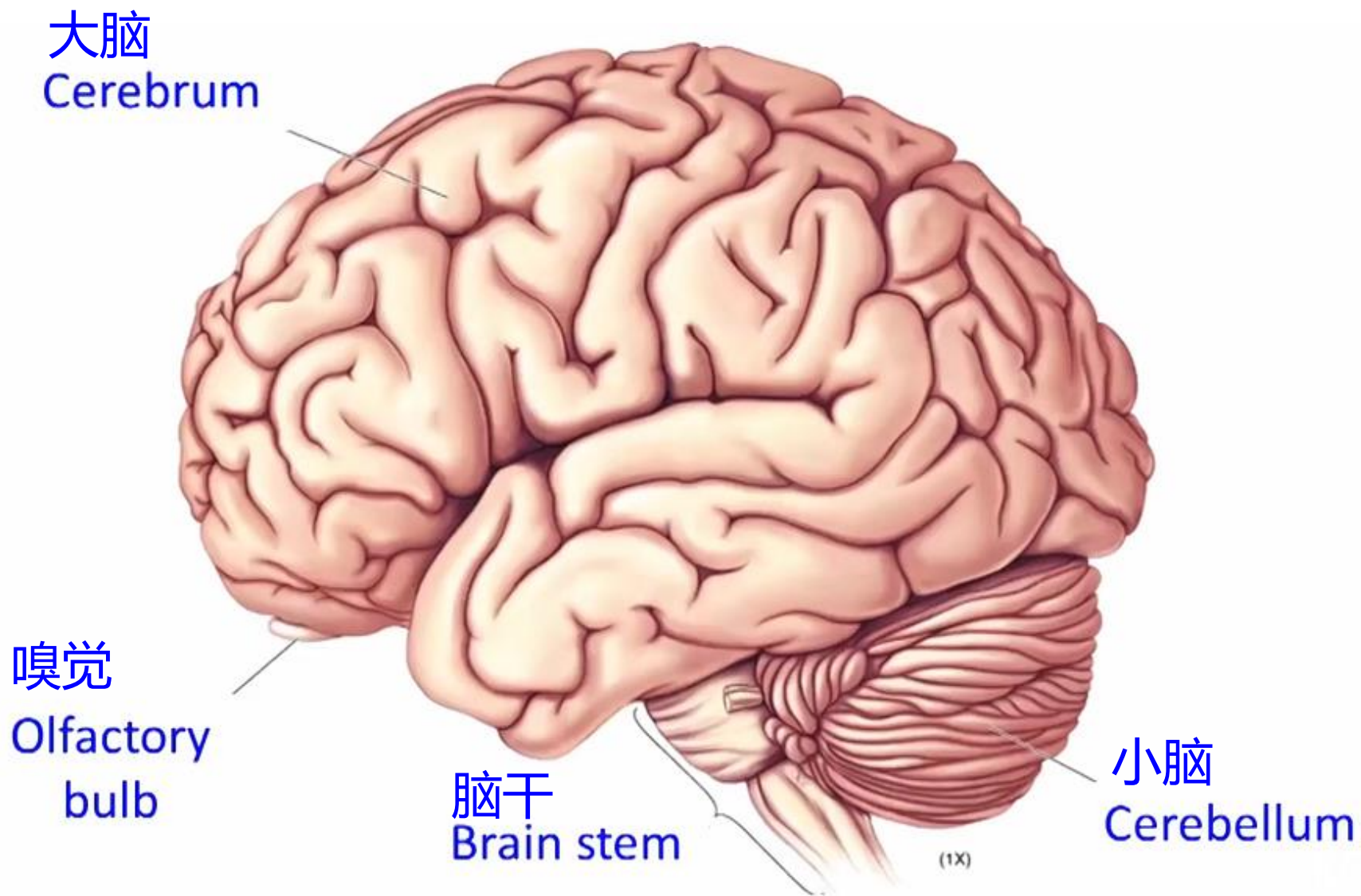


2.1 大脑的神经解剖(*Neuroanatomy of the brain*)

2.2 大脑皮质功能(*cerebral cortex functions*)

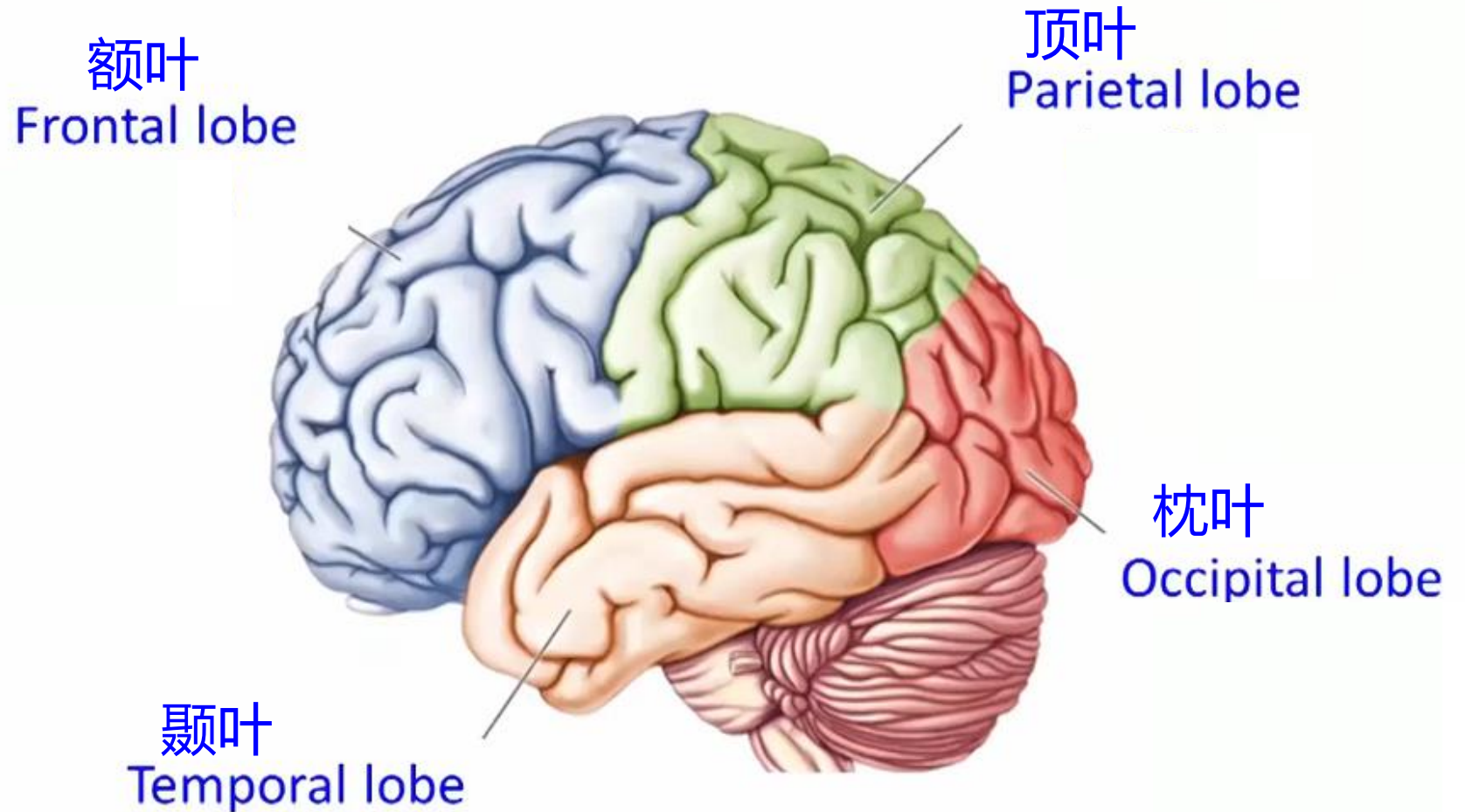
2.1 大脑的神经解剖

人脑 (*human brain*)



2.1 大脑的神经解剖

人脑
(*human brain*)



2.1 大脑的神经解剖

人脑(*human brain*)

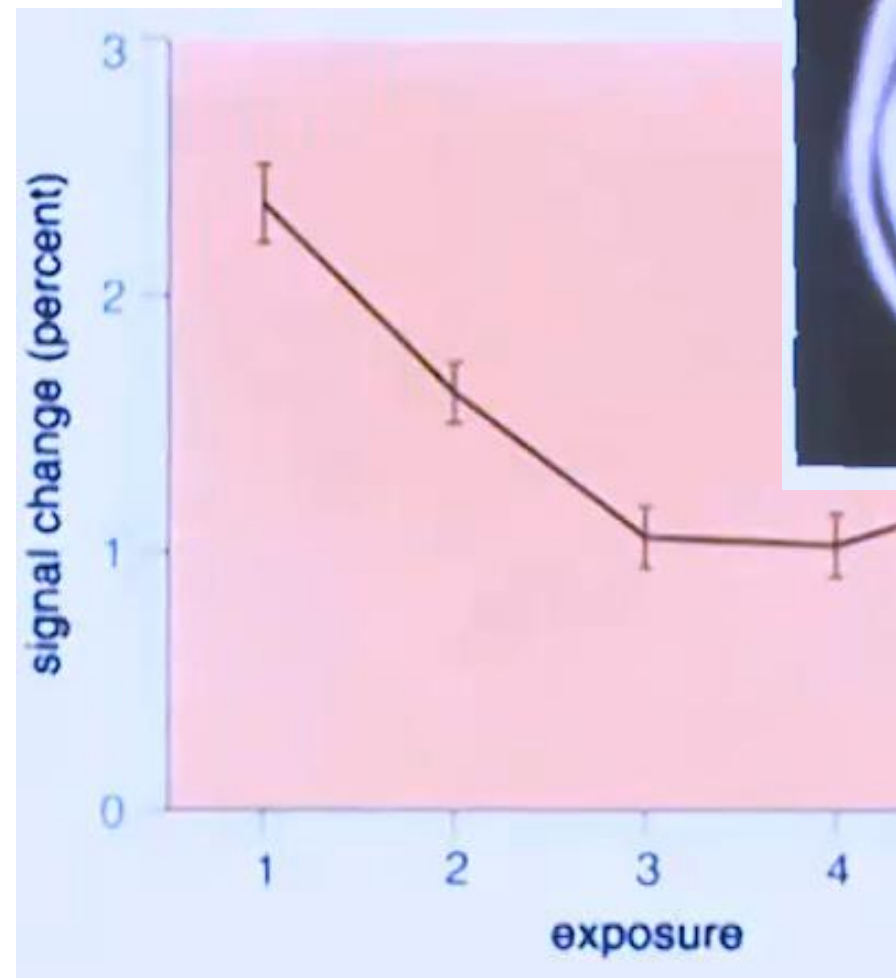
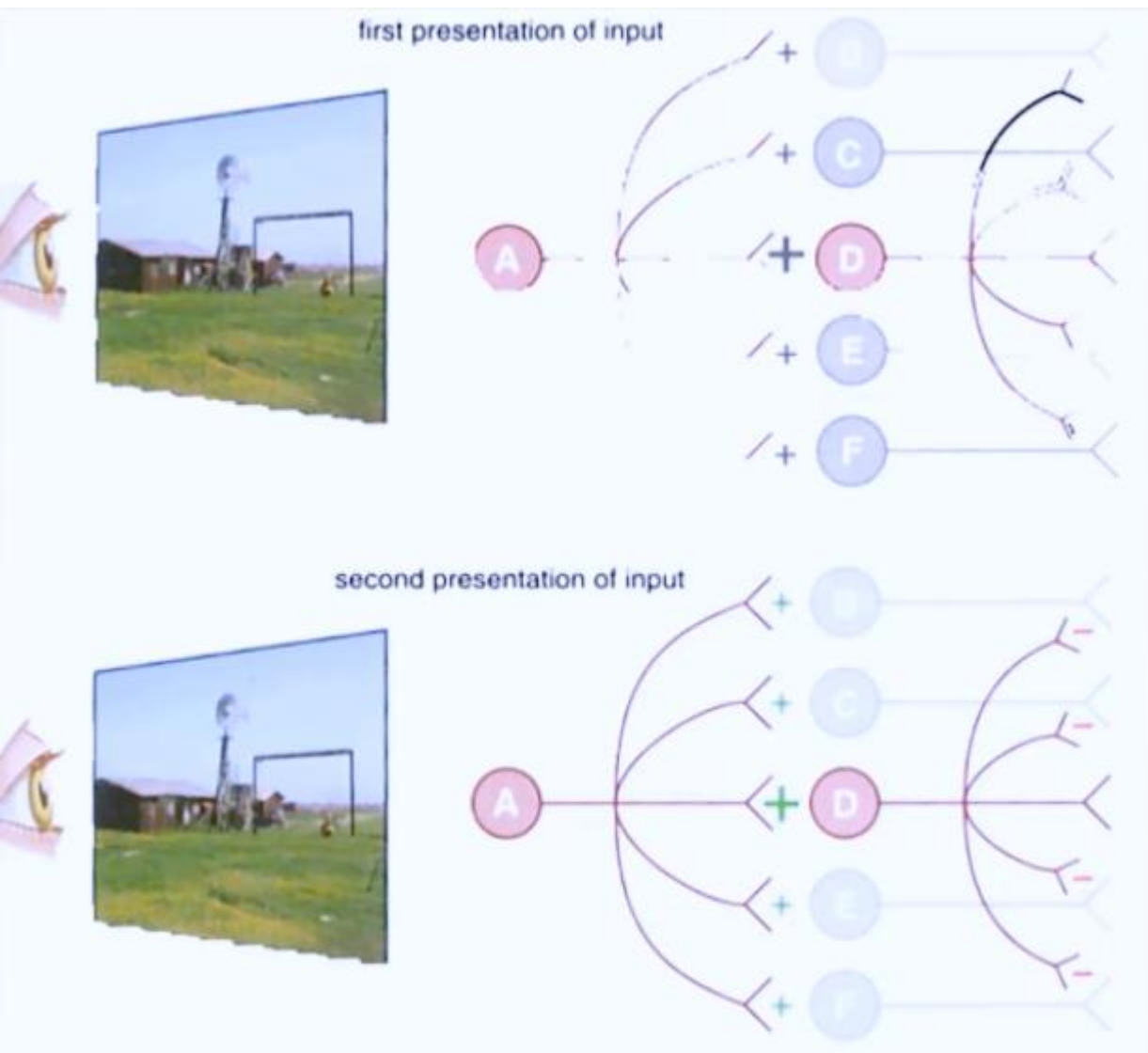
- 重量约1.3公斤~1.5公斤
 - 占成人体重的2%~3%
- 消耗25%能量和20%氧气



认知的吝啬者(*Cognitive Miser*)

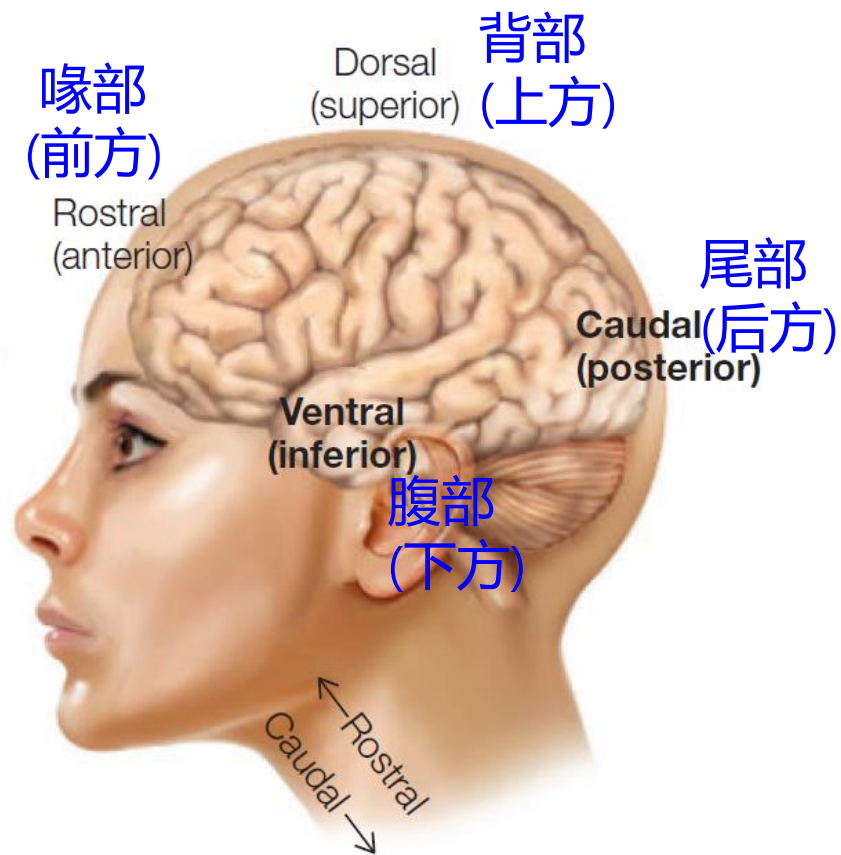
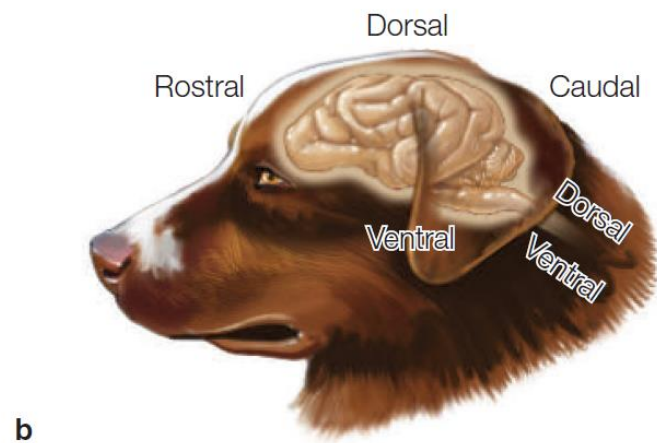
- 经常依赖**显而易见的表面信息**和**简单有效的策略**评估信息并**作出决策**的个体，即利用直觉判断系统，以减轻认知负担
 - 60%是习惯化行为
 - 情绪与理智

2. 1 大脑的神经解剖

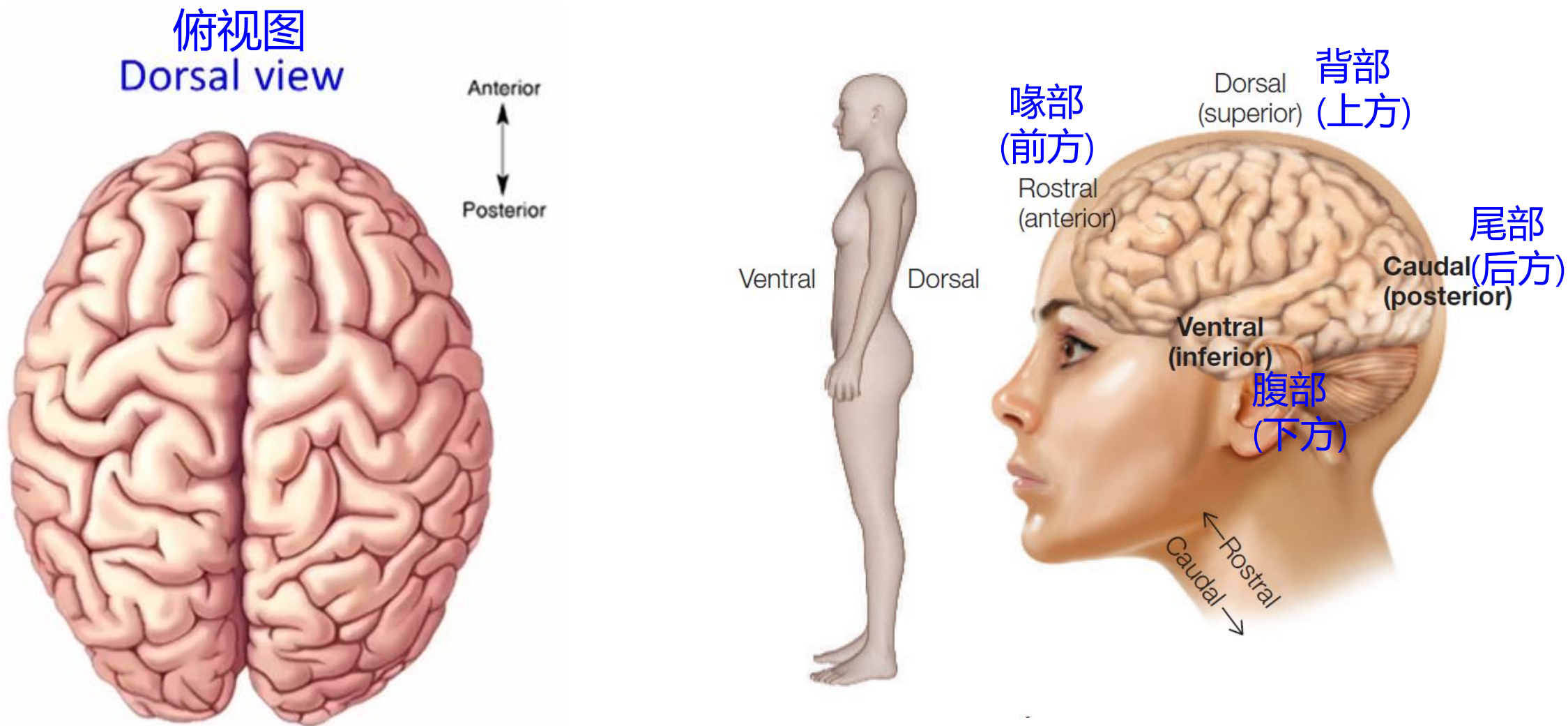


2.1 大脑的神经解剖

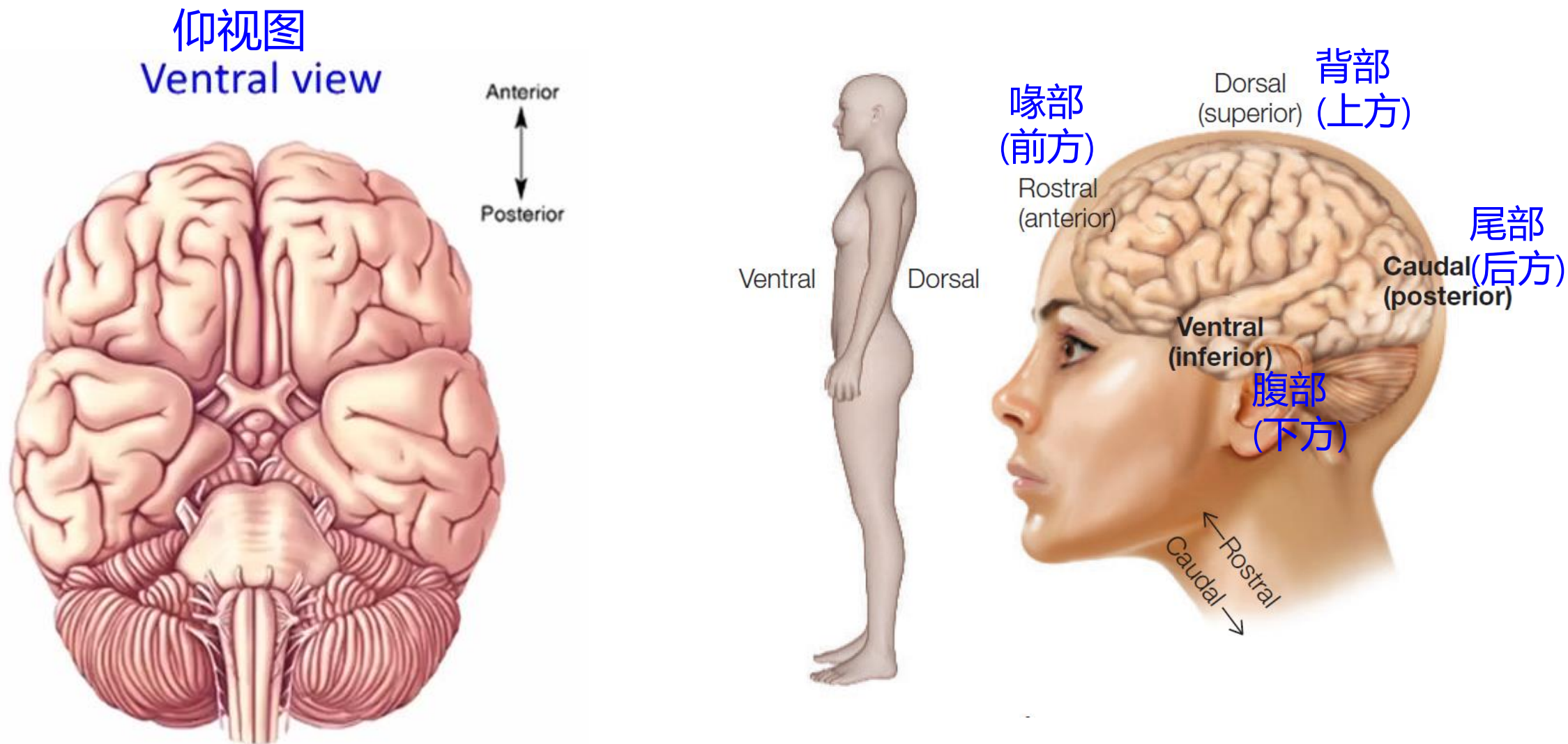
解剖参考系(*anatomical references*)



