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## Chapter 5

### TO THINK OR NOT TO THINK

#### *Exploring Two Routes to Persuasion*

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Hamlet is reading a magazine. His eye is caught by an advertisement for the Great Dane sword. The ad pictures Fortinbras raising the sword in battle. The ad proclaims, "10 Reasons Why the Great Dane Outperforms Its Competitors!" The ad continues, "Reason #1: Because of its sharper blade, the Great Dane kills faster and more decisively." Hamlet, who had never heard of the Great Dane before, thinks,

*I need a sword that kills quickly and decisively. With such a mighty sword, I could rectify wrongs that have been committed. By rectifying the wrongs, there would be one less villainous, adulterous, murderer of kings. After I have rectified the wrongs, I would be free of these thoughts that are driving me mad. Yes, a sword that kills faster and more decisively is precisely what I need.*

Hamlet continues to read the other 9 reasons, thinking about each in a manner similar to the way in which he thought about the first reason.

Laertes is reading the same magazine, and his eye is also caught by the Great Dane ad. Laertes, who was also unfamiliar with the Great Dane, thinks, "Fortinbras looks very fierce in this picture, and many advantages of the Great Dane are listed. It must be a fine sword." Laertes merely skims the ad without stopping to think about any of the arguments listed.

In the preceding scenario, if we had assessed both Hamlet's and Laertes' attitudes toward the Great Dane sword before and after they were exposed to the ad, it is probable that we would have observed attitude change in both of them. That is, both may have changed from a neutral attitude toward the Great Dane before reading the ad to a very positive evaluation

after receiving the message. For example, on a 9-point scale (1 = *very unfavorable*, 9 = *very favorable*), both Hamlet and Laertes might have rated the Great Dane a 4 before looking at the ad but an 8 afterward. But what do these ratings of 8 mean? Clearly, Hamlet spent more time thinking about the sword than did Laertes. And the nature of Hamlet's thoughts was quite different from the type of thinking that Laertes did about the sword. But does the quantity and quality of thinking matter? After all, both Hamlet and Laertes rated the sword an 8 on the 9-point scale.

Current research on persuasion suggests that, indeed, the amount and nature of the thinking matters greatly. The purpose of this chapter is to describe a theory of persuasion that maintains that not all attitude changes that look the same really are the same. This theory, called the Elaboration Likelihood Model (ELM), states that the amount and nature of the thinking that a person does about a persuasive message (e.g., an advertisement) is a very important determinant of the kind of persuasion that occurs (Petty & Cacioppo, 1981, 1986; Petty & Wegener, 1999). By the end of this chapter, you should have a better understanding of why not all ratings of 8 on a 9-point scale are alike, and you should also have a framework for appreciating why certain variables (e.g., a person's mood, the expertise of the message source) have the impacts on attitude change that they do.

To understand the ELM, it is first important to understand an assumption that the model makes about the nature of humans in general. That assumption is that people have neither the ability nor the motivation to evaluate everything carefully. Think about it. You are a busy person with many things to do. Add to this busyness the fact that you live in a complex world. Even if you are the type of person who loves to evaluate (Jarvis & Petty, 1996) and enjoys thinking about most things (Cacioppo & Petty, 1982), you will probably agree that you simply cannot take the time, and do not have the mental energy, to analyze carefully every decision you make and every piece of information you encounter.

But this causes a potential problem because you, like other people, have hundreds of little decisions to make each day. For example, a trip to the typical supermarket will confront you with at least 30,000 possible items to be selected. Can you read the labels on all of the products in a given category to find the one that has the best price, combination of ingredients, and so forth? Of course not. Instead, you, like most people, will reserve your effortful thought processes and energy for those tasks that you feel are most deserving and those situations that permit time for reflection. In other instances, you will need to rely on a simpler method of making decisions than effortfully scrutinizing all of the available information. In such situations, you can rely on what might feel like your "gut reaction" or "intuition." Such reactions might stem from the presence of relatively simple "cues" in the situation such as whether your favorite sports hero is pictured on the cereal box or how many reasons to buy a product are listed on an in-store display. This is the strategy that Laertes followed in forming his attitude about the Great Dane sword. He simply reasoned, "If there are so many arguments for the sword, it must be good!" This counting of reasons can be accomplished with relatively little effort as compared with thinking about all of the reasons individually. If a shopper is willing to devote a small amount of effort to evaluating a product, perhaps only the first few arguments could be assessed. The point is that in any given situation, people can be lined up along a "thinking continuum" where they can devote a certain amount of thinking to the task, ranging from considerable to very little.

In the typical situation where persuasion might take place, a person or a group of people (i.e., the "recipient" or "audience") receives a communication (i.e., the "message") from

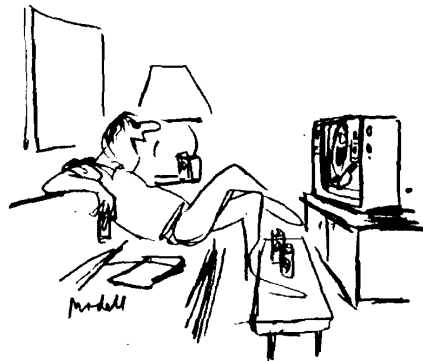
another individual or group (i.e., the "source") in a particular setting (i.e., the "context"). The communication usually presents information relevant to a particular object (e.g., the Great Dane sword), person (e.g., a presidential candidate), or issue (e.g., abortion). The message may be delivered in person or by way of some print (e.g., newspaper), audio (e.g., radio), video (e.g., television), or mixed (e.g., Internet) medium (i.e., the "channel"). For example, a team of attorneys may present the closing arguments for the conviction of an accused murderer to a 12-member jury in a packed and noisy courtroom, or a solitary child may sit in a tranquil bedroom and watch a commercial for a new sugar-coated cereal with a prize at the bottom of the box. Each of the various aspects of the persuasion situation—source, message, recipient, channel, and context—has been studied in depth and been shown to be of some importance in influencing attitudes (Eagly & Chaiken, 1993; McGuire, 1985; Petty & Wegener, 1998). In this chapter, we explain how these variables work to produce persuasion by using the ELM as our guiding framework.

## OVERVIEW OF THE ELABORATION LIKELIHOOD MODEL OF PERSUASION

The ELM is based on the notion that people want to have correct attitudes and beliefs because these will normally prove to be most helpful in getting through life. For example, if you liked and then purchased a shoddy product, or if you passed up the person who might become the love of your life, you surely would not be as happy as you would if you were able to form the "correct" or most adaptive evaluations. The ELM describes two rather different ways by which a person might come to hold a reasonable attitude (i.e., one that seems "right" to the person). One procedure, referred to as following the *central route* to persuasion, involves carefully thinking about and examining information pertinent (or central) to the merits of a topic. The second strategy, referred to as following the *peripheral route* to persuasion, involves less cognitive effort and occurs when a person relies on a relatively simple and low-effort decision strategy such as agreeing solely because the source appears to be an expert or selecting a product based on the person's first impressions of the attractive packaging. These two routes to persuasion represent the extreme ends of a continuum in which people either engage in a full and complete analysis of evidence before forming an opinion or engage in a simple and cursory evaluation. People are rarely this extreme in their behavior, of course, so they often will exert some moderate amount of effort in forming their evaluations, relying on some combination of central and peripheral persuasion strategies. Nevertheless, it is useful to understand the processes that take place at the extreme ends of the thinking continuum.

### The Central Route to Persuasion

Consider Hamlet's thoughts in response to the Great Dane advertisement. Hamlet relates the information in the ad (e.g., "kills faster and more decisively") to knowledge and information that he already possesses (e.g., "wrongs that have been committed") to arrive at new ideas that were present neither in the ad nor in his previous knowledge (e.g., "I would be free of these thoughts that are driving me mad"). This type of thinking is called *elaboration* and is the hallmark of the central route to persuasion.



"Who the hell do you think you're kidding?"

**Figure 5.1** People are sometimes very active processors of the messages that they receive. The thoughts that a message elicits can be favorable, unfavorable, neutral, or some combination of these.

SOURCE: Frank Modell. Copyright © 1975. Reprinted with permission from The New Yorker Magazine, Inc.

The effortful elaboration that is necessary to take the central route involves paying careful attention to the relevant information in the message, relating that information to previous knowledge stored in memory (e.g., is the message consistent or inconsistent with other facts that I know?), and generating new implications of the information (e.g., what does this mean for my life?). The ultimate goal of this effort is to determine whether the position taken by the source has any merit. For example, consider the advertisement encountered by Hamlet and Laertes. One of the arguments presented was that the Great Dane was a good sword due to its sharper blade. In addition, the argument continued that because of the sharp blade, the sword had the potential to kill faster and more decisively. The thoughts that a person has in response to an argument are often referred to as *cognitive responses* (Greenwald, 1968; Perloff & Brock, 1980; Petty, Ostrom, & Brock, 1981). These cognitive responses might be favorable toward the message (e.g., "With such a mighty sword, I could rectify wrongs that have been committed"), or they might be unfavorable (e.g., "I need a sword strictly for fencing. Having a sharp blade is the last thing I need"). The process of elaboration, or generating cognitive responses, may be thought of as a private dialogue in which the person reacts to the information presented (Festinger & Maccoby, 1964) (Figure 5.1).

As we will describe shortly, considerable research supports the view that when persuasion follows the central route, the extent of attitude change depends on the *valence* of the thoughts generated in response to a message (whether the thoughts are generally positive or negative), the *amount* of thoughts (how many of each type), and the *confidence* that people have in their thoughts (the extent to which the thoughts are seen as valid and informative). In general, we refer to the act of generating issue-relevant cognitive responses to a message in an attempt to assess the true merits of the position taken as following the central route to persuasion.

To evaluate the merits of the arguments presented in a message, a person has to be both motivated *and* able to do so. Not every message is sufficiently interesting for people to think

about, and not every situation provides people with sufficient time for careful reflection. When people are motivated and able to follow the central route, they carefully appraise the extent to which a message provides information that is fundamental or central to the true merits of the person, object, or issue under consideration. Of course, the particular type of information that is perceived as central to the merits of any particular issue may vary from person to person and from situation to situation (Katz, 1960). For example, research has shown that when some people think about the topic of capital punishment, religious considerations and arguments are particularly persuasive, whereas when other people think about that topic, legalistic arguments carry the most weight (Cacioppo, Petty, & Sidera, 1982). Likewise, recent research has shown that, when evaluating consumer products, some people are particularly concerned about how using the product will affect the images they project, whereas this dimension is unimportant for other people (Snyder & DeBono, 1985, 1989). Some people are most concerned about the immediate consequences of their actions, whereas others are most concerned about the future; thus, this dimension of judgment can vary in its importance among people (Strathman, Gleicher, Boninger, & Edwards, 1994).

