INTRODUCTION

A critical assumption of most current attempts to understand consumer behavior is that people make decisions about such things as the make of car they will purchase, the supermarket at which they will shop, and where they will take their next vacation, based, in large part, on their overall attitudes toward those entities (see Ajzen and Fishbein 1980; Bettman 1986; Day 1973; Kasarjian 1982; Petty and Cacioppo 1983). In recognition of the importance of the attitude construct to marketing, Aaker and Myers (1987) noted that "brand attitude is the pillar on which the sales and profit fortunes of a giant corporation rest" (p. 160). After a period of considerable conflict among researchers regarding the definition of attitudes (see McGuire 1969) and their role in influencing behavior (see Wicker 1969), there is now a
consensus that it is useful to view attitudes as global and relatively enduring (i.e., stored in long-term memory) evaluations of objects, issues, or persons (e.g., Ajzen 1987; Cooper and Croyal 1984; Fazio 1986). These evaluations can be based on behavioral, cognitive, and affective information and experiences, and they are capable of guiding behavioral, cognitive, and affective responses ( Petty and Cacioppo 1986a; Zanna and RempeI 1988). That is, a person may come to like a new product only after being induced to purchase it, or after finding the claims in a magazine ad to be compelling, or after feeling pleasure in response to the background music in a commercial for the product. Similarly, if a person already evaluates a product positively, he or she may engage in the behavior of recommending it to friends, may process new ads for the product in a biased fashion, or may feel disgust when his or her favorite store discontinues the product line.

After intense exploration of the cognitive and behavioral underpinnings of attitudes during the 1960s and 1970s, the 1980s brought a renewed interest in the affective bases of attitudes (e.g., Abelson, Kiiiler, Peters, and Fiske 1982; Breckler 1984; Cacioppo and Petty 1982a; Caffe-rata and Tylbourn 1988; Edell and Burke 1984; Ouellet and Wilson 1986; Petty, Cacioppo, Sedikides, and Strathman 1988). Also, the last decade brought about an increasing appreciation of the idea that not all attitudes are created equally. That is, attitudes may come about through a variety of processes that imbue them with a multiplicity of characteristics and render them capable of inducing a diversity of consequences (e.g., Chaiken 1987; Fazio and Zanna 1981; Petty and Cacioppo 1981; Sherman 1987). For example, attitudes that result from direct experience with an attitude object tend to be more accessible in memory and differential behavior than similar attitudes formed without such experience (Fazio 1986). In this chapter we focus on the processes responsible for change in attitudes and the characteristics and consequences of these changes. Furthermore, our focus is on the theories that presently generate the bulk of contemporary empirical work on attitude change (for excellent previous reviews, see Imoko 1967; Kiesler, Collins, and Miller 1969).

In reviewing the various theories of attitude change that had developed over the previous five decades, Petty and Cacioppo (1981) concluded that, even though the many different theories had different names, postulates, and particular effects and variables that they specialized in explaining, these theories could be thought of as emphasizing just two relatively distinct "routes to persuasion." The first, or central route, focused on the information that a person had about the central merits of the object under consideration. Some of the central route approaches postulated that comprehending and learning the information about the object was critical for persuasion (e.g., Hovland, Janis, and Kelley 1953; McGuire 1968), whereas others focused more on the evaluation, elaboration, and integration of the information (e.g., Anderson 1981; Fishbein and Ajzen 1975; Petty, Ostrom, and Brock 1981). In contrast, the peripheral route approaches emphasized attitude changes that were brought about with the person thinking about information central to the merits of the attitude issue. Thus, the peripheral approaches dealt with changes resulting from rewards, punishments, and affective experiences that were associated directly with the attitude object (e.g., Staats and Staats 1958), changes resulting from simple inferences that people drew about the appropriate attitude to adopt based on their own behavior (e.g., Bem 1967), or changes brought about by other simple cues in the persuasion environment, such as the expertise of the source of the message (e.g., Chaiken 1980). We will review the current status of the major central and peripheral approaches to persuasion in this chapter.

In their Elaboration Likelihood Model (ELM) of persuasion, Petty and Cacioppo (1980; 1986b) proposed that the central and peripheral routes anchor an elaboration likelihood continuum. The processes emphasized by the central route theories should be largely responsible for attitude change on the high-elaboration end of this continuum (i.e., a person's motivation and ability to scrutinize issue-relevant information is high). The peripheral route processes should become more dominant as one moves down the continuum (i.e., when either motivation or the ability to process is attenuated). Furthermore, there should be differential consequences of the route to persuasion. The antecedents and consequences of the two routes to persuasion are depicted in Figure 7.1. Because the ELM provides a general context from which other persuasion theories may be understood, we begin our review of current theories with it and will use it to organize the chapter.

THE ELABORATION LIKELIHOOD MODEL OF PERSUASION

The ELM represents an attempt to integrate the many seemingly conflicting findings in the persuasion literature under one conceptual umbrella by specifying a finite number of ways in which source, message, and other variables have an impact on attitude change (Petty and Cacioppo 1981; 1986a). The ELM is based on the notion that people want to form correct beliefs and knowledge to carefully scrutinize and elaborate the issue-relevant arguments in the persuasive communication along the dimensions that are perceived central to the merit of the attitude object. According to the ELM, attitudes are changed by this central route and postulated to be relatively persistent, predictive of behavior, and resistant to change, until they are challenged by cogent contrary information along the dimension or dimensions perceived central to the merits of the attitude object.

The ELM recognizes that it is neither adaptive nor possible for people to exert considerable mental effort in processing all of the persuasive communications to which they are exposed (cf. Miller, Maruyama, Beaber, and Valone 1976; Robertson 1971). Indeed, people often act as "lazy organisms" (McGuire 1969) or "cognitive minimizers" (Tajfel 1981). This does not mean that people never form attitudes when motivation and/or ability to scrutinize a message are low, but rather that attitudes are more likely to be changed as a result of relatively simple associations (as in classical conditioning induced by pleasant music; Staats and Staats 1958), on-line inferences (as in the self-perception mandate, "I bought it, so I must like it"); Bem 1972), well-learned heuristics retrieved from memory (as in "experts are generally correct"; Chaiken 1980, 1987; Cialdini 1987), or category-based processing (as in "it's from a discount store, so it must be cheap"); Fiske and Pavelchak 1986; Sujan 1985) in these situations. Attitudes formed or changed by these peripheral route processes are postulated to be relatively less persistent, resistant, and predic-
Persuasive Communication

Motivated to Process?
(personal relevance; need for cognition; personal responsibility; etc.)