2.1 大脑的神经解剖



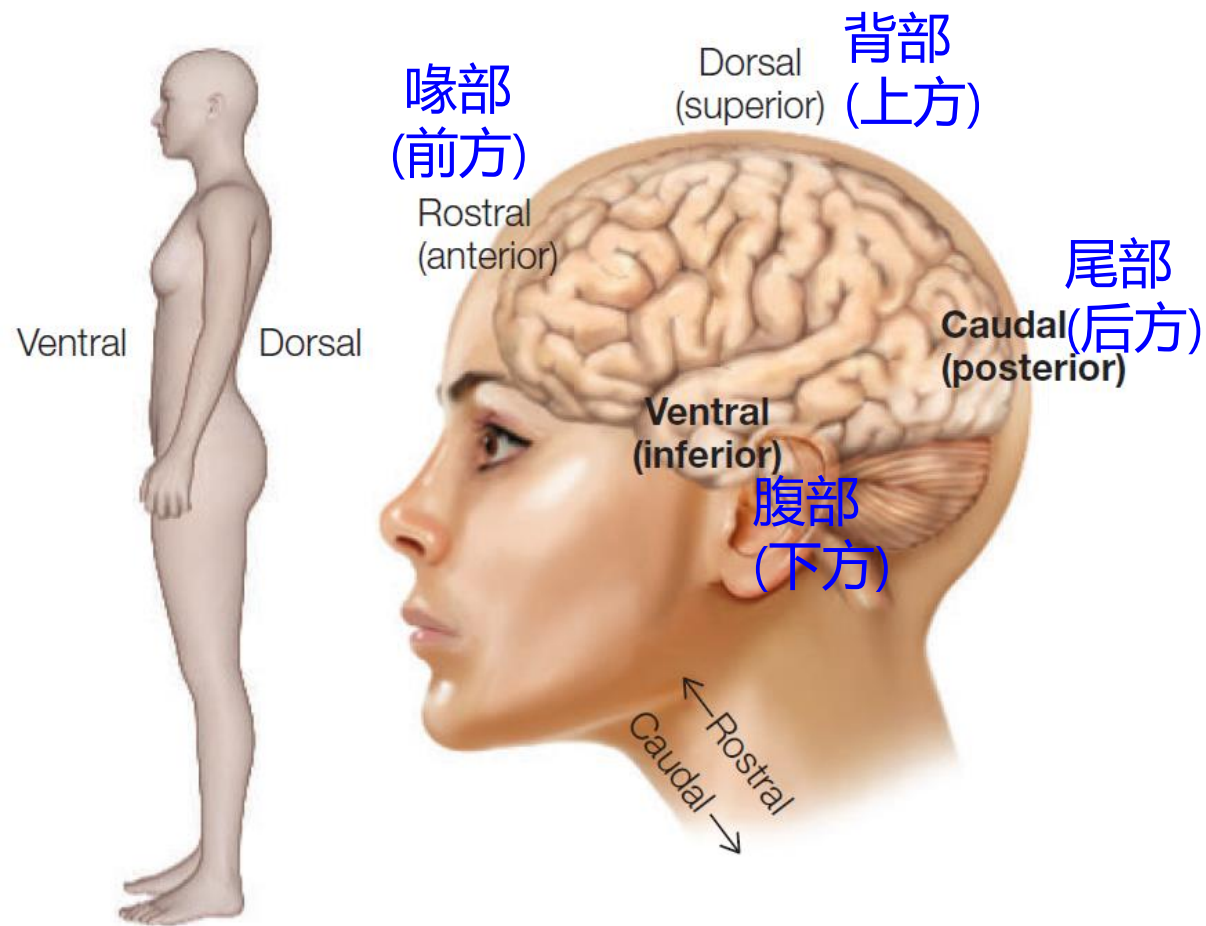
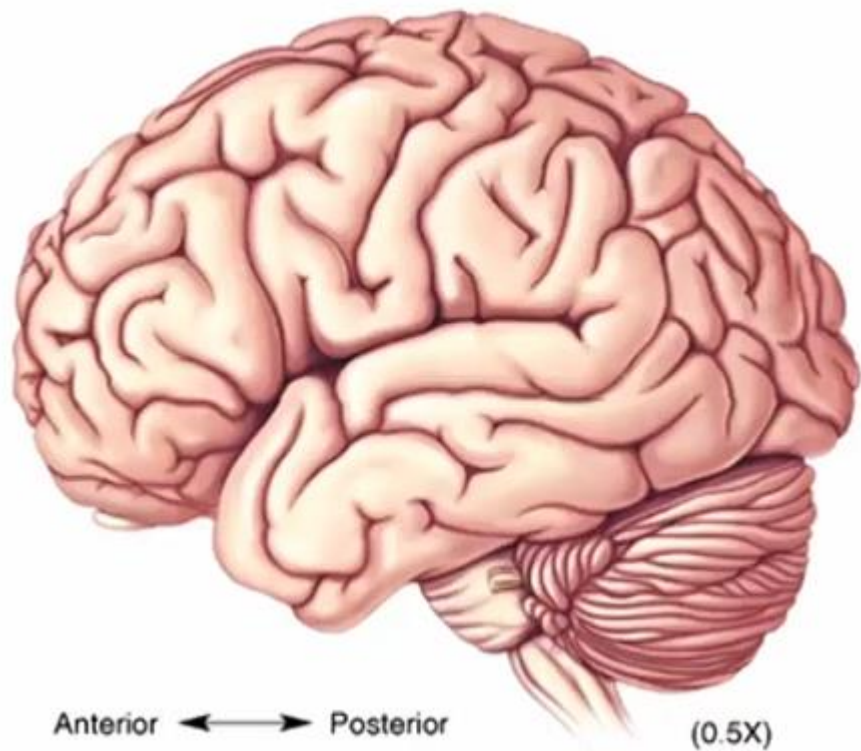
2.1 大脑的神经解剖



2.1 大脑的神经解剖

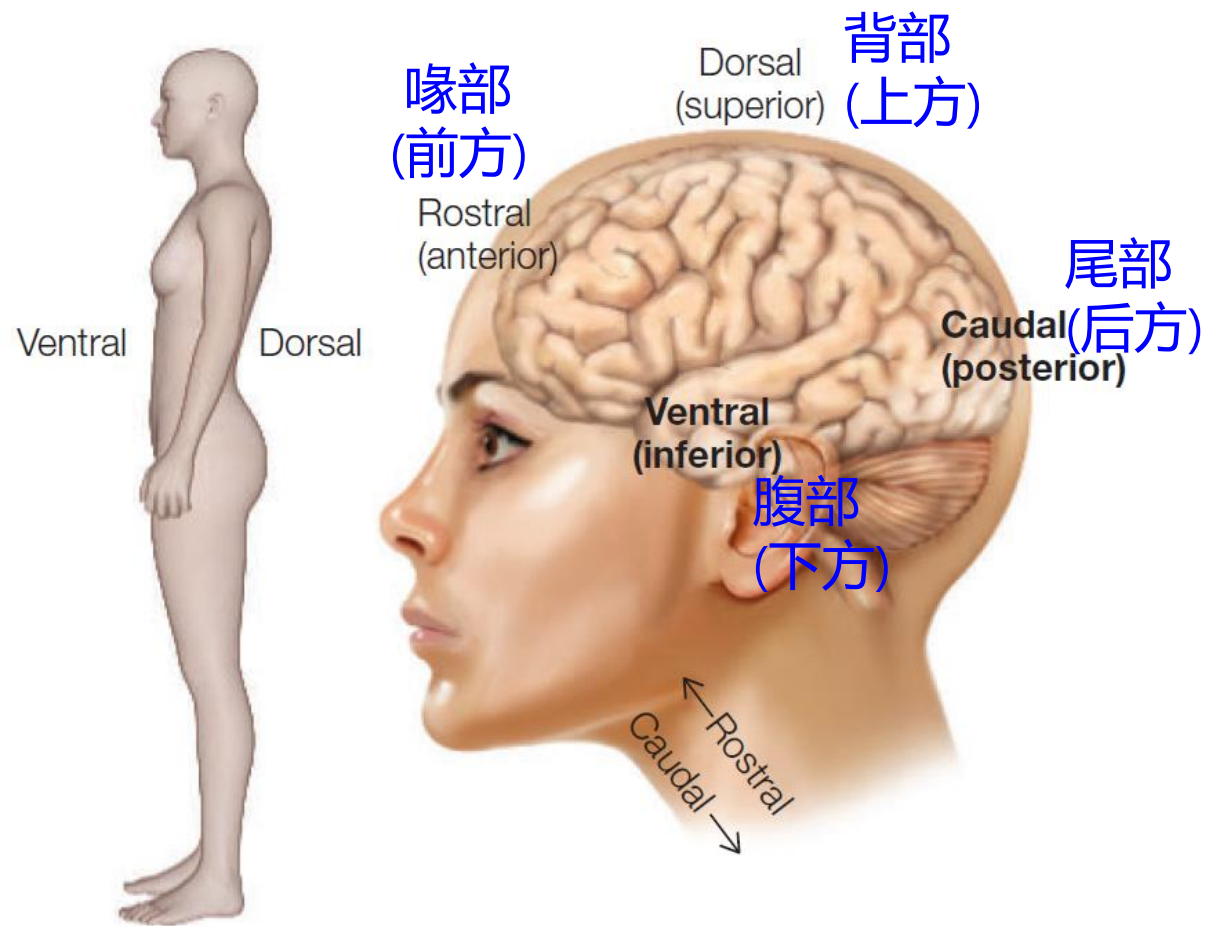
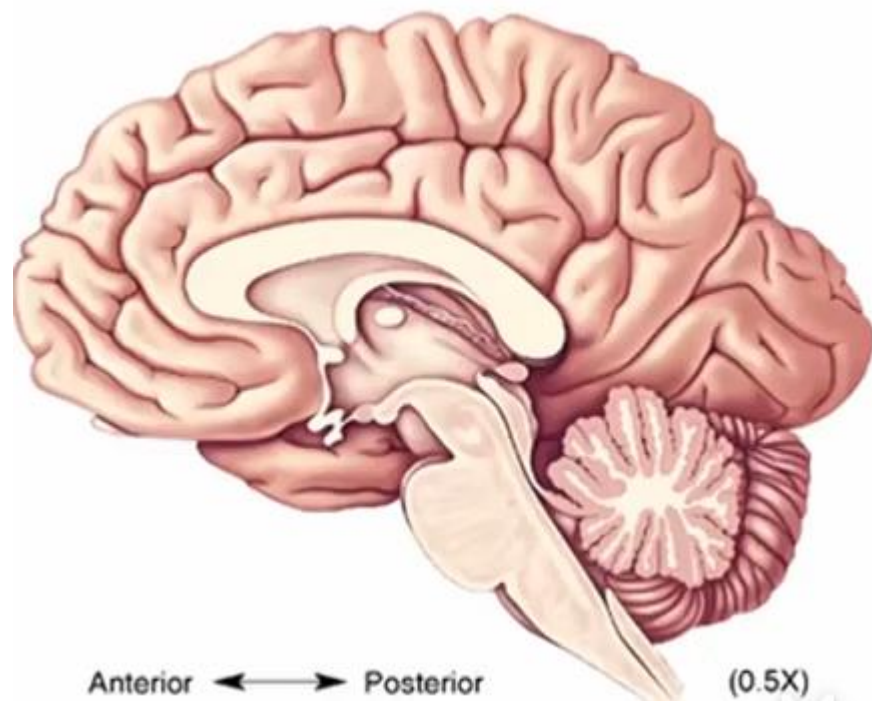
侧视图

Lateral view



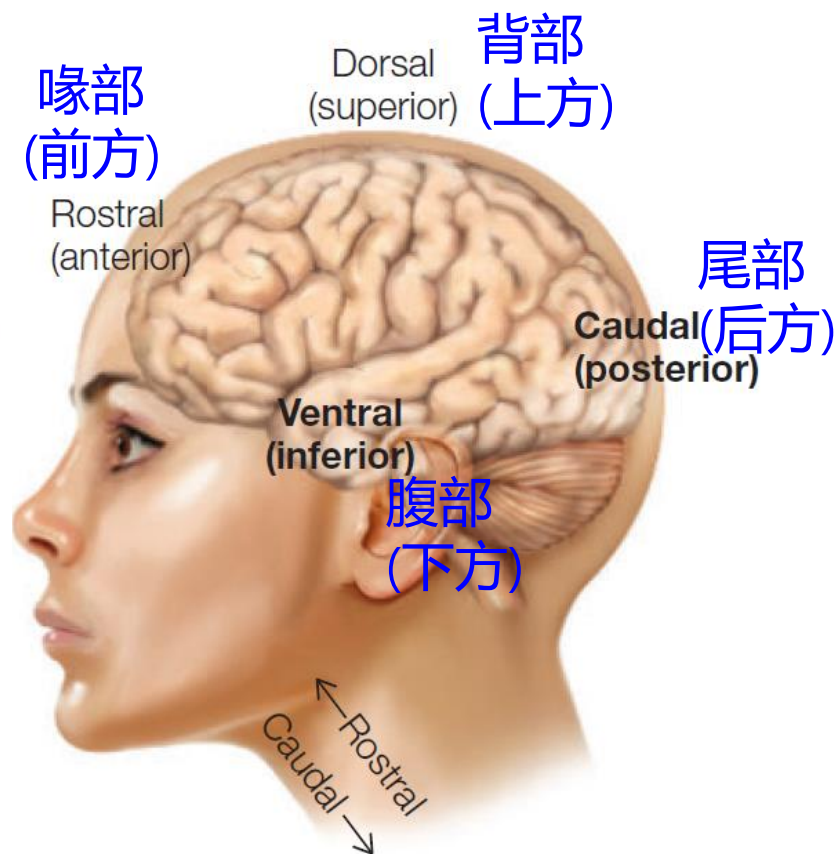
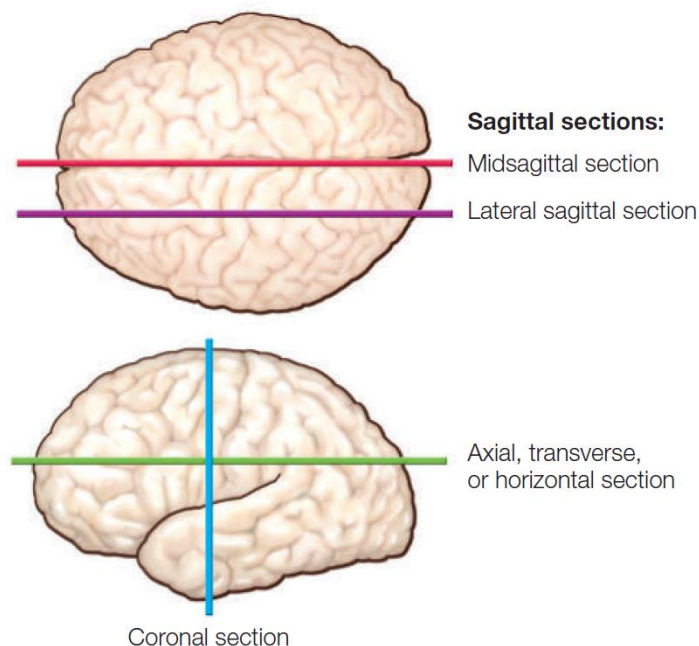
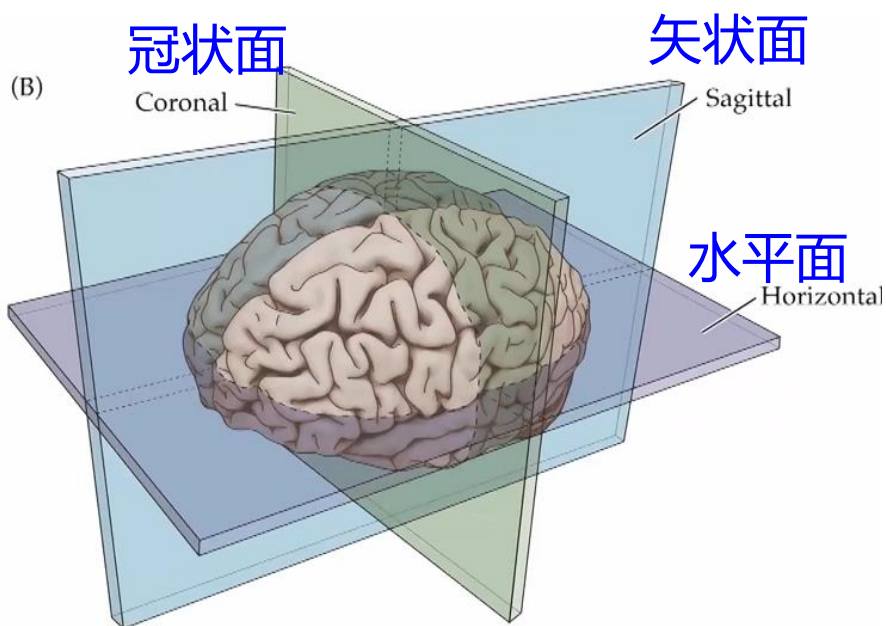
2.1 大脑的神经解剖

中间剖分视图
Medial view



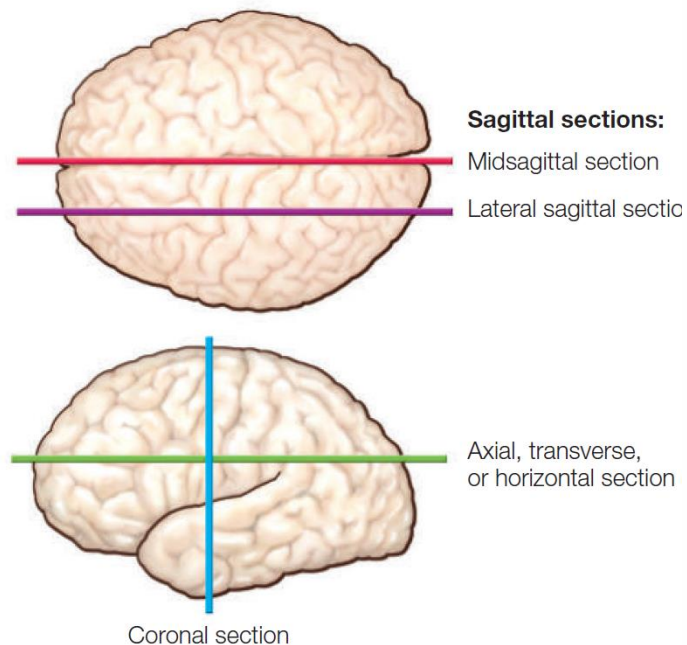
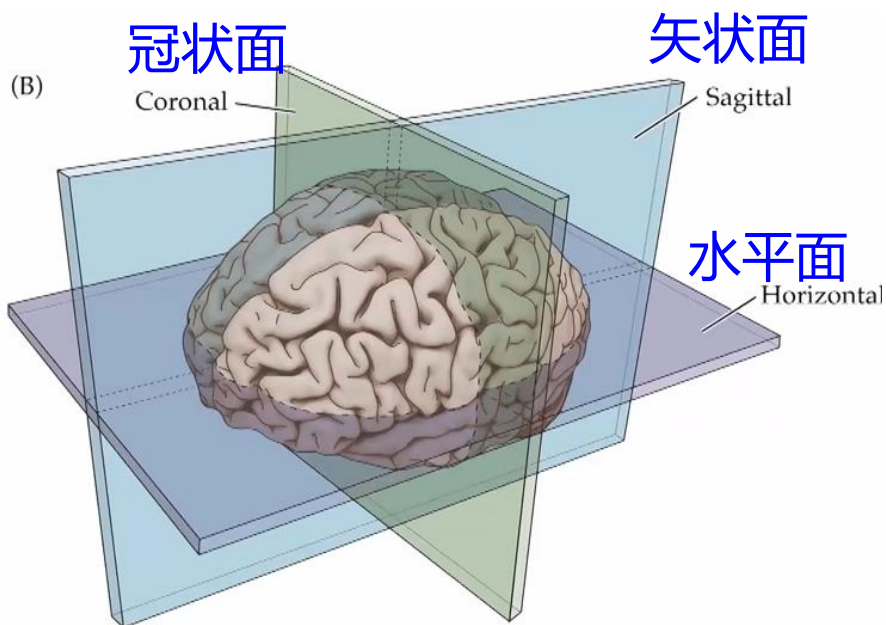
2.1 大脑的神经解剖

解剖参考系(*anatomical references*)

