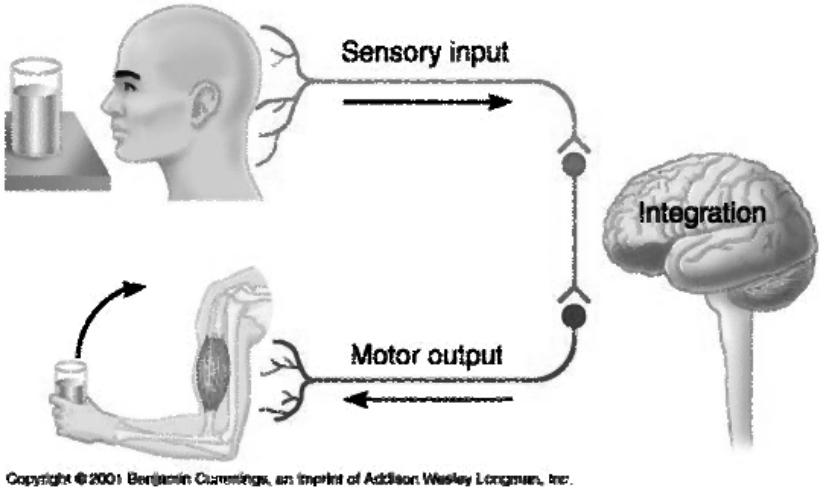
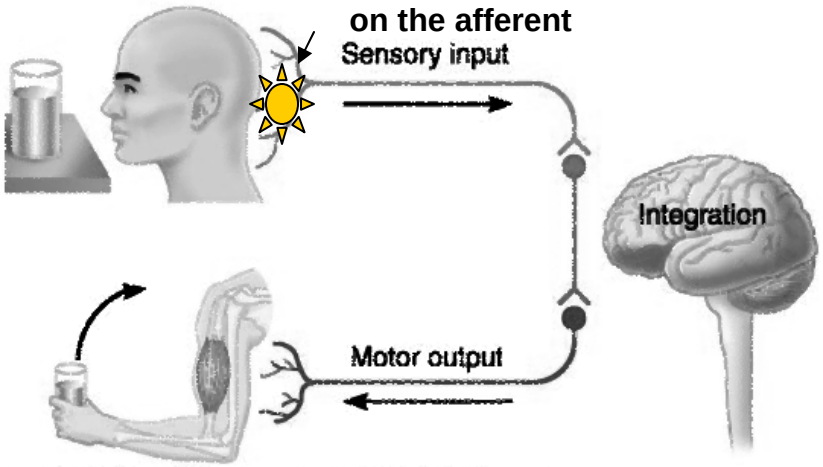
New student notes to go in Nervous Chapter, just before section entitled "b) reflex arcs"

iv. Transmission of the signal (AP) from 1 tissue to the next

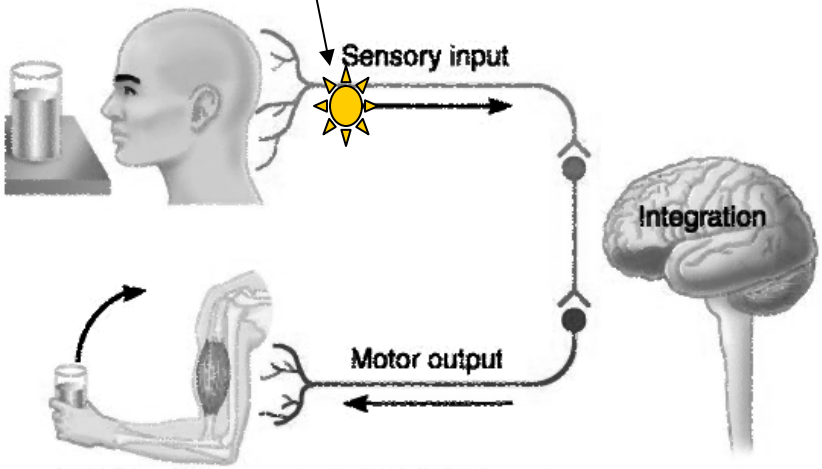


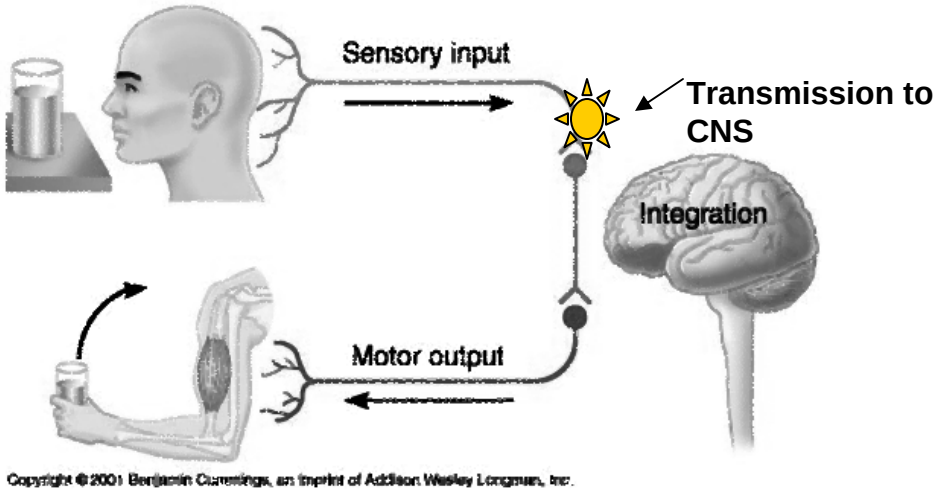
Information is only useful if it can be passed from 1 tissue to the next!

