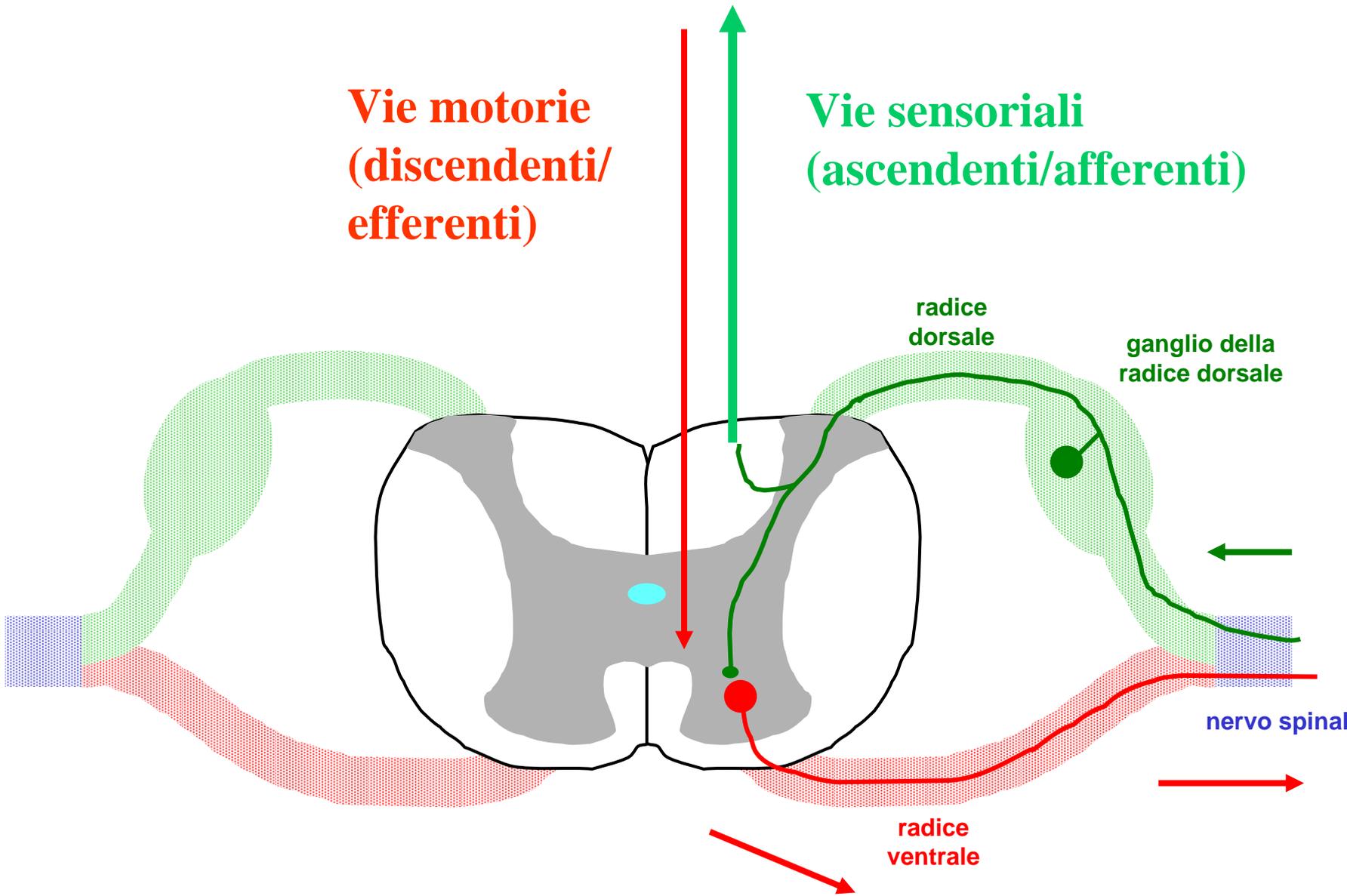


**Vie motorie
(discendenti/
efferenti)**

**Vie sensoriali
(ascendenti/afferenti)**

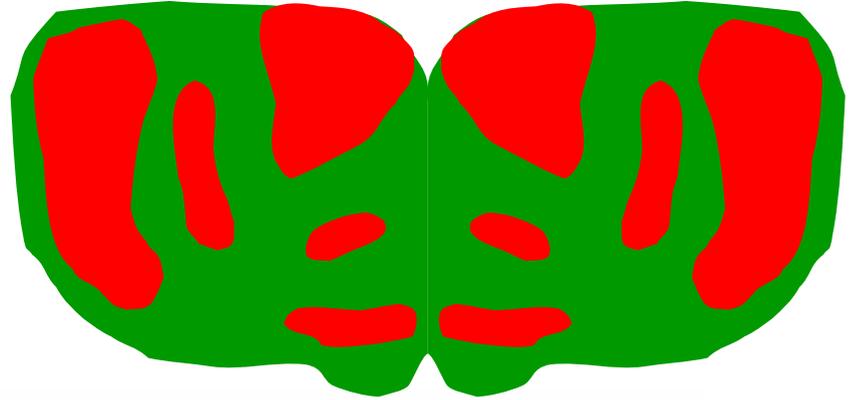
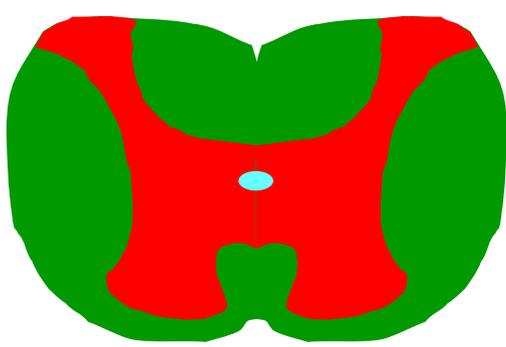