Yes

No

Peripheral Attitude Shift
Attitude is relatively temporary, susceptible, and unpredictable of behavior

Peripheral Cue Present?
(positve negative affect; attractive expert sources; number of arguments; etc.)

Yes

No

Ability to Process?
(distract; repetition; prior knowledge; message comprehensibility; etc.)

Yes

No

Nature of Cognitive Processing:
(initial attitude, argument quality, etc.)

Favorable Thoughts Predominate

Unfavorable Thoughts Predominate

Neither or Neutral Predominate

Cognitive Structure
Change:
Are new cognitions adopted and stored in memory; are different responses made salient than previously?

Yes (Favorable)

Yes (Unfavorable)

Central Positive Attitude Change

Central Negative Attitude Change

Attitude is relatively enduring, resistant, and predictable of behavior.

FIGURE 7.1 The Elaboration Likelihood Model of Persuasion
Schematic depiction of the central and peripheral routes to persuasion. This diagram depicts the possible endpoints on the elaboration likelihood continuum. Source: Adapted from Petty 1977; Petty and Cacioppo 1981a, 1986.

One of the earliest theories that explicitly acknowledged the different processes underlying attitude expression was Kelman's (1958) three process model. Kelman tied the type of persuasion largely to the source of the message—expert sources produced internalization (a permanent type of change based on personal acceptance of the message conclusion as one's own); attractive sources produced identification (change that was tied to a continued association with a desirable referent); or powerful sources produced compliance (change that was expressed only under the continued threat of rewards and punishments controlled by the source). Kelman's distinction of the different types of change is a useful one even though we explain in this chapter, the determinants of those changes have proven to be much more complicated than he initially suspected. The term "internalization" may be useful when referring to changes induced by the central route. The term "identification," however, refers to only one process by which attitudes may be changed by the peripheral route. The term "compliance" doesn't refer to real change at all, but only that expressed when the person is under appropriate scrutiny.

TABLE 7.1 Categorization and Examples of Individual and Situational Factors Affecting the Extent and Bias of Message Processing

<table>
<thead>
<tr>
<th>MOTIVATIONAL FACTORS</th>
<th>ABILITY FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RELATIVELY OBJECTIVE</strong></td>
<td><strong>RELATIVE BIAS</strong></td>
</tr>
<tr>
<td>Processing</td>
<td>Processing</td>
</tr>
<tr>
<td>induced</td>
<td>forewarning</td>
</tr>
<tr>
<td>need for personal</td>
<td>open/closed</td>
</tr>
<tr>
<td>cognizance</td>
<td>instructed</td>
</tr>
<tr>
<td>external</td>
<td>attitude</td>
</tr>
<tr>
<td>distraction</td>
<td>resistance</td>
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<tr>
<td>general</td>
<td>intelligence</td>
</tr>
<tr>
<td>intelligence</td>
<td>knowledge</td>
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</tbody>
</table>

This discussion highlights two ways in which variables can have an impact on persuasion. Variables (e.g., an attractive endorser) can serve as persuasive arguments, providing information as to the central merits of an object or issue, or they can serve as peripheral cues, allowing favorable or unfavorable attitude formation in the absence of a diligent consideration of the true merits of the object or issue. In addition, however, variables can have an impact on persuasion by influencing the extent to which the person is motivated and able to evaluate the merits of the issue-relevant information presented and the direction of elaboration (i.e., whether the thoughts elicited are relatively favorable or unfavorable). When conditions favor people's motivation and ability to engage in issue-relevant thinking, the "elaboration likelihood" is said to be high. Sometimes this elaboration occurs in a relatively objective manner, but sometimes the elaboration is biased. In contrast, when the elaboration likelihood is low, any attitude change that takes place is more likely to be the result of responding to peripheral cues in the persuasion context. In short, the elaboration likelihood moderates the route to persuasion.

Motivation versus Ability

The ELM holds that there are many variables capable of affecting elaboration and influencing the route to persuasion. Some variables affect a person's motivation to process issue-relevant arguments, whereas others affect their ability or opportunity to process these arguments. Some variables are part of the persuasion situation, whereas others are part of the individual. Some variables affect processing in a relatively objective manner, whereas others influence elaboration in a biased fashion. Table 7.1 illustrates variables falling into each cell of the 2 × 2 × 2 matrix.

Perhaps the most important variable affecting a person's motivation to process a message is the perceived personal relevance of the communication. When the personal importance of a message is high, people are motivated to scrutinize the information presented (Lippman and Elkins 1987; Petty and Cacioppo 1979b, 1990). In an advertising context, this means that when relevance is high, people may spend more time processing an ad and its claims, generating more favorable. When conditions favor people's motivation and ability to engage in issue-relevant thinking, the "elaboration likelihood" is said to be high. Sometimes this elaboration occurs in a relatively objective manner, but sometimes the elaboration is biased. In contrast, when the elaboration likelihood is low, any attitude change that takes place is more likely to be the result of responding to peripheral cues in the persuasion context. In short, the elaboration likelihood moderates the route to persuasion.
product-relevant thoughts and inferences, and spontaneously draw more conclusions about the product (Celis and Olson 1988; Kardes 1988). When perceived relevance is high, the extent of the attitude change is dependent upon the quality of the claims in an advertisement (Barnkran and Ummally 1989). When personal relevance is low, argument scrutiny is reduced and attitudes may be affected more by variables serving as peripheral cues, such as the celebrity status of the product endorsers or the attractiveness of the pictures in the ad (Minarti, Bhatai, and Rose 1988; Petty, Cacioppo, and Schumann 1980). For example, in store displays on message repetition, Schumann, Petty, and Clemons (1990) found that under high relevance conditions, product attitudes were influenced by providing new product arguments in the repeated ads, but that when relevance was low, attitudes were influenced by introducing new peripheral ad features (e.g., new headlines, pictures, etc.) over multiple exposures.

