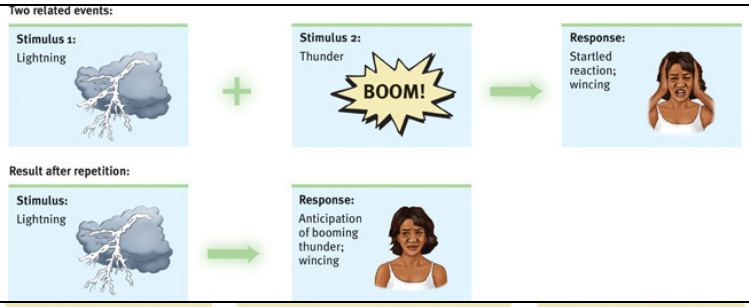
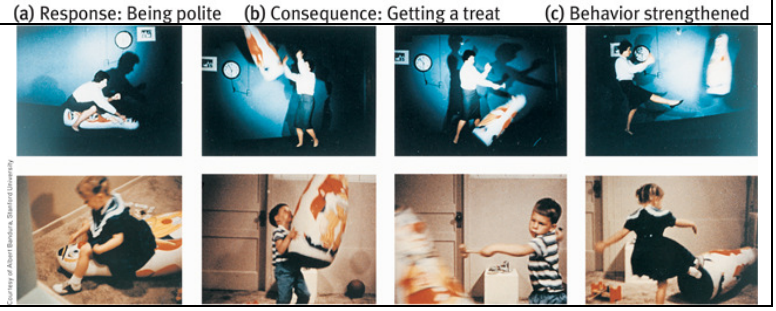
Learning

Learning: The process of acquiring through experience new information or behavior (page 280). There are three basic types of learning

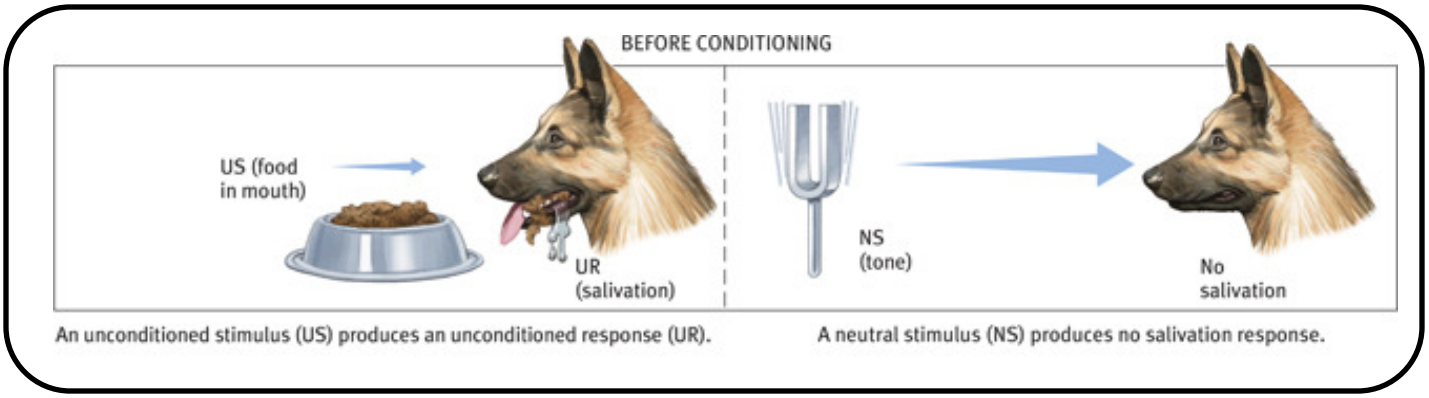
Classical Conditioning	usually involves involuntary responses	
Operant Conditioning	usually involves voluntary responses	
Observational Learning	Learning by watching others	

