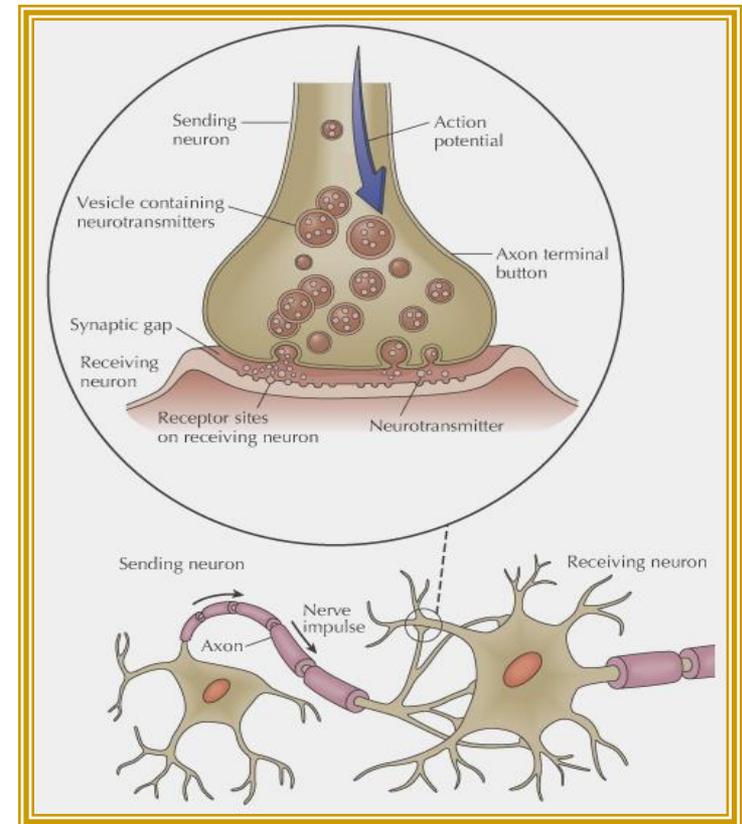


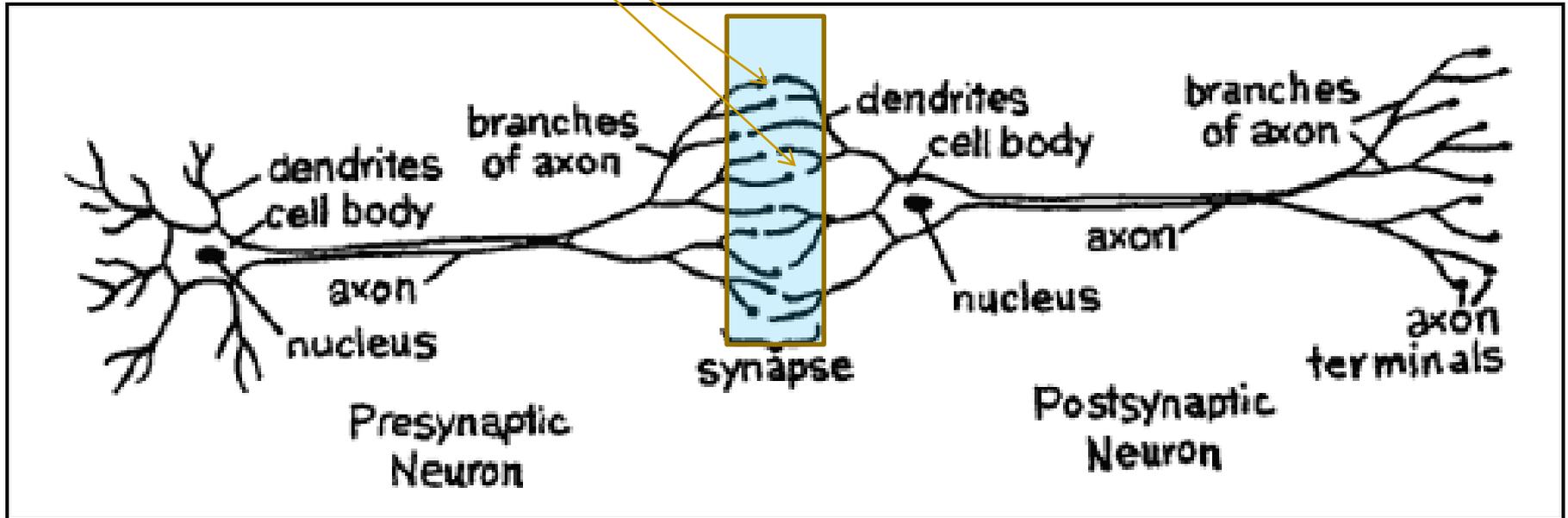
Neural Bases of Psychology: Neural Communication (Continued)

- *Between* neurons, communication occurs through transmission of neural information across a **synapse** by **neurotransmitters** (chemicals released by neurons that alter activity in other neurons).