radice dorsale

ganglio della radice dorsale

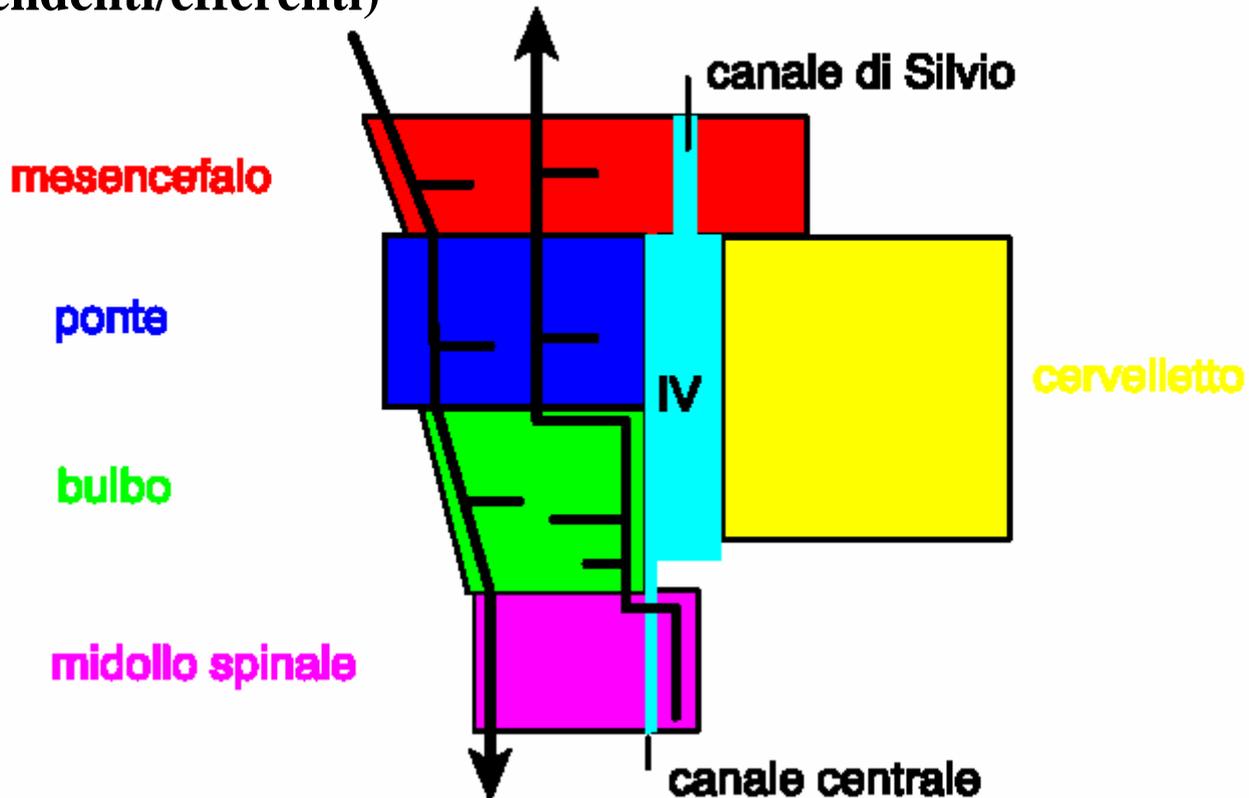
nervo spinale

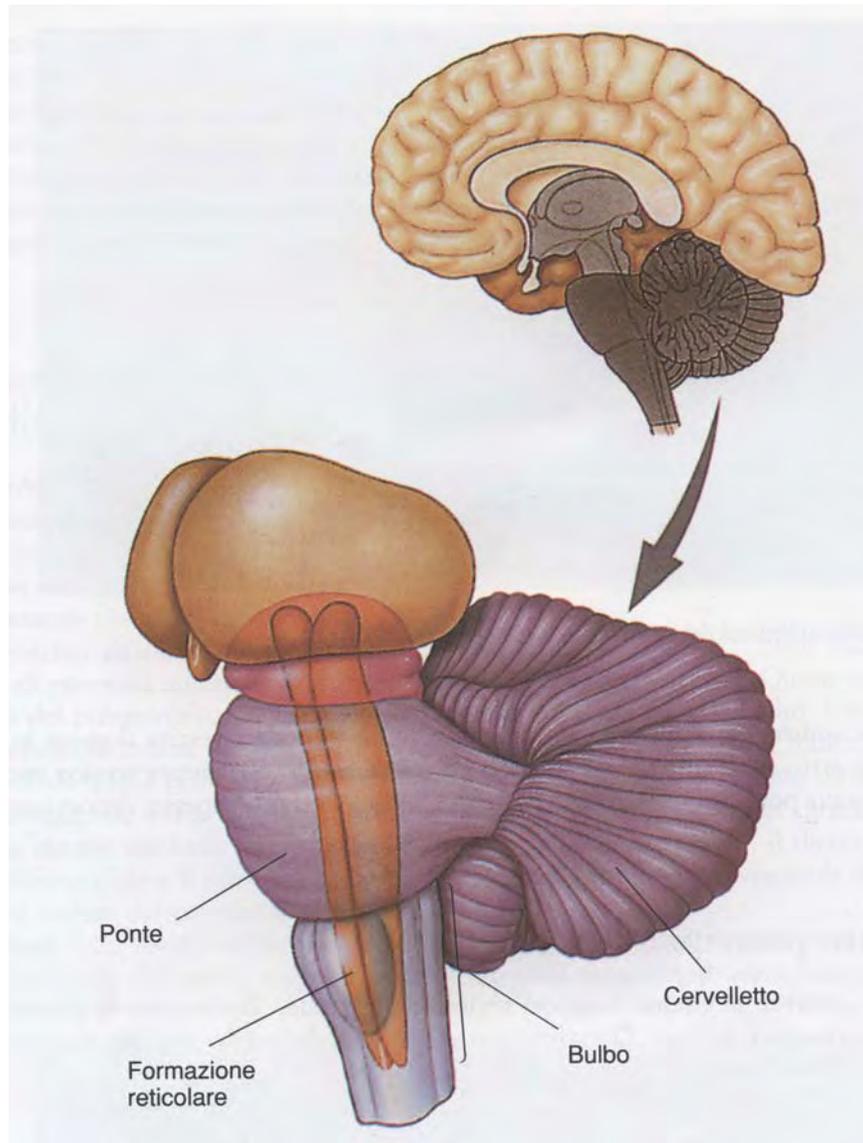
radice ventrale

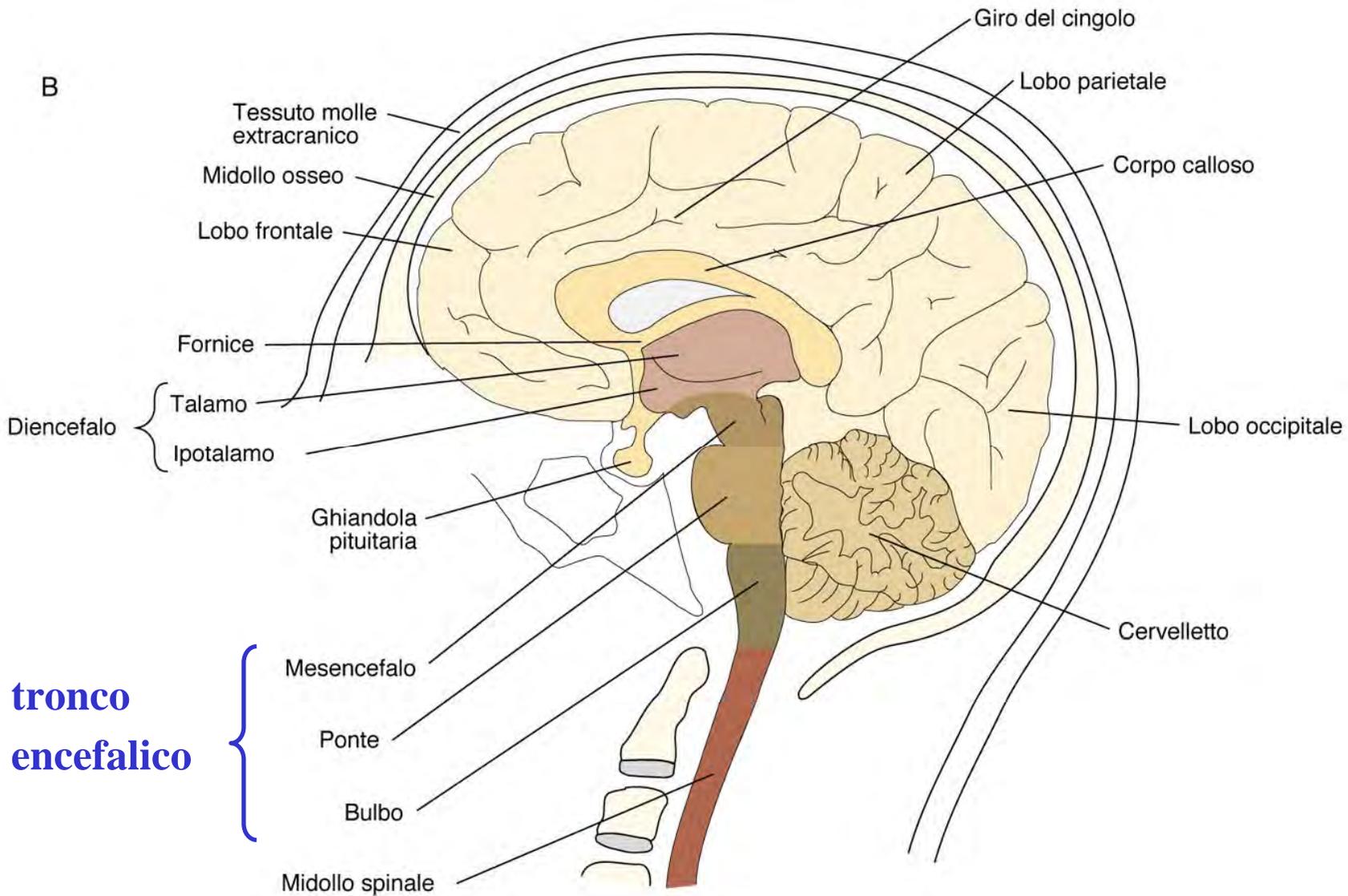


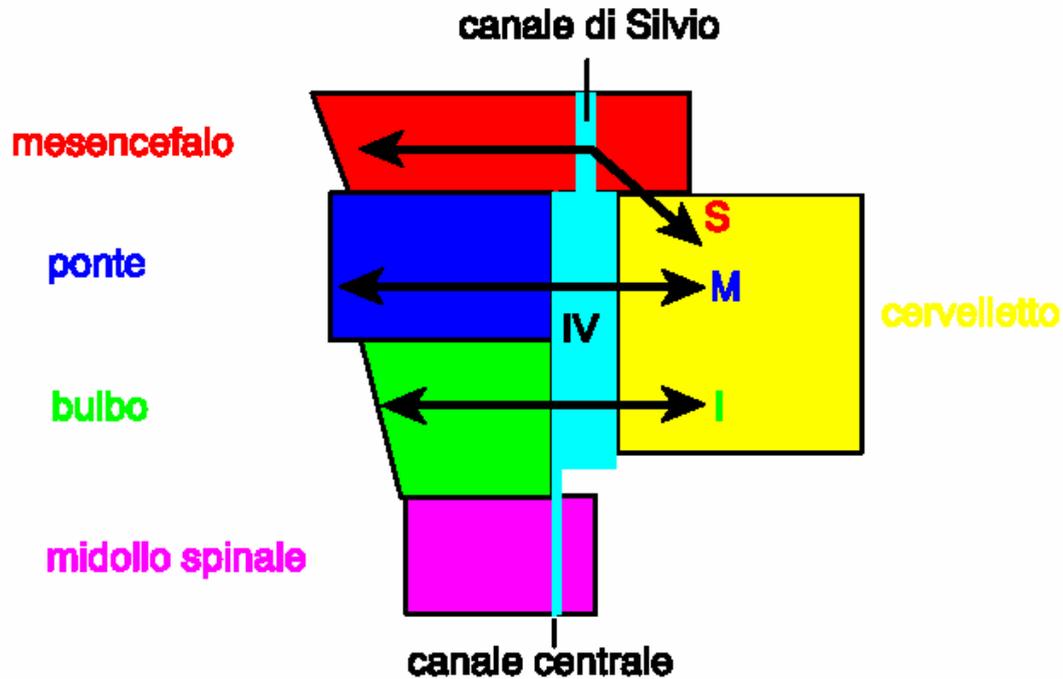
**Sistemi motori
(discendenti/efferenti)**

**sistemi sensoriali
(ascendenti/afferenti)**









1) innervazione motoria e sensitiva del volto e del collo

2) nuclei sensoriali degli organi di senso specifici

gusto

udito

sistema vestibolare

3) nuclei del sistema nervoso autonomo

4) nuclei del sistema motorio

5) nuclei del sistema somoestesico

6) nuclei dei sistemi a proiezione diffusa

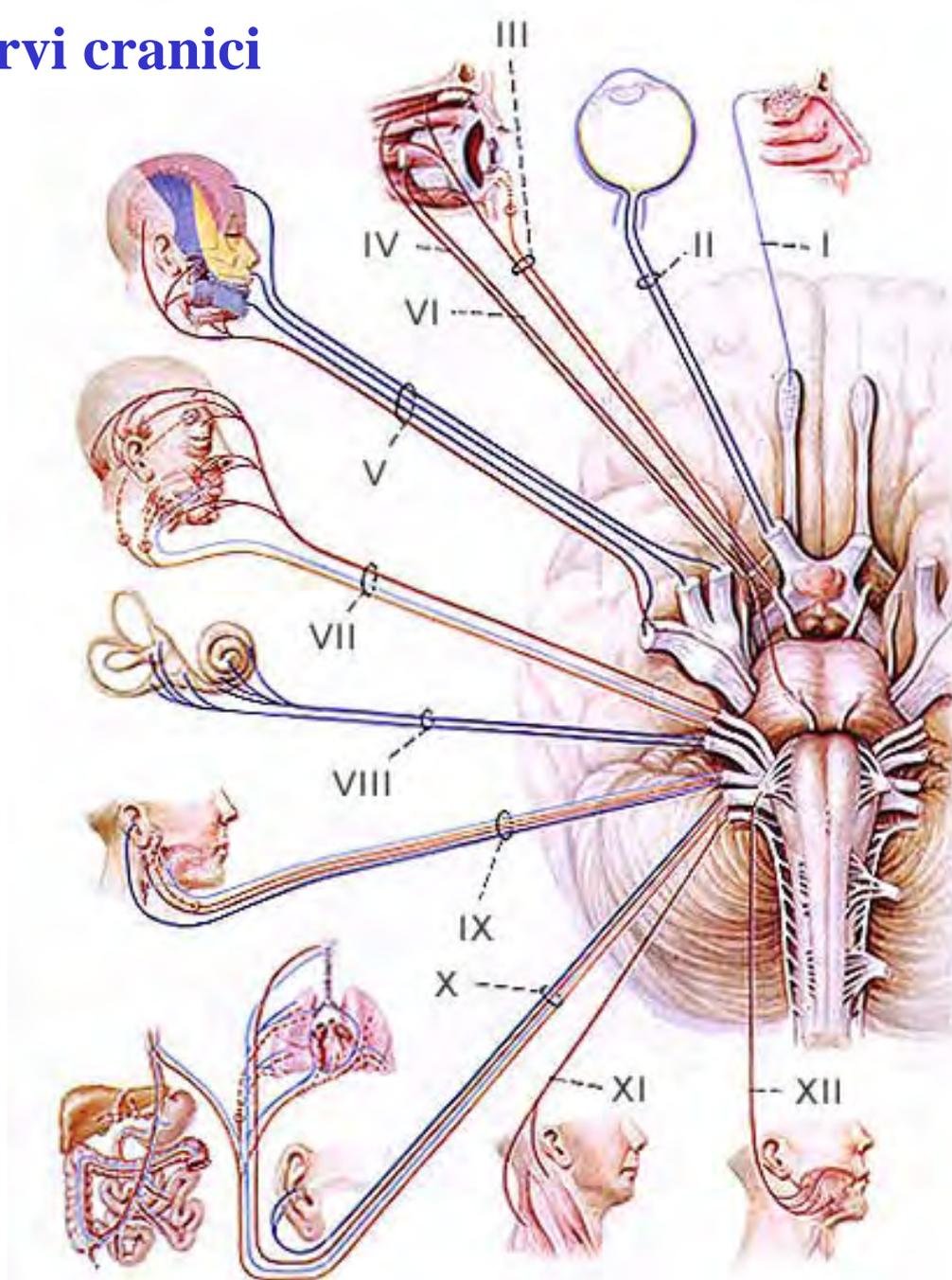
7) sostanza reticolare: una serie di aggregati neuronali che ricevono informazioni dalla periferia sensoriale e svolgono diverse funzioni:

