



AMERICAN MUSEUM OF NATURAL HISTORY

Neurobiology of Maternal Attachment

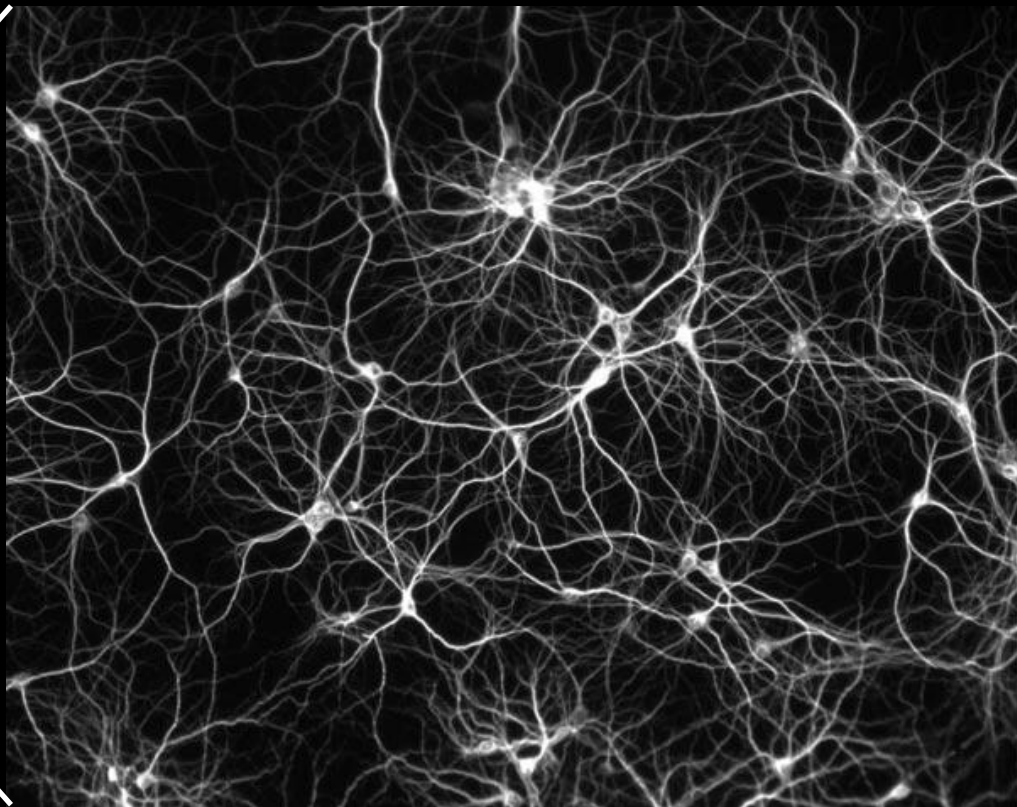
January 21st, 2017

Essential Questions:

