

The Physical Nature of the Brain

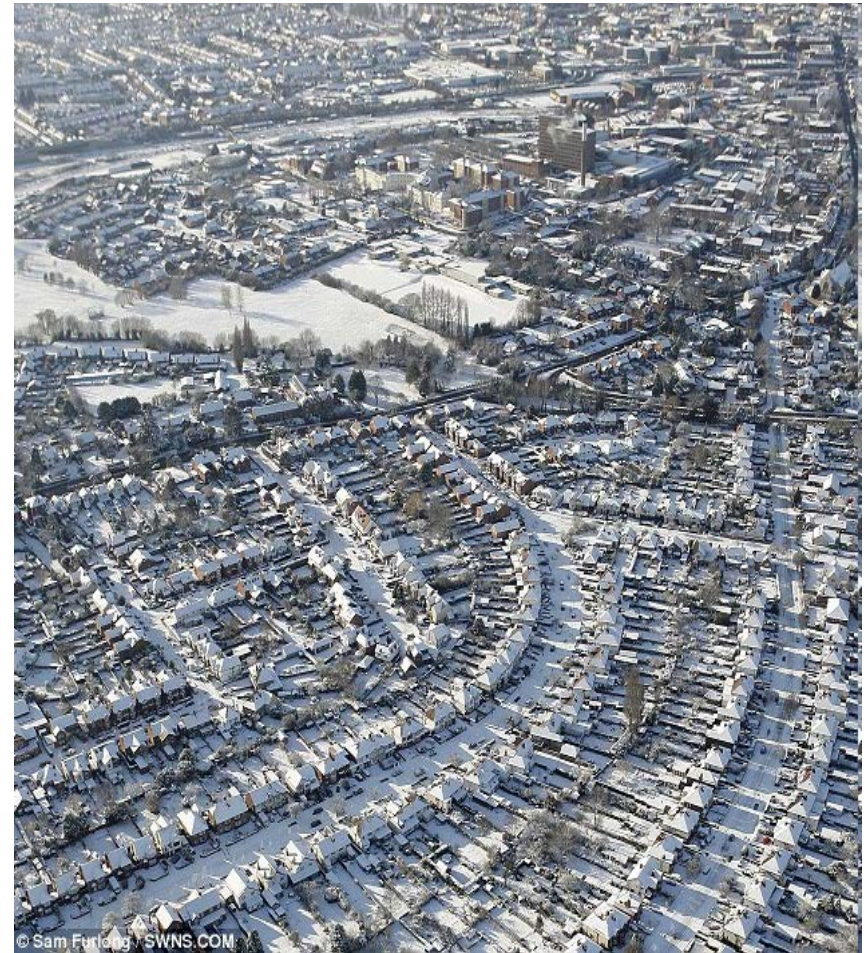
Neural communication

- Plasticity
- Cognition happens
 - » Reasoning
 - » Comprehending
 - » Inferring



Reshaping Neurons

- Plasticity
 - The brain's ability to reshape & remold itself.
 - Neurons build additional connections & increase the complexity of those already existing.
 - The changes alter the cortical maps of the brain.



Creating Meaning

- Role of Hippocampus
 - Ties cognitive & emotional memory together.
 - Stores long-term memory particularly for factual information.
 - Acts as a switchboard that activates stored information from other brain storage areas when called upon.
 - Builds meaning for the learner as old & new information is integrated.

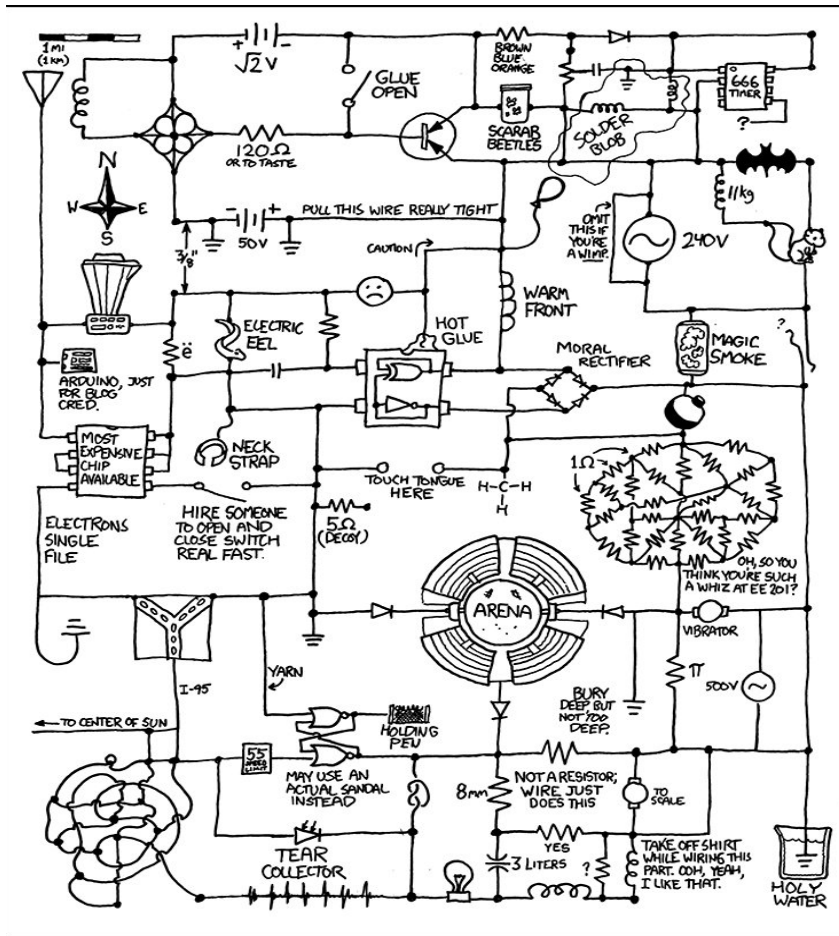
Merging Information

- Consolidation
 - Major function of the hippocampus
 - It merges stored information with new learning.
 - Creates meaning & strengthens neural system.
 - Short periods of learning. Greater practice means greater change in modality for the developing brain.
 - Logical nature & relevancy of the material

Cognitive Hardwiring Criteria

- Working Memory
 - Logical nature of the material
 - Relevance to the learner
 - Frequency & type of practice
 - Consolidation of the material

Sense & Meaning



- Criteria for consolidation
 - Is the material logical?
 - Is the information relevant to me?