In everyday life, we all try to make sense of the behaviours we see in ourselves and others - but often we violate behaviourist principles by going beyond what is observable. For example, consider this scenario: you good-naturedly tease a friend about forgetting her wallet at home, and she snaps at you to mind your own business. You may think, "She's feeling upset—she must have had a fight with her boyfriend." This explanation, however, violates the basic assumptions of behaviourism: it explains your friend's behaviour in terms of something you can't see (her being upset with her boyfriend), while it neglects the role of observable events (her comment immediately followed your teasing). If you look at your friend's behaviour the way Watson recommended, you might conclude that her remark was in fact a reaction to your teasing. With the first explanation, you might disregard your own behavior and instead focus on her (presumed) anger at her boyfriend. With the more behaviourist explanation, you might conclude that teasing a friend isn't always a good idea. The point here is that the behaviourist approach leads you to focus on observable aspects of the situation, and that can change your interpretation. Look at the following situations: Are the interpretations you make using behaviorist principles the same or different from what you would normally conclude?

A toddler hits another child in a school playground.

One explanation that might come to mind is that the toddler is a bully. Another is that the toddler was punished earlier and is lashing out at a "safe" target. Behaviourist principles would suggest that you look at the behaviour of the child who has been hit. Did that child's behaviour provoke the other child's violence? For example, perhaps the toddler hit the child because the child had taken a toy that the toddler had been playing with.

A driver "tailgates" your vehicle while driving on a highway.

A common conclusion is that the tailgater is a rude inconsiderate driver who is trying to

force you to speed up because he/she has no respect for the law. With this conclusion, many people respond with "road rage" to the incident, or make poor judgements in their driving to retaliate against the tailgater. But what if the tailgater is being tailgated as well? He or she may be as much a victim as you are!

A classmate you encounter in the library offers to buy you a coffee.

Do we conclude that this classmate is a friendly, generous person who wants to know us better? Or possibly is attracted to us? Instead of trying to determine the classmate's internal motivations, behaviourist principles suggest that we consider more obvious and observable alternatives, such as perhaps the fact that this classmate has just stepped on your foot. Listen to the classmate's words (speaking is behaviour!): a comment such as "I really need a break from studying" might indicate that the classmate wants company on a break. On the other hand, a comment such as "I can't figure out this assignment" might suggest that a request for help is forthcoming.

Pick up any magazine and look at the advertisements. You will probably see that in each advertisement, the product is displayed along with one or more attractive models. Given the basic principles of classical conditioning, why might this be so? Do you find the advertisements using attractive models to be more compelling than those that do not? Is that because you are focusing on the product or on the model? What about political advertising: although "sex appeal" may not be used in the same way, do political ads seem to make use of classical conditioning principles? How?

People tend to react favourably to attractive people, so pairing an attractive model with a product may result in a classical conditioning situation in which the model is the US. After pairing this US with a neutral stimulus such as a product or a political figure, the neutral stimulus comes to acquire the same pleasurable reactions:

$$UCS$$
 \rightarrow UCR attractive model pleasure CS \rightarrow CR product pleasure

In a similar manner, when politicians are seen paired with celebrities whom people admire or with policies such as ending a war, caring for the environment or lowering taxes, which people find favourable, these celebrities or policies may serve as UCSs. When paired with the politician, (UCS eliciting UCR of pleasure, respect, admiration), the politician (CS) comes to elicit a favourable response (CR) as well:



• When I (MH) was 3 years old, a robin, protecting its nest, pecked me on the head. To this day, I have a fear of birds. How would Pavlov explain this? What were the UCS and the UCR? What are the CS and the CR today? How can you explain the fact that I have no fear of penguins or hummingbirds?

Pavlov would explain this as an instance of classical conditioning.

UCS
$$\rightarrow$$
UCRpeckpain, fearCS \rightarrow CRkiller robinfear, anxiety

The phenomenon of stimulus discrimination explains the lack of fear of hummingbirds and penguins: to me, hummingbirds seem more like insects than birds, and penguins seen more like mammals! Therefore, I respond to hummingbirds and penguins the way I respond to insects and mammals (no anxiety) instead of the way I respond to birds.

'Jaws' is a classic movie depicting a huge shark killing swimmers in an Atlantic seaside town. When the movie first came out, many people who saw it became afraid to go swimming, even though they had never been attacked by even a small fish when swimming previously. How would classical conditioning principles explain this?

