

CHAPTER FOUR

PERCEPTION

I once met a student who could only see one subject in the entire Bible: the Holy Spirit. Regardless of the section of Scripture discussed, he was always able to see something about the Holy Spirit in the passage. I'm sure there are others who make one doctrine or facet of Christianity their main interest in life. They see that topic everywhere, therefore missing many valuable insights they might have had otherwise.

What concepts from perceptual psychology would describe why this occurs? How could you help such a person realize what he or she was doing? How can we be sure that we aren't seeing what we would like to see in the Bible instead of what is really there?

Before going further, try answering the following questions.

1. Perception can be described as being basically: (A) Passive (B) Active (C) Neither of these.
2. Name four influences upon perception.
3. Information presented which affects a person but without the person consciously perceiving it is called: (A) Subliminal (B) Non-perceptual (C) Habituation

Compare your responses with those on page 32. If you get all the answers correct, you may go to the Applications section.

WHAT IS PERCEPTION?

Perception involves the awareness of sensory information and the early processing of information coming from the senses. Perception, however, is not a passive receiving of information, but an **active** changing of the sensations in the brain.

Perception **organizes** that information by grouping the sensations according to categories that are familiar to the person.

Not only is the information organized in meaningful ways, but the brain actively **adds to** the incoming sense data. We don't merely see "what's there," but we interpret it by adding other relevant information. Yet most of the time we supplement incoming sensations without realizing it.

4. A Democrat was giving a political speech. A bystander (a Republican) states, “All they talk about is peace and poverty,” yet neither topic had been mentioned by the Democrat. What aspect of perception is this an example of?

Compare your response with that on page 32.

WHAT INFLUENCES PERCEPTION?

A number of factors affect how sensory information will be understood. The **past experience** of the person can greatly affect how the sensory input will be perceived. Sometimes many past experiences will be involved, while at other times there may only be one past experience that will affect how the sense data is perceived.

A second factor that influences perception is the immediate **situation**. The classic illustration of this is the shadowy outline of what appears to be a thug in a dark alley. Because of the fear a person may feel in a large city, this is the likely perception, even though in reality it is only a cat perched on a garbage can.

A third influence upon perception is the set of **values** held by the individual. An illustration of this is an experiment which indicated that poor children exaggerate the size of coins far more than middle-class children. They exaggerate size because they value the coin more than the middle-class children. (If it was mere lack of familiarity with coins, some would overestimate the size and others would underestimate the size.)

The fourth influence is the person’s **expectancy**. If one expects certain things to happen, then he or she will tend to interpret sensations accordingly, particularly those that are not clear to begin with.

5. The Republican listening to the Democrat making a speech is using which of the four influences to form his perceptions of the speech?

Compare your response with that on page 32.

SUBLIMINAL PERCEPTION

A most interesting and controversial subject in perceptual psychology is **subliminal** perception. Experiments performed in the 1950’s indicate that it is possible to influence an individual’s behavior by using sense data which is too fast to be consciously perceived. For example, the word “popcorn” was flashed on a movie screen during the movie, but since it was flashed very fast, the people did not consciously perceive the message. However, after the movie ended, popcorn sales dramatically increased.

The concept of subliminal perception was later tested by flashing words on a screen too fast to be seen such as “kill,” “hate,” and “murder.” In addition, more neutral words were flashed on the screen including “paper,” “toe,” and “car.” Devices which measured sweating indicated that people would sweat more when given the first set of words, although the people could not tell the examiner what those words were.

In recent years, some of the concepts of subliminal perception have been criticized because the rate at which something can be consciously perceived can vary from person to person and from situation to situation. Something is subliminal if you can almost, but not quite, perceive it. For example, the word “popcorn” in the earlier example was flashed just a bit faster than what would be needed to consciously perceive it.

6. According to the theory of subliminal perception, why is it that we “just don’t like” some of the people we meet?

Compare your response with that on page 32.

APPLICATIONS

1. When studying subliminal perception, many students ask if rock music can influence people without them realizing it. Some Christians have emphasized the issue of “backward masking” (words recorded backwards in rock music), believing that demonic and immoral messages recorded in that way can manipulate a person’s thoughts.

I am quite skeptical of that idea because of the difference between backward masking and the concept of subliminal perception. How *are* the two different? Using subliminal perception theory, what danger *might* there be in some forms of rock music?

Compare your responses with that on page 32.

2. A television evangelist wanted to demonstrate the fact that backward masking actually existed. He recorded a song backwards for the audience, telling them to listen for the “obvious Satanic message in the song. According to perception theory,

why is the audience likely to perceive such a message even if there is not actually any there?

Compare your response with that on page 32.

3. Realizing that people are likely to misperceive the message of the Bible, what should Christians do to avoid this problem?

Compare your response with that on page 33.

4. Christians are certainly not exempt from misperception of sensory data. It is easy to read the Bible and see what one wishes to see. A far better approach is to let the Bible interpret itself and to understand the context of its writing, rather than assuming our own cultural and personal context. The natural inclination is to see our own cultural, denominational, and doctrinal viewpoints as being supported, particularly when we encounter verses that can be interpreted in several different ways. How might we avoid this tendency?