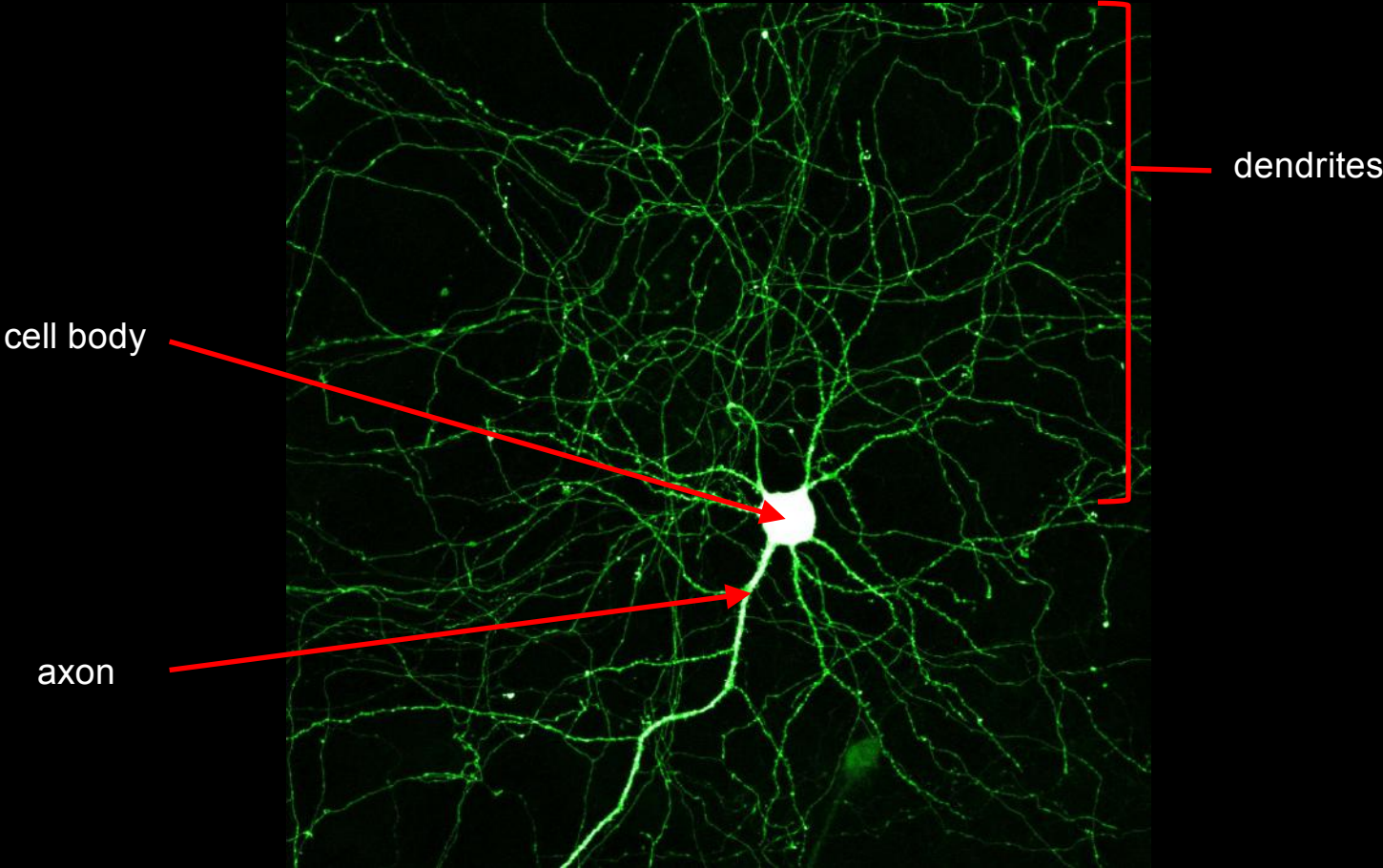
- How does the maternal bond develop at the neurobiological and psychological level?
- What is role of mother's milk in children's brain development and function?
- What are the implications of maternal deprivation on the adult brain?

Basics of the Brain

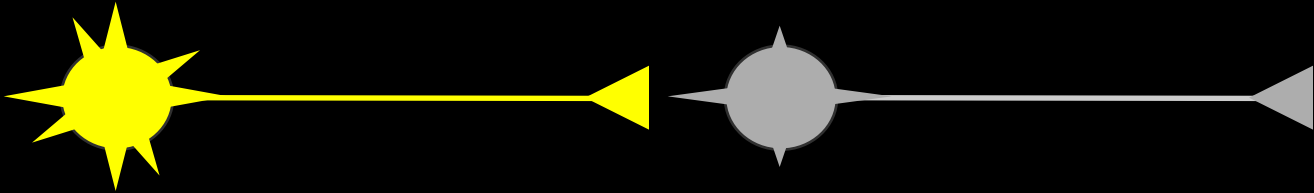
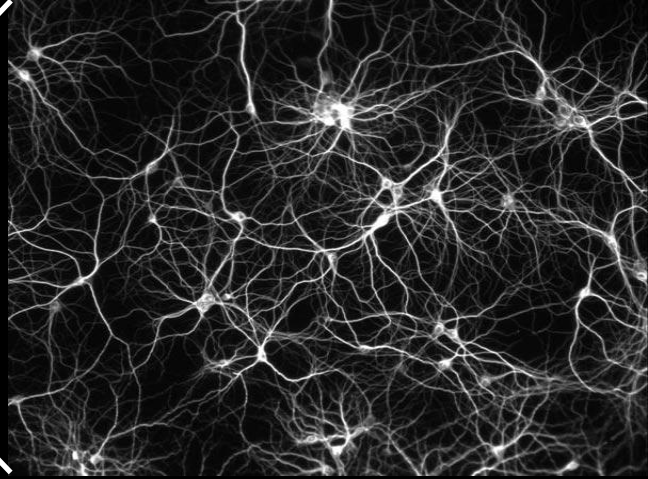
more on this during lunch...