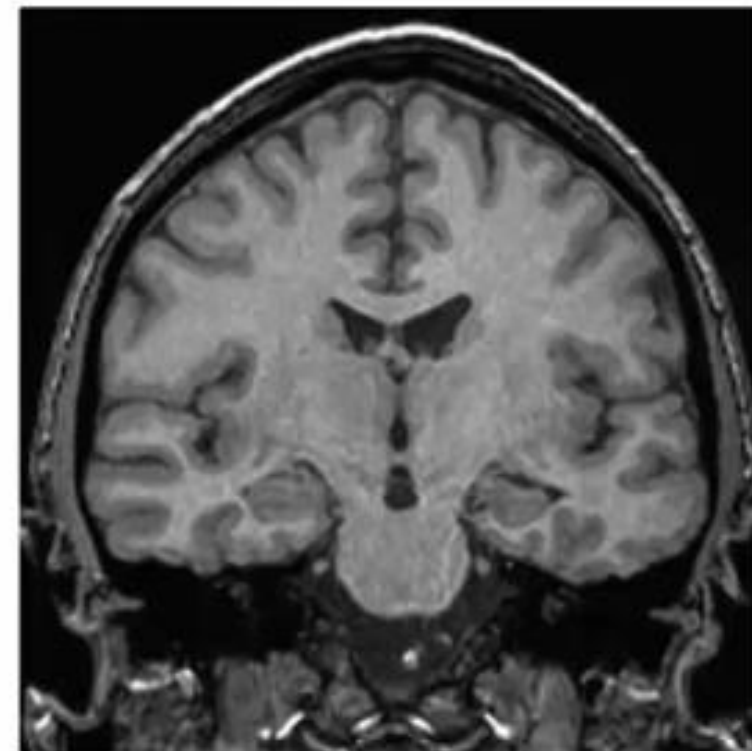


2.1 大脑的神经解剖

解剖参考系(*anatomical references*)

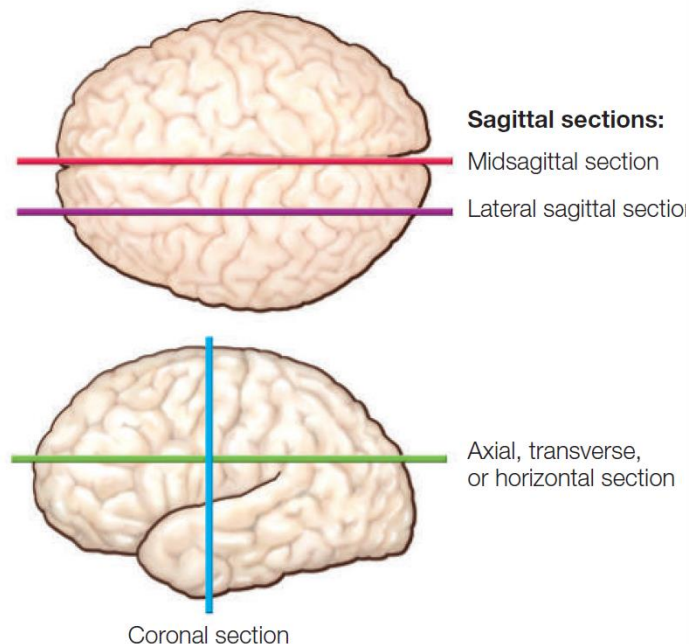
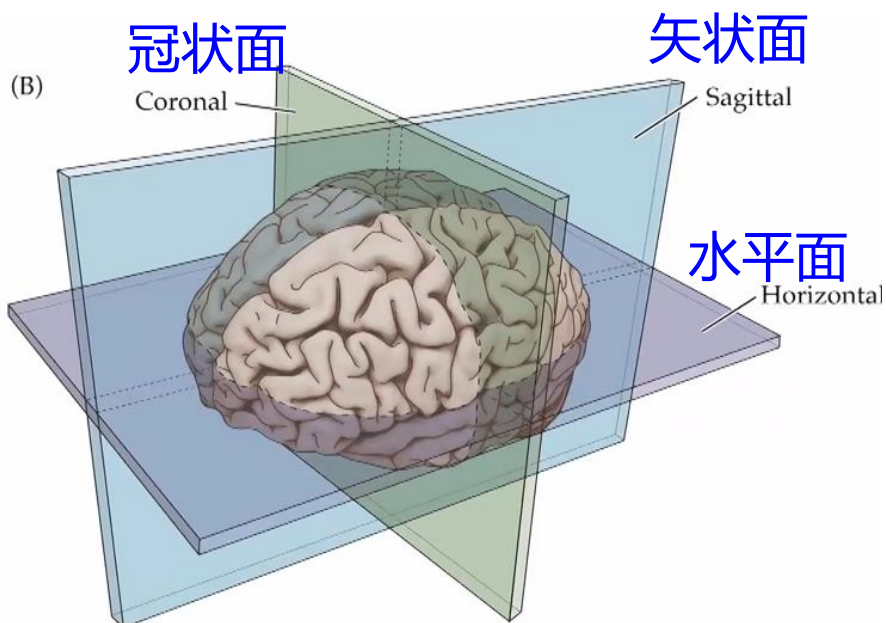


Coronal view

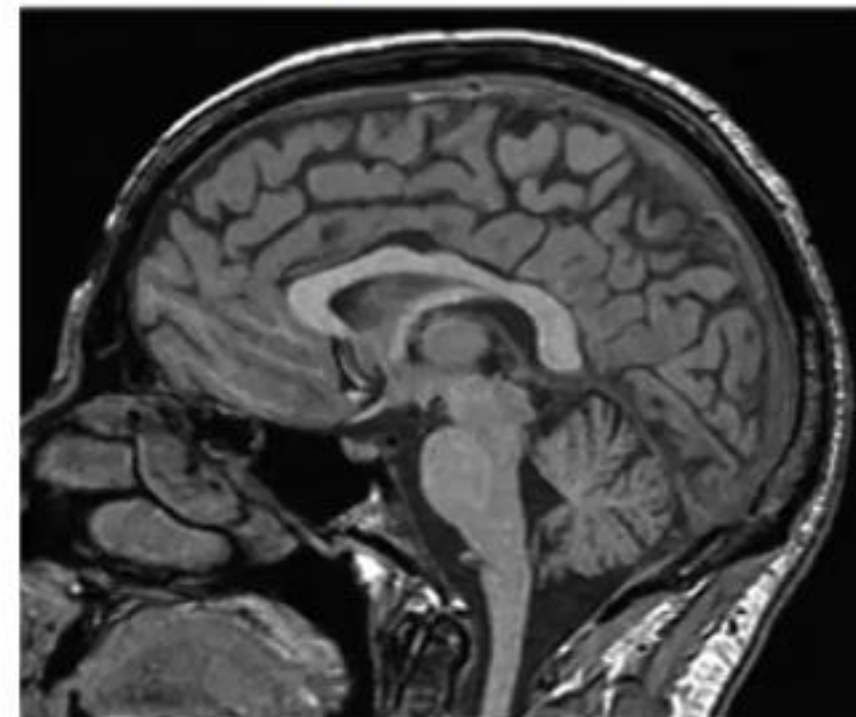


2.1 大脑的神经解剖

解剖参考系(*anatomical references*)

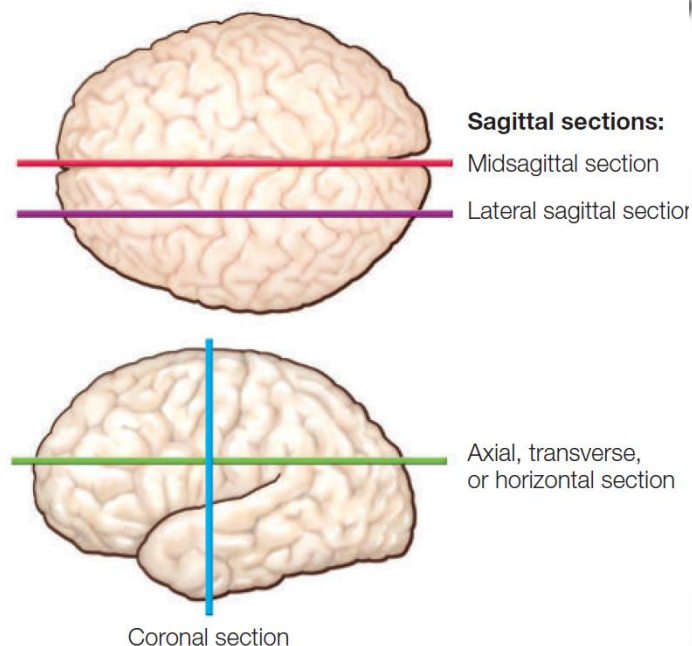
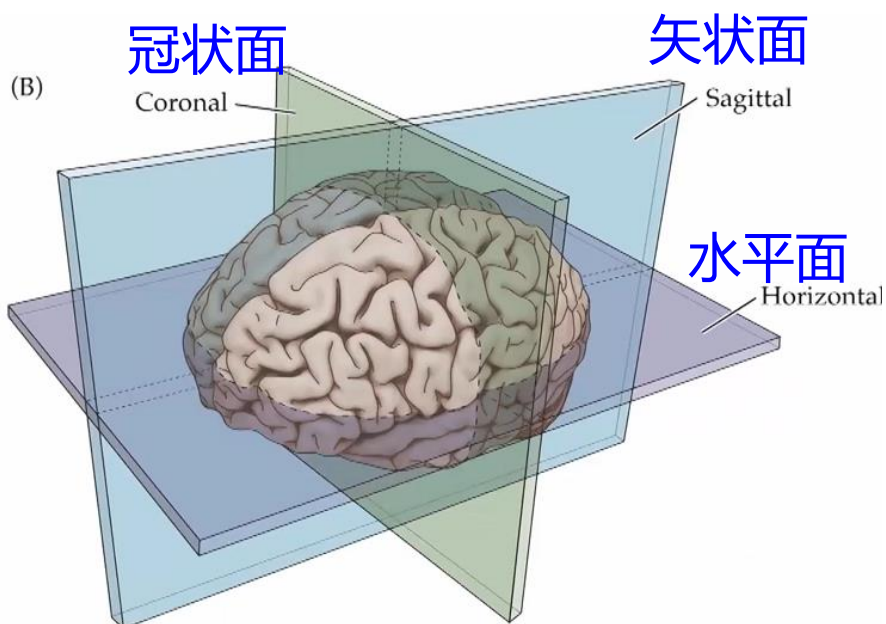


Sagittal view

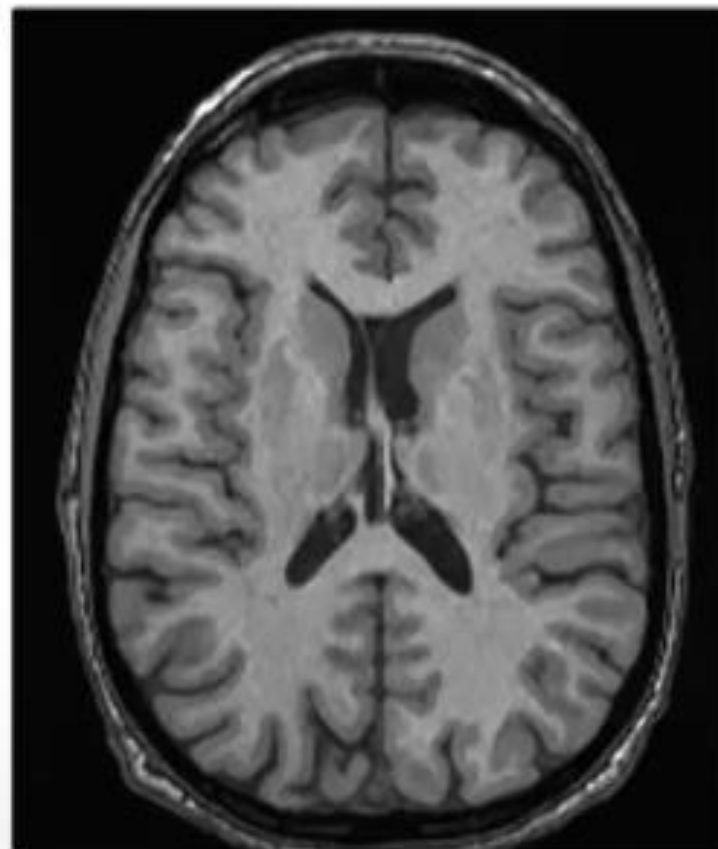


2.1 大脑的神经解剖

解剖参考系(*anatomical references*)



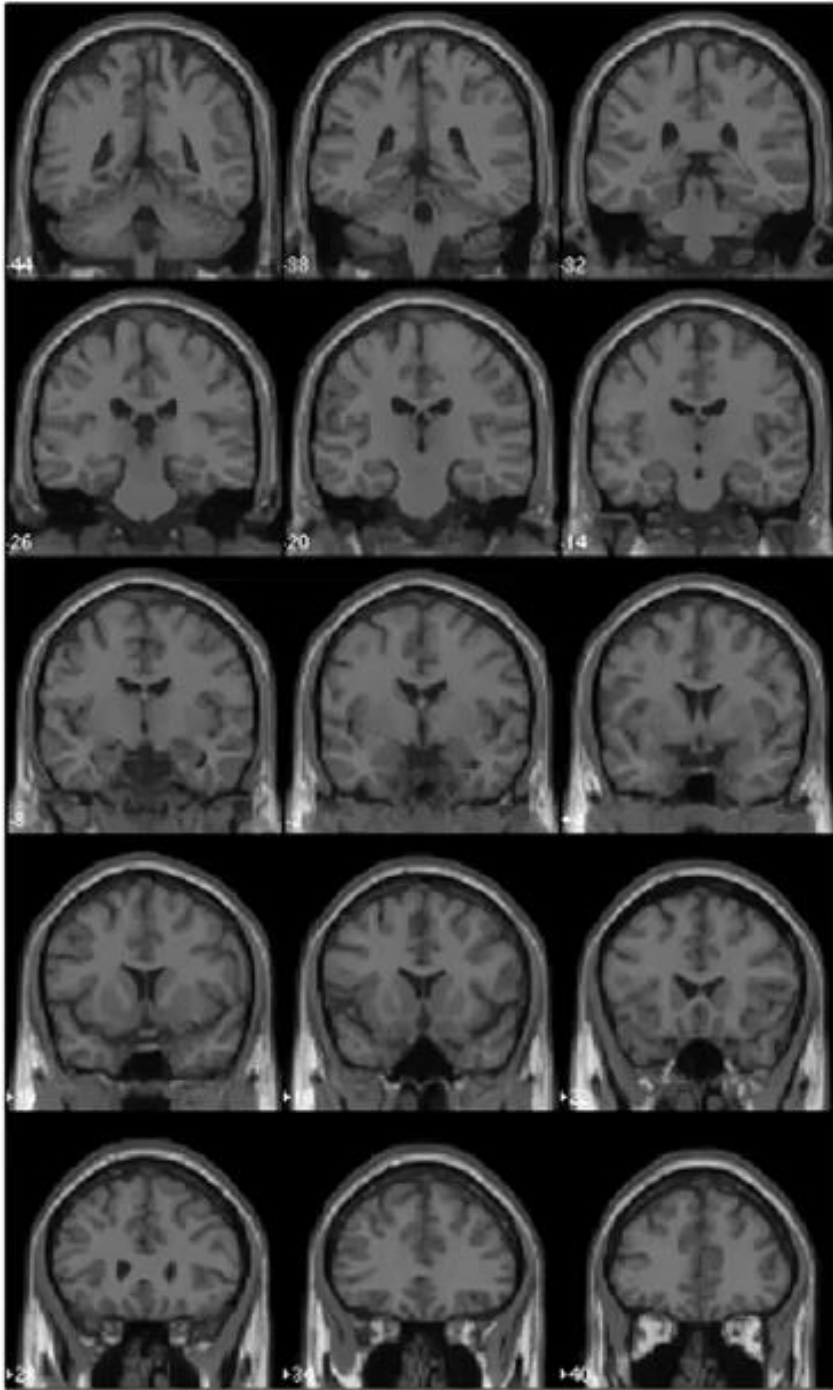
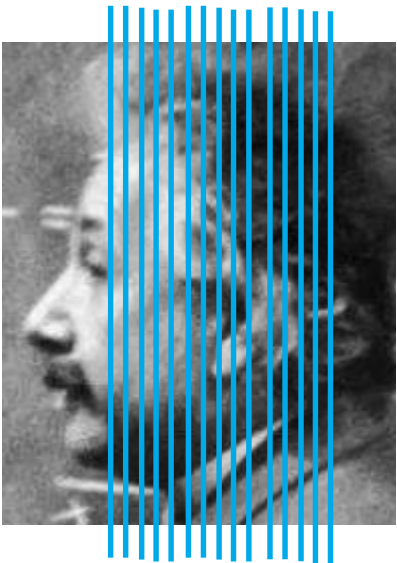
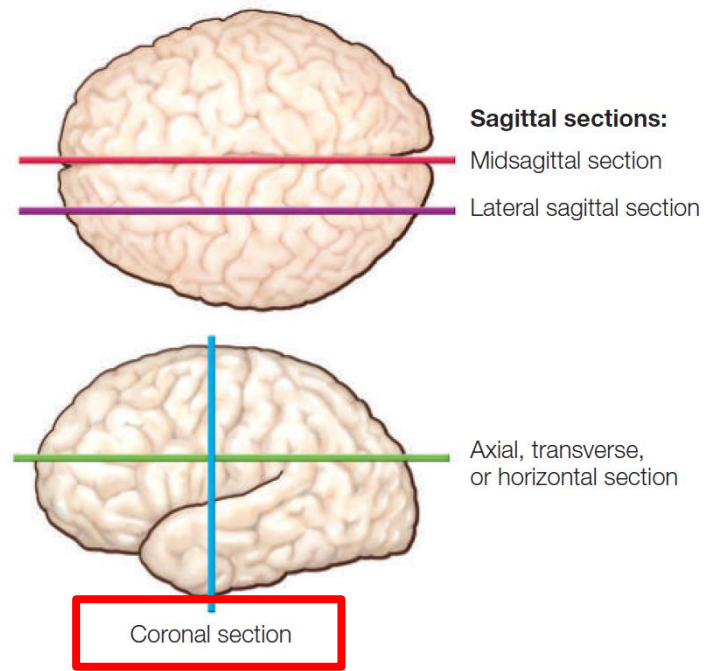
Horizontal view



2. 1大脑的神经解剖

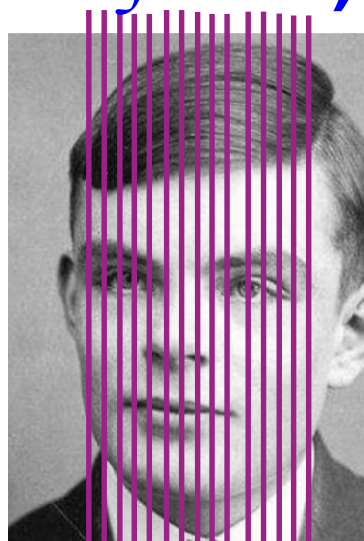
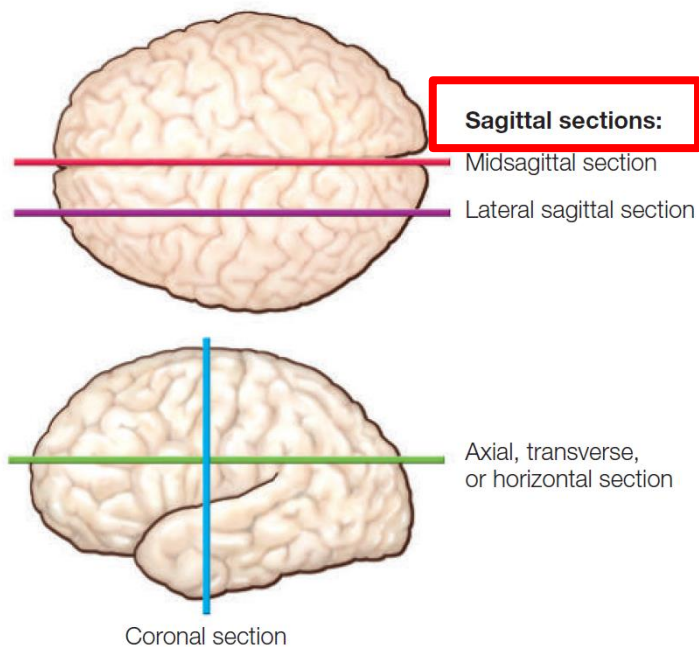


解剖参考系(anatomical references)

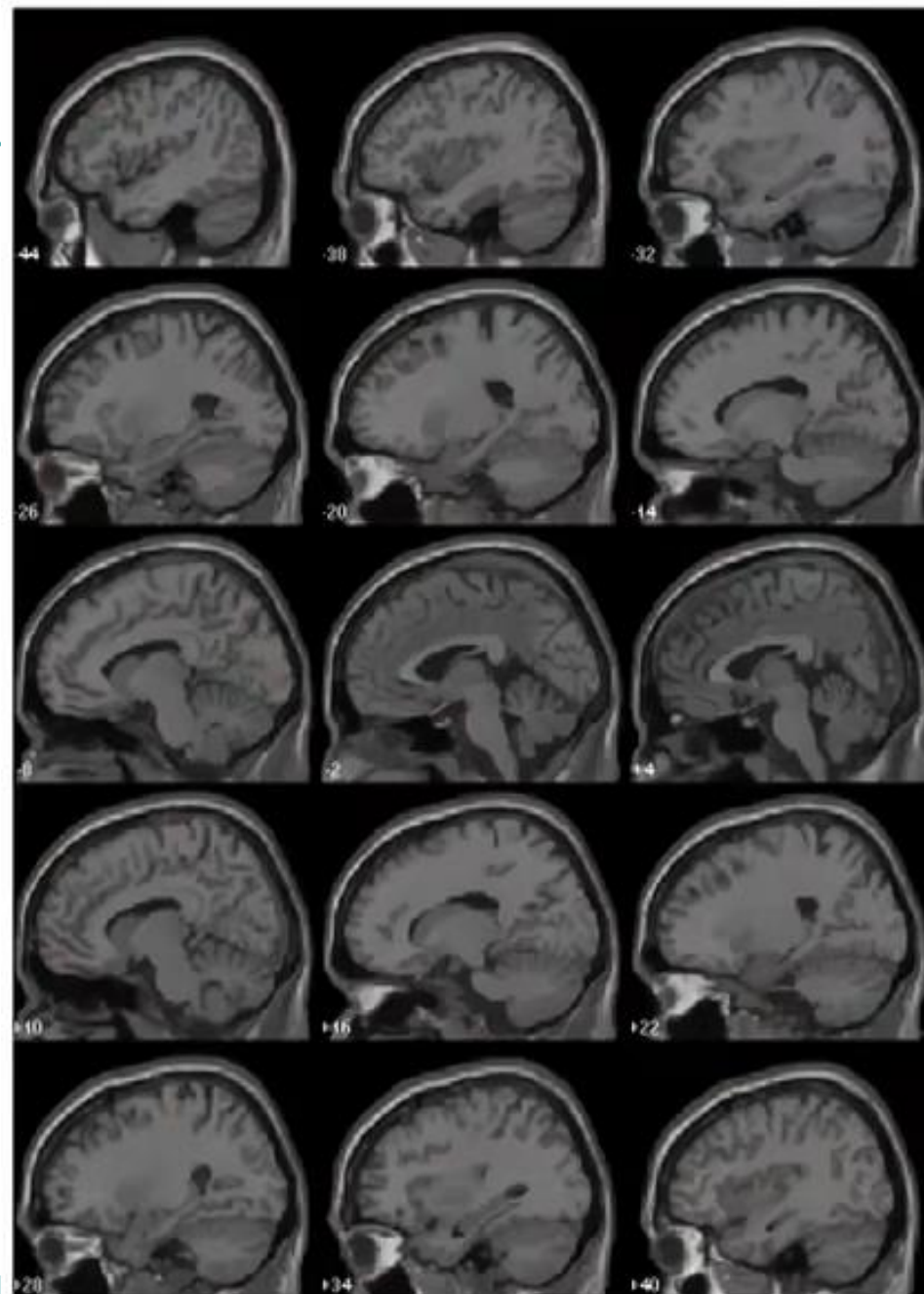
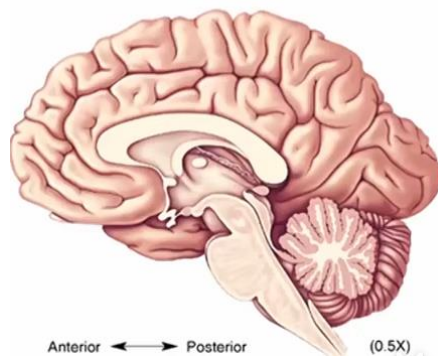


