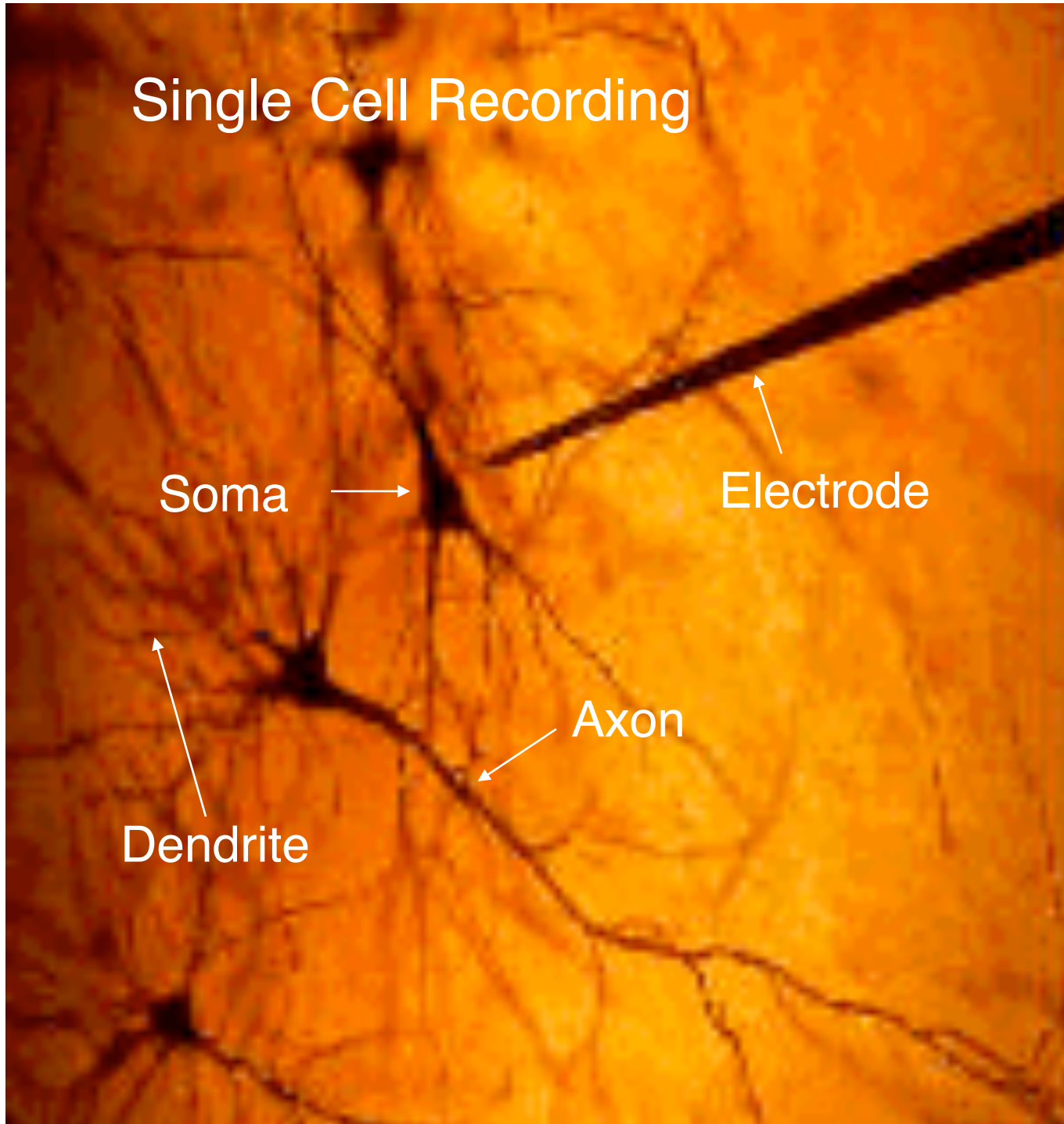
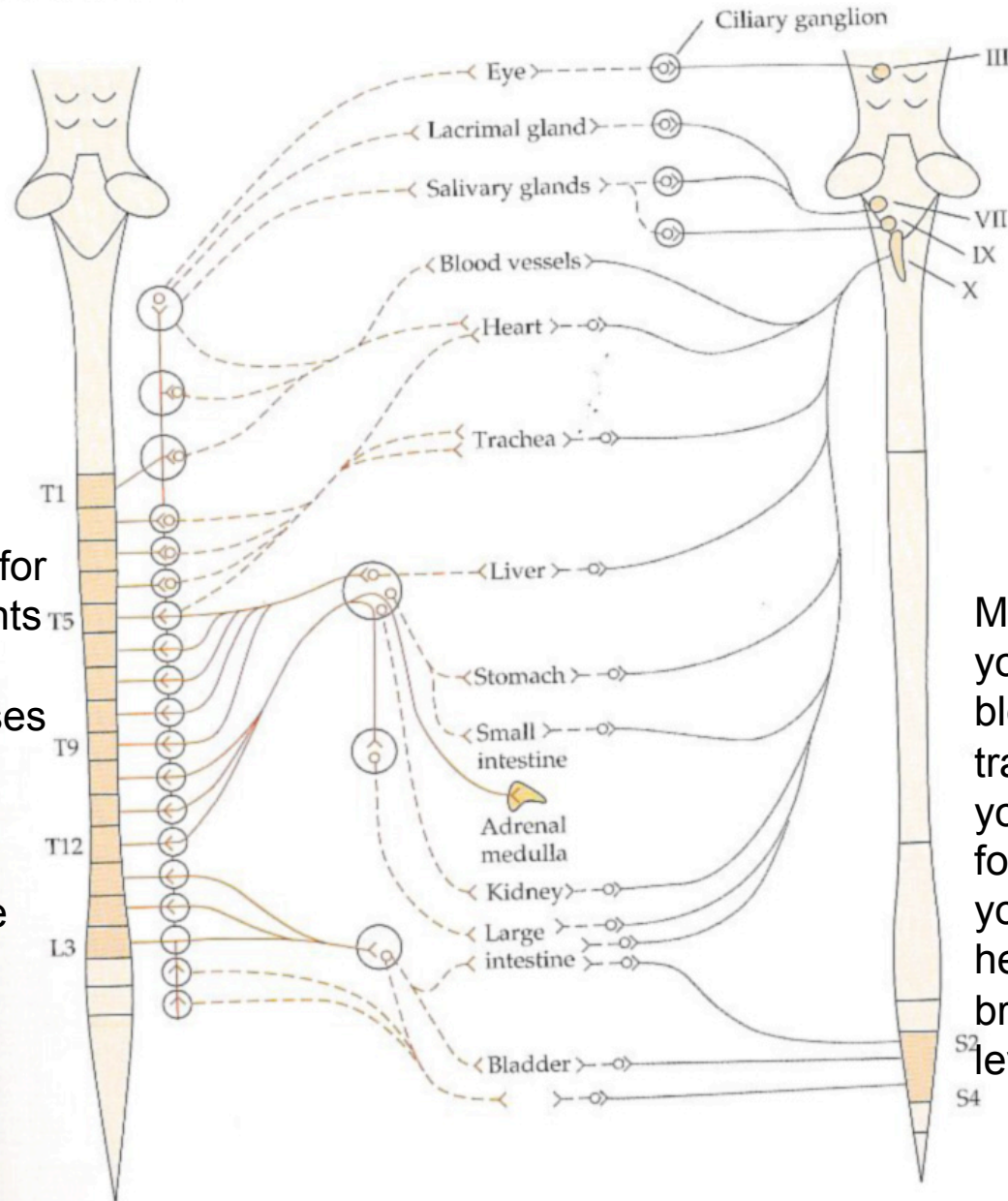


# Single Cell Recording



(A) Sympathetic

(B) Parasympathetic

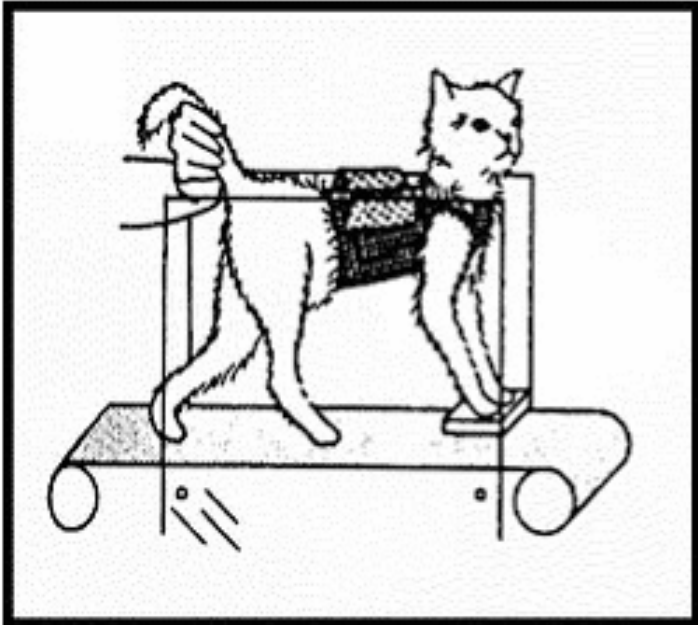
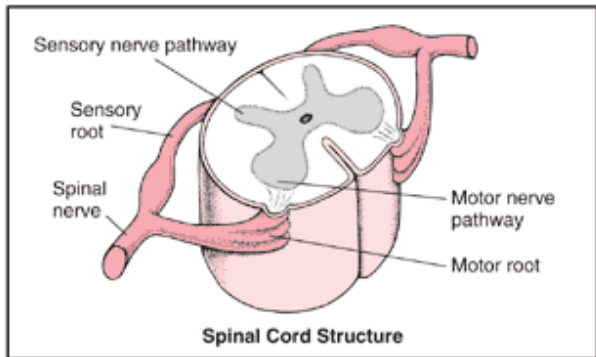
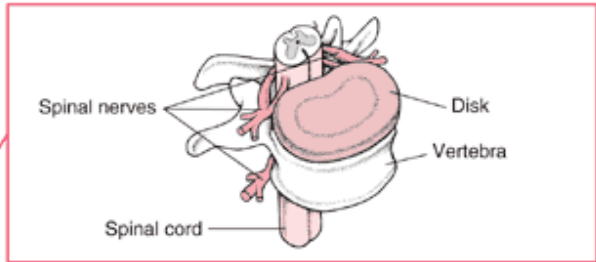


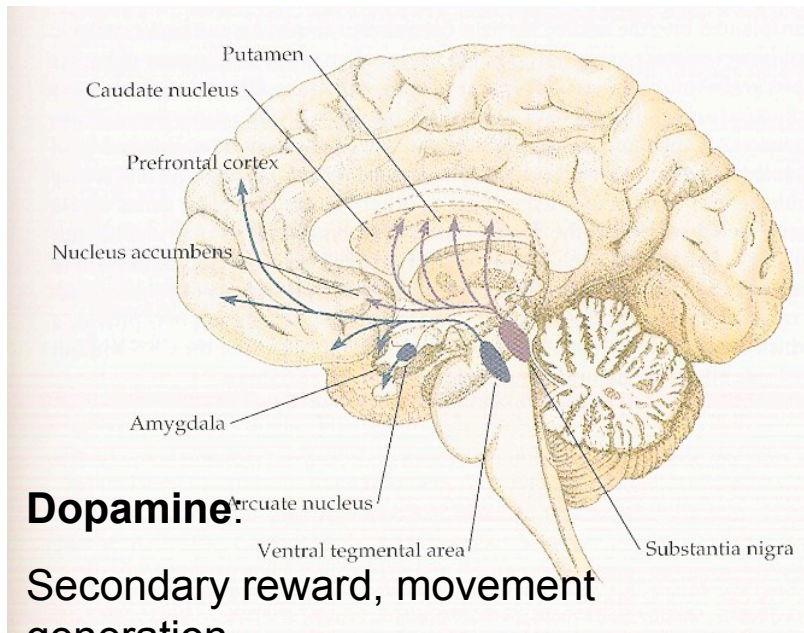
## Fight or flight

Prepares your body for emergencies. It shunts your blood to your muscles and increases your blood pressure, heart rate and breathing rate, enabling you to cope with stressful situations.

