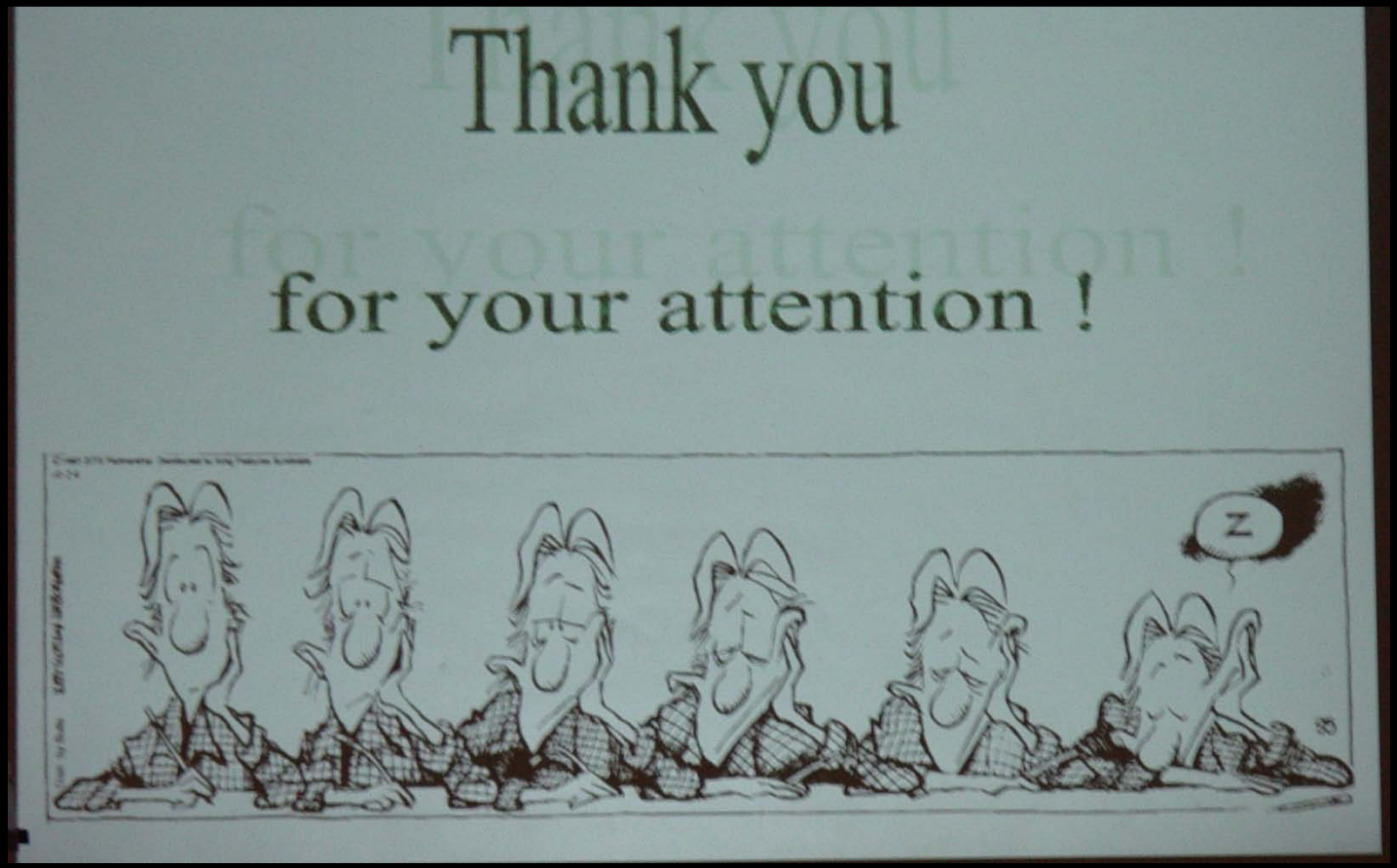
COGS 160 – Fall, 2010 – Professor Nitz

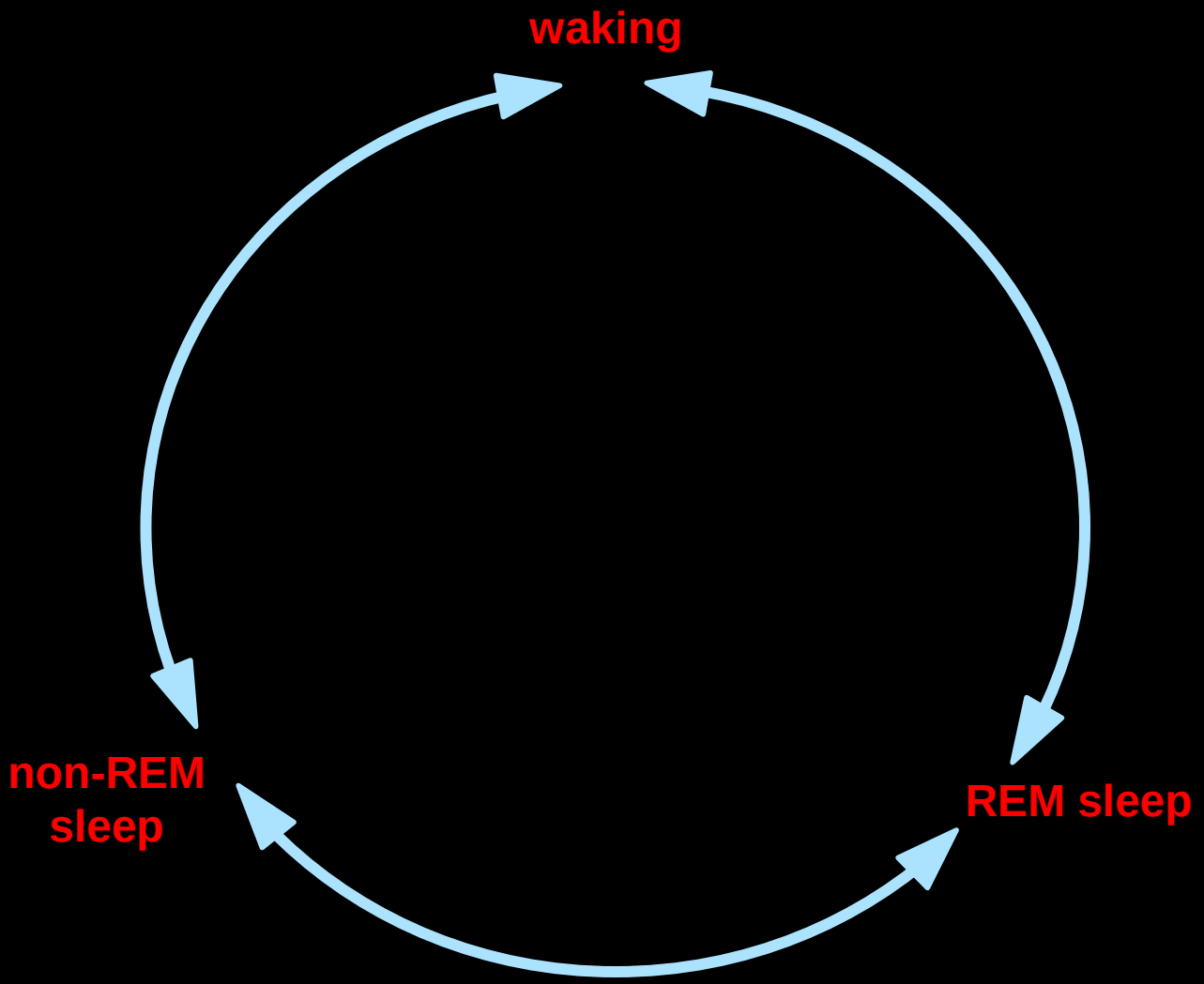
from sleep to attention

class website at: www.dnitz.com



what do you suppose happened here?