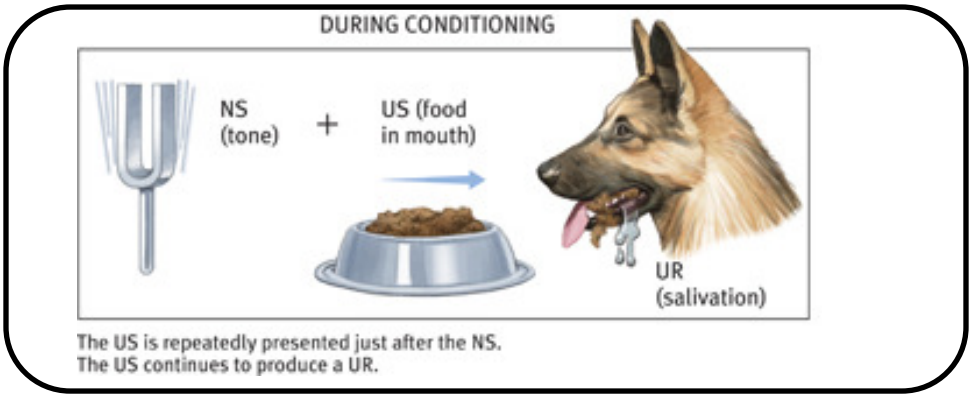
Learning: Learning: The process of acquiring through experience new information or behavior (page 280).

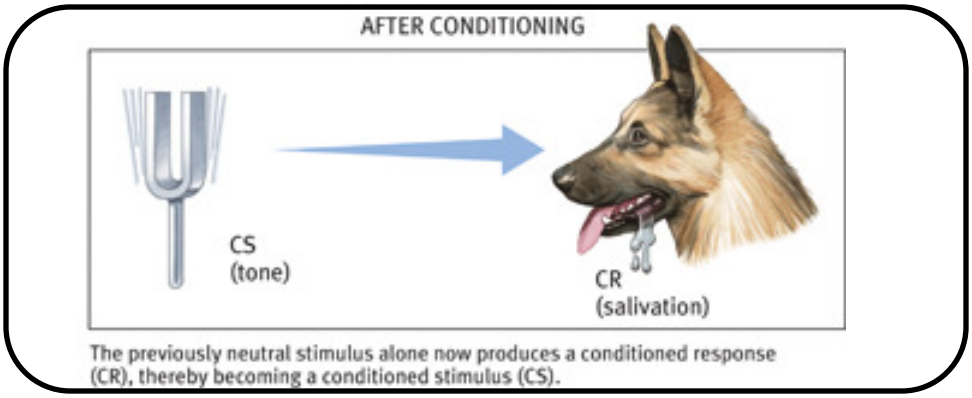
Classical Conditioning: A type of learning in which one learns to link two or more stimuli and anticipate events (page 282).

The Basics of Classical Conditioning

Pavlov and the Dogs:



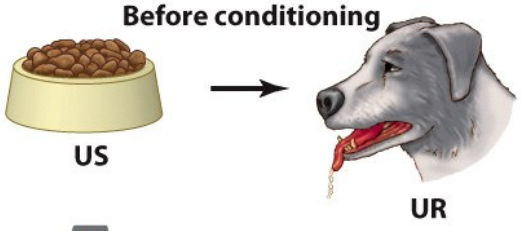




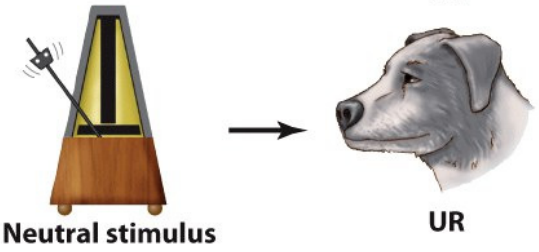
Hypothesis: A dog can learn that a bell predicts food.

Research Method:

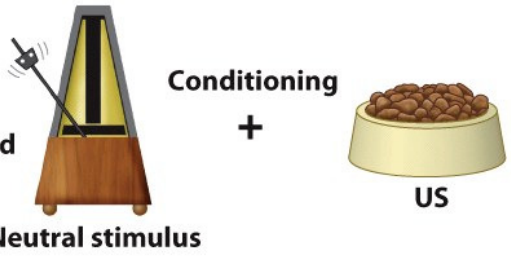
1 Food (**unconditioned stimulus**) causes the dog to salivate (**unconditioned response**).



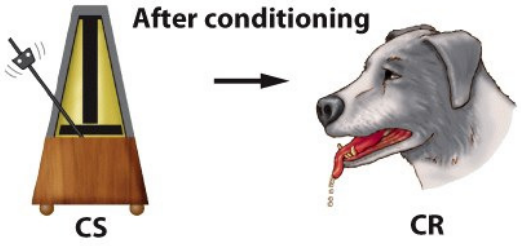
The clicking metronome (**neutral stimulus**) does not cause the dog to salivate.