## Rest and digest

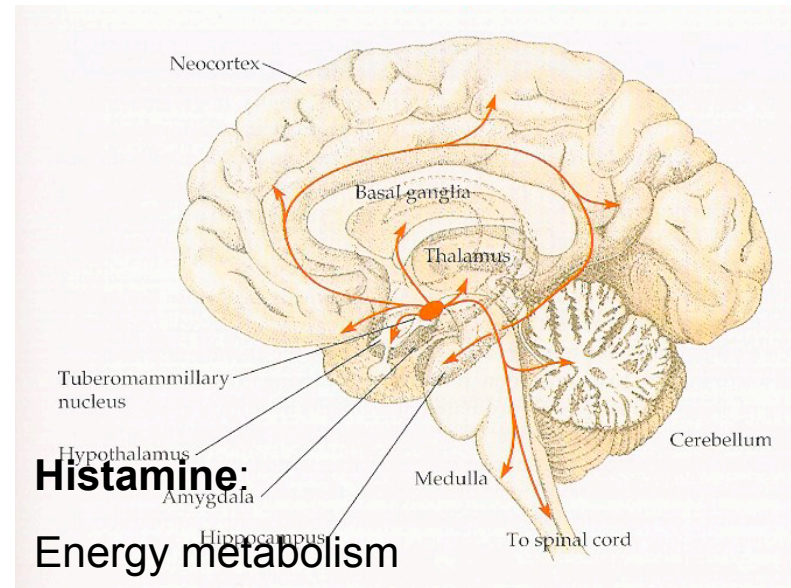
Maintains and restores your energy. It directs blood to your digestive tract and makes sure you actively digest food. It also maintains your blood pressure, heart rate and breathing rate at a low level.





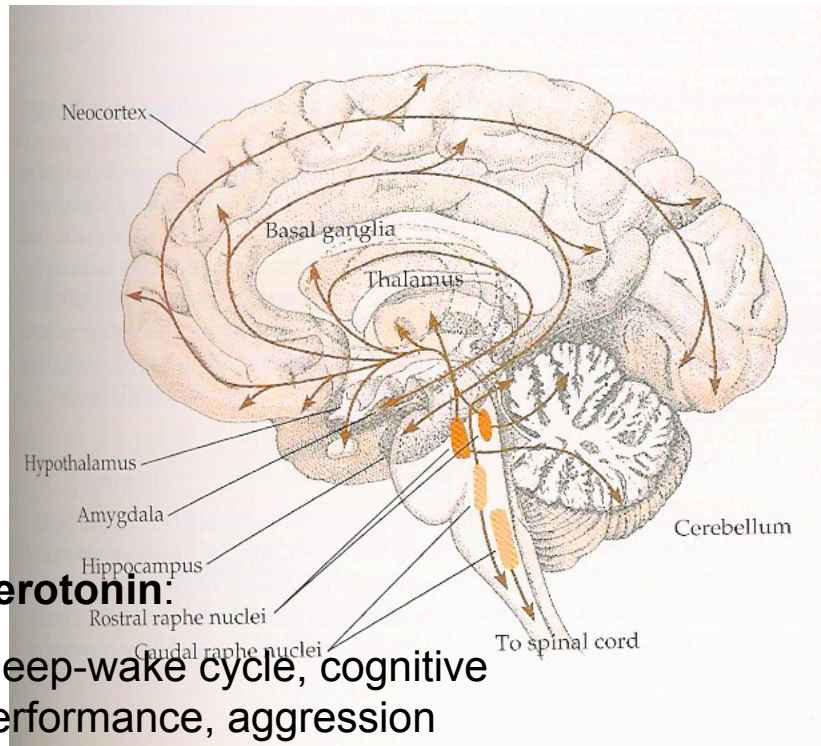
**Dopamine:**

Secondary reward, movement generation



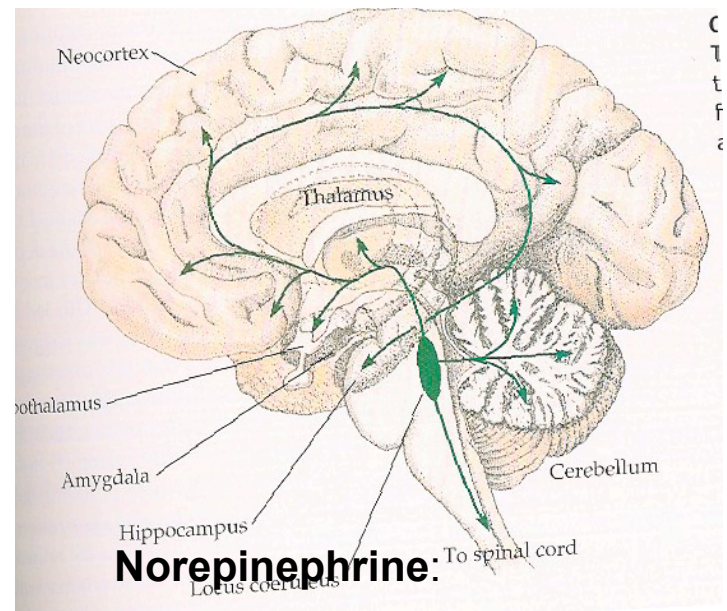
**Histamine:**

Energy metabolism



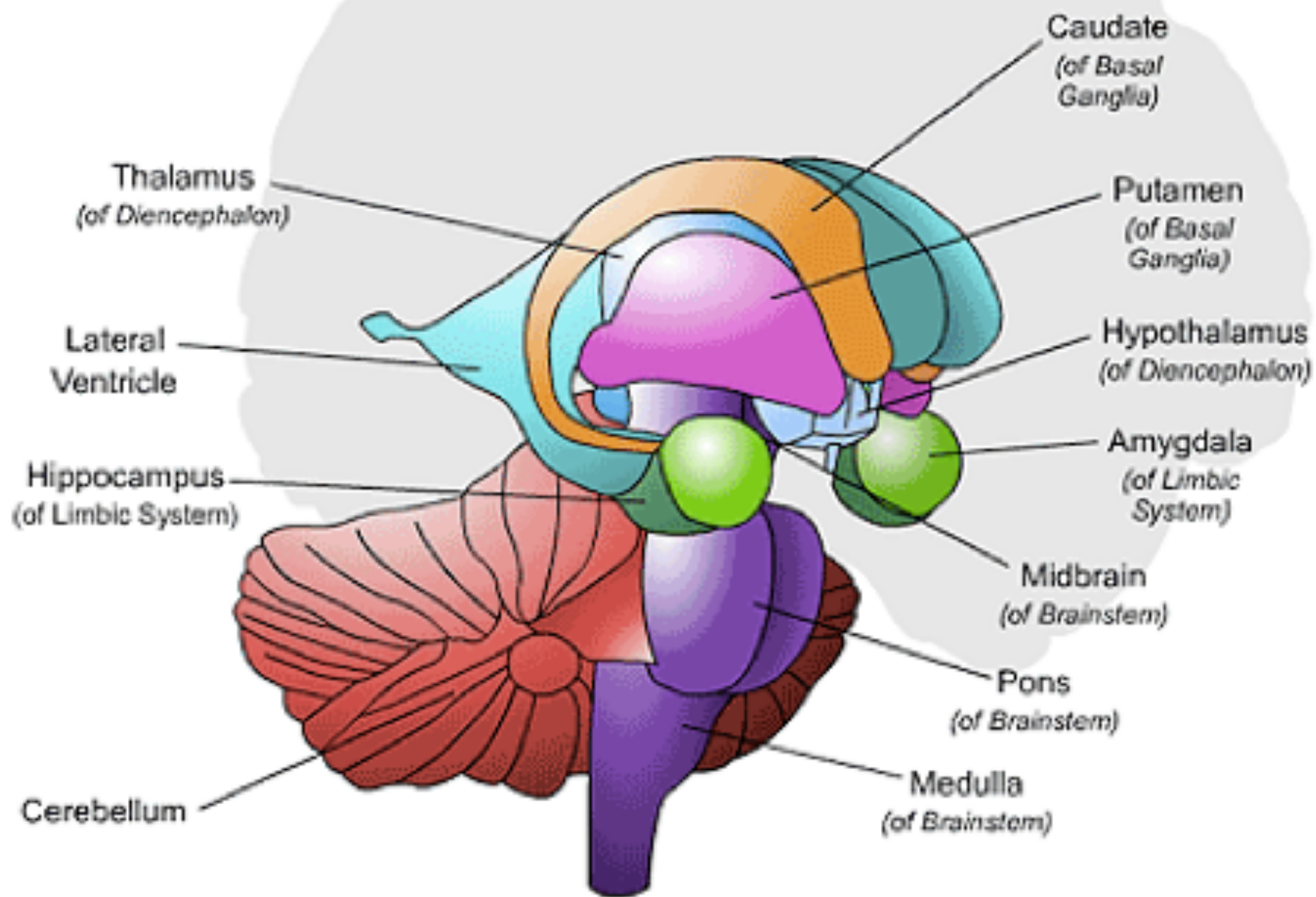
**Serotonin:**

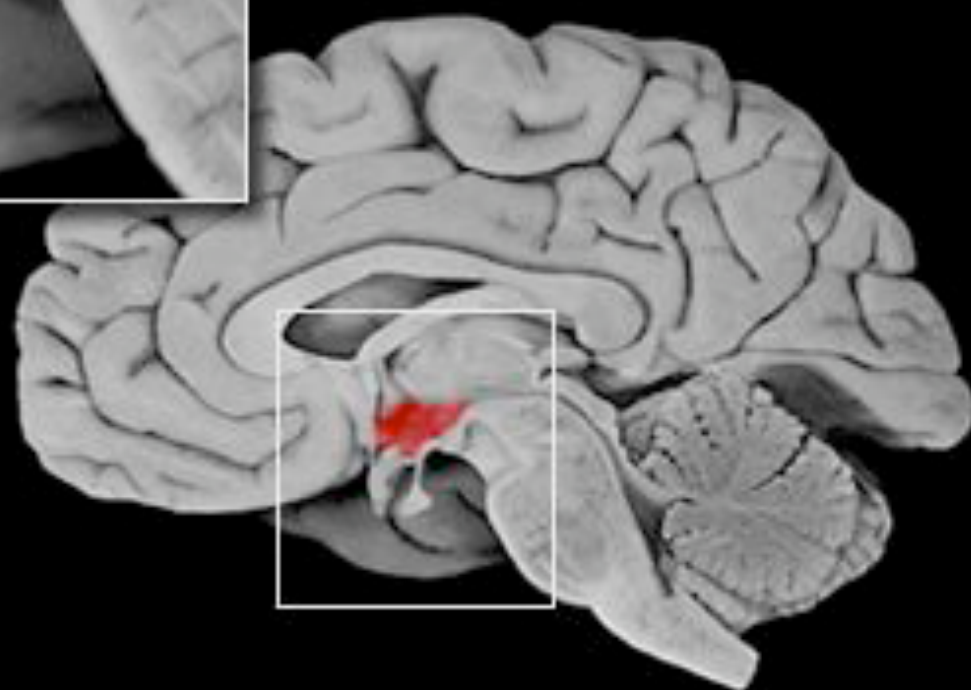
Sleep-wake cycle, cognitive performance, aggression