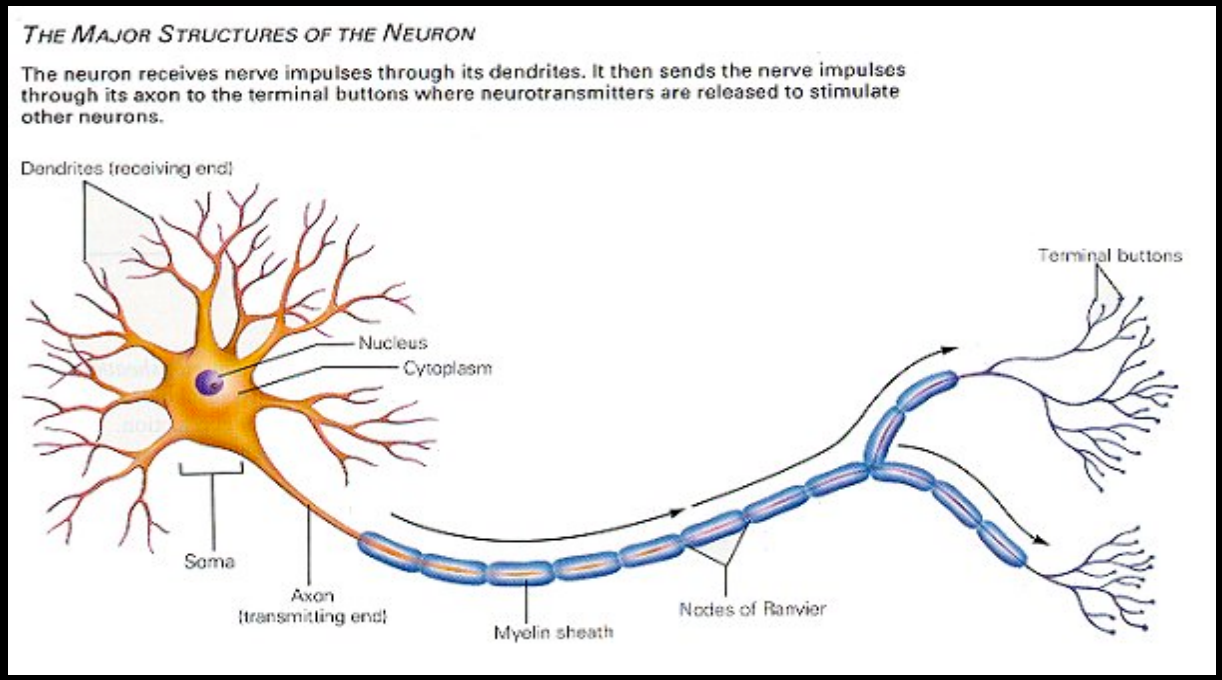
the continuum between sleep and attention can be represented as a circle as opposed to a line



