This is the second chapter in a two-part series on theories of message production and processing. In Chapter 6 we dealt with theories explaining how messages are produced. Here we concentrate on how they are received. The main question of the theories in this chapter is how human beings come to understand, organize, and use the information contained in messages. The amount of theorizing on this topic is vast, and we can only touch on it here. This chapter includes some classic treatments of the subject of message processing as well as some recent extensions.

Most of the theories in this chapter are firmly in the cognitive tradition, which was described in Chapter 1. Briefly, cognition is the study of thinking, or information processing. In an excellent recent review, Thomas Ostrom and his colleagues outline three broad dimensions of the cognitive system—codes, structures, and processes.  

Cognitive codes are the basic elements of information that are kept in memory and manipulated in various ways when we think. The precise nature of these codes are in dispute; we likely have several types of codes operating at the same time. Some coding possibilities include linguistic propositions, visual images, event memories, action sequences, and emotions.

The second dimension is cognitive structures, or ways of organizing codes. It is clear that single things such as words, sentences, or images are not independent units. We organize them in some way. Again, cognitive psychologists disagree about exactly how this is done, but several theories have been proposed. One common explanation, for example, is that codes are grouped into categories that differ from one another. For example, “trees” would probably be in a different category from “fish.” Another approach is that the elements of cognition are linked to one another by associative pathways or links in complex networks. For example, you might associate

“trees” with the color “green.” A more elaborate version of this theory is the structured network approach, in which associative networks are embedded in larger networks in a hierarchical fashion, something like the hypertext of the World Wide Web.

The third dimension of cognition is cognitive processes, or operations. What happens to what and when? Again, various theories have been proposed. One is the spreading-activation approach, which suggests that something in the environment activates or stimulates a node in the cognitive network, and this activation spreads out and excites other nodes that then come into play. An example is action assembly, discussed in Chapter 6, which states that people assemble “instructions” from memory in hierarchical fashion to accomplish a task.

The chapter is divided into three interrelated segments. The first deals with processes of interpretation, or understanding, and meaning. The theories summarized here define meaning and show how it develops, how the content of messages and intentions of communicators are understood, and how the causes of behavior are assessed.

The second section deals with information organization. These theories tell us how information is integrated into the cognitive system and how it affects attitudes, how we think about information that relates to our attitudes, and how consistency is used as an organizing principle.

The third section of the chapter relates to the process of making judgments. These theories deal with how information is compared to what we already know and expect, deviations from expectations, and how the value of information is assessed. As you probably already suspect, this is a rather technical and complicated body of theory. Let’s get started.

**MESSAGE INTERPRETATION**

*Interpretation* is one term for how we understand our experience. Chapter 10 presents a number of theories of interpretation from a textual and philosophical perspective, but in this chapter we approach the subject psychologically, emphasizing three aspects. The first aspect is the meanings assigned to concepts. The second aspect deals with understanding communicators’ intentions. The third has to do with understanding the causes of behavior.

**Osgood on Meaning**

Charles Osgood, a well-known researcher of the 1960s, developed one of the most influential theories of meaning. In those days, psychology was dominated by behaviorism, but cognitive approaches were just beginning to get popular, and his theory actually has a foot in both traditions. Osgood’s theory, then, deals with the ways in which meanings are learned and how they relate to thinking and behavior. This theory was immensely influential and is now considered a classic. Although it is not as popular today, it is still useful and a good place to begin thinking about the topics of this chapter. Let’s begin with a simple example and see how Osgood would work with it.

What associations do you have for the word *flight*? Perhaps you see flight as a gentle, floating, pleasant experience, or maybe you see it as rough, dangerous, and frightening. Whatever your associations, these are your connotations for the term. Osgood’s theory attempts to explain what these connotations consist of and where they come from.

The learning theory used by Osgood begins with the assumption that individuals respond to stimuli in the environment, forming a stimulus-response relationship. He believes that this basic S–R association is responsible for the establishment of meaning, which is an internal, mental response to a stimulus. When you see an airplane, for example, an internal association will appear in your mind, and this association constitutes your meanings for the concepts of airplanes and flight.

---

Physical stimulus (airplane)

internal representation = meaning

Internal response (fear) --7 Internal stimulus (avoidance tendency)

Outward response (not fly)

Meaning as Internal Representation

Your actual association between the stimulus and response is somewhat more complicated than the above example implies. Outwardly, you see a physical stimulus (the plane), and you have a behavioral response (not to board). This response is mediated by internal representations in your mind, which is your meaning lying between the outward stimulus (airplane) and your response (not getting on). The outward stimulus leads to an internal meaning, which leads to an outward response.

The internal meaning itself can be broken down into two parts, an internal response and an internal stimulus. The whole chain, then, consists of the following: (1) physical stimulus → (2) internal response → (3) internal stimulus → (4) outward response. A person who is afraid of flying, for example, has an internal response (fear) to the airplane, and this fear leads to an avoidance tendency, which is an internal stimulus for the outward response of not boarding the plane. Figure 7.1 illustrates this.

In addition to physical objects, we also have meanings for the signs of those objects, such as words and gestures. In other words, when the sign is paired with the meaning, that sign comes to elicit the same or a similar response. This is why the mere mention of flying frightens some people. Even if they are not actually scared at the mention of an airplane, they will tell you that they would prefer not to fly because they know what their actual response would be.

Meaning, because it is internal and unique to the person’s own experience with the natural stimulus, is said to be connotative. If you are afraid of spiders, a spider elicits an escape response. When the word spider is associated with the object as it might have been when you were a small child, a portion of your response (fear) becomes associated with the word itself. This internal meaning mediates your response to the word, even when the actual object is not present.4

Most meanings are not learned as a result of direct experience with the natural stimulus but are learned by an association between one sign and another, a process that can occur in the abstract out of physical contact with the original stimulus. Here the meaning of one concept “rubs off” by association with another. To continue our example, imagine that as a child you had already established internal responses to the words spider, big, and hairy. Let’s say you listened to a story about a tarantula, characterized as a “big, hairy spider.” Through association you would now have a meaning for the new word tarantula, which may also carry some mixture of the connotations of its associated words big and hairy.

The subject of the thesaurus consists of the adjectives that are used to express the meaning of each word. The adjectives that express meanings are divided into certain categories, such as good or bad, high or low, active or passive, or good or bad, etc. The adjectives used to express the meaning of each word are called the connotations of the word. The connotations of a word are determined by the context in which the word is used. For example, the word “happy” has different connotations in different contexts. The connotations of a word can be divided into positive and negative connotations. Positive connotations indicate that the word has a positive meaning, while negative connotations indicate that the word has a negative meaning. The connotations of a word can also be divided into active and passive connotations. Active connotations indicate that the word has an active meaning, while passive connotations indicate that the word has a passive meaning.

notations earlier attached to the other words because of its association with these words. If you associated *spider* with *fear*, *big* with *dangerous*, and *hairy* with *creepy*, then you might well react to a real or imagined tarantula by running away. The examples of the fear of flying and the fear of spiders are negative, but all meanings—including positive and neutral ones—are learned the same way.

One of Osgood’s major contributions is his work on the measurement of meaning. This method of measuring meaning, the *semantic differential*, assumes that one’s meanings can be expressed by the use of adjectives. The method begins by finding a set of adjectives that could be used to express your connotations for any stimulus, including a sign. These adjectives are set against one another as opposites, such as good-bad, high-low, slow-fast. You are given a topic, word, or other sign and are asked to indicate on a 7-point scale how you associate the sign with the adjective pairs. A scale looks like this:

```
<table>
<thead>
<tr>
<th>Weak</th>
<th>Good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inactive</td>
<td>Active</td>
</tr>
<tr>
<td>Strong</td>
<td>Bad</td>
</tr>
</tbody>
</table>
```

Figure 7.2 illustrates the semantic space.

*Airplane*, for example, might be viewed as good, active, and potent. Or it might be seen as bad, active, and potent. A *spider* might be perceived as bad, passive, and potent, or perhaps good, active, and weak.

Osgood and others have done semantic differential research on a variety of types of concepts, including words, music, art, and even sonar sounds. In addition, they have done research across a wide range of cultures. Osgood believes that the three factors of meaning—evaluation, activity, and potency—apply across all people and all concepts. If these dimensions are universal as Osgood believes they are, he has significantly advanced our understanding of meaning. This claim is controversial, however, and we examine it more carefully in the concluding section of this chapter.

---

5 Osgood, “*Nature*.”
6 Osgood has hypothesized that bipolarity is the basic factor in all language and human thought. See Charles Osgood and Meredith Richards, “*From Yang and Yin to Mf and or But*,” *Language* 49 (1973): 388–412.
7 A sampling of studies illustrating the applications can be found in James Snider and Charles Osgood (eds.), *The Semantic Differential Technique* (Chicago: Aldine, 1969). This work also includes an atlas of approximately 500 concepts and their semantic profiles.
Osgood's theory has been useful to describe and explain the meaning of individual concepts. But concepts are only part of communication. In the next theory, we look at a more complex level of meaning—the communicator’s intention.

Relevance Theory

Relevance theory by Dan Sperber and Deirdre Wilson attempts to explain how listeners come to understand speakers’ intentions. Two approaches have been used to tackle this problem, the coding model and the inferential model.

The coding model, as explained in Chapter 4, is most often associated with semiotics, suggesting that words and other symbols convey meaning. Osgood’s theory is consistent with this model. The inference model suggests that meaning is not simply transferred but must be inferred by communicators from evidence in the message. Sperber and Wilson believe both models are useful because communication occurs in both ways. Sophisticated human communication, however, cannot be explained entirely from a coding perspective, making the inferential approach essential.

In the coding model, meaning is a simple association between a symbol or stimulus and a referent, but in human communication meaning is more complex, for it involves the intentions of the communicators. People produce messages not merely to represent referents but to achieve purposes. In communication, the chief problem for the sender is to get his or her intention across, and the chief problem for the receiver is to understand that intention accurately. The receiver can interpret intentions only by making inferences, and people can understand each other only from the perspective of their own knowledge because one can never be sure what the other person knows.