2.1 大脑的神经解剖

解剖参考系(*anatomical references*)

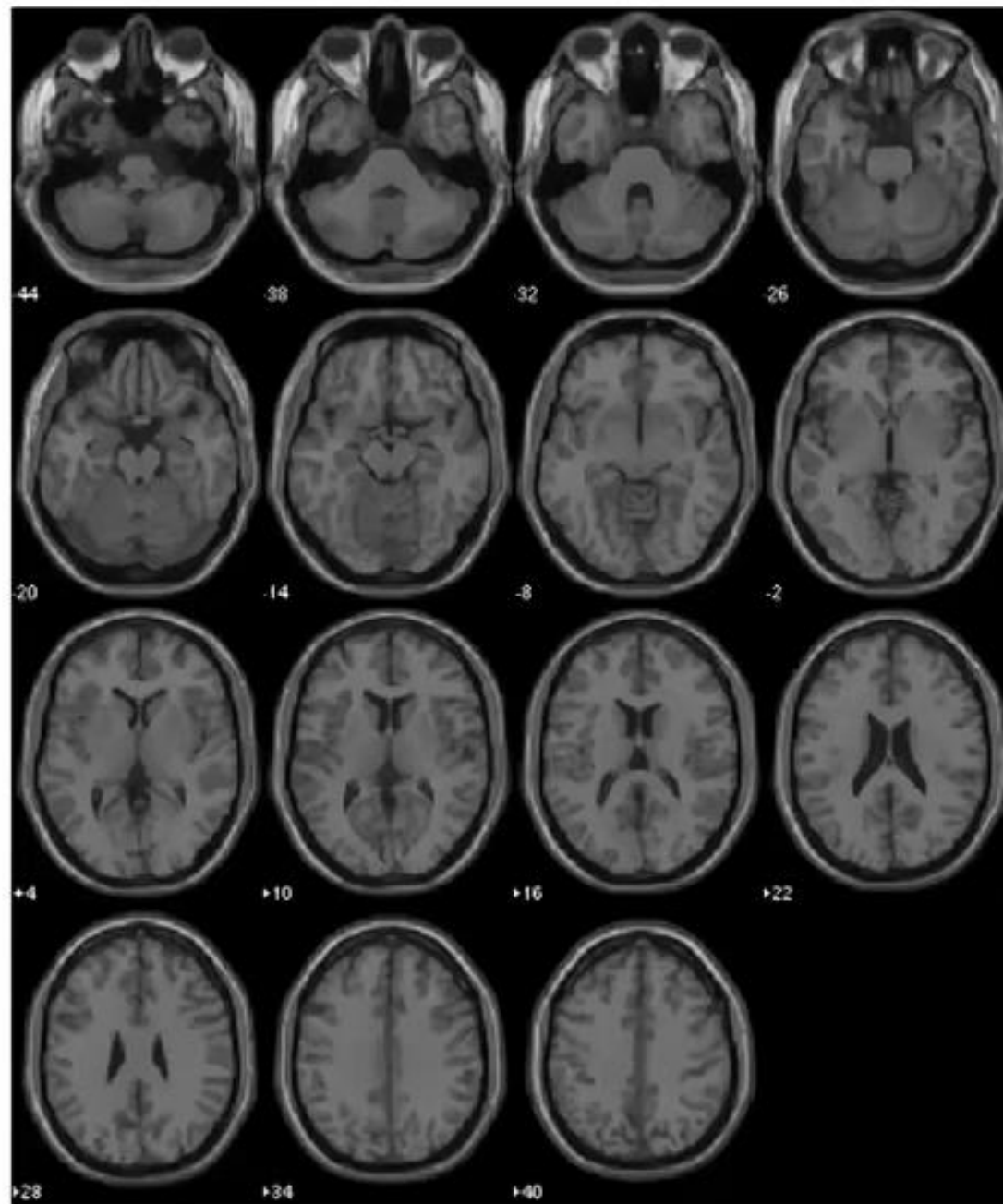
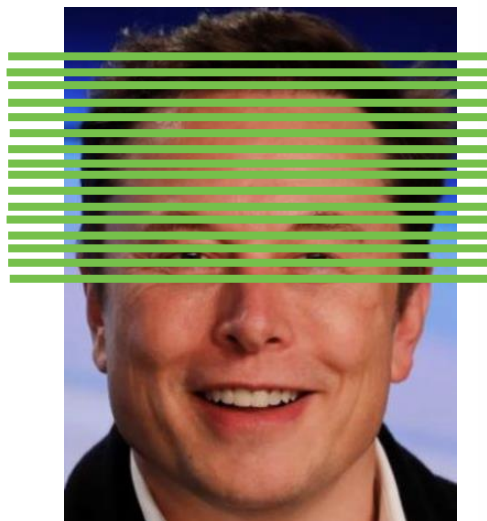
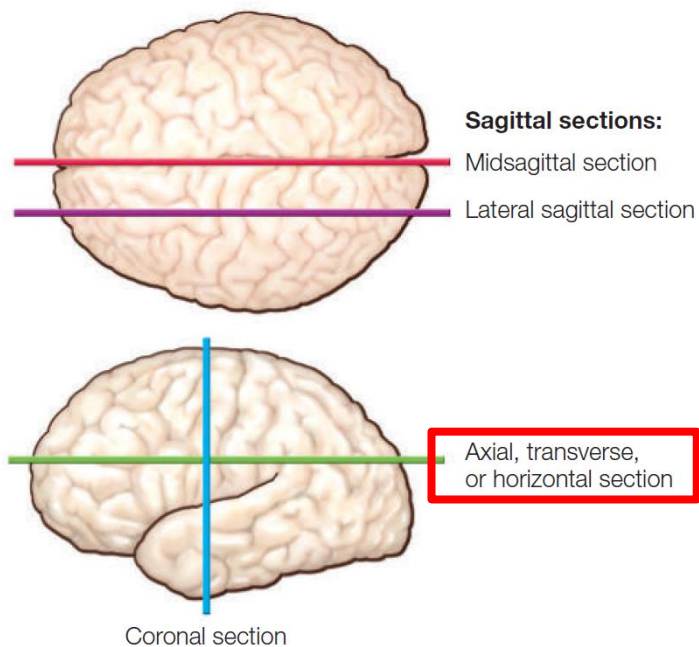


Medial view



2.1 大脑的神经解剖

解剖参考系(*anatomical references*)



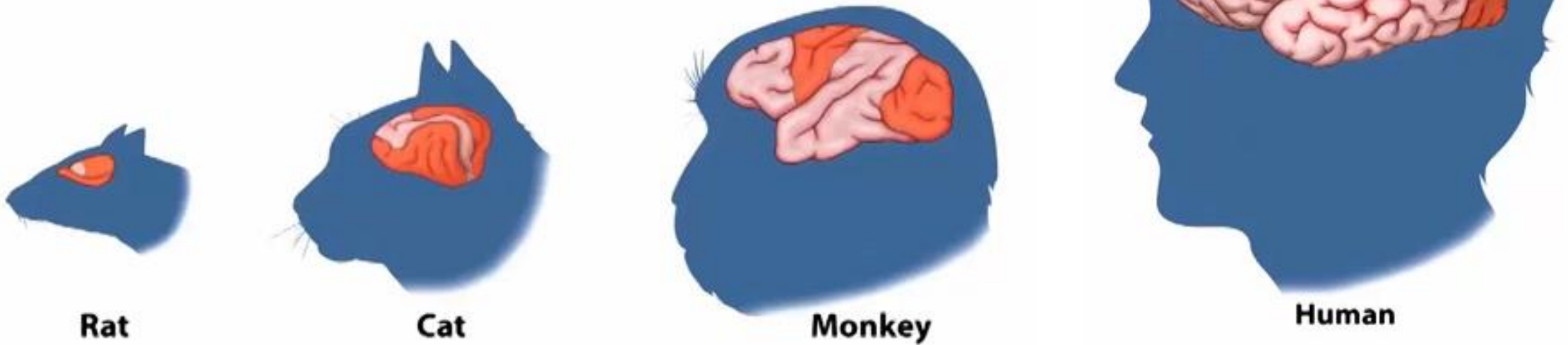
2.1 大脑的神经解剖(*Neuroanatomy of the brain*)

2.2 大脑皮质功能(*cerebral cortex functions*)

2. 2大脑皮质功能

哺乳动物进化发展(*mammalian evolutionary development*)

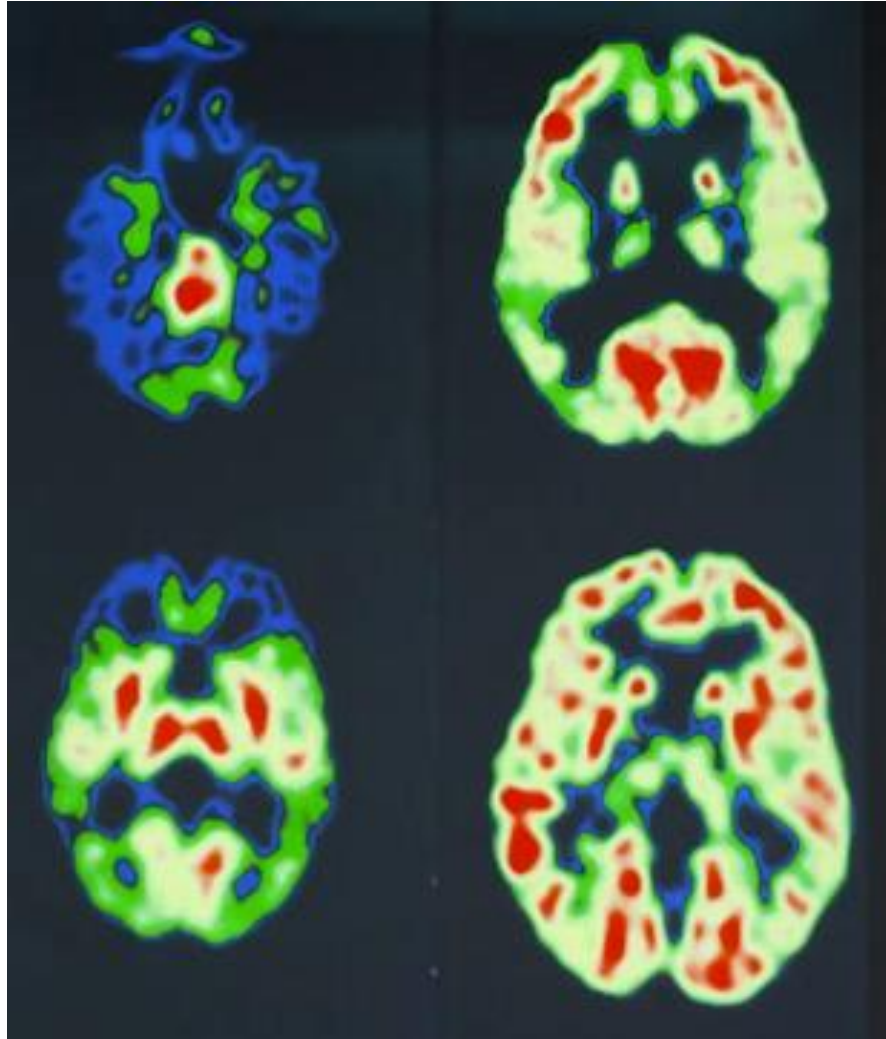
- 感觉/运动皮质(*sensory/motor cortex*)
- 联络皮质(*association cortex*)



2. 2大脑皮质功能

哺乳动物进化发展(*mammalian evolutionary development*)

一个月



六个月

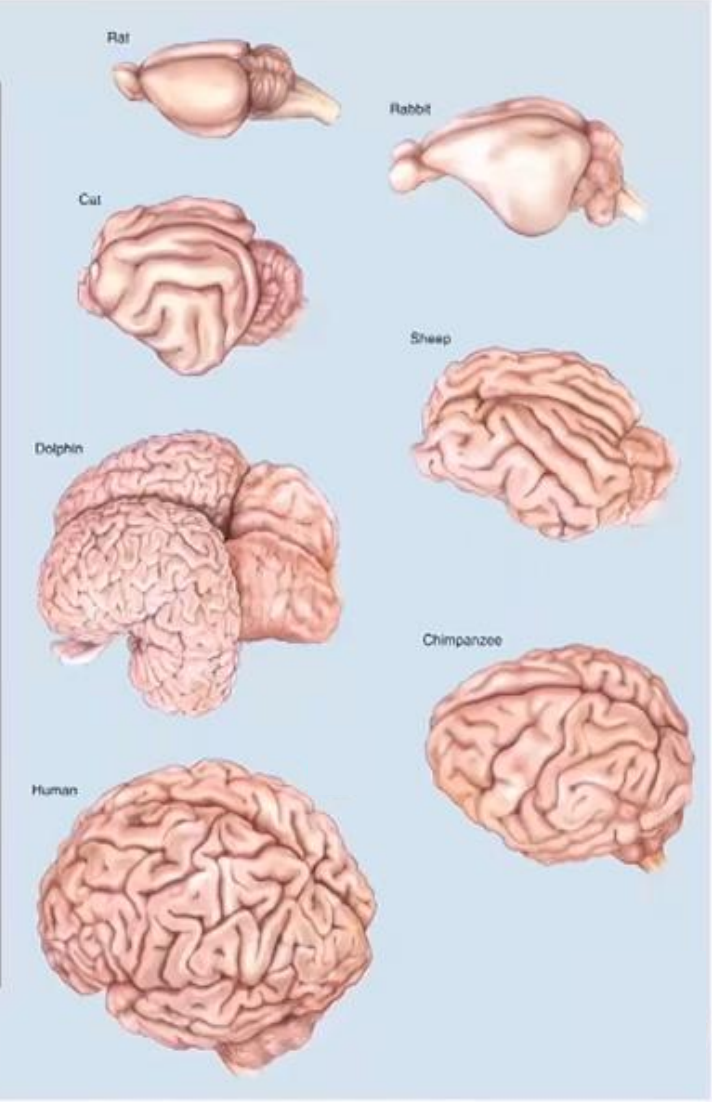
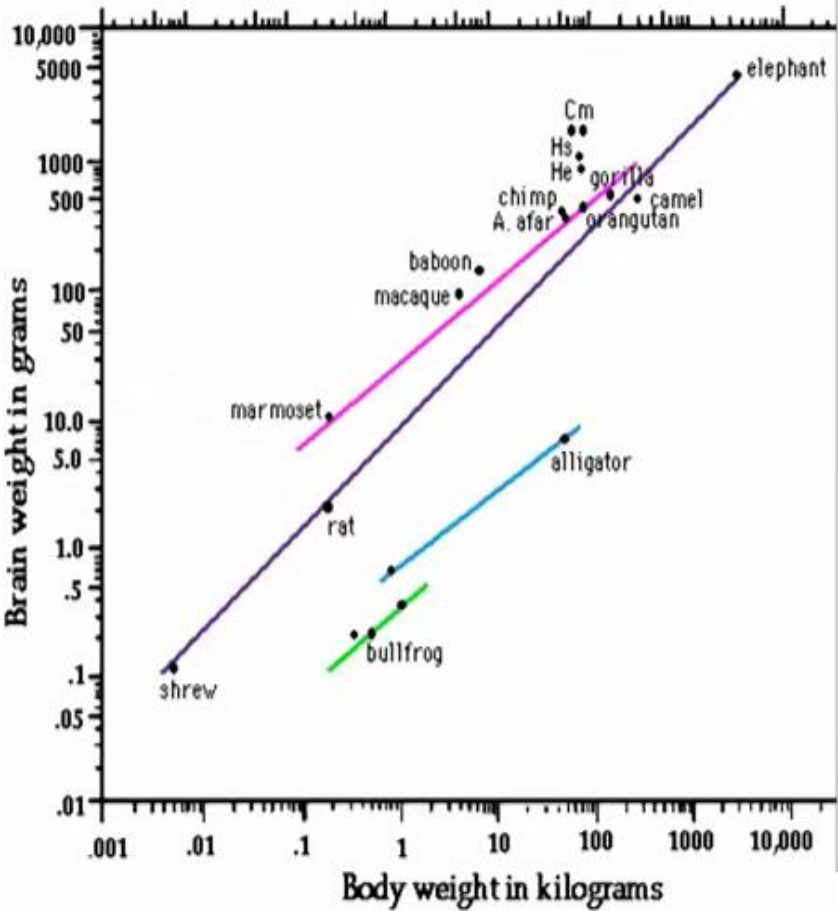
两个月

十个月

2. 2大脑皮质功能

哺乳动物进化发展(*mammalian evolutionary development*)

大脑越大越聪明?
皱褶越多越聪明?



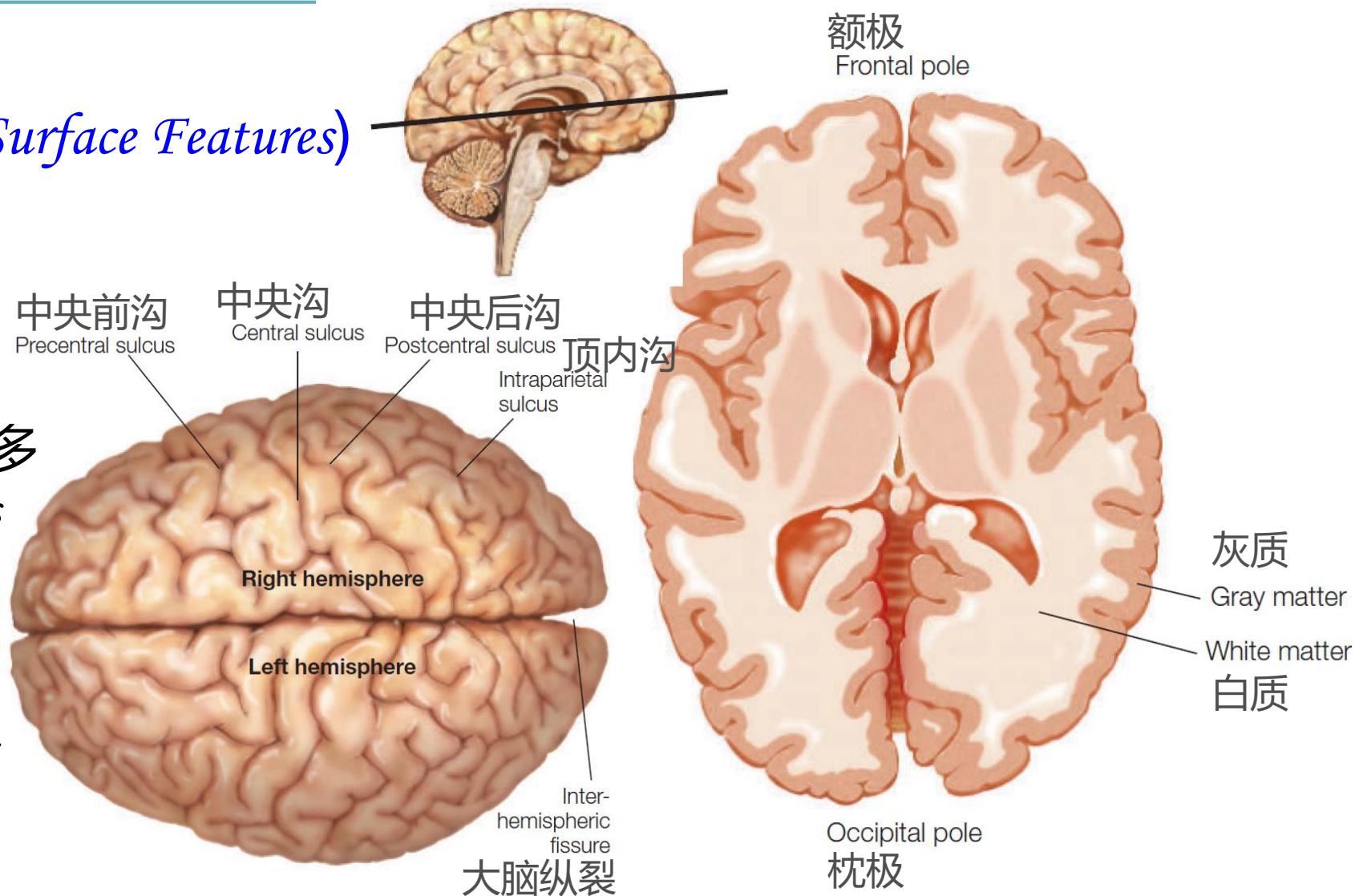
Copyright © 2007 Wolters Kluwer Health | Lippincott Williams & Wilkins