2 During conditioning trials, the clicking metronome is presented to a dog along with the food.



3 During critical trials, the clicking metronome (**conditioned stimulus**) is presented without the food, and the dog's response is measured.



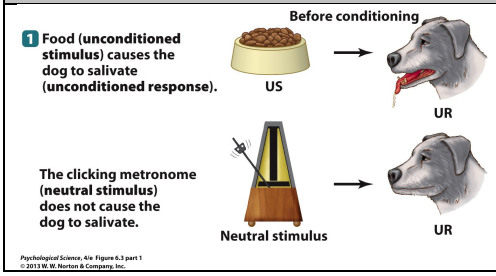
Result: After conditioning, the metronome causes the dog to salivate (**conditioned response**).

Conclusion: The dog was conditioned to associate the metronome with food.

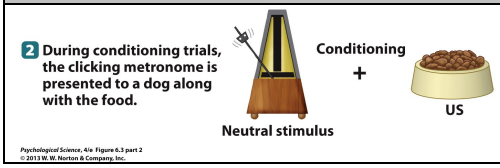
Source: Pavlov, I. P. (1927). *Conditioned reflexes: An investigation of the physiological activity of the cerebral cortex*. (Translated and edited by G. V. Anrep). London: Oxford University Press; Humphrey Milford.

Psychological Science, 4/e Figure 6.3

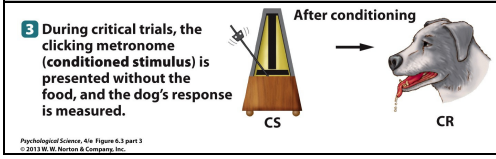
Before Conditioning:

	"examples"	Terminology
	Food→ drooling	US → UR (sometimes written as UCS → UCR)
	Tuning fork → no response	Neutral stimulus (NS) → no response

During Conditioning:

	"examples"	Terminology
	Food + bell → drooling	US + CS → UR (sometimes CS is written as NS)

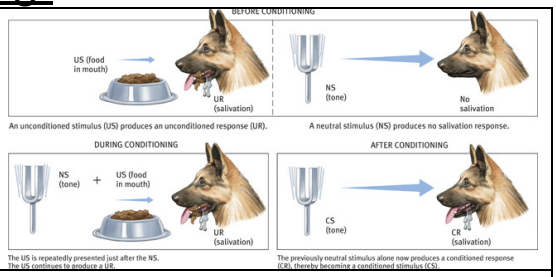
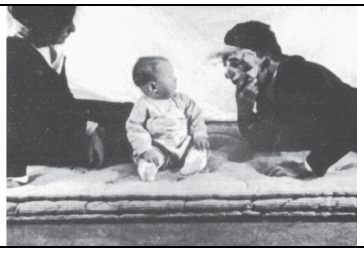
After Conditioning:

	"examples"	Terminology
	bell → drooling	CS →CR

Classical Conditioning

Classical Conditioning: A type of learning in which one learns to link two or more stimuli and anticipate events (page 282).

Examples of Classical Conditioning:

• Pavlov's dogs	
• Advertising	
• "That was easy"	
• Feeling good (the response) when you hear a song (the stimulus) on the radio that is connected to a special time you've had.	
• Little Albert fear	