This is a classical conditioning paradigm. Frightening scenes in the movie have

acquired the properties of a UCS through higher order conditioning (this is a complex situation that will not be discussed here). Watching these scenes now served as a UCS, eliciting the UCR of fear. Fear is a conditioned emotional response. Through stimulus generalization, because if its similarity to the movie scenes, the reality of swimming comes to elicit the response of fear as well.

Can you identify one fear which you feel affects you significantly? Can you recall a
traumatic event that produced the fear (e.g., a fear of dogs resulting from having
been bitten as a child)? If not, do you think this invalidates the idea that phobias are
based on conditioning?

Psychologists today are in general agreement that while many phobias and fears originate in real-life experiences such as MH's with the robin, and many originate from vicarious experiences such as the moviegoers fears after seeing 'Jaws', some phobias and fears do not have such clear antecedents.

"Satisfaction", like beauty, is in the eye of the beholder. We all differ in terms of what we consider to be satisfying, and sometimes what other people find satisfying surprises us. Consider, for example, the foods you like to eat and the clothes you like to wear. Clearly your preferences are not those of everyone else. Make a list of some things you would find "satisfying" and some that you would find "unsatisfying." Ask a friend to do the same and compare your lists. Since friends often become friends because of their commonalities in what they enjoy, you will probably find many commonalities on your two lists. But you will undoubtedly find many differences as well. Ask an older person, a parent or grandparent perhaps, to make up a list as well. There are probably fewer commonalities between this list and the lists of you and your friend, and many of the differences reflect the age/generational differences between the list-makers. Keep the differences in lists in mind the next time you buy a gift for someone: we often select a gift thinking of what we would find satisfying instead of what the recipient would find satisfying!

Consider, for example, whether ice cream would be reinforcing for everyone: what about those who are allergic to it? Consider the pleasure an adult might get at receiving a pair of pyjamas for a gift, and now consider the look of disappointment on a child's face at receiving this gift!

In order to understand the contingencies of operant behaviour more fully, consider the following situations:

You have worked very hard and your employer wants you to keep on working hard.
How might he or she do this? Would you prefer a raise in pay, or movement to a better office where there is less noise and fewer distractions? Would both be positive reinforcers for you, even if differing in value? If one was actually a negative reinforcer, how would this affect your working?

What you would prefer to maintain your hard work is, of course, an individual preference. Recall that reinforcers increase the probability of the desired behaviour. Reinforcers are sometimes both positive and negative. For example, movement to an office with fewer distractions may increase the desired behaviour since the better office may be more satisfying (i.e. a positive reinforcer). But if the worker has found noise and distractions to be unpleasant, the removal of these (i.e., a negative reinforcer) may also lead to an increase in the desired behaviour.

Unthinkingly, you said something that hurt your friend's feelings. Your friend now
has certain options. For example, they may respond angrily to you, or they may
stop speaking to you for some period of time. With both of these options, you
might learn to stop hurting your friend's feelings (i.e. this behaviour would
decrease). Are these the same contingency? Which would you prefer? Why?

If your friend responds angrily, he/she is applying a stimulus which most people find aversive. This is a punishment contingency that would typically decrease the undesired behaviour. But if your friend stops talking to you, he/she is withholding a pleasant stimulus from your life. This is omission, and it too would typically decrease the

undesired behaviour. Which you would prefer depends on your own individual preference and the situation you are in.

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Do you feel uneasy if you break a mirror, half-expecting to have seven years of bad luck? Do you avoid walking under ladders? Do you always take your "lucky pen" with you when you write a test or examination? Can you think of an example of superstitious behaviour in everyday life (e.g. your own behaviour, or someone you know)? Can you identify the reinforcer that seems related to the behaviour? Can you tell whether it is contingent or non-contingent? Is it possible that performing the superstitious behaviour makes you feel better and more confident, and that this is what actually contributes to a positive outcome? Does that seem to support or contradict Skinner's interpretation of superstitious behaviour?