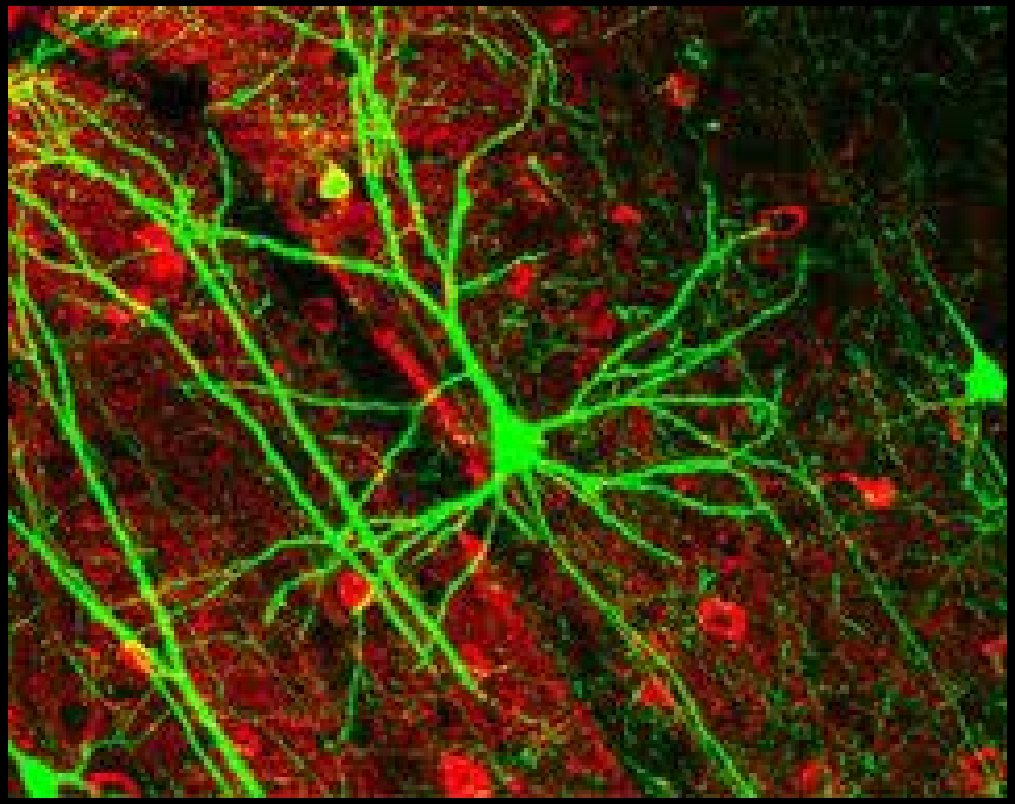
Cajal's 'neuron doctrine': the neuron as the basic structural and functional unit of the brain

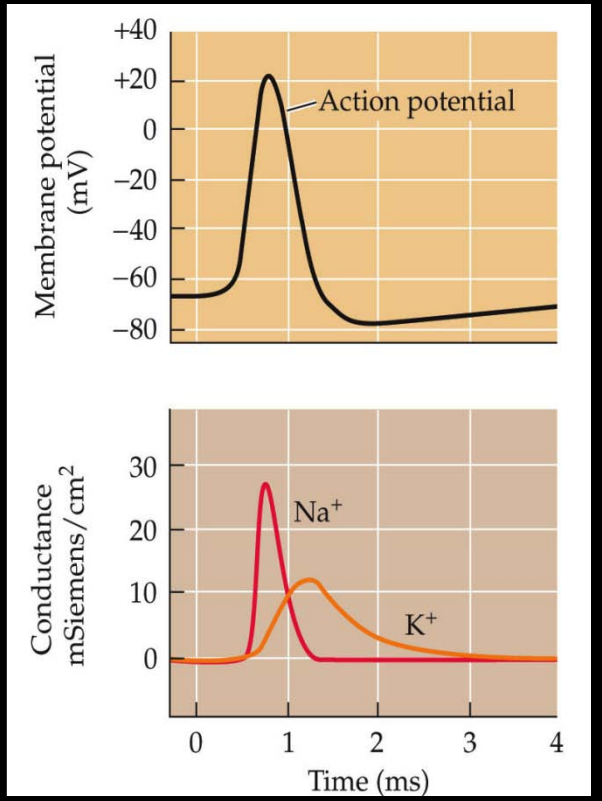
Cajal's 'law of dynamic polarization': neural / electrical transmission proceeds in one direction -