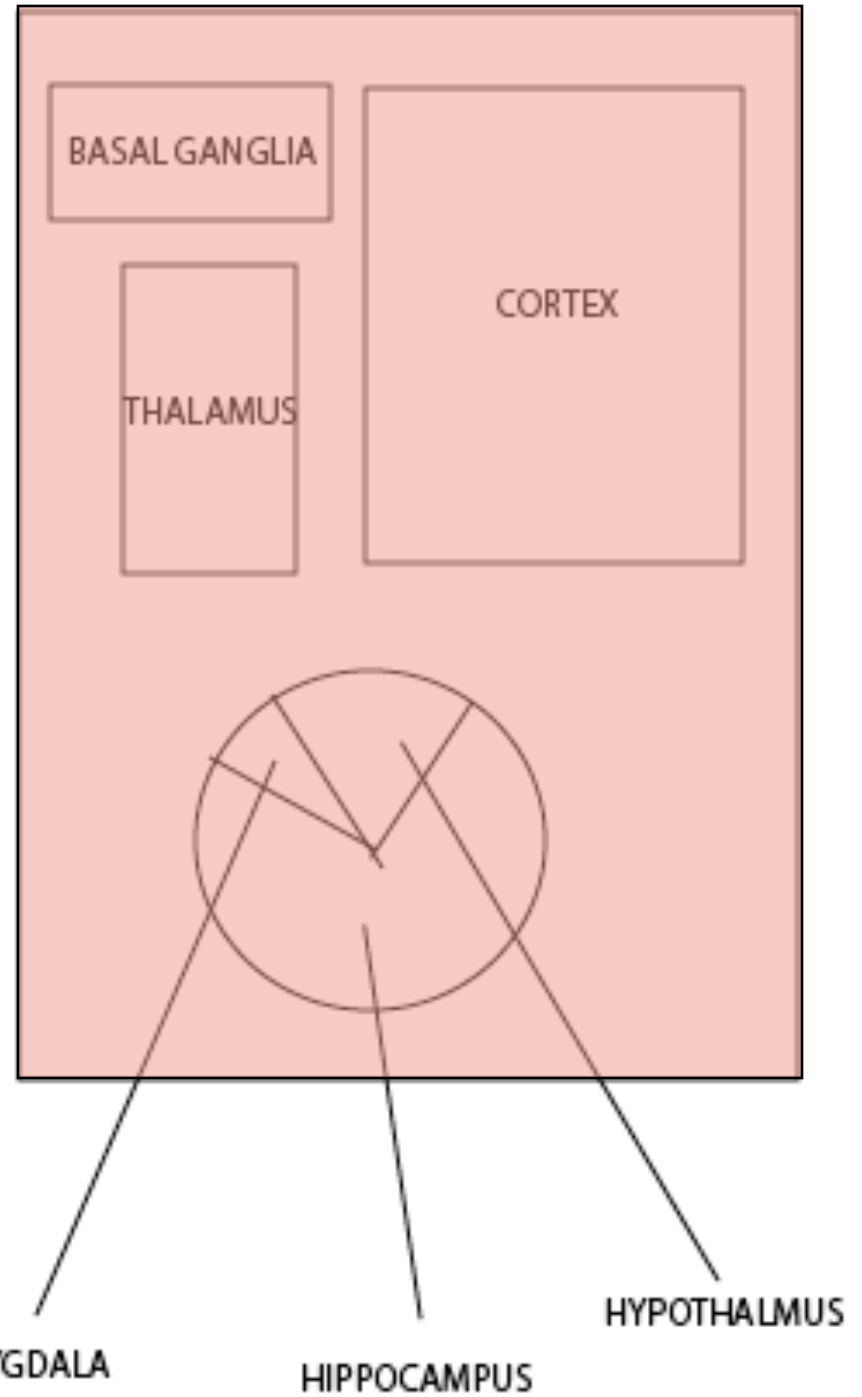
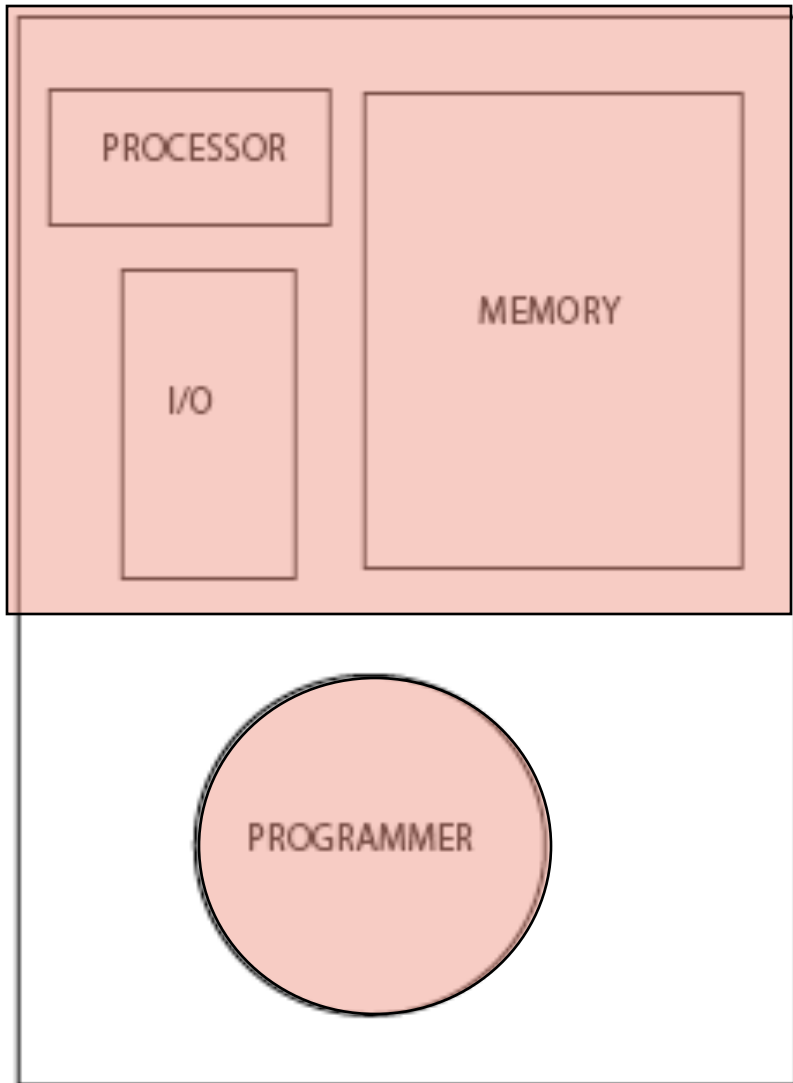


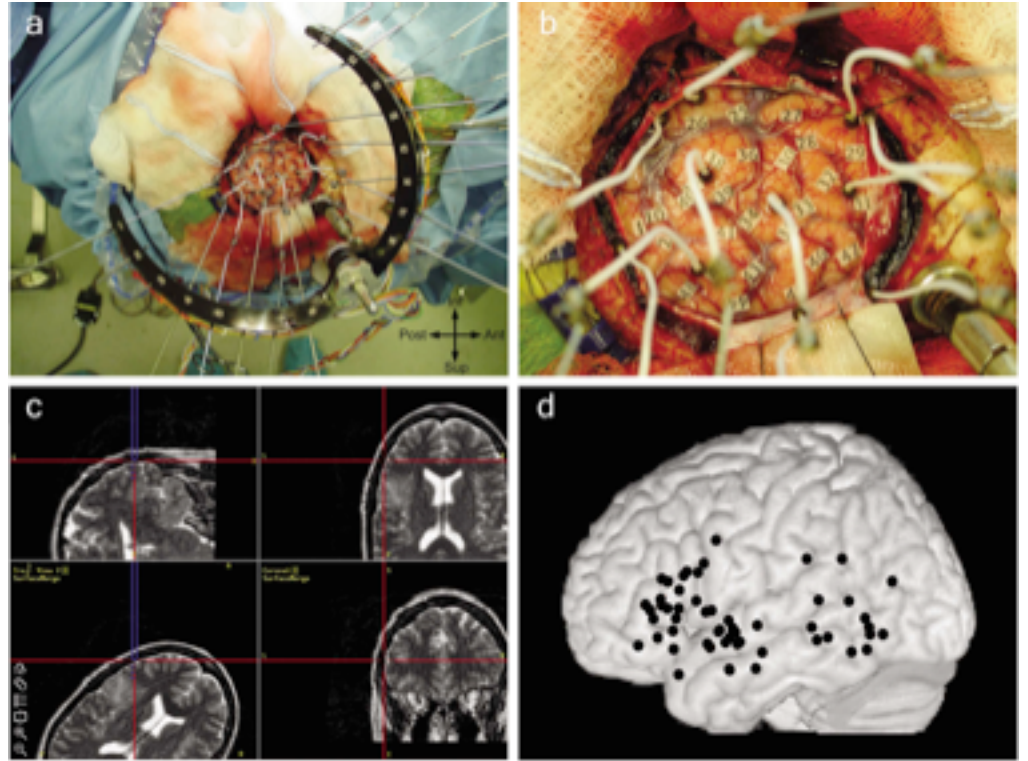
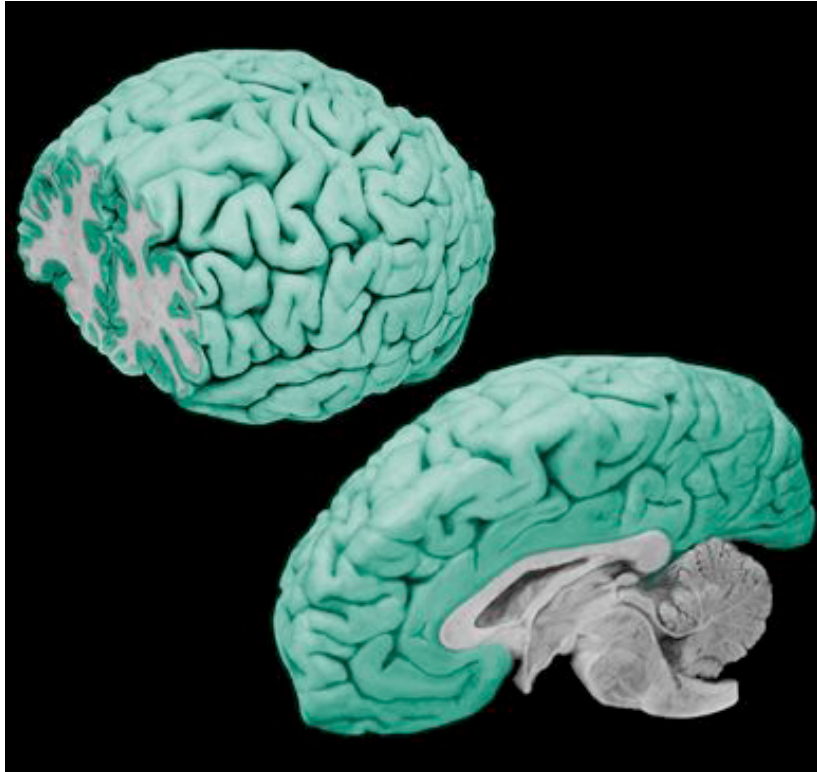
**Norepinephrine:**

