

LEARNING THEORY & THE DEVELOPMENT OF SOCIAL BEHAVIOUR

The general approach used by such theories is **behaviourism**. You need a broad perspective on learning theory and detail about the principles of learning as they are exemplified by classical and operant conditioning.

PRINCIPLES OF LEARNING: CLASSICAL AND OPERANT CONDITIONING

You know something about the nature/nurture debate in psychology. Well, learning theorists are firmly in the nurture camp. They believe that people are not born with certain capabilities (apart from basic reflexes), they have to learn everything. Bandura (1977) says "Except for elementary reflexes, people are not equipped with inborn repertoires of behaviour. They must learn them". Behaviourists, then, emphasise the importance of the environment. They also claim that there are two basic processes of learning: **classical & operant** conditioning.

Classical Conditioning

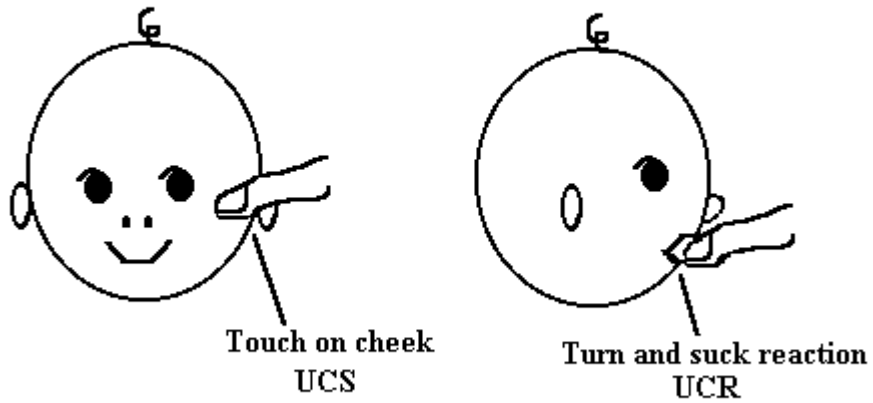
You will occasionally see this referred to as respondent conditioning. This form of learning is typified by Pavlov's (1927) experiments with his salivating dog. Ivan Pavlov was a physiologist who was interested in digestion in dogs. In fact, he was awarded the Noble prize in 1904 (interestingly enough, this was the year that Skinner was born) for his research into doggy digestion. Anyway, he developed a technique whereby the salivary secretions of dogs were collected in a tube attached to the dog's cheek so that they could be accurately measured. Now, whilst Pavlov was examining this, he noticed that his dog began to salivate before any food was given to him. The dog began to salivate when he heard the footsteps of the feeder, saw the feeding bucket etc. This incidental observation led to the study of classical (or Pavlovian or, as it is sometimes called now, respondent) conditioning. So, what happens in classical conditioning?

Classical conditioning begins with any stimulus which naturally produces a response. For example, food naturally and reliably produces the response of salivation. In this example, the food is the unconditioned stimulus (UCS) and the response of salivation is the unconditioned response (UCR). Learning occurs when a neutral stimulus (one that would not normally produce a reliable response) is paired with the UCS and, as a result of this pairing, it acquires the ability to produce the UCR. Because the neutral stimulus becomes effective through the conditioning process, it is called the conditioned stimulus (CS). The response produced by the CS, although technically almost the same as the UCR, becomes a conditioned response (CR) because it is produced through the conditioning process. OHP & handout show an example of the classical conditioning procedure