A simple example illustrates the role of inference in understanding messages. Suppose that a friend tells you the weather is nice today. With coding you can easily understand the literal meaning of the sentence, but why did the speaker tell you this? Unless your friend is explicit about the intention, you will have to make an inference.

A communicator will always have two levels of intent. The informative intention is the desire to have the listener become aware of something, and the communicative intention is to have that person realize the purpose of the statement. In the example above, your friend obviously wants you to become aware of the good weather, but she also wants you to know that she intends to inform you of this, or perhaps she even wants you to be aware of another less obvious intent. How, then, do you actually go about figuring out the informative intention?

Context is the key for inferring an intention. Your context is your assumptions. The chief problem here is that different people have different assumptions and therefore operate in different contexts. In other words, people live in different cognitive environments. Your cognitive environment consists of all facts (or believed facts) that you rely on.

Human cognition is designed to be efficient. In other words, it is designed to reach certain goals with the least possible effort. New information is considered relevant when it can be combined with what you already know to make an inference. When you combine new information with old information in this way, the new information is said to affect the context by strengthening existing assumptions, leading to the abandonment of former assumptions, or adding new ones. By definition, then, relevant information has greater impact on the cognitive environment than does irrelevant information.

Suppose your friend told you recently that she would like to go on a picnic. When she later tells you that the weather is good, you can put these two statements together and infer that her intention is to get you to invite her on a picnic. The new information about the weather has had a contextual effect and is therefore relevant.

Relevance is obviously a matter of degree. It depends on the size of the contextual effect and

---

the amount of cognitive effort required to process the information. To be efficient, people try to get the most effect for the least amount of processing effort. When this is successfully done, they have maximized the relevance of the information.

Thus, when you communicate, you try to modify the cognitive environment of the other person and affect his or her assumptions. The changes you make in this person’s cognitive environment may be concrete, as in a factual claim, or vague, like a feeling or impression.

Because of the need for efficiency, you cannot use your entire cognitive environment as the context for understanding the message because it would be too demanding. Even if you could remember all of it at once, the effort required would be tremendous and very inefficient. Imagine how hard it would be to interpret a message if you had to use everything you knew to understand it.

Therefore, you select a smaller context in which to understand the other communicator’s intentions. You do this first by narrowing down the information in your immediate memory to the things most relevant at this particular time and place. Then you select a context that will maximize the relevance of the information in the message. In other words, you ask yourself, “From what is available to me right now, what do I need to assume to make sense of this message with the least amount of effort?” Now, the speaker will help you with this. Here is how.

Speakers know that they have two primary tasks—to get your attention and to present a message that is potentially relevant. Thus, relevance itself is always a major goal of the communicator. The speaker always presents you with a guarantee of relevance. You can assume when people talk to you that they think what they have to say is relevant to your assumptions in some way. This is the presumption of relevance on your part. The speaker then gives you evidence or signs of the relevance of the message, and you look for those signs.

Now, as a listener you have only to hypothesize various intentions by testing any possible intention that occurs to you with the relevancy principle. So you ask, “Can this possible intention be relevant to me based on the chosen context?” If not, it probably is not the intention of the speaker. The first hypothesized intention that works will be assumed to be the correct one. In some cases, you may immediately see that more than one intention could work, and if that happens, you will experience the message as ambiguous.

For example, if in addition to saying that she wanted to go on a picnic, your friend also mentioned that she would like your help with the yard work, you would have two assumptions as part of the context for interpreting her subsequent weather report. You hypothesize almost simultaneously that you could go on a picnic or stay home and work in the yard. Suddenly, your friend’s intention is ambiguous. In this case, you would probably resolve the ambiguity by asking her what she wants to do.

Language is especially useful in communicating intent. It is so much more explicit than nonverbal signs and contains its own rules of meaning. Language therefore provides direct evidence of what the communicator is trying to do. The problem with language is that it is often used indirectly, so that what is said is not what is meant. Here the listener must infer an appropriate implicature, or implied intent. Recall from Chapter 5 that conversations are peppered with such implied intent and that, to be competent in conversations, you must have the ability to use implicature.

Again, the principle of relevance is used here to determine the actual intent of the speaker. If the direct statement does not seem relevant, you will naturally explore implied intentions that will turn out to be relevant. Actually, unless she just wants you to know that it is a nice day, your friend’s statement about the weather probably does involve an implicature of some sort. Surely, you think, she is not just commenting on the weather. What is her real intent? You determine that by figuring out how the weather comment is relevant to you at that moment.

In this section we have dealt with understanding intent. Of course, this is not all that is going
on in receiving messages. Another kind of interpretation involves attributing the causes of behavior.

**Attribution Theory**

Attribution theory deals with the ways people infer the causes of behavior. Unlike scientific psychology, which attempts to ascertain the actual causes of behavior, "naive psychology," as attribution theory is sometimes called, centers on the perceived causes of behavior by ordinary people in everyday life. It explains the processes by which you come to understand your own behavior and that of others.

Fritz Heider, founder of attribution theory, outlines several kinds of causal attributions that people commonly make.⁹ These include situational causes (being affected by the environment), personal effects (influencing things personally), ability (being able to do something), effort (trying to do something), desire (wanting to do it), sentiment (feeling like it), belonging (going along with something), obligation (feeling you ought to), and permission (being permitted to).

There is not a one-to-one relationship between the observed behavior and the cause. A variety of behaviors may be perceived as stemming from a single cause, or, conversely, one behavior may be thought to arise from several causes. When you are communicating, then, you often need to resolve such ambiguities.

For example, let’s say you are the supervisor in a small company. You notice that one of your employees seems particularly industrious all of a sudden. You will probably want to figure out why. You might think that this person is being forced to work hard, which would be an attribution to the environment. Or you might think that he is angling for a raise. Or maybe he is ingratiating himself to you. Or maybe he is bored and needs to keep himself busy.

Naturally, people make use of this context to help them determine the cause of the behavior. So in assessing your employee’s hard work, you also can get additional information by observing him at work repeatedly over time. And you can observe when he works hard and when he does not. Causal perception is mediated variables in your own psychological makeup. One of these is your meanings. You always assign meaning to what you observe, and these are crucial to what you “see.” Meanings help you integrate your perceptions and organize your observations into patterns that help you make sense of the world. Because of a need for consistency, you define things in such a way that helps you make sense of them, so that your attributions become integrated and consistent. For example, if you think that you have a great company, you may have a tendency to attribute your employee’s hard work to loyalty.

The way you resolve ambiguities and establish a consistent pattern may be different from the way other people do so. Heider calls individual patterns of perception perceptual styles. He recognizes that any state of affairs may give rise to a number of interpretations, each of which seems true to the person involved.

One of the most interesting attributions occurs when you perceive that someone did something on purpose. If you think that someone did something on purpose, you are recognizing two underlying attributes, ability and motivation. Suppose, for example, that an associate of yours fails to show up for a meeting. You figure that she could not make it or didn’t try. Heider calls this style of perception a tendency to “rule out correlation.” Or maybe she was too lazy (an attribution of exertion). If she did not try, she either didn’t want to (an attribution of intent) or was too lazy (an attribution of exertion).

Now you can see what happens in interpersonal perception. In this instance you will infer the causes of your associate’s behavior according to your overall experience, your meanings, the situational factors, and your own perceptual style.

Another interesting kind of attribution happens when you think that you “ought” to do something. An obligation is seen as an impersonal, objective demand. It can have a tremen-

---

CHAPTER 7 Theories of Message Reception and Processing 133

dous sense of validity because most people would agree with it. For example, you might say, "You ought to go to the dentist," or "I ought to report the theft." But "oughts" do not necessarily correspond with values. Perhaps you dread going to the dentist even though you think you should. Because people want to be consistent, they will balance their obligations and values:

There exists a tendency to be in harmony with the requirements of the objective order. Thus the situation is balanced if one likes to do what one ought to do, if one likes and enjoys the entities one believes are valuable, if happiness and goodness go together, if p [perceiver] admires the person he likes and likes the person with whom he shares values, if what ought to be conforms with what really is, etc. 11

Heider's theory was highly influential. We will not take the space here to discuss the many other attribution theories, but let's look at an extended example of how attribution works in everyday life. Brant Burleson tape-recorded a conversation between two teaching assistants about a student. 12 In this conversation one teacher, Don, complains to his colleague Bob that one of his students failed an exam three times. Don is very concerned and explores the reasons for the student's failure.

Don and Bob first explore the possibility that the test was too hard, but Don says that the test was not changed and that no one else failed it. They also establish that the student's behavior was consistent over time. Thus, they were able to rule out test difficulty as a cause. They then conclude that the failure must be something about the student herself. Either she did not have the ability or she wasn't trying. She completed all assignments and took the test three times, so she appeared to be trying. By deduction, then, they conclude that she just does not have the ability to pass the test. In the end Don says that he will ask her to drop the class because he doesn't think she can pass the course.

In this example, it looks like Don and Bob are being very logical and systematic in trying to determine the student's problem, but one of the most common research findings is that people are often illogical and biased in their attributions. People are not always objective when making causal inferences about themselves and other people. Rather than weighing all factors, people seem to make quick judgments based on available cues and emotional factors. Research also shows that people's prior judgments are hard to dislodge, no matter how compelling the evidence. Thus, once you make an attribution, you are apt to stick with it.

Yet there is a persistent assumption in attribution theory that people are logical and systematic. How do we reconcile these research findings? Several researchers have adopted the position that people can process information in both logical and nonlogical ways, depending on the circumstances such as motivation. If motivation to promote the self is high, as when we need to save face, there is probably a tendency to be biased in favor of self-serving, situational attributions. If you really want to make a positive impression on your date, you will probably attribute the fact that you are late to something you couldn't control, like having too much to do. On the other hand, when a person is motivated to control the situation, there will probably be a bias toward attributions of personal responsibility. So you might respond to your boss's compliment about a job well done that you worked really hard on it.