Attention, arousal, circadian rhythms



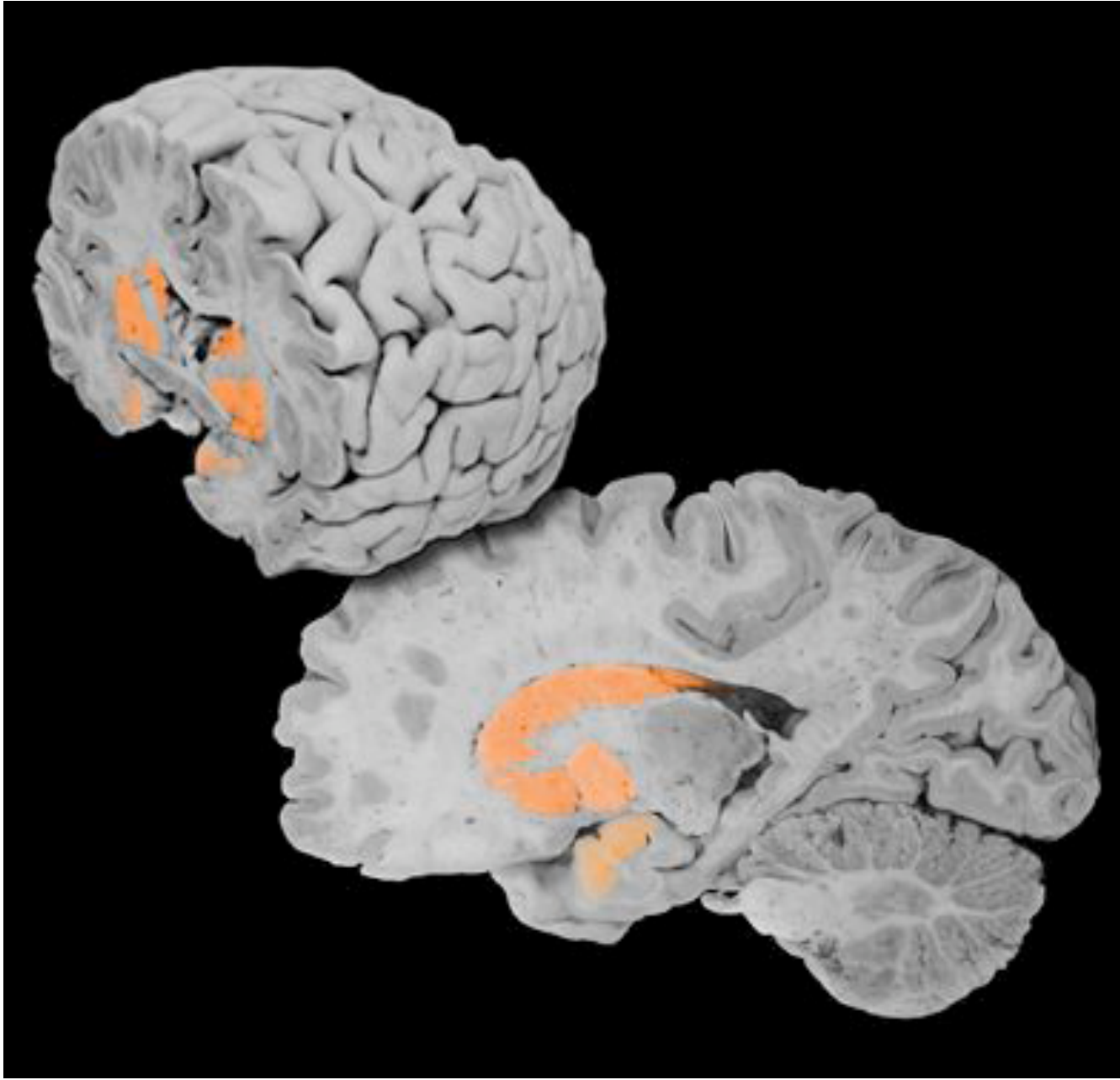


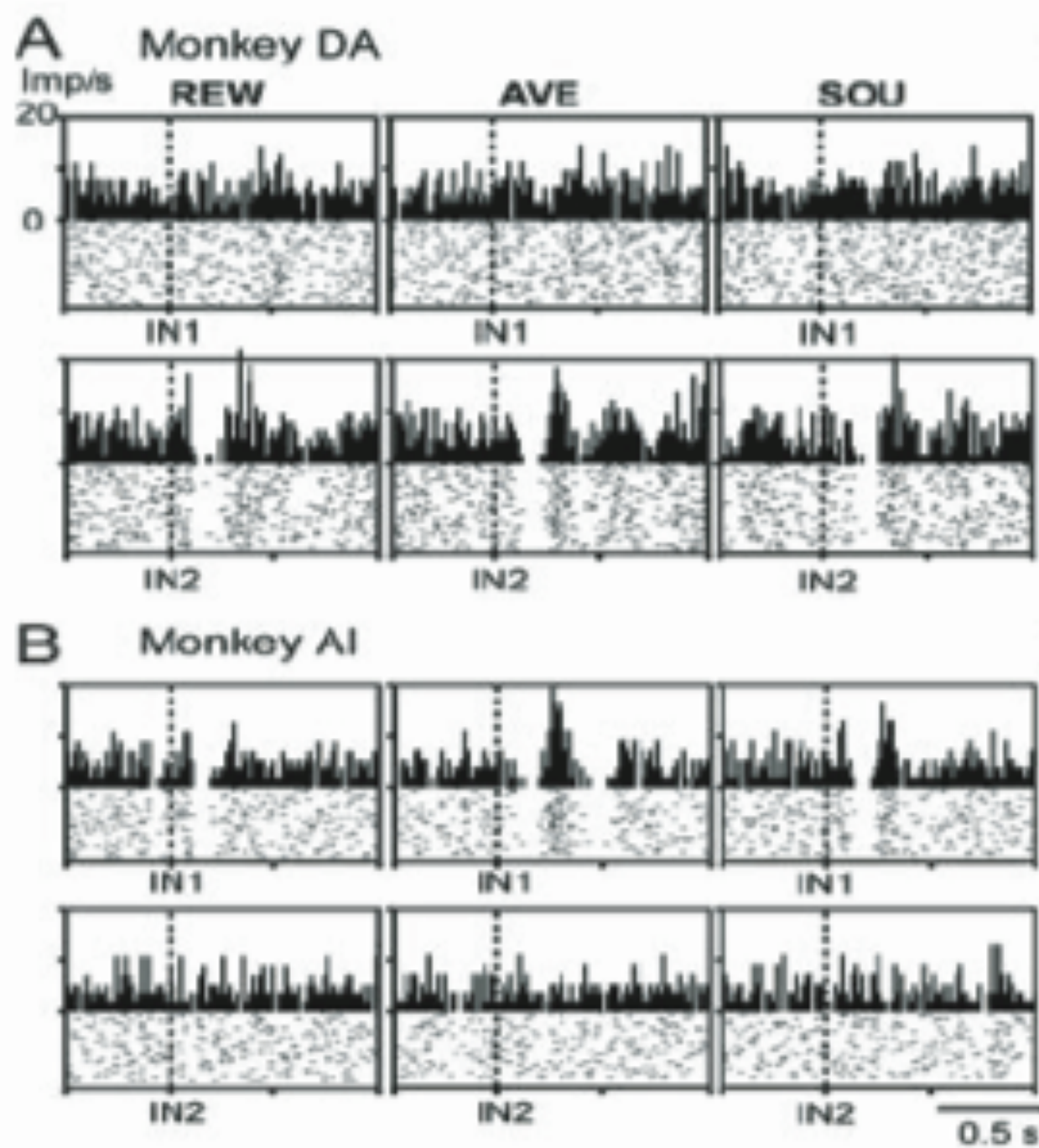


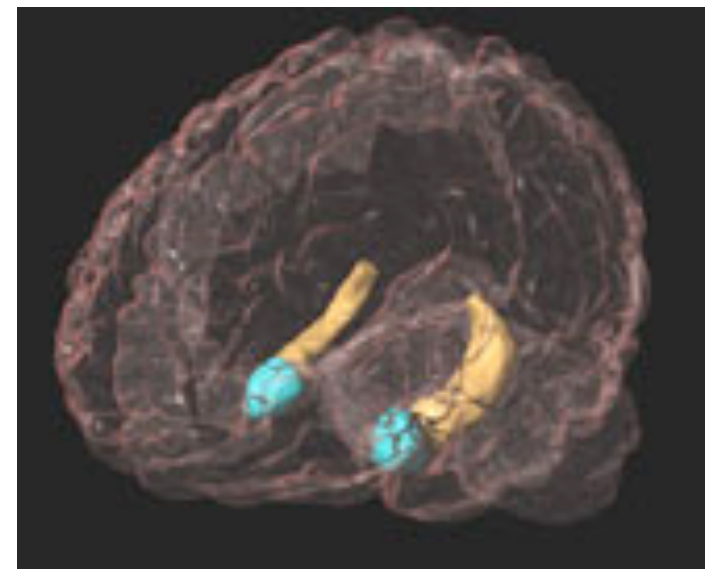
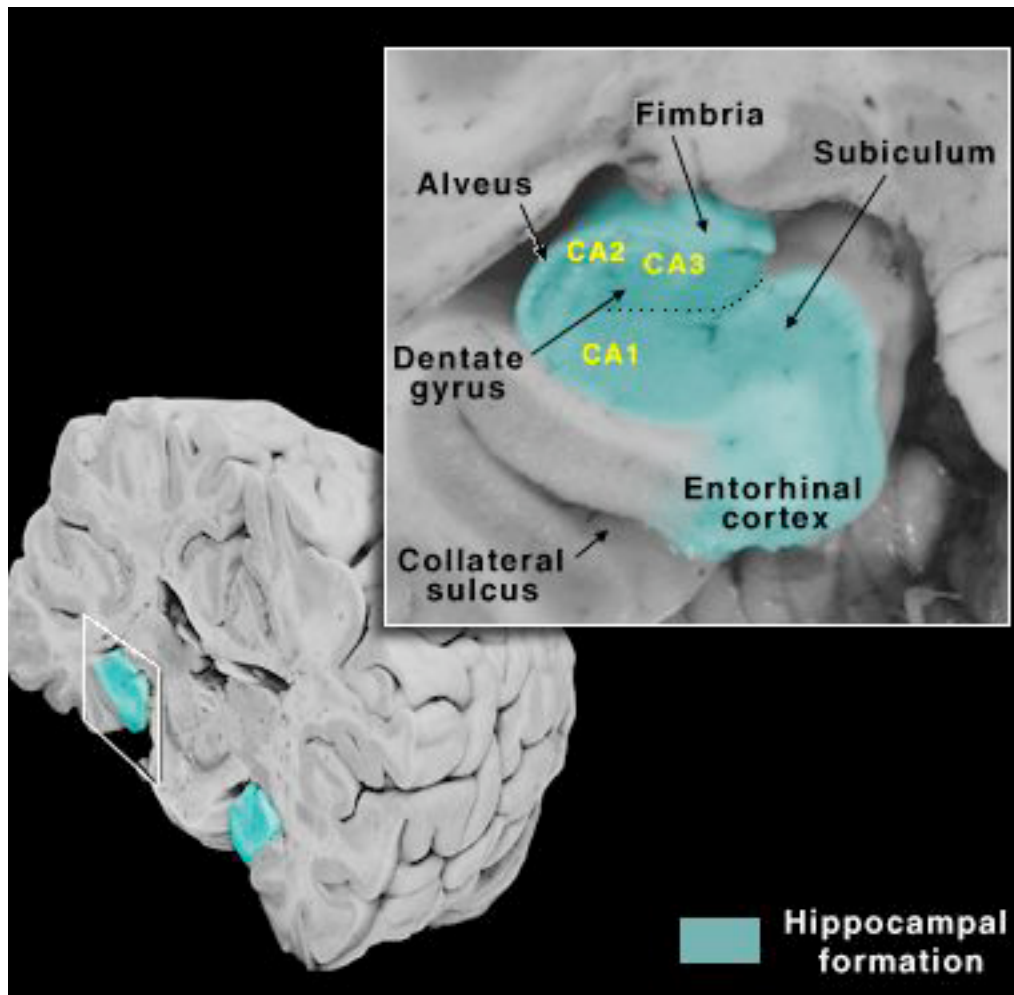