Compare your response with that on page 33.

5. One time I attended a large outdoor religious gathering. During one of the services, three birds flew in a triangular formation over the crowd. Several gasped and believed that the birds were a sign of the triune God and His pleasure with the gathering. Some even thought it might indicate that Christ would return before the gathering ended. What factors in perception theory might explain these interpretations?

Compare your response with that on page 33.

6. At the school where I teach, eternal security is a perennial topic brought up in class. About half of the students seem to be in favor of this doctrine and about half are against it. (I suspect there is a percentage that don't care as well!) I have attended schools where it was taught and other schools where it was refuted. I have weighed the arguments for each side and even counted the number of verses cited for each. I believe I have come to a sound, biblical position on the topic. What do you supposed my position is?

Compare your response with that on page 33.

7. A visiting evangelist at First Church was creating quite a stir. Some in the congregation saw his lively sermons as "wild fire" while others believed he was "filled with the joy of the Lord." What factors from perceptual psychology might explain the differences of opinion about the evangelist?

Compare your response with that on page 33.

8. There are many people, including some Christians, who believe their prayers are never answered. They may pray and have a right heart, but they are not sure that God has answered them. Yet others are just as sure that they do receive messages from God that are answers to their prayers. What factors from perceptual psychology might explain the differences between these two groups of sincere people?

Compare your response with that on page 33.

9. Reread the opening illustration in this chapter. Why do you think the student saw the Holy Spirit in every verse of the Bible?

Compare your response with that on page 34.

FEEDBACK

1. B
2. Past experience, situation, values, expectation
3. A
4. Clearly this is an example of adding to the sense data. The person is not organizing the data because he is not dealing with what has been said.
5. Past experience listening to Democrats probably plays a part. The situation may play the most crucial role here—the context of a Democrat speaking sets the stage for the likelihood of hearing the topics (at least in his mind). Values likewise add to the perceptual process. Expectancy goes hand in hand with the situational cues in this case. Thus all four factors are involved.
6. Probably because of subliminal factors we are not aware of, such as facial features and tone of voice, that unconsciously remind us of others we dislike.

FEEDBACK ON APPLICATIONS

1. Backward masking is different from subliminal perception in that backward masked material is not near the threshold of perception—it is extremely distorted by being played backwards, not at all near the level at which it could be consciously perceived.

On the other hand, there may be danger in lyrics that are very near the level of conscious perception. This would include vocals that a person can't quite hear due to distortion, distraction from the accompaniment, or music played in the background which is not actively listened to. Even here we must be careful of our conclusions in light of the skepticism by some psychologists of the whole theory of subliminal perception.

2. They are likely to hear "Satanic messages" because of the influence of expectations set up by the evangelist prior to playing the song. To some extent, the values shared by the audience with the evangelist and the immediate situation may also play a part. The vague sense data of the song played backwards is thus interpreted accordingly.

It should be noted that in the 1984 *Journal of Psychology*, a study is cited in which supposedly backward masked songs (such as "Stairway to Heaven") were played backwards to three groups. One group, not expecting anything, heard no words. Another group who expected to hear words, heard neutral words. A third group who was told they would hear Satanic messages stated they heard such messages. Expectancy, not actual content, was the key to what each perceived.

3. This has no easy answer. The most important thing is to keep the presentation unambiguous by using clear terminology, preferably that of the persons spoken to. The influences upon perception are especially likely to destroy the understanding when the message is vague. Using common past experiences and emphasizing values held in common are most likely to produce reception and acceptance of the message.
4. Perhaps we can't altogether avoid this problem, but just being aware of it helps. Attempting to really understand the other side can aid us in avoiding misperception. Realizing the importance of values and past experience in perceptions may give us insight into why we are inclined to interpret in certain ways. We should certainly focus our understanding of doctrines on Bible discourses that are obvious and unambiguous.
5. Past experience and expectancy are probably unimportant in this case. While the values held by the group (belief in the miraculous) might be of some influence, the immediate situation of an excited crowd is probably the crucial factor.
6. The conclusion you perceived is probably shaped more by *your* beliefs than by the information I gave you! Clearly our past experiences have influenced us to perceive the biblical data in certain ways, perhaps because of the desire to agree with other Christians or perhaps because we are reacting to those who we dislike for some reason. I think the theologians I have studied under have made good cases for both sides, but too often they probably have distorted the verses used by the other side of the issue because of perceptual influences. I suspect both sides have been equally guilty in this respect.

What is my opinion? I believe we won't ultimately know the complete answer until we get to heaven. I suspect the verses usually presented in favor of eternal security are meant to teach us to rest in what Christ has done and not trust in the good things we do. The verses used against the doctrine are meant to teach us to be sensitive to our own shortcomings and not be complacent.

7. I suspect that the influence of past experience would be strongest here. Those who have associated lively preaching with negative experiences are likely to perceive the evangelist as unpleasant, while others will have a more pleasant perception.
8. While we certainly do not want to minimize other factors, I suspect that there can be psychological reasons for not perceiving answers from God. Past experience in receiving answers plays a part in perceptions of answers or non-answers. One's values are especially important—does the value system held allow for answers or does the person assume that God is silent? Perhaps most important is the matter of expectation. Expecting answers will cause one to look for answers. But one must be careful not to perceive answers when results are ambiguous, and stay open to the possibility of answers that are not expected (such as “no” or “wait”). Perhaps some of the same rationale can be used with the perception (non-perception) of miracles.