a. regolazione attività cardio-circolatoria e respiratoria

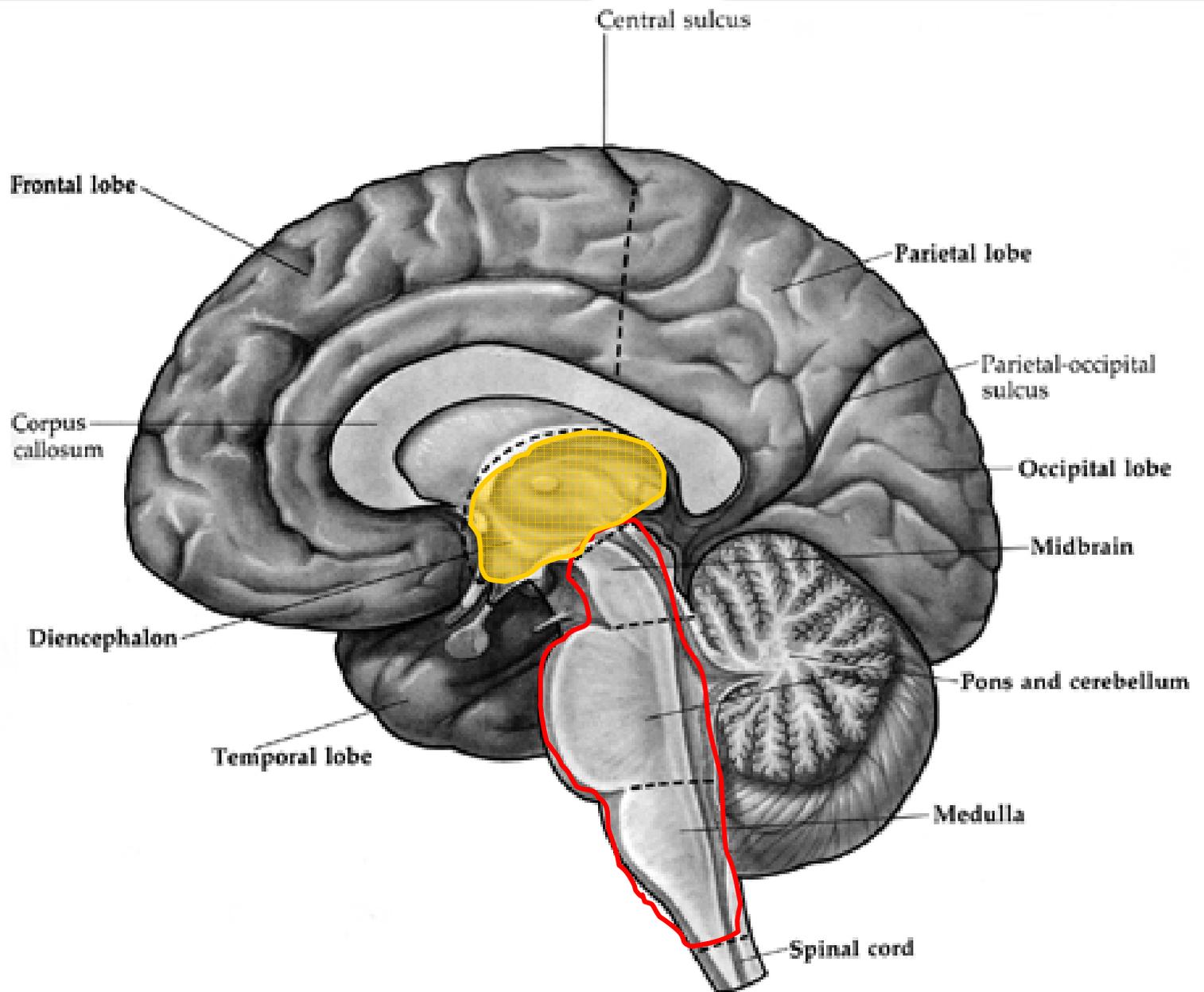
b. controllo dello stato di veglia

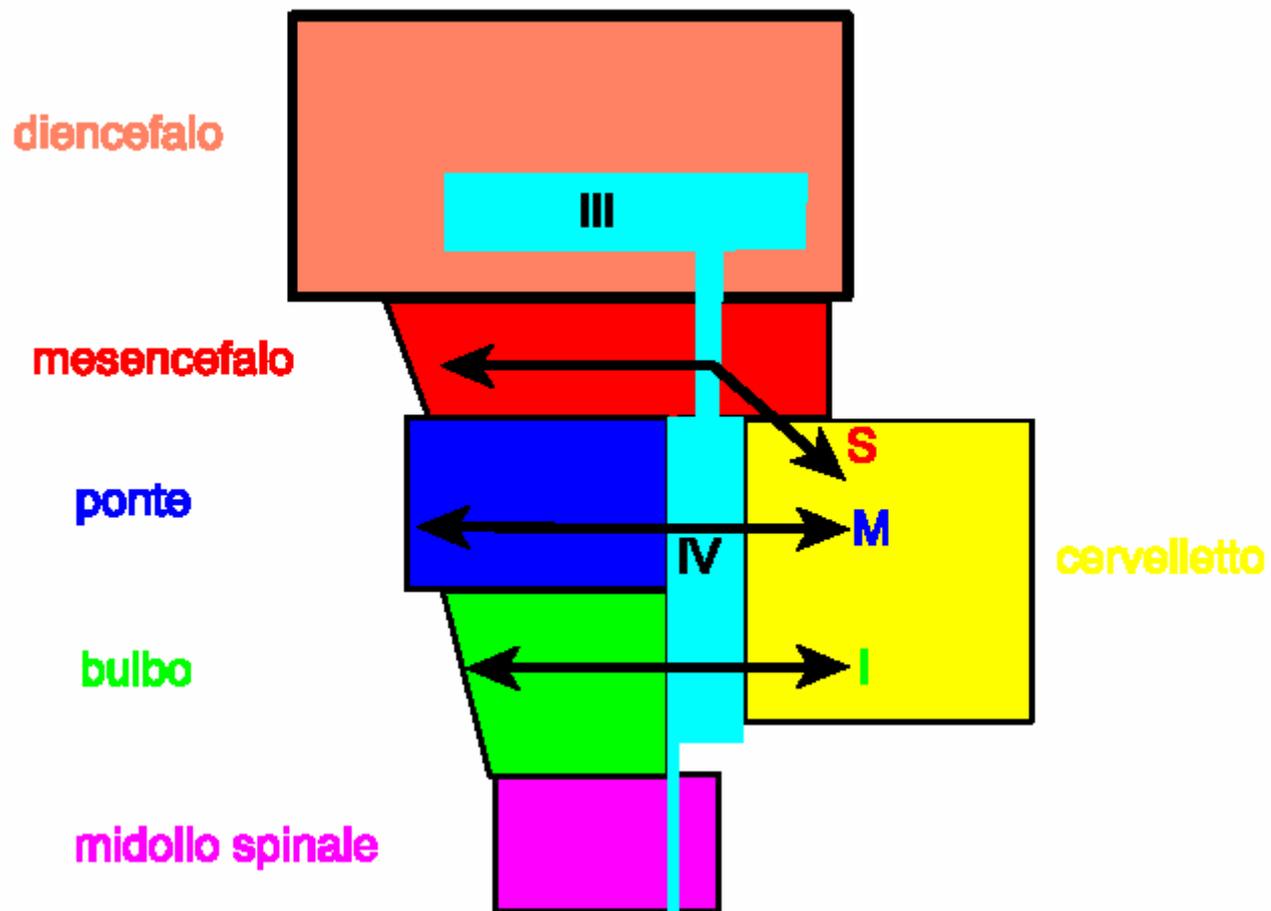
c. controllo motorio

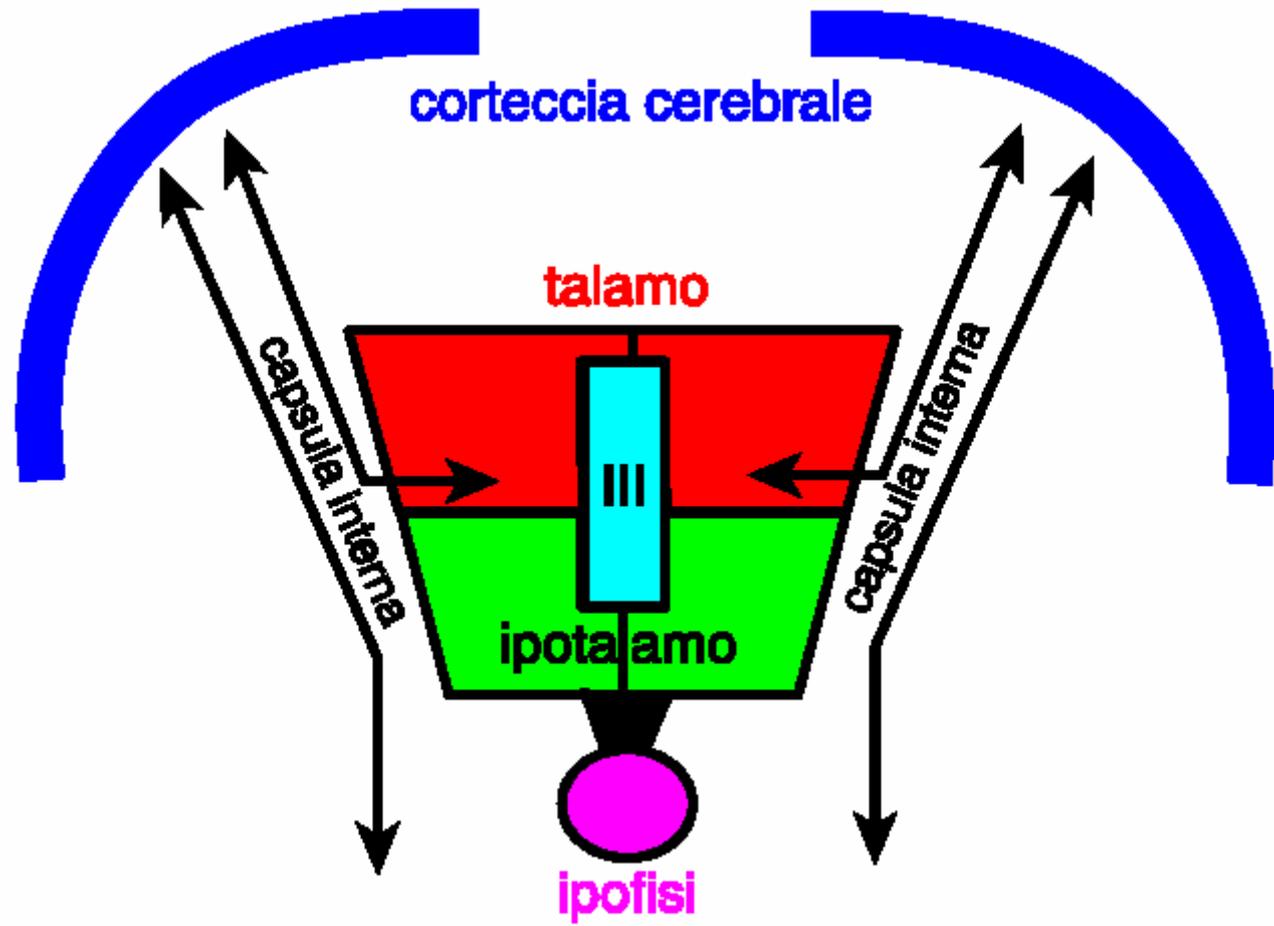
12 paia di nervi cranici

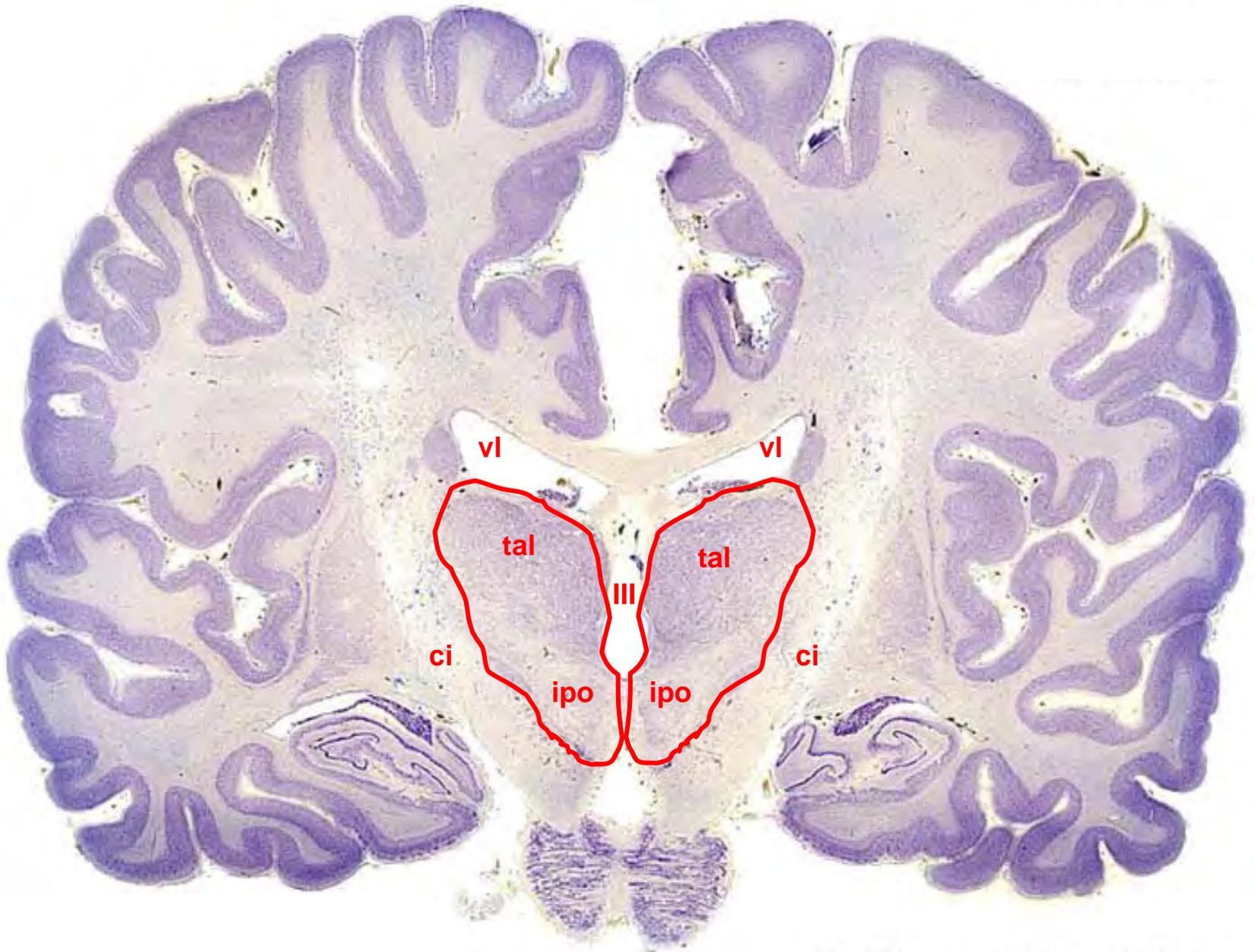


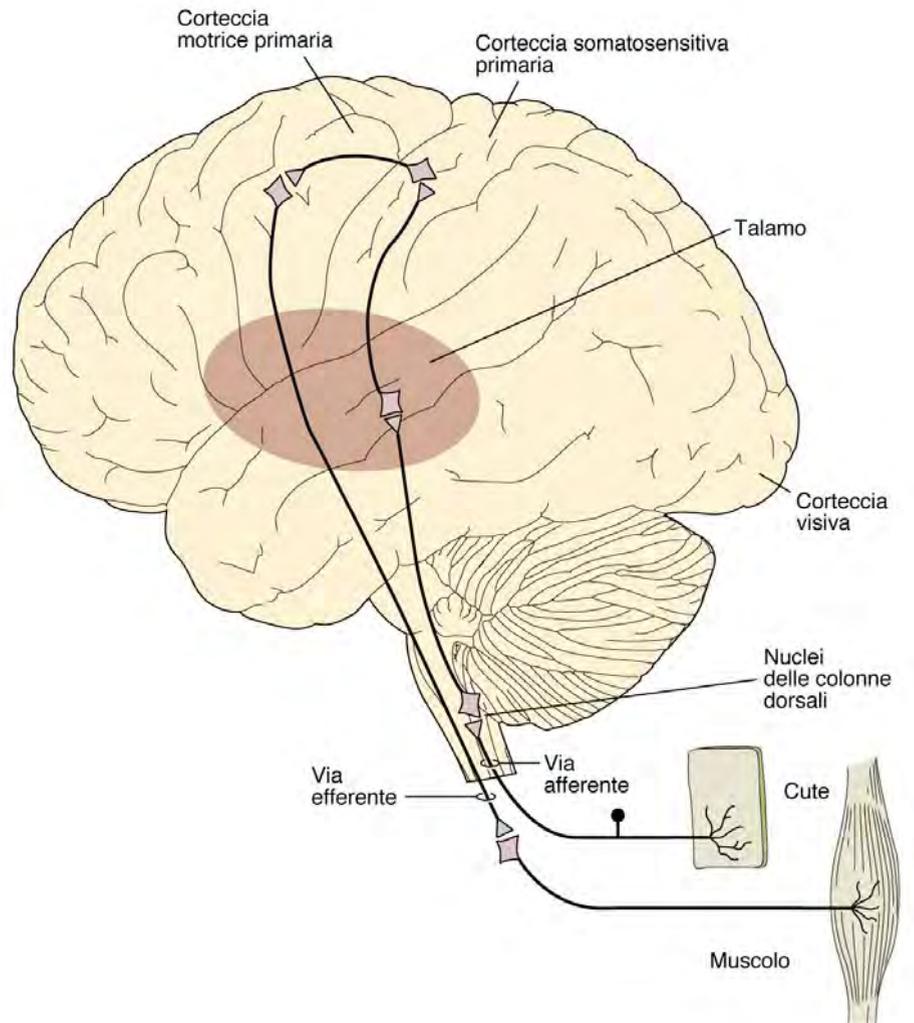
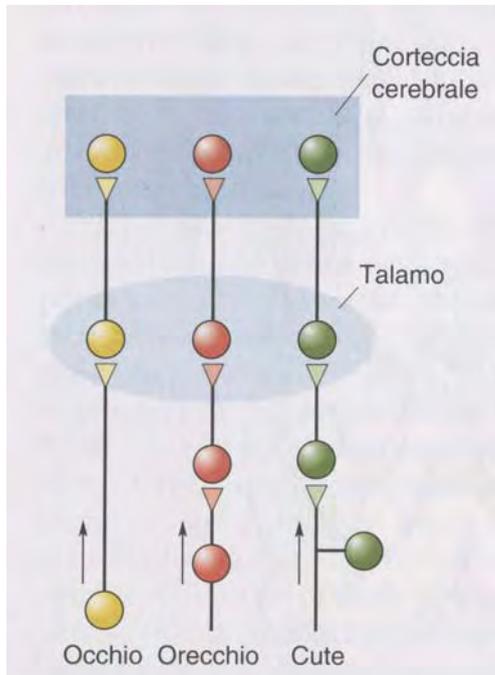
I. Olfattivo	Sensitivo	<i>olfatto</i>
II. Ottico	Sensitivo	<i>visione</i>
III. Oculomotore comune	Motore	<i>movimenti oculari (retto mediale, retto superiore, retto inferiore, obliquo inferiore, muscolo palpebrale). fibre autonome (costrizione della pupilla, accomodazione del cristallino)</i>
IV. Trocleare	Motore	<i>movimenti oculari (obliquo superiore)</i>
V. Trigemino	Misto	<i>Sensitivo (sensazioni cutanee e propriocettive della cute dei muscoli e delle articolazioni della faccia e della bocca; innervazione sensitiva dei denti) Motore (muscoli masticatori)</i>
VI. Abducente	Motore	<i>movimenti oculari (retto laterale)</i>
VII. Faciale	Misto	<i>Sensitivo (sensibilità gustativa 2/3 anteriori della lingua) Motore (muscolatura mimica del volto)</i>
VIII. Vestibolo-cocleare	Sensitivo	<i>Udito equilibrio, riflessi posturali, orientamento del capo nello spazio</i>
IX Glossofaringeo	Misto	<i>Sensitivo (sensibilità viscerale del palato e della porzione posteriore della lingua; sensibilità gustativa del 1/3 posteriore della lingua) fibre autonome (ghiandole salivari)</i>
X. Vago	Misto	<i>Sensitivo (sensibilità viscerale della faringe, laringe, organi interni del torace e dell'addome) Motore (muscoli striati della laringe e faringe, articolazione della parola) fibre autonome (innervazione muscolatura liscia involontaria della faringe, laringe, trachea, bronchi esofago, stomaco, intestino, cuore, vasi sanguigni)</i>
XI. Accessorio spinale	Motore	<i>muscoli del collo (trapezio, sternocleidomastoideo)</i>
XII. ipoglosso	Motore	<i>muscolatura intrinseca della lingua</i>