It is important to note that variables other than personal relevance can also affect the motivation to process a message. For example, people are more motivated to scrutinize information when they are solely responsible for doing so (Petty, Harkins, and White 1980) or when they are individually accountable (Tetlock 1983). Increasing the number of message sources has been shown to increase information processing activity (e.g., Harkins and Petty 1981, 1987; Moore and Reardon 1987), as has the use of rhetorical questions when issue-relevance is low (Barnkran and Howard 1984; Petty, Cacioppo, and Horsacker 1981; Swasy and Munch 1985). In contrast, messages that are overly quantitative may increase reliance on peripheral strategies because people are less motivated or able to process them (Yalch and Yalch 1984). Messages that are moderately inconsistent with an existing attitude schema may enhance processing over schema-consistent messages because the former may pose some threat that needs to be understood or some incongruity that needs to be resolved (Cacioppo and Petty 1979; Mandler 1982; Myers-Levy and Tybouth 1989).

In addition, there are individual differences in motivation to think about persuasive communications (Cacioppo and Petty 1980). People who enjoy thinking (high in "need for cognition") tend to form attitudes on the basis of the quality of the arguments in a message, thereby following the central route to persuasion (Cacioppo, Petty, and Morris 1983). People who do not enjoy thinking are more reliant on simpler peripheral cues in the persuasion context (Asch, Yates, and Chakeen 1987; Cacioppo and Petty 1984; Haugetvedt, Petty, Cacioppo, and Steilieley 1988). Also, some variables affect a person's motivation to think in a relatively objective manner, but others affect motivation in a relatively biased fashion. For example, when people are forewarned of a speaker's persuasive intent, they become motivated to counterargue the message in order to defend their initial positions rather than process the message objectively (Petty and Cacioppo 1979a). On the other hand, two-sided messages may inhibit counterarguing compared with one-sided messages, since they make the source appear less biased (Kanins and Assael 1987).

Among the important variables affecting a person's ability to process issue-relevant arguments is message repetition. Moderate message repetition provides more opportunities for argument scrutiny (e.g., Cacioppo and Petty 1979; Gorn and Goldberg 1980; Raths, Swasy, and Marks 1986), which will prove beneficial for persuasion as long as the arguments are strong and tenacious is not induced (Batra and Ray 1986; Cacioppo and Petty 1989; Cox and Cox 1988). Distraction, however, reduces argument elaboration, which can be beneficial when the message would have been easily counterargued (Petty, Wells, and Brock 1976). People are also generally better able to process messages that appear in print than those that are controlled externally (e.g., radio and TV; Chaiken and Eagly 1976; Wright 1980). On the other hand, placing time pressures on processing increases reliance on simple cues (e.g., Kingland and Freund 1983).

Some variables, such as distraction, affect ability in a relatively objective manner, but others bias one's ability. For example, people tend to have more information in favor of their attitudes than against them, increasing knowledge tends to make them more able to counterargue opposing communications and bolster congruent ones (e.g., Lord, Lepper, and Ross 1979). Knowledge is only effective, however, to the extent that it is accessible. For example, in one study, children's prior knowledge about the misleading aspects of commercials helped them resist an advertisement only when they had knowledge that was primed with a test shortly before the ad presentation (Brucks, Armstrong, and Goldberg 1988). When attitude consistent knowledge is low or inaccessible, people are less able to counterargue (e.g., Burke, De Sarbo, Oliver, and Robertson 1988) and more reliant on simple cues (cf. Alba and Hutchinson 1987). For example, in one study, increasing the number of claims about a bicycle increased persuasion for people who had little knowledge about bikes even though the claims were weak. For bicycle experts, however, the message became less effective as more weak claims were added (Alba and Marmorstein 1987; see also, Wood, Kallgren, and Prieder 1985; Wood and Kallgren 1988).

Finally, it is important to note that in most communication settings, a confluence of factors determines the nature of information processing rather than one variable acting in isolation. When multiple variables are involved, interaction effects are possible. For example, rhetorical questions tend to increase thinking when motivation would normally be low, but are distracting when motivation is high (Munch and Swasy 1988; Petty, Cacioppo, and Horsacker 1981; Swasy and Munch 1985). The next decade is likely to see more research on the interacting effects of variables affecting motivation and ability to process ads.

### Multiple Roles for Variables

As noted above, the ELM holds that variables can serve in one of several distinct capacities in persuasion situations. The variable can serve as an argument, it can serve as a cue, or it can affect the extent or nature of information processing. One of the powerful, albeit complicating, features of the ELM is that any one variable can serve in multiple roles, though in different situations. For example, consider the question of how the "price" of a product is related to product evaluations (e.g., Leavitt 1954; Rao and Monroe 1988). Imagine that people are first exposed to ads for a $10 widget, and then a $50 widget. Each ad contains four different arguments that are equally strong. Which widget will be rated as better, and why? Person A, who is completely unfamiliar with gadgets, rates the $50 widget as better, by employing the rule of thumb, "the more it costs, the better it must be." Person B, who is a widget expert, also rates the $50 widget as better, but this judgment is based on the expert's knowledge that the price of widgets is carefully controlled by the government to reflect quality. Person C, who is only moderately familiar with gadgets, rates the $50 widget as better because the price information caused him to think about the other arguments in the ad. Since Person C knew that most widgets sell for $8 to $12, Person C was very curious about the $50 widget, processed the strong arguments carefully, and became convinced. In short, for Person A, price served as a peripheral cue; for Person B it served as a product-relevant argument; and for Person C it served as a motivator of thought.

The fact that variables can have the same impact on judgments via different processes makes it essential that the conditions under
which each process operates are identified. Research on this problem is just beginning, but existing literature already suggests the conditions under which source factors can serve in each of the three roles postulated by the ELM. In one study, for instance, people who were high and low in their need for cognition (Cacioppo and Petty 1982b) were exposed to an advertisement for an electric typewriter featuring either attractive or unattractive endorsers (Haugtvedt et al. 1988). Subjects who were low in need for cognition were influenced by the simple cue of attractiveness, but people who characteristically enjoyed thinking were not. In this study, the attractiveness of the endorsers was completely tangential to the merits of the attitude object—a typewriter.