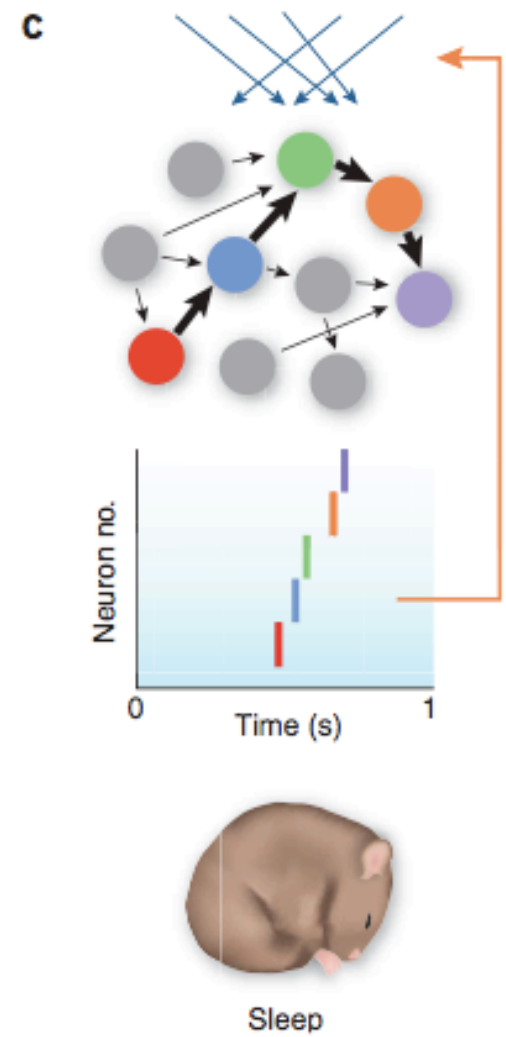
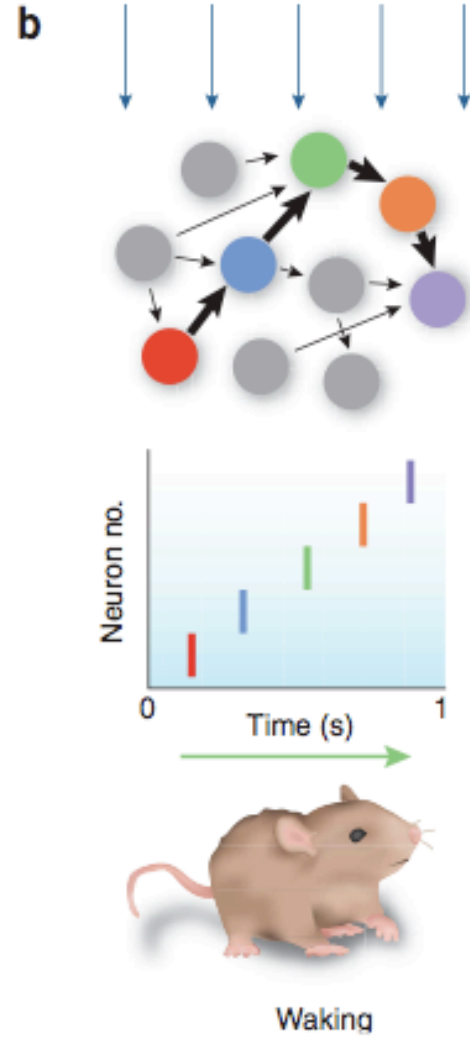
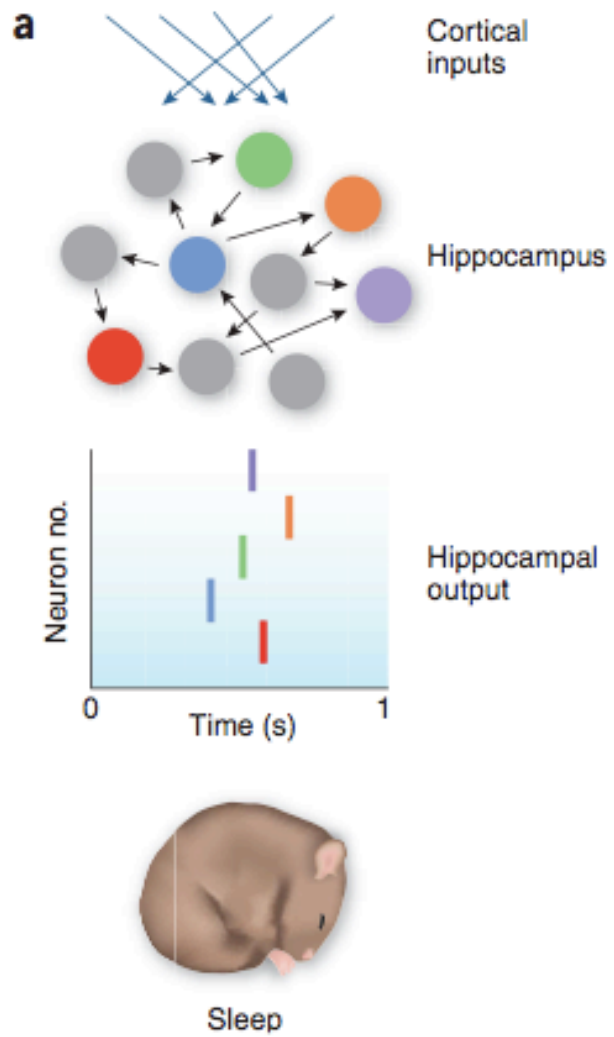


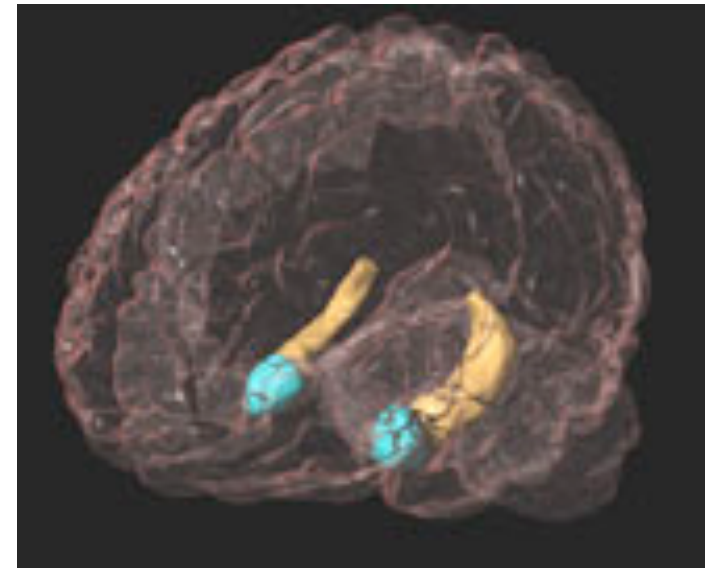
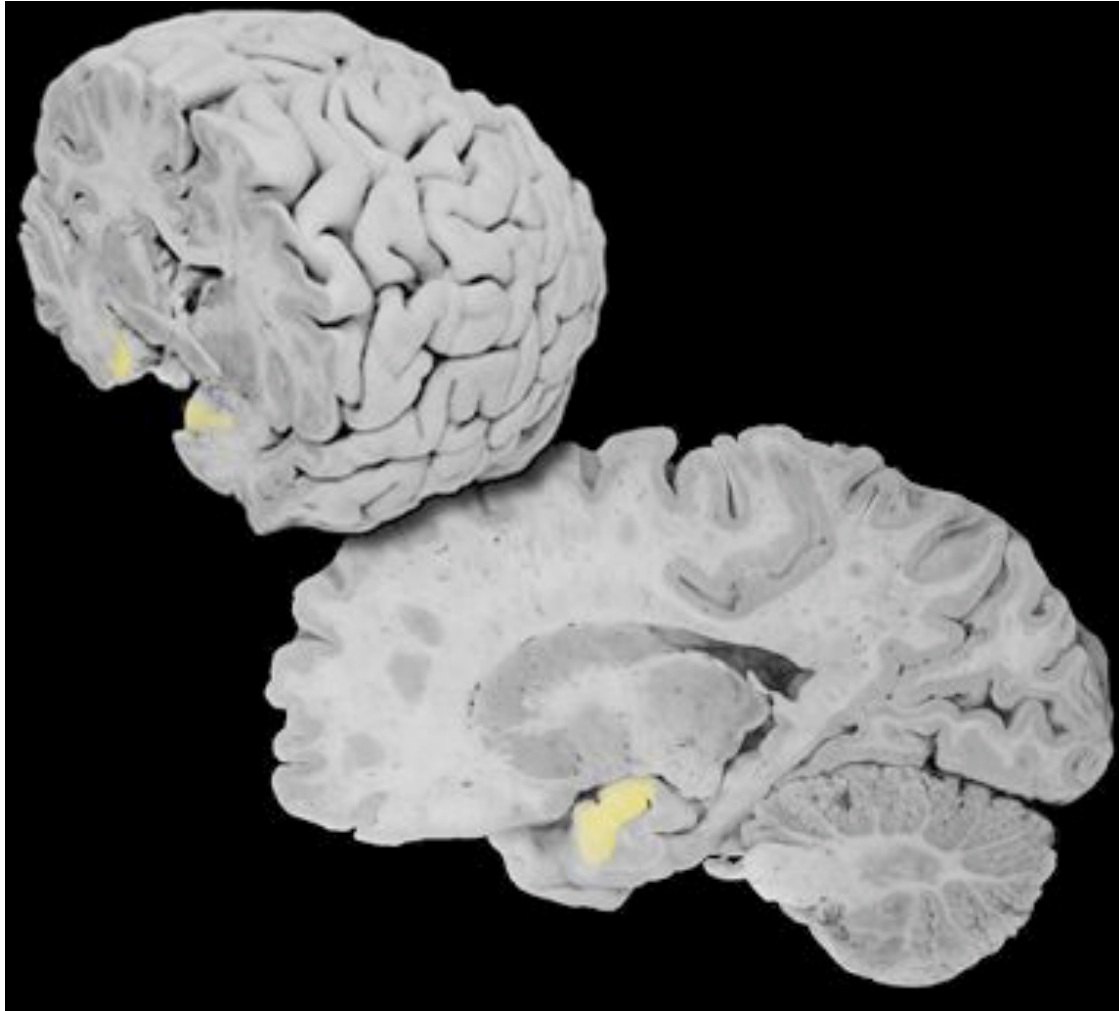