Just as people can differ in the dimensions that are central to their attitudes, different attitude objects or decisions can invoke common dimensions of evaluation for most people (Shavitt, 1990). For example, in judging a person's prospects for admission to graduate school, intelligence is central, whereas attractiveness is not. On the other hand, when judging the same person's prospects for a modeling career, the opposite may hold. Finally, the dimensions that people use to evaluate an object, a person, or an issue not only can depend on individual differences or the particular attitude object under consideration (as in the research just mentioned) but also can be determined by the information that was recently activated in memory (Sherman, Mackie, & Driscoll, 1990).

The important point here is that sometimes attitudes are formed or changed by a rather thoughtful process in which people carefully attend to the arguments presented, examine the arguments in light of their relevant experiences and knowledge, and evaluate the arguments along the dimensions they perceive to be central to the merits of the objects. Of course, this extensive scrutiny provides no guarantee that an "objectively" accurate opinion will be formed (for further discussion, see Petty & Cacioppo, 1986). Nevertheless, attitudes formed by way of this central route are expected to have a number of distinguishing characteristics. In particular, these attitudes are expected to be (a) relatively easy to be called to mind (accessible), (b) relatively persistent and stable over time, (c) relatively resistant to challenge from competing messages, and (d) relatively predictive of the person's attitude-relevant judgments and behavior (Petty, Haugtvedt, & Smith, 1995).

### The Peripheral Route to Persuasion

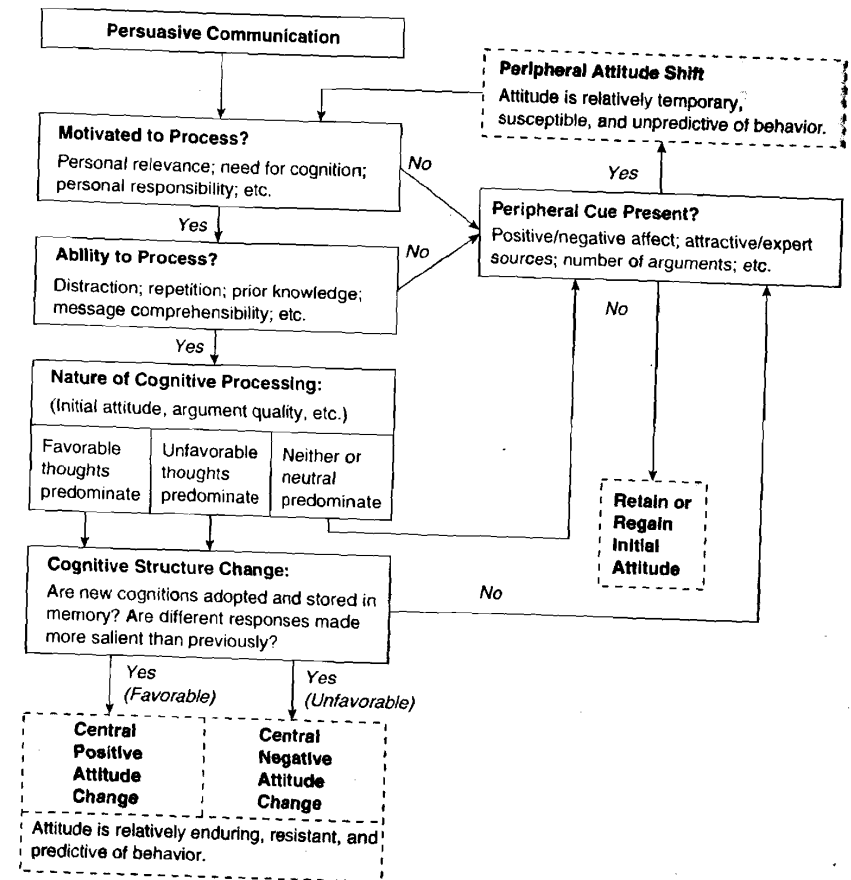
Consider Laertes' thoughts in response to the advertisement. His thoughts focus primarily on the endorser of the sword and the mere number of features the sword was said to have. Thus, Laertes' attitude is not the result of effortfully considering the actual merits of the information about the sword (e.g., is the endorser relevant to assessing merit, and are the reasons given compelling?). Instead he is relying on the simple cues of *source attractiveness* and *message length*. The type of attitude formation and change that occurs when people rely on simple cues and shortcuts is referred to as taking the peripheral route to persuasion.

One type of peripheral process occurs when a person retrieves from memory a particular decision rule that can be used to evaluate the message (e.g., "Experts are usually correct, so I'll go along"). This is referred to as *heuristic processing* (Chaiken, 1987), which is distinguished from the *systematic and elaborative processing* that occurs under the central route (Chen & Chaiken, 1999; Petty & Wegener, 1999). But why would anyone form or change an attitude based solely on information such as who is pictured with a product and how many reasons are listed in favor of it?

The peripheral route to persuasion recognizes that it is just not very practical, or even possible, for people to exert considerable mental effort in thinking about all of the persuasive communications to which they are exposed (Miller, Maruyama, Beaber, & Valone, 1976). Just imagine how you would feel if you thought carefully about every television or radio commercial you heard or scrutinized every pop-up ad when surfing the Web? If you ever made it out of the house in the morning, you probably would be too mentally exhausted to do anything else. In a perfect world, people might hold opinions only on those topics that they had considered carefully. As noted previously, however, this ideal is impossible because, in the course of daily life, people are called on to express opinions and to act on issues that have little direct interest to them and about which they have had little time to think. People have, in fact, developed evaluations for most of the objects in their environment, and these evaluations typically come to mind as soon as people encounter these objects (Bargh, Chaiken, Govender, & Pratto, 1992; Fazio, 1993; see also Fazio & Roskos-Ewoldsen, chap. 3, this volume). But where do these attitudes come from, if not from careful scrutiny?

To function in contemporary society, people must often act as "lazy organisms" (McGuire, 1969) or as "cognitive misers" (Taylor, 1981). This means that people must at times have some relatively simple means for deciding what is good and what is bad. For example, consider a patriotic American who is watching television when an ad appears for one of the many candidates in the Republican primary election for the House of Representatives. In a sincere voice and with the American flag in the background, the candidate gives his views on domestic spending priorities. Because it is several months before the election and this television viewer is an "independent" voter who does not plan to vote in the primary election anyway, there is little reason for him to think about the message carefully. Imagine that after he views the commercial, the phone rings and the viewer is asked to respond to questions in a political poll. The viewer reports a favorable attitude toward the candidate, not because of an evaluation of the candidate's expressed views on domestic spending but rather because the candidate's sincere voice and the American flag triggered positive associations or allowed a simple inference that the candidate was probably worthy. Thus, both this television viewer and Laertes formed their attitudes by way of the peripheral route. That is, their opinions are the result of using simple cues rather than thinking carefully about the true merits of the candidate (i.e., whether the flag and sincere voice provide cogent reasons for a positive evaluation).

According to the ELM, attitudes formed or changed by way of this peripheral route are less accessible, persistent, resistant, and predictive of behavior than are attitudes formed or changed by way of the central route. Figure 5.2 diagrams the two routes to persuasion and shows that the central route occurs when people possess both the motivation and the ability to carefully elaborate the arguments presented, whereas the peripheral route is more likely to occur when either motivation is low or ability is impaired.



**Figure 5.2** The two routes to persuasion are illustrated in this diagram, which depicts the possible endpoints after exposure to a persuasive communication according to the Elaboration Likelihood Model (i.e., central attitude change, peripheral change, and no change).

SOURCE: From *Communication and Persuasion: Central and Peripheral Routes to Attitude Change* by Petty and Cacioppo, copyright © 1986 Springer Verlag. Reprinted with permission.

## EVIDENCE FOR THE ELABORATION LIKELIHOOD MODEL

As shown in Figure 5.2, persuasion by way of the central route requires that people have the necessary motivation and ability to evaluate the perceived merits of the attitude object.

Persuasion by way of the peripheral route can occur when either motivation or ability to process is low. Thus, the likelihood of elaborating a persuasive communication (or *elaboration likelihood*), as determined by a person's motivation and ability to think about the information in the communication, determines the route to persuasion. When the elaboration likelihood is high (i.e., the person is both motivated and able to process a communication), the central route to persuasion occurs. But as the elaboration likelihood decreases, the person becomes more likely to rely on the peripheral route.

Research on the ELM proceeded in several stages. Some research focused on examining how certain variables could have an impact on persuasion by affecting the extent to which people were motivated or able to think about the substantive information presented. That is, research focused on which particular variables affected the amount of thinking that took place. Research on thoughtful persuasion also addressed whether that thinking was relatively objective or biased (i.e., whether factors make it more likely that one side of an issue will be supported over another) and whether people had confidence in the thoughts they generated. Another wave of studies demonstrated that people relied on peripheral cues and simple evaluation strategies when the elaboration likelihood was low rather than high. A third phase of research obtained evidence for the different consequences of the two routes to persuasion. For example, did the thoughtful central route attitudes really last longer than less effortfully formed peripheral route attitudes? A fourth phase of research examined an important postulate of the ELM dealing with exactly how variables affect persuasion under the central and peripheral routes to persuasion. In particular, this research demonstrated that any one variable (e.g., source credibility, mood) could affect persuasion in different ways along the elaboration continuum. Each of these streams of research is described in turn next.

### Modifying Attitudes by Influencing Thoughts

One of the most important and integrative principles of the ELM is that variables can affect persuasion by affecting how much thinking (a lot or a little) a person is doing about a message and what kinds of thoughts (favorable or unfavorable) are generated in response to the message. We focus first on variables that affect the amount of thinking and then on variables that affect whether the thoughts tend to be favorable or unfavorable. The situation that most encourages the central route to persuasion is when people are motivated and able to engage in high amounts of issue-relevant evaluative thinking. If people are doing a lot of thinking but it is not focused on evaluating the advocated position, that thinking will not result in persuasion until such time as these people are ready to form an opinion. When people are evaluating and forming an overall attitude at the time of message receipt, it is referred to as *on-line evaluation*. When people do not form an attitude until some time after receipt of the message, it is referred to as *memory-based evaluation* because the attitude will depend on what people can recall about what was presented (Hastie & Park, 1986). In either case, the attitudes formed can be based on careful thinking, but *when* the evaluative thinking is done differs in the two situations. Thus, the ELM focuses on variables that affect the extent of thinking rather than when the thinking is done (i.e., at the time of message receipt or at some later time) (see also Petty, Jarvis, & Evans, 1996). Table 5.1 presents a scheme for categorizing variables that affect the extent of message elaboration, although they may affect the timing of the thinking as well.