For other objects, however, source attractiveness could provide information that is central to an evaluation of merit. In these situations, source attractiveness should be an important determinant of attitudes when the elaboration likelihood is high. In a study relevant to this notion, subjects were exposed to an advertisement for a new shampoo product that featured either two attractive or two unattractive endorsers (Petty and Cacioppo 1980). In addition, the motivation of subjects to process the ad was manipulated. Unlike the previously discussed typewriter study, in this research the attractiveness of the endorsers was potentially relevant to determining the merits of the product (e.g., “the shampoo will make my hair look like that of the endorsers”), and source attractiveness had an impact on attitudes toward the shampoo. Under high-relevance as well as under low-relevance conditions: This is the expected result if the attractiveness served as a pertinent product argument when the elaboration likelihood was high, but served as a peripheral cue when elaboration likelihood was low (cf. Kahle and Homer 1985).

Finally, source attractiveness should also be capable of affecting the extent of argument processing. In one study, for example, subjects were evaluated strong or weak essays attributed to attractive or unattractive sources (Puckett, Petty, Cacioppo, and Fisher 1983). In this study, the relevance of the message was neither particularly high nor low, and the major finding was that the arguments were more carefully processed when they were associated with the attractive sources.

In sum, these studies have shown that under conditions of relatively low elaboration likelihood, increased source attractiveness, if it has any impact at all, serves as a peripheral cue, enhancing attitudes regardless of whether a message contains strong or weak arguments. Under conditions of relatively high elaboration likelihood, source attractiveness is less important as a peripheral cue, and may serve as a persuasive argument if it provides information central to the merits of the attitude object. Finally, under conditions of moderate elaboration likelihood, source attractiveness affects the extent of argument elaboration.

When the elaboration likelihood is high (e.g., having high personal relevance, high knowledge, a simple message in print, having no distractors, etc.), people typically know what they want, and are able to evaluate the merits of the arguments presented, and they do so. Simple peripheral cues have relatively little impact on these evaluations. However, when the elaboration likelihood is low, people know what they do not want or they are not able to evaluate the merits of the arguments presented, or they do not even consider exerting effort to process the message. Thus, if any evaluation is formed, it is likely to be the result of relatively simple associations or inferences. When the elaboration likelihood is moderate (e.g., uncertain personal relevance, moderate knowledge, moderate complexity, etc.), however, people may be unsure as to whether the message warrants or needs scrutiny, and as to whether or not they are capable of providing this analysis. In these situations, they may examine the persuasion context for indications (e.g., is the source credible?) as to whether or not they should attempt to process the message.

A number of studies have examined the impact of variables at two levels of elaboration likelihood (high and low), and these studies have provided evidence for the trade-off between argument processing and cue effects posited by the ELM (see review by Petty and Cacioppo 1986a). For example, Sanbonmatsu and Kardes (1988) exposed subjects to ads immediately after exercise (low elaboration likelihood) or after being allowed to rest (high elaboration likelihood). Immediately after exercise, attitudes were influenced by peripheral cues in the ad (endorsement by a celebrity), but not by the quality of the claims. After resting, however, attitudes were affected by the quality of the claims, but not by the peripheral cues.

Two experiments have examined the effects of a variable across three distinct levels of elaboration likelihood (Moore, Hausknecht, and Thamodaran 1986; Perham and Estahom 1990) and have provided support for the ELM predictions outlined above (see Petty, Kusmer, Haugtvedt, and Cacioppo 1987). For example, Moore et al. (Experiment 3) found that when a message was presented at a very rapid pace so that it was quite difficult to process, people were greatly influenced by the expertise of the product endorser, but the quality of the arguments for the product had little effect. When the message was presented at a normal pace and was quite easy to process, the quality of arguments in the ad made a difference, but the expertise of the endorser was reduced in importance compared to the last-message presentation. Finally, when the message was presented at a moderately fast pace and processing was possible but challenging, the expertise of the endorser determined how much processing occurred—the expert source induced more thinking than the nonexpert source.

Now that we have outlined the ELM, we will use it as an organizing framework for the remainder of the chapter.

Although a number of studies have provided support for the basic posits of the ELM, more work is needed on the specific variables that serve as arguments, cues, and determinants of thought in the various consumer behavior contexts (cf. Bruner and Obermiller 1985).
ed (e.g., Kardes 1986; Keller 1987; Lynch, Marmorstein, and Weigold 1988). That is, the same piece of information recalled might be positively viewed by one person, but negatively viewed by another. When recalled information is weighted by a person's idiosyncratic evaluation of it, attitude-recall relationships can be increased (e.g., Chattapadhyay and Alba 1988).

Second, argument learning and recall might not relate to persuasion even if perceptions of argument quality were controlled because a person might not find all of the arguments equally relevant for assessing the validity of the message, or equally diagnostic in allowing a comparison among alternatives (Feldman and Lynch 1988). If a person is processing a message as it is received and is evaluating the information it contains, it is likely that an attitude will emerge following the communication. To the extent that both relevant and irrelevant arguments are equally accessible immediately following message exposure, but considering that only relevant arguments enter into the attitude, and thus only relevant arguments control the immediate response and recall could occur. Even if memory for relevant over irrelevant arguments increased with time, a low correlation between attitudes and message recall could still occur at a delayed testing if some determinants of which arguments are recalled (such as novelty), are independent of the determinants that such arguments are impactful (e.g., relevance).

On the other hand, if a person is not forming an attitude as a message is received, but must express an opinion at a later point in time, then the judgment should be dependent on the implications of the information that can be recalled of that information is perceived relevant at the time of judgment. Researchers who have distinguished between attitudes formed during information exposure (spontaneous or on-line judgments) and attitudes formed subsequent to message exposure, have shown that the latter type of judgment has a greater relationship to the information recalled (e.g., Hovland, Lumsdaine, and Sheffield 1949; Hovland and Lumsdaine 1950; Hastie and Park 1986; Lichtenstein and Srull 1985; Loken and Hoverstad, 1985). One way to increase the likelihood that product information from an advertisement will be recalled at the time of purchase is to place retrieval cues on the product package (Keller 1987).