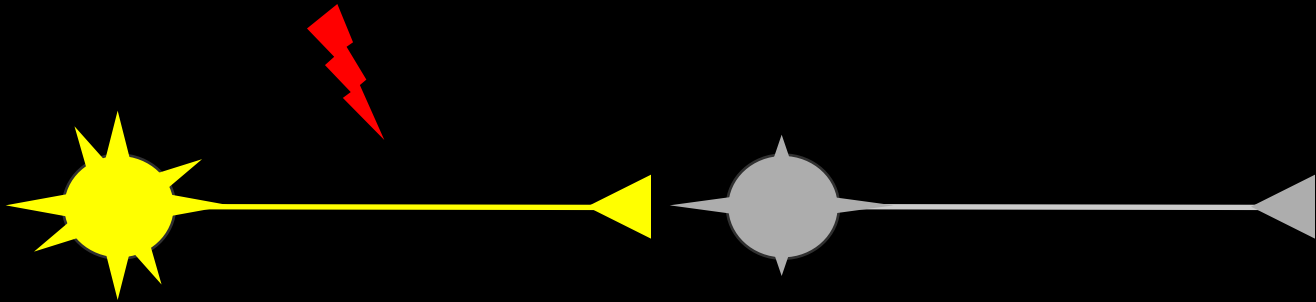
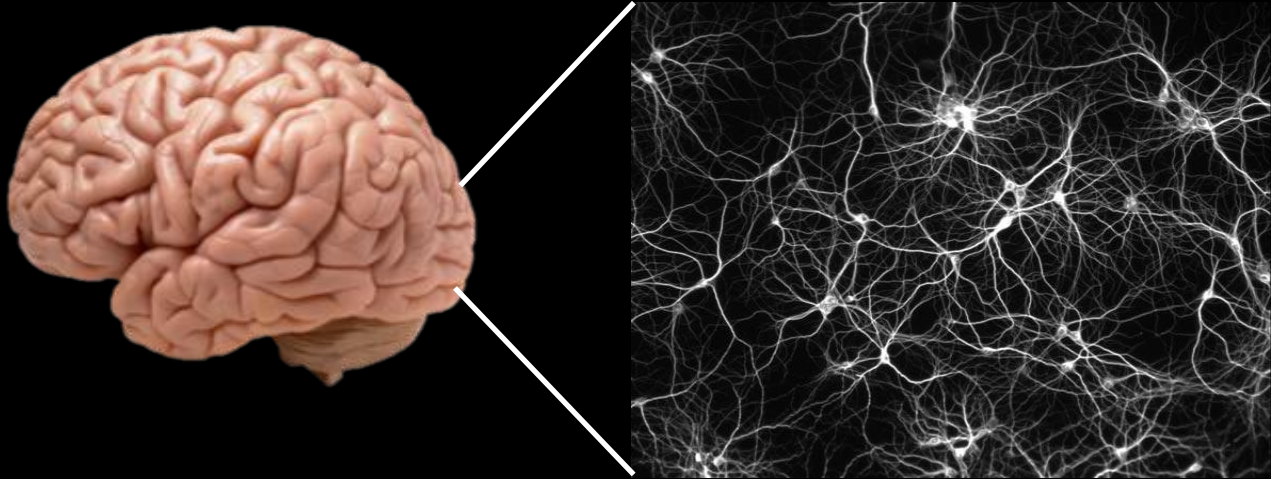