9. Clearly the student was both organizing (fitting all sense data from reading the Bible into the category of “Holy Spirit”) and adding to the sense data. Probably past experience and values had a lot to do with this, as well as the situation (reading the Bible). In addition, expectation influenced his perceptions.

CHAPTER FIVE LEARNING

Everyone told me she would be my worst problem all year. Only seven years old, but already she had a well-known record for disturbing classes and starting conflicts. Former teachers were prompt in warning me of the impending hurricane when the first graders were promoted into my second grade Sunday school class.

Promotion Sunday, came, Lisa entered the room and immediately scattered crayons all over the table. She then ran to a box of scissors, dumped them onto the table, and punched the boy sitting next to her.

I later learned that Lisa had been raised in a large family and her parents only gave her attention when she acted in an uncontrolled manner. Usually that attention was a spanking. Likewise she found that her teachers also gave her attention when she misbehaved. She made a career of misbehavior.

Only a couple of weeks later Lisa was a dramatically changed little girl who was well behaved throughout class. How do you think it was accomplished?

Before going further, try answering the following questions.

1. If a doctor strikes your knee and it responds by jerking outward, the striking of your knee is: (A) an unconditioned stimulus (B) a conditioned stimulus (C) Neither of these.
2. A child begins to fear dogs after one bites him. The dog is: (A) an unconditioned stimulus (B) a conditioned stimulus
3. Reinforcement is a form of bribery. (A) True (B) False
4. Reinforcing steps toward a desired behavior is called _____.
5. Delivering a reinforcer only in a particular context results in the context becoming a _____.
6. If a person learns one behavior and later a similar behavior occurs (without the second being learned), what is this called?
7. Modeling in psychology refers to: (A) imitating (B) replicas (C) fashions.

Compare your responses with those on page 42. If they are all correct, you may skip to the Applications section.

STIMULUS, RESPONSE, AND CONDITIONING

In this chapter, we will study the theory of psychology often called **behaviorism**, and its concepts of learning. The first concept is **classical conditioning**.

A psychologist named John **Watson** found that a loud noise naturally produces a fear reaction in young children. The loud noise can be considered a **stimulus** (the cause) which results in fear which is called the **response** (the result). Since a child apparently does not have to learn to respond with fear, it can be called an unconditioned reaction (conditioned means learned). Likewise, the loud noise can be called an unconditioned stimulus and the fear an unconditioned response.

8. When a child cries as the result of a spanking, is the spanking a conditioned or unconditioned stimulus? What is the intended response?

Compare your response with that on page 42.

ALBERT LEARNS TO FEAR RATS

Dr. Watson performed an experiment with a little boy named Albert in which he let Albert play with a white rat. Albert showed no fear of the rat at first. Later Watson again presented the rat to Albert, but this time made a loud noise by striking a hammer on a steel bar. Albert responded to the noise with fear. Later Watson presented the rat a third time to Albert, and the boy responded with the fear originally produced by the loud noise. The rat had become a **conditioned** (learned) **stimulus** and the fear resulting was a **conditioned response**.

US (noise) → UR (fear)

CS (rat) → US (noise) → UR (fear)

CS (rat) → CR (fear)

9. A parent spansks a child when she runs into the road. Is the running into the road a conditioned or unconditioned stimulus? What is the conditioned response the parent is hoping to instill?

Compare your response with that on page 42.

REINFORCEMENT

A second kind of learning is called **operant conditioning**. The key idea here is the fact that actions that are followed by positive consequences are likely to be repeated. The positive consequences are called **reinforcers** if they actually result in the repetition of the behavior.

Some believe the whole idea of reinforcement is a form of bribery. This is clearly not the case, however, because bribery refers to encouraging someone to perform an action that is immoral or illegal. A paycheck for going to work or a good grade for doing well in class are both examples of reinforcers, but surely they are not bribery!

10. Giving children prizes for attending a church service is an example of bribery. True or False?

Compare your response with that on page 42.

SHAPING

Sometimes complex behavior needs to be broken down into small steps to be learned a part at a time. The person teaching the complex behavior can reinforce each step as that behavior is learned. When one step is learned, the next step is then required before the person receives reinforcement. Thus the resulting behavior gradually becomes more like what is intended. This process is called **shaping**.

11. Jim, a college student, finds himself unable to study very long because his mind tends to wander. How can he use shaping to help him study more?

Compare your response with that on page 42.

THE DISCRIMINATIVE STIMULUS

A person can learn that reinforcement occurs for a behavior only in certain situations. For example, many people find they are expected to dress a certain way for work but can dress as they wish off the job. Indeed, they may receive more positive reinforcement at a party if they don't have a suit and tie. The effect of the situation upon behavior is called a **discriminative stimulus**.

12. Many students find that they are more likely to be called on in class if they sit near the front. The discriminative stimulus is: (A) being called (B) the place they sit.

