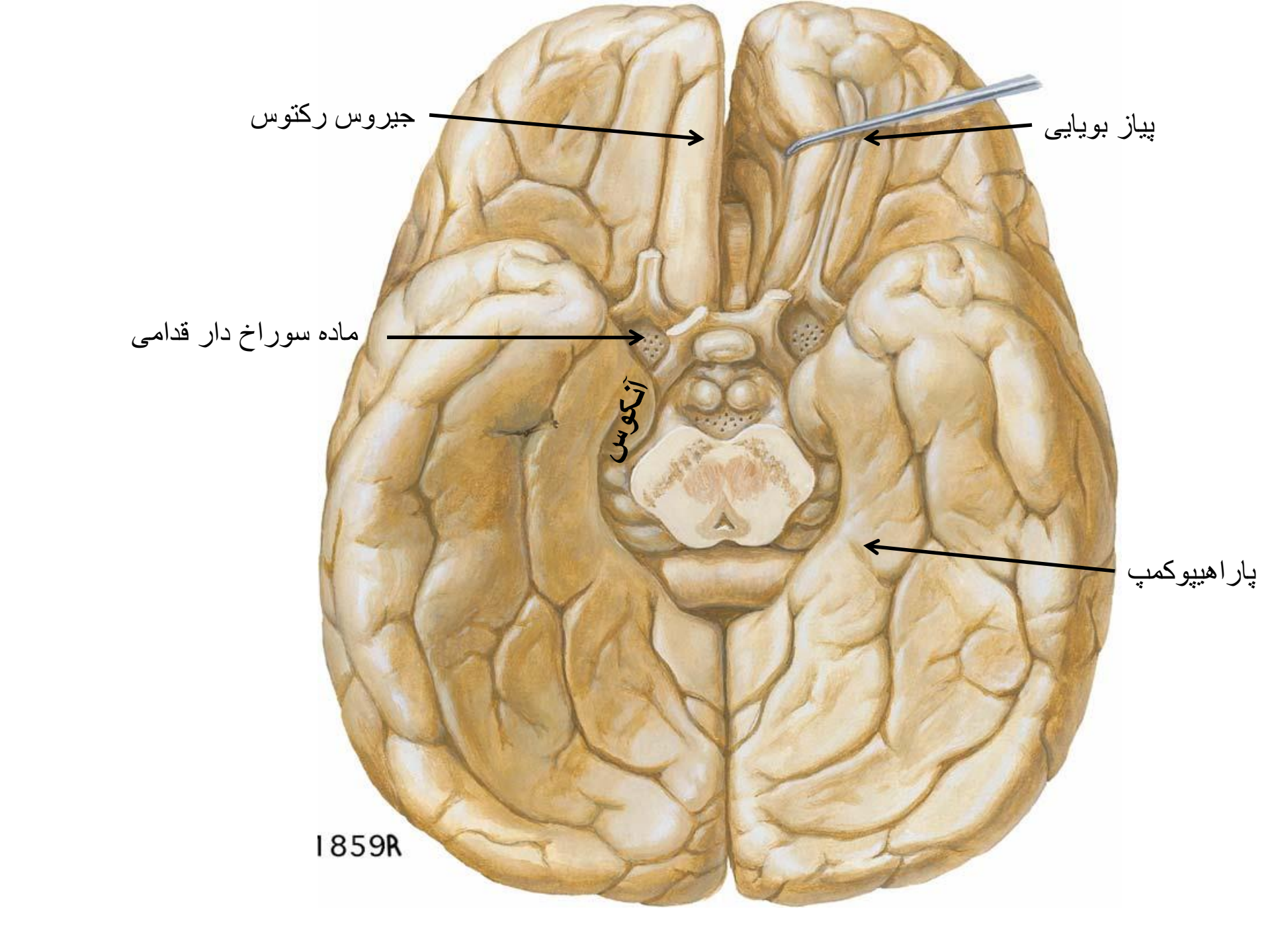

Frontal cortex
Septum pellucidum
Nucleus basalis of Meynert
Amygdala
Hippocampus
Entorhinal cortex