dendrite / soma → axon → axon terminal

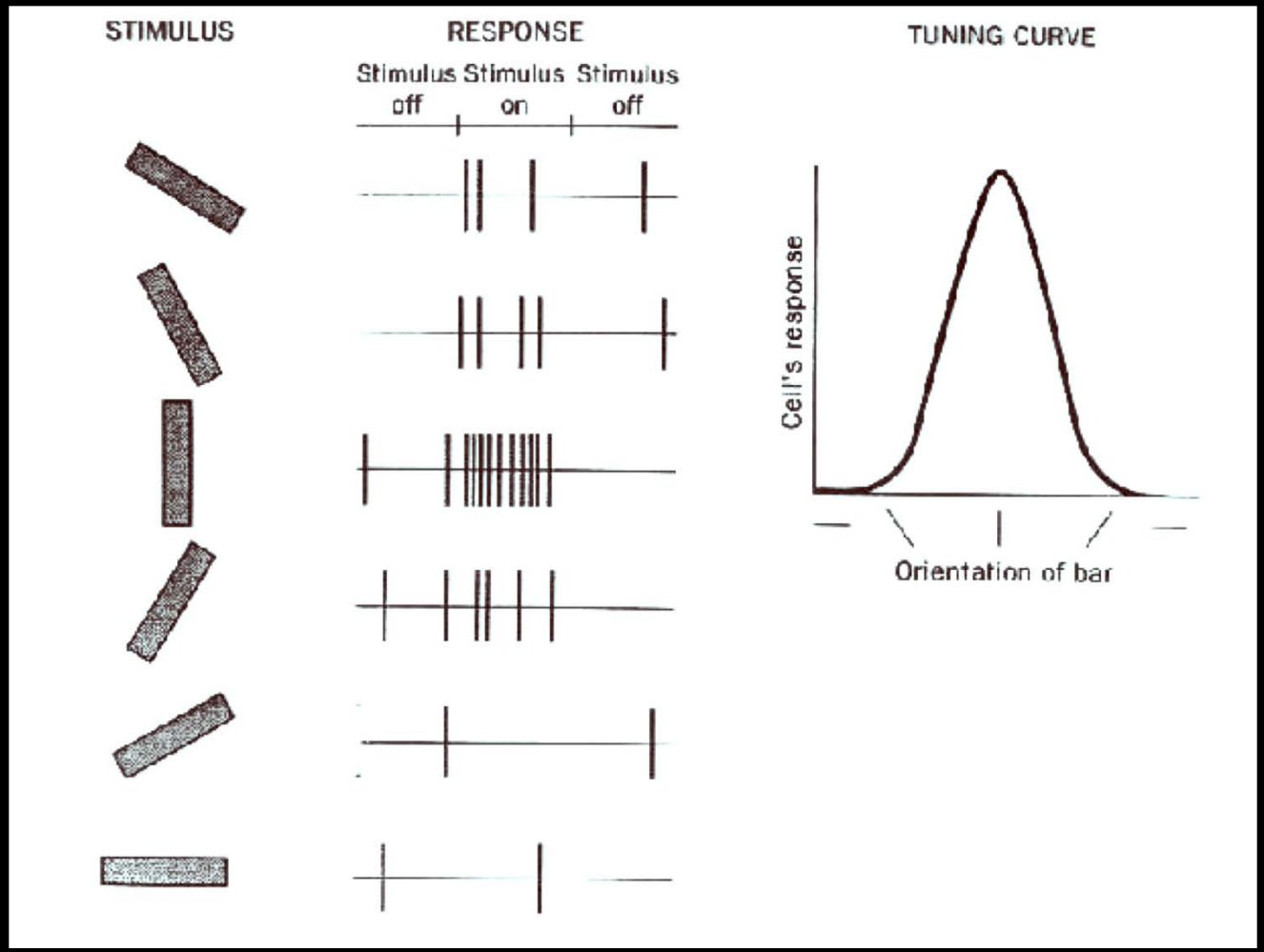


action potentials: all or none electrical events in neurons that mediate transmission of information in the brain