2. 2大脑皮质功能

解剖学区区

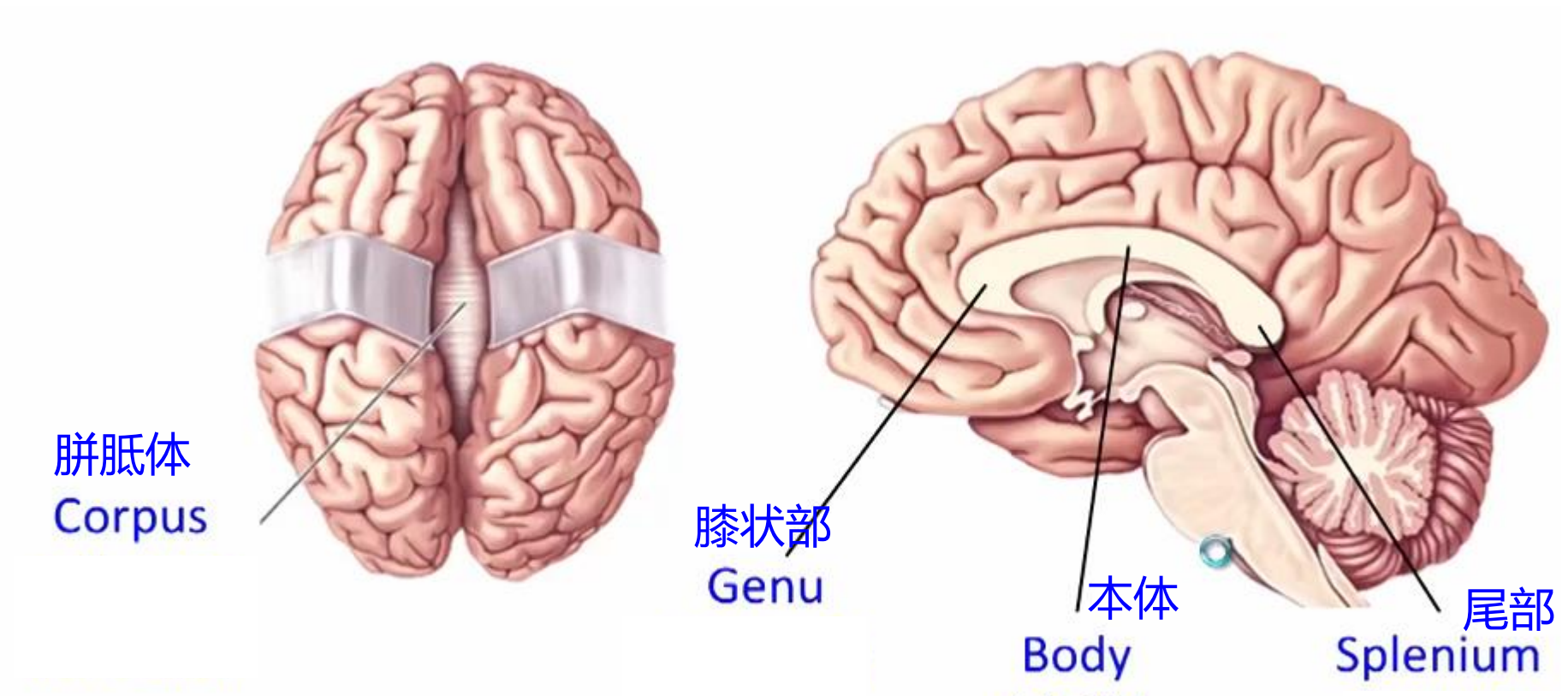
(Dividing the Cortex by Surface Features)

- 2个半球 (2 hemispheres)
- 许多皱褶: 脑回与脑沟
(many folds: gyri and sulci)
- 皮质层3mm厚, 聚集了很多
神经元 (3mm sheets of neurons
sitting atop core structures)
- 灰质 (神经元细胞体) 和
白质 (轴突) (gray
matter(neuronal cell bodies) and
white matter(axons))



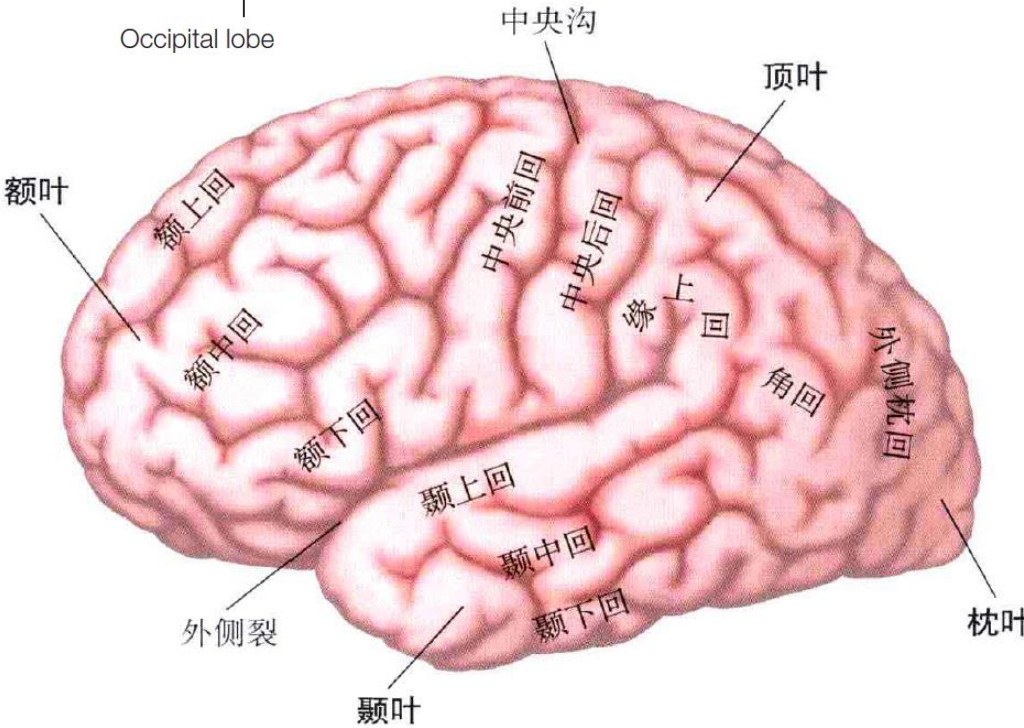
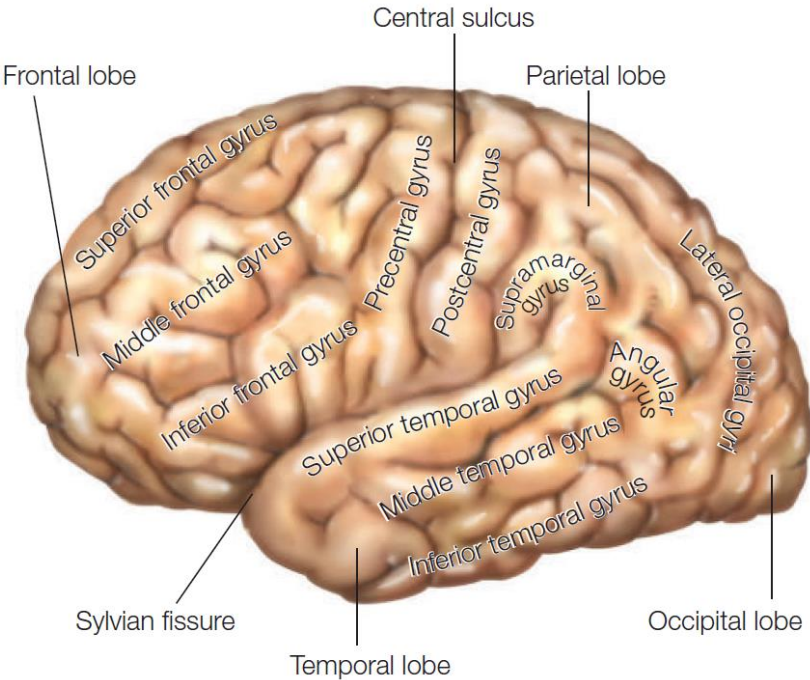
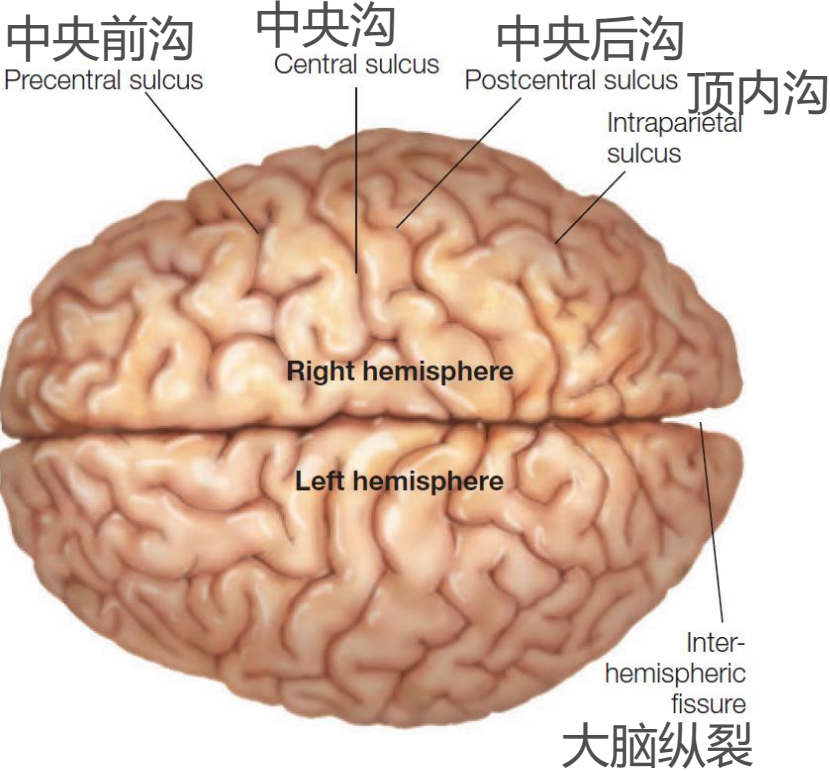
2. 2大脑皮质功能

解剖学区区 (*Dividing the Cortex by Surface Features*)



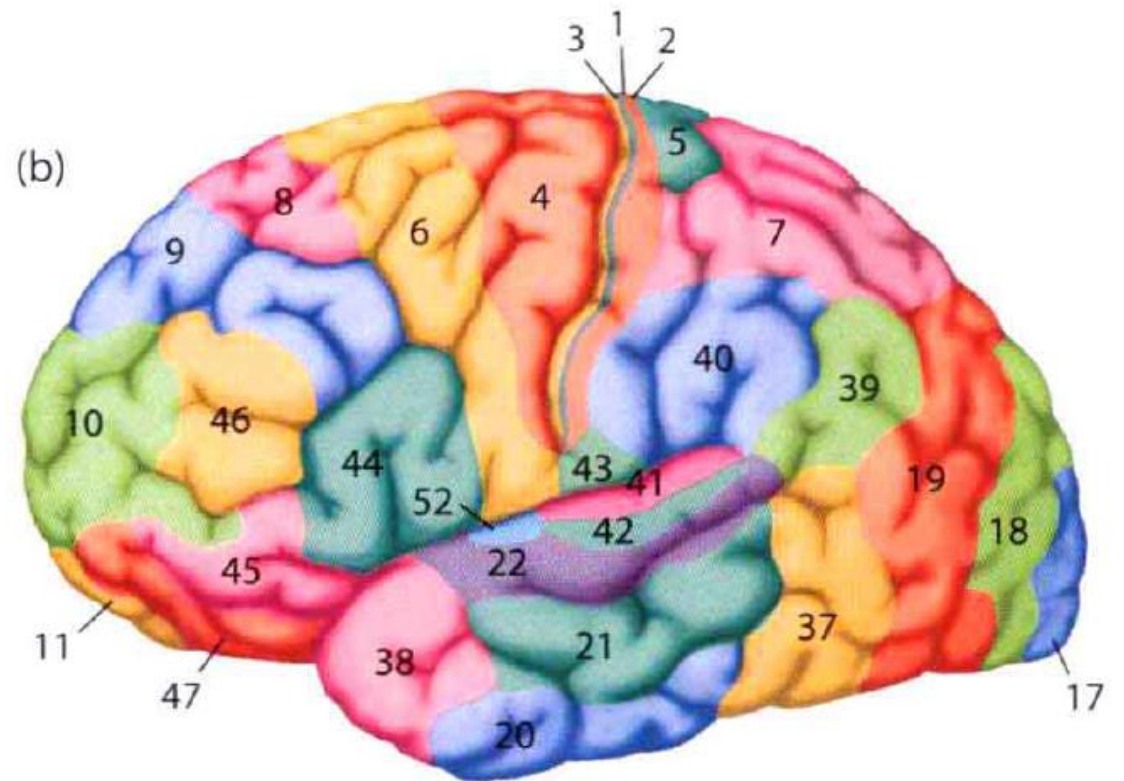
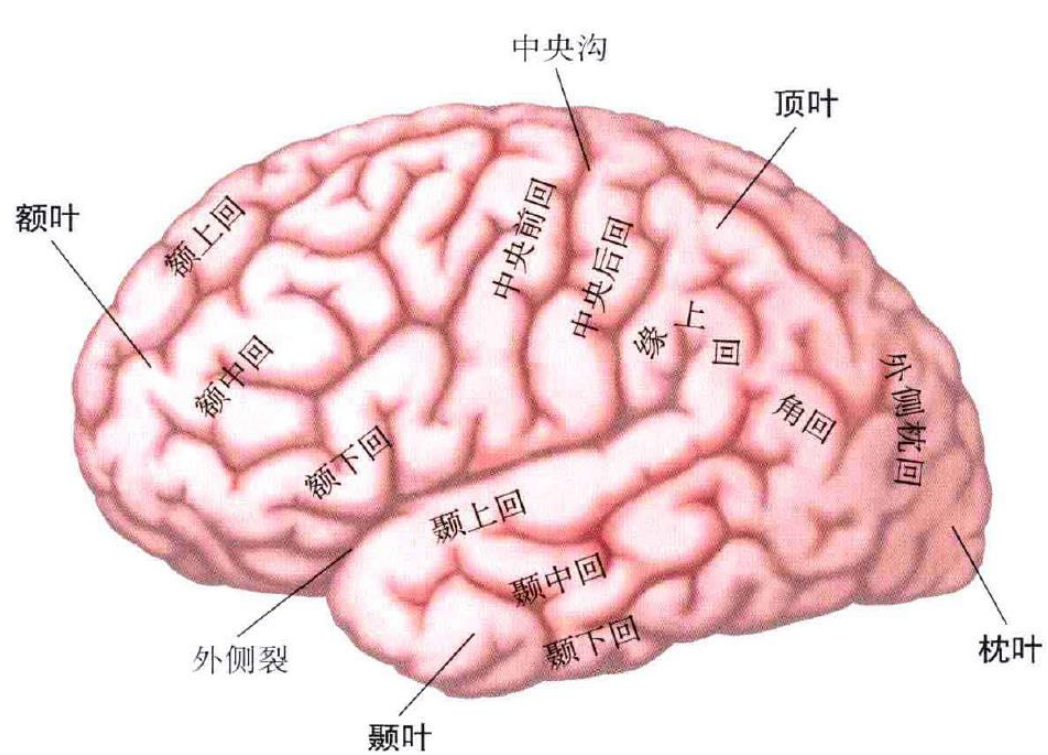
2. 2大脑皮质功能

解剖学分区



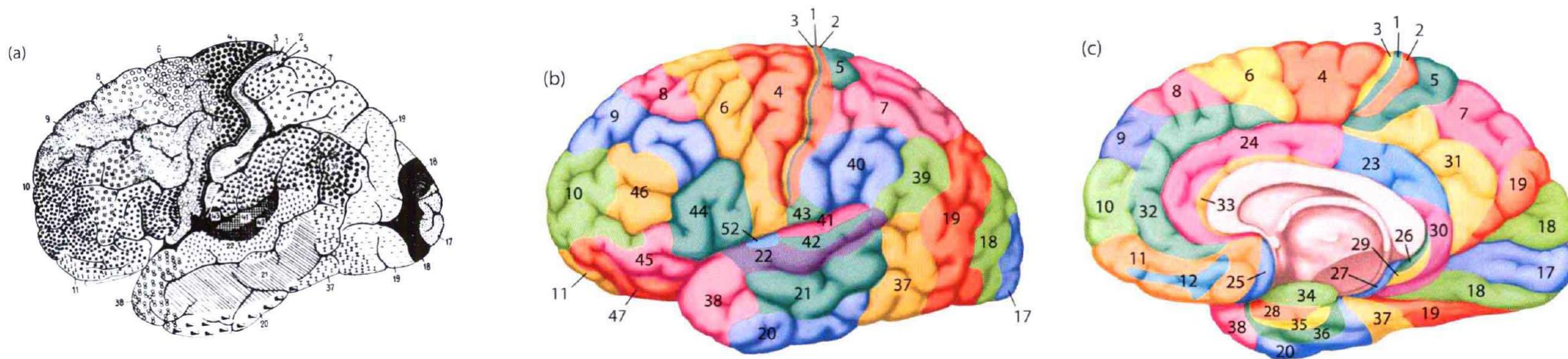
2. 2大脑皮质功能

细胞结构学分区 (*Dividing the Cortex by Cell Architecture*)



2. 2大脑皮质功能

细胞结构学分区(*Dividing the Cortex by Cell Architecture*)



2. 2大脑皮质功能

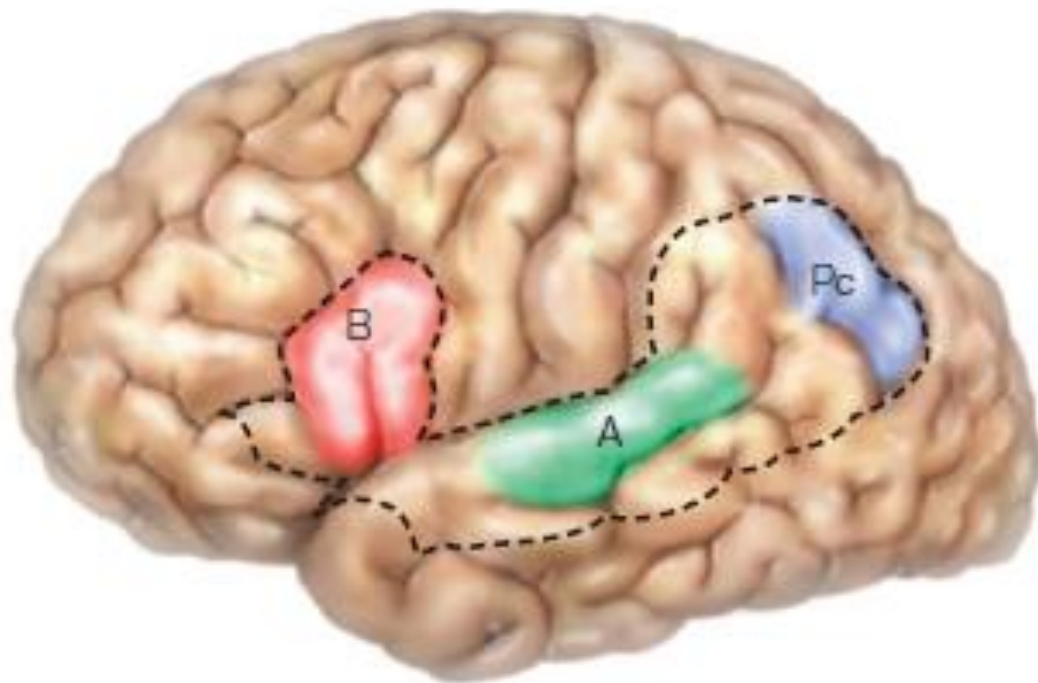


FIGURE 1.9

(a) Paul Broca (1824–1880). (b) The connections between the speech centers, from Carl Wernicke's 1876 article on aphasia. A = Wernicke's sensory speech center; B = Broca's area for speech; Pc = Wernicke's area concerned with language comprehension and meaning.

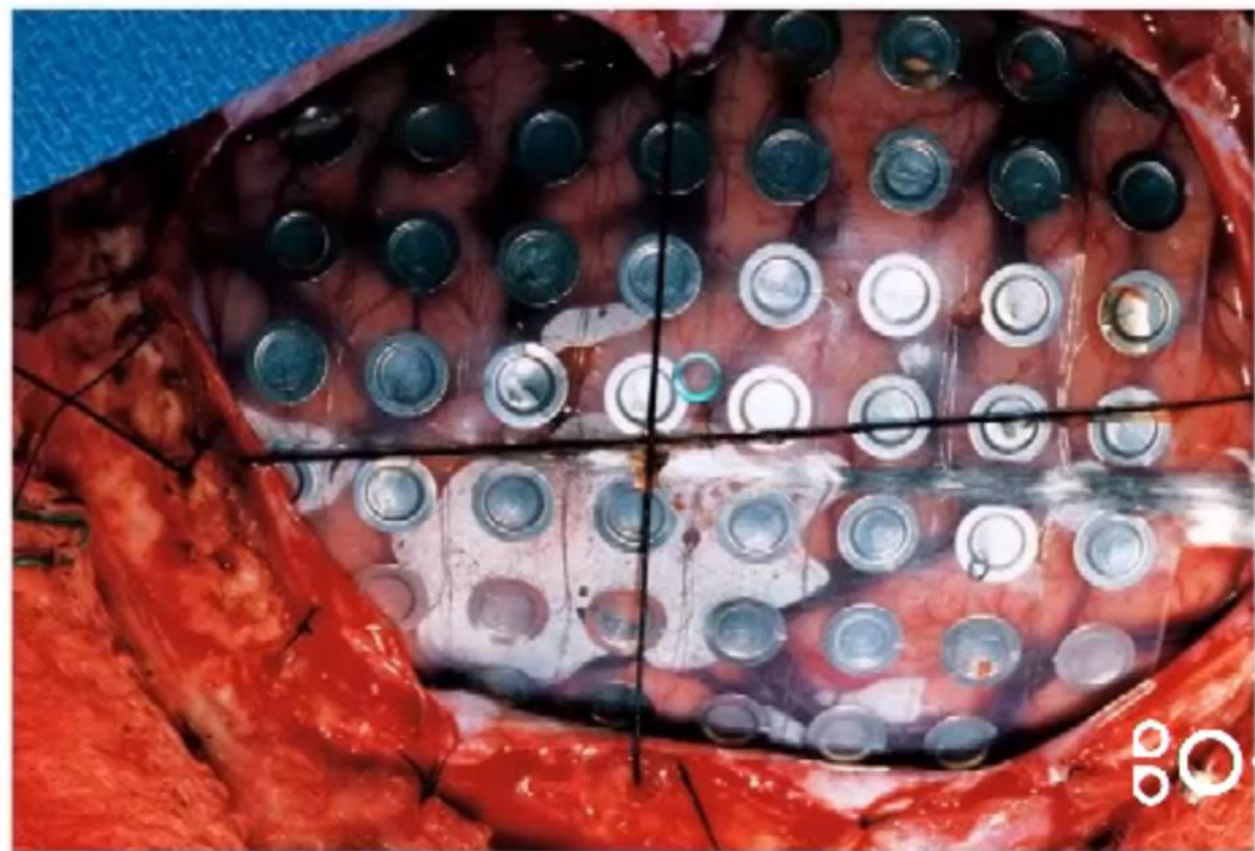
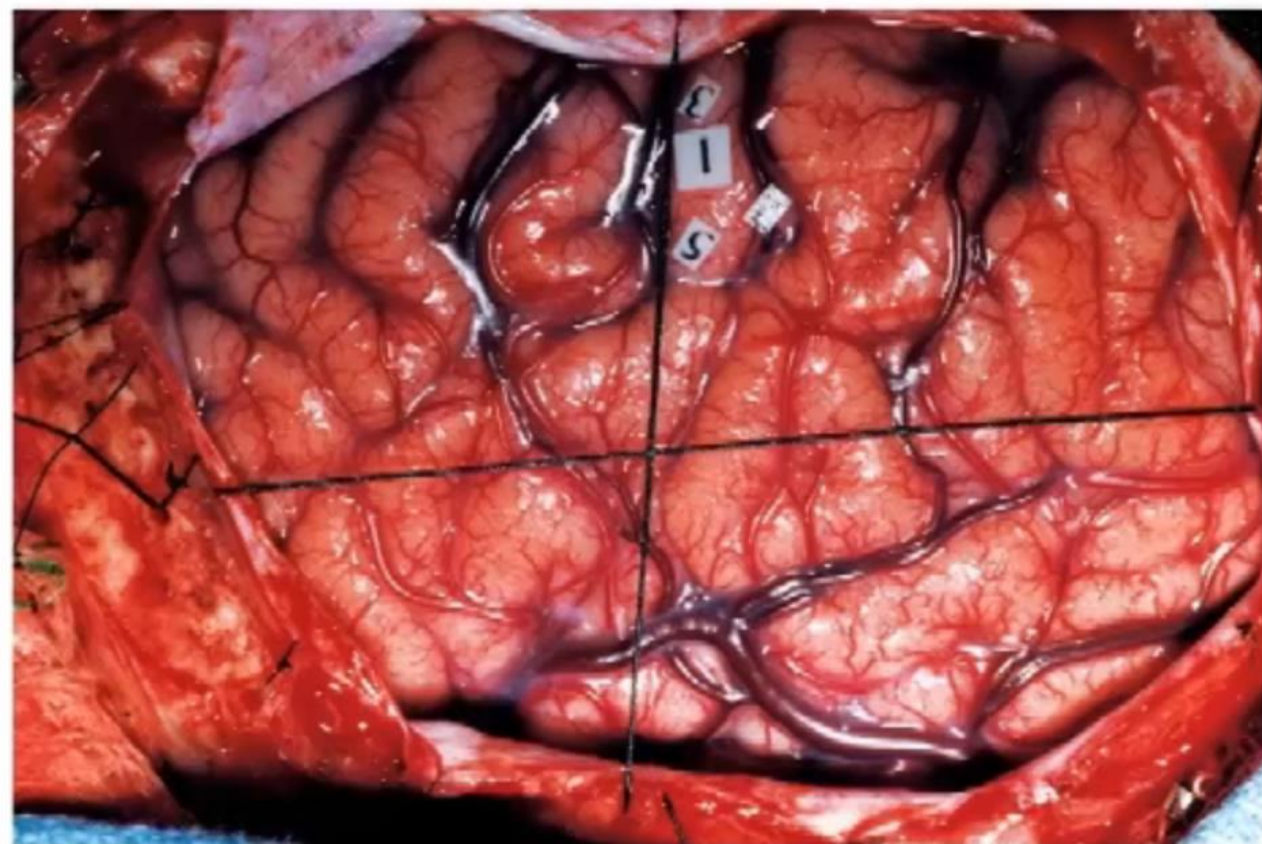
A: Wernicke感觉语言中枢