Neural tube



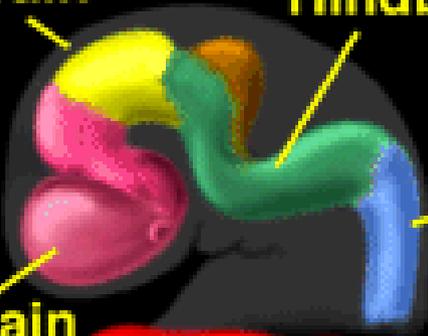
25 Days

Midbrain

Hindbrain

Forebrain

Spinal cord



40 days



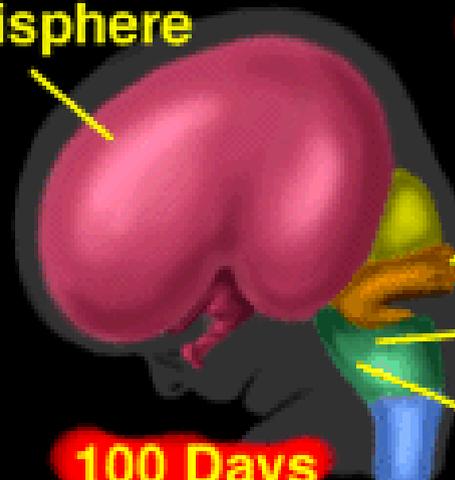
50 Days

Cerebral Hemisphere

Cerebellum

Pons

medulla

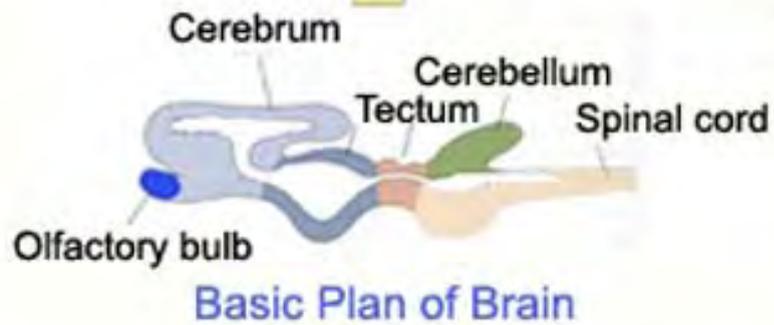
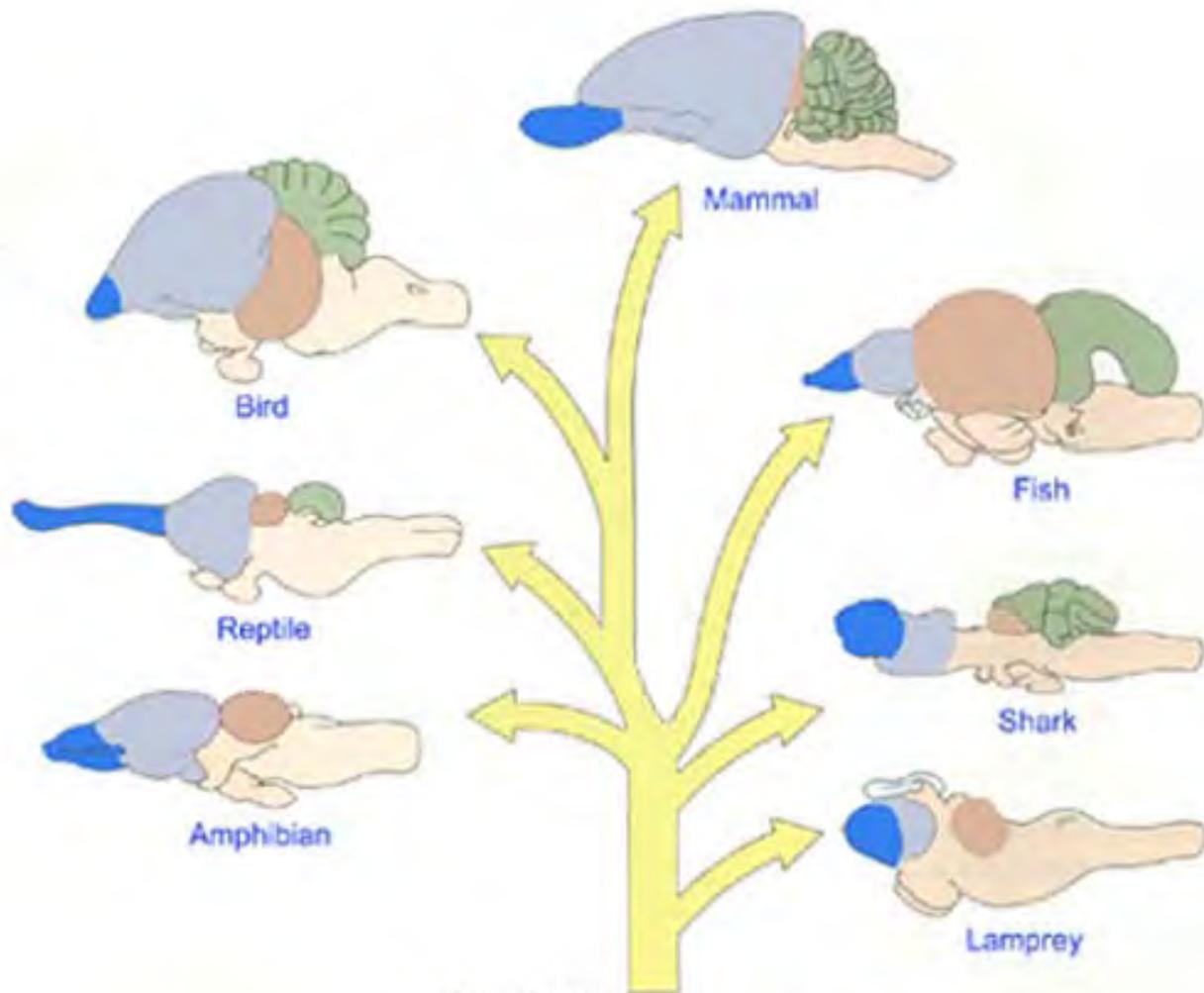