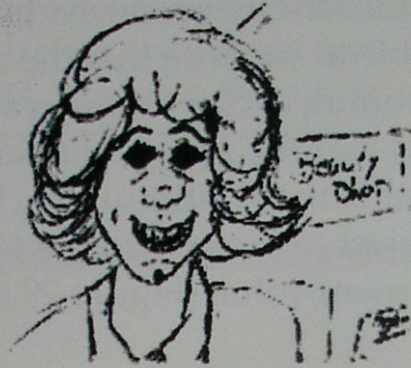




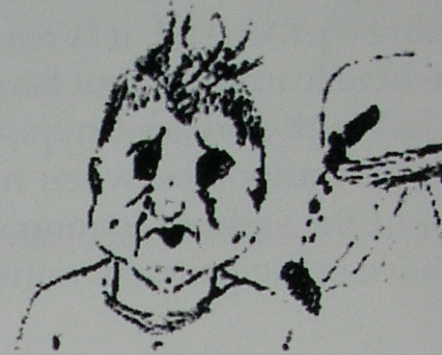








Happy



Sad



Surprised



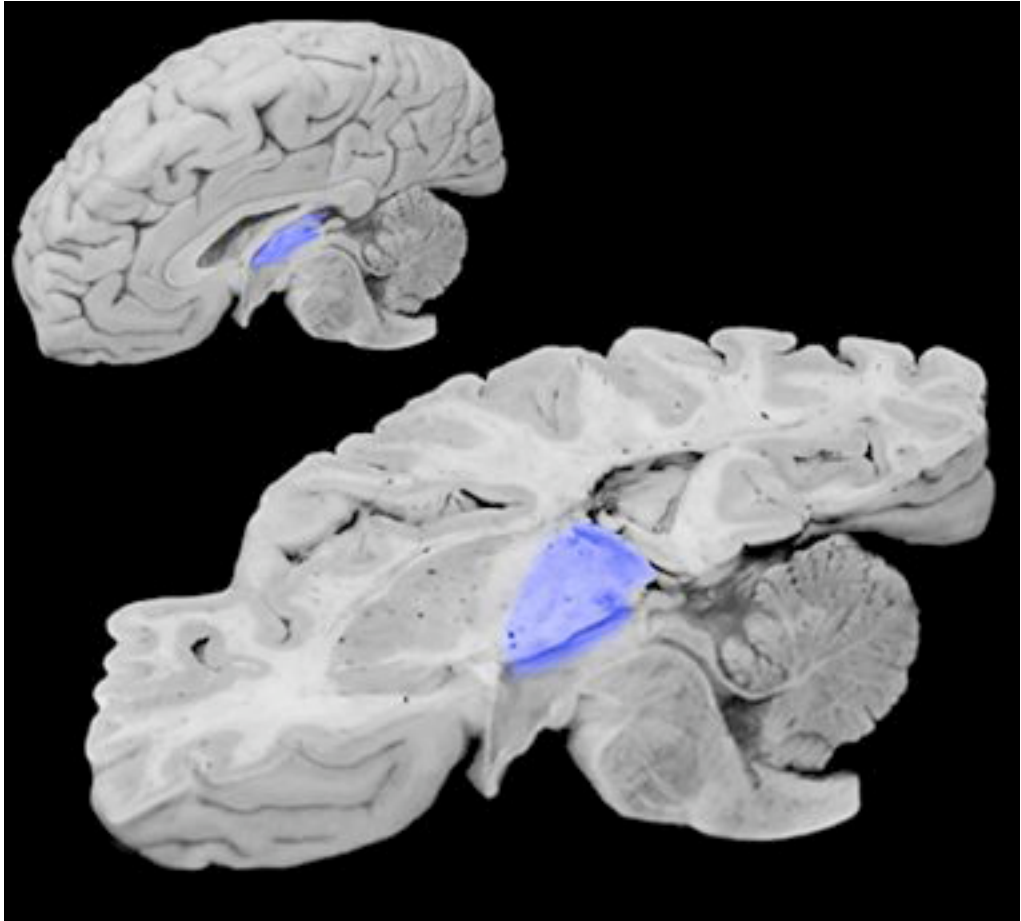
Disgusted



Angry



Afraid



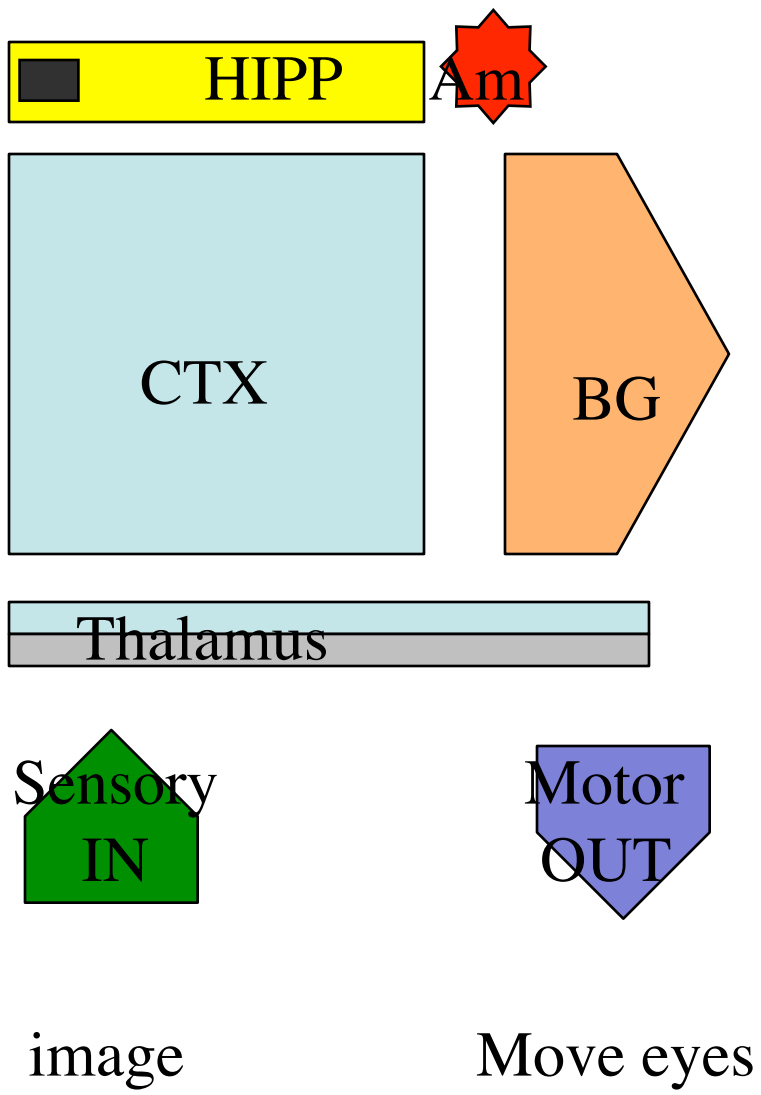


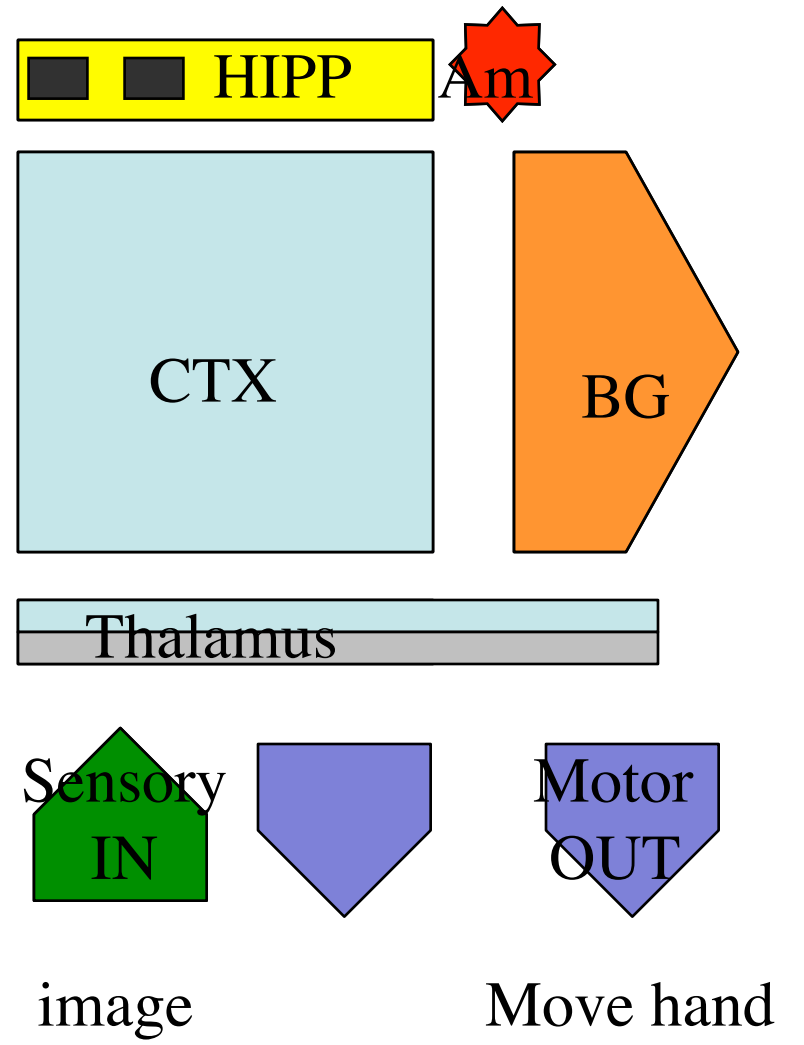
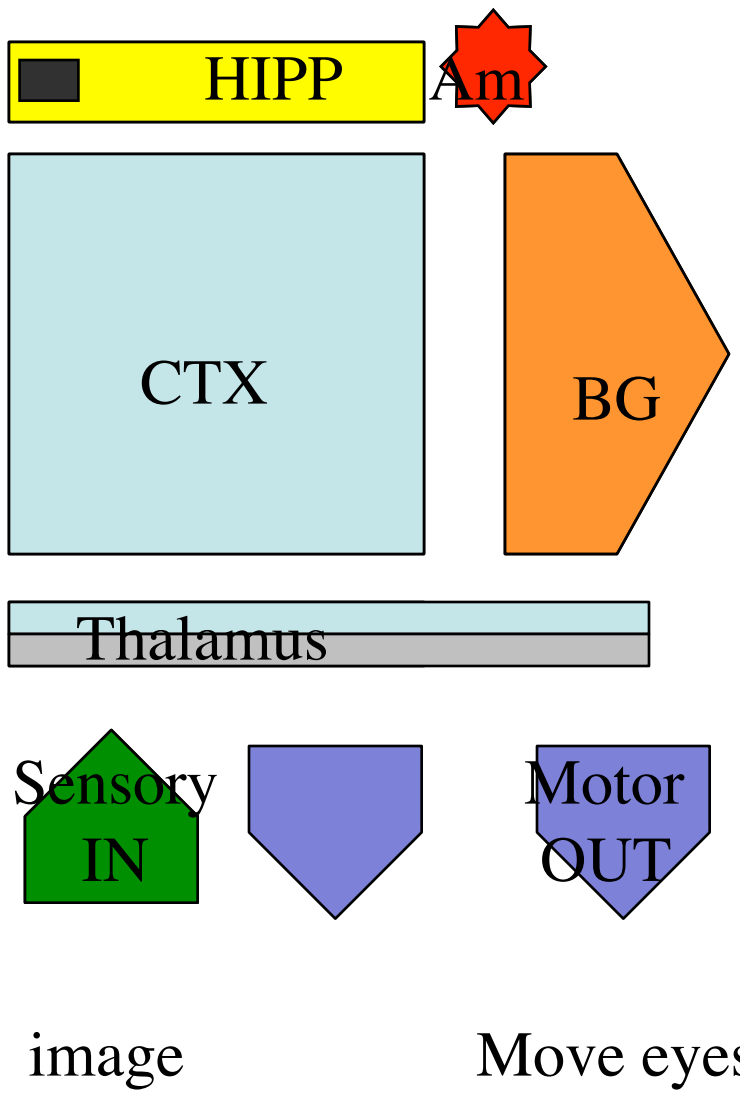