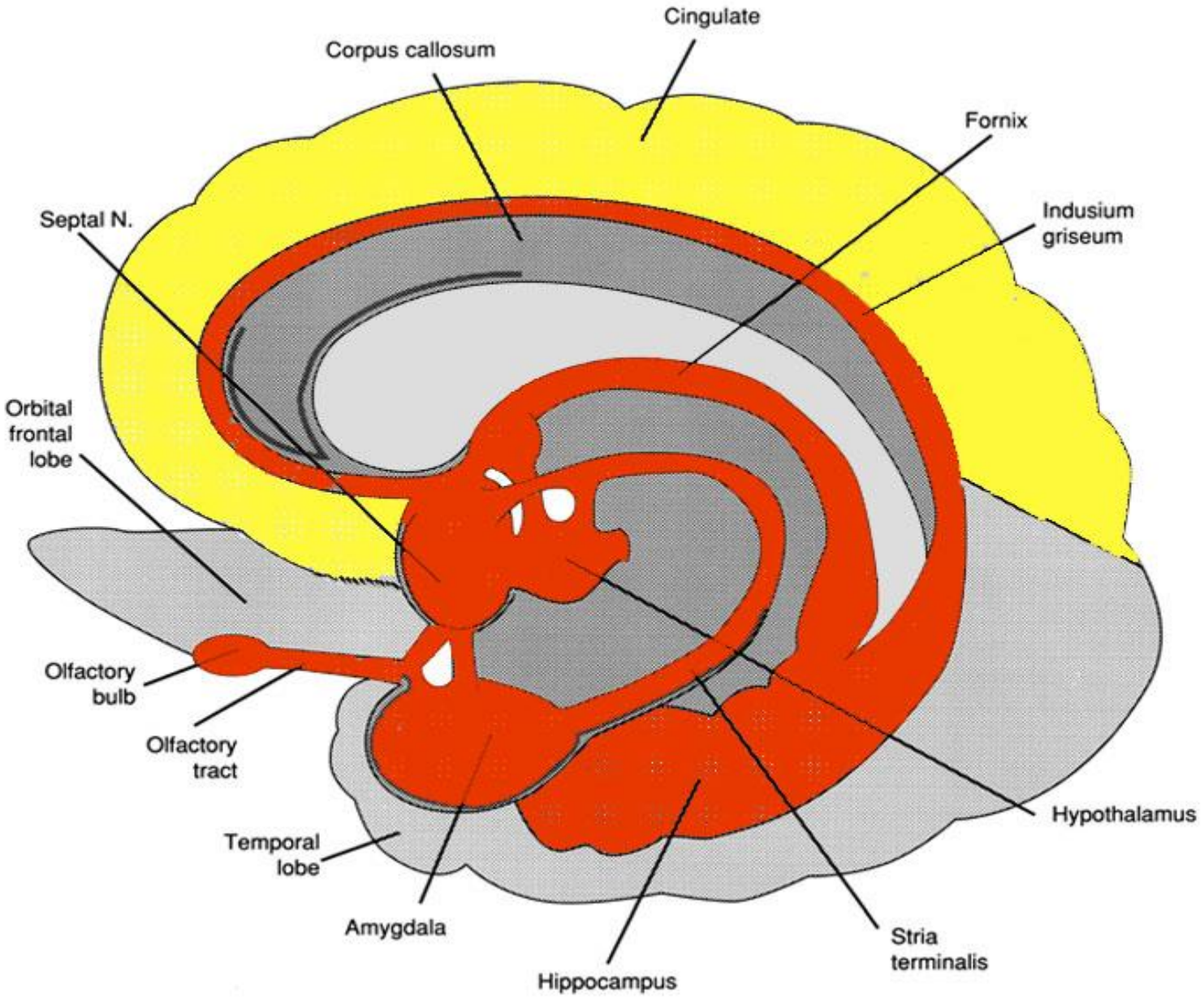
Alzheimer's disease

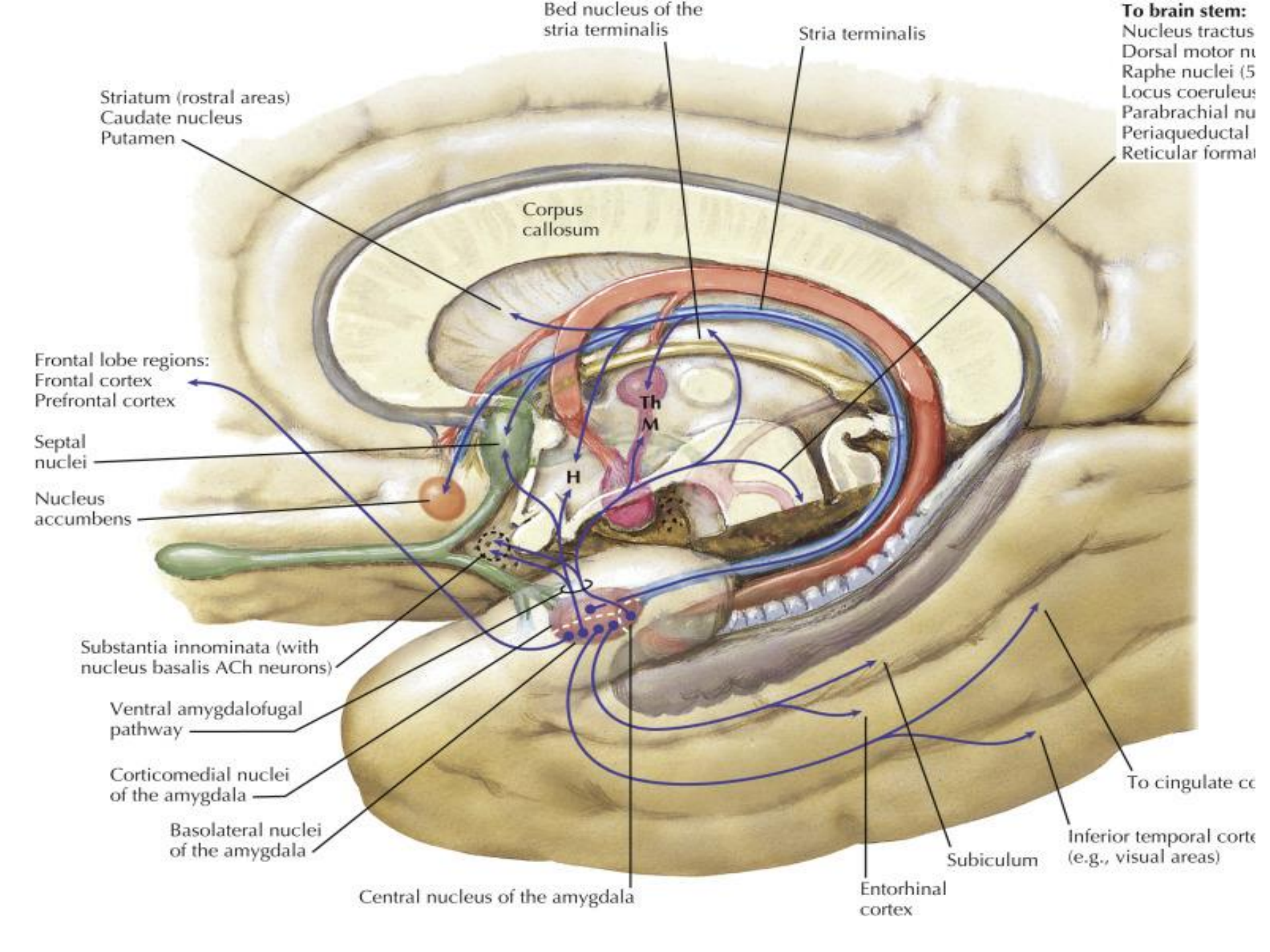


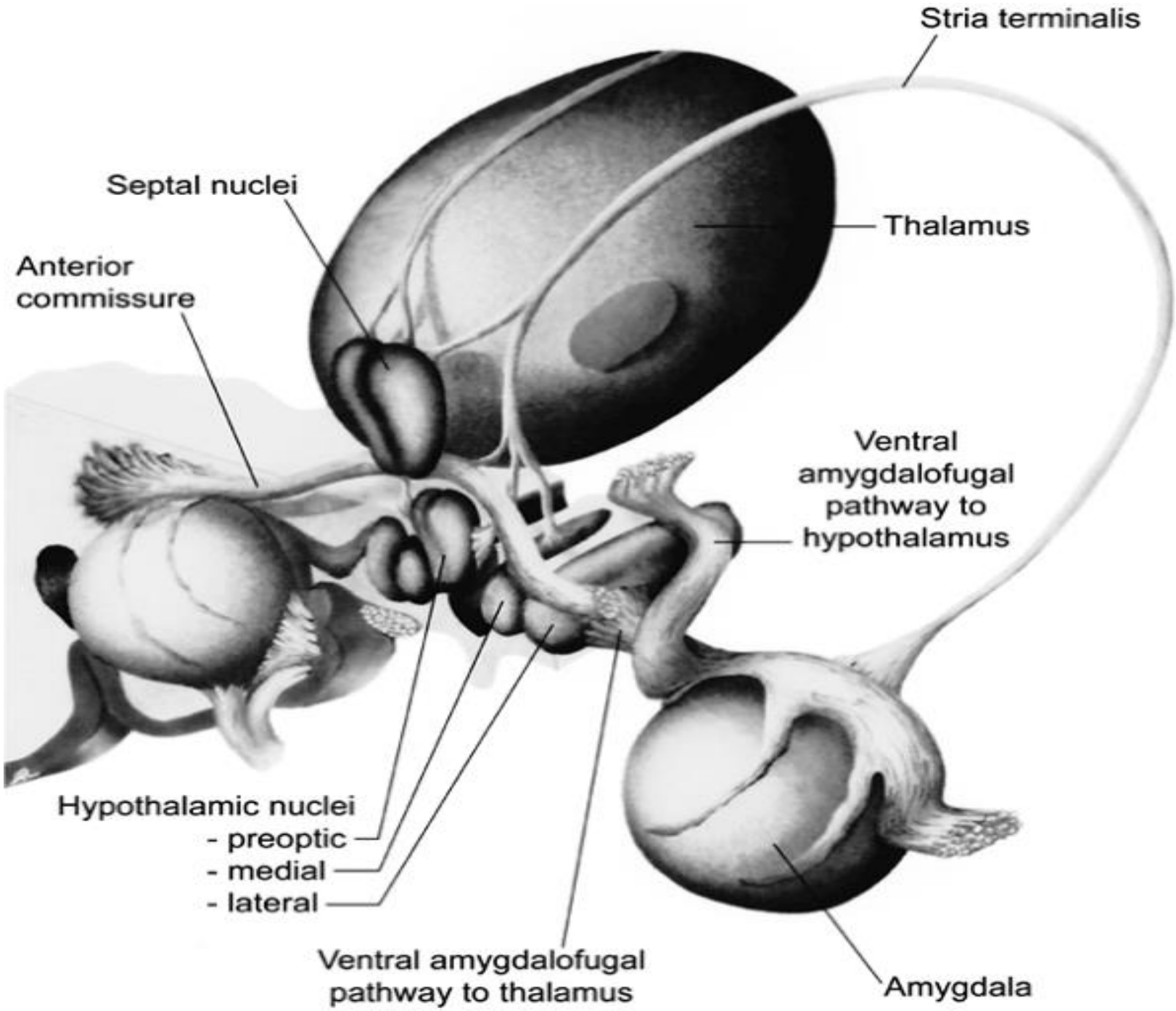


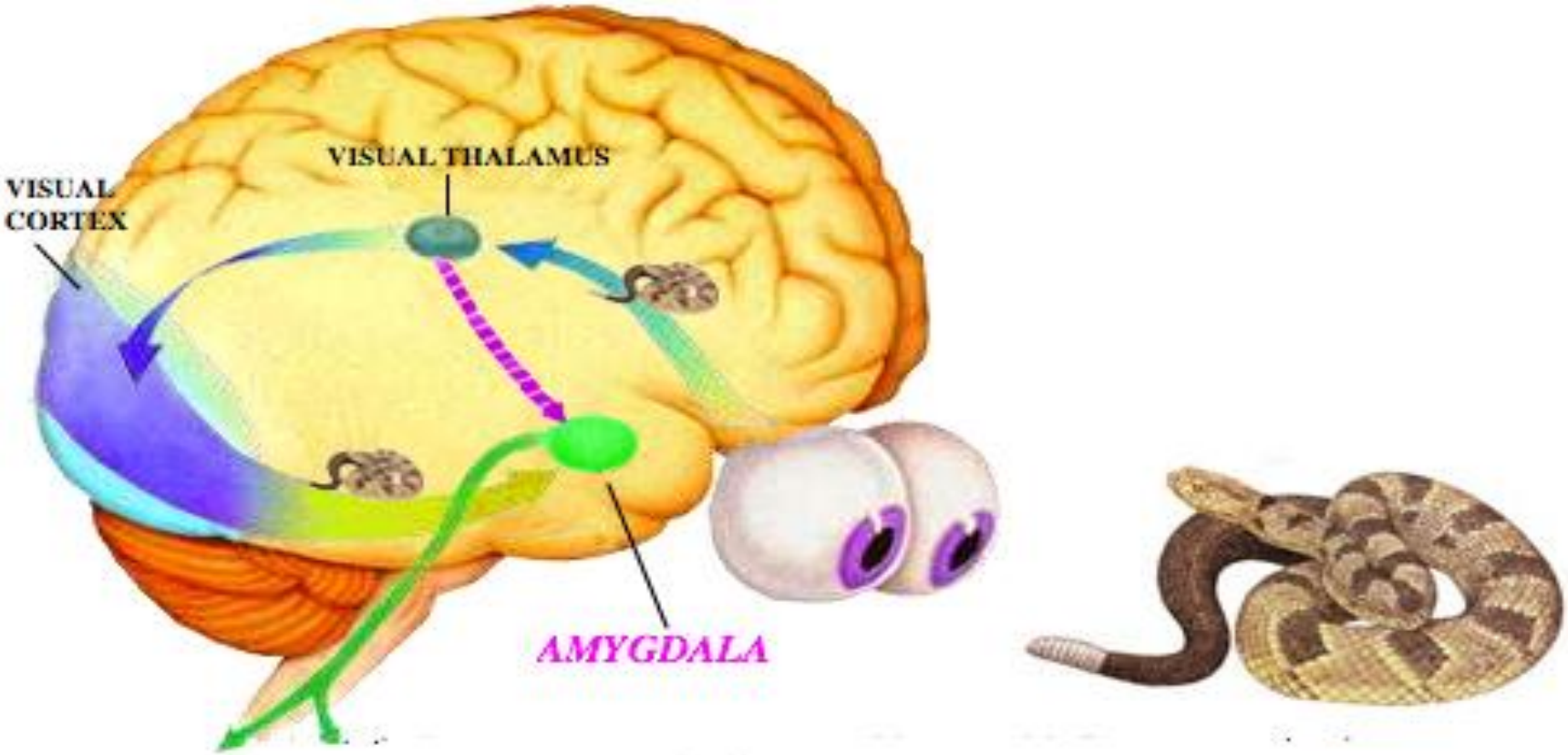
Amygdala هسته بادامی


جیروس رکتوس
پیاز بویایی
ماده سوراخ دار قدامی
آنکوس
پاراهیپوکمپ
1859R


Cingulate
Corpus callosum
Fornix
Septal N.
Indusium griseum
Orbital frontal lobe
Olfactory bulb
Olfactory tract
Temporal lobe
Amygdala
Hippocampus
Stria terminalis
Hypothalamus


Bed nucleus of the stria terminalis
Stria terminalis
To brain stem:
Nucleus tractus
Dorsal motor nu
Raphe nuclei (5
Locus coeruleus
Parabrachial nu
Periaqueductal
Reticular forma
Striatum (rostral areas)
Caudate nucleus
Putamen
Corpus callosum
Frontal lobe regions:
Frontal cortex
Prefrontal cortex
Septal nuclei
Nucleus accumbens
Th
M
H
Substantia innominata (with nucleus basalis ACh neurons)
Ventral amygdalofugal pathway
Corticomedial nuclei of the amygdala
Basolateral nuclei of the amygdala
Central nucleus of the amygdala
Entorhinal cortex
Subiculum
To cingulate co
Inferior temporal corte
(e.g., visual areas)


Stria terminalis
Septal nuclei
Thalamus
Anterior commissure
Ventral amygdalofugal pathway to hypothalamus
Hypothalamic nuclei
- preoptic
- medial
- lateral
Ventral amygdalofugal pathway to thalamus
Amygdala