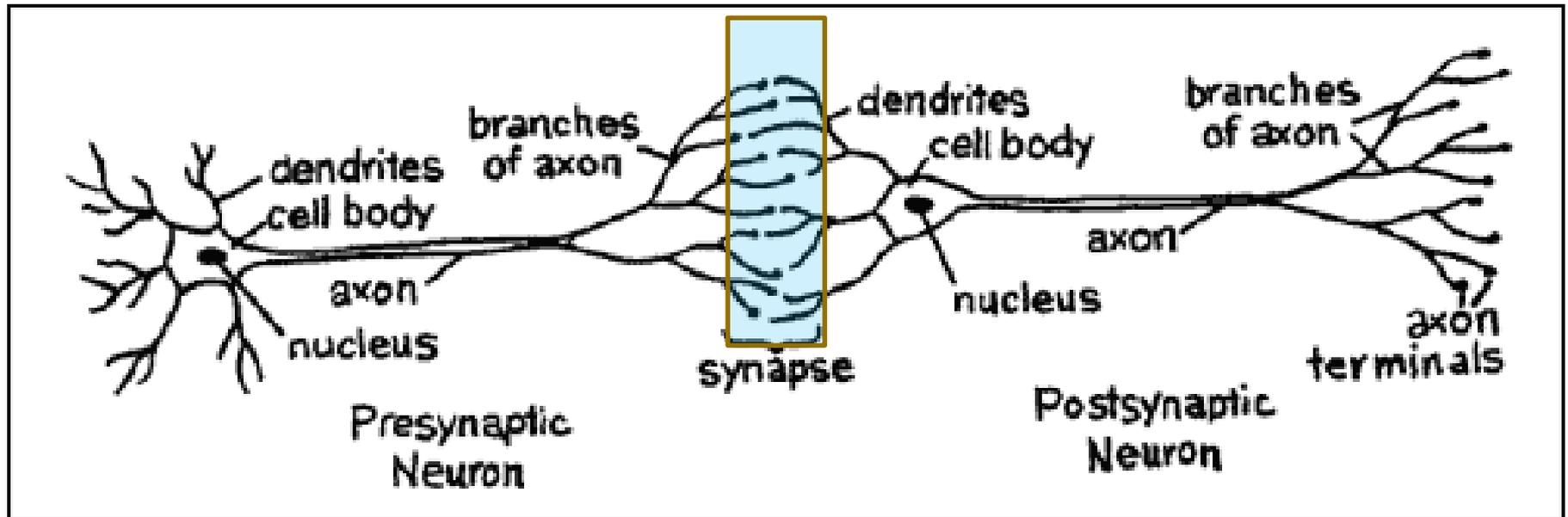
Transmission between neurons

Synaptic gap – less than 1 millionth of an inch wide



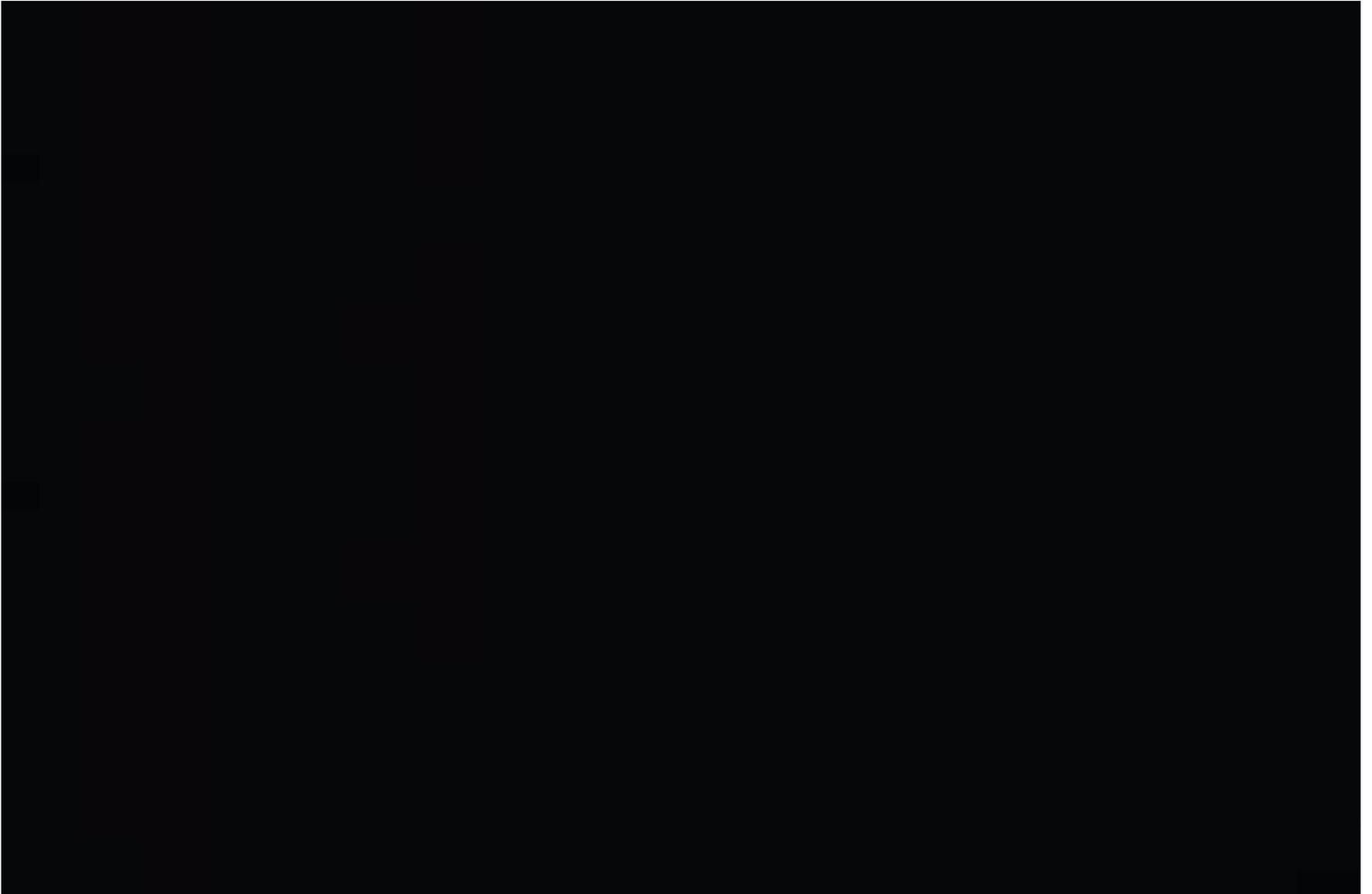
Synapse [SIN-aps] A junction between the axon tip of the sending neuron and the dendrite or cell body of the receiving neuron. This tiny gap is called the *synaptic gap* or *cleft*.