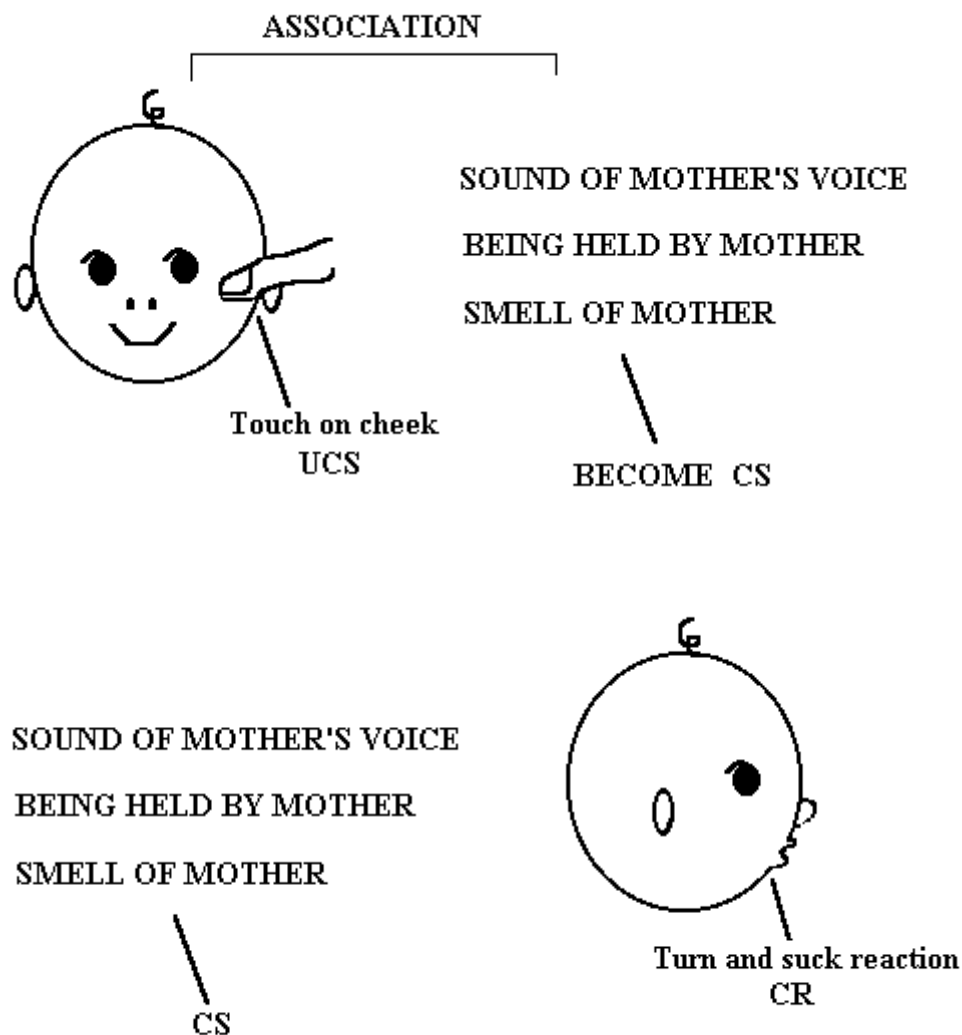
This process can also be illustrated using an example from an infant's behaviour (Bee, 1992). If you touch a baby on the cheek (UCS), the baby will automatically turn her head towards the touch and begin to suck (UCR). This is a baby's automatic reflex. At the same time as the baby experiences the UCS, there will be many other stimuli that

occur at the same time, such as Mother's voice, Mother holding child in her arms, Mother's smell. In time, each of these stimuli will become a CS and will trigger the response of the child's head turn and suck. This response will become the CR. This is shown in the following diagrams.

AUTOMATIC REFLEX



CLASSICAL CONDITIONING



Another example concerns emotional responses. Children's emotional responses can be explained in classical conditioning terms. For example, fear of the dentist (which often follows a person throughout life!) can be explained in classical conditioning terms. Fear responses can be naturally elicited by a number of stimuli; one of the most common fear responses can be elicited by pain. Imagine that a child is visiting the dentist for the first time. The dentist, the office, the receptionist, the smells and sounds of the place are essentially neutral stimuli for the child, so will have no particular emotional effect on behaviour. Then the child sits in the dentist's chair and experiences pain (UCS) which in turn elicits fear (UCR). The various neutral stimuli such as the sounds and smells of the dental surgery become associated with the UCS (because they are paired with it), so they become CS for the fear response which becomes a conditioned emotional response (CER). The child has now acquired a fear of the dentist. The idea is that many other fears and phobias have been developed during childhood through learned responses.

An interesting phenomenon in classical conditioning is **stimulus generalisation**. When stimulus generalisation occurs, the CR is produced not only in response to the CS, but also in response to stimuli that are similar to, but essentially different from the CS. For example, if the child has learned the CER of fear to his own dentist, he may come to fear other dentists too. The fear may even generalise to anyone wearing a white coat, or to the general smell of disinfectant similar to the one the dentist uses. Another phenomenon is **discrimination**, where the CR can be gradually refined so that the response will only occur to very specific stimuli. This can be taken a step further: if a CS is presented repeatedly without the UCS then eventually the CR will be "unlearned"... it will become extinct. In the fear of the dentist example, if the child was repeatedly taken to the dentist and there was no UCS (no pain) then the CS of the dentist and the dental surgery will gradually cease to elicit fear (the CER). The child's fear of the dentist should eventually cease because extinction of the CER will occur.

Probably the most famous example of classical conditioning of a fear response was carried out by Watson & Rayner (1920). They took an 11 month old child called Albert B and showed him a tame laboratory rat. Watson repeatedly showed the rat to the child, but at the same time made a very loud noise (UCS) behind the boy's head. The noise elicited a pronounced fear response (UCR) in Albert, who cried and trembled. After a number of paired presentations of the rat and the noise, simply the sight of the rat produced the fear response in Albert. The rat had become a CS. Albert also generalised this fear and showed the CER to white furry things and to cotton wool. A few years later Watson & Jones (1924) applied this fear conditioning in reverse with a child called Peter. Peter was brought to them with a fear of rabbits. They used a technique called counter-conditioning, which involved presenting the CS (the rabbit) to the boy whilst at the same time making something pleasurable happen ... in this case they fed Peter whilst a rabbit was in a cage where he could see it. The idea was that Peter would come to associate the rabbit with something pleasurable. It worked and Peter's CER to the rabbit was extinguished. This is very similar to fear reduction therapy used by some clinical psychologists today.

Before introducing you to operant conditioning, try to come up with your own personal example of when you think that classical conditioning has occurred in your life and made you behave in a particular way because of the pairing of events. It can be a nice thing or a nasty thing ... just don't tell me about your fear of the dentist!