Augmenting and Discounting Cues. Another important reason why message recall may be unresponsive to persuasion is that, as we noted in our discussion of the ELM, factors other than message arguments play a role in producing attitude change. The Yale group explicitly acknowledged the potential impact of "peripheral cues" in their work on the "sleeper effect." A sleeper effect is said to occur when a message that is accompanied initially by a negative cue (e.g., a low credible source) increases in effectiveness over time (Cook, Gruder, Henning, and Flay 1979; Pratkanis, Greenwald, Loppe, and Baumgardner 1988). To account for this effect, Kelman and Howland (1953) proposed that in addition to message arguments, various cues could have an impact on attitude change. These cues were thought to add to the effects of the persuasive message. Thus, if a message alone would produce 3 units of change, the addition of an augmenting cue (e.g., a trustworthy source) might add an additional 3 units of change. Similarly, the addition of a discounting cue might produce an effect of -3 or when added to the +3 of the message, the net result is that no (zero) initial change would occur.

Of considerable importance, the cue and message were viewed as independent and were postulated to have different decay functions. Given this formulation, Cook et al. (1979) proposed that a sleeper effect would be produced if a person were exposed to a message with a discounting cue and the following conditions were met: (1) the message alone had a strong positive impact, (2) the discounting cue was sufficiently negative to suppress the positive impact of the message, and (3) the decay function for cue and arguments was such that the discounting cue was dissociated from the message conclusion more quickly than the conclusion was dissociated from the message arguments. Under these conditions it is possible for the positive residue of the message to have outlasted the negative effect of the cue, leading to increased agreement with the message conclusion over time.

The postulated conditions leading to a sleeper effect are unique and have several implications. In particular, the discounting cue formulation requires that the effects of a low credible source and of strong message arguments operate jointly and additively. Yet, the ELM holds that there is typically a trade-off between the operation of source factors and the impact of message arguments, and the interaction between them. When the elaboration likelihood is high, arguments should be the primary determinant of persuasion, but when the elaboration likelihood is low, source and other cues should dominate. When the elaboration likelihood is moderate, the nature of the source could determine the extent of argument processing.

Interestingly, in the 20 years following the Kelman and Howland study, so few sleeper effects studies had appeared in the literature that some researchers declared that the effect did not exist (Gilling and Greenwald 1974). One key to producing a sleeper effect is to construct a situation in which both a strong negative cue and strong arguments have an initial impact. As noted previously, however, this should be difficult to produce because of the trade-off between the two, or because of an interaction between them (e.g., if the source is initially presented as untrustworthy, people may choose to ignore the message, thereby curtailing one of the critical conditions for the effect). A closer resolution to this dilemma is to have subjects process the message so that the strength of the arguments is realized, and following this present a discounting cue that causes subjects to doubt the validity of the message. This is the procedure employed in the successful sleeper effect studies by Kelman and Howland (1953), Cook et al. (1979), and Mazursky and Schul (1988). In a compelling series of studies, Pratkanis and colleagues (1988) showed that presenting the discounting cue after the message may be critical for obtaining a reliable sleeper effect.  

In sum, after a period in which persuasion theorists generally dismissed recall and learning processes from the list of persuasion mediators, information recall has often been the focus of persuasion research.
current research has documented conclusively that there is a specific role for a memory-based approach. In addition to working on the conditions under which argument recall will be related to attitudes, current work on learning and memory processes in persuasion is focusing on questions such as (1) the situational and contextual determinants of what information will be recalled (e.g., Kiescher and Sternthal 1984, 1986; MacKenzie 1986; Schul and Burnstein 1983; Sherer and Rogers 1984; Weldon and Malpass 1981), (2) how arguments are represented in memory (e.g., Schmidt and Sherman 1984), and (3) individual differences in message recall (e.g., Cacioppo, Petty, and Morris 1983; Reardon and Rosen 1984).

**Self-Persuasion Approaches**

**Cognitive Response Approach.** The cognitive response approach was developed as an explicit attempt to salvage a learning view of persuasion when it had been challenged by numerous findings of low attitude-recall correlations. Greenwald (1968) proposed that it was not the specific arguments in a message which were paired with the message conclusion in memory, as the Yale group had suggested, but rather, that it was a person's thoughts in response to the message which were paired with the conclusion and responsible for persuasion (see also, Brock 1967). To the extent that a person's thoughts in response to the message were favorable, persuasion would result, but to the extent that they were unfavorable (e.g., counterarguments), resistance or even a backfiring effect was likely (Petty, Ostrom, and Brock 1981). Greenwald further proposed that persistence of persuasion depended upon the decay function for cognitive responses rather than decay of message arguments per se. (See Kiescher and Sternthal's (1986) "availability-valence hypothesis" for a similar notion.)

The cognitive response approach has generated a considerable body of evidence consistent with the view that in certain situations people spontaneously produce cognitive responses during message presentation, and that these thoughts are good predictors of postmessage attitudes and beliefs (e.g., Hastak and Olson 1989; see reviews by Eagly and Chaiken 1985; Perloff and Brock 1980; Petty and Cacioppo 1986a). In a typical study, message recipients list or verbally report their thoughts either during or after the message and it is found that (1) physiological activity indicative of information processing (e.g., speech EMG) is elevated when cognitive responding is presumed to occur; (2) thought profiles show the same pattern as the attitude measure in response to some manipulation (e.g., the manipulation produces increased persuasion and increased favorable thoughts and/or decreased unfavorable thoughts); (3) the polarity of these thoughts (e.g., positive, negative) is a good predictor of the postmessage attitude, and (4) when the effects of some manipulation on thoughts is removed, then the effect of the manipulation on attitudes is removed, but the reverse does not occur (for reviews see Cacioppo & Petty 1981a, 1981b, 1980). In addition to simply categorizing thoughts as to whether or not they are favorable toward the advocacy, other coding procedures have been developed (e.g., recipient-generated or externally originated thoughts, as in Greenwald 1968; cognitive versus affective reactions, as in Buehler and Higgins 1981; source versus message thoughts, as in Chaiken 1980; Wright 1980; self-oriented or non-self thoughts, as in Shaw and Brock 1986, and others). The ELM holds that it is important to distinguish between cognitive responses that are based on arguments scrutiny (e.g., counterarguments) and cognitive responses that are based on peripheral cues (e.g., source derogations). The former category of thoughts is a better predictor of attitude when the elaboration likelihood is high, but the latter is more predictive when the elaboration likelihood is low (e.g., Wright 1974; Chaiken 1980; Petty and Cacioppo 1979b, 1984a).