That was Easy

US →	UR	NS	CS →	CR

Classical Conditioning and Advertising

US →	UR	NS	CS →	CR

Classical Conditioning

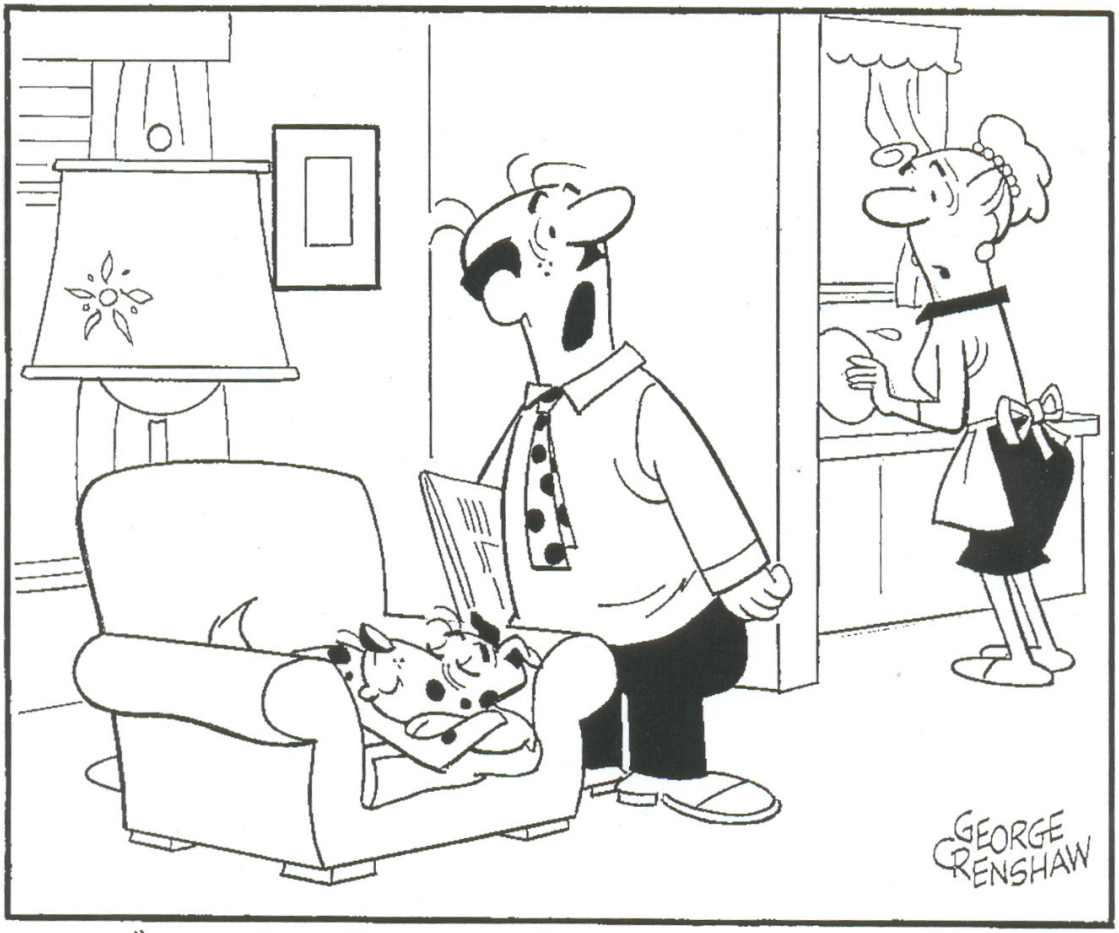
US →	UR	NS	CS →	CR

Classical Conditioning

FIGURE 5.7

Classical Conditioning: Useful for Practical Purposes

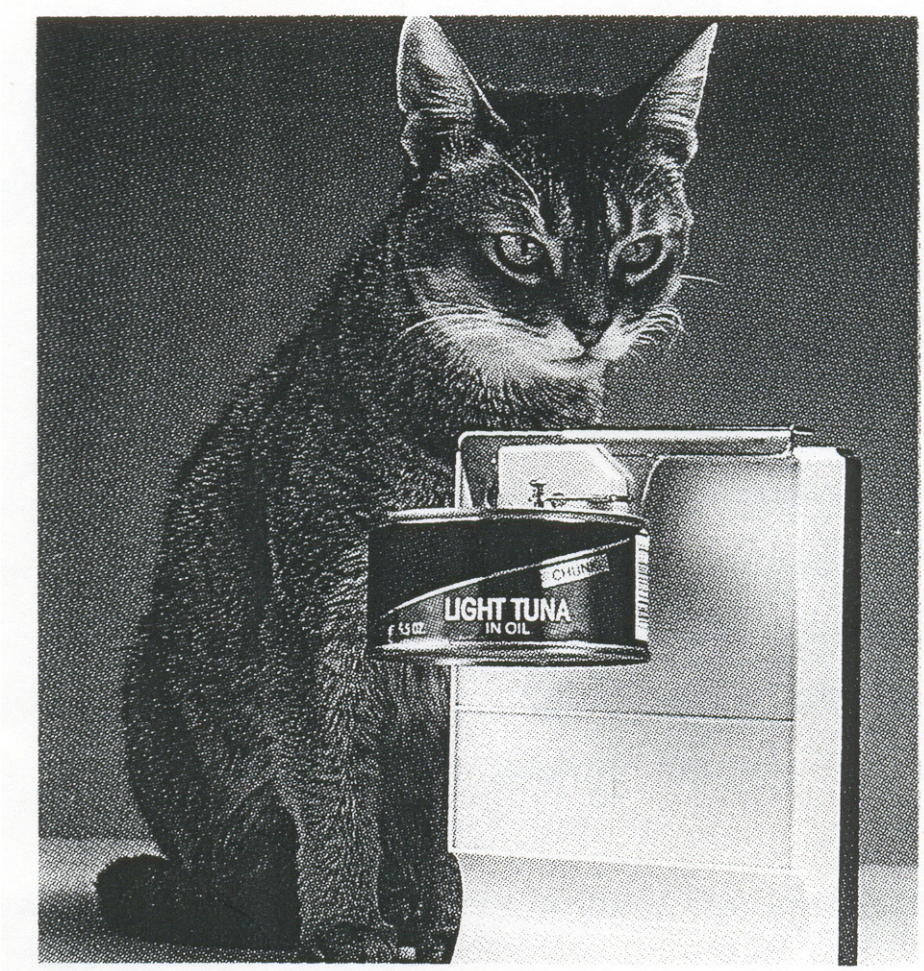
Classical conditioning has many practical applications.