One of the most persistent findings in attribution research is the fundamental attribution error. This is the tendency to attribute the cause of events to personal qualities. It is a feeling that people are personally responsible for what happens to them. In general, we seem to be insensitive to many circumstantial factors that cause events, overlooking things that may not be the person's fault.

This tendency, however, is reduced when we are evaluating our own responsibility. In other words, we tend to blame other people for what happens to them, but blame the situation for what happens to us. If your roommate fails a test, you are apt to claim that he did not study
hard enough, but if you fail the test, you will probably say that the test was too hard.

The literature on attribution theory is vast.\textsuperscript{13} We do not have the space here to summarize all of this, but let’s look at one illustrative study. Alan Sillars conducted a landmark study on the effects of attribution in conflict resolution among college roommates. This research shows how attribution can affect communication in everyday life.\textsuperscript{14} Sillars conducted two studies. In the first, he asked college students to write about a conflict they had had with their roommates, and in the second study, he actually videotaped roommates discussing problems such as irritability, boyfriend or girlfriend problems, and disagreements about music. He then looked for three types of strategies such as avoidance or submission; competitive strategies such as requests, demands, and threats; and cooperative strategies such as problem solving. He found that the roommates’ attributions very much affected the kinds of strategies they employed in managing their conflicts.

If, for example, the students saw their roommates as cooperative, they were more likely to use a cooperative strategy. Attributing self-blame led to the use of cooperative strategies, whereas attributing blame to the other person led to competitive ones. The attribution of certain negative personality traits to the other person also seemed to prevent the use of cooperation. In addition, Sillars found that, because of the fundamental attribution error, both partners tended to blame the other for the conflict and saw themselves as merely responding to it.

Interpretation is an important aspect of message receiving. Once a message is understood, its information must be organized in some way. Let’s turn to this issue next.

\section*{Information Organization}

In this section we will deal with the ways you organize and manage information and how information affects your cognitive system. Several of the theories in this chapter deal with \textit{attitudes}. Attitude and attitude change have been popular subjects in communication research and theory for fifty years.\textsuperscript{15} Originally, attitudes were studied as a kind of “mental” behavior that is learned and shaped largely as other behaviors are. In more recent years, however, attitude theory has taken a distinct cognitive turn. Attitudes are viewed as elements of the cognitive system that you hold in your memory and access when you respond to various situations.\textsuperscript{16}

\section*{Information-Integration Theory}

The information-integration approach centers on the ways people accumulate and organize information about some person, object, situation, or idea and form attitudes. An \textit{attitude} is a predisposition to act in a positive or negative way toward some object. The information-integration approach is one of the most popular models of the nature of attitudes and attitude change.\textsuperscript{17}

According to this theory, all information has the potential of affecting your attitudes, but two variables are important in how attitudes are
changed. The first is valence, or direction. Valence refers to whether information supports your beliefs or refutes them. When information supports your beliefs and attitudes, it has "positive" valence. When it does not, it has "negative" valence. If you favor term limits for elected officials, a statement opposing term limits would be negative and one supporting them would be positive.

The second variable that affects the impact of information is the weight you assign to the information. Weight is a function of credibility. If you think the information is probably true, you will assign a higher weight to it; if not, you will assign a lower weight.

So valence affects how information influences your attitudes, and weight affects how much it does so. When the weight of information is low, the information will have little effect, no matter what its valence. Suppose that you have two friends, one who strongly favors legalized euthanasia and another who strongly opposes it. Suppose that a television documentary airs a report that legalized mercy killing has been badly abused in other countries. How will this information affect your friends' attitudes toward the issue?

Let's begin with your first friend, who favors legalization. If he assigns little weight to the news report, this information will not affect his attitude much one way or the other. On the other hand, if he decides that the information is true, he will assign a high weight to it, and it will affect his attitude. The combination of a high weight and a negative valence will change his attitude to be less in favor.

Now let's look at your second friend, who opposes legalized euthanasia. Again, if she assigns low weight to the information, it will have little effect, but if she believes this information and assigns high weight to it, it will make her even more opposed to legalization than she originally was. Why? Because the combination of high weight and positive valence reinforces her opinion.

An attitude is considered to be an accumulation of information about an object, person, situation, or experience. Attitude change occurs because new information adds to the attitude or because it changes one's judgments about the weight or valence of other information. Any one piece of information usually does not have too much influence on an attitude because the attitude consists of a number of things that could counteract the new information.

You would not expect your friends to completely reverse their attitudes because they have other beliefs that enter the picture. Your friend who favors legalized euthanasia does so for a number of reasons, and he may not be very worried about abuse. Even though the television program persuades him that mercy killing has been abused in certain other countries, he might say that abuse can be prevented by good regulations. Let's now look at extensions on this theory that help explain why attitudes do not change easily.

One of the best-known and respected information-integration theorists is Martin Fishbein. Fishbein highlights the complex nature of attitudes in what is known as expectancy-value theory.

According to Fishbein, there are two kinds of belief. The first is belief in a thing. When you believe in something, you would say that this thing exists. Your second kind of belief, belief about, is your sense of the probability that a particular relationship exists between two things. For example, you might believe in the existence of pain and suffering late in life. You may also have a belief about pain and suffering, that people want to die so that they can avoid it.

Attitudes differ from beliefs because they are evaluative. Attitudes are correlated with beliefs and lead you to behave in a certain way toward the attitude object. So the two beliefs mentioned above would probably lead you to vote in favor of a ballot proposition that would legalize euthanasia.

Fishbein sees attitudes as organized together, as general attitudes are predicted from specific ones in a summative fashion. So a general positive attitude toward euthanasia would consist of
A Simplified Example of an Attitude Hierarchy According to Fishbein Model

<table>
<thead>
<tr>
<th>Associated concepts</th>
<th>Probability of association</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_1$ Cardiovascular health</td>
<td>$B_1$ Jogging promotes cardiovascular vigor.</td>
<td>$a_1$ Cardiovascular vigor is good.</td>
</tr>
<tr>
<td>$x_2$ Disease</td>
<td>$B_2$ Jogging reduces the chance of disease.</td>
<td>$a_2$ Disease is bad.</td>
</tr>
<tr>
<td>$x_3$ Obesity</td>
<td>$B_3$ Jogging reduces weight.</td>
<td>$a_3$ Being overweight is bad.</td>
</tr>
<tr>
<td>$x_4$ Mental health</td>
<td>$B_4$ Jogging promotes peace of mind.</td>
<td>$a_4$ Letting off mental tensions is good.</td>
</tr>
<tr>
<td>$x_5$ Friendship</td>
<td>$B_5$ Jogging introduces a person to new friends.</td>
<td>$a_5$ Friendship is important.</td>
</tr>
<tr>
<td>$x_6$ Physique</td>
<td>$B_6$ Jogging builds better bodies.</td>
<td>$a_6$ A beautiful body is appealing.</td>
</tr>
</tbody>
</table>

Other attitudes—about life, death, individual rights, and pain and suffering. The relationship between beliefs and attitudes is represented algebraically as follows:

$$A_o = \sum_{i=1}^{N} B_i a_i$$

where

- $A_o$ = attitude toward object $o$
- $B_i$ = strength of belief $i$ about $o$; that is, the probability or improbability that $o$ is associated with some other concept $x$
- $a_i$ = evaluative aspect of $B_i$; that is, the evaluation of $x$
- $N$ = number of beliefs about $o$

(Read the formula as follows: An attitude toward an object equals the sum of each belief about that object times its evaluation.)

The distinctive feature of Fishbein's formula is that it stresses the fact that attitudes are a function of a complex combination of beliefs and evaluations. The example in Table 7.1 helps clarify this model. This table describes a hypothetical attitude toward jogging. Here, jogging is associated with beliefs about six concepts—cardiovascular health, disease, obesity, mental health, friendship, and physique. Each of these concepts is associated with a belief, and each belief has either positive or negative valence. In this example, when you add up all the beliefs times the evaluations, you end up with a very positive attitude about jogging.

According to this theory, attitude change can occur from three sources. First, information can alter the believability, or weight, of particular beliefs. The two friends mentioned above might learn, for example, that the report on the abuse of euthanasia is erroneous. Second, information can change the valence of a belief. For instance, your friends might learn that these "abuses" were technical and legal and not self-serving in any way, making the information seem positive rather than negative. Finally, information can add new beliefs to the attitude structure. So, for example, your friends might learn that euthanasia was actually requested in the vast majority of cases.

This theory suggests some of the ways information affects the cognitive system, but how do the resultant attitudes affect behavior? This is a more complicated issue. In the theory of reasoned action, Ick Ajzen and Martin Fishbein argue that...
behavior results in part from intentions, a complex outcome of attitudes. Specifically, your intention to behave in a certain way is determined by your attitude toward the behavior and a set of beliefs about how other people would like you to behave. Consider your progress in college as an example. Do you plan to continue until you get your degree or drop out for a while? The answer to this question depends on your attitude toward school and what you think other people want you to do. Each factor—your attitude and others’ opinions—is weighted according to its importance. Sometimes your attitude is most important, sometimes others’ opinions are most important, and sometimes they are more or less equal in weight. The formula is as follows:

$$ BI = A_B w_1 + (SN)w_2 $$

where

- $BI$ = behavioral intention
- $A_B$ = attitude toward the behavior
- $SN$ = subjective norm (what others think)
- $w_1$ = weight of attitude
- $w_2$ = weight of subjective norm

(Read the formula as follows: Your intention to do something equals your attitude toward the behavior times the strength of that attitude plus what others think times the strength of their opinion.)