Current work on cognitive responses to advertising continues to explore the extent to which issue-relevant elaboration is determined by motivational and ability factors (e.g., Cacioppo and Olson 1988; Sujan and Dekleva 1987), the role of cognitive responses as mediators of belief structure and brand attitudes (e.g., Hastak and Olson 1989), and the specific cognitive responses that are most predictive of attitudes. For example, Chattopadhyay and Allen (1988) compared the predictive utility of cognitive response to ads that were "single fact interpretations" (50 mpg translated into "good gas mileage") with "abstractions" (50 mpg translated into "economical"). They found that the latter, accounted for more variance in attitudes after traditional assessments of support and counter-argumentation were taken out.

**Role-playing Research.** Just as a person's thoughts in response to a persuasive message can determine the extent and direction of attitude change, too can a person's thoughts in the absence of any explicit external message. The powerful and persisting effect of completely self-generated messages was shown in early research on "role-playing" (e.g., Janis and King 1954; Watts 1967, see also Higgins and McCann 1984). In this research, people were typically asked to generate messages on certain topics (e.g., the dangers of smoking), and the subsequent attitudes of these people were compared with those in a control group who had either passively listened to the communication or who had received no message. A consistent result was that active generation of a message was a successful strategy for producing attitude change, and these changes persisted longer than changes based on passive exposure to a communication (e.g., Elms 1966, see also Huesmann, Eron, Klein, and Fischer 1983). In addition, some research showed that people found their own arguments to be more original than those generated by others, and self-generated arguments were also more memorable (Greenwald and Albert 1968; Slamecka and Graf 1978).

**Generating Explanations and Imaging Events.** In another recent stream of experiments, the effects of asking people to generate explanations for some proposition or to imagine the occurrence of some event have been examined. For example, in one study, students were presented with detailed case histories that led them to explain why high (or low) riskness was associated with being a good fireman (Anderson, Lepper, and Ross 1980). Those led to think about why high riskness predicted survival continued to believe in this relationship, whereas those led to think about the opposite continued to believe in it even after it became clear that the case histories upon which the explanations were based were completely false.

Similarly, people who are asked to imagine hypothetical events (e.g., that Ohio State will beat UCLA in the Rose Bowl) come to believe that these events have a higher likelihood of occurrence (e.g., Sherman, Cialdini, Schwartzman, and Rynolds 1985). Consistent with the earlier work on "role-playing," the work on generating explanations and imaging events has shown convincingly that self-generation is a powerful way to change beliefs, and that these beliefs are remarkably impervious to change (see also, Lepper, Ross, and Lsu 1986; Sherman, Zehner, Johnson, and Hirt 1983).

**Research on More Thought.** Finally, in an extensive series of studies, Tesser (1978) and his colleagues have examined the effects of merely asking someone to think about an issue, object, or person. For example, in one early study, Tesser's (1973) introduced subjects to a likable or dislikeable partner (via tape recording). Some of the subjects were instructed to think about the partner, whereas others were disoriented in doing so. The thinking manipulation polarized judgments of the partner. Specifically, enhanced thinking was associated with more favorable evaluations of the likeable partner, but less favorable ratings of the dislikeable partner.

Current research indicates that both moderation and polarization may result from thinking about more thought. Specifically, the polarization effect requires that subjects have a well-integrated schema to guide processing and that they are motivated to employ this issue-relevant knowledge (Chaiken and Yates 1985; Tesser and Leone 1977). In the absence of these conditions, such as when thinking is low or when the issue-relevant information is memory-represent independent dimensions of knowledge rather than a highly interconnected
(correlated) system of beliefs, mere thought can lead to attitude moderation (e.g., Judd and Luker 1984, Lurie 1982, Miller and Feser 1986b). In sum, the cognitive response approach and research on self-generated attitude and belief change has demonstrated quite conclusively that active thought processes often accompany attitude change, and that self-generated change can be quite enduring. The cognitive response approach in particular was critical in identifying variables that both increase and decrease the likelihood of thinking when a person is confronted by a persuasive message.

**Expectancy-Value Approach**

The message learning approach and the self-persuasion approach focus on the information that is responsible for persuasion. The former approach highlights the information provided to the message recipient by the source of the communication, whereas the latter approach emphasizes the information and inferences that recipients generate either on their own, or in response to the externally provided information. Neither approach, however, has much to say about the particular features of the information that are critical for influencing attitudes.

Expectancy-value theorists analyze attitudes by focusing on the extent to which people expect the attitude issue to be related to important values or produce positive or negative consequences (e.g., Peak 1955, Rosenberg 1956, see reviews by Bagarozzi 1984, 1985). In one influential expectancy-value model, Fishbein and Ajzen (1975) and Ajzen and Fishbein (1980) hold that the attributes (or consequences) associated with an attitude object are evaluated along two dimensions. First, a person considers the likelihood that an attribute or consequence is associated with the object, and, second, the person considers the desirability of that attribute or consequence. Although some questions have been raised about the necessity of one or the other of these components, a monumental body of research supports the idea that attitudes toward objects, issues, and people are more favorable the more that likely desirable consequences (or attributes) and unlikely undesirable consequences are associated with them (for reviews see Ajzen and Fishbein 1980; Fishbein 1980; Fishbein and Ajzen 1975; Pieters 1988; Wilkie and Pessin 1973).