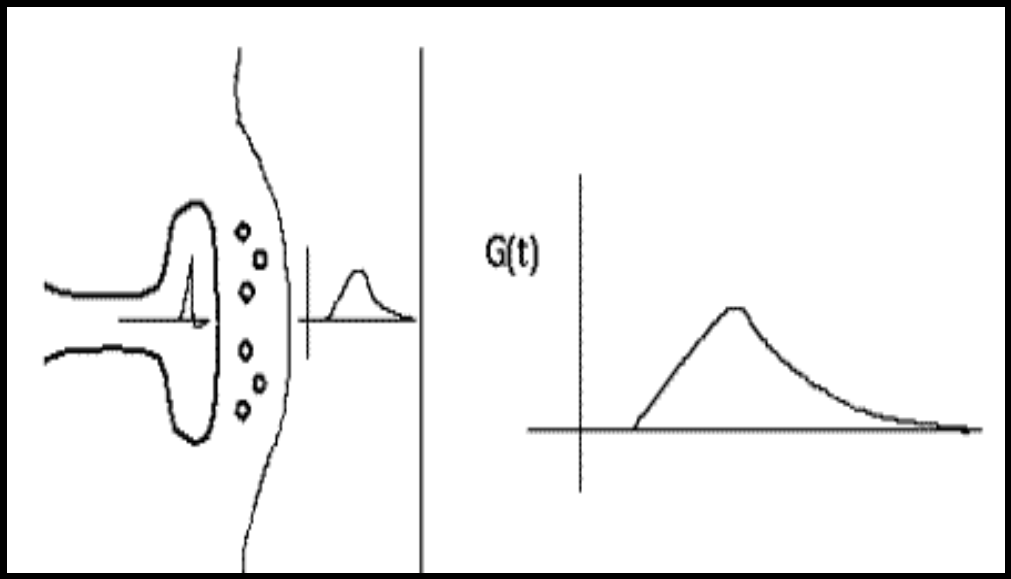




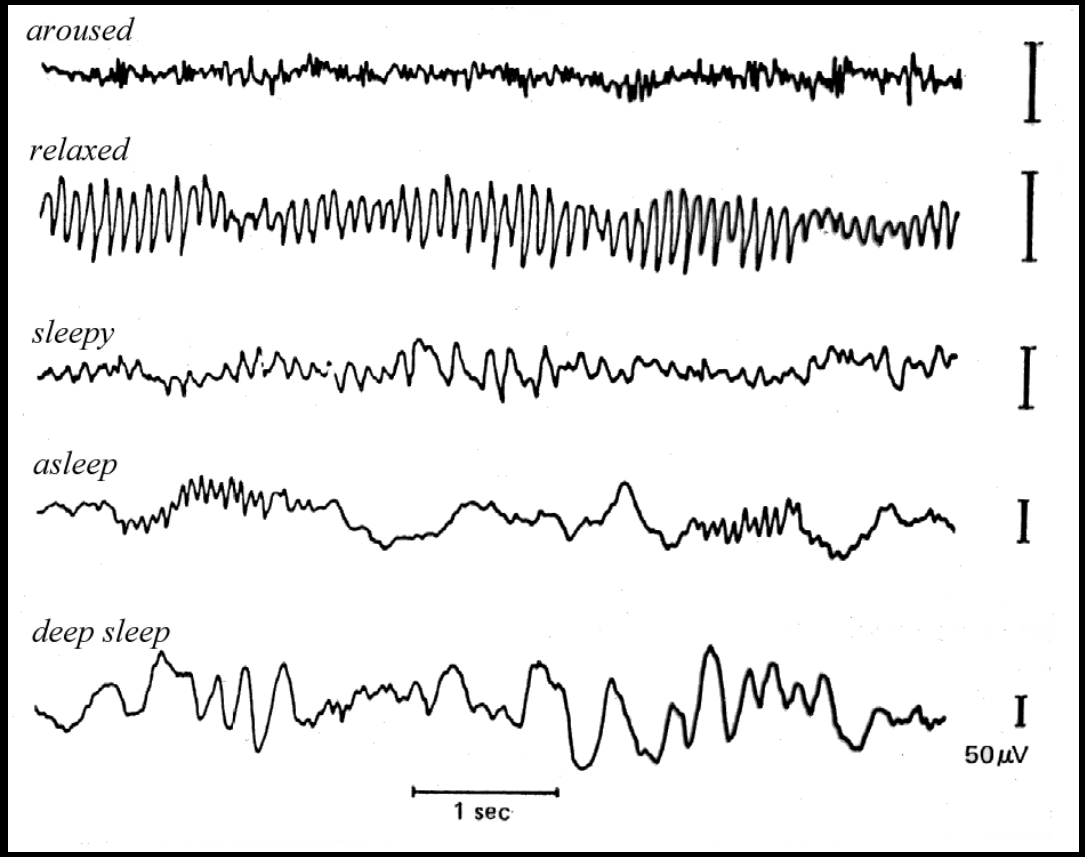
orientation tuning in primary visual cortex