Transmission between neurons



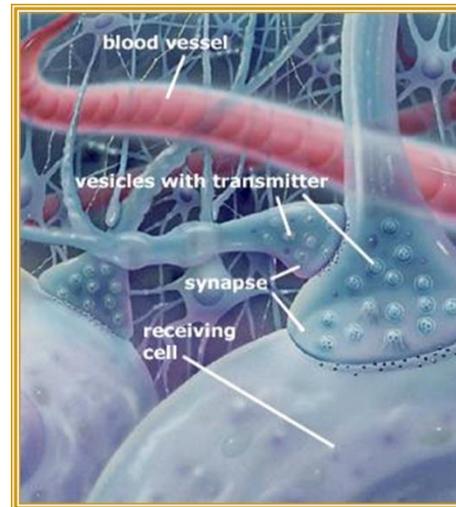
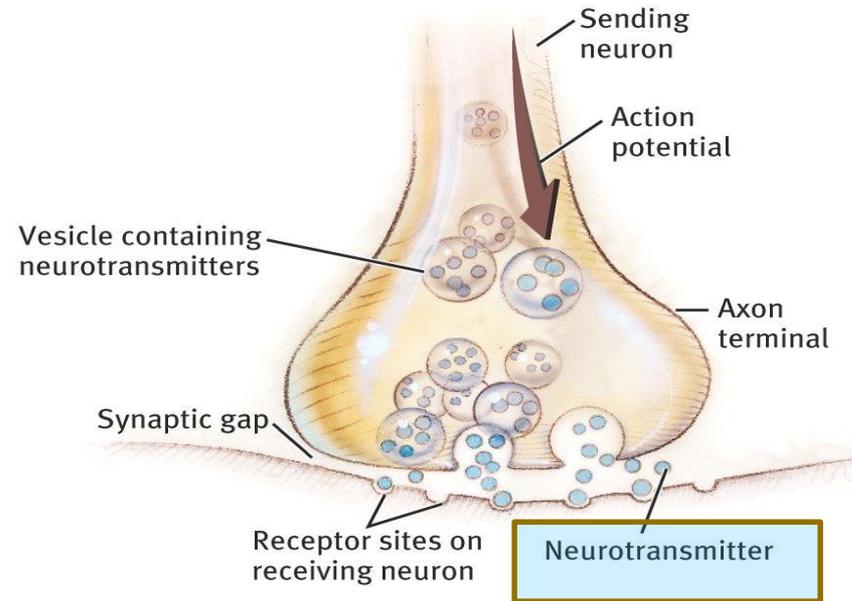
Neurons transmit information to other neurons.
Information passes from the axon of the presynaptic neuron to the dendrites of the postsynaptic neuron.