Skinner considers superstitious behaviour to be the result of non-contingent reinforcement. Performing the superstitious behaviour avoids a possible bad outcome in many people's minds, although in reality, the behaviour is not related to the outcome. When we knock on wood, for example, and nothing bad happens (typically the case), we may jump to the conclusion that our knocking on wood prevented the bad outcome even though nothing bad was about to happen anyway! But consider the case of a very superstitious person who becomes extremely nervous if he/she is prevented from knocking on wood: in this case, the person may be so nervous that he/she stumbles, makes mistakes, breaks things, etc. "See? If I had knocked on wood, this wouldn't have happened!" In truth, though, this is a self-fulfilling prophecy in which the person's expectations (not the behaviour or omission of behaviour!) lead to the bad outcome. Skinner's interpretation of superstitious behaviour is still supported since the behaviour of knocking on wood in and of itself had no effect on the outcome.

My (MH) adult niece relates the story of being a physically small child of 8 years old and being tormented one winter by several children who were younger than she, but physically much larger. One day, when returning home from school, the younger children chased her, pelting her with rocks covered with snow. Unable to outrun her tormentors, she threw some snow at their feet to try to keep them at a distance. The next day, she told her teacher about the episode, and was severely reprimanded and punished for having "thrown snowballs at younger children." My niece still flushes with resentment when she recounts the story and says, "Even today, I don't know what it was I was supposed to do!" Given what you know about ways that learning principles can be used to modify behaviour, what do you think she should have done? What should the teacher have done? How can learning principles best be used to modify the behaviour of bullying children?

The issue of how to modify the behaviour of a bully is a controversial and difficult one. Learning principles indicate that positive reinforcement is more effective than punishment, so reinforcing the bully's acceptable behaviour while not reinforcing the unacceptable behaviour (i.e., extinction) would seem to be a more advantageous solution. The story of MH's niece, however, also illustrates one of the problems with punishment: she was punished by her teacher for her actions, leaving her with uncertainty about the appropriate course of action and resentment at the person who punished her. Her teacher would have been well-advised not to punish the child, but to explore with her alternative solutions (such as finding refuge with an adult) that might have been more suitable.

If you have a phobia or fear yourself, how do you cope with it? If you tend to avoid the fear-arousing situation, do you think this reaction is adaptive for you in the long run? For example, many students with a fear of public speaking avoid taking courses in which they will be required to give oral presentations. Can you suggest a technique based on learning principles that might help in dealing with such fears?

Sadly, avoiding a fear rarely decreases it. In Chapter 9, the technique of systematic desensitization will be discussed. This technique, based on classical conditioning and operant conditioning principles, exposes an individual to very small doses of the feared stimulus while the person is highly relaxed, thereby extinguishing the association between the stimulus and fear and establishing a new association between the stimulus and relaxation. Thus, the person who fears public speaking may be asked to simply tell the class his/her name while in a pleasant, relaxed state, surrounded by friends. The next step might be asking the person to relate to the class what he/she ate for breakfast in this same relaxed state, and so on until the person feels comfortable giving a speech to a group of strangers. If the new behaviour of speaking publicly while relaxed is positively reinforced, the behaviour will be more likely to occur in the future.

While you probably don't have access to a machine that will measure and signal changes in your autonomic arousal, you can still try to control some of your autonomic responses yourself. Lie down comfortably and imagine that you are on the beach or in a meadow. Imagine the sun streaming down on you warming your whole body. Imagine that your stomach is becoming very warm with the sunlight. After a few minutes of imagining this, many people feel an actual warmth in their abdominal region. In fact, this is a popular technique in physical relaxation training that is often used for stress management. Try it a few times. Does your stomach feel warm? Do you feel more relaxed? Do you think this effect might be enhanced if a machine told you when your surface body temperature was increasing?

If you know anyone who has had biofeedback, talk to them about their experiences. Would you consider biofeedback in preference to medication if you experienced severe headaches? Why or why not?

Biofeedback has been successfully used for many medical symptoms, but it takes some effort on the part of the patient. Some people still find the convenience of taking medication to outweigh the benefits of dealing with symptoms in a more active way. This may be a part of our society which seems to demand "quick fixes" and sees medication, despite its possible side effects, as being acceptable and even desirable.

Have you ever developed a sudden aversion to a particular food? Do you recall the circumstances? Does Garcia's work on bait-shyness help you to understand your own taste preferences? In what ways?

Garcia's work on bait-shyness indicates that generalization is also possible. For example, a person who catches a flu with its attendant nausea after eating at an unfamiliar ethnic restaurant may avoid all foods but that of his/her culture in the future. What a shame!