The major implication of this theory for attitude change is that a persuasive message will be effective to the extent that it produces a change in either the likelihood or the desirability component of the attitude (cf. Aronson and Lutz 1988). For example, consider a person who prior to message exposure believes that Detergent X has a 0.7 chance of getting his clothes clean (a consequence valued at +4 on a 10-point scale). The message will produce a more positive attitude toward Detergent X to the extent that either the likelihood is increased beyond 0.7, or the value of clean clothes is increased beyond +4. Given the wide applicability of Fishbein and Ajzen's approach and the extensive number of studies documenting the link between attitudes and the likelihood and desirability components of beliefs, it is perhaps surprising that relatively little work on attitude change has been guided explicitly by this framework. Nevertheless, existing research supports the view that advertisements may influence attitudes by changing either the evaluation or the likelihood component of beliefs (e.g., Lutz 1975; MacKenzie 1986). Also, as might be expected given the thoughtful processing assumed by this approach, research indicates that the expectancy-value framework may account for less variance in attitudes when topic-relevant knowledge is low (e.g., Lutz 1977; Olson, Toy, and Dover 1978).

**Functional Approaches**

In their theory of reasoned action, Fishbein and Ajzen speculate that five to seven attributes or consequences are critical in determining a person's overall attitude. It is not clear, however, which particular attributes will be the most important. Functional theories of persuasion focus on the specific needs or functions that attitudes serve for a person and are therefore relevant for understanding the underlying dimensions of the attitude that are necessary to change (see Lutz 1981). Katz (1960) and others (e.g., Smith, Bronner, and White 1956) have distinguished various functions that attitudes might serve for a person. For example, some attitudes protect people from threatening truths about themselves or serve to enhance their own self-image ("ego-defensive function"). Other attitudes serve to give expression to important values ("value expressive function") or to help people understand the world around them ("knowledge function"). Still other attitudes may be formed in order to gain explicit rewards and/or to avoid punishments ("utilitarian function").

After an extended period of neglect, persuasion researchers are beginning to show renewed interest in functional theories. Researchers initially lost interest in these theories because it was not possible to assess what specific functions attitudes held for people. At present, several solutions to this problem have been suggested. One solution is to propose that there are categories of people for whom a wide variety of attitudes serve the same function (e.g., Prentice 1987). For example, Snyder and DeBono (1985) hypothesized that the self-monitoring scale (Snyder 1974) could be used to differentiate the functional basis of attitudes for different groups of people. According to Snyder (1979), people high in "self-monitoring" typically strive to be the type of person called for by each unique situation, whereas the behavior of people low in self-monitoring is guided more by their own internal dispositions. Snyder and DeBono hypothesized that the attitudes of high self-monitors would serve primarily a "value-expressive function," whereas the attitudes of high self-monitors would serve primarily a "social adjunctive function" (e.g., adopting attitudes that provide rewards from valued peers). Consistent with this reasoning, in several studies high self-monitors were found to be more susceptible to arguments addressing social adjustment concerns (e.g., the image associated with a consumer product), whereas low self-monitors were more susceptible to arguments addressing value-expressive concerns (e.g., the quality of a consumer product; Snyder and DeBono 1987, 1989; see also DeBono 1987). DeBono and Harnish (1988) have also employed a functional analysis to predict which sources would affect information processing for high and low self-monitors. Specifically, they proposed and found evidence for the view that an attractive source would engender more interest and enhance message processing for the image-oriented high self-monitors, but that an expert source would enhance processing for the more value-expressive low self-monitors.

An alternative to the personality approach to functional theory is to propose that many issues and objects serve a common function for a wide variety of people (e.g., Shavitt, 1989). For example, attitudes toward air-conditioners probably serve a utilitarian function for most people and thus would be more susceptible to utilitarian rather than ego-defensive arguments. Herek (1987), in a third approach, has employed the thought-listing procedure to analyze an individual level the functional bases of attitudes.

Despite the promising new directions in functional theory, some problems remain. The Herek (1987) procedure allows functions to be assessed post hoc, which is useful for understanding the basis of individuals' attitudes and designing individual persuasion treatments, but is less amenable to a mass communication context unless the functional basis of an attitude is widespread. The Shavitt (1989) proposition that functions are inherent in attitude objects seems applicable to only a limited domain of attitude entities. The personality strategy of Snyder and DeBono (1989) could be quite useful if evidence shows that other personality variables are linked consistently to particular functions (e.g., for high authoritarians, attitudes serve an ego-defensive function; Snyder and DeBono 1989).

**Dissonance Theory**

Just as functional theories hold that attitudes serve important needs for individuals, dissonance theory holds that attitudes may often be in the service of maintaining a need for consis-

In Festinger's original formu-
lution of dissonance theory, two elements in a cognitive system (e.g., a belief and an attitude; an attitude and a behavior) were said to be consonant if one followed from the other (e.g., I bought a Chevrolet, it was rated highly in Consumer Reports), and dissonant if one implied the opposite of the other (e.g., I bought a Chevrolet; it was rated poorly). Of course, two elements could also be irrelevant to each other (I bought a Chevrolet, the sky is blue). Festinger proposed that the psychological state of dissonance was aversive and that people would be motivated to reduce it. One of the more interesting dissonance situations occurs when a person's behavior is in conflict with his or her attitudes or beliefs because behavior is usually difficult to undo. According to the theory, however, dissonance may be reduced by bringing beliefs and attitudes into line with the behavior.

Although the most studied dissonance paradigm involves the "forced compliance" situation in which people are induced to engage in behavior that is contrary to their original attitudes and beliefs (e.g., Festinger and Carlsmith 1959), the dissonance paradigm most relevant to consumer attitudes involves the consequences of choice among alternatives (Petty and Cacioppo 1984). As a result of virtually any choice a person must accept the negative features and consequences of the chosen alternative, and must forgo the positive features and consequences of the rejected alternative. Considerable research supports the proposition that as a result of a choice among alternatives, people will come to view the selected alternative as more desirable, and view the rejected alternative as less attractive (Wicklund and Brehm 1976).

For example, in one early study, Brehm (1956) told female students that various manufacturers were interested in determining consumer reactions to certain products. The women rated the desirability of a wide variety of products (e.g., a stopwatch, a portable radio), and then were given a choice of two products to take home with them in payment for their participation. In the control condition, the women were given a product by the investigator and thus made no decision on their own. After the selection or gift of a product, the women read some reports about some of the products and then were asked to rate them again. As expected by dissonance theory, the women who were responsible for their own choices came to overvalue the chosen product and undervalue the rejected product. The women in the control group did not show a reevaluation of the products they had been given. Similar results have been obtained in other research on evaluations of products (e.g., Holloway 1967, LoSciuto and Perloff 1967, Sheft 1970).