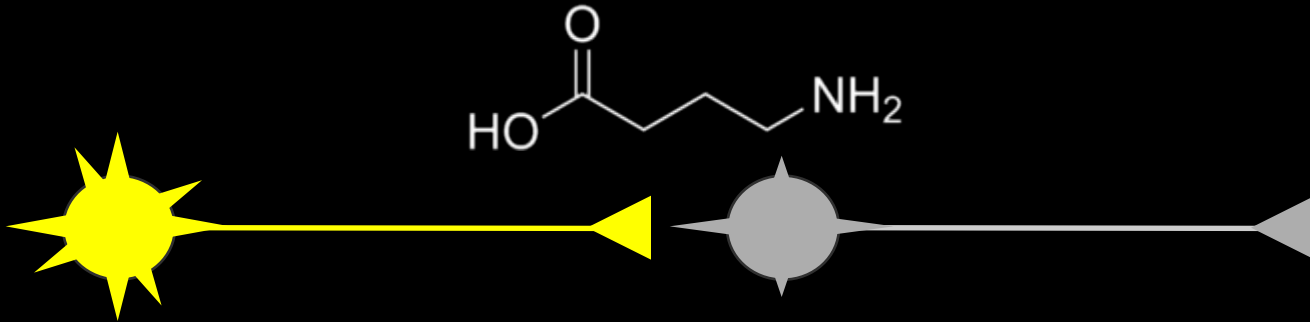
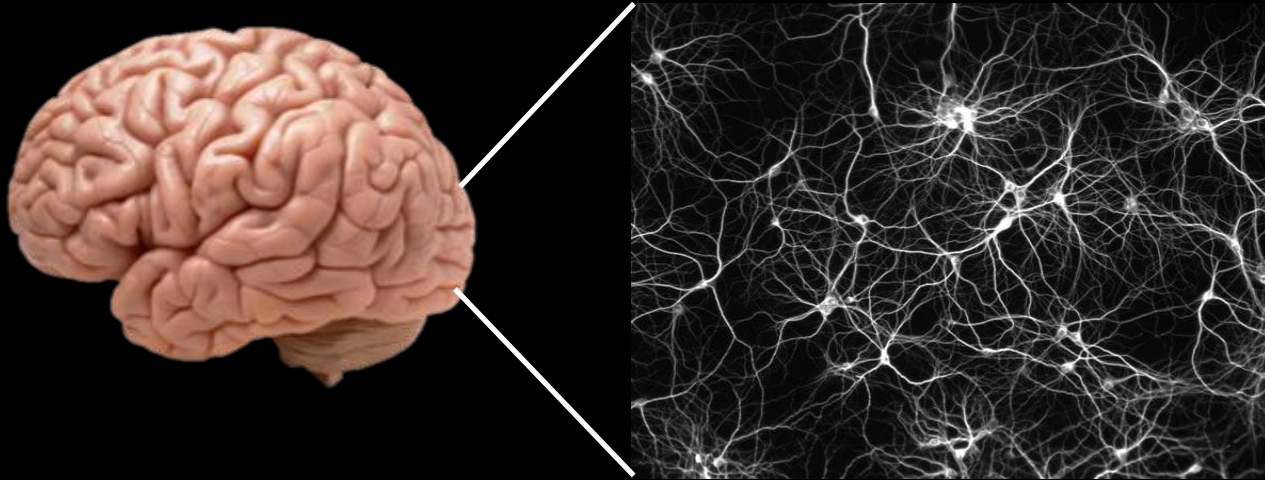
neurons are cells of the nervous system