Now let us return to the example of your intention regarding college. If you have developed a poor attitude toward school and your friends are encouraging you to drop out for a semester to work, that is probably what you will do. On the other hand, if your friends are encouraging you to stick it out and their opinions are very important to you, you will probably stay despite your negative attitude. If your friends’ opinions don’t matter that much, your attitude will win out, and your intention will be to get a job.

The preceding formula predicts your behavioral intention, but it does not necessarily predict the actual behavior. This is because you do not always behave in accordance with your intentions. We know that people are notorious for going against their own best intentions. Sometimes, for example, people cannot do what they want because they are not able to. Smokers may want to stop smoking but cannot because they are addicted. You might want to drop out of school, but your parents’ threat to cut off your support might prevent you from doing so.

One of the most powerful factors in how you organize information is consistency. Let us turn now to some theories that address the principle of consistency.

### Consistency Theories

Undoubtedly, one of the largest bodies of work related to attitude, attitude change, and persuasion is consistency theory. All consistency theories begin with the same premise: People are more comfortable with consistency than inconsistency. Consistency, then, is a primary organizing principle in cognitive processing, and attitude change can result from information that disrupts this balance.

Although the vocabulary and concepts of these theories differ, the basic assumption of consistency is present in all of them. In system language (Chapter 3), people seek homeostasis; persons are open systems that aim to achieve self-maintenance and balance.

In the remainder of this section, two theories of cognitive consistency are summarized. These were chosen because of their prominence in the field and their relatively complete explanations. The first is Leon Festinger’s theory of cognitive dissonance, and the second is Milton Rokeach’s theory of attitudes, beliefs, and values.

#### The Theory of Cognitive Dissonance

Leon Festinger’s theory of cognitive dissonance is one of the most important theories in the history of social psychology. Over the years it has produced...
a prodigious quantity of research and volumes of criticism, interpretation, and extrapolation. Festinger teaches that any two cognitive elements, including attitudes, perceptions, knowledge, and behaviors, will have one of three kinds of relationships. The first of these is null, or irrelevant; the second is consistent, or consonant; and the third is inconsistent, or dissonant. Dissonance occurs when one element would not be expected to follow from the other. If you think that smoking is harmful to your health, you would probably not smoke. What is consonant or dissonant for one person, however, may not be for another, so we must always ask what is consistent or inconsistent within a person's own psychological system.

Two overriding premises govern dissonance theory. The first is that dissonance produces tension or stress that creates pressure to change. Second, when dissonance is present, the individual will not only attempt to reduce it but will also avoid situations in which additional dissonance might be produced. The greater the dissonance, the greater the need to reduce it. For example, the more inconsistent your smoking is with your knowledge of its negative effects, the greater the pressure you will feel.

Dissonance itself is a result of two other variables—the importance of the cognitive elements and the number of elements involved in the dissonant relation. In other words, if you have several things that are inconsistent and if they are important to you, you will experience greater dissonance. If health is not important to you, knowledge that smoking is bad for your health is probably not going to affect your actual smoking behavior.

How do you deal with your cognitive dissonance? Festinger imagined a number of methods. First, you might change one or more of the cognitive elements, a behavior or an attitude perhaps. For example, as a smoker, you might stop smoking, or you might stop believing that it is harmful to health. Second, new elements might be added to one side of the tension or the other. For instance, you might switch to chewing tobacco. Third, you might come to see the elements as less important than they used to be. For example, you might decide that health isn't as important as state of mind. Fourth, you might seek consonant information such as evidence for the benefits of smoking by reading tobacco company studies. Fifth, you might reduce dissonance by distorting or misinterpreting the information involved. This could happen if you decided that although smoking is a health risk, it is not as harmful as the weight you would gain if you stopped smoking. No matter which of these methods you employed, it would reduce your dissonance and make you feel better about your attitudes, beliefs, and actions.

Much of the theory and research on cognitive dissonance has centered around the various situations in which dissonance is likely to result. These include such situations as decision making, forced compliance, initiation, social support, and effort.

Decision making has received a great deal of research attention. Salespeople label the dissonance that occurs after buying something "buyer's remorse." In 1970 an interesting study was published about automobile buying.²² Often, while waiting for delivery of a car, a customer will cancel the purchase because of postdecisional dissonance, or buyer's remorse. In this study, a group of automobile customers were called twice during the period between signing the contract and actual delivery to reassure them about their purchase. Members of a control group were not called. As expected, significantly more of those who were not called canceled the order (about twice as many). The amount of dissonance one experiences as a result of a decision depends on four variables, the first of which is the importance of the decision. Certain decisions, such as that to skip breakfast, may be unimportant and produce little dissonance. The greater the decision's importance, the greater the dissonance.

The second variable is the number of elements involved. Generally, the more dissonant the decision, the greater the dissonance. For example, as a smoker, you might stop smoking, or you might stop believing that it is harmful to health. Second, new elements might be added to one side of the tension or the other. For instance, you might switch to chewing tobacco. Third, you might come to see the elements as less important than they used to be. For example, you might decide that health isn't as important as state of mind. Fourth, you might seek consonant information such as evidence for the benefits of smoking by reading tobacco company studies. Fifth, you might reduce dissonance by distorting or misinterpreting the information involved. This could happen if you decided that although smoking is a health risk, it is not as harmful as the weight you would gain if you stopped smoking. No matter which of these methods you employed, it would reduce your dissonance and make you feel better about your attitudes, beliefs, and actions.

Much of the theory and research on cognitive dissonance has centered around the various situations in which dissonance is likely to result. These include such situations as decision making, forced compliance, initiation, social support, and effort.

Decision making has received a great deal of research attention. Salespeople label the dissonance that occurs after buying something "buyer's remorse." In 1970 an interesting study was published about automobile buying.²² Often, while waiting for delivery of a car, a customer will cancel the purchase because of postdecisional dissonance, or buyer's remorse. In this study, a group of automobile customers were called twice during the period between signing the contract and actual delivery to reassure them about their purchase. Members of a control group were not called. As expected, significantly more of those who were not called canceled the order (about twice as many).

The amount of dissonance one experiences as a result of a decision depends on four variables, the first of which is the importance of the decision. Certain decisions, such as that to skip breakfast, may be unimportant and produce little dissonance. The greater the decision's importance, the greater the dissonance. The second variable is the number of elements involved. Generally, the more dissonant the decision, the greater the dissonance. For example, as a smoker, you might stop smoking, or you might stop believing that it is harmful to health. Second, new elements might be added to one side of the tension or the other. For instance, you might switch to chewing tobacco. Third, you might come to see the elements as less important than they used to be. For example, you might decide that health isn't as important as state of mind. Fourth, you might seek consonant information such as evidence for the benefits of smoking by reading tobacco company studies. Fifth, you might reduce dissonance by distorting or misinterpreting the information involved. This could happen if you decided that although smoking is a health risk, it is not as harmful as the weight you would gain if you stopped smoking. No matter which of these methods you employed, it would reduce your dissonance and make you feel better about your attitudes, beliefs, and actions.

Much of the theory and research on cognitive dissonance has centered around the various situations in which dissonance is likely to result. These include such situations as decision making, forced compliance, initiation, social support, and effort.

Decision making has received a great deal of research attention. Salespeople label the dissonance that occurs after buying something "buyer's remorse." In 1970 an interesting study was published about automobile buying.²² Often, while waiting for delivery of a car, a customer will cancel the purchase because of postdecisional dissonance, or buyer's remorse. In this study, a group of automobile customers were called twice during the period between signing the contract and actual delivery to reassure them about their purchase. Members of a control group were not called. As expected, significantly more of those who were not called canceled the order (about twice as many).

The amount of dissonance one experiences as a result of a decision depends on four variables, the first of which is the importance of the decision. Certain decisions, such as that to skip breakfast, may be unimportant and produce little dissonance. The greater the decision's importance, the greater the dissonance. The second variable is the number of elements involved. Generally, the more dissonant the decision, the greater the dissonance. For example, as a smoker, you might stop smoking, or you might stop believing that it is harmful to health. Second, new elements might be added to one side of the tension or the other. For instance, you might switch to chewing tobacco. Third, you might come to see the elements as less important than they used to be. For example, you might decide that health isn't as important as state of mind. Fourth, you might seek consonant information such as evidence for the benefits of smoking by reading tobacco company studies. Fifth, you might reduce dissonance by distorting or misinterpreting the information involved. This could happen if you decided that although smoking is a health risk, it is not as harmful as the weight you would gain if you stopped smoking. No matter which of these methods you employed, it would reduce your dissonance and make you feel better about your attitudes, beliefs, and actions.

Much of the theory and research on cognitive dissonance has centered around the various situations in which dissonance is likely to result. These include such situations as decision making, forced compliance, initiation, social support, and effort.

Decision making has received a great deal of research attention. Salespeople label the dissonance that occurs after buying something "buyer's remorse." In 1970 an interesting study was published about automobile buying.²² Often, while waiting for delivery of a car, a customer will cancel the purchase because of postdecisional dissonance, or buyer's remorse. In this study, a group of automobile customers were called twice during the period between signing the contract and actual delivery to reassure them about their purchase. Members of a control group were not called. As expected, significantly more of those who were not called canceled the order (about twice as many).

The amount of dissonance one experiences as a result of a decision depends on four variables, the first of which is the importance of the decision. Certain decisions, such as that to skip breakfast, may be unimportant and produce little dissonance. The greater the decision's importance, the greater the dissonance. The second variable is the number of elements involved. Generally, the more dissonant the decision, the greater the dissonance. For example, as a smoker, you might stop smoking, or you might stop believing that it is harmful to health. Second, new elements might be added to one side of the tension or the other. For instance, you might switch to chewing tobacco. Third, you might come to see the elements as less important than they used to be. For example, you might decide that health isn't as important as state of mind. Fourth, you might seek consonant information such as evidence for the benefits of smoking by reading tobacco company studies. Fifth, you might reduce dissonance by distorting or misinterpreting the information involved. This could happen if you decided that although smoking is a health risk, it is not as harmful as the weight you would gain if you stopped smoking. No matter which of these methods you employed, it would reduce your dissonance and make you feel better about your attitudes, beliefs, and actions.