Compare your response with that on page 42.

GENERALIZATION AND PUNISHMENT

Generalization describes the tendency for behavior *similar* to a reinforced behavior to occur. The more similar a behavior is to the originally learned behavior, the more likely it is to occur.

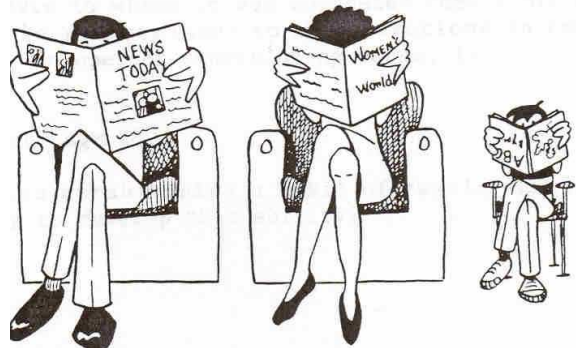
One final concept from operant conditioning we will consider is **punishment**, a consequence of behavior that is undesirable to the person. Punishment tends to suppress behavior with the side effect of the tendency to avoid the context in which the punishment occurs.

13. A child has previously learned to turn the knobs on his record player to produce pleasurable music. Upon entering the kitchen one day, he decides to turn the knobs on the stove. After doing so, he touches the heating element and is burned. What principle of learning explains why he turned the knobs of the stove? (A) generalization (B) punishment. Why is he likely to avoid the stove in the future?

Compare your response with that on page 42.

MODELING

In addition to classical and operant conditioning, psychologists have identified **modeling** as another form of learning. After watching others perform a behavior, we may begin to imitate those actions. Many behaviors are learned this way, although the addition of reinforcers makes the behavior even more likely to occur.



14. A child is burned on a hot stove as a second child watches. If the second child models the first, he or she will: (A) touch the stove (B) avoid the stove.

Compare your response with that on page 42.

APPLICATIONS

1. Richard Dobbins in *Christianity Today* (October 24, 1975) notes that one study indicated the earliest images a child has of God is that of a punisher, not a rewarder. This may, says Dobbins, account for people later avoiding the church. How might a child have come to see God as primarily a punisher?

Compare your response with that on page 43.

2. What principles of behavioral psychology best explain adult avoidance of church? How?

Compare your response with that on page 43.

3. Explain why many church people are reluctant to speak in church, such as in giving a testimony.

Compare your response with that on page 43.

4. I once saw a religious movie in which it was suggested that a Bible could be left on the kitchen table as a reminder to have devotions in the morning. The Bible on the table, operant conditioning terms, is a _____.

Compare your response with that on page 43.

5. Susan had a difficult time establishing a habit of regular Bible study. How could she use shaping to develop this ability?

Compare your response with that on page 43.

6. Bob has difficulty reading some of the books in the Old Testament that seem to him less than exciting, such as Lamentations. How could he use shaping to accomplish his goal of reading such books?

Compare your response with that on page 44.

7. Regular family devotions can be difficult to establish, and children can perceive them as boring and uninteresting. How can the principle of reinforcement be used to motivate the children?

Compare your response with that on page 44.

8. Using the concepts of reinforcement and classical conditioning, explain why certain songs are preferred by certain people in church.

Compare your response with that on page 44.

9. Perhaps you have noticed that people tend to prefer the back pews in church, yet those same people may wait in line to get a front seat at a baseball game. Using the principles of learning, why might this be the case?

Compare your response with that on page 44.

10. Many Christian colleges make use of Christian work assignments, where students practice what they learn in class. The goal is to be able to transfer what they learn to their future work in the church. What concept in this section would suggest that this is a good procedure?

Compare your response with that on page 45.

11. Many sections of the Bible describe the great saints of the past. What concept in this chapter best describes why these descriptions may be helpful to us?

Compare your response with that on page 45.

12. Can you give other examples of modeling on the mission field, in youth work, and by the pastor?

Compare your responses with those on page 45.

13. Some of the principles of learning theory may explain some of the different interpretations of the Bible. For example, the obvious understanding of a passage may be rejected in favor of another interpretation due to the threat of contradicting one's theology or understanding of other passages. This threat in behavioral terms is potential _____. Likewise, interpreting passages to coincide with one's previous views would be _____. Similar passages being interpreted

in a similar manner illustrates _____. Holding certain doctrines prior to Bible study may cause a person to see those doctrines even in passages not explicitly stating them, thus some key word produces a given interpretation. The latter in behavioral terms is _____.

Compare your responses with those on page 45.

14. On one of his television programs, James Dobson mentioned how people may be trapped into having an affair. He stated that it usually begins with an innocent gesture of friendship, such as a luncheon that lasts a bit too long or a harmless touch. This initial step is enjoyable and thus the action is repeated. The next day or perhaps the next week, the gesture is repeated with more pleasant outcomes. The relationship begins to grow and expressions gradually increase in frequency and intensity. Romantic feelings can be produced as a result, and eventually the two are involved in a sordid affair. Dobson suggests that one needs to guard against the process by ending it at step one—don't give it a chance to grow. Pastors are especially vulnerable to such problems because of the number of dependent women who come for counsel. He elaborates further on this subject in a fine chapter titled "The Straight Life" in his *Straight Talk to Men and Their Wives*. The behavioral term for this process is _____.