100 Days



9 Months





Striped bass cerebrum



Leopard frog cerebrum



Grass snake cerebrum



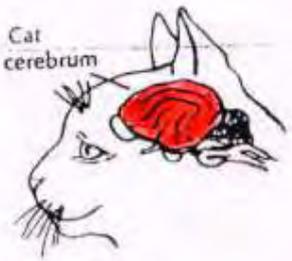
Pigeon cerebrum



Opossum cerebrum



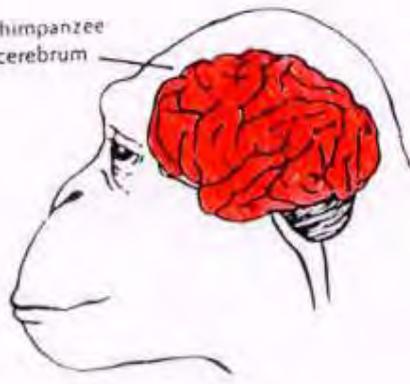
Cat cerebrum



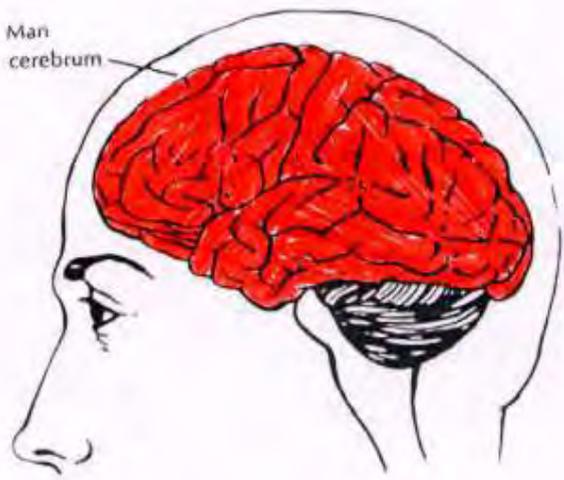
Macaque monkey cerebrum



Chimpanzee cerebrum



Man cerebrum



telencefalo

A

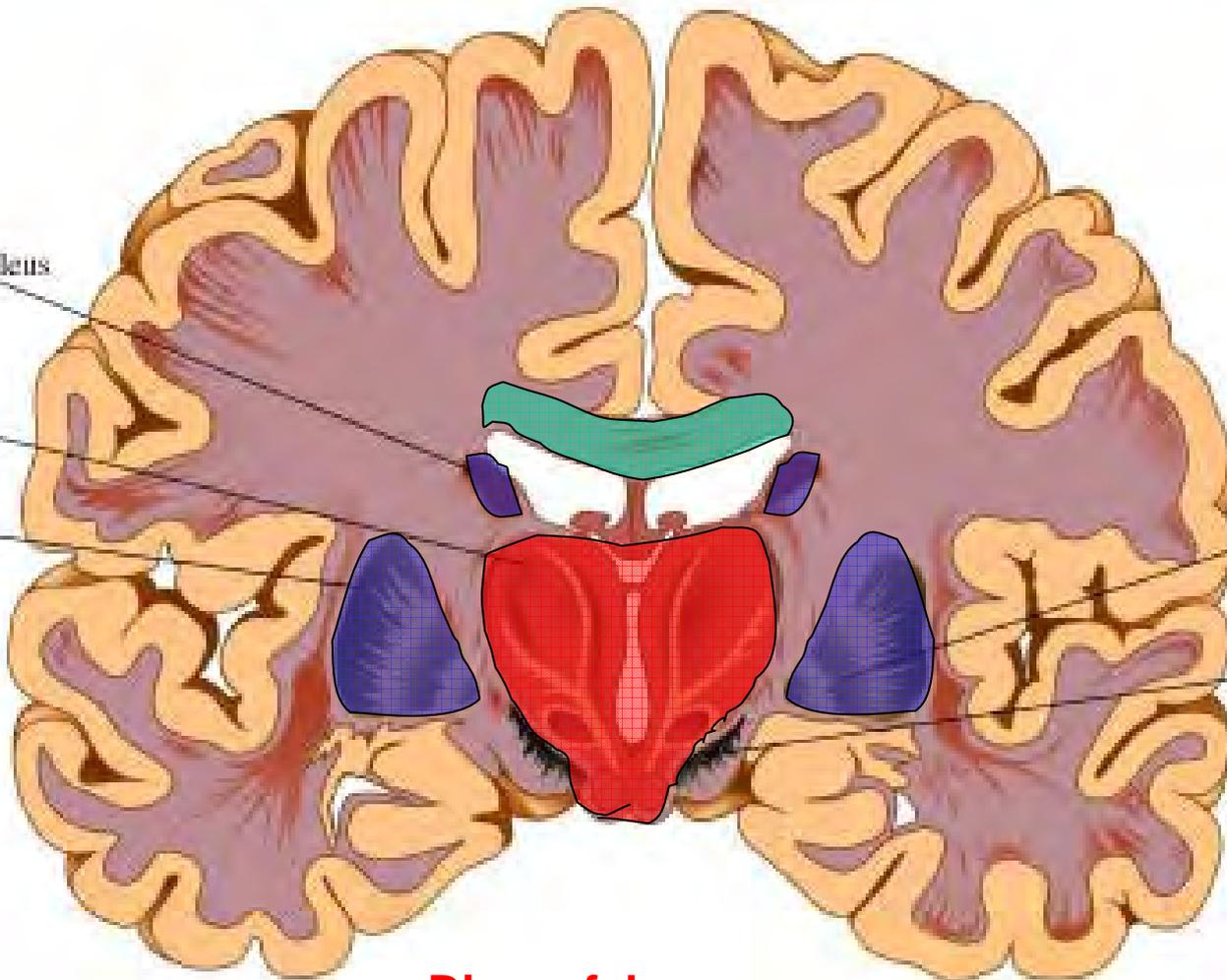
Caudate nucleus

Thalamus

Putamen

Globus pallidus

Substantia nigra

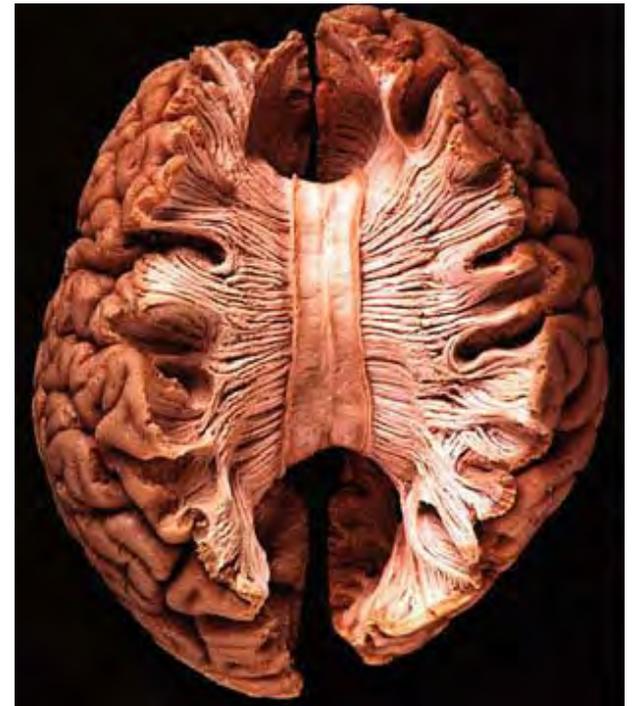
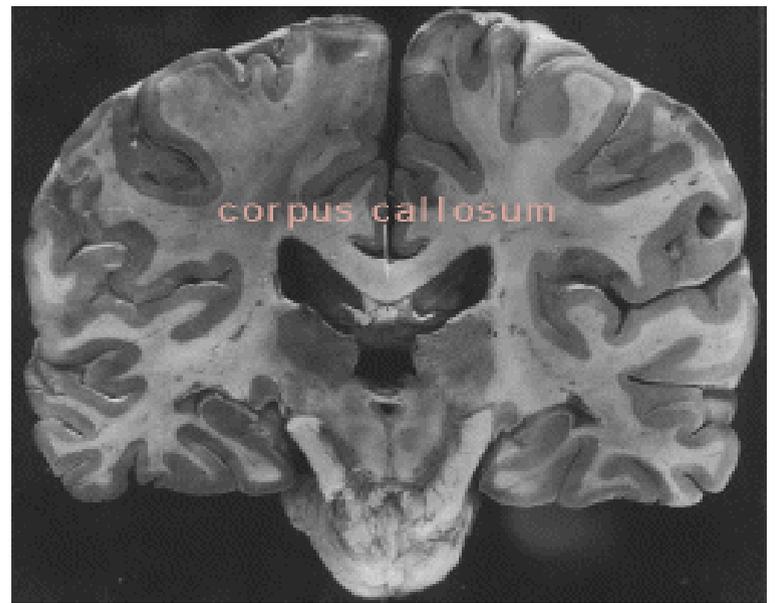