As shown in Table 5.1 (see also Figure 5.2), we can distinguish variables that affect *motivation* to process a message from variables that affect *ability* to process a message. Simply

**Table 5.1** Categorization and Examples of Factors Affecting Elaboration Likelihood

	Motivational Factors		Ability Factors	
	Situational	Dispositional	Situational	Dispositional
Relatively objective processing	Personal relevance	Need for cognition	External distraction	General intelligence
Relatively biased processing	Forewarning of intent	Open-/closed-mindedness	Head movements	Issue-relevant knowledge or schema

SOURCE: Adapted from Petty, Unnava, & Strathman (1991).

stated, variables influencing motivation are those that affect a person's rather conscious intentions and goals in processing a message. In other words, does the person choose to exert the necessary effort to think about the message arguments? In contrast, the question of ability is one of whether the person has the necessary skills, knowledge, and opportunity to evaluate the message. Motivational and ability variables can be further divided into those variables that are part of the persuasion situation versus those that are part of the individual recipient of persuasion and those variables that affect the amount of thinking (i.e., increasing or decreasing thinking in a relatively objective manner) versus those that motivate or enable a bias to the thinking that is under way (i.e., making it more or less favorable than it otherwise would be). We deal with each of these distinctions next.

### Situational Impact on Motivation to Think and Evaluate

What are some of the possible situational variables that might have motivated Hamlet to scrutinize the Great Dane ad more than Laertes did? One possibility is that Hamlet had been thinking about purchasing a sword before he ever saw the ad. That is, he already intended to buy a sword and was trying to decide which sword to buy. This intention rendered the ad more personally relevant to Hamlet. Because of this relevance, he decided to think about and evaluate the ad the moment he saw it. Laertes, on the other hand, had no intention of purchasing a sword, so the ad had little personal relevance to him. Thus, he was likely uninterested in either thinking about or evaluating the ad. Could self-relevance be a difference that leads Hamlet to process the ad more than Laertes processes the ad?

We consider this kind of personal relevance to be situational because it is a momentary relevance. When the situation changes, so too does the relevance. That is, once Hamlet purchases a sword, new sword ads no longer have the same relevance as when he was in a decision-making mode. On the other hand, the relevance that stems from a more permanent interest in some issue or connection to the self, such as a person who is consumed by politics (Krosnick, 1988; Sherif & Cantril, 1947), is better thought of as contained within the person rather than within the situation. These different aspects of self-relevance have one notable thing in common: As self-relevance of either type increases, people pay more attention to the information in a message (Johnson & Eagly, 1989; Petty & Cacioppo, 1990; Petty, Cacioppo, & Haugtvedt, 1992).

Some of the persuasive messages that people confront have direct personal implications for their lives, whereas others do not. For example, a new proposal to raise the state sales tax

affects just about everyone, a proposal to close a state park affects mostly nature lovers, and a proposal to prohibit having alligators as pets affects hardly anybody. People are especially motivated to think about proposals with direct personal implications. After all, if people can process only a limited number of the many communications they receive, it would be most adaptive to devote the most time and energy to those with the most personal consequences.

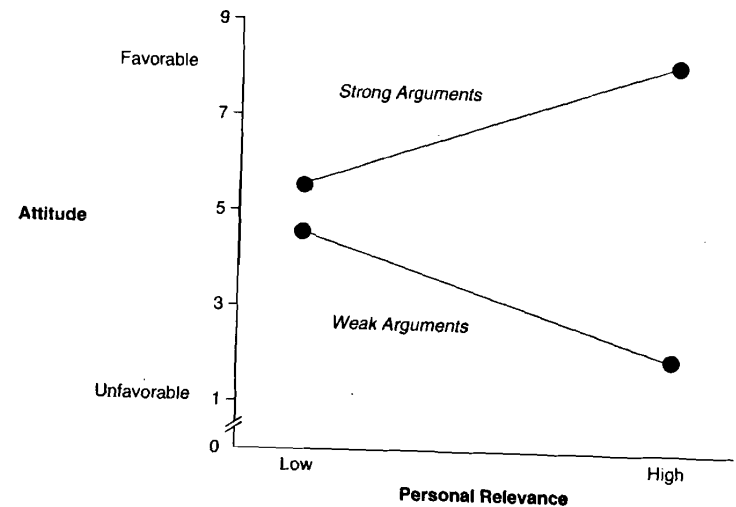
If people were divided into groups for which a message was either high or low in personal relevance, which group would be easier to persuade if we wanted to produce persuasion by the central route? Because the central route requires extensive thinking about the information presented, and high relevance should enhance thinking, it would seem that this group would show more persuasion. However, this reasoning assumes that the thoughts (elaborations) generated in response to the message are favorable, such as would be the case if the message presented arguments that were compelling when scrutinized. For example, if a message advocating a tuition increase at the university argued that "the money could be used to decrease class size and give undergraduates more individual attention," most students would have a favorable response. However, what if the message contained arguments that were not very persuasive and did not hold up under careful examination? For example, what if the message for the tuition increase argued that the money raised "should be used to plant exotic roses on campus rather than the more common tulips now used"? If people in the high-relevance group are engaged in considerable thought about weak or specious arguments, they should show less agreement than should a group of people who are not thinking about the arguments because those in the high-relevance group will better realize the flaws in the message.

Testing this reasoning requires developing two sets of arguments on some topic. In one study, for example, both strong and weak arguments were developed on the topic of instituting comprehensive exams for college seniors (Petty & Cacioppo, 1979b). The comprehensive exams were described as tests of what students had learned in their major areas, and passing the exams was proposed as a requirement for graduation. Not surprisingly, most undergraduates were initially opposed to the institution of these exams. However, a message with strong arguments was developed to elicit mostly favorable cognitive responses when the students were instructed to think about them. For example, the strong arguments pointed out, among other things, that job placements and starting salaries had improved at colleges that had instituted the comprehensive exams. In stark contrast, a message with weak arguments was designed to elicit mostly unfavorable cognitive responses. For example, the weak message argued that the exams should be instituted because parents wanted them and that the exams were a tradition dating back to the ancient Greeks. As you might expect, when students were asked to think about these reasons for instituting the exams, their thoughts were quite negative. Although preliminary testing ensured that students were able to distinguish the strong arguments from the weak ones when they were instructed to do so, it said nothing about whether increasing the personal relevance of the message would make students more likely to think spontaneously about the implications of the arguments and to form attitudes based on these thoughts. The ELM hypothesis, of course, was that when the message was high in personal relevance, the students would naturally scrutinize the arguments even if they were not instructed to do so; when the message was low in personal relevance, devoting effort to thinking about the arguments would be less likely.

Given that strong and weak messages on the topic of senior comprehensive exams were developed successfully, the experiment next required a procedure to vary whether the message was perceived as being high or low in personal relevance. To accomplish these differences in personal relevance, some of the students (high-relevance group) were led to believe that the exam proposal was for their own university, whereas other students (low-relevance group) were led to believe that

the exam proposal was for a comparable but distant university (Apsler & Sears, 1968). All of the participants in the study were told that their job was to rate the "sound quality" of radio editorials about the proposed exam that were sent to the journalism school from universities throughout the nation. These instructions were given so that complying with the study would not require thinking about the content of the message. Each participant sat in a private cubicle and was randomly assigned to listen through headphones to one of the four editorials required by the experimental design: high relevance with strong arguments, high relevance with weak arguments, low relevance with strong arguments, and low relevance with weak arguments. Following exposure to one of the messages, the students were asked to list the thoughts they had while listening to the tape (for a description of the thought-listing procedure, see Cacioppo & Petty, 1981).

The attitude results from this study are illustrated in Figure 5.3. As expected, when the speaker advocated that the exams should be instituted at a distant university (i.e., low personal relevance), the students' attitudes were not affected very much by whether the speaker provided strong or weak arguments. However, when the message was of high personal relevance, argument quality was an important determinant of students' attitudes. The thoughts that the students listed after message exposure suggested that the more extreme attitudes were accompanied by more extreme thoughts. That is, when the arguments were strong, students exposed to the high-relevance message produced more than twice as many favorable thoughts as did students exposed to the low-relevance message, even though both groups were exposed to the identical information. Also, when the arguments were weak, students exposed to the high-relevance



**Figure 5.3** Postmessage attitudes as a function of personal relevance and argument quality are illustrated in this figure, which shows that argument quality is a more important determinant of persuasion when personal relevance is high rather than low.

SOURCE: Data from Petty & Cacioppo (1979b, Experiment 2).

NOTE: Data are presented on a transformed metric.

message generated nearly twice as many unfavorable thoughts as did students exposed to the low-relevance message. Because the pilot testing for this study showed that the students were capable of distinguishing the strong arguments from the weak ones when they were instructed to do so, the study indicates that people will become more likely to engage *spontaneously* in this effortful evaluation process as the perceived personal relevance of the message increases (Petty & Cacioppo, 1990). That is, as the personal relevance of a message increases, individuals are more likely to decide to think about the message on their own. Some research suggests that simply changing the pronouns in a message from the third person (e.g., "one," "he and she") to the second person (e.g., "you") is sufficient to increase thinking about the message (Burnkrant & Unnava, 1989). This fact has not been lost on advertisers, of course, who have made extensive use of advances in computer-assisted mailings to individualize and personalize the messages they send to potential customers (Figure 5.4).

Although the personal relevance of a message is a major determinant of people's motivation to think about the arguments presented, it is not the only one. Many studies have uncovered several other factors that can be used to increase the elaboration likelihood. For example, when people believe that they are the only ones responsible for judging a message, they put more effort into thinking about it than when they are part of a group that is responsible for judging the message. As a result, the quality of the arguments in a message has a greater impact on the attitudes of individual evaluators than on group evaluators (Petty, Harkins, & Williams, 1980). Apparently, when people are jointly responsible for making an evaluation (e.g., when they are serving on a committee), they may feel that their input is less important or less needed; thus, they work less hard (Harkins & Petty, 1982; Latane, Williams, & Harkins, 1979). In a similar vein, people put more effort into thinking about messages that come from multiple sources rather than from just one source (Harkins & Petty, 1981). People appear to reason that information that comes from multiple sources is more likely to be valid, and thus more worthy of processing, than is information that comes from only one source (Harkins & Petty, 1987).