Much of the theory and research on cognitive dissonance has centered around the various situations in which dissonance is likely to result. These include such situations as decision making, forced compliance, initiation, social support, and effort.

Decision making has received a great deal of research attention. Salespeople label the dissonance that occurs after buying something "buyer's remorse." In 1970 an interesting study was published about automobile buying.²² Often, while waiting for delivery of a car, a customer will cancel the purchase because of postdecisional dissonance, or buyer's remorse. In this study, a group of automobile customers were called twice during the period between signing the contract and actual delivery to reassure them about their purchase. Members of a control group were not called. As expected, significantly more of those who were not called canceled the order (about twice as many).

The amount of dissonance one experiences as a result of a decision depends on four variables, the first of which is the importance of the decision. Certain decisions, such as that to skip breakfast, may be unimportant and produce little dissonance. The greater the decision's importance, the greater the dissonance. The second variable is the number of elements involved. Generally, the more dissonant the decision, the greater the dissonance. For example, as a smoker, you might stop smoking, or you might stop believing that it is harmful to health. Second, new elements might be added to one side of the tension or the other. For instance, you might switch to chewing tobacco. Third, you might come to see the elements as less important than they used to be. For example, you might decide that health isn't as important as state of mind. Fourth, you might seek consonant information such as evidence for the benefits of smoking by reading tobacco company studies. Fifth, you might reduce dissonance by distorting or misinterpreting the information involved. This could happen if you decided that although smoking is a health risk, it is not as harmful as the weight you would gain if you stopped smoking. No matter which of these methods you employed, it would reduce your dissonance and make you feel better about your attitudes, beliefs, and actions.
little dissonance, but buying a car can result in a
great deal of dissonance.

The second variable is the attractiveness of
the chosen alternative. Other things being equal,
the less attractive the chosen alternative, the
greater the dissonance. You will probably suffer
more dissonance from buying an ugly car than a
pretty one.

Third, the greater the perceived attractiveness
of the unchosen alternative, the more the felt dis­
sonance. If you wish you had saved your money
to go to Europe instead of buying a car, you will
suffer dissonance.

Finally, the greater the degree of similarity or
overlap between the alternatives, the less the dis­
sonance. If you are debating between two similar
cars, making a decision in favor of one will not
result in much dissonance, but if you are deciding
between buying a car and going to Europe,
you might have quite a bit.

Another situation in which dissonance is apt
to result is forced compliance, or being induced
to do or say something contrary to your beliefs or
values. This situation usually occurs when a re­
ward is involved for complying or a punishment
for not complying. Dissonance theory predicts
that the less the pressure to conform, the greater
the dissonance. If you were asked to do some­
thing you didn’t like doing but you were paid
quite a bit for doing it, you would not feel as
much dissonance as if you were paid very little.

For example, after completing a boring task,
subjects in a well-known experiment were
"bribed" to tell other subjects that the task would
be fun. Some of these participants were paid $1
to lie, and the others were paid $20. As expected,
because they experienced more dissonance, the
$1 liars tended to change their opinion of the
task to actually believe it was fun, whereas the
$20 liars tended to maintain their belief that the
task was dull.

The less external justification (such as reward
or punishment), the more you must focus on the
internal inconsistency within yourself. This is
why, according to the dissonance theorist, "soft"
social pressures can be so powerful: They can
cause a great deal of dissonance. It also explains
why you might stay in a high-paying job you
dislike. The high pay can be used as a justification
for doing so.

Dissonance theory also makes several other
predictions. The theory predicts, for example,
that the more difficult one’s initiation into a
group, the greater commitment one will de­
velop. The more social support one receives
from friends on an idea or action, the greater the
pressure to believe in that idea or action. The
greater the amount of effort one puts into a task,
the more one will rationalize the value of that
task. Have you ever put a lot of work into an as­
ignment you hadn’t looked forward to, only to
discover after completing it that you liked it af­
ter all?

Rokeach: Attitudes, Beliefs, and Values. One
of the most comprehensive theories on attitude
and change is that of Milton Rokeach. He has de­
veloped an extensive explanation of human be­
havior based on beliefs, attitudes, and values.24
His theory builds on earlier work and provides
some interesting and valuable extensions.

Rokeach believes that each person has a
highly organized system of beliefs, attitudes, and
values, which guides behavior. Beliefs are the
hundreds of thousands of statements that we
make about self and the world. Beliefs can be
general or specific, and they are arranged within
the system in terms of their centrality or impor­
tance to the ego. At the center of the belief sys­
tem are those well-established, relatively un­
changeable beliefs that form the core of the belief
system. At the periphery of the system lie nu­
erous insignificant beliefs that can change eas­
y. Believing that your parents have a good mar­
riage is probably pretty central, since it impacts
a lot of other things you assume to be true. Believ­
ing that you need a haircut, on the other hand, is
peripheral.

---

23 Leon Festinger and James M. Carlsmith, "Cognitive Con­
sequences of Forced Compliance," Journal of Abnormal and Social Psy­

24 Milton Rokeach, Beliefs, Attitudes, and Values: A Theory of Or­
A Simple Example of the Belief Structure of an Attitude

The more central a belief, the more resistant it is to change and the more impact such change will have on the overall system. In other words, if one of your central beliefs changes, expect rather profound changes in how you think about many things. This is why children are so shaken when parents they assumed to have a great marriage separate.

Attitudes are groups of beliefs that are organized around a focal object and predispose a person to behave in a particular way toward that object. You have hundreds of thousands of beliefs and probably thousands of attitudes, each consisting of a number of beliefs about the attitude object. Figure 7.3 illustrates, in overly simple form, the organization of an attitude.

Rokeach believes attitudes are of two important kinds that must always be viewed together. These are attitude toward object and attitude toward situation. One’s behavior in a particular situation is a function of these two in combination. If you do not behave in a given situation consistently with your attitudes toward certain things, it is probably because your attitude toward the situation prevents it. An example of this kind of inconsistency is eating foods you do not like when they are served to you as a guest. The point here is that behavior is a complex function of a variety of sets of attitudes, and the system consists of many beliefs ranging in their centrality.

Rokeach believes that of the three concepts in explaining human behavior, values are the most important. Values are specific types of beliefs that are central in the system and act as life guides. Values are of two kinds. Instrumental values—such as hard work and loyalty—are guidelines for living on which we base our daily behavior. Terminal values are the ultimate aims of life toward which we work; examples include wealth and happiness.

Another component in the belief-attitude-value system that assumes great overall importance is your self-concept, your beliefs about yourself. It is your answer to the question, Who am I? Self-concept is particularly important to the system because self-regard is a primary motivation supported by all other elements of the cognitive system. Thus, while beliefs, attitudes, and values comprise the components of your system, self-concept provides its guiding goal or purpose.

Rokeach is basically a consistency theorist. He includes a number of significant hypotheses about attitudes, beliefs, and values, but he concludes that people are guided by a need for consistency and that inconsistency creates a pressure to change. Rokeach has broadened his explanation of this tradition, complex. Rokeach consistency theory of

The theory of

Elaboration

Social 1 Cacioppo
theory i. many o

Come o

ries tod

Accomi

Elac

cal ev

from li
CHAPTER 7  Theories of Message Reception and Processing  141

Rokeach believes that the most important inconsistencies in a person's psychological system are those involving cognitions about the self. Only when inconsistencies involve the self-conception will there be significant, lasting change. The reason for this is that such contradictions increase self-dissatisfaction. Because maintenance of self-regard is the overall aim of the psychological system, it is natural that this should be so.

Thus far we have discussed the interpretation and organization of information. One of the outcomes of information processing is judgment. The theories in the following section address this point.

JUDGMENT PROCESSES

The theories in this section deal with the ways individuals make judgments in communication—judgments of arguments, nonverbal behavior, belief claims, and attitudes.

Elaboration Likelihood Theory

Social psychologists Richard Petty and John Cacioppo developed elaboration likelihood theory as a general summation of insights from many other attitude-change theories. It has become one of the most popular persuasion theories today.

According to this theory, you evaluate information in various ways. Sometimes you evaluate messages in an elaborate way, using critical thinking, and sometimes you do so in a simpler, less critical manner. Sometimes you are thoughtful about arguments, and other times you are not.

Elaboration likelihood is the probability of critical evaluation of arguments, and it can range from little to great. The likelihood of elaboration depends on the way a person processes the message. There are two: the central and peripheral routes. Elaboration, or critical thinking, occurs in the central route and nonelaboration, or the lack of critical thinking, in the peripheral one. Thus, when you process information through the central route, you actively think about and weigh it against what you already know. When you process information through the peripheral route, you are much less critical.

When you use the central route, you consider arguments carefully, and if your attitude changes, it is apt to be relatively enduring and will probably affect how you actually behave. On the other hand, if you use the peripheral route, any resulting change is probably temporary and may have less effect on how you act. Keep in mind, however, that because elaboration likelihood is a variable, you will probably use both routes somewhat, depending on the degree of personal relevance.

Your critical thinking depends on two general factors—motivation and ability. When you are highly motivated, you are likely to use central processing, and when motivation is low, peripheral processing is more likely. For example, if you are a typical college student, you would pay more attention to the campus newspaper's arguments for and against fee increases than you would to its arguments for and against installing new roofing on the student center.

Motivation consists of at least three things. The first is involvement, or the personal relevance of the topic. The more important the topic, the more likely that you will think critically about the issues involved. The second factor in motivation is diversity of argument. You will tend to think more about arguments that come from a variety of sources. The reason for this is that when you hear several people talking about an issue, you cannot make snap judgments very easily. Other things being equal, then, where multiple sources and multiple arguments are involved, receivers tend to process the information centrally.

The third factor in motivation is one's personal tendency to enjoy critical thinking. People
who enjoy mulling over arguments will probably use more central processing than those who do not.