"GO RUN THE ELECTRIC CAN OPENER SO HE'LL GET OFF MY CHAIR."

(Source: George Crenshaw/Post Dispatch Features.)

Classical Conditioning



In rapt contemplation

There is nothing inscrutable about this young tiger cat. Cognitive theorists explain her conditioned response on the basis of expectancy: The sound of the can being attached to the opener permits her to predict the arrival of food.

Elements of Classical Conditioning

Classical Conditioning: A type of learning in which one learns to link two or more stimuli and anticipate events (page 282).

Identify the US, UR, neutral stimulus, CS and CR

(1) Before each of his chemotherapy sessions, Allen, a young cancer patient, is given a bowl of ice cream. The chemotherapy makes Allen nauseated. Now just seeing the bowl of ice cream makes him feel queasy.

(2) Frank loved to swim in the lake near his house. After swimming in the lake one afternoon, he discovered two big slimy, bloodsucking leeches firmly attached to his leg. He was revolted as he pulled the slimy leeches off his leg. Now every time he passes the lake, he shudders in disgust.

(3) Every time two-year-old Jodie heard the doorbell ring she raced to open the front door. On Halloween night, Jodie answered the doorbell and encountered a scary monster with nine flashing eyes. Jodie screamed in fear and ran away. Now Jodie screams and hides whenever the doorbell rings.

Classical Conditioning

Tannen Maury/The ImageWorks

Bill Aaron/PhotoEdit

Classical conditioning in action. *Have you every wondered why politicians kiss babies? Or why beautiful women are so often used to promote products?*

Using the process of classical conditioning, explain why politicians kiss babies or why beautiful women are often used to promote products.

What is the

- US
- UR
- Neutral stimulus
- CS
- CR

USPS versus UPS

Which one are people more likely to feel better about?

Explain your answer

How Can Classical Conditioning Explain the Feeling people have about Haunted Houses?

US →	UR	NS	CS →	CR

Classical Conditioning and Visiting the Dentist

Most of us don't like going to the dentist, and avoid going to the dentist. Using classical conditioning, figure out and identify the US, UR, NS, CS and CR.