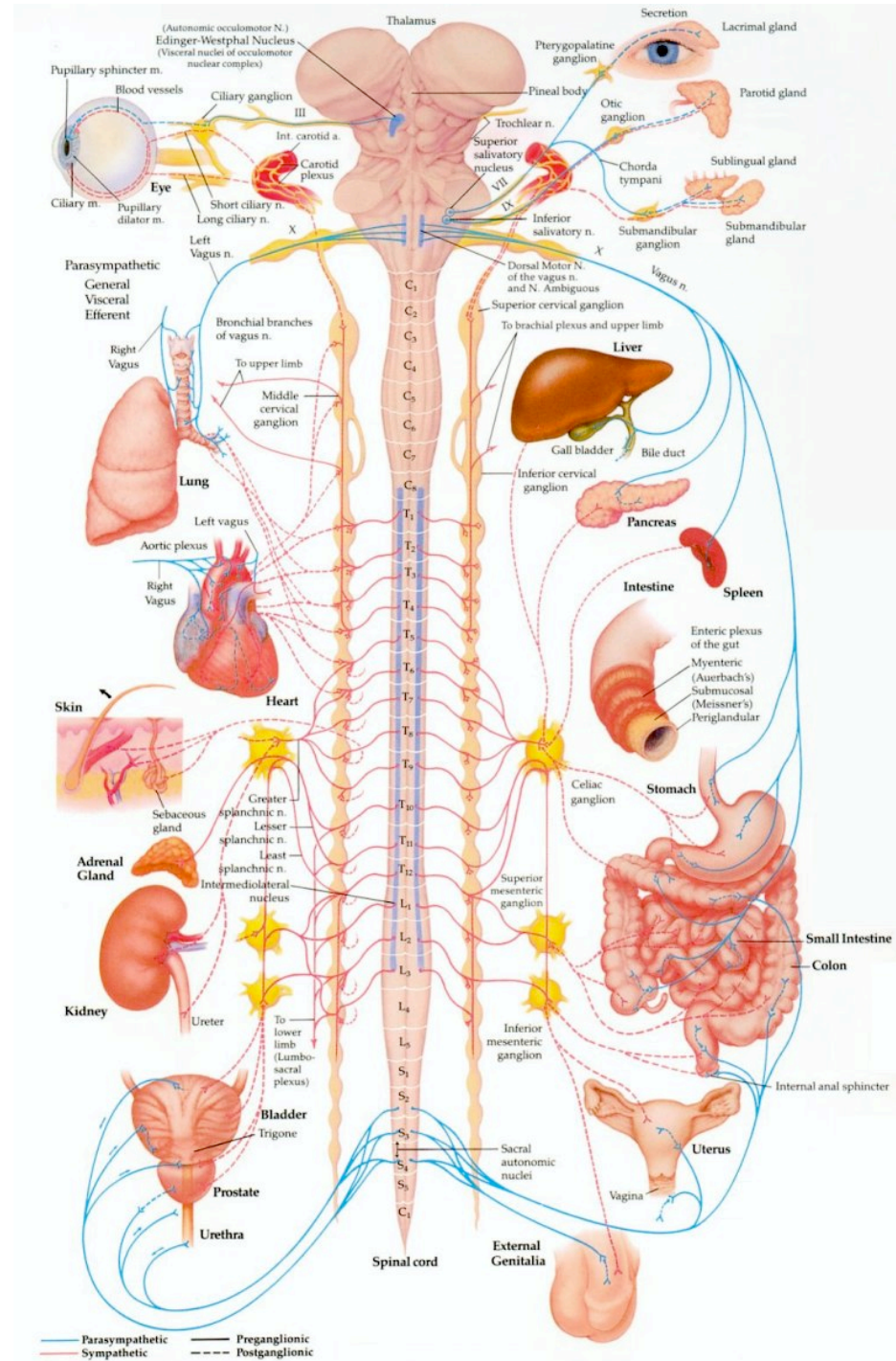


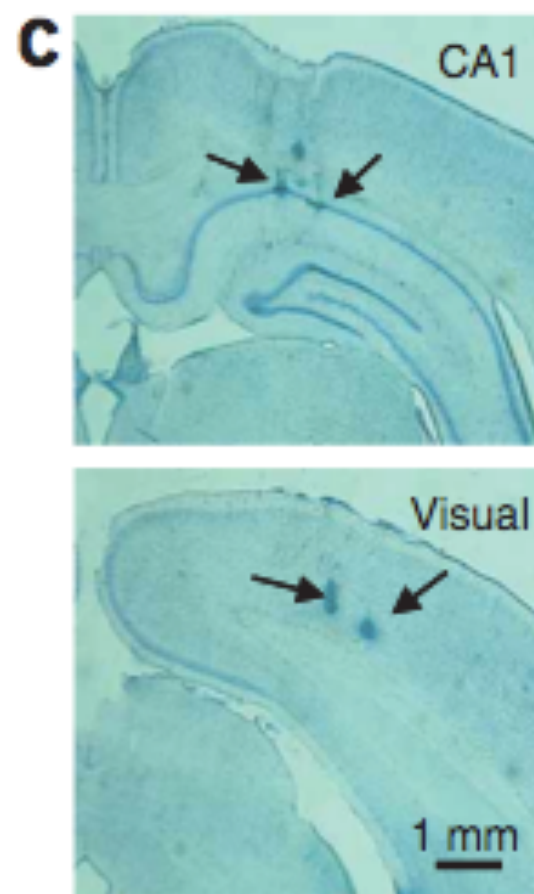
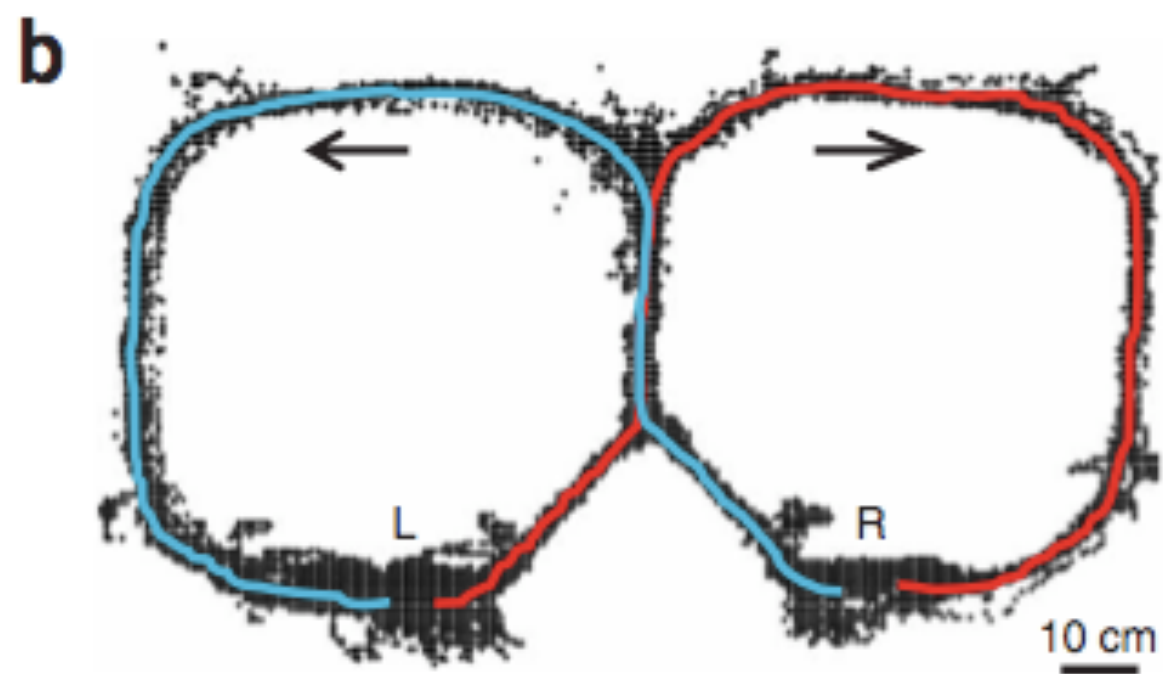
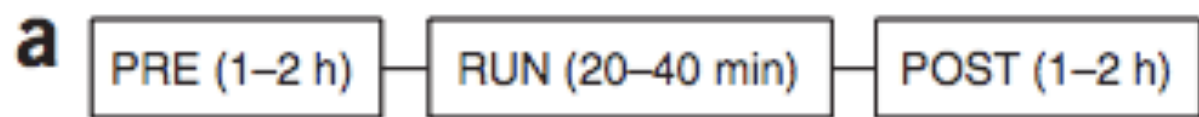
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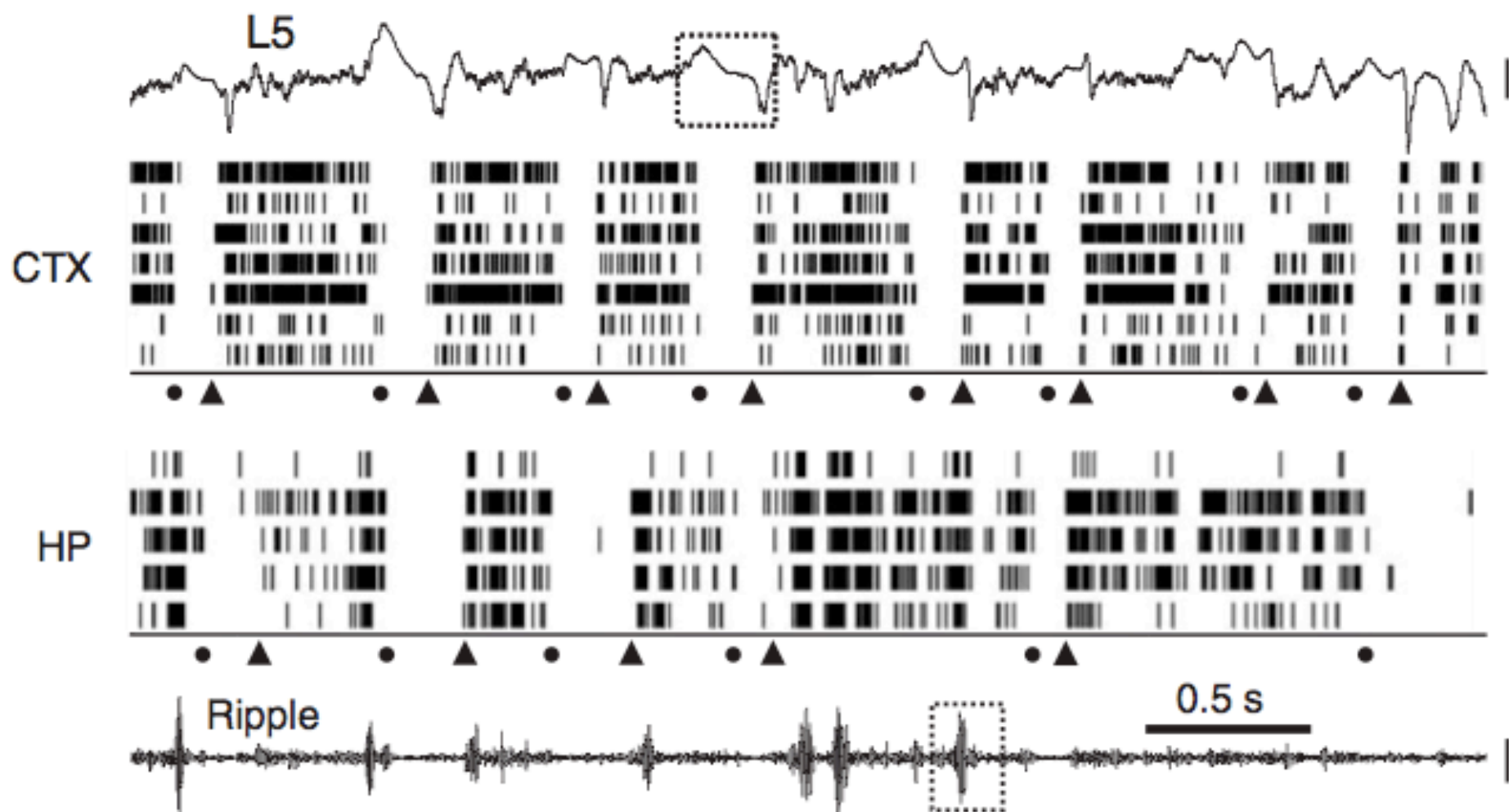
FC:62443

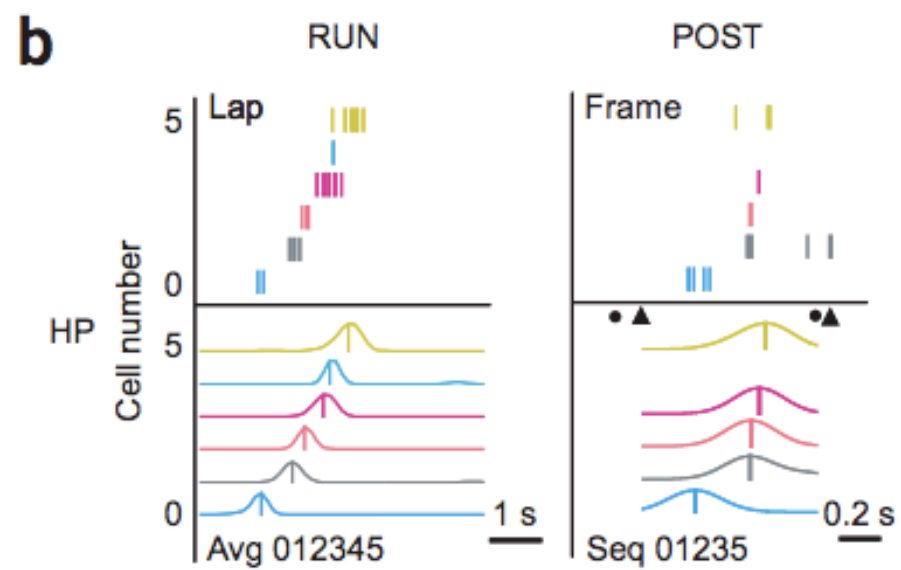
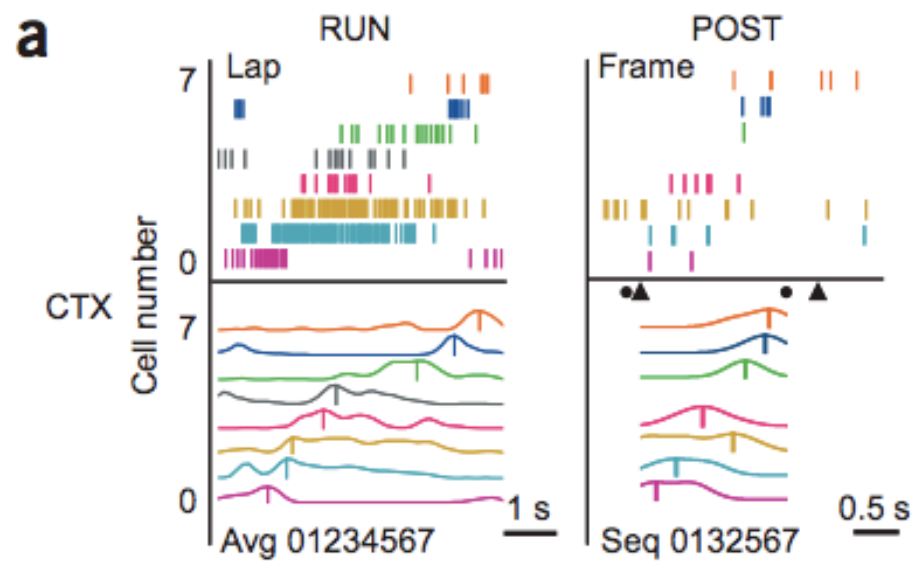