As a final example, research indicates that when people are not normally motivated to think about the message arguments, more thinking can be provoked by summarizing the major arguments as questions rather than as assertions (Petty, Cacioppo, & Heesacker, 1981). For example, rather than concluding your argument by saying, "And therefore, instituting comprehensive exams for seniors would increase the prestige of the university," you could say, "Wouldn't instituting comprehensive exams for seniors increase the prestige of the university?" (see also Burnkrant & Howard, 1984; Howard, 1990). Summarizing an argument as a question causes people to engage in greater thought about the merits of the argument. The use of rhetorical questions, of course, could lead to more or less agreement with the advocated position, depending on whether thinking about the argument leads to favorable or unfavorable cognitive responses.

#### *Individual Differences in Motivation to Think and Evaluate*

Could personality factors have accounted for the fact that Hamlet thought about the Great Dane ad to a greater extent than did Laertes? Consider that, aside from the ad in the magazine, Hamlet ruminates about and evaluates a wide variety of things, even when there is little situational motivation for him to do so. Consider also that Laertes, aside from the ad in the magazine, rarely thinks about or evaluates things unless the situational motivation is intense. Is it possible that Hamlet thought about the ad more than Laertes did simply because Hamlet is the type of person who likes to think and evaluate, whereas Laertes is the type of person who generally dislikes thinking and evaluating?

#### NOTICE FOR RECEIPT

From: R. K. Barnum, Gift Distribution Committee

Mr. & Mrs. Richard E. Petty  
3104 Oaklawn Street  
Columbia, MO 65203

Date Sent: September 17, 1993  
Gift Processing #: "One Thousand"

Dear Mr. & Mrs. Petty,

Several weeks ago, we attempted to notify you of your selection in a sweepstakes program we were conducting. You and your family had been selected to represent the Midwest region of the United States. What this meant was that you had either won the Chrysler Convertible or one of the other three gifts listed below:

(1) Chrysler Convertible  
(2) 45" Giant Screen TV Projection System

(3) \$1,000 Cash  
(4) Electrasport Boat (claimed)

**Note:** Unless our records are incorrect, you did not claim your gift. Due to the nature in which you were selected, you will have one last opportunity to claim your gift.

Please note that the 10-foot Electrasport Boat has recently been claimed. Therefore, your gift is one of the three remaining gifts . . . which are:

(1) Chrysler Convertible  
Don't buy that new car until you visit us  
Equipped with automatic transmission,  
air, AM-FM radio/cassette player, and  
more. Available in the color of  
your choice.

(2) 45" Giant Screen Projection System  
Enlarge your favorite programs as  
big as life. The dual lens system  
provides the ultimate in quality  
and clarity for your viewing  
pleasure.

(3) \$1,000 Cash  
A gift that's always welcome. Treat  
yourself to that something special  
you've been waiting for!

**IMPORTANT:** To determine whether you'll receive the Chrysler Convertible or one of the other two final gifts, you must visit **Lake View Resort**, located near Branson, Missouri. When you meet the Details of Participation, visit any day except Wednesday. For your convenience, plan your visit at 10AM, 12 noon, 2PM, or 4PM.

If not claimed by October 13, 1993, this offer will be forfeited and reissued. Any special offer made is valid only on the day of your visit.

When you receive the **Chrysler Convertible** or the **45" Giant Screen TV Projection System**, we ask that you allow us to use your name in our future promotions.

P.S. The Special Bonus Gift pictured is yours and will be presented at the time of your visit for your consideration in visiting and touring **Lake View Resort**.

**URGENT:** Bring this notice to Lake View Resort for your gift presentation.  
See reverse for Details of Participation, retails, odds and map.

Figure 5.4 Personalized messages are particularly effective in engaging information processing.

Recent research shows that some people generally enjoy evaluating things even when they do not have to do so, whereas other people tend not to evaluate things unless they have to do so. Also, research suggests that some people think carefully in a wide variety of situations, whereas others do not. The Need to Evaluate Scale measures the general propensity to engage in evaluation (Jarvis & Petty, 1996), and the Need for Cognition Scale measures the tendency for people to enjoy thinking or not (Cacioppo & Petty, 1982). Some of the items from each of these scales are presented in Table 5.2. Take a moment to see how you score.

Let us first consider people who differ in their need to evaluate. People high in the need to evaluate are constantly thinking about whether every aspect of their day is good or bad. Imagine two individuals, one high and one low in the need to evaluate, awakening in a hotel on a morning during their vacation. The individual high in the need to evaluate, on waking in the morning, might think, "Did I have a restful night's sleep? Will they have my favorite coffee at the restaurant? Will the weather be great today?" In contrast, the individual low in the need to evaluate would tend to eschew evaluation and might wonder, "How long did I sleep? Will coffee be available? What temperature will it be today?" As you might imagine, people high in the need to evaluate tend to have more opinions than do those low in the need to evaluate (Jarvis & Petty, 1996), and these attitudes are more likely to be activated automatically when they come in contact with the attitude object (Hermans, De Houwer, & Eelen, 2001). Because people high in the need to evaluate tend to evaluate spontaneously, they tend to form opinions online as they receive information, whereas people low in the need to evaluate tend to form attitudes only when necessary in a memory-based manner (Tormala & Petty, 2001). So to change the attitudes of individuals low in the need to evaluate, you first must get them to begin the process of evaluation by making it clear that their opinions will be requested or that their opinions matter.

People who are high in the need to evaluate will tend to form an opinion even when it is not necessary to do so (e.g., there is no impending purchase, the election is in the distant future). However, as noted earlier, people can form their opinions either with relatively high or relatively low amounts of issue-relevant thought. The Need for Cognition Scale taps into individual differences in enjoyment of thinking. Individuals high in the need for cognition will generally do more thinking about the information in a message than will individuals low in the need for cognition; thus, the quality of the information should matter more for individuals high in the need for cognition.

**Table 5.2** Sample Items From the Need for Cognition Scale

1. I would prefer a task that is intellectual, difficult, and important over one that is somewhat important but does not require much thought.
2. Learning new ways to think doesn't excite me much.\*
3. The idea of relying on thought to make my way to the top doesn't appeal to me.\*
4. I only think as hard as I have to.\*
5. I really enjoy a task that involves coming up with new solutions to problems.
6. I like tasks that require little thought once I've learned them.\*

SOURCE: From Cacioppo, J. T., & Petty, R. E., "The need for cognition," in *Journal of Personality and Social Psychology*, 42, pp. 116-131, copyright © 1982, American Psychological Association. Reprinted by permission.

NOTE: Items are followed by a scale on which respondents rate the extent to which the statements are characteristic of them (e.g., -3 = very uncharacteristic, +3 = very characteristic). Items followed by an asterisk (\*) are reverse scored.

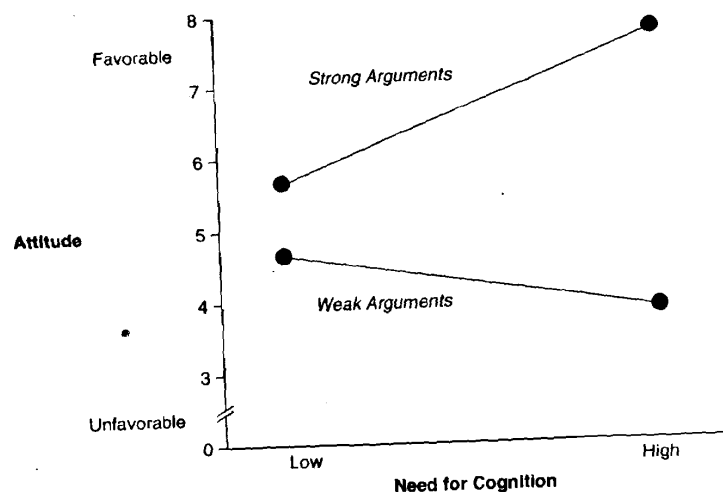
To test this reasoning about individual differences in the need for cognition, an experiment similar to the one on personal relevance described previously was conducted. This time, strong and weak arguments were developed on the topic of raising university tuition (Cacioppo, Petty, & Morris, 1983). As in the study on personal relevance, the strong arguments elicited mostly favorable elaborations when people were instructed to think about them, whereas the weak arguments elicited mostly unfavorable thoughts. For example, the strong arguments emphasized that inflation and high interest rates were eroding the ability of the university to keep its top faculty members and that the reputation of the faculty was directly related to the prestige of the university and, ultimately, to the starting salaries of its graduates. The weak message argued, among other things, that tuition should be increased to take the unfair burden off of state taxpayers and that the additional revenue should be used to improve the roads leading to the new university sports arena.

Again, although preliminary testing ensured that students were able to distinguish the strong arguments from the weak ones when they were instructed to do so, it still was not clear whether there were individual differences in people's natural tendencies to think about the message arguments. Testing this hypothesis required presenting individuals both high and low in the need for cognition with the strong and weak arguments and without any specific instructions to think about the message. In the study, students who were classified as high or low in the need for cognition (i.e., those scoring in the top and bottom thirds of the distribution of students who completed the personality scale) were told that their task was to read one of various policy statements prepared by the Office of Student and Academic Affairs and to rate it for readability. Each participant sat in privacy and read either the message presenting strong arguments for raising tuition or the message presenting weak arguments for raising tuition. Following exposure to one of the messages, the students were asked to express their own attitudes.

The attitude data from this study are shown in Figure 5.5. As can be seen in the figure, people who differed in the need for cognition acted just as expected. Specifically, the attitudes of people high in the need for cognition were more affected by the quality of the message arguments than were the attitudes of people low in the need for cognition. Of course, it would be impossible even for people high in the need for cognition to process every message they received, but these data indicate that, on average, people high in the need for cognition are more likely to base their attitudes on a thoughtful assessment of message arguments than are people low in the need for cognition. You may be wondering whether people who differ in the need for cognition also differ in intelligence. Although there is a modest correlation between the need for cognition and verbal intelligence (as might be expected), the need for cognition contributes independently to message processing and persuasion.

Can people low in the need for cognition ever be persuaded by the central route? Indeed they can. People low in this trait are generally not motivated to think, but they are perfectly capable of analyzing a message carefully if they are provided with the appropriate incentives. Thus, although individuals high in the need for cognition will process a message low in personal relevance more than will individuals low in the need for cognition, if the message is made to be highly relevant, the information processing of the two groups will be similar (Axson, Yates, & Chaiken, 1987). There are other ways in which to increase the information processing of those low in the need for cognition, including making the message position surprising (Smith & Petty, 1995) and leading them to believe that the message will be relatively simple and easy to understand (Wheeler, Petty, & Bizer, in press). Interestingly, the latter approach tends to turn off those who are high in the need for cognition because they particularly enjoy challenging tasks (for a review of work on the need for cognition, see Cacioppo, Petty, Feinstein, & Jarvis, 1996).