No matter how motivated you are, however, you cannot use central processing unless you have the ability to do so. Most students would be more critical of a speech on fashion trends than one on quarks and electrons.

Figure 7.4 illustrates the central and peripheral processing. According to this figure, if you are not motivated and do not have the ability to process the message, you will be monitoring peripheral cues. If you are motivated and can process the message, you will compare the information in the message with what you already know. If that knowledge is insufficient to make these kinds of judgments, you'll go the peripheral route.

When processing information in the central route, you will carefully consider the arguments. What might persuade you under these conditions? Certainly the degree to which the message matches your previous attitude would have an effect here. Messages that are more favorable to your view would probably be evaluated more positively than those that are not. On the other hand, the strength of the argument certainly plays a role because in central processing you are thinking critically. You identify good and bad arguments, and you tend to be influenced more by good ones.

In peripheral processing, you do not look closely at the strength of the argument. Indeed, you make judgments quickly about whether to believe what you hear or read on the basis of simple cues. For example, when source credibility is high, the message may be believed. Also, you tend to believe people you like. The number of arguments can also be a cue in that you may rely on the sheer number of arguments to determine whether to accept a message. In most peripheral processing, many types of cues are used.

The following experiment is an example of how central and peripheral processing work. In the experiment, 145 students were asked to evaluate audiotaped arguments in favor of instituting comprehensive examinations for seniors at their college. Two versions were used, one with strong arguments and the other with weak ones. Half of the students were told that the examination could go into effect the following year, but the other half were led to believe that the change would not occur for ten years. Obviously, the first group would find the message more personally relevant than the second group and would therefore be more motivated to scrutinize the arguments carefully. It was expected that these students would be less susceptible to peripheral cues.

To test this hypothesis, the researchers told half of the high-relevance group and half of the low-relevance group that the tape was based on a report from a high school class, and the other half of these groups was told that it was based on a report of the Carnegie Commission. Thus, the first group was presented with a low-source credibility cue, whereas the other group was presented with a high-credibility cue.

As expected, the students who heard the highly relevant message were motivated to pay careful attention to the quality of the arguments and were more influenced by the arguments than were the students who heard the less relevant message. Those students who heard the less relevant message were more influenced by credibility as a peripheral cue than were the other students. Petty, Cacioppo, and their colleagues have done a number of similar studies with the same results.

The lesson from this theory might seem to be that you should always be critical in evaluating messages, but, practically speaking, you cannot always attend carefully to every message. Some combination of central and peripheral processing is always to be expected. Most of the time, you are influenced by both. Even when motivation and ability are low, you might still be influenced somewhat by strong arguments, and even when you are processing in the central route, other less critical factors can also affect your attitudes.

26 Petty and Cacioppo, Communication, p. 4.
Persuasive communication

Motivated to process?
Personal relevance, need for cognition, personal responsibility, etc.

No
Yes

Ability to process?
Distraction, repetition, prior knowledge, message comprehensibility, etc.

No
Yes

Nature of cognitive processing
(initial attitude argument quality, etc.)
Favorable thoughts predominate
Unfavorable thoughts predominate
Neither or neutral predominate

Cognitive Structure change
Are new cognitions adopted and stored in memory? Are different responses more salient than previously?

No
Yes (Favorable)
Yes (Unfavorable)

Central positive attitude change
Central negative attitude change

Attitude is relatively enduring, resistant, and predictive of behavior

Peripheral cue present?
Positive or negative affect, attractive expert sources, number of arguments, etc.

Retain or regain initial attitude

Peripheral attitude shift
Attitude is relatively temporary, susceptible, and unpredictable of behavior.

FIGURE 7.4

Schematic Depiction of the Two Routes to Persuasion
Expectancy Violations Theory

People usually behave according to accepted norms, but this is not always the case. How do you respond when people violate your expectations? This interesting question has been the subject of various theories. Here, we look at one particularly promising approach developed on the basis of a number of research studies by communication researcher Judee Burgoon and her colleagues.

According to this theory, we have expectations about the behavior of another person based on social norms as well as our previous experience with the other person and the situation in which the behavior occurs. These expectations can involve virtually any nonverbal behavior, including, for example, eye contact, distance, and body angle. (Actually, we probably have expectations for verbal behavior as well, but this theory does not address this subject.)

The common assumption is that when expectations are met, the other person's behaviors are judged as positive, and when they are violated, the behaviors are judged as negative; however, Burgoon has found that this is not always the case. Violations are often judged favorably.

Whether judged as good or bad, violations cause the perceiver to be aroused. If someone stands too close to you or too far away, if another person's eye contact is abnormal, or if an individual violates some other set of expectations, you will feel differently. This arousal is not necessarily negative. In fact, in some cases it might feel pleasant, especially when the other person seems to like you. Sometimes, however, violations can make you feel uncomfortable. Apparently, we learn to have expectations and to detect violations early in life, even in infancy.

What seems to happen is that your attention is drawn to behavior that would otherwise go unnoticed. When your expectations are met, you don't notice the behavior, but when they are violated, you become distracted by it. This distraction may be what causes you to get aroused. And this leads you to evaluate the other person's behavior.

Imagine, for example, that you have just been introduced to an attractive person. In getting to know each other, you talk about everything from the weather to family. Suddenly you become aware that this person is standing unusually close to you. You try to back off, but the other person continues to move in. Your first tendency will be to interpret this behavior, then evaluate it. You might interpret the behavior as a "come on." If you like this person, this will be good, but if you don't, it will be bad.

An important variable in the evaluation process is reward valence, or the degree to which you find the interaction rewarding. A conversation might be rewarding, for example, because it will lead to a positive outcome. On the other hand, valence might be negative because it entails more costs than benefits. One of the reasons sexual harassment can be such a problem is that it is a negative behavior in what may be an otherwise rewarding setting, such as a job situation.

Figure 7.5 illustrates the violation-evaluation process. The figure shows that expectations arise from one's perception of the communicator's characteristics, the state of the relationship, and the context in which the behavior occurs.

Violations accentuate the judgments made in this process. Here the reward valence of the other communicator is especially strong: Violations cause arousal, which in turn accentuate evaluation of communication with the other person and

---


Nonverbal Expectancy Violation Model

For simplicity, communicator reward valence, behavior interpretation, and behavior evaluation valence have been dichotomized into positive and negative but should be understood to represent continua. Double plus and minus denote greater magnitude of effect.

the meaning of the message. If the exchange is valued and the behavior has a positive meaning, a positive outcome will result.

Figure 7.5 includes other possibilities as well. The meaning of the behavior may be ambiguous, and one is not sure what to make of it. This theory predicts that ambiguous behavior by a valued communicator will be taken as positive, but such behavior by an unrewarding communicator will be taken as negative. Again, this effect will be accentuated in cases of a violation.

An interesting study of eye gaze shows how violations can affect judgments of behavior and communication outcomes. The researchers trained four confederates to manipulate their eye behavior to effect seemingly natural violations in an interview. About 150 students in an organizational communication course volunteered to participate in the study as part of an interviewing assignment. They took the role of an employment interviewer, and each interviewed one of the confederates. In preparation for half of the interviews, the subjects were given a high status résumé, and the other half were given a low-status one. The first group was set up to find the interview rewarding, whereas the other would obviously find it less so. Some interviewers got a confederate who gave them normal eye contact, some got a person who gave them no eye contact, and some got a confederate who gave above-normal eye contact.

The experiment aimed to test the effects of eye-gaze violations in high- and low-reward interactions. After the interview, each subject completed a set of scales related to the credibility of the applicant, how likely they would be to hire this individual, how attracted they were to this person, and other aspects of the relationship that developed between them in the interview.

The results of this experiment showed that the failure to have eye contact with the interviewer definitely hurt the applicants' images whether they were high or low status. A higher-than-normal level of eye gaze was also found to be a violation, but it was interpreted somewhat differently between the two conditions. High-status applicants with nearly constant eye contact were judged more favorably than were low-status applicants with constant eye contact.

One of the most interesting judgments we make about the behavior of others is their honesty. Over the past twenty years or so, there has been a great deal of research on deception and deception detection. As a natural extension of their work on expectancy violation, David Buller and Judee Burgoon have pulled much of this work together in a newly developing theory of interpersonal deception.

Interpersonal Deception Theory

Buller and Burgoon see deception and its detection as part of an ongoing interaction between communicators involving a back-and-forth process. The deceiver may experience a certain amount of apprehension about being detected, and the receiver may experience a certain amount of suspicion of being deceived. These "internal" thoughts can often be seen in "outward" behavior. This being so, receivers look for signs of lying, and liars look for signs of suspicion. Over time, in this back-and-forth process, the sender may come to perceive that the deception was successful or not, and the receiver may come to see that the suspicion was warranted or not.

Deception apprehension and suspicion can come out in strategically controlled behaviors, but they are more apt to show up in nonstrategic behaviors, which the communicators do not control. This is a process called leakage. You might be suspicious that you are being lied to because of behaviors that the other person is not aware of, and if you are trying to deceive another person, you may experience apprehension based on the fact that the receiver could detect it through some behavior you are not controlling. For example, you might have perfect control of your voice and face, but your feet and hands give you away.

As we have noted, deception is not a role in d
As we learned above, communicators' expectations are significant anchors with which to judge behavior. So expectations play a definite role in deception situations. When receivers' expectations are violated, their suspicions may be aroused. Likewise, when senders' expectations are violated, their deception apprehension may also be aroused.

Many factors affect this ongoing process—for example, the degree to which the communicators actually interact fully. This variable is called immediacy. Talking face to face is more interactive than communicating by e-mail or letter. Interactivity can increase immediacy, or the degree of psychological closeness between the communicators. When we have high immediacy, we pay close attention to a variety of cues. We may stand closer, look more attentively at what is going on, and generally avail ourselves of a richer set of actions. You might predict that the more "access" communicators have to one another's behavior, the more cognitive data they have to assess one another's intentions or suspicions, and sometimes this may be true. Yet research seems to indicate that the opposite can also happen. Immediacy and relational closure can cause you to feel more engaged with others and less suspicious.