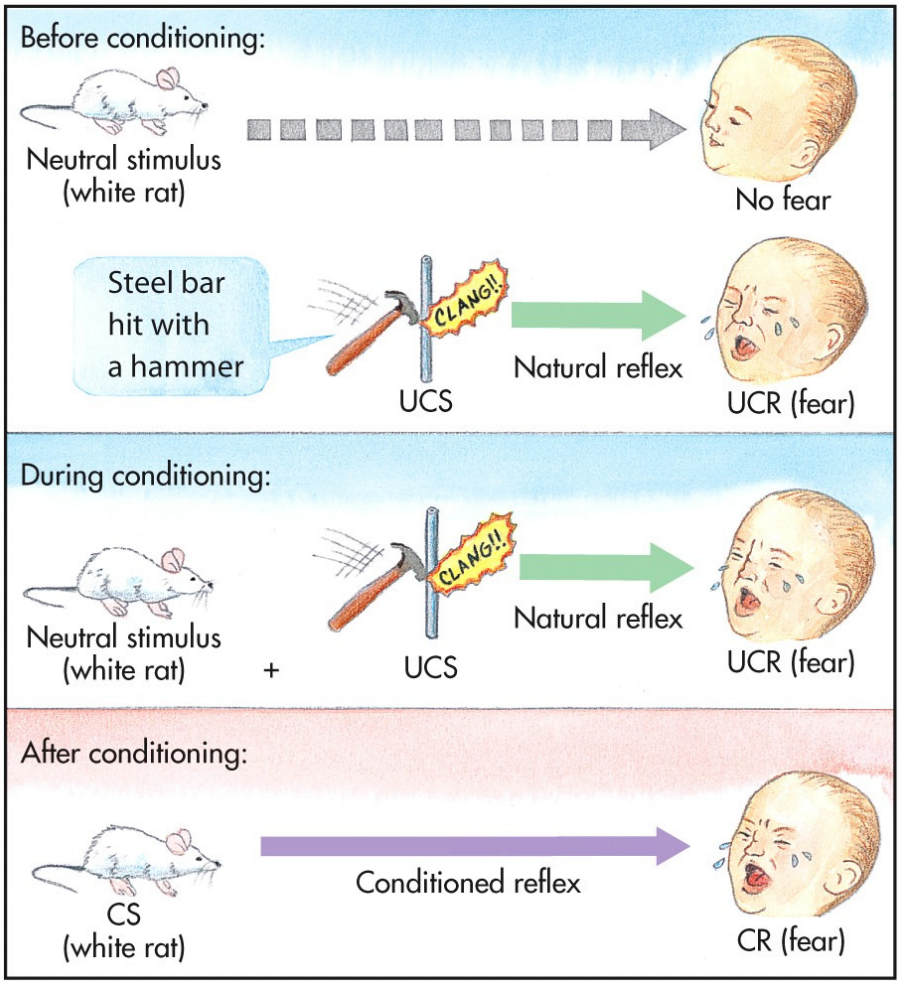
Why is knowing about classical conditioning in this situation important?

Phobias and Their Treatment

Phobia is an acquired fear that is out of proportion to the real threat of an object or situation (page 235).

Phobias and fears can be explain and treated through classical conditioning.

Development of fear and phobias (the basics):



People can develop a fear of Tuesdays, dentists, cars, dogs, haunted houses, school, flying, cruise ships, the postman, etc.

Not all fears are acquired equally

Phobia disorders—An anxiety disorder that is characterized by marked, persistent and excessive fear and avoidance of specific objects, activities or situations.

The fear response is out of proportion to the stimulus and the fear and avoidance significantly interferes with daily life.

About 11% of people in the United States will develop a specific phobia in their lifetime. Generally, phobics realize their fears are irrational, but feel compelled to avoid the feared situation or objects.

Specific phobias fall into five categories:

(1) animals (dogs, cats, rats, snakes, spiders)	
(2) natural environments (heights, darkness, water, storms)	
(3) situations (bridges, elevators, tunnels, enclosed spaces)	 
(4) blood injections and injury	
(5) other phobias including illness and death.	

Fears, Phobias, and the Evolutionary Perspective

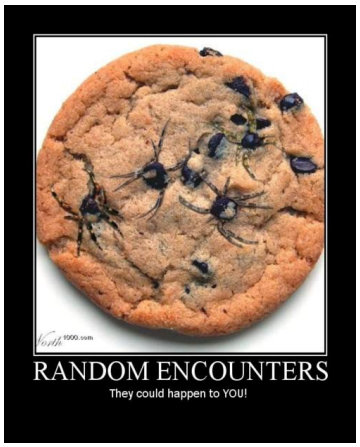
We are much more acquire (develop) fears of these things,




Than these things (and psychologists have tried)

The evolutionary perspective suggests that we are biologically more likely to become afraid of objects and situations that have posed a threat to previous generations (eg. snakes, spiders, heights, drowning, etc.). Those that avoided these objects and situations were more likely to survive and pass their genes to their offspring than those who didn't avoid these objects and situations and died. The term for this is biological preparedness.