Compare your response with that on page 45.

15. As a teenager, I visited a small country church one Sunday morning. I immediately noticed that I was the only person with hair over my ears and the only person in casual clothes. I received frequent stares from both the congregation and the pastor throughout the song service.

The sermon for the morning had two themes: the sin of long hair and the certainty of hell for sinners. The preacher thundered away, keeping almost continual eye contact with me throughout the sermon. The service concluded with several repetitions of the invitational song to which no one responded.

Using behavioral terms, why is it unlikely that I would ever return to that church? What approach might have been more successful in changing my behavior?

Compare your response with that on page 45.

16. Return to the opening illustration of this chapter. What procedures from this chapter could have been used to change the girl's behavior?

Compare your response with that on page 45.

Note: Other applications of behavioral psychology can be found in the appendices of this book.

FEEDBACK

1. A
2. B
3. False
4. Shaping
5. Discriminative stimulus
6. Generalization
7. A
8. Spanking is considered an unconditioned stimulus because it is assumed that children don't *learn* to cry and show other signs of fear from a spanking. From our description, you might think the intended response is crying, but actually the response most parents intend is the fear presumed to underlie the crying.
9. Running into the road becomes a conditioned stimulus when followed by spanking since the parent desires that the child learn to associate the fear from spanking with the road. The conditioned response desired is fear of the road and subsequent avoidance.
10. Assuming the activities in the meeting are not illegal or unethical, this would not be bribery.
11. He can start with a goal of studying for a short period of time, say five minutes, without his mind wandering. If he is successful, he should give himself a five-minute break as a reinforcer. After he achieves this goal consistently, he can extend the time to ten minutes before he gets the break. He can continue extending the amount of time studying, five minutes at a time, until he reaches an hour (genuine fatigue will probably keep him from being able to extend the continuous amount of time studying much beyond an hour).
12. Being called on is the reinforcement (at least for some people), so where they sit is the discriminative stimulus.

13. The child generalized turning knobs, and the burn is a punishment that will tend to result in his avoidance of the stove.
14. Since in modeling the child imitates the given behavior, the second child will also touch the stove. However, there is some evidence that children can also learn from the consequences of other's actions, so modeling in this instance is unlikely unless it would be the modeling of avoidance.

FEEDBACK ON APPLICATIONS

1. In some way the term "God" has been associated with punishment. This could happen in many different ways. For example, an adult might state "God doesn't like what you did" as the child receives punishment, and thus the pain would be associated with the word "God." Possibly the child heard sermons that elicited fear or perhaps messages on hell or the end times which also contained many references to God. It is interesting to note that Jesus is never recorded in the Bible as speaking to children on these topics. As we noted in Chapter Two, small children are especially geared to a punishment orientation in their thinking. Therefore, they are very likely to pick up the punishment association more than a reward association in sermons.
2. Classical conditioning and punishment probably describe this avoidance, although lack of reinforcement can also explain the absence of church attendance. Classical conditioning would point to the association of fear with church as in the previous illustration. Well-meaning parents who spank wiggly preschoolers in services boring to children may condition such fear. An example of punishment would be the frustration some children have in trying to learn things beyond their understanding (see Chapter Eight).

In each of the above situations, classical conditioning would suggest that fear from the immediate punishment is associated with the church building and perhaps even with church people so that church becomes a conditioned stimulus to be avoided. Although these specific events may have been long forgotten, the emotional response to the church remains.

The absence of reinforcement implied in boredom may be the reason why the behavior of attendance does not occur. Boredom can be avoided by making adult services interesting for adults and offering separate services for children that appeal to their level of thought and interest.

3. Most of us as children were taught not to talk in church. Many have learned this too well and thus do not speak even when it is appropriate. Consequently, fear of talking may have been conditioned. If this only occurs in the church building, it would indicate that the church is a conditioned stimulus.
4. Discriminative stimulus because it indicates the context in which the behavior (reading the Bible) is to occur.

5. Susan could set a small goal, such as reading five verses a day. If she accomplishes this goal, she might give herself a pizza as a reinforcer. Once this behavior is established, she might expand the requirement to ten verses before she would get the pizza. Later this might be expanded to a chapter or two.
6. The difficult books are often more difficult because the reinforcement (enjoyed portions) does not occur as often. Bob could break down longer books into two or even one chapter segments and give himself a reinforcer after accomplishing each segment. He might even consider using his favorite book of the Bible as the reinforcer by letting himself read a chapter of his favorite book after two chapters of the difficult book.
7. Certainly parents should work to make devotions interesting because of the content, but principles of learning can also help. One approach is to send children to bed with the option of a short time of prayer and Bible study as an alternative to immediately going to sleep. This makes staying up the reinforcer for devotions. In contrast, if a devotional time is substituted for TV, the time will be seen as a punishing experience to be avoided.
8. Prior reinforcing experiences are generally associated with preferred songs. For example, the positive emotions experienced in a revival may be linked with certain songs. Indeed, through classical conditioning, a song becomes a conditioned stimulus that produced the same emotions felt during the revival, even though the revival itself has been long forgotten. This may also explain why people enjoy certain general musical styles. Disliking other styles may be the result of negative associations in the past.
9. Reinforcement probably gives the key to this difference, although punishment may also explain some of the behavior. At the baseball game, the action is the obvious reinforcer; thus, the person sits as close as possible. In church, more immediate reinforcement may be available in the rear of the building. For example, young people may be able to meet with friends there, and possibly misbehavior in church is less likely to be detected in the back row. Why do adults sit in back? Perhaps they can get to the car quickly and arrive home sooner for Sunday dinner!