B: Broca语言区

Pc: 与语言理解 and 意义相关的Wernicke区

2. 2大脑皮质功能

大脑皮质功能分区(Dividing the Cortex by Function)

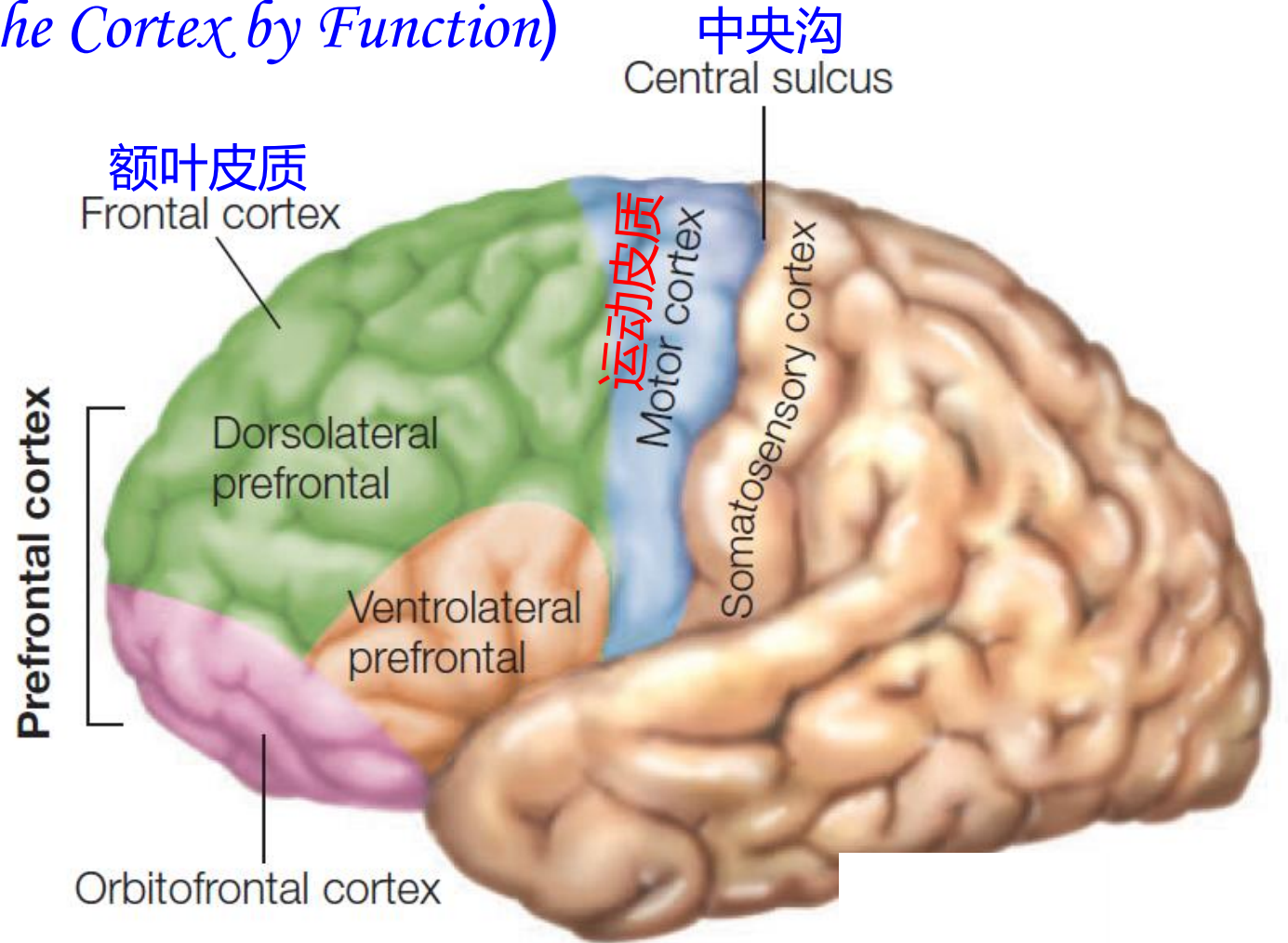


2. 2大脑皮质功能

大脑皮质功能分区 (*Dividing the Cortex by Function*)

额叶皮质

- 运动皮质
富含运动神经元,
下行与脊椎相连



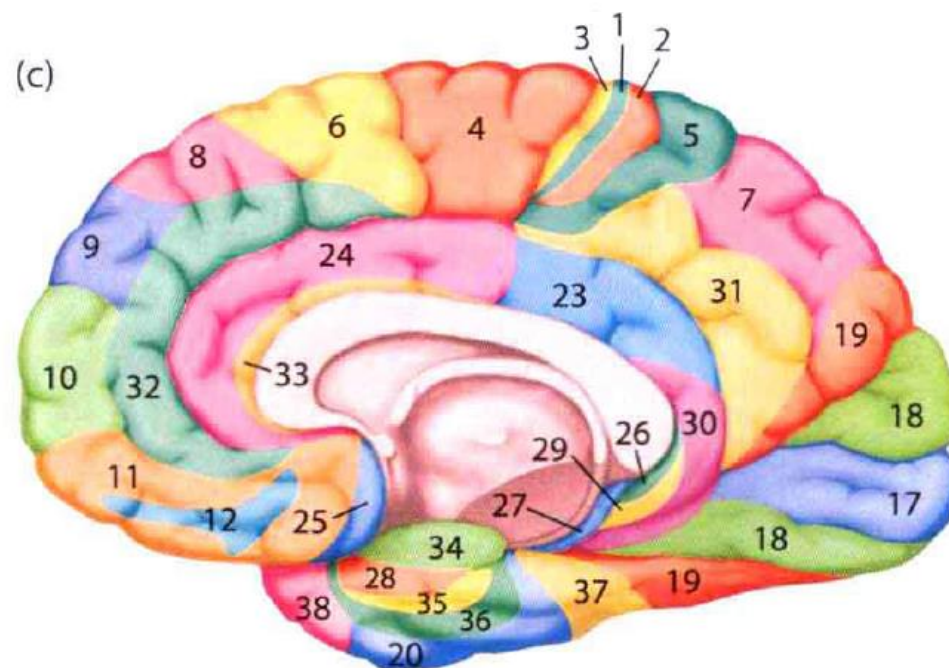
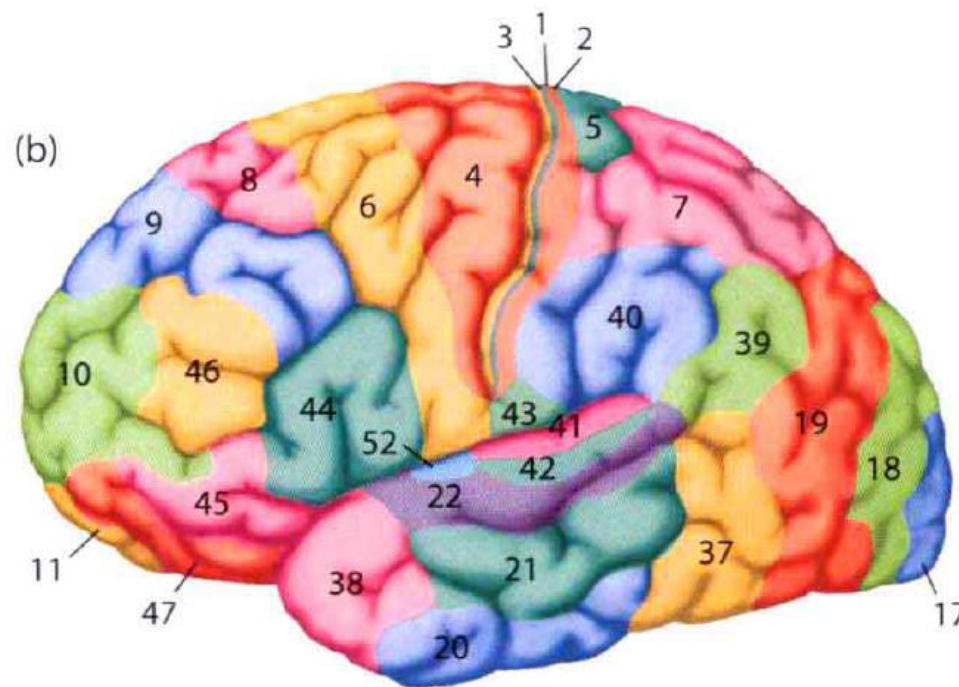
2. 2大脑皮质功能

大脑皮质功能分区(*Dividing the* (

额叶皮质

➤ 运动皮质

富含运动神经元,
下行与脊椎相连



2. 2大脑皮质功能

大脑皮质功能分区 (*Dividing the Cortex by Function*)

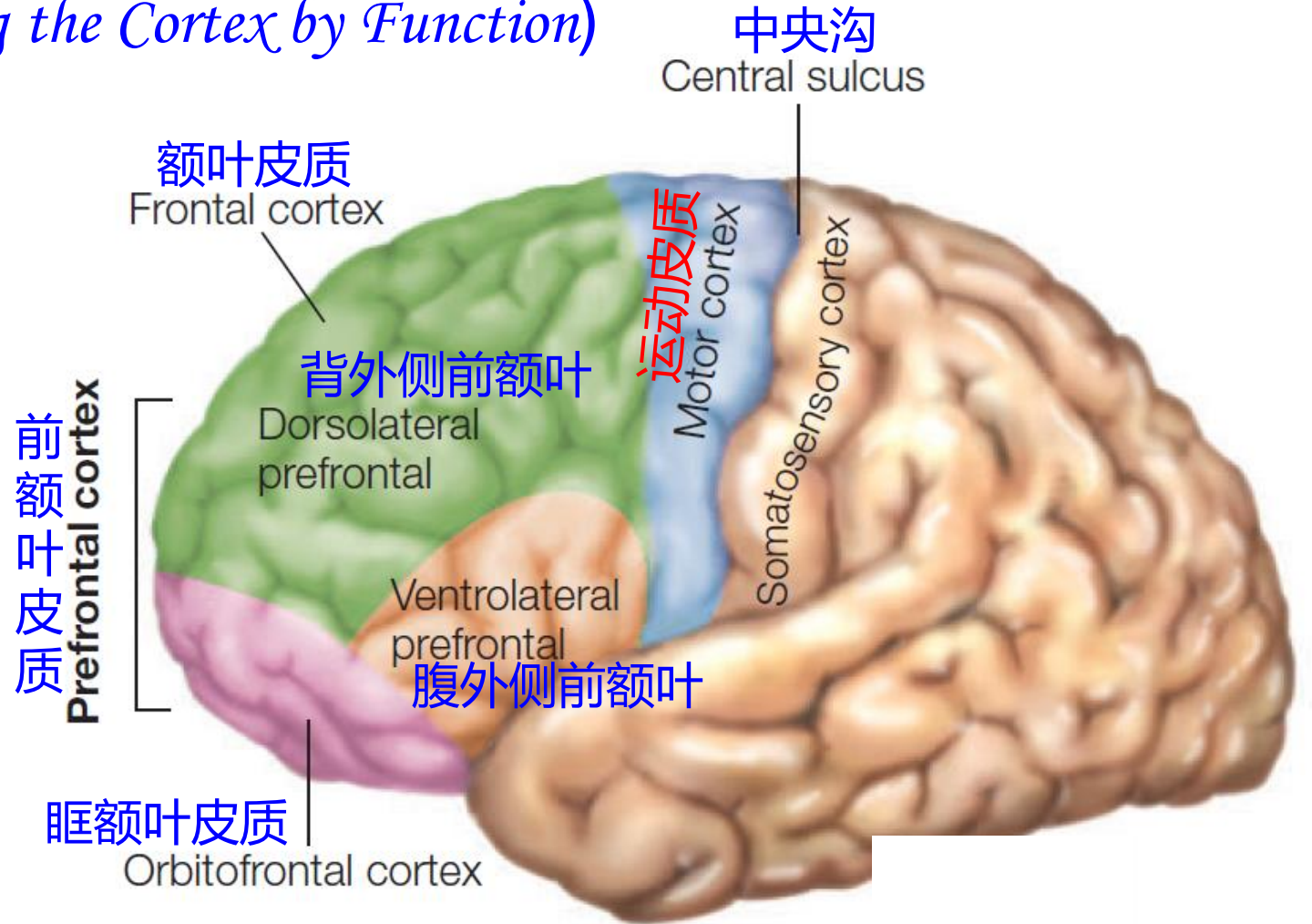
额叶皮质

➤ 运动皮质

富含运动神经元，
下行与脊髓相连

➤ 前额叶皮质

完成计划、执行、
语言、情感和其
他认知加工



2. 2大脑皮质功能

大脑皮质功能分区(*Dividing the Cortex by Function*)

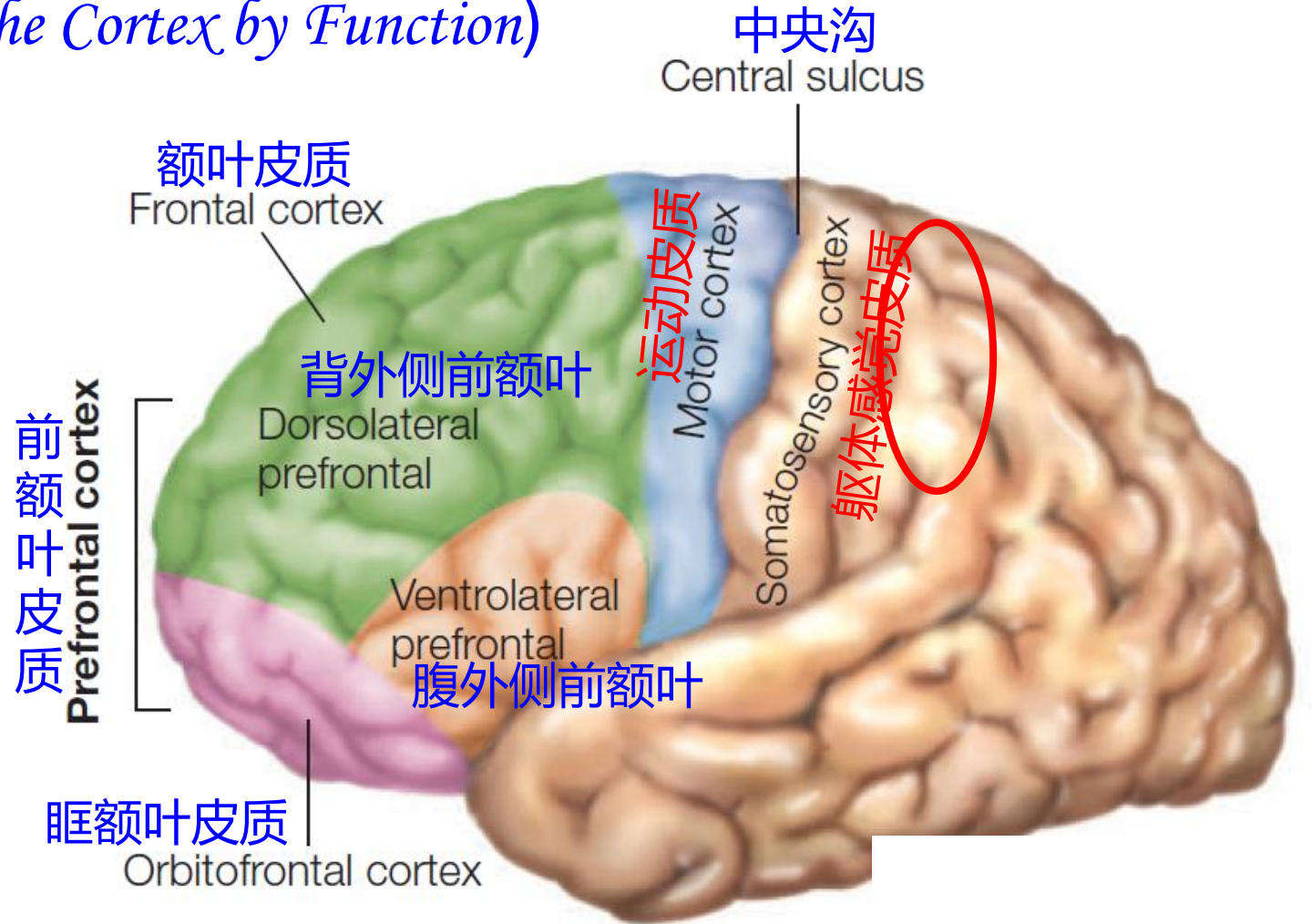
顶叶中的躯体感觉区

➤ 躯体感觉皮质

包括触觉、痛觉、
温度感觉、嗅觉、
本体感觉等

➤ 后顶叶(*posterior parietal cortex*)

包括注意、空间
感、计算能力等

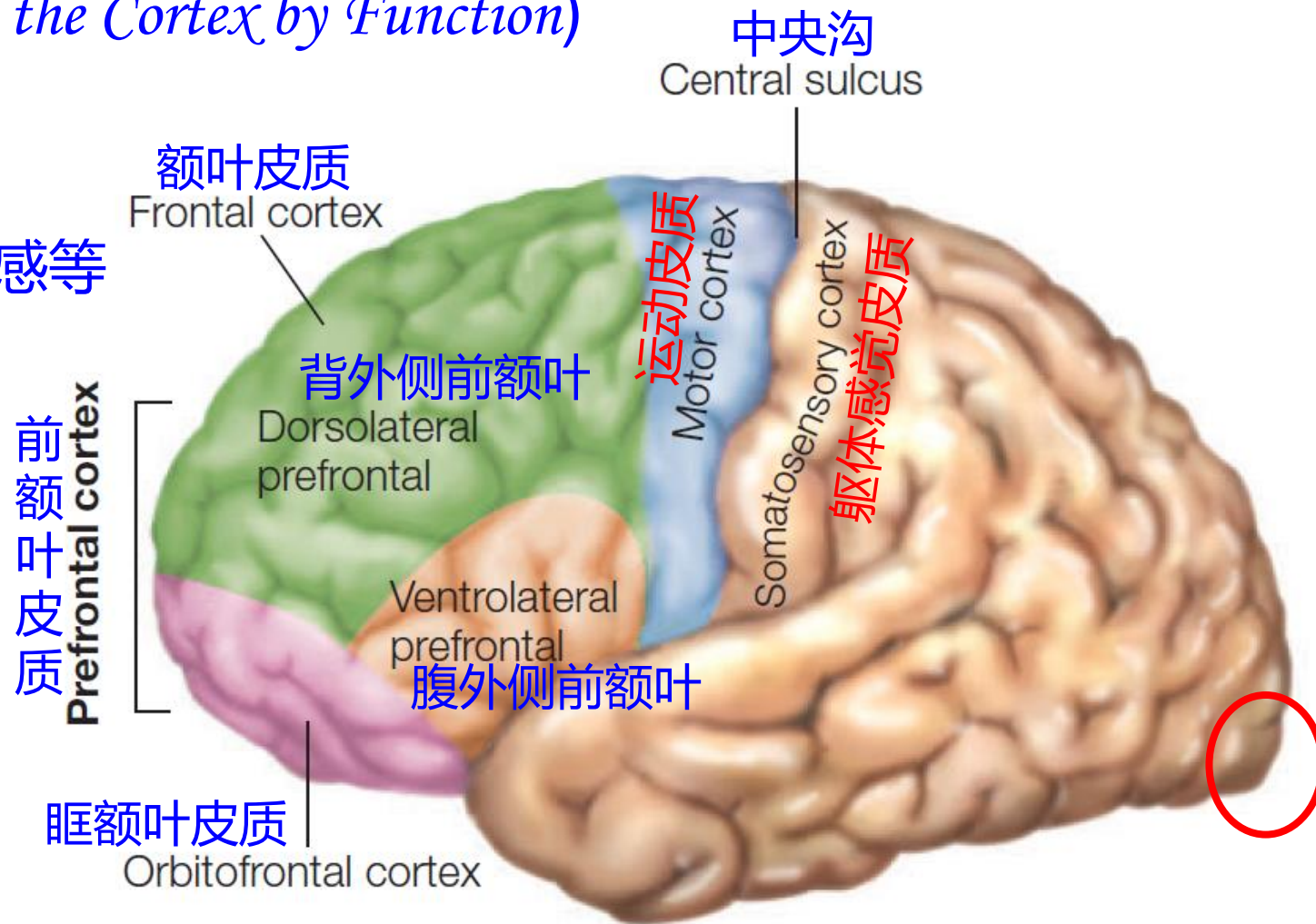
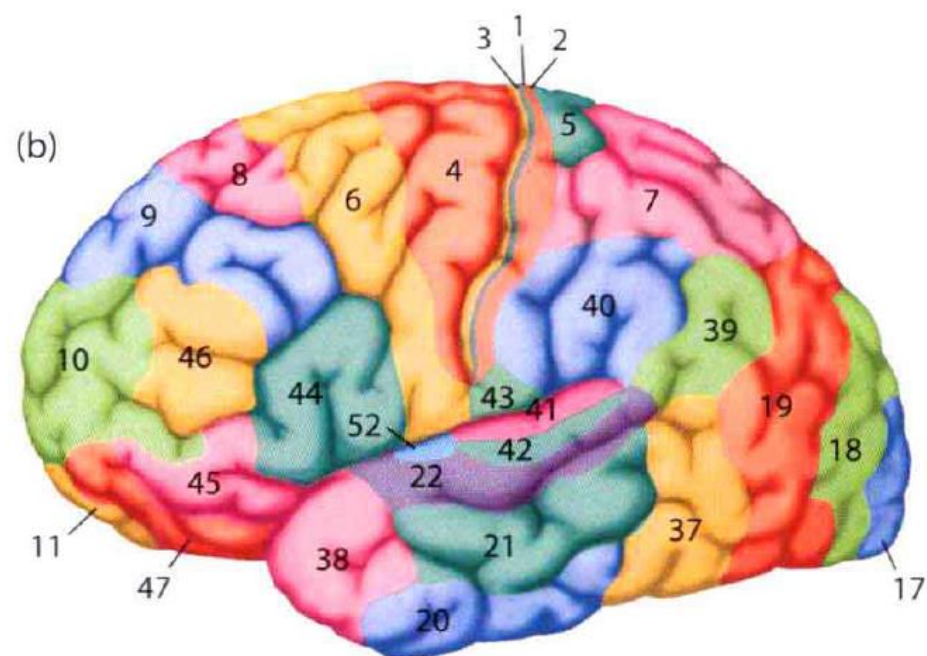