Also, when we are relationally close, we have a degree of familiarity between us. When we are somewhat familiar with one another, we have certain expectations about what we are going to see. A **truth bias** makes us less inclined to see deception. In a positive relationship, communicators more or less assume that they are telling the other the truth. Under these conditions, we will not be very suspicious about lying and may not pay close attention to behavioral deceptions. On the other hand, a **lie bias** may accentuate our suspicions and lead us to think people are lying when they may not be.

Our ability to deceive or detect deception is also affected by **conversational demand**, or the amount of "stuff" we have to do when we are communicating. If several things are going on at once or if the communication is complex and involves numerous goals, we cannot pay as close attention to everything as we would if the situational demands were light.

Familiarity also increases the amount of information we have about one another—both our histories and ways of behaving. So in some situations, familiarity may make it harder to lie and easier to detect lying.

Two other factors that affect the deception-detection process are the level of motivation to lie or to detect lying and the skill in deception and deception detection. Where motivation is high, our desire to deceive may override our apprehension about being caught. At the same time, if the receiver knows that our motivation is high, his or her suspicions will be increased. Some people are more skilled at deceiving than others because they have a larger range of behaviors they can perform. This could be counteracted, however, by the other person's ability to detect deception.

Remember, however, that communicators engage in both strategic and nonstrategic behaviors. When we lie, we typically exert a great deal of control over how we manage information, behavior, and image (all strategic behavior); but at the same time, we also display more nonstrategic cues that could be detected by others, depending on their motivation and skill. In highly interactive situations—those in which we are fully engaged with one another—we often dampen our use of nonstrategic behaviors, which in some situations could make it harder to detect the deception.

The purpose of deception also seems to enter the formula. Senders deceiving for personal gain may have a harder time hiding it than senders who deceive for more altruistic purposes. Of course, the results of deceptive behavior depend in part on how motivated the receiver is to detect it. If the receiver is suspicious and the lying matters, he or she will probably put quite a bit of effort into detecting the lie.

Deception and its detection involve a constant process of making judgments about the behaviors of others. One of the most powerful theories of how such judgment occurs is social judgment theory, to which we now turn.
Social Judgment Theory

Social judgment theory, the work of psychologist Muzafer Sherif and his associates, deals with the way people make judgments about messages. This theory is based on early psychophysical research, in which persons were tested on their ability to judge physical stimuli such as the weight of an object or the brightness of a light. Using this work as an analogy, Sherif investigated the ways individuals judge messages, and he learned that many principles of psychophysics hold for social judgment as well.

Research shows that people make judgments on the basis of anchors, or reference points. Suppose that you were asked to judge the relative weight of five objects. On what would you base your judgment? If the experimenter handed you a weight and told you it was 10 pounds, you would first feel the reference weight and then judge the weight of the other objects based on the feeling of the first one. The known weight would act as an "anchor," influencing your perception of the others.

To demonstrate this idea of anchors, try a simple experiment. Take three bowls. Fill the first with hot water, the second with cold water, the third with tepid water. Put one hand in the hot water and the other in the cold water. After a few moments, place both hands in the third bowl. Your perceptions of the temperature of this water will be different for each hand because each hand had a different anchor, or reference.

Sherif reasoned that similar processes operate in judging communication messages. In social perception anchors are internal and based on past experience. The internal anchor, or reference point, is always present and influences the way a person responds to messages. The more important the issue is to one's ego, the stronger the anchor will influence what is understood.

In a social judgment experiment, you would be given a large number of statements on some issue. You then would be asked to group them into groups according to their similarity. You could use as many groups as you wish. Then you would put the piles in order from positive to negative. Next you would indicate which piles of statements are acceptable to you personally, which are not acceptable, and which are neutral. (This is called a Q-sort.)

The first group forms your "latitude of acceptance," the statements you can agree with; the second your "latitude of rejection," those you disagree with; and the third your "latitude of noncommitment." This research procedure is a systematic way of simulating what happens in everyday life. On any issue, there will usually be a range of statements, pro or con, that you are willing to tolerate, and there will also be others that you reject totally.

A person's latitudes of acceptance and rejection are influenced by a key variable—ego involvement. Ego involvement is the degree to which a person feels personal relevance of an issue. It is the degree to which one's attitude toward something affects the self-concept, or the importance assigned to the issue.

For example, you may have read much about the depletion of the ozone layer and have come to believe that this is a serious problem. If you have not yet experienced any personal injuries because of this problem, it may be unimportant to you, because your ego involvement is low. On the other hand, if you have already been treated for skin cancer, the issue would be considerably more ego involving.

Ego involvement makes a great deal of difference in how you respond to messages relating to a topic. Although you probably have a strong extreme opinion on those topics with which you are ego-involved, this is not always the case. You could have a quite moderate opinion and not be ego-involved.

What does social judgment say about communication? First, we know from Sherif's work...
individuals judge the favorability of a message based on their own internal anchors and ego involvement. However, this judgment process can involve distortion. On a given issue, such as the ozone hole, a person may distort the message by contrast or assimilation. The contrast effect occurs when individuals judge a message to be farther from their own point of view than it actually is, and the assimilation effect occurs when persons judge the message to be closer to their own point of view than it actually is.

Basically, when a message is relatively close to one's own position, that message will be assimilated, whereas more distant messages will be contrasted. These assimilation and contrast effects are heightened by ego involvement. So, for example, if you believe strongly that industry should be regulated to stop chlorofluorocarbon (CFC) emissions, a moderately favorable statement might seem like a strong positive statement because of the assimilation effect, whereas a slightly unfavorable statement might be perceived to be strongly opposed to regulation because of the contrast effect. If you were highly ego-involved in the issue, this effect would be even greater.

The second area in which social judgment theory aids our understanding of communication is attitude change. Social judgment theory makes the following predictions:

First, messages falling within the latitude of acceptance facilitate attitude change. An argument in favor of a position within the range of acceptance will be somewhat more persuasive than an argument outside of this range. If you think that no CFC emissions should be allowed, you might be persuaded by a message advocating that some CFC emissions be permitted, provided this position is within your latitude of acceptance.

Second, if you judge a message to lie within the latitude of rejection, attitude change will be reduced or nonexistent. In fact, a boomerang effect may occur in which the discrepant message actually increases your position on the issue. Thus your positive attitude toward CFC regulation would probably not be changed by a message advocating no regulation, assuming it was in your latitude of rejection. In fact, such a message might even make you more firmly favor regulation.

Third, within the latitude of acceptance and noncommitment, the more discrepant the message from your own stand, the greater the expected attitude change. However, once the message hits the latitude of rejection, change will not be expected. A statement farther from your own attitude will probably bring about more change than one that is not very far from your position.

Finally, the greater your ego involvement in the issue, the larger the latitude of rejection, the smaller the latitude of noncommitment, and thus the less the expected attitude change. Highly ego-involved persons are hard to persuade. They tend to reject a wider range of statements than people who are not highly ego-involved, and rejected messages are not effective. So if you were highly ego-involved in the ozone-depletion problem, you would have a large latitude of rejection and would be persuaded by very few statements divergent from your own.

To illustrate how social judgment works, consider an interesting experiment done by a group of researchers shortly after Oklahoma passed a prohibition law in the 1950s. 33 The researchers recruited a number of people who were deeply involved in the issue on one side or the other and several who were moderate and not very involved in the issue. They found that those who were highly ego-involved and extreme in their opinions had much wider latitudes of rejection than did moderates, and the moderate subjects had much wider latitudes of noncommitment than did those who held extreme opinions. Interestingly, when presented with the same moderate message, the extreme "drys" judged it to be much more toward the nonprohibition side than did other subjects, and the "wets" judged it to be much more toward the prohibition side than the other subjects. In other words, both extreme groups had a contrast effect. Generally, the

---

attitude change experienced by the moderates after hearing a message on the issue was about twice as much as the attitude change experienced by those who were highly involved in the issue.

**COMMENTARY AND CRITIQUE**

The theories discussed in this chapter explain how people process information. For the most part, these are receiver-oriented theories, which is not to suggest that they are divorced from message production. Indeed, message production and reception are two sides of the same coin and cannot be separated in actual practice, as interpersonal deception theory illustrates.

Still, these theories show us that communication depends on how messages are understood and judged. All these theories tell us in one form or another what message receivers do and how they do it. As a group, the theories address three interrelated accomplishments—interpreting, organizing, and judging.

The first of these accomplishments is interpretation. We assign meaning to concepts, we try to figure out intentions, and we attribute causes. The second accomplishment is organization, in which new information is integrated into a system of existing beliefs and attitudes. Finally, people constantly make judgments on the basis of information. We sometimes evaluate arguments carefully, and sometimes we attend to less central aspects of the message or source. As part of the judgment process, we evaluate nonverbal behaviors, argument claims, and attitude statements.

Although the theories in this chapter are organized around these three elements of information processing, each tells us something about all three accomplishments outlined above. Indeed, interpretation, organization, and judgment are basically different aspects of the same process.

The theories in this chapter share a number of ideas about how people process information. Four general processes are suggested by the theories in this chapter. The first is assigning meaning. Osgood’s theory of meaning shows us how individual concepts are interpreted on the basis of evaluation, potency, and activity. Relevance theory states that relevance is the key to interpreting intentions, and attribution theory addresses the causal nature of meaning. Even the nonverbal expectancy violations model shows that interpretation is a vital part of how nonverbal behaviors are judged.

Another mechanism that permits information processing is reasoning, or inference making. Reasoning enters into interpretation, organization, and judgment in a variety of ways. Several theories in this chapter address this concern. For example, relevance theory shows how communicators use messages to infer intentions, and attribution theory also reveals the reasoning process that people use to assess causes.