Sitting in the back may be an avoidance technique due to prior punishing stimuli from the pulpit. Condemning the practice of sitting in the back may for these people perpetuate the behavior since they sit in the back to be out of the proximity of the punisher. Worse still, they may avoid church altogether.

It might be noted that in one church I have attended, the pastor praised those who sat near the front and bypassed commenting on those in the rear. I was impressed by how many sat regularly toward the front as a result. A warm, loving pastor can help rid people of their fear of the front, as can the practice of having something interesting occurring there!

10. While the concept of modeling might be a possibility, this might not occur because what the student sees may not be the best thing to imitate. Instead, I would suggest the principle of generalization. If you begin to practice what is learned from textbooks and classes, you will be more likely to practice those things in your future church work. Students who can't preach in college are unlikely to be able to preach in the ministry.

We might note that this is also relevant for missionaries—if you do not learn to minister in the USA, you probably will be unable to minister overseas because there will be no behavior to generalize. Christian service assignments have the added benefit that if you run into a snag, you have professors to give you advice and counsel.

11. While it is conceivable that several concepts would apply here, the best is probably the idea of modeling. By modeling the descriptions of men and women of God, we can more concretely visualize what God wants of us.
12. Many answers are possible. Missionaries tell of tribes in which no one responds to a gospel message until the leader does so. In the youth group, a teenager may become a Christian because a peer accepts Christ. Pastors need to model good Bible interpretation skills (hermeneutics) in their sermons as well as model interesting presentations of the gospel. One's actions are always more influential than content alone.
13. Punishment Reinforcement Generalization – The last application illustrates the discriminative stimulus—a certain topic or certain terms can cause the individual to discriminate a particular interpretation based on previously held doctrines.
14. Shaping
15. I was unlikely to return to the church because the experience was very punishing. Shaping the using a lot of reinforcement might have influenced me in the direction they wished.
16. This may not be the only possibility, but I used the concept of reinforcement. At the beginning of the next class, I handed each child a set of six coupons, explaining that if they had five left at the end of the class, they would get a sucker. They could lose one by talking without permission, getting out of their seat without permission, or causing other disruption. I did not give Lisa attention when she acted up; I took a coupon. She tested me only once and quickly learned to control her own behavior when she saw me follow through with my threats. Later I changed the reinforcer to sitting with me in church. Eventually I phased out the coupons and reinforcement after Lisa had gotten into the habit of good behavior. She still behaved well.

CHAPTER SIX MEMORY

Dr. Willard was always bringing up unexpected ideas for the church board to consider. This time he had located five small used computers which he insisted should be used to help youngsters in Sunday school learn Bible verses. The board was interested but not sure if the idea was workable.

“But we don’t know anything about computers,” one board member commented. “And I’m sure the Sunday school teachers don’t either.” Another added, “And besides, can we be sure that computers can teach the Bible? Isn’t it the mark of the beast?” The rest of the board laughed at that comment.

The pastor was more enthusiastic but still reluctant. “I know the computer we use for church finances and bulletins is helpful, but I’m not sure how one could be used for teaching Bible verses.”

Can a computer help kids memorize the Bible?

Before going further, try answering the following questions.

1. Short term memory can hold _____ items up to _____ seconds.
2. To be transferred from short-term to long-term memory, information must be _____.
3. Information that is most likely to be remembered will be given at the _____ of the presentation. (A) beginning (B) middle
4. Interference theory states that _____ information is most likely to be remembered. (A) similar (B) non-similar

Compare your responses with those on page 51. If all answers are correct, you may skip to the Applications section.