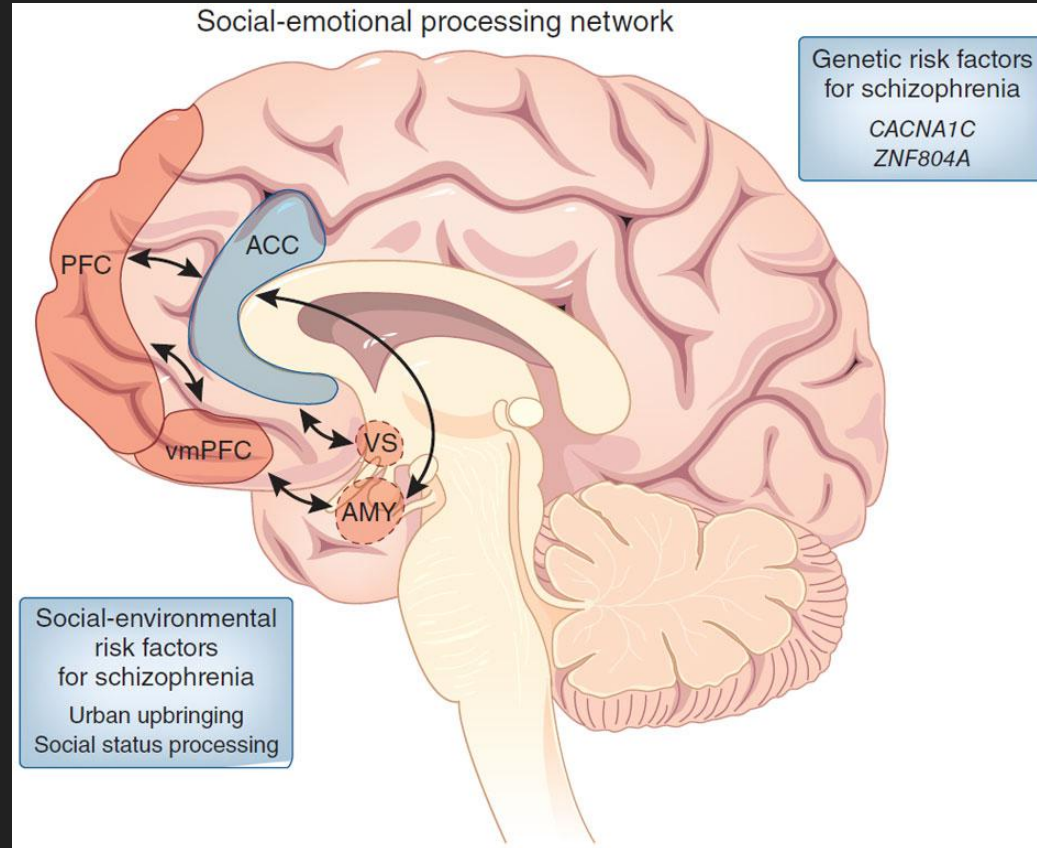
neuronal communication







neural circuits are pathways in the brain

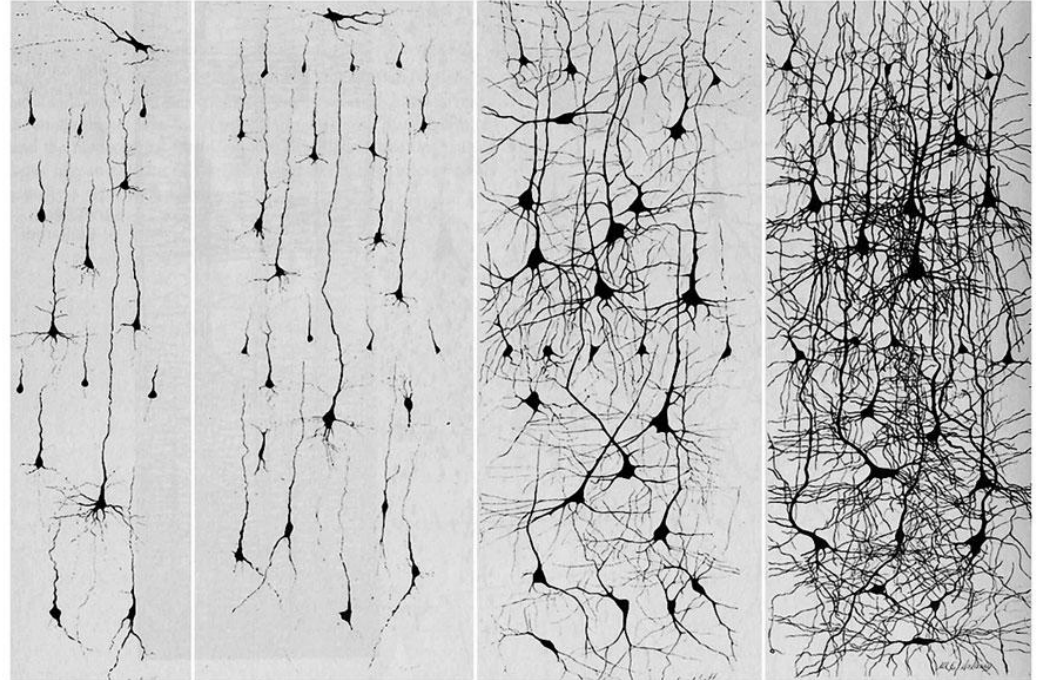


our brains are *plastic*:

can be shaped by
experience

most sensitive in early years
("critical period")

