**Learning and Classical Conditioning**

One of our most enduring abilities that have ensured our survival is our adaptive ability which in turn is made possible by our ability to learn. **Learning**is defined as an enduring change in behavior and knowledge due to experience. Organisms learn by forming associations between cause and effect (or two events). In other words, they are exhibiting **associative learning.**People associate the sight of lightning with thunder so next time they see lightning they anticipate thunder. Learned associations were of particular interest to John Watson and later, Ivan Pavlov and B.F. Skinner as seen in their research on classical conditioning and operant conditioning respectively. Albert Bandura showed that learning also occurs by observation and the ways in which we imitate one another.

**Behaviorism**, developed by John Watson, is the view that psychology should be an objective science and one in which we study how organisms respond to their environment.

***Classical Conditioning***

**Classical Conditioning,**developed by **Ivan Pavlo**v, is a type of learning in which a stimulus is associated with an ***Involuntary Response.***Pavlov was famous for his dog salivation experiment in which he accustomed dogs to salivate at the sound of a tone.

Classical conditioning is based on **Respondent Behavior**in which there isan automatic response to a certain stimuli ("responding behaviors"). The following terms are important to the description of and understanding of Pavlovs research:

**1. Unconditioned Response (UCR) :**the normal response to a unconditional ("unlearned") stimulus. For instance, in Pavlovs experiment, the normal response a dog has when presented with food is *salivation*. Salivation is the UCR.

**2. Unconditioned Stimulus (UCS) :**the stimulus that triggers the normal response (UCR). For instance, the *food*is the UCS in Pavlovs experiment- it "naturally" triggers salivation.

**3. Conditioned Response (CR) :**the response that is learned ("conditioned"). For instance, Pavlovs dogs learned to *salivate* upon the presence of a ringing tone because the tone was associated with the food. Salivating to the sound of the tone is the CR.

**4. Conditioned Stimulus (CS)**: a neutral stimulus that triggers a learned response. For instance, the *ringing tone* is a CS because the dog learned to salivate at the presence of a ringing tone as opposed to the presence of the food alone.

NOTE: This kind of association is possible because Pavlov presented a ringing tone every time*before* the food was given to the dog. Eventually, the dog learned to anticipate food at the sound of ringing, so the dog would salivate.

\*\*See Pavlovs classic experiment in the text.

**There are 5 major processes with Classical Conditioning:**

1. **Acquisition**The initial formation of the association between CS and CR. This works well when the CS is presented *half a second before* the UCS is presented.

2. **Extinction -**If the UCS is not presented after CS for a couple of times, the organism will not respond to the CS. For instance, If after the ringing tone no food arrives, the dog stops salivating at the presence of just the tone.

3. **Spontaneous Recovery**However, if the UCS is again presented after the CS, extinction ceases and the organism again begins to respond to the CS. For instance, if the food is again presented after ringing, the dog salivates.

4. **Generalization**The tendency for organisms to respond similarly (to generalize) to similar stimuli as the CS. For instance, Pavlovs dog salivating to the sound of beeping that is similar to ringing. This is good because if you teach children to watch out for cars, they will also watch out for similar objects like trucks and vans.

5. **Discrimination**The ability to distinguish (discriminate) between different stimuli thereby allowing you to react differently to different things.

***Contradictions:***

1. Rats will learn to avoid the food that made them ill even if the illness happens hours after eating it.
2. Rats will dislike the taste that made them ill but not the sight of the food.

Pavlovs Classical Conditioning has led to a variety of practical uses such as helping drug addicts, increasing the immune system efficiency, and treating emotional disorders.