SHORT-TERM MEMORY

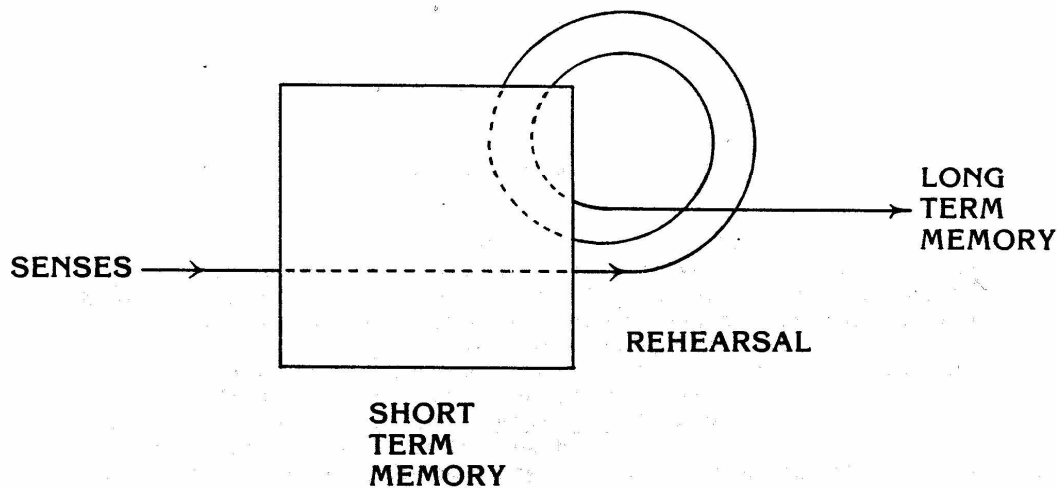
How does memory work? The information from the senses enters what is called **short-term** memory. This stage of memory is generally limited to seven items of information, although the limit can vary from time to time and from person to person. This stage is indeed short, with a maximum limit of about 30 seconds. All information must pass through this stage, whether it is remembered for only a few minutes, several days, or for many years.

5. As you study for a class, you notice you must learn five different things under a topic. Will all five things fit into short-term memory at one time? If there were ten things to learn, what could be done to fit them into short-term memory?

Compare your response with that on page 51.

REHEARSAL

For information to become permanent in the memory, it must be placed in **long-term** memory. For the information to get there, it must go through the process of **rehearsal**. This means that the information must somehow be recycled through short-term memory several times in some way.



The key to remembering anything longer than a few seconds is rehearsal. Yet rehearsal can occur several different ways: talking, reading, listening, thinking, or writing the information over and over.

6. To do well in a class, you usually need to remember a number of facts. Name several possible ways you can rehearse those facts so they will be remembered.

Compare your response with that on page 51.

WHAT HELPS THE MEMORY?

Memory researchers have found that certain things are remembered more easily than others:

- **Unusual** information
- Information given **first**
- Information given **last**
- Information **associated** in a meaningful way

Each of these can aid the memory.

7. If you are making a speech, what can you do to help the listeners remember your main points?

Compare your response with that on page 51.

INTERFERENCE THEORY

Even though information may eventually arrive in long-term storage, that does not mean it will be recalled. Many times a person may “know” something but can’t remember it when he or she needs to. Perhaps the best theory of why this happens is called the interference theory.

Interference refers to learning similar concepts or words, thus producing confusion. As a result, one of the ideas or terms will not be recalled. In other words, the *similarity* of information in long-term storage can result in inability to remember.

What is the solution? The best way to minimize interference is to make similar information different in some way. If two ideas seem to be nearly the same, find out how the two are *different* from each other. This may take extra reading or discussion with other people, but it is worth the effort because the two ideas are less likely to be confused and thus forgotten.

8. A former military person is taking general psychology and has come to the chapter on learning. She is confused about the term “reinforcement.” In the military she recalls the phrase “calling up reinforcements.” Is this likely to result in interference? Why or why not? What could be done to help her?

Compare your response with that on page 51.

APPLICATIONS

1. Pastor Richfield uses sermon points beginning with the same letter every time he preaches. He states that this is for his congregation to better remember his main points. What idea discussed is he attempting to use? Why might this *not* be best? What other ideas could be suggested to him to help him deliver a message that will be remembered?

Compare your response with that on page 51.

2. One day in Sunday school, a visiting teacher talks at length about the church being “universal” and the fellowship of all believers. A member of the class becomes upset and says, “I don’t believe in one big world church. The guy sounds like a liberal.” Obviously the two people are talking about two different things, thus the potential for forgetting one of the ideas is: (A) high (B) low. What can be done to minimize interference?

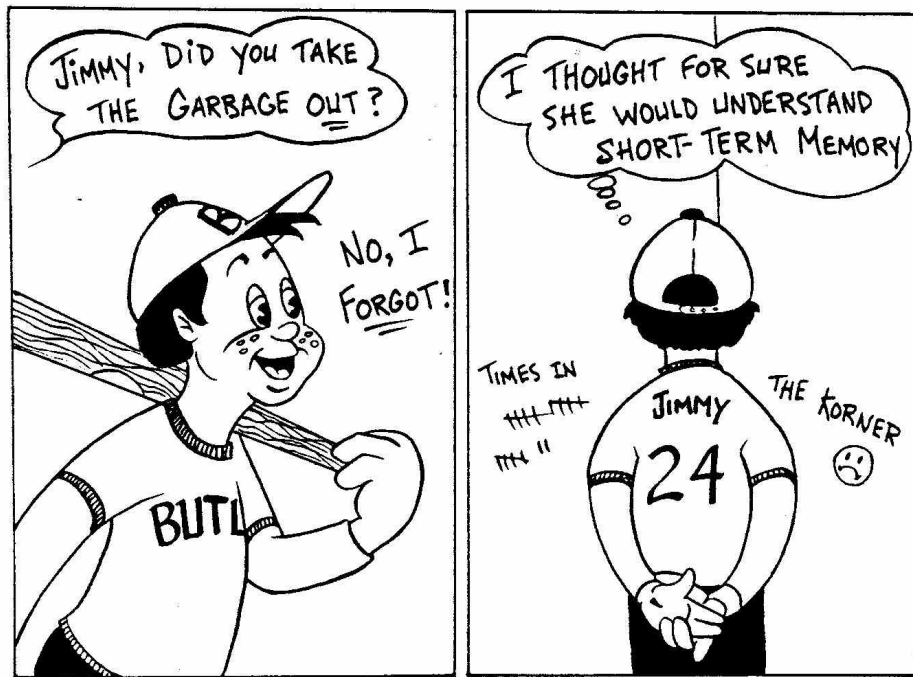
Compare your response with that on page 52.