**Figure 5.5** Postmessage attitudes as a function of the need for cognition and argument quality are illustrated in this figure, which shows that argument quality is a more important determinant of persuasion for people high in the need for cognition than for people low in the need for cognition.

SOURCE: Data from Cacioppo, Petty, & Morris (1983, Experiment 2).

### Ability Factors That Affect Elaboration

What if Hamlet had come across the Great Dane ad on the radio while driving down a busy highway rather than coming across it in a magazine? We already suspect that Hamlet is high in the need for cognition and that the message is of high personal relevance to him. According to the analysis we provided earlier, Hamlet clearly is motivated to think about and evaluate the arguments in the commercial. However, what if a thunderstorm arises just as the message comes on the radio? Ordinarily, this highly motivated individual would be able to think about the message and drive at the same time given that driving would engage few of his cognitive resources. However, the thunder, lightning, wet pavement, dark skies, and reduced visibility all make driving a more difficult and cognitively demanding task. The increased distractions of driving should render Hamlet less able to scrutinize the message, even though there is high motivation to do so. What should the effects of this distraction be on persuasion? First, Hamlet might try as hard as he can to gain some information from the message but put off the effortful evaluation until later (i.e., memory-based evaluation). But if Hamlet is very high in the need to evaluate, he might try to evaluate even with the distraction. Assuming that Hamlet wants or needs to evaluate despite the distraction, we will see that the distraction sometimes will harm persuasion but other times can improve the persuasiveness of a message.

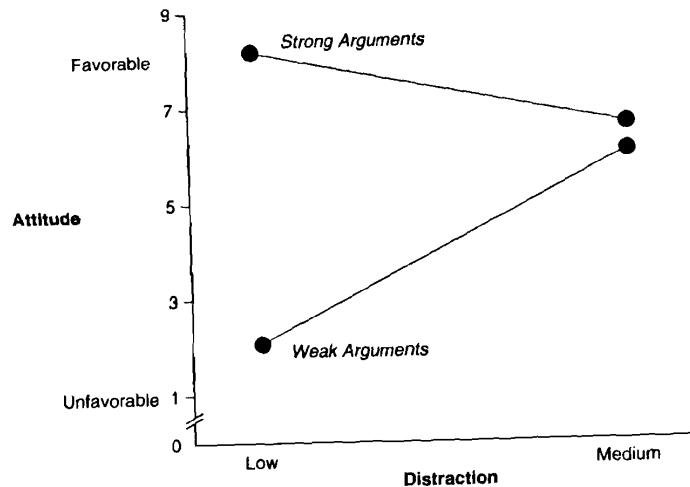
To understand the effects of distraction, it is important to realize that having the necessary motivation to process a message is not sufficient for the central route to persuasion to occur.

People must also have the ability to think about the message, and distraction may adversely affect this ability. As was the case with motivational factors, ability factors may be divided into those that are part of the persuasion situation and those that are best viewed as part of the individual (Table 5.1). Because the amount of distraction can vary from situation to situation, distraction falls under the domain of situational ability factors.

Although the initial research on distraction showed that distraction sometimes increased persuasion and sometimes decreased persuasion, it was not particularly clear why these effects occurred (Petty & Brock, 1981). For example, learning theorists predicted that distraction would generally harm persuasion because it would decrease learning and comprehension (e.g., Regan & Cheng, 1973). In contrast, dissonance theorists (Cooper, Mirabile, & Scher, chap. 4, this volume) emphasized that distraction should increase persuasion given that people would feel a need to justify to themselves exerting extra effort to hear the message, especially if it was a disagreeable one (Baron, Baron, & Miller, 1973). The ELM approach is to ask the question: What is the expected effect of distraction on the thoughts that people generate? Although some previous research had suggested that distraction might disrupt the process of counterarguing a message (Figure 5.2) (Festinger & Maccohy, 1964; Osterhouse & Brock, 1970), the ELM suggests a more general formulation. That is, distraction should disrupt whatever the dominant thoughts are to a communication, be they favorable or unfavorable. If the communication would normally elicit mostly unfavorable elaborations (counterarguments), distraction should disrupt these negative thoughts and result in more agreement than would be the case if no distraction was present (assuming that there are no simple negative cues in the message). However, if the communication would normally elicit mostly favorable elaborations, distraction should disrupt these positive thoughts and result in less agreement than would be the case if no distraction was present.

To test this analysis of distraction, college students were exposed to a message arguing that tuition at their university should be cut in half. In this study, the students listened over headphones to a message that contained either strong or weak arguments that were presented under conditions of either minimal or moderate levels of distraction (Petty, Wells, & Brock, 1976). In the moderate level of distraction conditions, the students were instructed to track the position of Xs that were flashed rapidly on a screen in front of them at the same time as the message was being played over the headphones. In the minimal level of distraction conditions, the students were given the same instructions but the Xs were flashed at a much slower rate.

The attitude results from this study are illustrated in Figure 5.6. As can be seen in the figure, the effects of this distraction on persuasion were quite different, depending on the nature of the arguments in the message. When the message was weak, people who were distracted showed more agreement with the message than did people who were not distracted. However, when the message was strong, increased distraction was associated with decreased influence. In addition, analyses of participants' thoughts provided evidence for the view that distraction disrupted the predominant type of thought. When the message was strong, increasing distraction produced a significant decline in the number of favorable thoughts listed by the students. When the message was weak, increasing distraction produced a significant decline in the number of unfavorable thoughts listed. It is important to note that distraction had no effect on the number of message arguments that the students could recall. This finding is interesting because it shows that even though all students were equally aware of the arguments, as distraction increased, the students were less able to think about the arguments and, thus, their attitudes were less affected by the strength of the information presented.



**Figure 5.6** Postmessage attitudes as a function of distraction and argument quality are illustrated in this figure, which reveals that distraction disrupts elaboration of the message.

SOURCE: Data from Petty, Wells, & Brock (1976, Experiment 2).

Distraction, then, is an especially useful technique when a person's arguments are poor because even though people might be aware that some arguments were presented (which is good for persuasion), they might be unaware that the arguments were not very compelling.

Distraction, of course, is just one variable that has an impact on a person's ability to think about a persuasive communication. For example, if a person was unable to realize the full implications of a message with just one exposure, a few additional exposures might be beneficial for message elaboration. However, repetition would be helpful to persuasion only if the additional thinking resulted in the generation of more favorable thoughts. When weak arguments are repeated, additional exposures should lead to further thoughts that are unfavorable and, therefore, result in less persuasion. The first few exposures should be maximally beneficial to processing strong arguments. After all of the implications of the arguments have been realized with moderate repetition, increasing exposures become tedious and tend to elicit negative responses regardless of argument quality (Cacioppo & Petty, 1989). That is, the initial objective processing induced by moderate amounts of repetition turns negative when the repetition becomes excessive. The next section deals with other variables that can bias thoughts about a message.

Finally, as shown in Table 5.1, both individual and situational factors can contribute to a person's ability to think about a message. For example, the higher a person's level of intelligence, the more the person should be able to appreciate the merits of a truly brilliant argument and the more proficient he or she should be in detecting the flaws in feeble reasoning. Also, the more objective knowledge that a person has about some topic, the more the person should be able to distinguish strong arguments from weak arguments (Wood, Rhodes, & Biek, 1995).

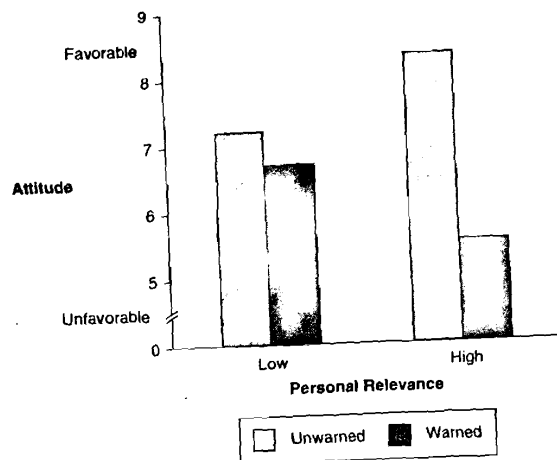
### Relatively Objective Elaboration Versus Relatively Biased Elaboration

We have seen that there are both situational and individual variables that can affect a person's motivation and ability to process the arguments in a persuasive communication. Importantly, all of the variables that we have discussed so far have tended to affect motivation or ability to process a message in a relatively objective manner. In the strictest sense, if a person is thinking in an objective manner, this means that the person is trying to seek the "truth" wherever it might lead. Of course, there is no guarantee that attempting to be objective will actually lead to the truth. When a person has the ability to think about a message in a relatively objective or balanced manner, the person has the requisite skills and opportunity to consider the arguments impartially. This objective processing is what people strive for, although perhaps do not always achieve, when conducting jury deliberations or when making any important decisions.

In contrast to this relatively objective processing, sometimes there is a systematic bias to the information processing. This occurs when people want to think and are able to think, but there is some variable in the situation that is encouraging or inhibiting the generation of either favorable or unfavorable thoughts in particular. When a variable affects processing in a biased fashion, this means that individual or situational factors make it more likely that one side of an issue will be supported over another side of the issue.

As shown in Table 5.1, variables that bias thinking can be divided into those that work by affecting motivation versus ability and those that are tied to situations versus individuals. We have already noted that high amounts of message repetition can induce a negative bias to the ongoing information processing activity. A few additional examples should help to further demonstrate how variables can bias a person's thoughts about a message. Consider first the effect of a variable that persuasion researchers have labeled *forewarning*. Forewarning occurs when message recipients are informed in advance about some aspect of the persuasion situation. One type of forewarning occurs when people are told in advance that the speaker is deliberately going to try to persuade them (Papageorgis, 1968). For example, a defense attorney might think that it is effective to begin his opening remarks with confidence by exclaiming, "Before the end of this trial, I am definitely going to convince you that my client is innocent!" One possibility is that when people learn that someone is going to try to make them change their minds, they believe that they should exert some effort in objectively scrutinizing the message so as to decide whether it is worth accepting. However, research suggests that the thinking induced by a forewarning of persuasive intent does not proceed in this impartial manner. Instead, when confronted by a person who expresses a strong desire to change people's attitudes, people become motivated to defend their positions, at least if the attitude threatened is important to them (Brehm, 1966).