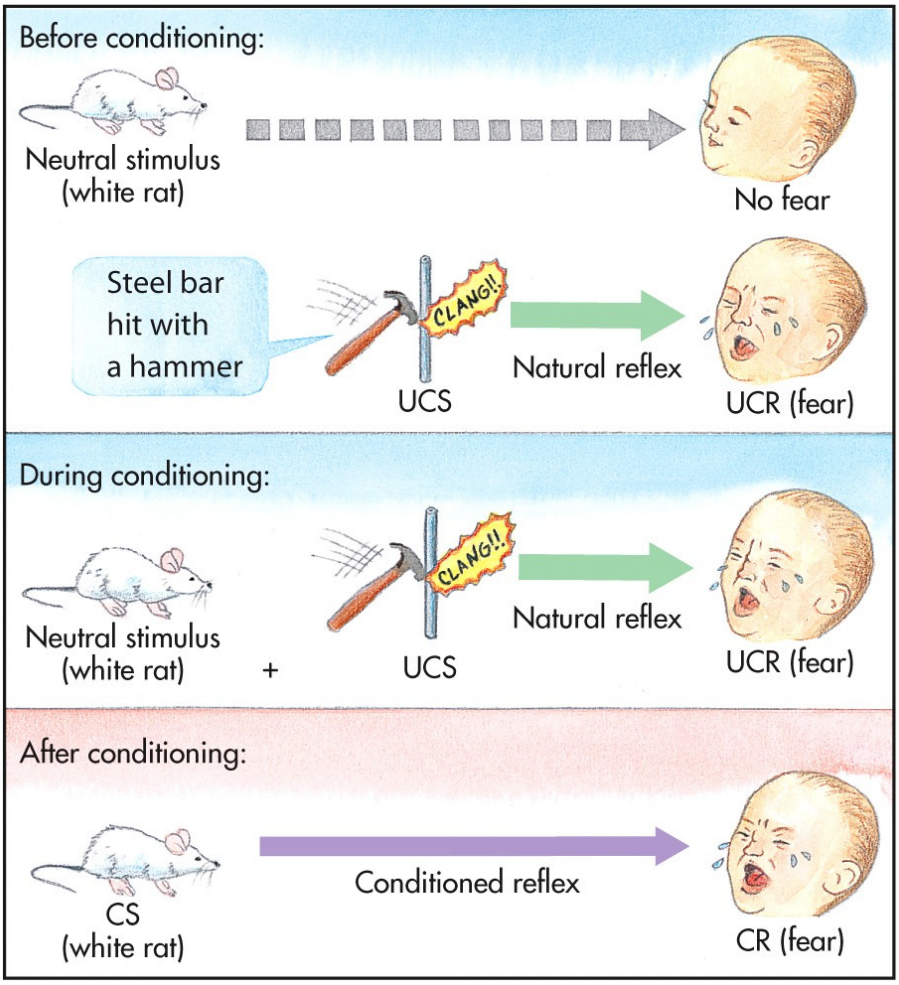
Biological Preparedness



Treating Phobias

Treatment of phobias: counterconditioning and systematic desensitization

Counterconditioning: Replace the feared response with a neutral or positive response.



Counterconditioning gradually exposes the person to the fearful stimuli in a safe manner and gradually increases the intensity.

- For those people who were at the Boston Marathon when the bomb exploded, going back and having fun there can counter the fear associated with it.

Treating Phobias

Systematic desensitization is a procedure in which a phobic person images a very weak form of the frightening CS while relaxing.

Generally, there are three basic steps in systematic desensitization.

- The patient learns progressive relaxation. This involves successively relaxing one muscle group after another until a deep state of relaxation is achieved.
- The behavior therapist helps the patient construct an anxiety hierarchy which a list of anxiety-providing images are associated with the feared situation

TABLE 13.2 A Sample Anxiety Hierarchy

The following is typical of anxiety hierarchies that a therapist and a patient might develop to desensitize a fear of public speaking. The therapist guides the deeply relaxed patient in imagining the following situations:

1. Seeing a picture of another person giving a speech
2. Watching another person give a speech
3. Preparing a speech that I will give
4. Having to introduce myself to a large group
5. Waiting to be called on to speak in a meeting
6. Being introduced as a speaker to a group
7. Walking to the podium to make a speech
8. Making a speech to a large group