this is associated with
massive structural
changes to the brain



NEWBORN

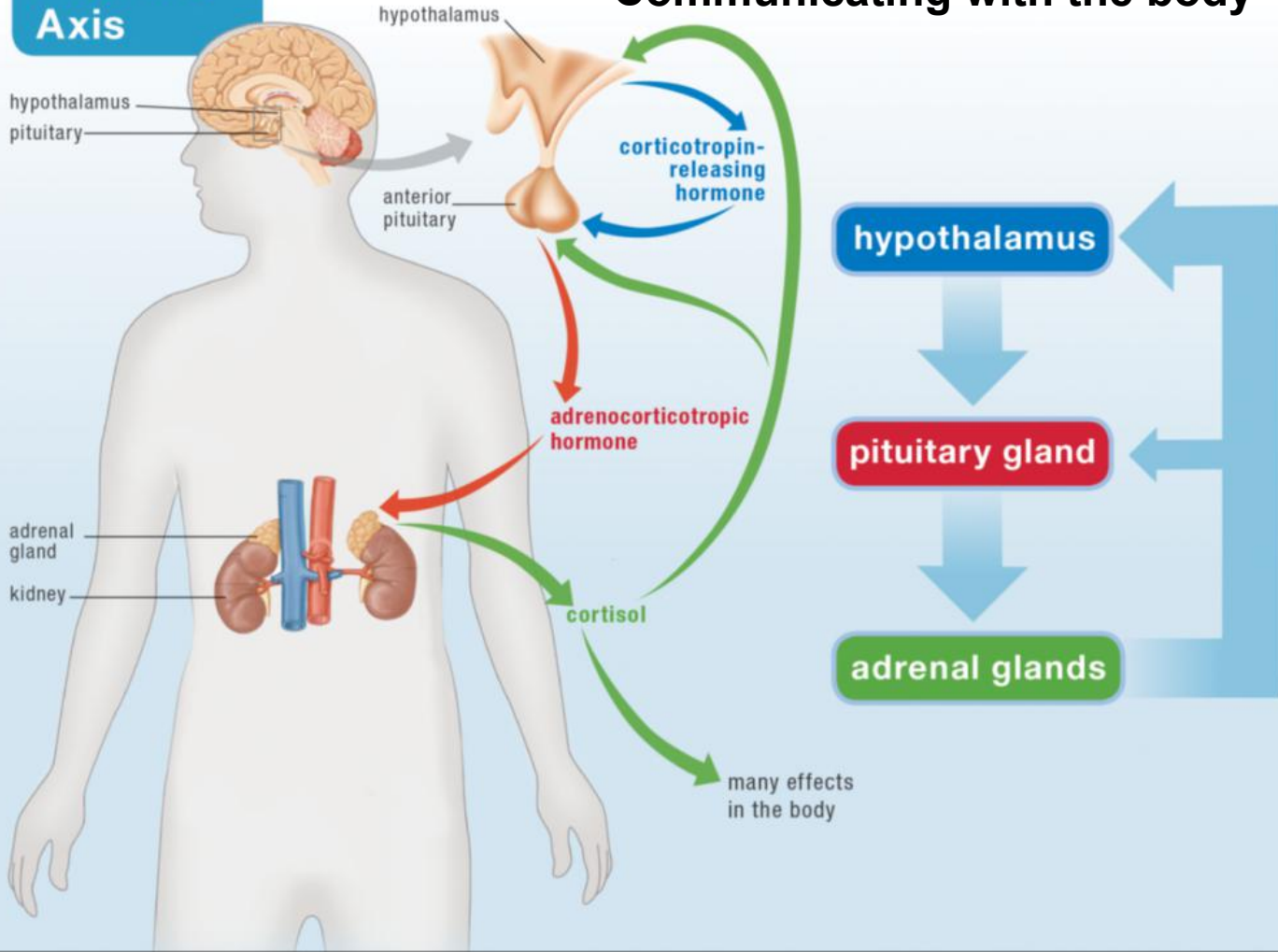
1 MONTH

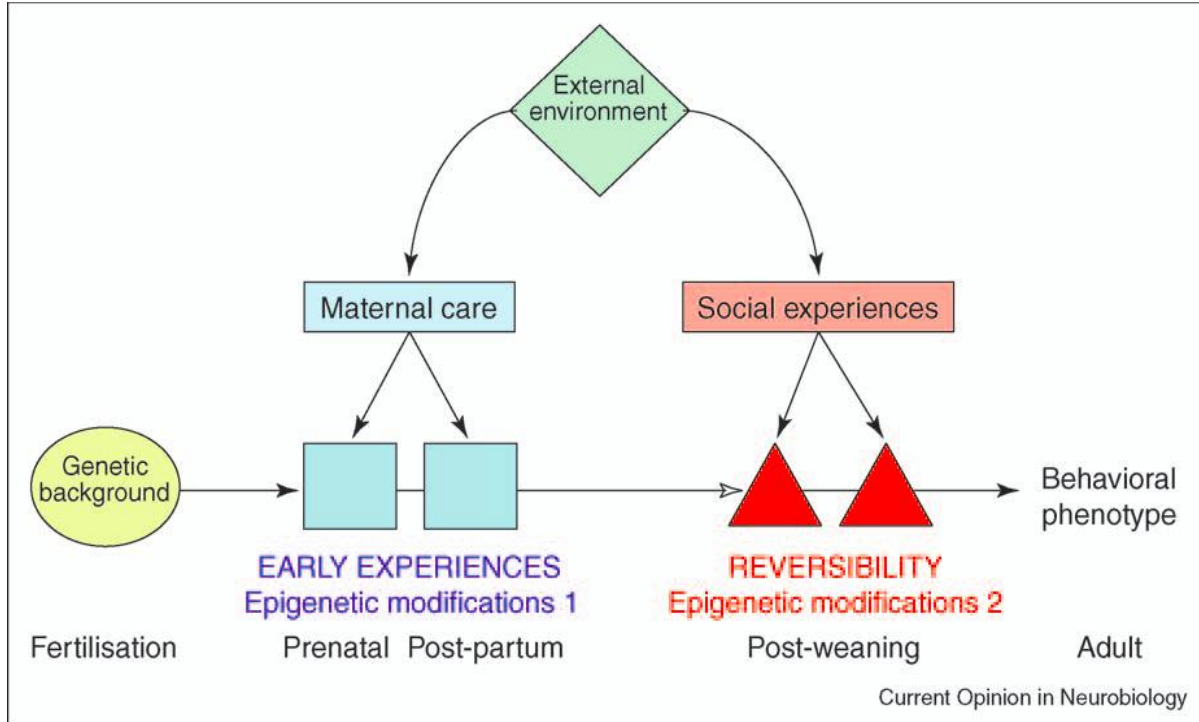
6 MONTHS

2 YEARS

The HPA Axis

Communicating with the body





From Champagne and Curley (2005)

our brains are *plastic*:

can be shaped by experience

most sensitive in early years (“critical period”)

this is associated with massive structural changes to the brain

molecular/cellular

- synapses become more efficient
- synapses are built and destroyed
- new molecules change synapses

cognitive

- behavioral changes
- personality
- perceptions