In one experiment testing this hypothesis, students were either forewarned or were not warned of the persuasive intent of a speaker featured in a taped radio editorial (Petty & Cacioppo, 1979a). Some participants in the study were told that the editorial "was designed specifically to try to persuade you and other college students of the desirability of changing certain college regulations" (forewarned group). Others were simply told that the tape was prepared as part of a journalism class project (unwarned group). In addition to the forewarning manipulation, the personal relevance of the message was varied. The students were led to believe that the change in regulations would be implemented at their university either the following year (high relevance) or 10 years in the future (low relevance). All students heard a message containing five arguments in favor of requiring seniors to take comprehensive exams in their major areas as a requirement for getting a degree. All of the arguments were selected on the basis of pretesting so that they would be



**Figure 5.7** Postmessage attitudes as a function of personal relevance and forewarning are illustrated in this figure, which shows that there is no difference in persuasion as a function of forewarning under low personal relevance. However, forewarning leads to reduced persuasion under conditions of high personal relevance due to biased elaboration.

SOURCE: Data from Petty & Cacioppo (1979a).

strong. Following exposure to the message, the students expressed their own opinions and listed their thoughts. Figure 5.7 presents the attitude results from this study.

When the issue was of low relevance, the warning had no impact on attitudes. When the issue was of high relevance, however, the forewarning reduced persuasion despite the fact that the message contained strong arguments. In fact, under high relevance, the warned group generated more than twice as many negative thoughts and only half as many positive thoughts as did the unwarned group. Figure 5.7 shows quite clearly the very different effects of personal relevance and forewarning on attitude change. When the students were not warned, increasing personal relevance increased persuasion. This finding replicates the study illustrated in Figure 5.3 and is to be expected if increasing personal relevance enhances the relatively objective processing of the strong message arguments. However, when the forewarning of persuasive intent was combined with personal relevance, the increased processing took on a negatively biased tone. (For a complete discussion of forewarning effects, see Wood & Quinn, 2003.)

#### **Caveat Regarding Joint Operation of Variables That Influence Thinking**

So far in our discussion of the variables that affect thinking about a persuasive message, we have considered the effect of each variable in isolation. In many real-life contexts, however, many variables are operating jointly to determine the extent of thinking. Also, many variables that can be separated in the laboratory often occur together in the natural environment. For example, people who like to think about issues (high need for cognition) will tend

to have more information on a topic than will people who do not like to think about issues (Cacioppo, Petty, Kao, & Rodriguez, 1986). Also, people will tend to have more information about issues that are personally relevant than about issues that are irrelevant (Wood, 1982). Thus, to assess how much thinking a person will do in any particular persuasion situation and whether that thinking will be relatively objective or biased, it is necessary to consider all of the categories of factors outlined in Table 5.1 together. Unfortunately, it is not possible to simply add the effects of two or three variables together to predict the result on elaboration. Rather, these variables also interact with each other. For example, research shows that using rhetorical questions rather than statements in a message (e.g., asking "Wouldn't comprehensive exams be good for students?" vs. stating "Comprehensive exams would be good for students") can have different effects on elaboration, depending on whether people would normally be thinking a lot or not. For example, in one study it was found that adding rhetorical questions to a radio message increased elaboration when the issue was of low relevance and people normally would not be thinking about it. On the other hand, adding rhetorical questions disrupted elaboration when the issue was of high relevance and thinking normally would have been high (Petty, Cacioppo, & Heesacker, 1981). Thus, when dealing with variables in combination, it is best to consult the literature for information about how variables combine to influence thinking or to conduct some pilot work on the variables of interest.

#### **Affecting Confidence in the Thoughts That Are Generated**

It should now be clear that many variables can influence persuasion by affecting either the number of thoughts that are generated or whether those thoughts tend to be positive or negative. The more favorable thoughts that people have, the greater the likelihood of persuasion; the more negative thoughts that people have, the greater the likelihood of resistance or even a boomerang effect (i.e., changing in a direction opposite to the one advocated). All of this assumes, however, that people will rely on the thoughts they have generated when forming their opinions. According to the ELM, it is not sufficient for people to simply generate thoughts; they must use those thoughts when forming their opinions. Thinking about thoughts is called *metacognition*. If you ever were sitting in class, generated an idea, but then stopped for a moment before expressing the thought to consider whether the idea was a good one or not, you engaged in metacognition—that is, you thought about your thought (Jost, Kruglanski, & Nelson, 1998; Petty, Briñol, Tormala, & Wegener, in press).

If you decided that your thought was a good one, you would likely express it. If you thought that the idea was not a good one, you would likely keep it to yourself. According to the self-validation hypothesis (Petty, Briñol, & Tormala, 2002), there are a number of determinants of whether or not people will have confidence in the thoughts they generate. For example, if you expressed your thoughts to some friends and they agreed with them (i.e., validated them), you would be more likely to rely on those thoughts than you would if the friends criticized them.

A body of research shows that self-validation processes are important to consider when predicting the extent of persuasion under high-elaboration conditions. Furthermore, this research suggests that there are rather subtle ways in which to enhance or reduce confidence in the thoughts people generate. For example, consider the possibility that Horatio, Hamlet's good friend, has advised him to engage in some unusual behavior in public so that others might think he is mad. Specifically, Horatio tells Hamlet to move his head up and down throughout the entire day. As a result, when Hamlet reads the ad in the magazine for the Great

Dane sword, he is nodding his head up and down. Could something as simple as head nodding affect persuasion? If so, how? What if Hamlet had been shaking his head from side to side? The initial work on head nodding suggested that people who were made to nod their heads in a vertical manner while listening to a message were more persuaded by the message than were people who heard the same message while shaking their heads in a horizontal manner (Wells & Petty, 1980).

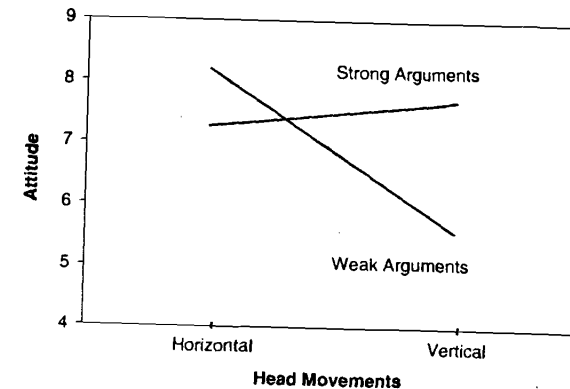
There are a number of reasons why this might have occurred. For example, head nodding might serve as a simple cue for acceptance (i.e., "If I am nodding yes, I must agree with the message"). A more complicated possibility is that head nodding could affect people's confidence in their own thoughts about a message. That is, just as other people nodding at you while you are speaking would enhance your confidence in what you are saying, and people shaking their heads at you while you are speaking would undermine your confidence (social validation), so too might your own head nodding affect your confidence in your thoughts (self-validation). To examine this idea, Briñol and Petty (2003) conducted a series of studies on head nodding. In these studies, college students were asked to nod or shake their heads while listening to a persuasive message. This rather unusual manipulation was introduced without suspicion by leading the students to believe that they were participating in a consumer test of the performance of some new headphones designed for people engaged in movement (e.g., exercise, dancing). The student participants put on the headphones and began to move their heads as instructed (up and down or side to side) when an editorial was presented during the radio program to which they were listening.

How should the head movements affect attitudes according to the self-validation hypothesis? If the arguments in the message were strong and the students were generating favorable thoughts about them, moving their heads up and down should increase students' confidence in the favorable thoughts. If people relied on their positive thoughts more when nodding their heads than when shaking their heads, they should be more persuaded. However, if the arguments in the message were weak and the students were generating unfavorable thoughts about them, moving their heads up and down should increase students' confidence in the negative thoughts and, thus, reduce persuasion. That is, head movements should have opposite effects, depending on whether the students' thoughts were positive or negative. As shown in Figure 5.8, this is exactly what happened. Furthermore, in a separate study, the students were asked to rate the confidence in their thoughts in addition to reporting their attitudes. In this study, participants who nodded their heads reported more confidence in their thoughts than did participants who shook their heads, and considering thought confidence along with thought valence improved prediction of attitudes. Thus, for thoughtful attitude change to occur, people not only need to generate thoughts but also need to have confidence in the thoughts that are generated.

### Modifying Attitudes by Using Peripheral Cues

We have devoted most of this chapter to discussing thoughtful persuasion. There are two reasons for this. First, most research has tended to focus on thoughtful persuasion. Second, as we will see shortly, thoughtful persuasion tends to have a number of desirable qualities compared with nonthoughtful persuasion. Before discussing some of the different consequences of thoughtful and nonthoughtful persuasion, however, it is useful to review some mechanisms by which attitudes can change even if people are not thinking very much.

Recall that Laertes formed a favorable attitude toward the Great Dane sword without thinking much about the arguments presented. Instead, his attitude was based on the fact that a

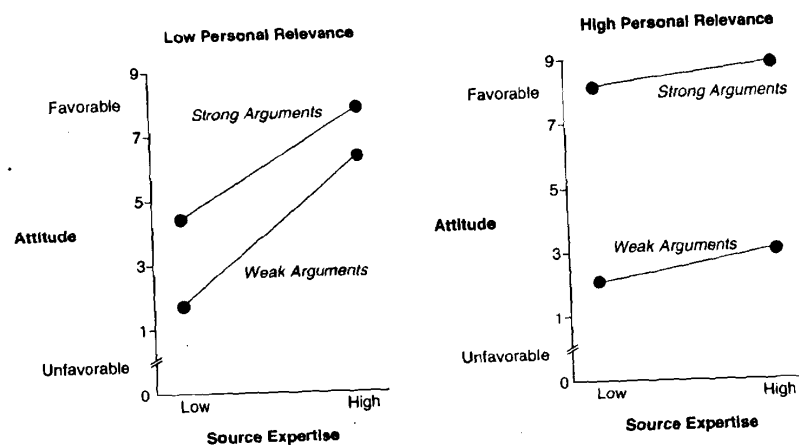


**Figure 5.8** A test of the self-validation hypothesis is illustrated in this figure. Head movements had opposite effects, depending on whether the students' thoughts were positive or negative.

fierce warrior was pictured holding the sword and that many arguments were listed in the ad. Peripheral cues are aspects of a persuasion situation that allow attitude change in the absence of much substantive issue-relevant thinking. Testing the idea that simple cues can affect attitudes when people are either unmotivated or unable to process message arguments involves comparing people's reactions to simple cues when the elaboration likelihood is high versus when it is low.