Diencefalo

Gangli della base

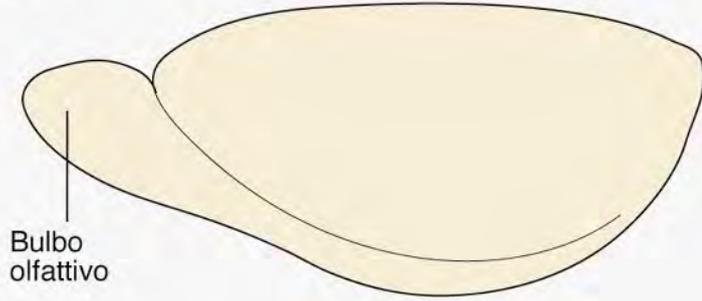
Corpo calloso

Corteccia cerebrale

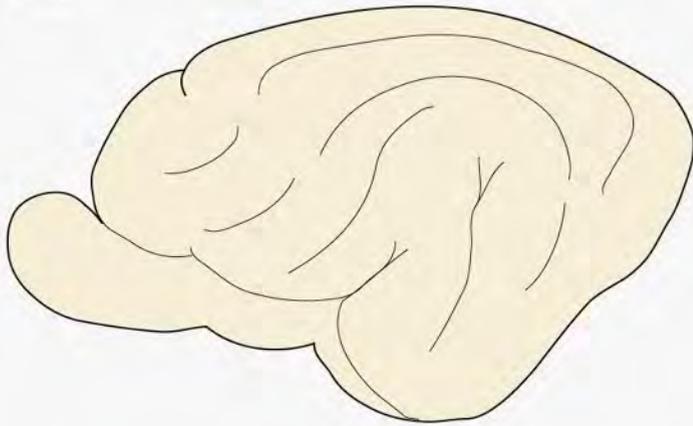


Scissura interemisferica

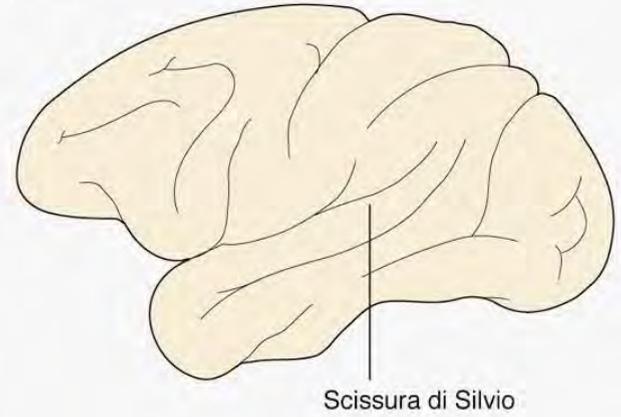
Ratto



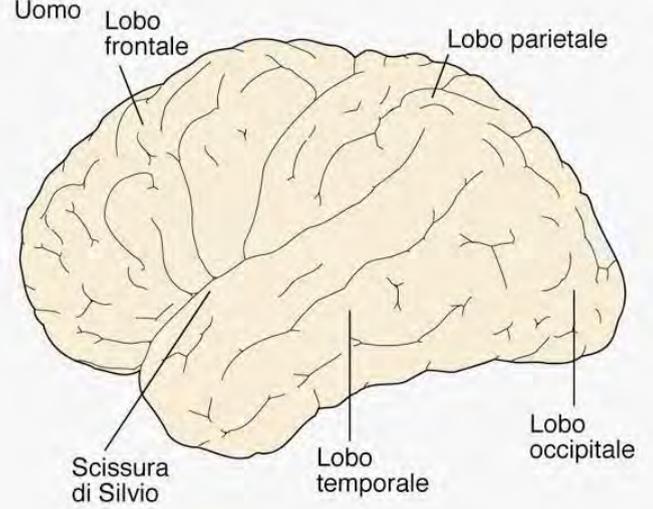
Gatto



Scimmia



Uomo



Scissura di Rolando

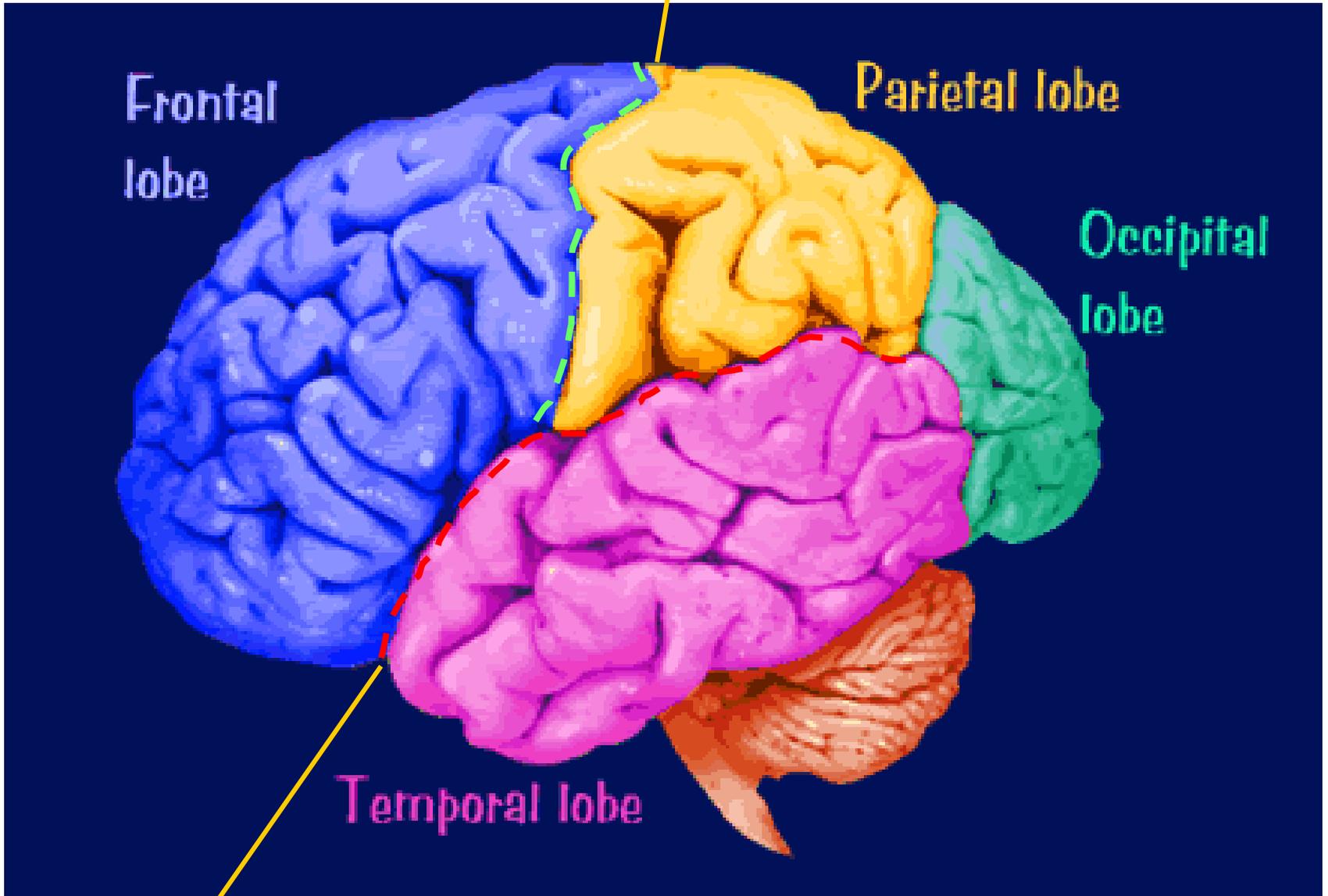
Frontal
lobe

Parietal lobe

Occipital
lobe

Temporal lobe

Scissura di Silvio



3 strati

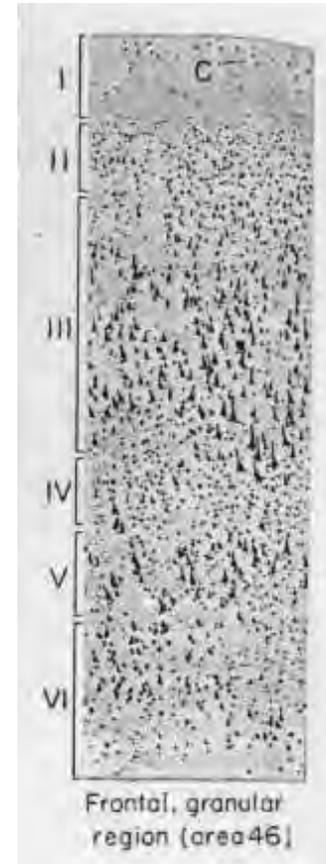
Archicortex

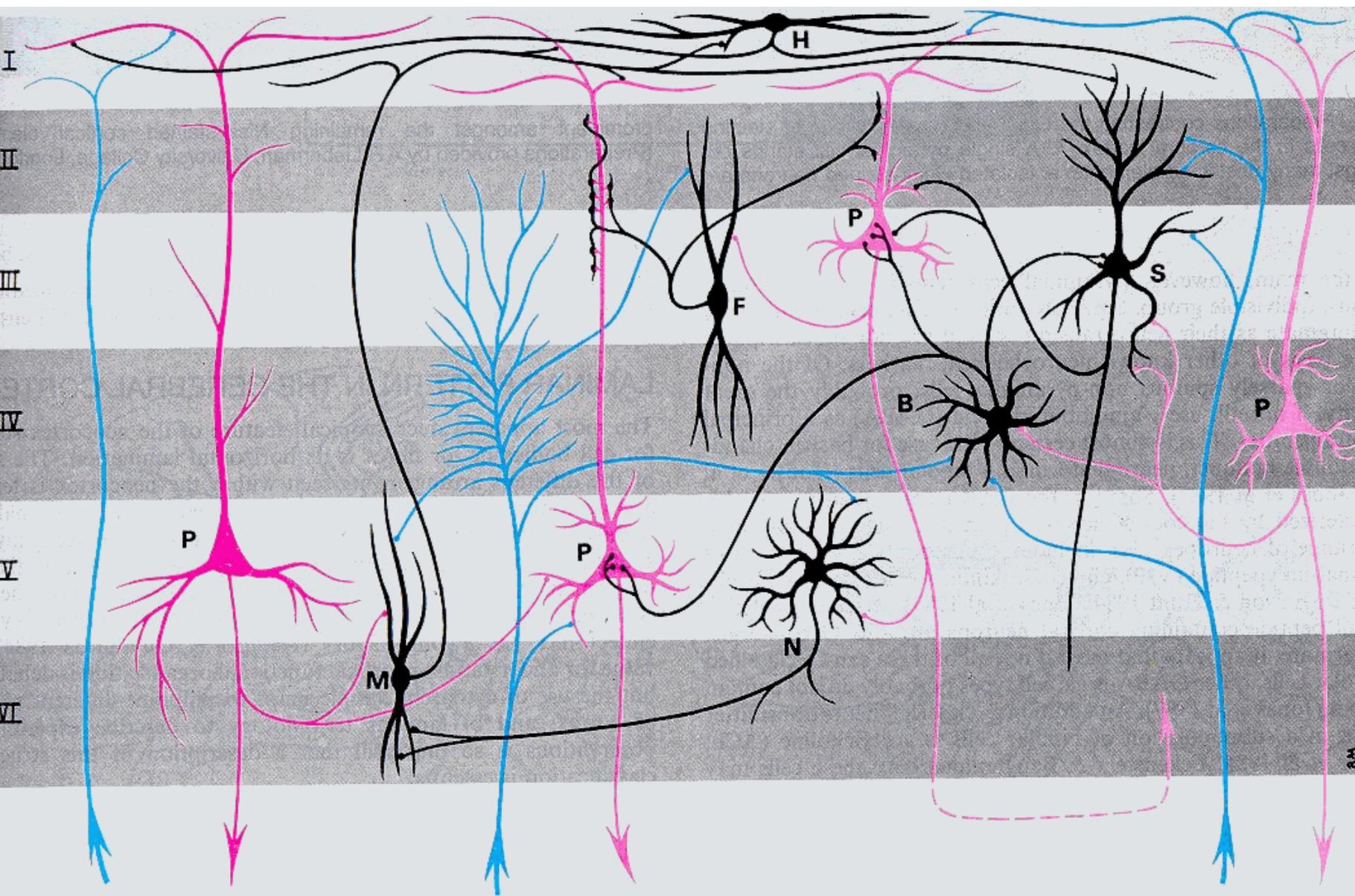
Paleocortex



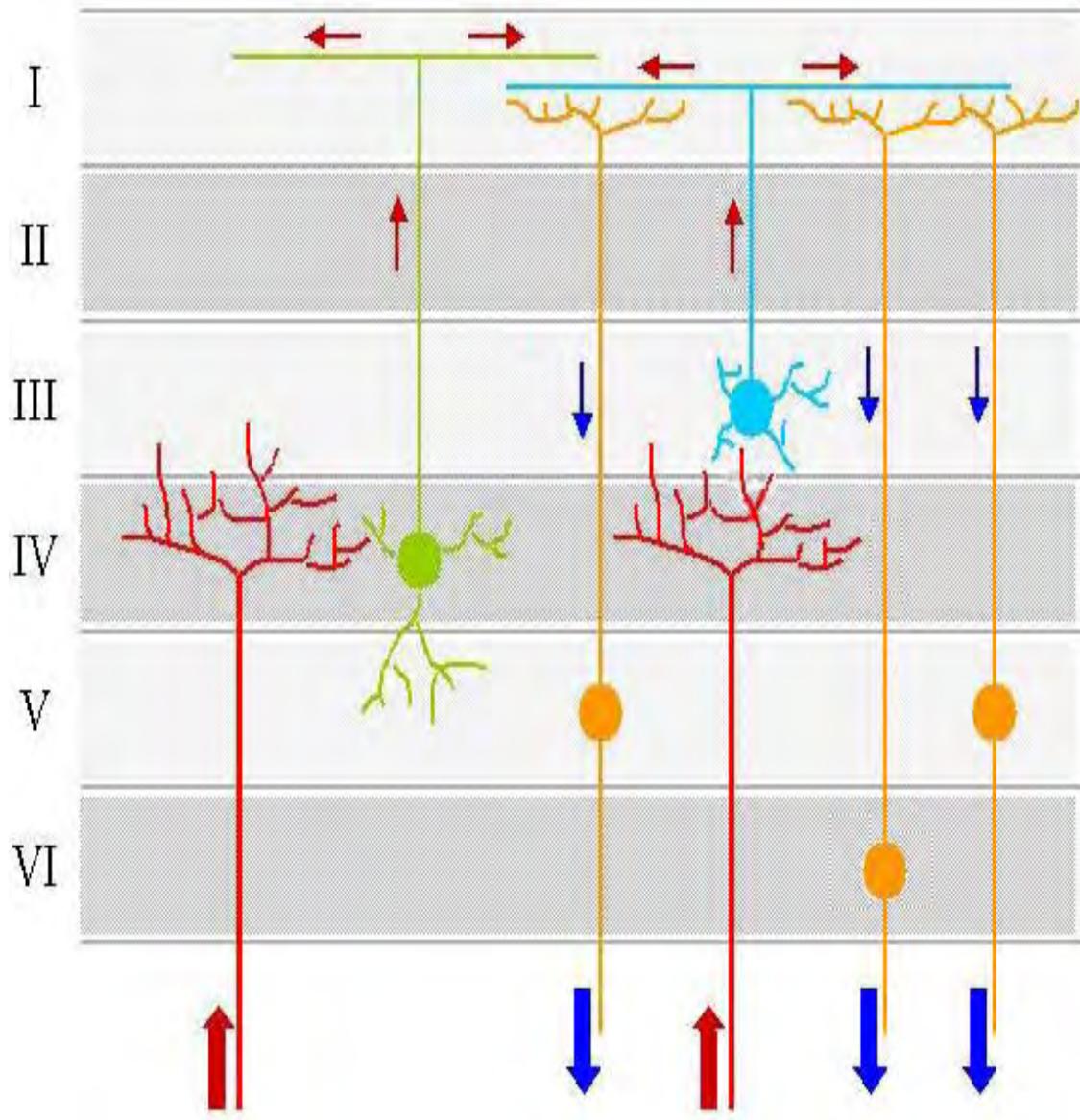
6 strati

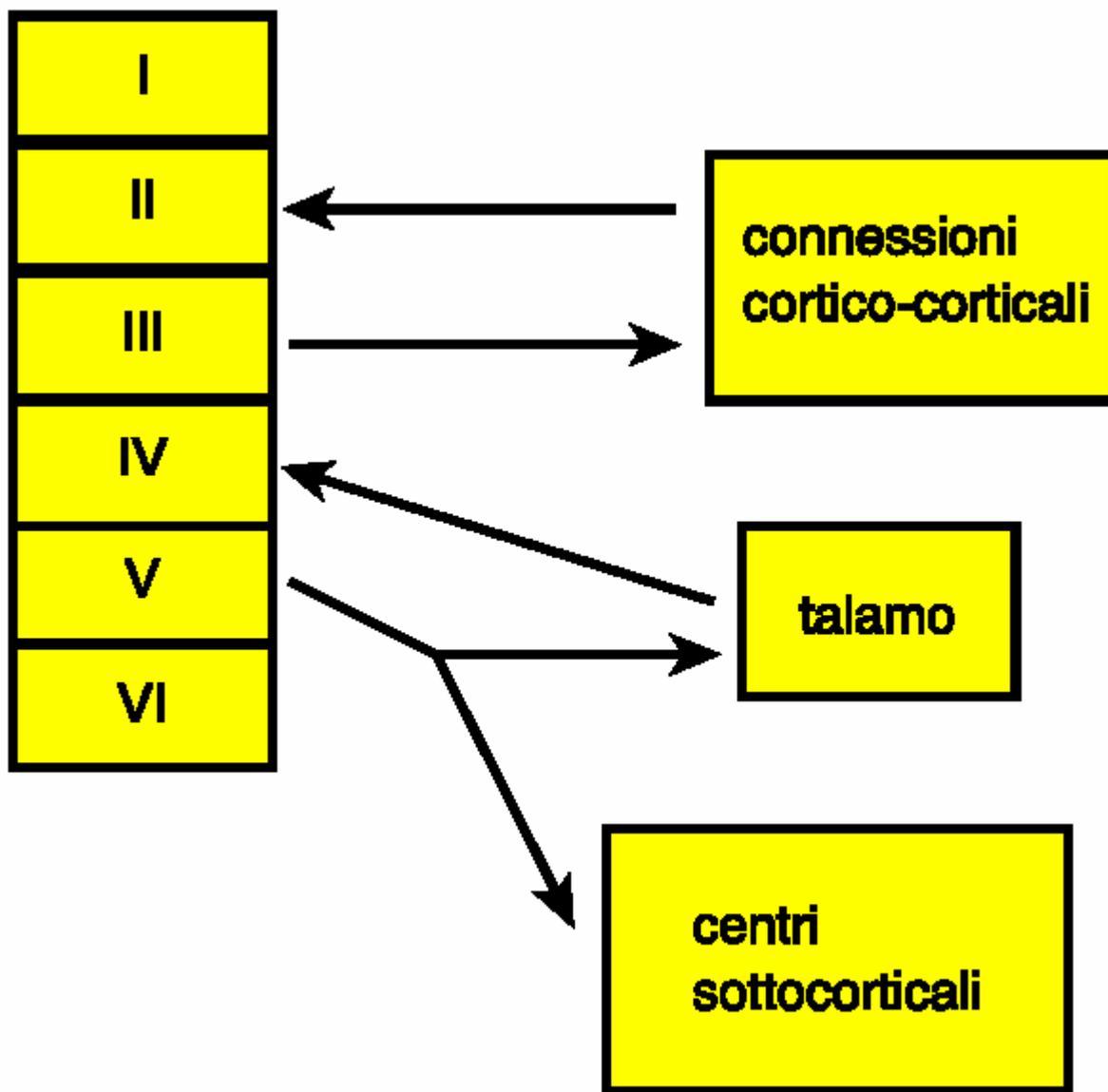
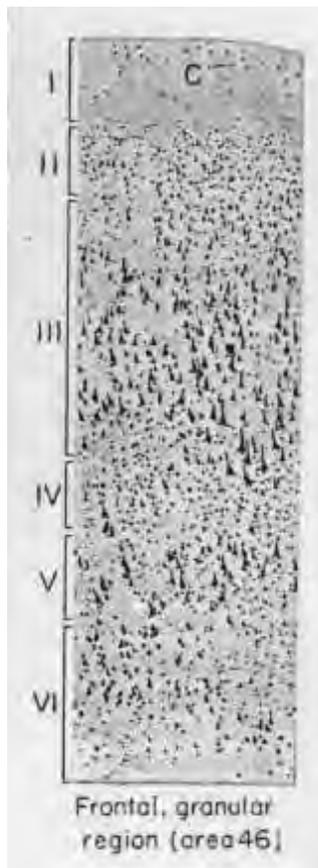
Neocortex

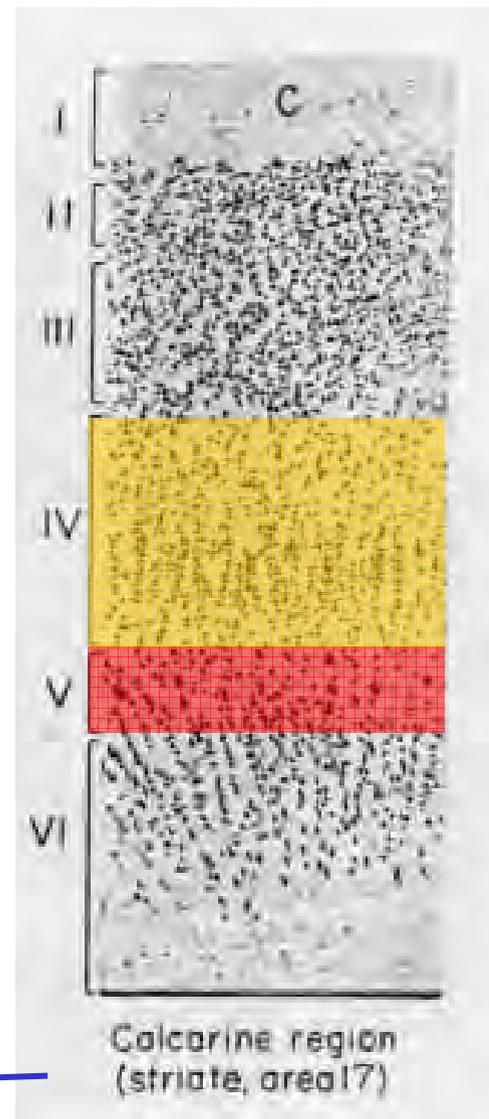
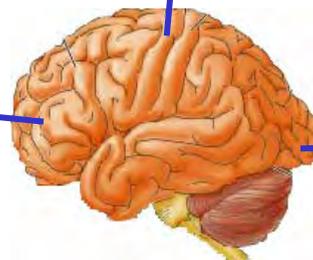
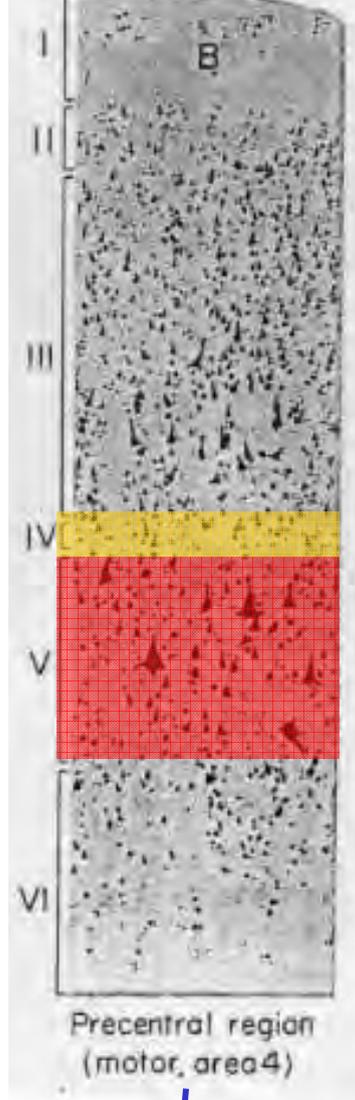
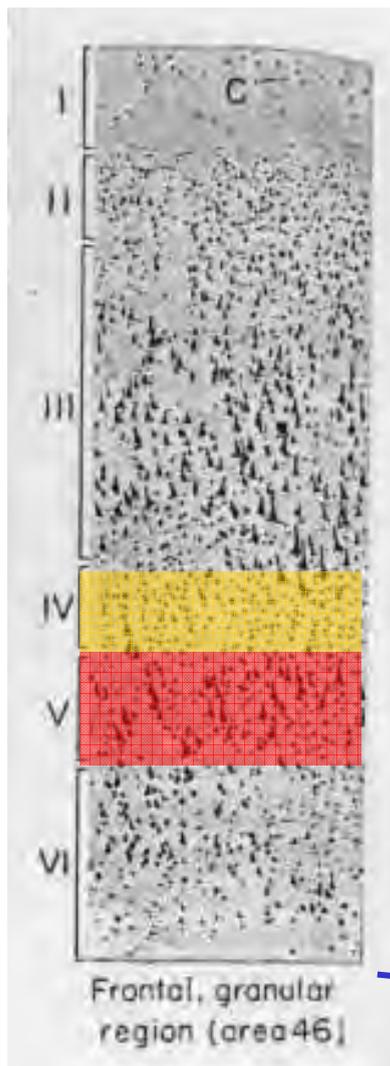