VISUAL THALAMUS
VISUAL CORTEX
AMYGDALA

Kluver-Bucy syndrome

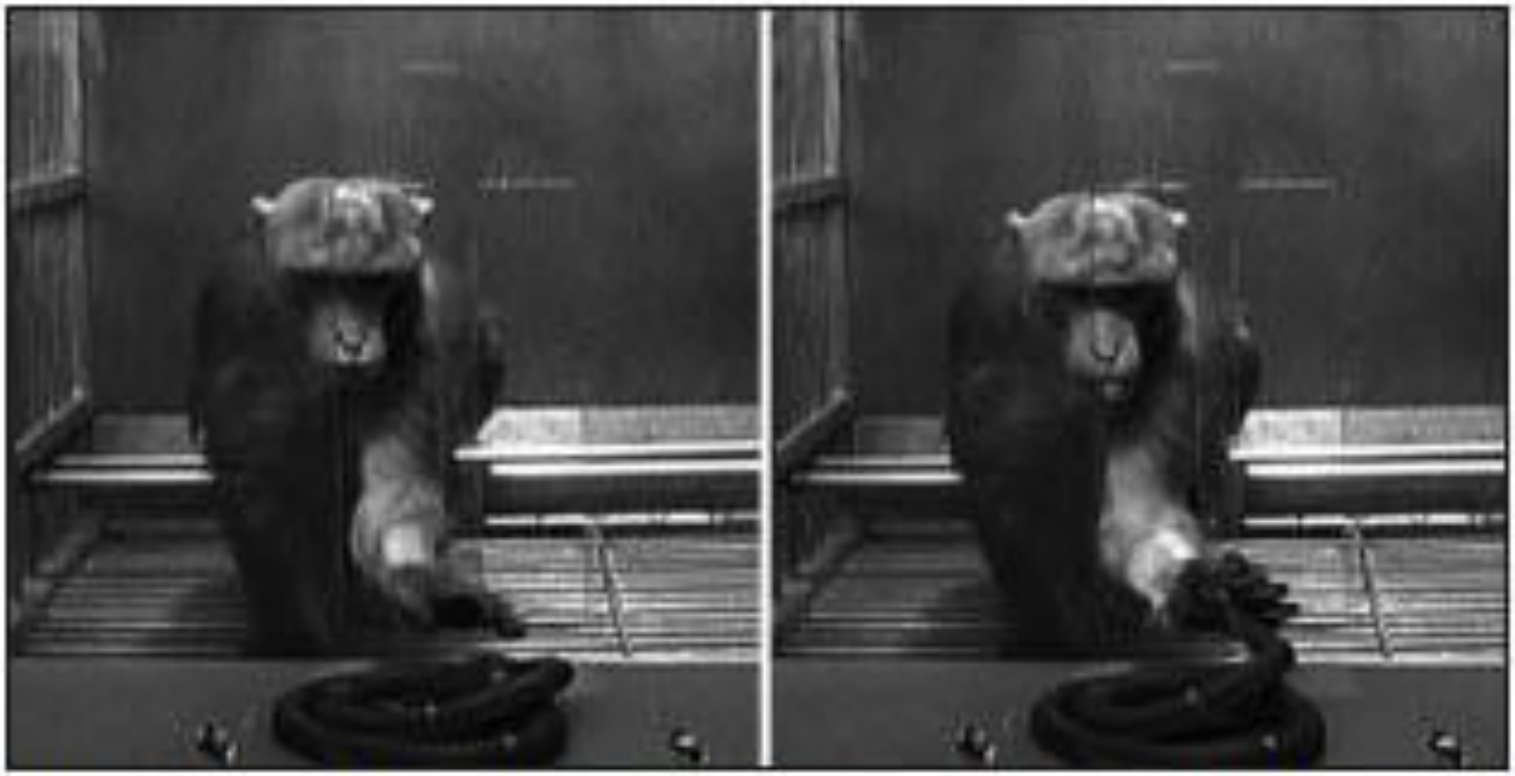
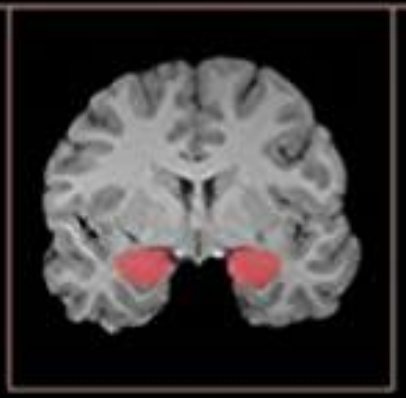