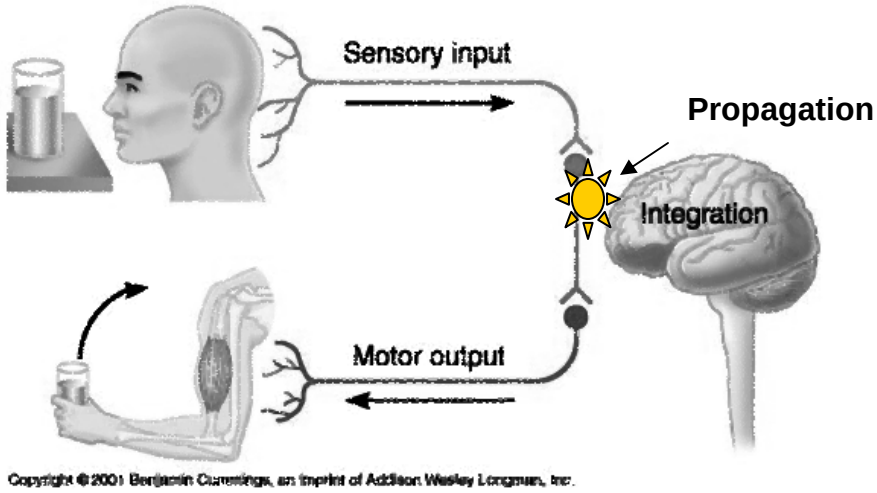
Generate an AP on the afferent

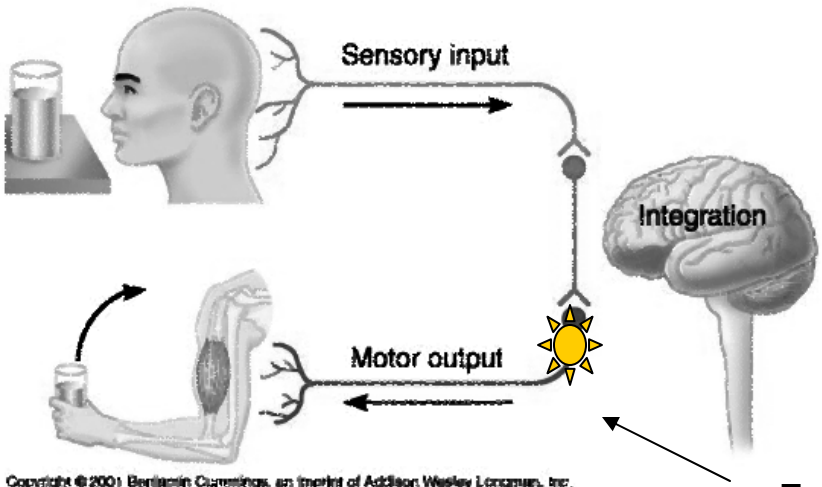


Propagate an AP

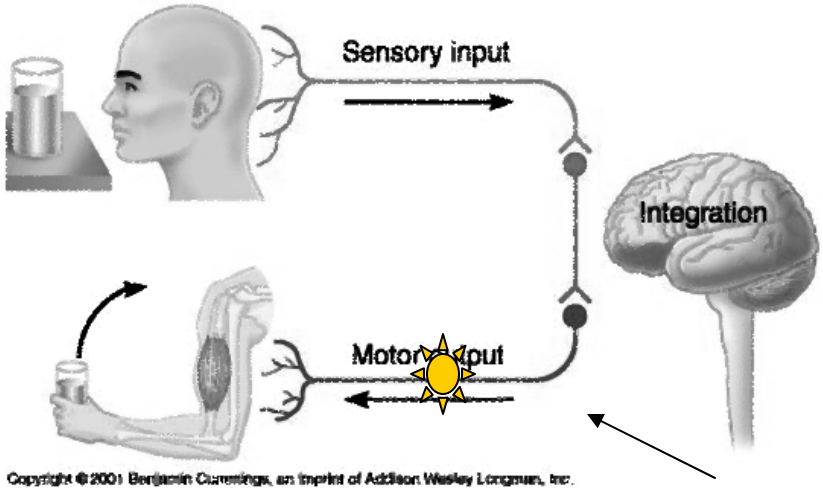




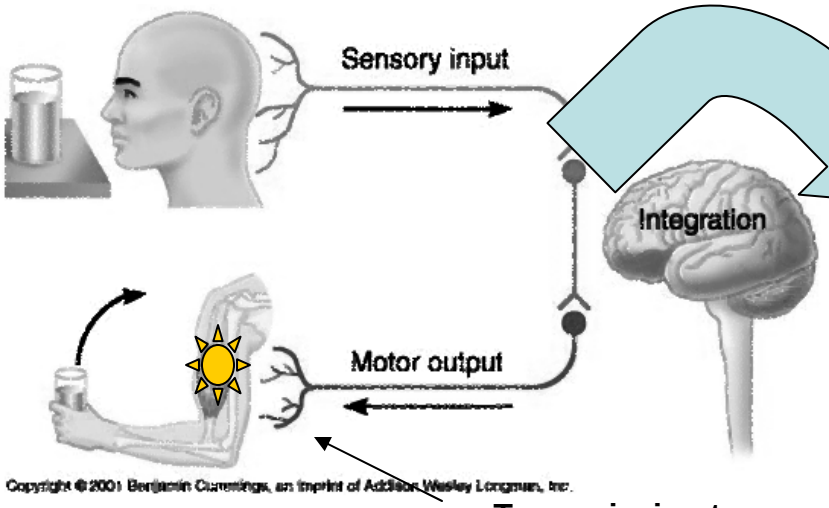




Transmission to Efferent



Propagation



Transmission to Effector

Special structure that helps move it from 1 tissue to the next…the SYNAPSE

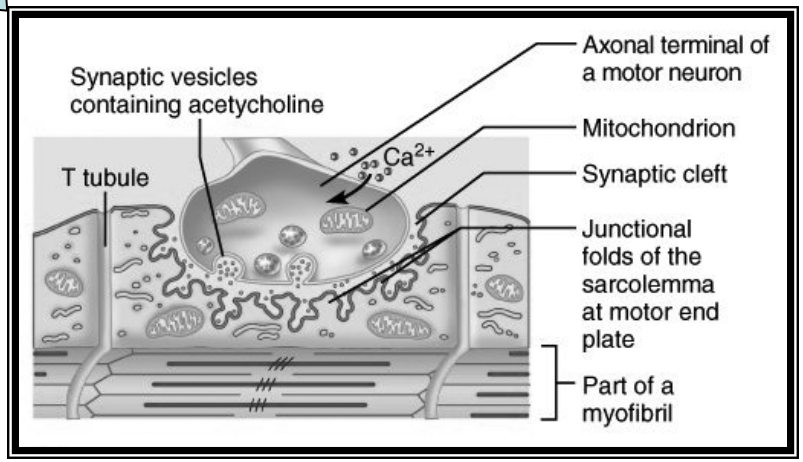


IMAGE IN TEXTBOOK

Impulse (AP) is not transmitted directly. Instead, use a chemical called a NEUROTRANSMITTER

*vesicles with neurotransmitters : sacs with a chemical that can cause an impulse (AP) on the receiving cell

*cleft or gap : a short gap between the neuron and the receiving cell.

* Start a depolarization on the next membrane