2. 2大脑皮质功能

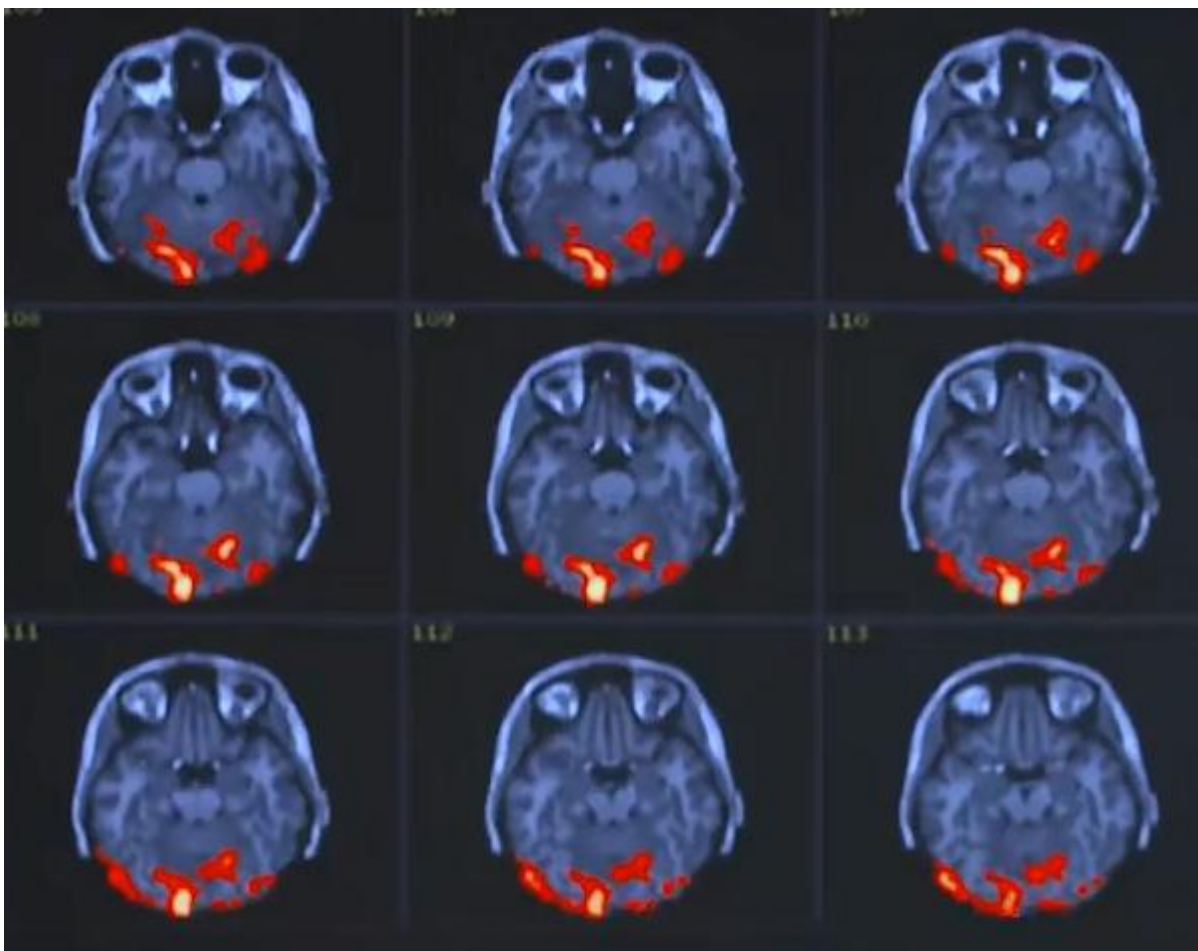
大脑皮质功能分区 (*Dividing the Cortex by Function*)

枕叶的视觉加工区

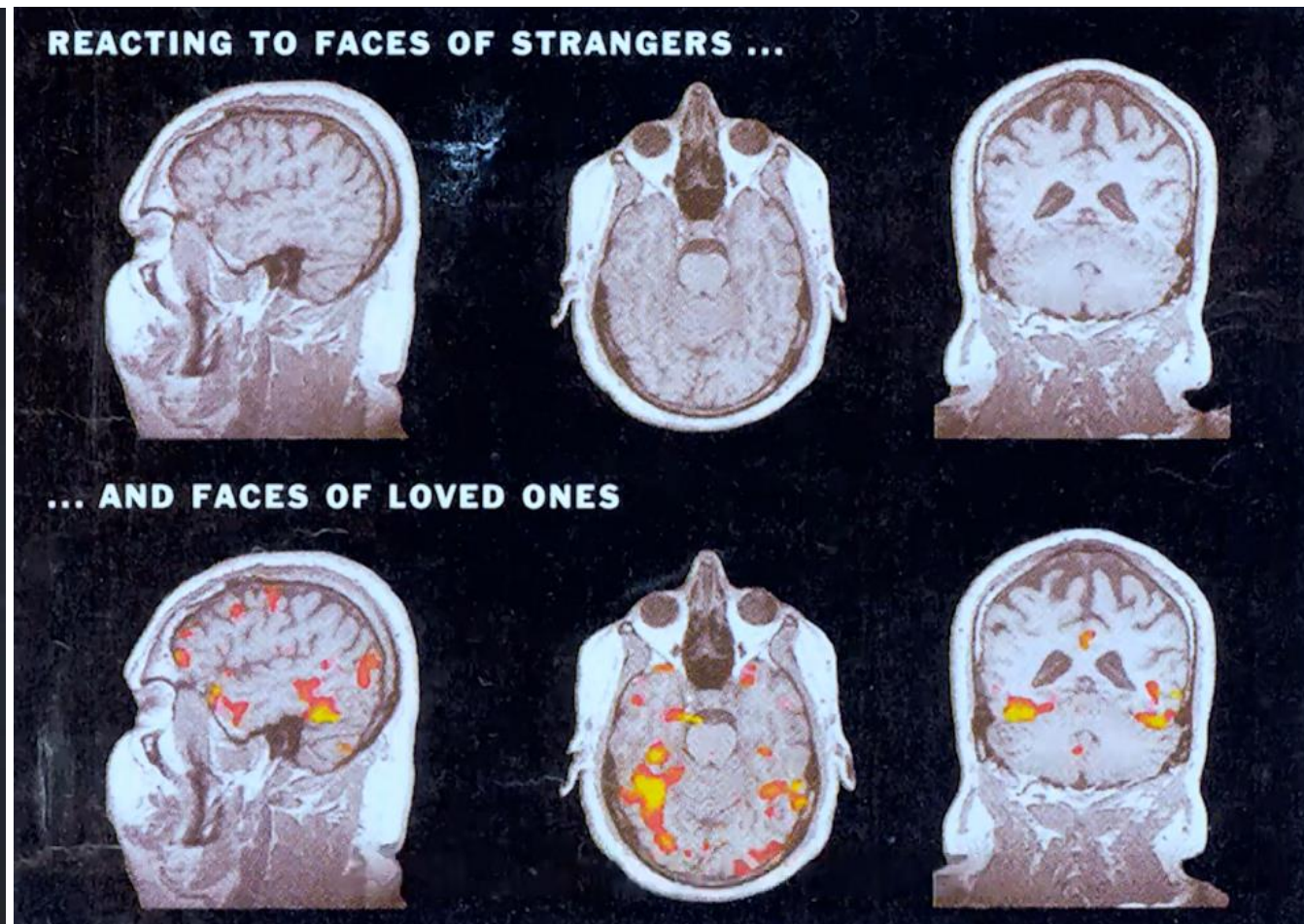
包括颜色、形状、深度、动感等



2. 2大脑皮质功能



只睁眼，不思考的fMRI图



看陌生与熟悉人的脸

2.2 大脑皮质功能

大脑皮质功能分区 (*Dividing the Cortex by*

颞叶的听觉加工区

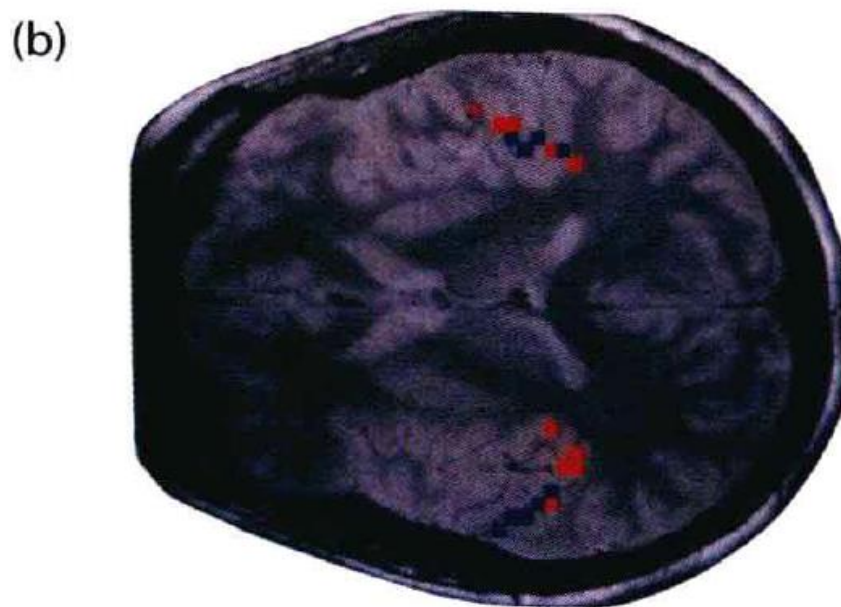
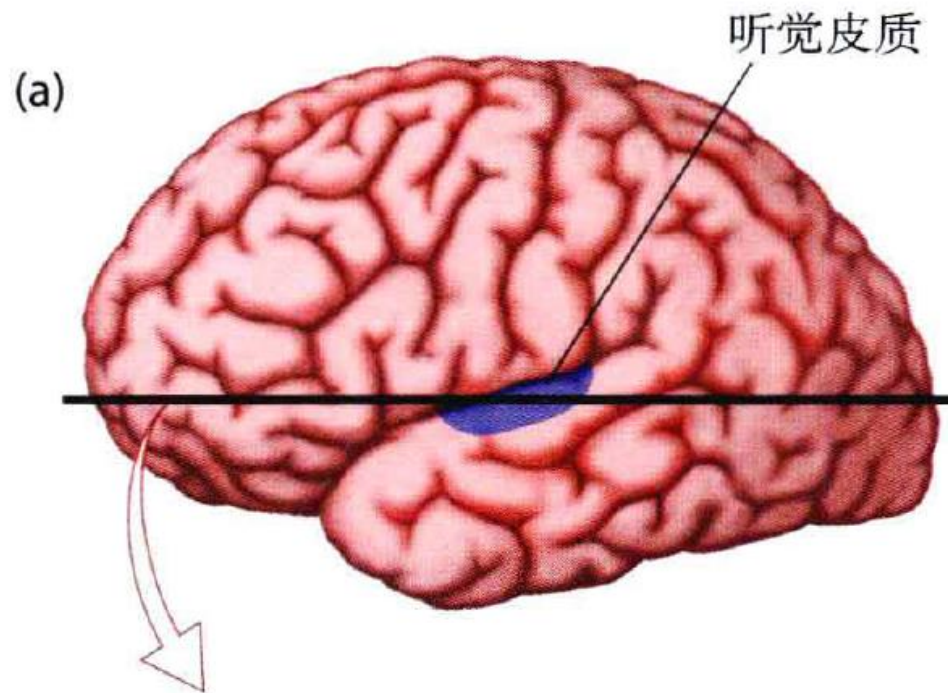


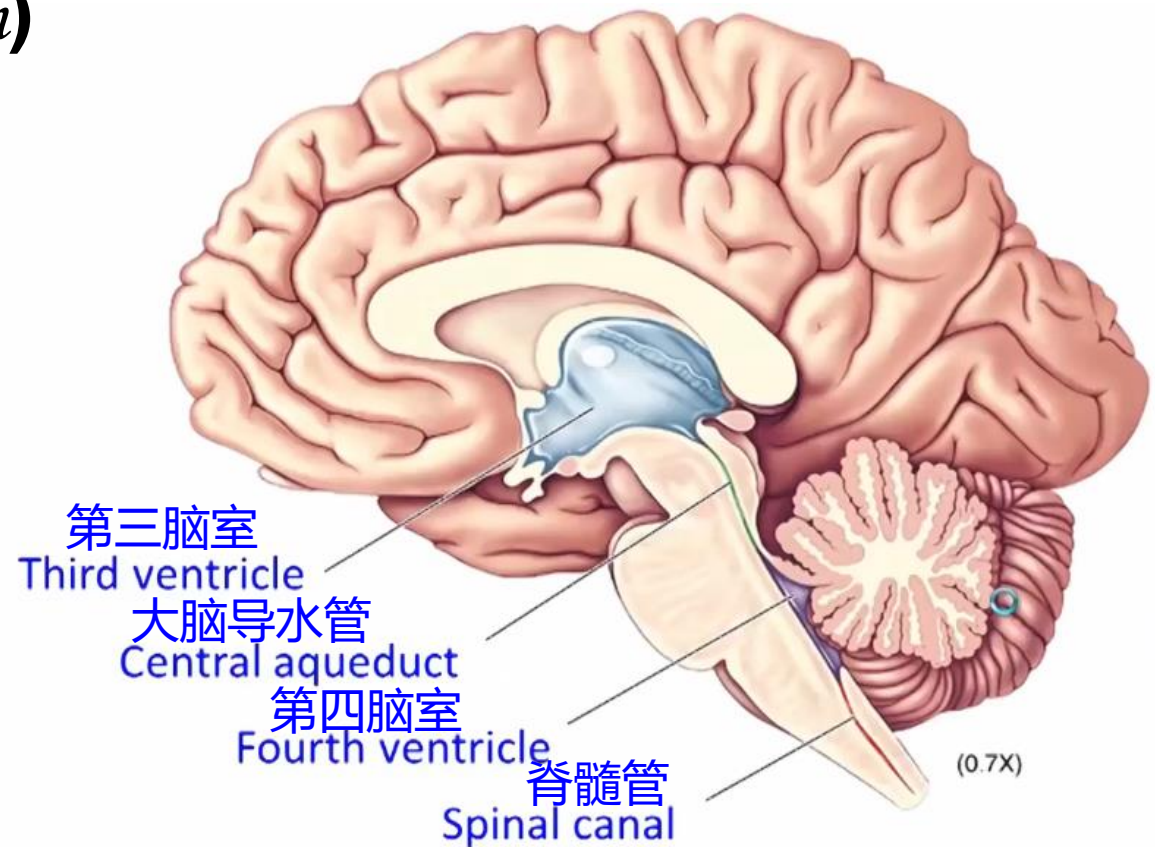
图 3.16 (a) 位于上颞叶的初级听觉皮质。初级听觉皮质以及周围的听觉联合区包含对听觉刺激的表征，呈现为音质定位。(b) 这张磁共振成像水平切面图所呈现的是接收到许多不同频率声音刺激的上颞叶区域，图中显示出神经激活的结果：血流量增加。

2. 2大脑皮质功能

大脑皮质功能分区(*Dividing the Cortex by Function*)

大脑内侧表面(*medial surface of the brain*)

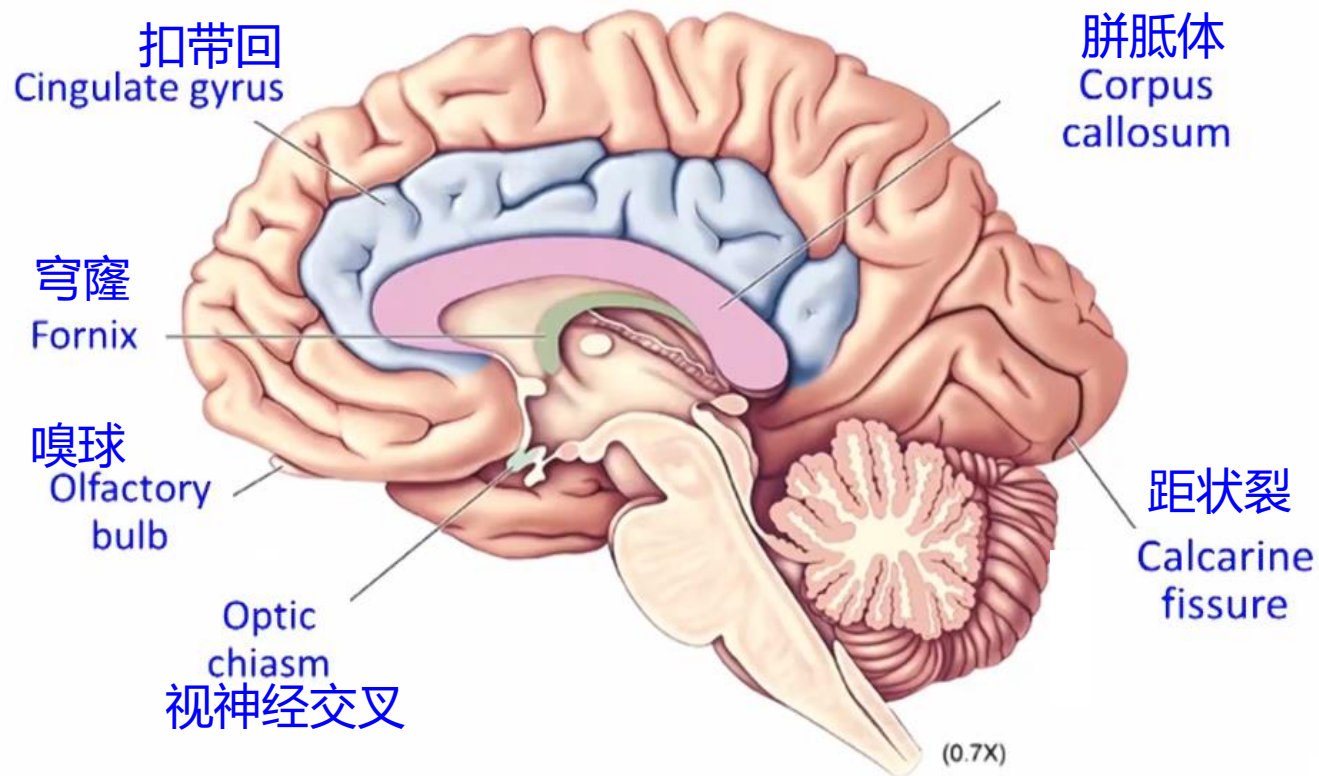
导水管将脑室之间的脑脊液连通



2. 2大脑皮质功能

大脑皮质功能分区(*Dividing the Cortex by Function*)

大脑内侧表面(*medial surface of the brain*)

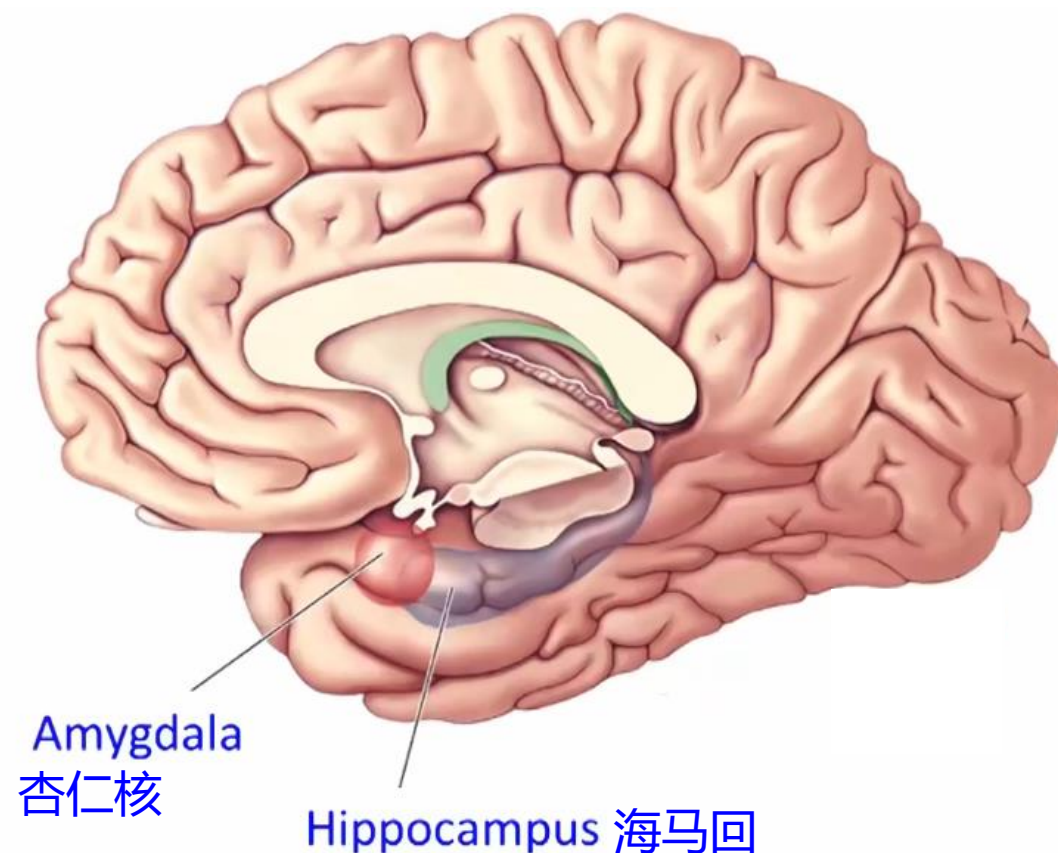


2. 2大脑皮质功能

大脑皮质功能分区(*Dividing the Cortex by Function*)