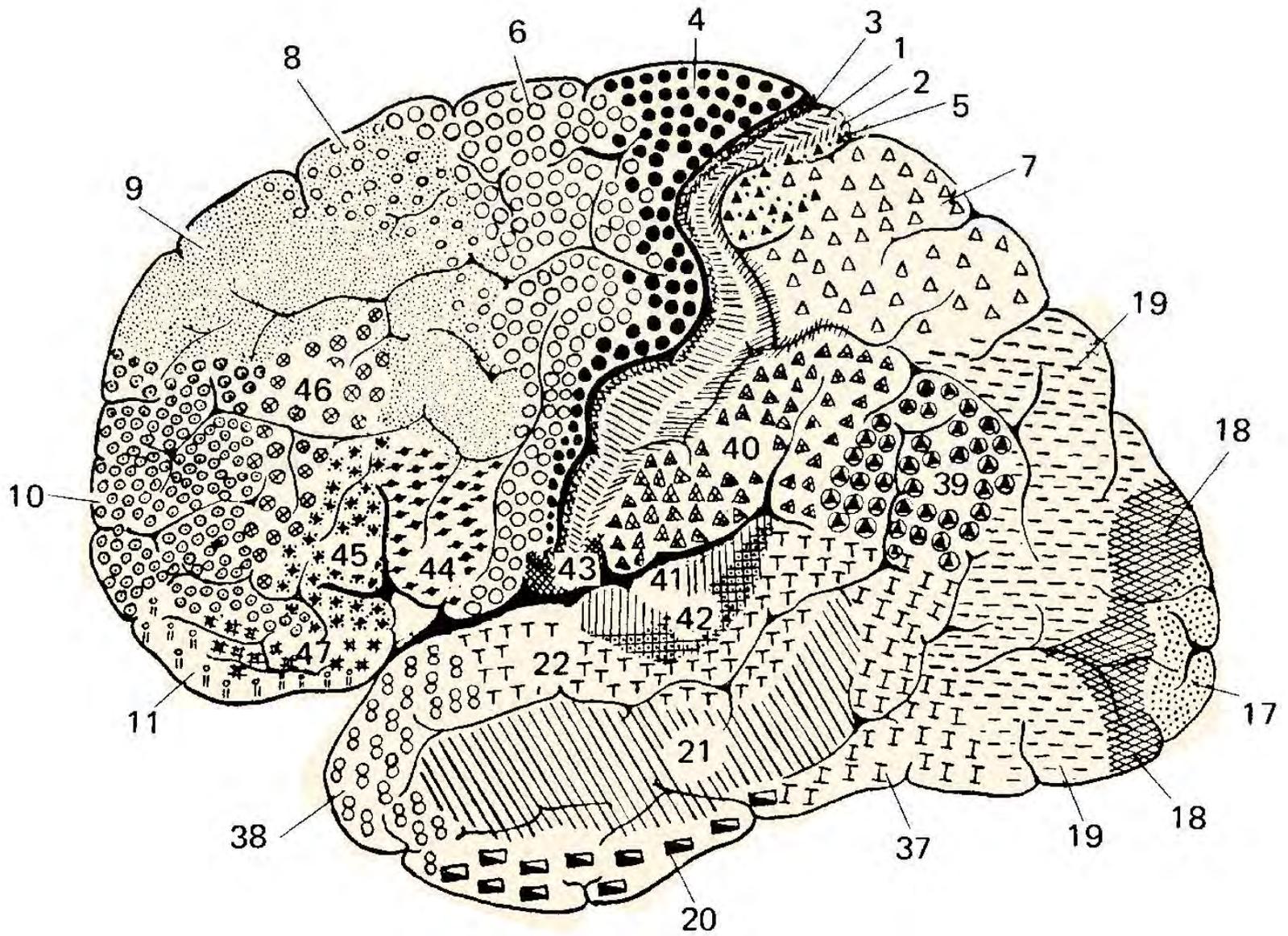
Cellule piramidali (neuroni di proiezione)
Cellule stellate (interneuroni)

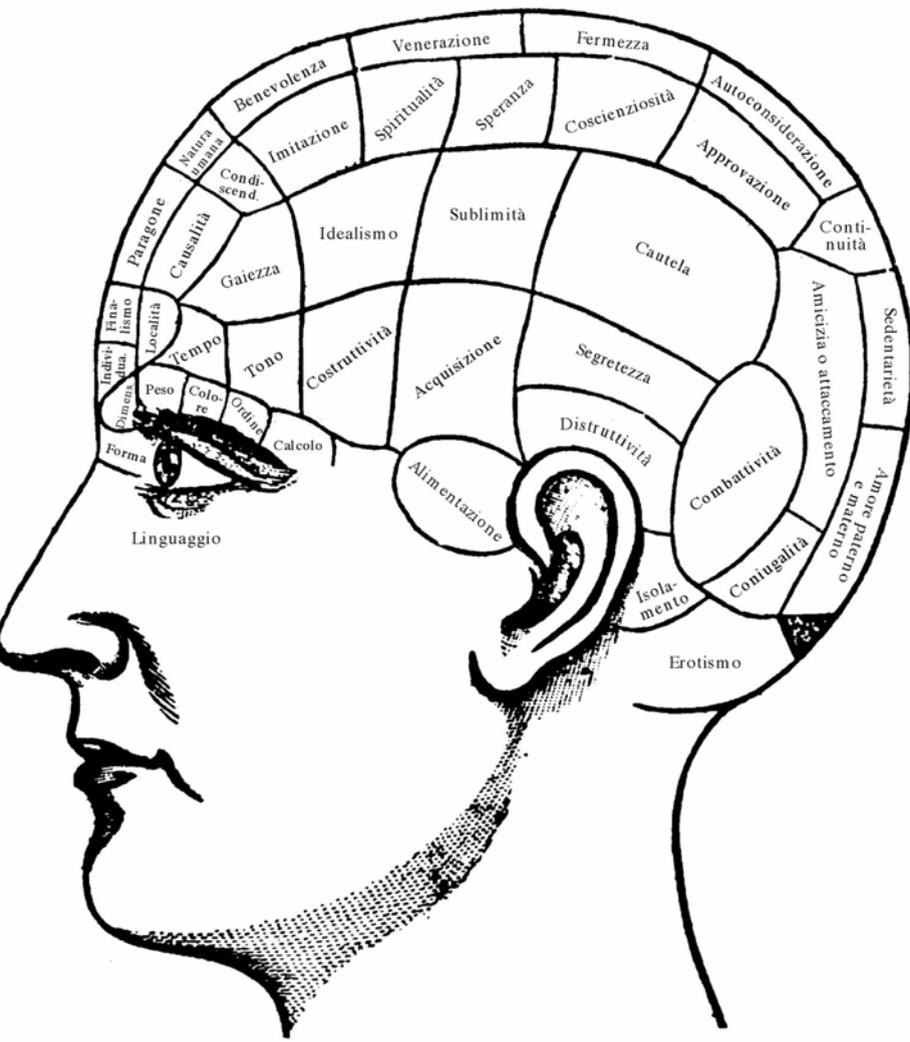




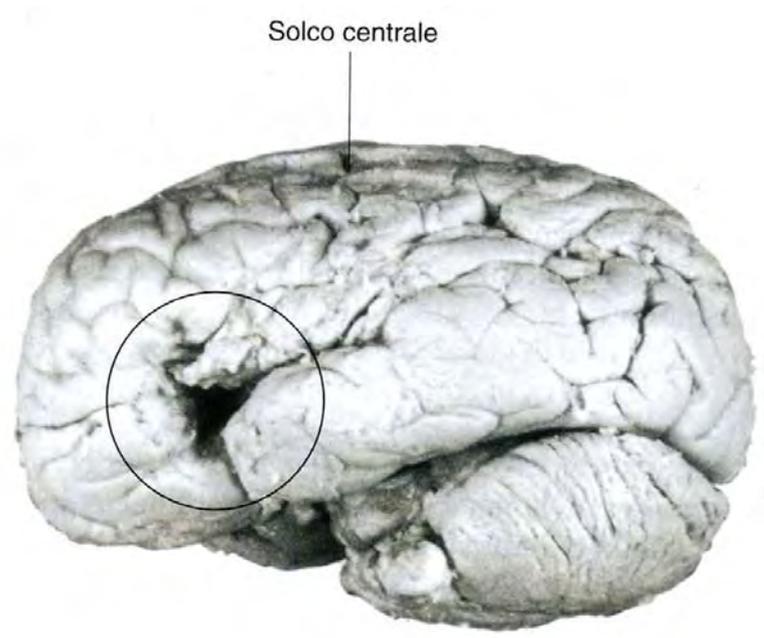


Brodmann





1861 Broca



Solco centrale

A Leggere parole



B Ascoltare parole



C Pronunciare parole



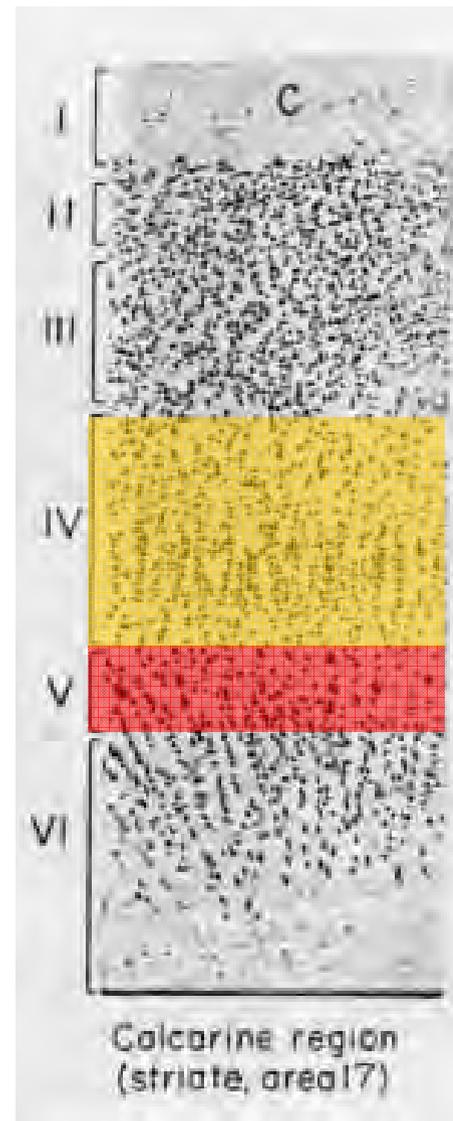
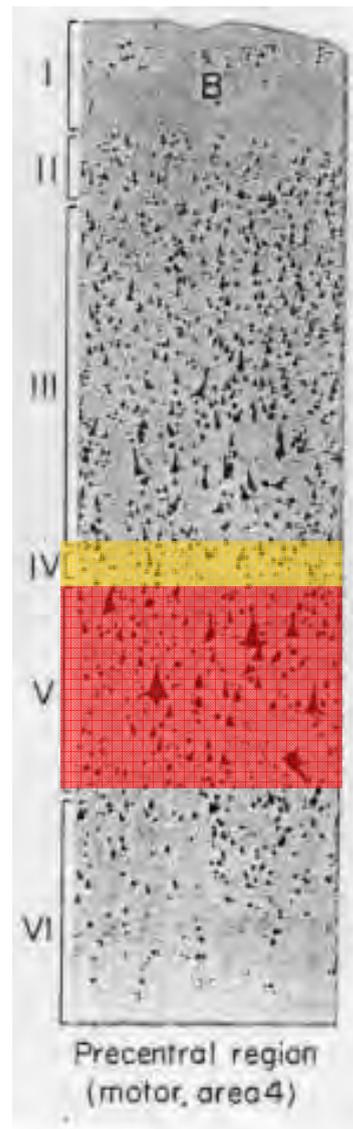
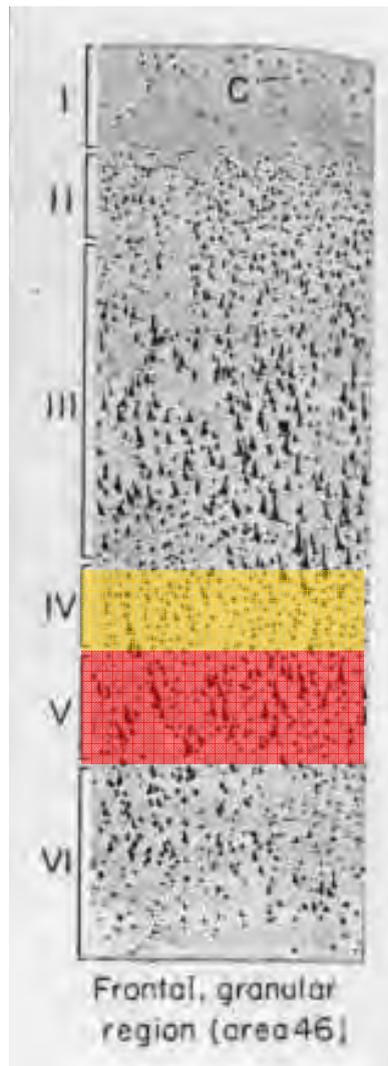
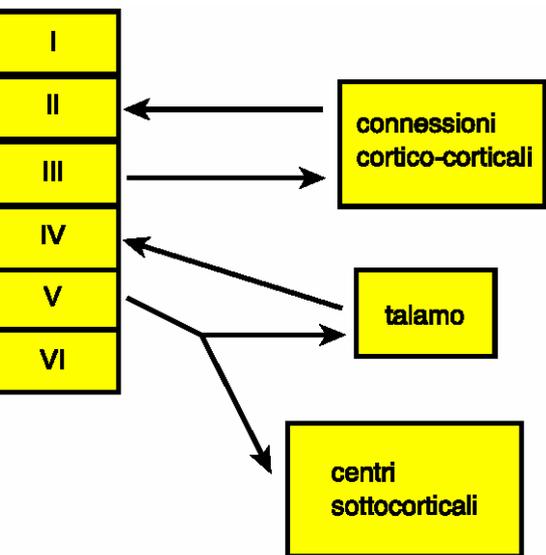
D Pensare parole