Several of the theories in this chapter also address the process of comparing ideas. This is the central idea of social judgment theory, and a number of other theories also provide insights into this process. Consistency theory and information-integration theory are examples. Consistency theories show us how new information is compared with the other elements of cognition and how inconsistency is handled. Information-integration theory shows us that various pieces of information are weighed in terms of their overall effects within the cognitive system.

Finally, several of these theories deal with processes of change. Information-integration theory shows how change occurs as a result of newly integrated information. Consistency theory shows how imbalance leads to change. Social judgment theory shows how change results from the perception of attitude statements. Elaboration likelihood theory shows the relative effects of central and peripheral processing on attitude change.

Virtually all theories in the chapter follow the rational person model to some extent. As a group, these theories share the idea that people think through problems and situations rationally and objectively. There are exceptions, of course. For example,
example, some adherents to attribution theory have made the point that people are often inaccurate and irrational in their judgments. Social judgment theory indicates that people often distort information, and elaboration likelihood theory says that people weigh evidence and evaluate arguments only part of the time. Virtually all theorists in this chapter, however, admit to the possibility of rational decision making, and few would deny that people try to be rational and objective.

The rational person model makes a clear assumption about the nature of human thought. Humans are conceived as independent, rational, choice-making beings. This view is deeply embedded in Western philosophy and is part of many Western cultural views. Many other cultures, however, would find this description of people strange. Like all theory, then, these approaches are definitely products of a particular worldview.34

This is a worldview that explains human experience in terms of individual cognition. It is a view that assumes a universal cognitive mechanism behind most action. The point of the experiments, measurements, hypotheses, and theories of message processing is to discover these underlying mechanisms. Many theories in this chapter exemplify this type of thinking directly; others are more specific in explaining certain types of behaviors.

Most of these theories posit certain principles, operations, or mechanisms that drive human thought and action. Other theories such as expectancy violation and attribution address particular types of thought and action. By extrapolation, all the latter theories also tell us indirectly something about general mechanisms as well.

Given their overall aim, then, the chief strengths of all these theories are their parsimony and intuitive appeal. Most explain a great deal with only a few key variables. Osgood narrows all of connotative meaning down to three dimensions. Sperber and Wilson show how relevance lies at the heart of interpretation. Fishbein and Ajzen show how a vast array of thought and behavior can be explained by a simple integrative mechanism. Festinger and even Rokeach reduce cognitive organization to a single principle of consistency. And so it goes. These theories are appealing because they truly help us understand rather esoteric processes normally baffling to the average person. One of the reasons cognitive explanations are so popular is the common “aha” response they produce.

Cognitive consistency theories are a good example of this strength. These theories have had a major impact on our thinking about attitude and attitude change. A mainstay of social psychology for many years, cognitive consistency is appealing because of its parsimony and heuristic value. For a twenty-year period, it stimulated a great deal of research. The popularity of consistency theory is understandable, given the goal of this field to discover a few important variables that would predict social behavior. Consistency theories do just that. They isolate certain elements of cognition and show how manipulations among these variables can predict a person’s feelings, thoughts, or actions. They also appeal to the scientist’s sense of logic, providing an explanation for behavior that makes intuitive sense. At one time consistency theories were so well accepted that debates centered not on whether people respond to dissonance but on ways to improve the precision of predictions based on these theories.

At the same time, however, there are serious hazards in this kind of theorizing. Two concerns are relevant here. First, there is the nagging question of universality: Are cognitive processes really universal, and if not, how wide a scope do these processes cover? Osgood’s three “universal” dimensions of meaning offer a good example of the problem. Although many cognitive researchers admit the usefulness of semantic differential technique for measuring connotative meaning, they question the view that the factors of meaning—evaluation, potency, and activity—are invariant and universal across situations.

concepts, and cultures. Although these factors have shown up in an amazingly diverse set of studies, they do not always appear; to suggest that they are universal is an overgeneralization. What appears as universal may in fact not be so.

Another problem in trying to discover cognitive universals is the mistaken idea that if one's hypothesized mechanism fits the data, it alone can explain the data, when any number of hypothesized mechanisms may explain what is going on. How, then, do we choose from among competing explanations? This is a difficult problem. The theory of cognitive dissonance, as an example, has been criticized for precisely this problem.35

The second concern related to the reduction of complex processes to a parsimonious set of predictors is oversimplification. The elaboration likelihood model (ELM), for example, has been criticized for leaving out important variables. Its predictions have not always been verified by research, and some believe that a more elaborate theory is necessary to explain the discrepancy.36 Some researchers have reached a similar conclusion about expectancy-value theory.37

Of course, virtually all the theories in this chapter could be criticized for oversimplification. Most, for example, suggest that information is integrated or organized in a relatively consistent, rational fashion when we all know from our own experience that information processing is often problematic.

This point is the theme of Austin Babrow's emerging theory of problematic integration, which deals with the ways communication creates inconsistent, contradictory cognitions.38 In opposition to consistency theory, which says that information is used to reduce inconsistency, Babrow shows how it often increases it. Ironically, we also use communication to cope with these sorts of problems, and the more we do so, the more difficult integration can become. Communication can make what we want inconsistent with what we expect, it can cause ambiguity, it can bring about ambivalence, and it can even make what we want or expect impossible. And reducing or eliminating these discrepancies is rarely easy and often impossible.

Cognitive processes do not present themselves in self-defined form. Despite the scientific leanings of many researchers, cognitive processes do not lie in wait of discovery, but must be defined by the theorist. Inquiry into information processing involves inferring underlying processes from observed behavior and naming the variables believed to be operating. As we have seen in the history of the social sciences, there is no end to the number of constructs that can be created and named. Theoretical definitions are abstract and partial, which always leaves room for additional constructing, naming, and defining. This state of affairs leads to the natural question of whether real structures of mind can ever be "discovered."39

In this chapter we have encountered a wide variety of constructs, which have been given a host of interesting names: dissonance, elaboration, attitude, expectancy, relevance, attribution, ego involvement, and more. The mere fact that these concepts vie for our attention as competing explanations of thought and action demonstrates the challenge of explaining cognition and action.

There are a variety of responses to this state of affairs. One is competition: Which theory will win? This response is problematic because of the impossibility of falsifying all but one explanation. Another response is integration: How can the theories be combined? This response is appealing because it recognizes the utility of all theories, but it is a pretext, resulting in a loss of parsimony and failure to discover cognitive universals. A third response is flexibility: How can each theory be used appropriately for certain purposes without denying the utility of the others? This approach has the benefit of enabling us to see more than could be viewed from the confines of a single theory, but it can only be done after abandoning the attempt to find a parsimonious, central mechanism of thought and action.

The creation and definition of constructs can lead to a self-fulfilling prophecy on the part of the theorist. In other words, once a set of constructs is found to fit, even if only partially, there is a strong tendency to see the same things no matter where you look. Osgood always "saw" evaluation, potency, and activity in his factor-analysis results.

Social judgment theory is a good example of how researcher biases affect the interpretation of results. In many of their experiments, researchers compared individuals who were highly ego-involved with people less involved and concluded that the differences were due to their level of involvement. Actually, these groups of people could have been different for other reasons as well, which would invalidate the interpretation offered by social judgment theory.

Like the interpretation of any research results, social judgment theorists had to make certain assumptions in their interpretations. The theory assumes, for example, that there is a sequential, causal mechanism whereby judgment as a cognitive activity precedes attitude change, and social judgment research was unable to prove this assumption.

Looked at objectively, the results of many experiments on cognitive processes are less clear than the author believes them to be. For instance, most of the negative criticism of information-integration theory relates to the validity of measurement. Although the idea that attitudes consist of accumulated and weighted beliefs is generally accepted, much doubt exists that one can measure the overall accumulated weight and value of a belief system with any degree of validity. In the natural setting, a researcher would first have to isolate beliefs contributing to an attitude, measure them accurately, and factor out the influence of other elements of the system. Because this process is difficult or impossible to do, most research in this tradition is artificial, hypothetical, and controlled. This problem thus casts doubt on the external validity of the claims. A related problem is that disagreement exists about the way one accumulates information to form an attitude. The research evidence is equivocal on this point and casts doubt on the validity of the approach. Research on ELM has also been criticized for lack of validity.

The basic standard for any predictive theory is that it should be stated in such a way that contradictory evidence could prove the theory wrong in its predictions. In other words, the theory must be falsifiable. A chief complaint about dissonance theory, for example, is that it can be used to explain various, contradictory results and cannot be proved wrong, which creates a situation wherein the dissonance theorist wins no matter how an experiment comes out. If attitude change results from the manipulations, one can argue that the change was caused by dissonance; if attitude change does not occur, one can say that dissonance did not exist.

Furthermore, dissonance is such a general concept that it can take any number of forms.

40 This point is made by O'Keefe, Persuasion. For a thorough critique of social judgment theory, see Martin and Tesser, Construction.
41 For a review of the issues in this dispute, see Mary John Smith, Persuasion and Human Action: A Review and Critique of Social Influence Theories (Belmont, CA: Wadsworth, 1982), pp. 245–248; and O'Keefe, Persuasion, pp. 55–59.
42 Hamilton, Hunter, and Boster, "The Elaboration Likelihood Model."
Thus, the experimenter can claim that a particular result was caused by one kind of dissonance, but that an entirely different result was produced by another kind of dissonance. This circular reasoning results because dissonance researchers do not measure dissonance per se but infer dissonance from behavior. Indeed, there is some question about whether dissonance is directly observable at all. This is the case with virtually all cognitive processes.

All these objections to theories of message processing are “easy punches.” They belie the intelligence and hard work that has gone into the development of these theories. In Chapter 2, we noted that no theory has a direct line to truth. Theories are based on guess, inference, and creativity, and that is the best we can do. Whether or not you believe in universal processes of mind, the theories presented in this chapter and others like them provide insights that are intriguing and useful in our attempt to understand communication.