In one investigation of peripheral cues, college students were asked to listen to a message that advocated that seniors be required to pass comprehensive exams in their majors as a requirement for graduation (Petty, Cacioppo, & Goldman, 1981). Three variables were manipulated in the study: the personal relevance of the message, the quality of the arguments presented, and the expertise of the source. Relevance was manipulated as described previously by having the speaker advocate that the new exam policy should be instituted at the students' own university either the following year (high relevance) or 10 years in the future (low relevance). The students were exposed to either eight strong arguments or eight weak arguments that were attributed to either a report prepared by a local high school class (low expertise) or a report prepared by the Carnegie Commission on Higher Education that was chaired by a Princeton University professor (high expertise). The expertise of the source provides a simple cue on which students might judge the desirability of the proposal without engaging in an effortful assessment of all the evidence provided. After the students heard the tape-recorded message, they rated their attitudes toward the exams.

The attitude results from this study are presented in Figure 5.9. The graph in the left panel shows that when the message was of low personal relevance, increasing source expertise increased agreement regardless of argument quality. Of most interest is the finding that even when the arguments were weak, having an expert present them led to more persuasion. In the right panel of the figure, it can be seen that when the message was of high relevance, source expertise had no significant impact on attitudes and that only argument quality was important.



**Figure 5.9** Postmessage attitudes as a function of personal relevance, argument quality, and source expertise are illustrated in this figure. The left panel shows that attitudes are affected by source expertise under conditions of low personal relevance. The right panel shows that attitudes are affected by argument quality under conditions of high personal relevance.

SOURCE: Data from Petty, Cacioppo, & Goldman (1981).

The results suggest that when people are not motivated to think about a message (i.e., low personal relevance), they will rely on less effortful means of assessing the message such as basing their attitudes on simple cues in the persuasion context (i.e., source expertise). On the other hand, when people are motivated to think about the message (i.e., high personal relevance), they are less affected by peripheral cues but instead are more influenced by the results of their careful assessment of all the substantive information provided.

Recall that Laertes responded not only to the attractiveness of the endorser of the Great Dane sword but also to the apparent number of arguments contained in the message. A similar approach is used in advertising, for example, when an automobile ad proclaimed that there are "21 logical reasons to buy a Saab." The ad went on to list the 21 reasons, ranging from technological advances, to safety features, to aesthetic concerns, to price. It is unlikely that most people will think about *all* of these reasons, but the ad is impressive nonetheless. Will people be impressed by the fact that there are a large number of reasons to buy the car, or will the quality of the reasons make a difference? Based on the research we have presented so far, it should be clear that the mere number of arguments should serve as a simple cue when the elaboration likelihood is low, whereas the number of arguments should be relatively unimportant as a cue when the likelihood of argument elaboration is high. In fact, this prediction has been supported. In a study that varied the number of arguments, the quality of arguments, and personal relevance (Petty & Cacioppo, 1984), it was found that increasing the number of either strong arguments or weak ones led to more persuasion when the personal relevance of the message was low. When relevance was high, however, increasing the number of strong arguments led to more persuasion, whereas increasing the number of weak arguments led to

less persuasion. That is, the arguments were scrutinized when relevance was high and quality of arguments mattered. Under low relevance, all that mattered was the number of reasons given. People were more persuaded with nine arguments than with three arguments, even when the arguments were quite weak. This study made clear that it is how people process a message, or what they extract from it, that is critical. For example, when high-relevance individuals received a message with nine weak arguments, they counterargued it and were not persuaded. When low-relevance individuals received the exact same message, however, they were impressed by it. The reason they were impressed is that they did not carefully think about the arguments presented but rather simply inferred the validity of the message by mentally counting up the number of reasons offered and inferring, "If there are so many reasons, it must be good." In this case, the different processes of influence under high- and low-thinking conditions (i.e., evaluating the arguments for merit vs. simply counting them) led to quite different outcomes.

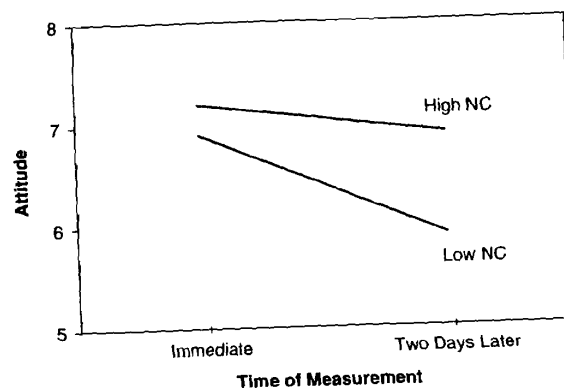
It is important to note that variables other than personal relevance are capable of influencing the power of simple cues to affect attitudes. In fact, any variable that decreases the elaboration likelihood should make the use of peripheral cues more likely. Thus, people low in the need for cognition show more reliance on simple cues than do people high in the need for cognition (Axson et al., 1987; Haugtvedt, Petty, & Cacioppo, 1992). People are also more likely to rely on simple cues and associations when they lack the ability to think about a message such as when the message is difficult to comprehend (e.g., Kiesler & Mathog, 1968; Moore, Hausknecht, & Thamodaran, 1986; Ratneshwar & Chaiken, 1991) or when people have little or no prior information about the attitude object (e.g., Cacioppo, Marshall-Goodell, Tassinary, & Petty, 1992; Wood, Kallgren, & Priesler, 1985).

### Consequences of the Route to Persuasion

As we noted previously, the existing research is quite consistent with the view presented in this chapter that there are two rather different routes to persuasion. One occurs when a person engages in a careful analysis of the information presented that is central to the true merits of the position advocated, whereas the other occurs when people have little motivation or ability to scrutinize the issue-relevant information carefully. For purposes of exposition, we have emphasized the central and peripheral routes as operating separately. This is true mostly at the high and low ends of the elaboration continuum. Of course, in many situations, the elaboration likelihood is moderate and persuasion is determined in part by the central route and its processes and in part by the peripheral route and its processes. Importantly, changes induced by these different routes may appear quite similar immediately after message exposure, but according to the ELM, attitudes formed by the two different routes should have quite different properties (Petty et al., 1995). This means that the attitudes of Hamlet and Laertes are not really the same even though they are both rated an 8 on a 9-point scale. Recall that Hamlet processed the information in the Great Dane ad carefully because he planned to buy a sword in the near future and is high in the need for cognition. Laertes had no current interest in purchasing a sword but reasoned that the Great Dane must be good due to the peripheral cues in the ad. According to the ELM, these two people have followed very different routes to persuasion. Hamlet's attitude is a result of diligently thinking about the features of the sword, whereas Laertes' attitude resulted from a simple inference about quality based on the cues featured in the ad. The ELM predicts that the process responsible for attitude change led these attitudes to be different in their *strength*.

### Extent of Elaboration and Attitude Strength

Just as a strong house lasts a long time and can endure attacks from strong external forces (e.g., hurricanes), so too are strong attitudes quite durable and resistant to change. Furthermore, just as a strong person can dominate others, so too do strong attitudes have a large impact on other judgments and behaviors (Krosnick & Petty, 1995). In one study that tested the relative durabilities of attitudes formed by the central and peripheral routes, students high and low in the need for cognition were first exposed to an advertisement for a consumer product containing a long list of desirable features (Haugtvedt & Petty, 1992). Attitudes toward the product were measured immediately after message exposure and again 2 days later. As shown in Figure 5.10, on the initial measure of attitudes taken right after the message, both students high in the need for cognition and students low in the need for cognition showed equivalently positive attitudes toward the product (just as Hamlet and Laertes did after exposure to the Great Dane sword ad). Based on what we know about the ELM so far, however, we would expect these changes to have occurred for different reasons. That is, the students high in the need for cognition presumably became favorable due to carefully thinking about the strong arguments presented, whereas the students low in the need for cognition presumably became more favorable simply because they were impressed with the long list of reasons provided. Thus, it was interesting to see what happened when attitudes were reassessed 2 days later. An analysis of the attitudes of students high in the need for cognition showed that their newly favorable attitudes remained relatively stable over time. However, an analysis of the attitudes of students low in the need for cognition revealed a lack of persistence. In short, the high-thinking students who formed their initial attitudes based on a careful consideration of issue-relevant arguments (central route) showed greater persistence of their new attitudes than did the low-thinking students whose attitudes were based primarily on the simple number of arguments cue (peripheral route).



**Figure 5.10** Strong attitudes are durable. Students high in the need for cognition showed that their newly favorable attitudes remained relatively stable over time, whereas students low in the need for cognition revealed a lack of persistence.

In general, attitudes based on issue-relevant thinking should persist longer than attitudes based on simple cues. However, two factors may produce exceptions to this principle. First, relative persistence may result from the repeated pairing of a peripheral cue with a particular position. These attitudes, although persistent if unchallenged, would likely be highly susceptible to an attacking message because people would have great difficulty in defending their positions if attacked with strong arguments (Haugtvedt, Schumann, Schneier, & Warren, 1994). Second, enduring attitudes may be classically conditioned with one exposure if the cue is sufficiently intense (e.g., fear of water may be conditioned by one near-drowning experience). However, persuasive communications are rarely associated with such powerful cues.

Research has also supported other consequences of attitudes changed by the central route rather than the peripheral route. Specifically, attitudes changed by the central route, in addition to lasting longer, have been shown to come to mind more readily and are more resistant when attacked than are attitudes changed by the peripheral route (Haugtvedt & Petty, 1992; Wu & Shaffer, 1987). In addition, people whose attitudes have been changed by the central route are more likely to act on their new attitudes than are people whose attitudes have been changed by the peripheral route (Cacioppo et al., 1986; Petty, Cacioppo, & Schumann, 1983). These effects have been observed regardless of whether situational or personality factors influencing the route to persuasion have been investigated. So, whether people are engaging in considerable thought because the message is high in personal relevance or because they are the type of people who enjoy thinking, thoughtful attitudes have been shown to be more persistent over time, resistant to counterpersuasion, and predictive of behavior than have similar attitudes based on little thought (Petty et al., 1995).

### Metacognition and Attitude Strength

Recent research on metacognition suggests that when thinking is high, it is not just the amount of thought that is critical for producing strong attitudes. In addition, when thinking is high, people may reflect on the validity of the attitudes they have just formed or changed, and this can contribute to strength (Petty, Tormala, & Rucker, 2004). For example, one reason why high thinking may produce stronger attitudes than does reliance on cues is that people may sometimes be aware of the thought process that produced their attitude changes. When attitudes were formed with high amounts of thinking, these attitudes may be held with higher confidence than are attitudes based on little thinking because people are aware that thoughtful attitudes typically are more valid. Because of this greater perceived validity, people may be more motivated to defend these attitudes and more willing to act on them.