3. A Pentecostal evangelist held a series of meetings that were attended by several conservative Baptists. The topics were holiness and sanctification, topics which are understood very differently by the two denominations. What can be done to minimize the potential interference and subsequent inability to recall?

Compare your response with that on page 52.

4. A young college student is sharing his faith with a woman. She is quite receptive but looks confused when the student states that she needs to confess her sins to become a Christian. "But at my church they say I can't *do anything* to become a Christian, only God can do it." This confusion about becoming a Christian is likely to make forgetting of one viewpoint or the other: (A) likely (B) unlikely. How can the confusion be minimized?

Compare your response with that on page 52.



5. Review the story at the beginning of the chapter. What aspects of memory theory could a computer make use of?

Compare your response with that on page 52.

FEEDBACK

1. 5 to 9 (7 is average). 30 seconds.
2. rehearsed
3. beginning
4. non-similar
5. You should be able to process five items in the short-term memory because this would be less than the limit of seven. Ten, on the other hand, is more than seven so they would need to be subdivided into two groups of seven or less each. This will make the information easier to remember because it must be processed by short-term memory to be sent to long-term memory. If the information is thus subdivided, the brain will somehow accomplish it anyway, but why not make the task easier by subdividing it *before* it reaches short-term memory?
6. Rehearsal can take place in several different ways. The more *kinds* of ways you use the better. For example, you can listen to a lecture, read the text and handouts, write a summary of the text and lecture, recite the facts aloud (even re-give the lecture!), and you can even create your own test from the material studied. Each of these is a form of rehearsal because you must think about the idea to be learned each time you perform the action.
7. Present the main ideas so that they are: (1) unusual (for example, tell jokes or use visual illustrations); (2) summarized at the beginning and end of the speech; (3) meaningfully associated (for example, you might teach children the first five books of the Bible by having them learn “Good Elephants Leave No Diapers” in order to recall Genesis, Exodus, Leviticus, Numbers, Deuteronomy.
8. Yes, because the term reinforcement is used differently in psychology and the military. You might explain to her that military reinforcements refer to additional troupes while psychological reinforcements are like rewards. If she does not clearly learn the distinction, she will probably not remember the usage of one of the terms.

APPLICATIONS FEEDBACK

1. While the pastor’s idea might be considered a rough example of meaningful association, it probably is not meaningful enough. He might try spelling a word with the first letter of each point, but even this would get old pretty soon. Unusual presentations would help, such as using an overhead projector illustrate his points, having a movie, or even presenting a skit to illustrate an idea. It would certainly help to present the main points at the beginning and end of the sermon, not only because

position is important but also because the congregation would get three exposures (rehearsal). His major points should be less than seven. Sunday school teachers should also use these ideas in presenting Sunday school lessons. Since these characteristics apparently hold true regardless of culture, they can also be used profitably by missionaries in communicating with nationals.

2. Forgetting is quite likely because of the similarity of terms used (oneness in church versus one church). The student is most likely to forget the view of the visiting teacher. Interference could be minimized by the careful distinction of the two definitions of the church—the church as all true believers (the teacher’s idea) versus the church as a building or denomination (the class member’s idea).
3. These terms must be carefully defined, preferably with both Pentecostal and Baptist definitions. Confusion is unlikely if the distinctions are understood and the speaker is careful to state which one he or she holds to. Another term easily confused by these two groups is the words “sin” which also has different definitions by the two groups. Thus, when the Pentecostal states that a Christian never sins and the Baptist states a Christian sins every day, they really aren’t talking about the same thing.
4. Emphasis upon the necessity of both, clearly distinguishing confession as admission of guilt versus doing “good works” to try to merit being a Christian. This may seem elementary to those who have been Christians a long time, but this is indeed confusing to many, especially new Christians.
5. Many aspects of memory theory would be helpful in programming a computer, such as teaching less than seven things at a time and using unusual presentations. The computer is especially easy to use for the repetitive work required for memorizing via rehearsal. It is also likely to minimize boredom because children and adults find the computer a novel way to learn. A computer frees the teacher to do other things.

A program for verse memorization is easy to develop, even for those with only moderate experience in programming. Not long ago, I wrote such a program after only a few training lessons in programming.

There are also excellent programs for telling Bible stories, playing Bible games, and many other Christian education functions. Computers might likewise be helpful in providing some of the repetition needed in learning new languages by missionaries (or even learning Greek in college!). The computerized church can now be a reality!