Figure 3: A monkey with Klüver-Bucy syndrome has lost his natural fear of snakes

LIVING WITHOUT AN AMYGDALA



edited by

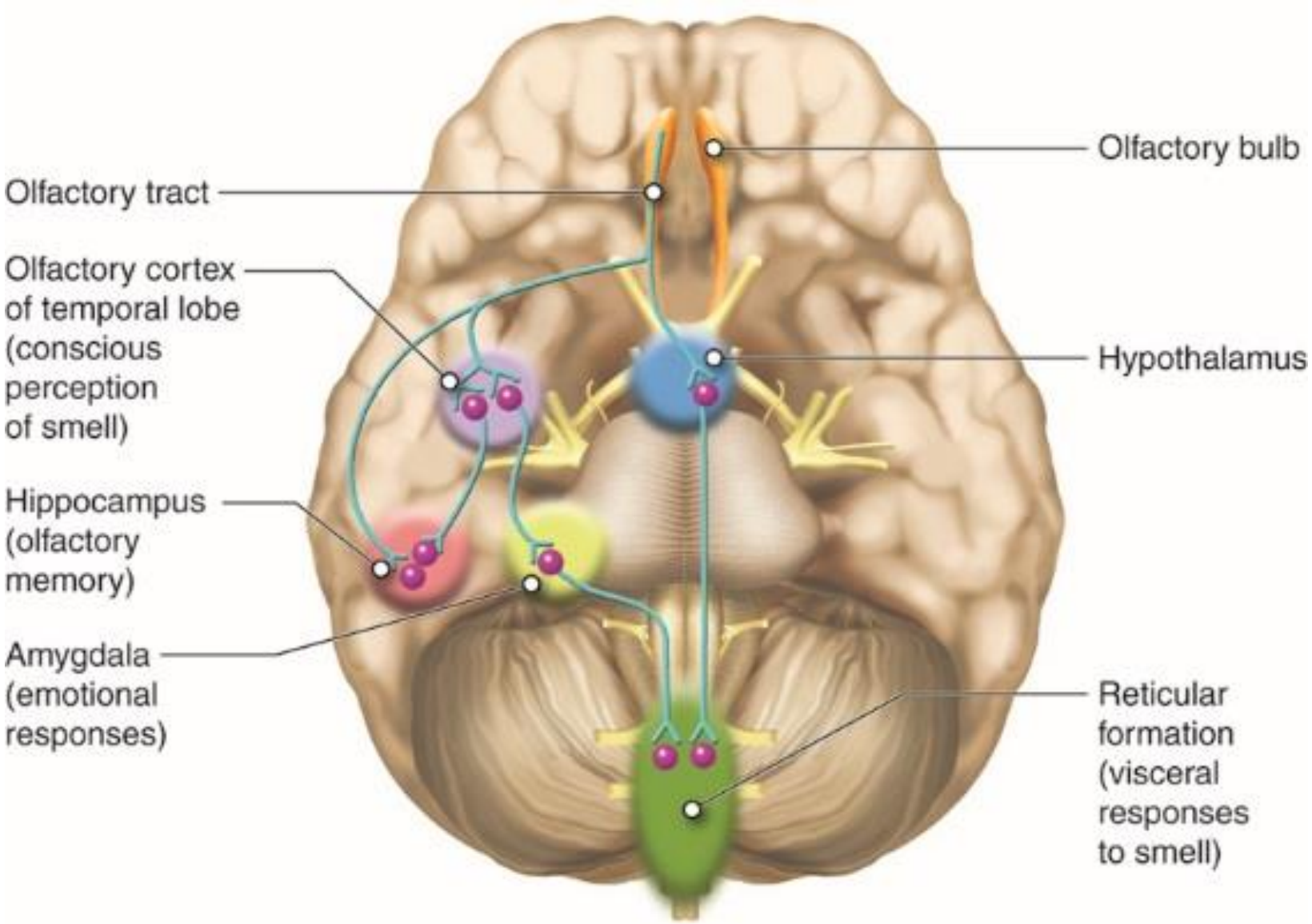
DAVID G. AMARAL

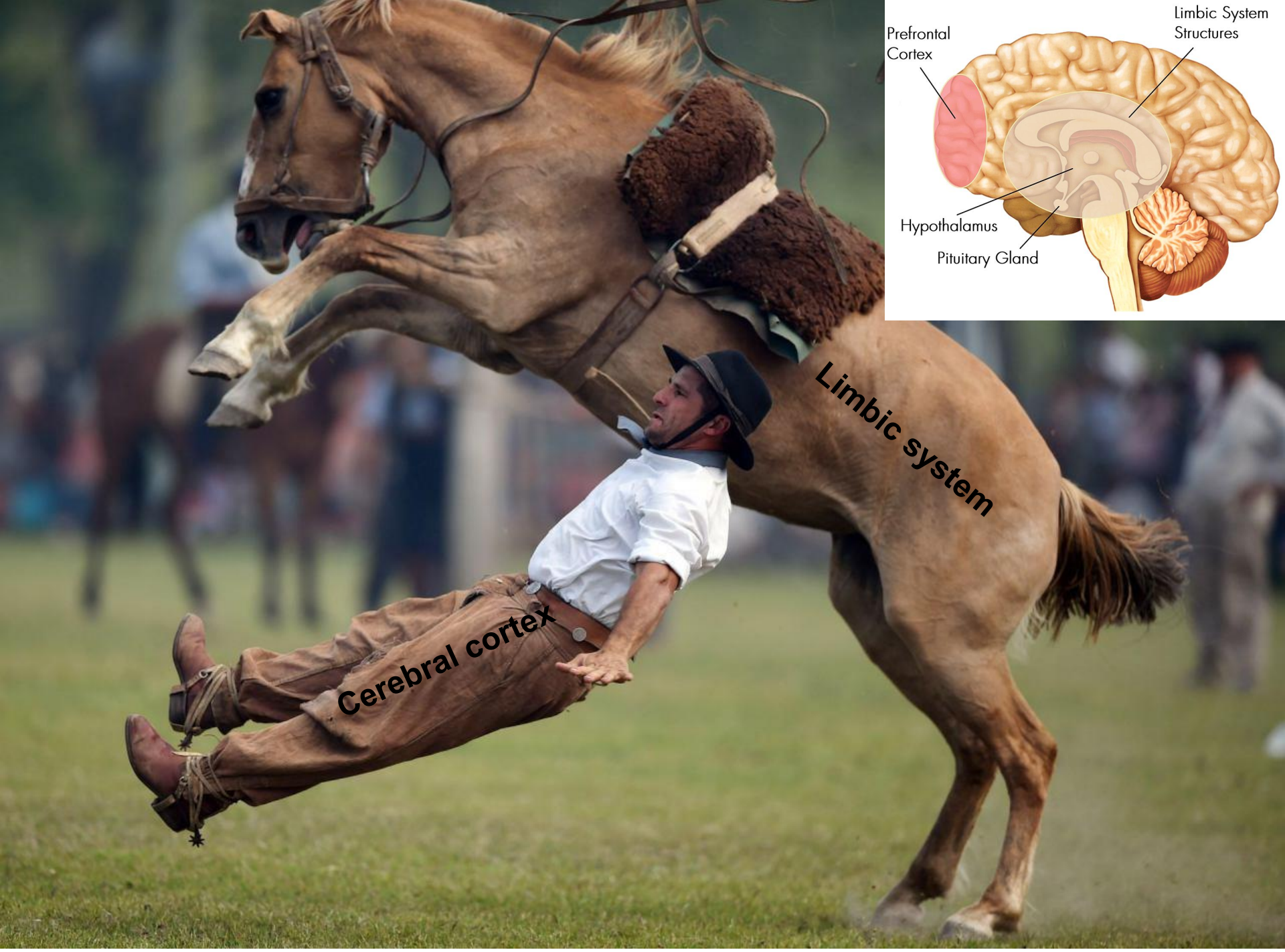
RALPH ADOLPHS

Dopamine hypothesis of Schizophrenia

Hypersensitive dopamine receptors in limbic cortex

Rhinencephalon




Limbic System
Structures
Prefrontal
Cortex
Hypothalamus
Pituitary Gland
Limbic system
Cerebral cortex