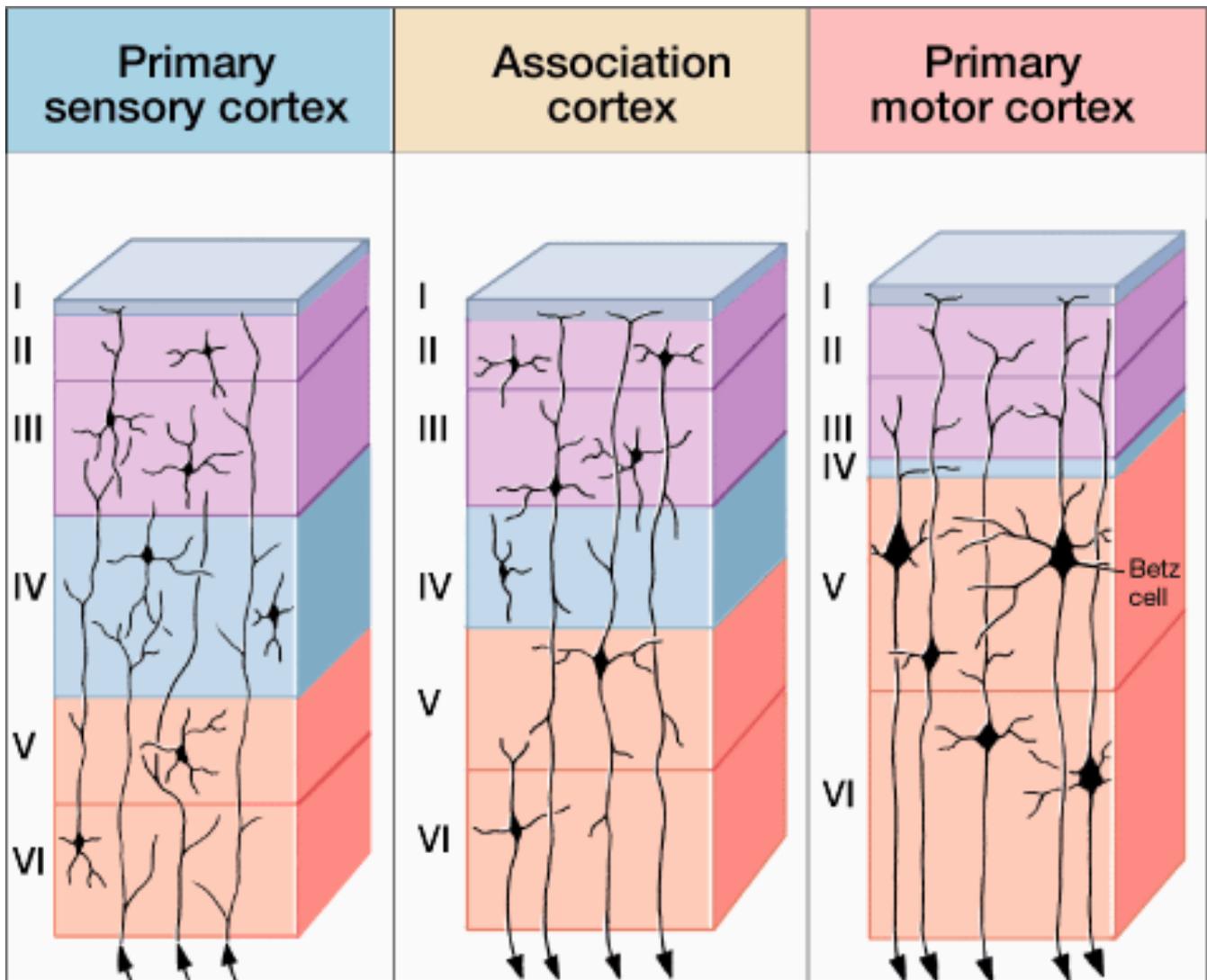


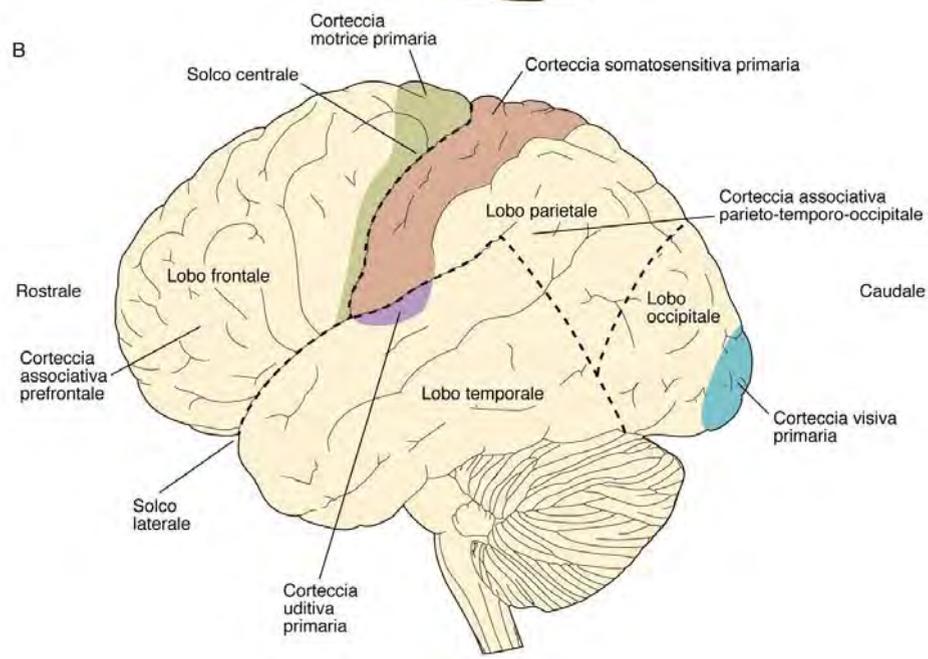
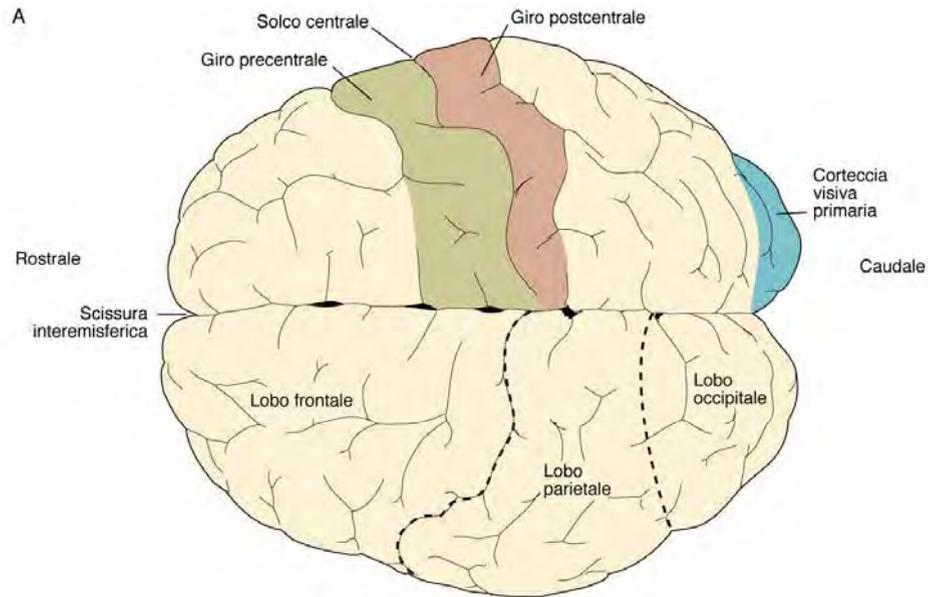
associativa

motoria

sensoriale





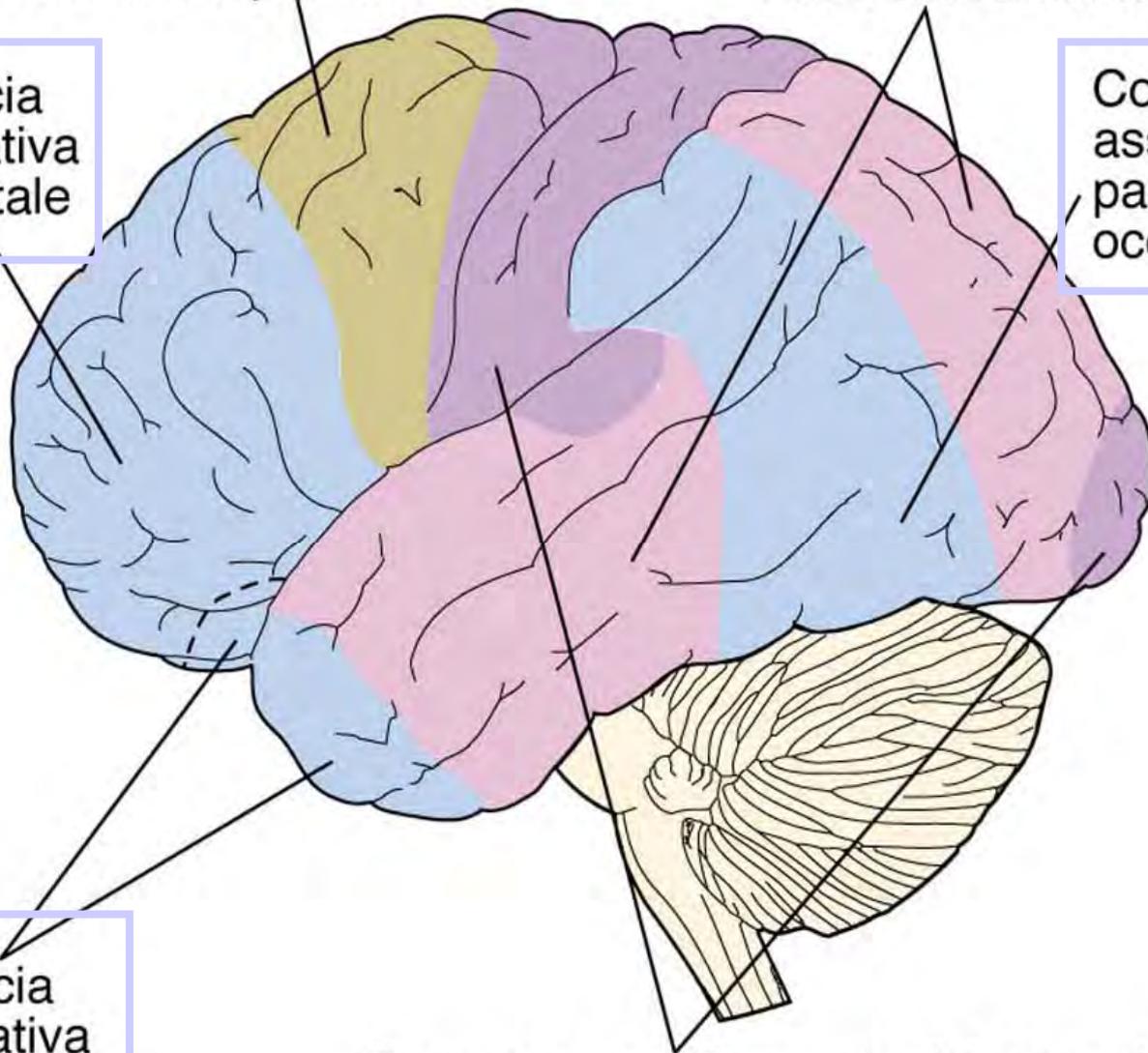


Corteccia premotoria

Aree sensoriali di ordine superiore

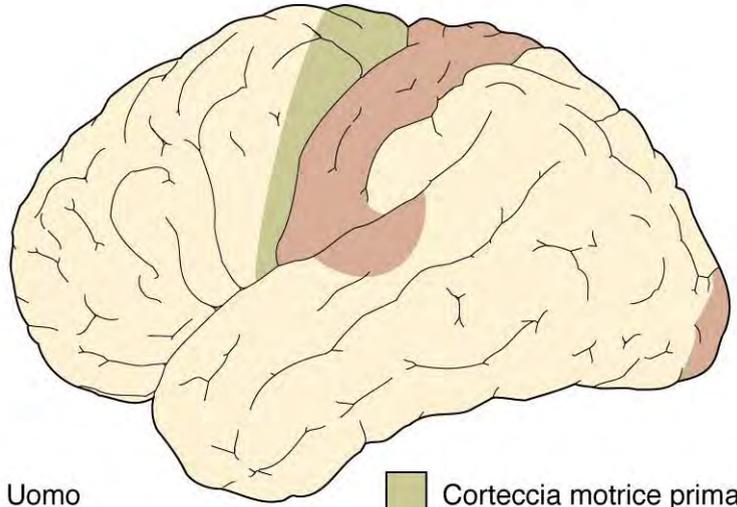
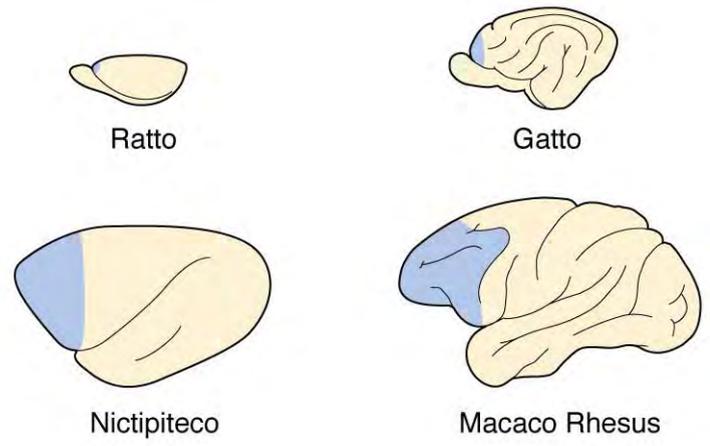
Corteccia associativa prefrontale

Corteccia associativa parieto-temporo-occipitale



Corteccia associativa limbica

Cortecce sensitive e motrici primarie



- Corteccia motrice primaria
- Corteccia somatosensitiva primaria
- Cortecce sensoriali d'ordine superiore e cortecce associative