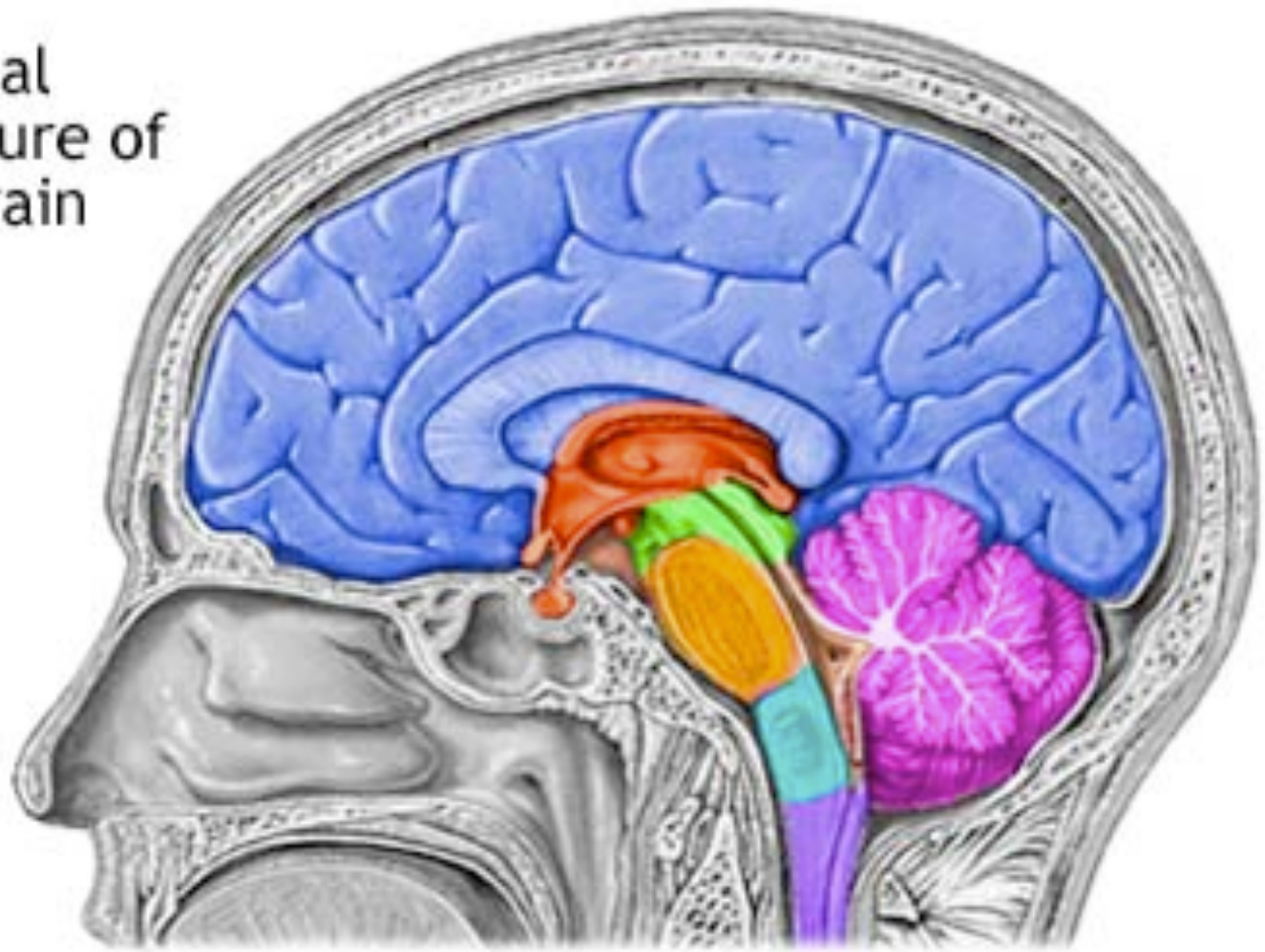






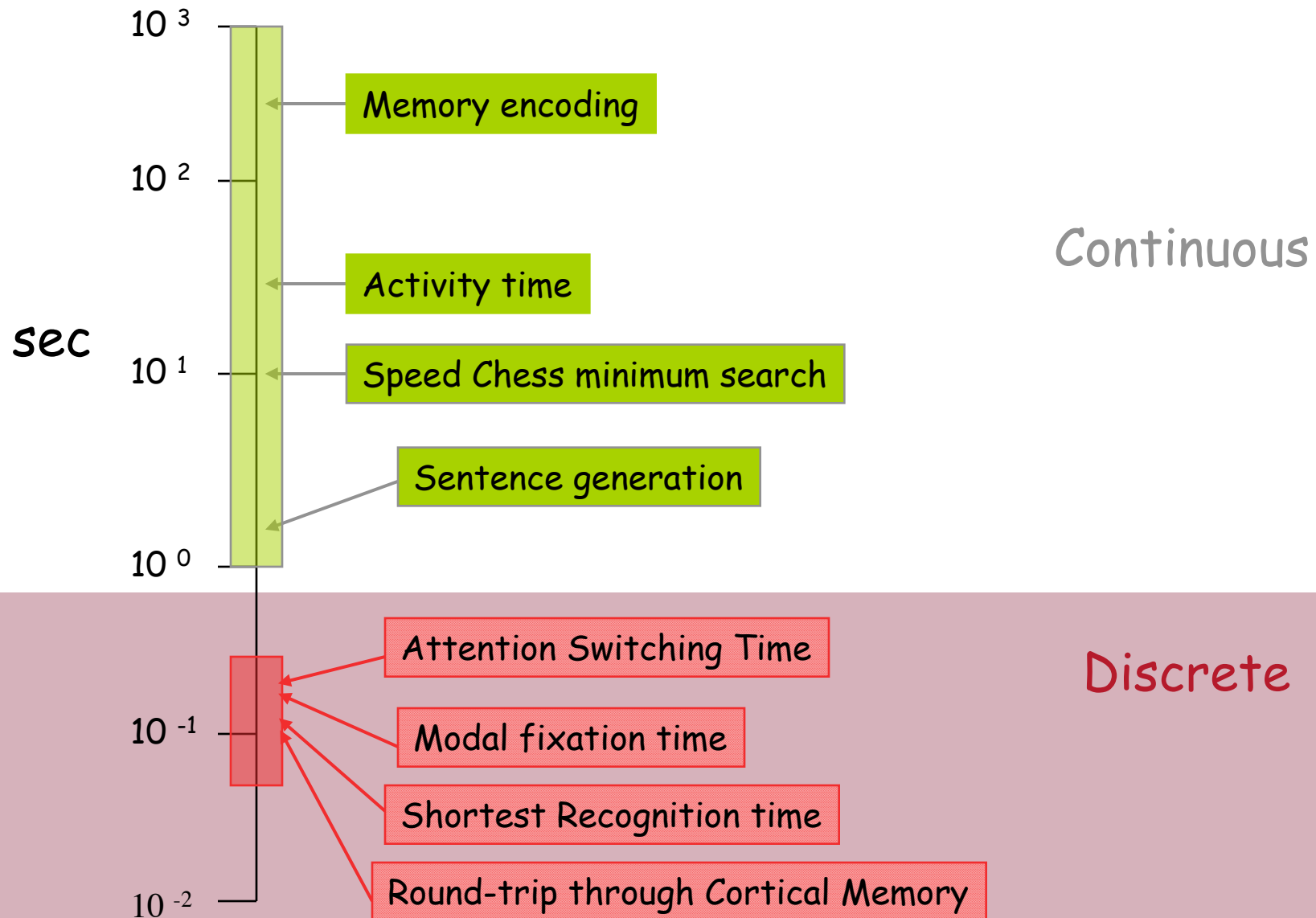


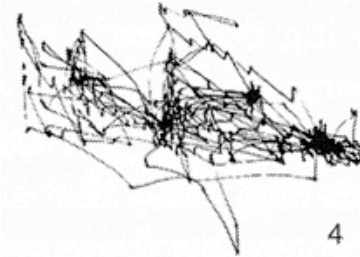
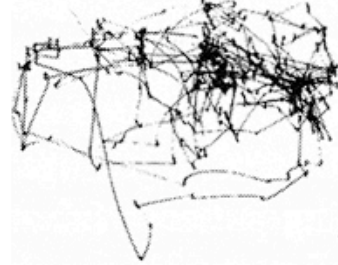
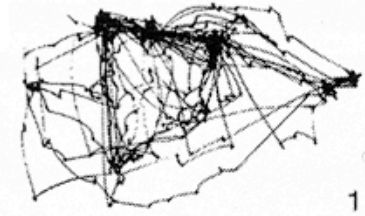
Internal structure of the brain



- |                                                                                                       |                                                                                                |                                                                                                           |                                                                                            |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
|  Spinal cord       |  Cerebellum |  Diencephalon        |  Pons |
|  Medulla Oblongata |  Midbrain   |  Cerebral hemisphere |                                                                                            |

# Timescales





# Coordinated memory replay in the visual cortex and hippocampus during sleep

Daoyun Ji & Matthew A Wilson

Sleep replay of awake experience in the cortex and hippocampus has been proposed to be involved in memory consolidation. However, whether temporally structured replay occurs in the cortex and whether the replay events in the two areas are related are unknown. Here we studied multicell spiking patterns in both the visual cortex and hippocampus during slow-wave sleep in rats. We found that spiking patterns not only in the cortex but also in the hippocampus were organized into frames, defined as periods of stepwise increase in neuronal population activity. The multicell firing sequences evoked by awake experience were replayed during these frames in both regions. Furthermore, replay events in the sensory cortex and hippocampus were coordinated to reflect the same experience. These results imply simultaneous reactivation of coherent memory traces in the cortex and hippocampus during sleep that may contribute to or reflect the result of the memory consolidation process.



<b>Date/Time</b>	<b>9 am</b>	<b>10:30 am</b>
Sep 3	Ballard - Intro	Ballard <b>cs</b>
Sep 7	Stone <b>cs</b>	<u>Miikkulainen <b>cs</b></u>
Sep 14	Ballard <b>cs</b>	<u>Geisler <b>psy</b></u>
Sep 21	Maddox <b>psy</b>	<u>Markman <b>psy</b></u>
Sep 28	<u>Kuipers <b>cs</b></u>	Porter <b>cs</b>
Oct 5	<u>Seidemann <b>neuro</b></u>	<u>Cormak <b>psy</b></u>
Oct 12	<u>Schnyer <b>neuro</b></u>	<u>Ress <b>neuro</b></u>
Oct 19	Discussion	Love <b>psy</b>
Oct 26	Mooney <b>cs</b>	<u>Gilden <b>psy</b></u>
Nov 2	Beer <b>psy</b>	<u>Grauman <b>cs</b></u>
Nov 9	<u>Hayhoe <b>psy</b></u>	<u>Hayhoe <b>psy</b></u>
Nov 16	<u>Boneyac <b>phil</b></u>	<u>Echols <b>psy</b></u>
Nov 30	<u>Kiran <b>psy</b></u>	Presentations
Dec 7	Presentations	Presentations



LOCATION: SEA Building 3<sup>rd</sup> Floor Conference 3.250