If the depol is strong enough, there is an AP on the next membrane

Since the effectors are excitable, we have the same system for them, too!

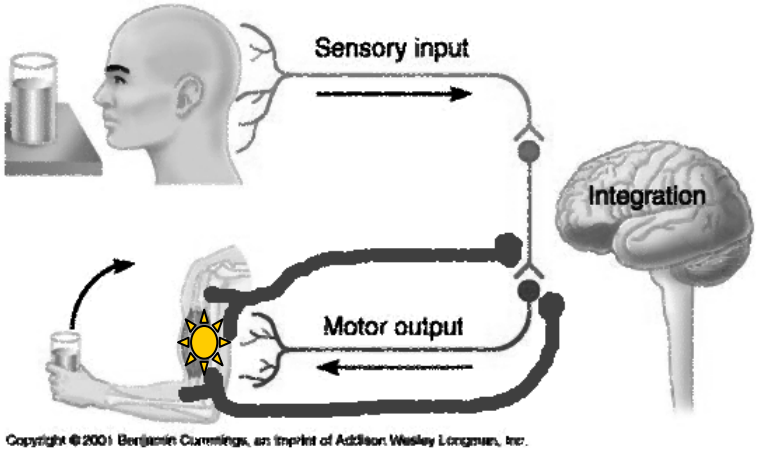
Therefore, these are “ELECTROCHEMICAL EVENTS”

The neurotransmitter will be acetylcholine (ACh) or another chemical, depending on the effector and what we want it to do.

Excitatory neurotranmitters: increase activity

Inhibitory neurotransmitters: decrease activity

*a neurotrnamitter can be excitatory on one tissue, but inhibitory on another!



Why do it this way?

Now, more than 1 part of the CNS can control the effector.

Maybe the eyes and thirst centers are saying "drink it!",

But the input from the nose is saying "NO!!"

Transmission to Effector