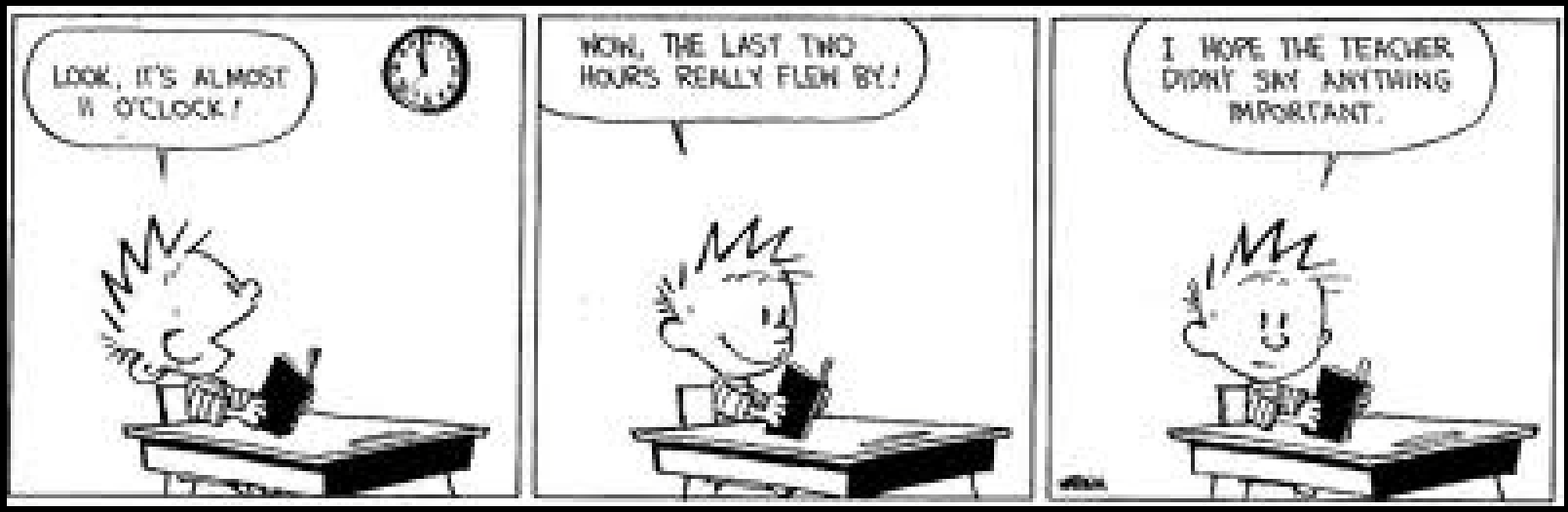


synaptic potentials: graded electrical events occurring within a neuron's dendrites or soma occurring as a result of transmitter release from another neuron's axon terminal



local field potentials: reflect the sum of all synaptic potentials among a large population of neurons





…a final note - both sleep and attention alter perception of time