Neurons and Neurotransmitters



Neurotransmitters

(chemicals) released from the sending neuron travel across the synapse and bind to receptor sites on the receiving neuron, thereby influencing it to generate an action potential.



Neurotransmitters

- Dopamine (NT): excessive levels in the brain associated with schizophrenia and low levels associated with Parkinson's disease
-

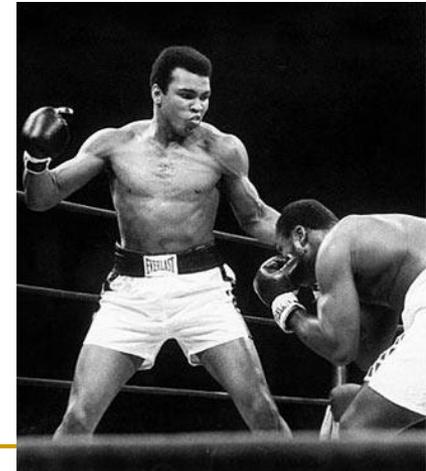
Parkinson's Disease and Neurotransmitters

1. When the *dopamine* level drops below 80%, symptoms of Parkinson's disease begin to emerge.
2. The loss of dopamine causes the nerve cells of the basal ganglia to fire out of control, leaving patients unable to direct or control their movements in a normal manner.

SOME PEOPLE WITH PARKINSON'S DISEASE



Glogster
poster yourself



Dr. Oliver Sacks

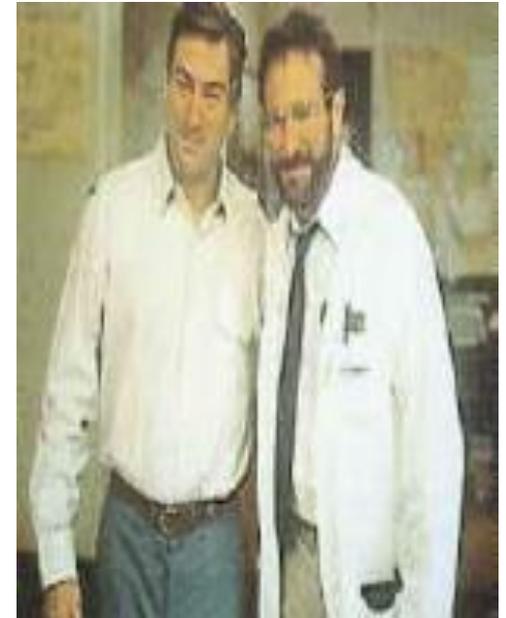
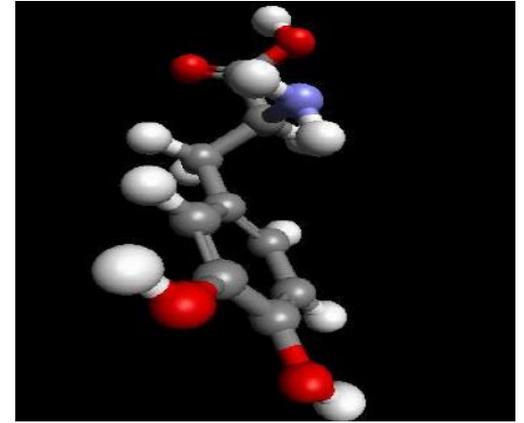
- Dr. Oliver Sacks documented one patient.
 - The patient would move his arm so slowly, it was virtually undetectable.
 - AM – hand on knee
 - Noon – Hand halfway to face
 - Evening – at his nose
 - After administering L-Dopa, patient told him “I was merely wiping my nose.”
-





L-Dopa

- Dr. Sacks treated his patients with the then-experimental drug, L-dopa
- L-Dopa is an *amino acid* and absorbed by the digestive system
- Pharmacologists found that L-dopa could cross the blood-brain barrier, whereas, *dopamine* treatments could not.



•The blood-brain barrier prevents many low-life forms, such as toxins, that make it into the blood stream from tainting the brain's pristine nerve cell habitat.