大脑内侧表面(*medial surface of the brain*)

- 杏仁核与人的情绪处理有关(生气、恐惧。。。)

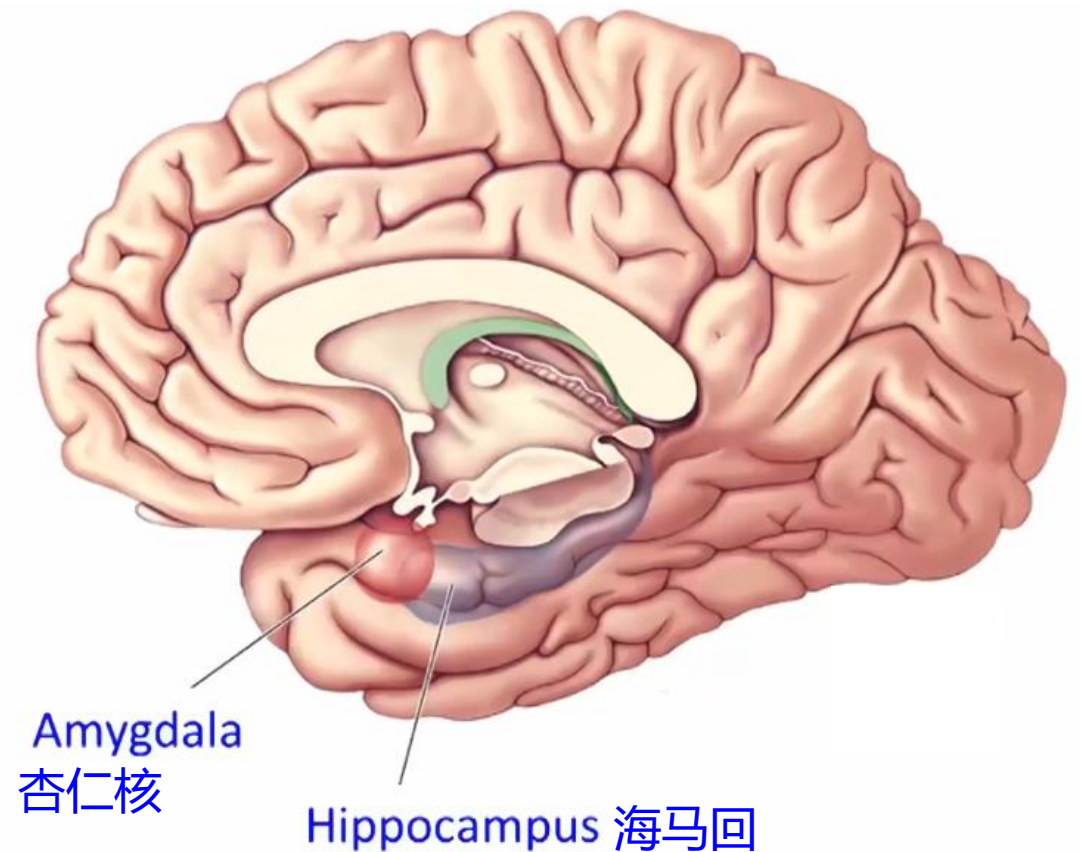


2. 2大脑皮质功能

大脑皮质功能分区(*Dividing the Cortex by Function*)

大脑内侧表面(*medial surface of the brain*)

- 杏仁核与人的情绪处理有关(生气、恐惧。。。)
- 海马回与记忆力形成有关



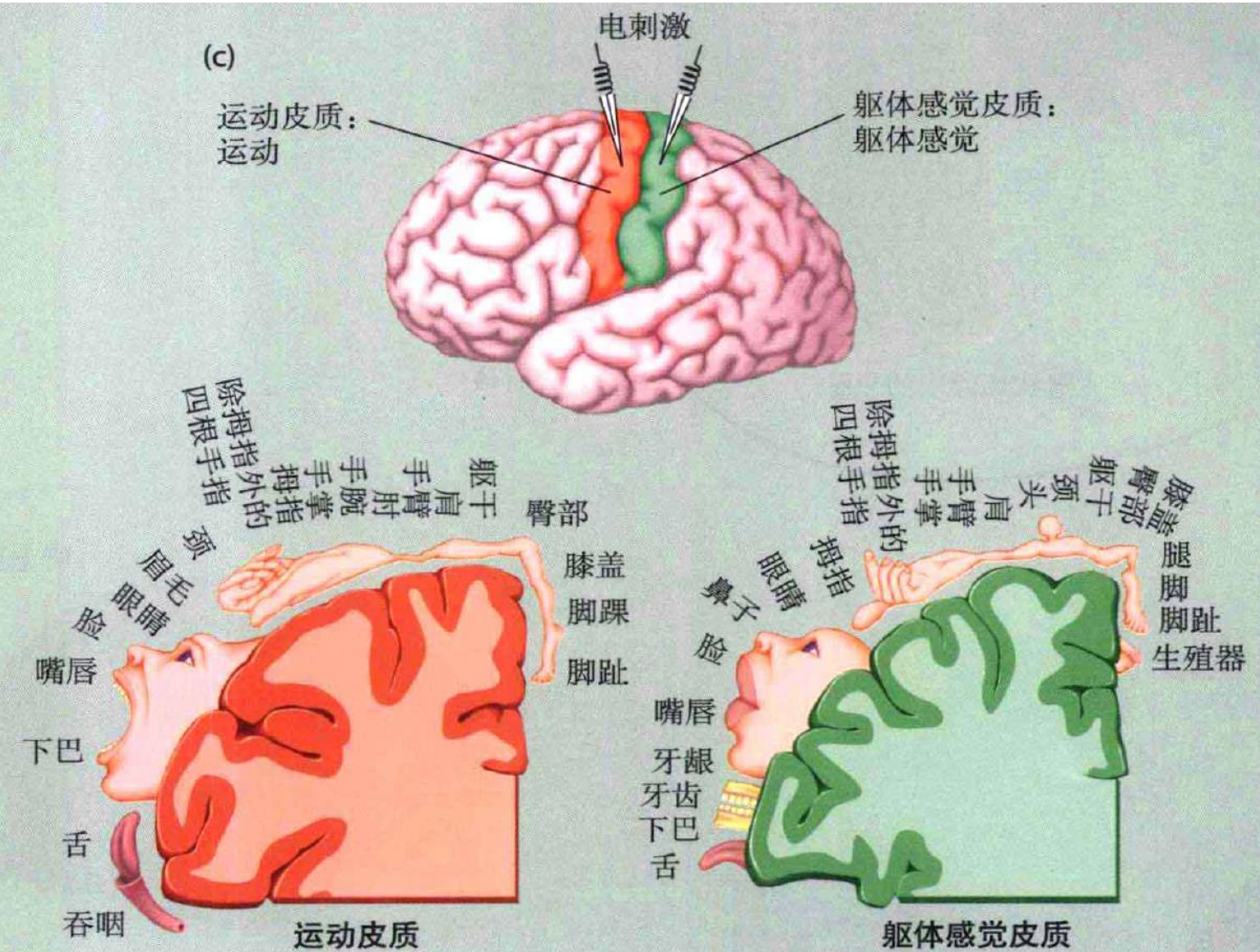
2. 2大脑皮质功能

男女大脑差异

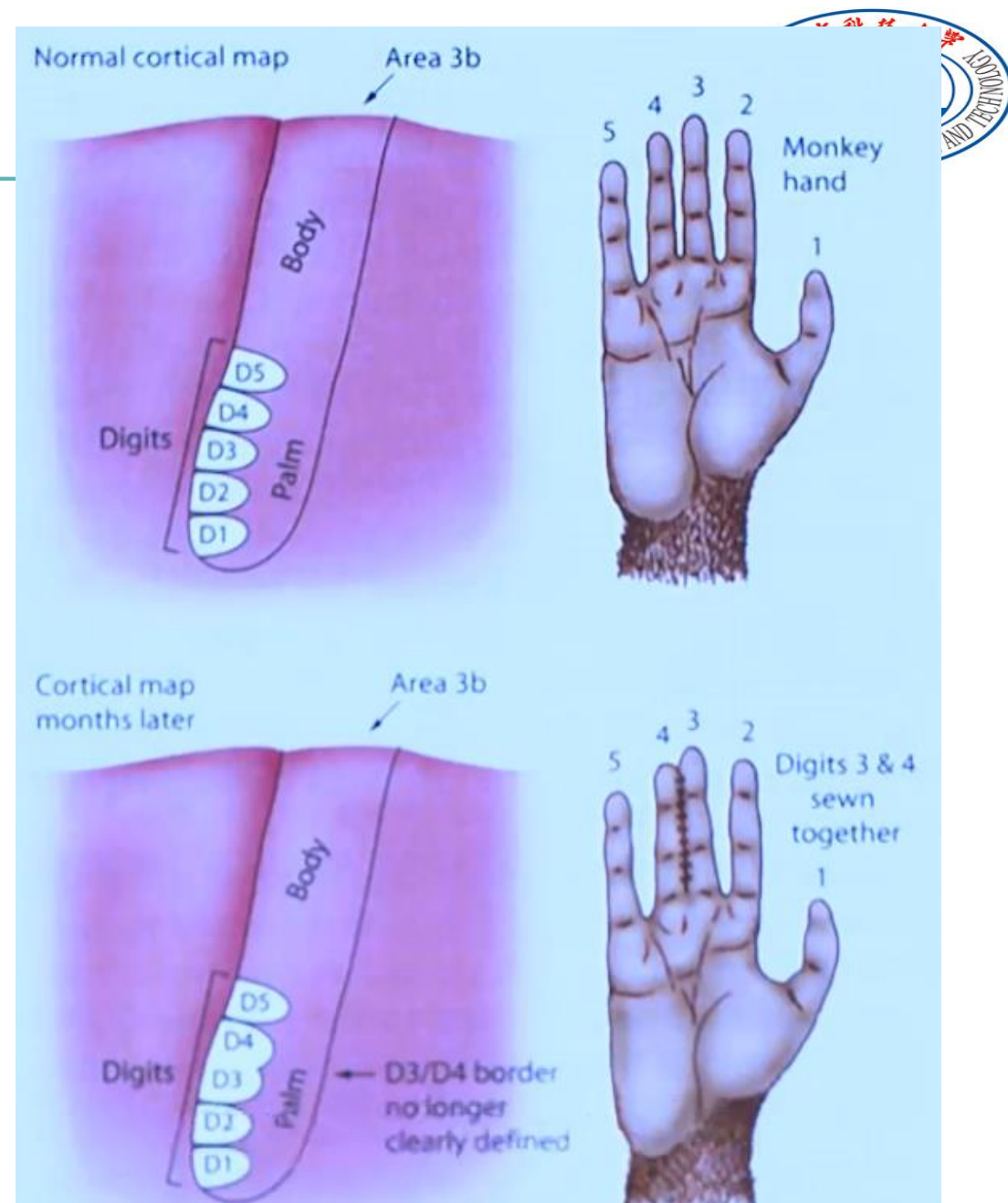
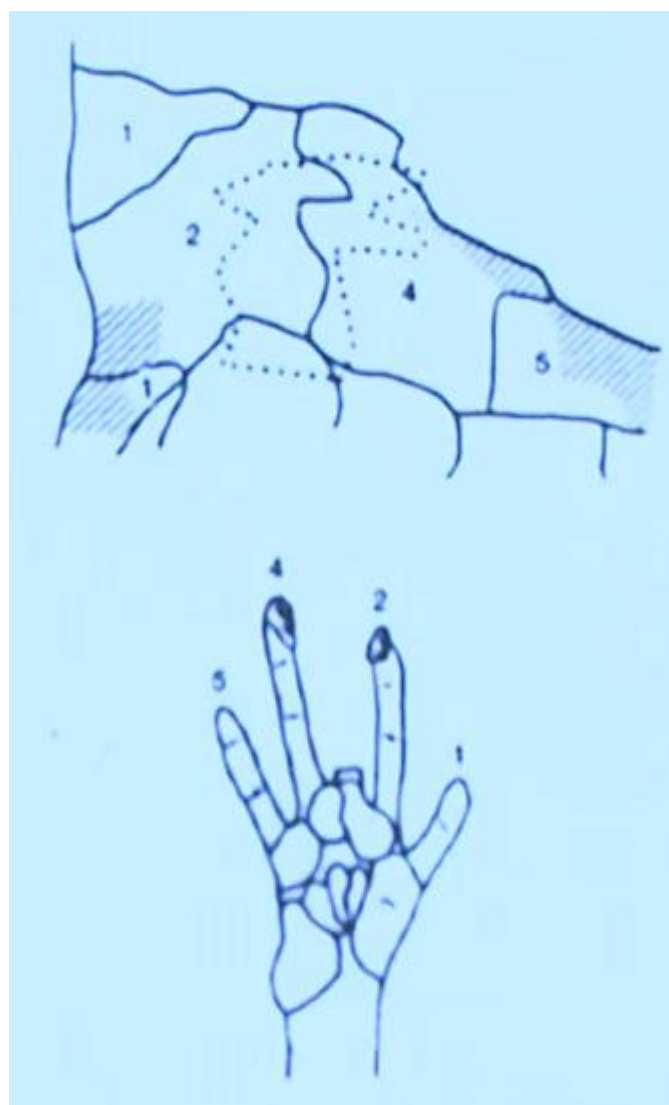
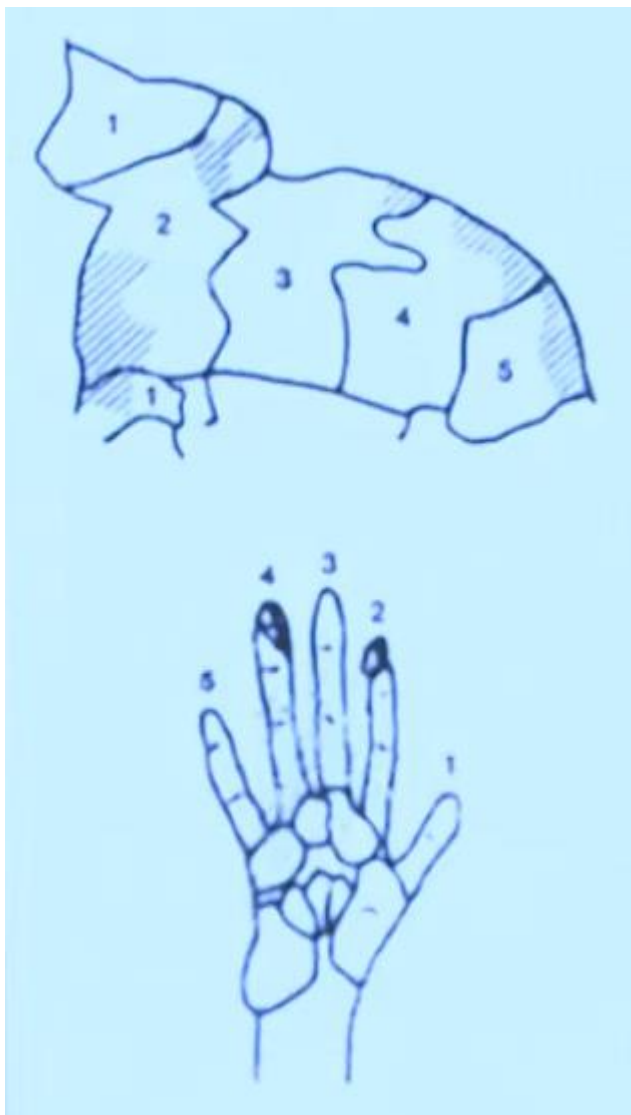
- 胼胝体
- 前扣带回
- 脑岛和海马回
- 前额叶皮质
- 杏仁核

2. 2大脑皮质功能

大脑皮质功能分区(*Dividing the Cortex by Function*)



2. 2大脑皮质功能



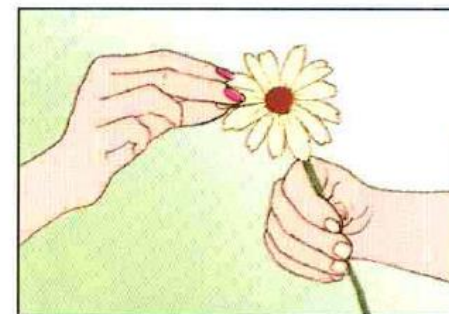
2. 2大脑皮质功能



味觉

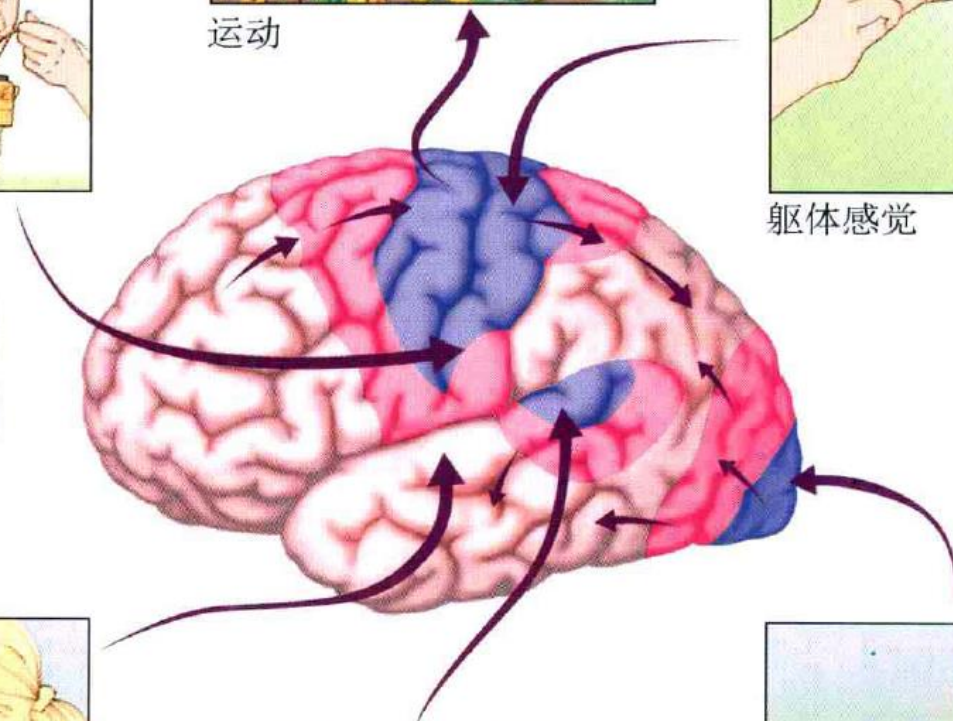


运动



躯体感觉

初级感觉或
运动皮质
次级感觉或
运动皮质
联合皮质



嗅觉

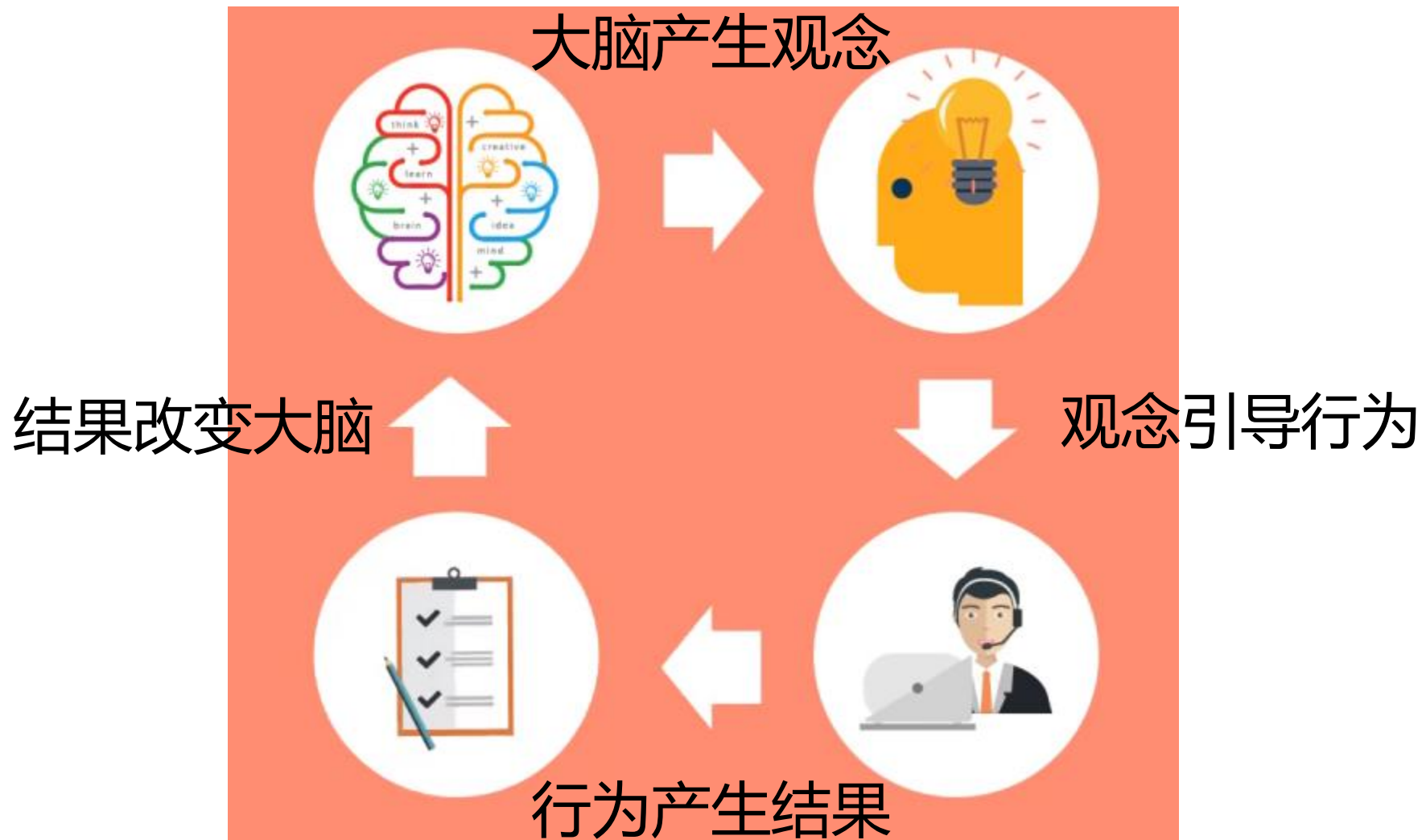


听觉



视觉

2.2 大脑皮质功能



2.1 大脑的神经解剖(*Neuroanatomy of the brain*)

大脑的解剖分区与解剖参考系 ()

2.2 大脑皮质功能(*cerebral cortex functions*)

感知、运动、记忆、计划、决策、情感。。。。。。

1, 脑叶包括哪几部分? 各自的功能是什么?