Reflecting on one's thoughts and thought processes can have an impact on attitude strength whether attitudes have actually changed or not. For example, in a series of studies, Tormala and Petty (2002) examined what happened to the strength of attitudes that did not change as a result of receipt of a persuasive message. In this research, all participants received a message containing a mixture of strong and weak arguments and were told to try to resist the message. Because the message that participants received was not overly compelling, the recipients were able to resist successfully. Prior to receiving the message, some participants were led to believe that the message contained strong arguments, whereas others were led to believe that the message contained weak arguments. Resistance was equivalent because the message was actually

the same, but the type of message that participants believed they resisted had an impact on their confidence in their unchanged attitudes. In particular, individuals who believed they resisted a strong message had more confidence in their old attitudes than did people who believed they resisted a weak message (and were more confident than individuals who received no message). Resisting a weak message leaves open the possibility that a stronger message might be persuasive, whereas resisting a strong message suggests that a person's current position is quite valid. Thus, two groups of individuals, who both started and ended the persuasion episode with the same attitudes, now had attitudes that differed in strength. The individuals whose attitudes were increased in confidence as a result of their metacognitive reflection on the reason for the resistance were more willing to act on their attitudes than they were previously.

A consideration of people's confidence in their attitudes helps to address a somewhat puzzling question about persuasion: What happens to the old attitude when an attitude changes? It had previously been assumed that people's old attitude disappeared and was replaced by the new attitude (e.g., Anderson, 1981). However, given that people can vary in the confidence with which they hold an attitude, it is possible that when people change an attitude, the old attitude is simply held with less confidence than the new one. That is, both attitudes still exist, but they vary in the confidence with which people hold them. In the extreme case, a person might have completely lost confidence in the old attitude and have extreme confidence in the new attitude. In this sense, the old attitude is now associated with an "invalid" tag (Gilbert, 1991). Importantly, according to this PAST (Past Attitudes are Still There) model of attitude change (Petty, Wheeler, & Tormala, 2003), if people are unmotivated or unable to retrieve the invalid tag associated with the old attitude, it still might produce some impact on judgments and behavior. Influence from a prior attitude will remain possible until the invalid tag is so well practiced that it is retrieved automatically. If you ever felt strongly about something (e.g., cigarettes, chocolate cake, a significant other) and then experienced an attitude change (e.g., you now really and truly dislike the substance or person you previously liked), you may recognize that your first unthinking reaction to the object or person may be more in line with your old attitude than your new one (e.g., reaching for that piece of chocolate cake before remembering that it is forbidden by your new diet) (see also Petty, Gleicher, & Jarvis, 1993; Wilson, Lindsey, & Schooler, 2000).

### Caveat

Our discussion of the consequences of thoughtful versus nonthoughtful persuasion might make it appear that highly thoughtful attitude change is the persuasion technique of choice despite the potential difficulty in motivating and enabling people to think about the message. However, sometimes the peripheral route might be the only strategy possible. For example, there are some issues or objects for which there are few strong arguments (e.g., imagine trying to sell cigarettes with a high tar content). It is not surprising that in these cases, ads typically contain hardly any information about the merits of the product (because there are none or very few) and instead contain attractive endorsers or majestic scenery. In addition, as just noted, when attitudes are changed thoughtfully, they may be highly accessible and held with high confidence. Thus, they may be difficult to change even if they turn out to be wrong or maladaptive. Even if the attitudes are changed, they may continue to exert at least some impact over judgments and behavior for some time.

## Multiple Roles for Variables in the ELM

We have seen that there are two fundamentally different routes to persuasion—central and peripheral—and that these routes differ in the relative amounts of issue-relevant thought that are responsible for persuasion. In addition, we have seen that thoughtful and metacognitive processes can produce differences in the underlying strength of attitudes that appear to be quite similar on the surface. There is one additional essential aspect of the ELM that is important to understand: the idea that any one persuasion variable (e.g., source expertise, a person's mood) can assume more than one role in influencing attitudes. That is, any one variable can have an impact on attitudes due to the different processes outlined by the theory. First, variables can have an impact on persuasion by serving as arguments. An argument is a piece of information that provides some evidence regarding the true merits of the position taken. Information relevant to the merits of a proposal can come from any aspect of the persuasion situation. For example, if the spokesperson for a beauty cream says, "If you use this cream, you will look like me," the spokesperson's beauty serves as relevant information for evaluating the effectiveness of the product. If a travel ad shows pictures of a beautiful beach and sunset and states, "Visit Maui," the stunning pictures provide a good reason to visit that location. That is, the attractiveness of the person or scenery can serve as an appropriate issue-relevant argument for the right product. However, the same beautiful model or scenery would not serve as a cogent piece of evidence (argument) for a new car. When analyzed as evidence for a new car, that information would be weak and unpersuasive.

However, when people are not thinking very carefully about an advocacy, the same variable (e.g., an attractive source) that was evaluated as an argument under high-elaboration conditions can have an impact on persuasion by serving as a peripheral cue. For example, consider an advertisement featuring an attractive person who says, "Get your next car loan at my bank," or an ad featuring a new car on a beautiful beach with a gorgeous sunset. Here the attractiveness of the source and beach scenery indicates nothing about the true merits of the bank or car but, nevertheless, may allow favorable attitude formation in the absence of diligent consideration of the true merits of the products advertised. A person's attraction to the source or scene may become attached to the bank or car by a simple association process (e.g., Staats & Staats, 1957). For example, you may have noticed how the pleasant feelings induced by a fine meal in a majestic setting may become attached to the person with whom you are dining even though these feelings are really irrelevant to the merits of your companion.

A third way in which a variable can have an impact on persuasion, according to the ELM, is by determining the amount of thinking that people do about a message. For example, some people may be more curious about what an attractive person says than about what an unattractive person says and so may do more thinking about the message when the arguments are presented by an attractive source (DeBono & Harnish, 1988; Puckett, Petty, Cacioppo, & Fisher, 1983). Conversely, some people may be put in such a good mood by pleasant scenery, or may be so distracted by it, that they fail to think about the arguments presented for the product (Mackie & Worth, 1989).

Fourth, a variable can have an impact on persuasion by determining the kinds of thoughts that come to mind or the bias in thinking (Petty & Cacioppo, 1990). For example, some people may be very biased against attractive people and attempt to counterargue and derogate everything they say. Other people may be fascinated by attractive people and attempt to find

only good things in what they say. Similar biases in thinking can be induced by exposure to pleasant or unpleasant pictures that produce positive or negative mood states (Petty, Fabrigar, & Wegener, 2003).

Finally, variables can have an impact on what people think about their thoughts. Imagine that a person has very positive thoughts about an attractive source but then suddenly realizes that the source of these positive thoughts might be the attractive source rather than the merits of the arguments. To the extent that this occurs, people could lose confidence in their thoughts and decide not to rely on them (self-validation processes). Or, it is even possible that people, on reflection, believe that their judgment has become so biased that they need to correct for the bias. In such situations, people attempt to think about the extent of the bias that the variable has produced and then adjust their judgments for the magnitude and direction of the perceived bias (for a review of correction processes, see Wegener & Petty, 1997). If people overestimate the extent of the bias, this can produce an overcorrection, leading to a bias that is opposite to the original bias (e.g., Petty, Wegener, & White, 1998).

Implicit in the preceding discussion is that some variables can take on more than one role in persuasion settings. That is, certain variables have a chameleon quality in that they induce different processes in different situations. Thus, any given variable should not be thought of as exclusively fulfilling any one role. As seen in the preceding example, the attractiveness of the source of a message can function not only as an argument in some situations but also as a peripheral cue in other situations, as a determinant of the amount of bias in thinking in other circumstances, and/or as a clue to the validity of people's thoughts or attitudes in still other settings.

It is crucial to specify the general conditions under which variables such as source attractiveness (or mood) act in each of the distinct roles. For source attractiveness, the available evidence can be summarized as follows. Under conditions of low elaboration likelihood, source attractiveness will serve as a peripheral cue if it has any impact at all (Haugtvedt, Petty, Cacioppo, & Steidley, 1988). Under conditions of high elaboration likelihood, source attractiveness will not serve as a simple cue but may instead serve as a persuasive argument if it provides information that is central to the merits of the attitude object (Petty & Cacioppo, 1980), or it may bias the ongoing information processing activity. Under high elaboration conditions, source attractiveness could affect the perceived validity of one's thoughts or attitudes only if it becomes salient as a source of bias (Petty et al., 1998). Finally, under conditions of moderate elaboration likelihood, source attractiveness can influence the amount of argument elaboration (DeBono & Harnish, 1988; Puckett et al., 1983).

## CONCLUSIONS

In this chapter, we have outlined two different routes to persuasion that anchor an elaboration continuum. That is, we focused on the idea that persuasion can occur at different points along an elaboration continuum and that the processes that influence attitudes can also vary along this continuum. Furthermore, we demonstrated that variables tend to serve in several distinct roles at different points along this continuum. In any given persuasion situation, the location of the target of influence along the continuum is determined by a person's overall ability and motivation to think about the issue, object, or person under consideration. We also argued that understanding the mechanisms of persuasion is important because the basis of attitudes

(whether thoughtful or not) can lead to very different consequences. That is, research supports the idea that attitudes that are changed as a result of issue-relevant elaboration, as compared with reliance on simple cues, tend to (a) come to mind more easily, (b) last longer over time, (c) resist attempts at change, and (d) predict relevant behavior and other judgments better. Thus, it is useful to know not only how positive or negative someone's attitude is but also the extent of message elaboration that formed that attitude. In other words, a critical issue for understanding persuasion is whether attitude change is a result of the central or peripheral route to persuasion.

To think or not to think? That was the question facing Hamlet and Laertes when they came across the Great Dane ad. Can you guess what the consequences were of the different strategies that Hamlet and Laertes used to form their ratings of 8 on the 9-point scale of attitudes toward the sword? Because Hamlet's attitude was changed by way of the central route, he not only had a positive attitude toward the sword but he also purchased one that afternoon and practiced intensively, hoping to free himself of the thoughts that were driving him mad. In contrast, Laertes' attitude was changed by way of the peripheral route, and he did not purchase the sword. The next day, Hamlet and Laertes engaged in a duel and were asked to choose between two swords: the Great Dane and Brand X. Because his attitude came to mind more readily, Hamlet reached quickly and confidently for the Great Dane, whereas Laertes hesitated, winding up with Brand X. When the duel began, Hamlet scored easily, wielding his sword with competence and practice. [Unfortunately, Laertes cheated, striking Hamlet with a poisoned sword in between bouts. Hamlet, angered by this ungentlemanly act, grabbed Laertes' sword and struck Laertes in a similar manner. Consequently, both died within minutes. Thus, no data can be given on the relative persistence or resistance of their attitudes.]

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