Following the early work on choice, current research has shown that the spreading apart of chosen and rejected alternatives is greater when (1) the two alternatives are close in their rated desirability but have dissimilar features (Wicklund and Brehm 1976), (2) the choice is irreversible (Brehm and Cohen 1962), (3) there is sufficient time to think about the choice (Frey, Kumpf, Irele and Grether 1981), and (4) the expected consequences of the choice are iniminent (Gerard and White 1983).

Although the work on choice among alternatives has produced a reasonably coherent pattern of results, other aspects of dissonance theory were more controversial (e.g., Chapkas and Chapkas 1964), and several competing formulations were proposed for the same reason (e.g., this is known as the concept of salience). Although it is now clear that many of the behaviors described by Festinger induce people in an "unpleasant tension," (see Fazio and Cooper 1983), current research has begun to focus more on understanding the precise cause of that tension. For example, some have questioned Festinger's assumption that the behavior produces tension in many people. Rather, some argue that people must believe that by their behavior they have freely chosen to bring about some foreseeable negative consequence (e.g., Cooper and Fazio 1984; Scher and Cooper 1989), or that the inconsistency involves a crucial aspect of oneself or a threat to one's positive self-concept (e.g., Aronson 1968; Greenwald and Ross 1978; Steele 1988). Of course, bringing about negative consequences is inconsistent with most people's views of themselves as rational, caring individuals. Festinger originally hypothesized that inconsistency among personally important elements would induce more dissonance than inconsistency among more trivial elements. Thus, some have speculated that Festinger was correct in asserting that inconsistency per se was dissonance arousing, but that many (e.g., non-self-relevant) inconsistencies produce trivial (undetectable) amounts of dissonance (e.g., Berkowitz and Devine 1989).

Although dissonance theory continues to generate interest in consumer psychology (Cooper and Fazio 1989), it does not presently generate much research on consumer behavior. Nevertheless, it is now quite clear that dissonance can lead to increased cognitive activity designed to reduce a cognitive conflict. Dissonance may result in a reappraisal of the reasons why a person engaged in a certain behavior or made a certain choice, and it may cause a person to rethink the merits of an attitude object. The end result of this reappraisal can be a change in attitude toward the object.

PERIPHERAL ROUTE APPEALS

Each of the central route approaches described previously assumed that attitude change resulted from people actively considering the merits of some position. People were proposed to be learning and elaborating arguments, or to be self-generated dissonance to explain or justify some outcome or behavior. In some theories the processing appeared to be relatively objective (e.g., the message learning model).

In contrast to dissonance theory, "balance theory" (Hidler 1958) holds that inconsistency pressures may sometimes lead to attitude change by a simple inference process rather than through an analysis of the merits of the attitude object. In particular, the theory holds that balance occurs when people agree with people they like, or disagree with people that they dislike. This theory accounts for why a person would come to like a product more after it is endorsed by a favorite sports star. The theory holds that imbalance (e.g., disagreeing with someone you like) leads to attitude change toward the product (or the product endorser) in the direction of balance (see Indo 1981, 1984 for an extended discussion). A related formulation, congruity theory, holds that attitudes toward both source and object change to restore congruity (Champion and Tannenbaum 1955).

whereas in others the processing was clearly biased (e.g., the theory of cognitive dissonance), but in each case, learning, analyzing, and/or generating reasons to hold a position were central to the theory. The class of theories that we discuss next do not share this assumption. Instead, these theories suggest that people often prefer to conserve their cognitive resources. We begin with theories that emphasize inference and heuristic processes in persuasion, and we conclude with theories that emphasize the association of affect with attitude objects.

Inference Approaches

Attribution Theory. The 1970s brought an explosion of interest within psychology in examining how people came to understand the causes of their own and others' behavior. The gist of this attributional approach was that people made inferences about the underlying characteristics of themselves and others from the behaviors that they observed and the situational constraints imposed on these behaviors (e.g., Jones and Davis 1965; Kelley 1967).

In a provocative paper, Ben (1965) suggested that people were motivated to have no special knowledge of their own internal states and simply infer their attitudes in a manner similar to that by which they infer the attitudes of others. In his self-perception theory, Ben reasoned that just as people would assume that the behavior of others was a context in which it occurs provides information about the person's attitude toward the object, and thus draw an opposite conclusion about the person's own attitude provide information about the person's own attitude (Ben 1972).

The overjustification effect is one phenomenon that is explained nicely by Ben's formulation. This effect occurs when a person is provided with more than sufficient reward for some action that is already highly valued by the person (e.g., Lepper, Greene, and Nisbett 1973). To the extent that the person comes to attribute the action to the external reward rather than to the intrinsic enjoyment of the behavior, attitudes toward the behavior will become less favorable (Deci 1975; cf. Greene, Gorento, and Shakes- ford 1988). Thus, if people are provided with
continuous extrinsic rewards for using a product that they already like, they may come to devalue the product when the external rewards stop. They may devalue the product to the extent that they view their product-relevant behavior as caused by the rewards rather than by the true merits of the product. Consistent with this reasoning, Scott and Yalcin (1978) found that external rewards for trying a new product could undermine liking for it.

According to the E.M., people should be more likely to rely on this relatively simple inference process when well-defined attitudes are not very accessible, or the elaboration likelihood is low (see Tynbøt and Scott 1983). In a study relevant to this idea, Wood (1982) examined the power of self-perception processes for people who had relatively high versus low knowledge and experience with the issue of environmental preservation. Subjects committed themselves to deliver a speech that was consistent with their attitudes after learning that they would receive either $5 or nothing for the task. Following this, they expressed their opinions on the issue. The major result was that for subjects with low knowledge and experience, the $5 incentive undermined their positive attitudes (e.g., "I must have made the proenvironmental statements for the money"); but for high-knowledge subjects, the incentive had no effect (see also Chaiken and Baldwin 1961).

Given the relatively simple inference on which the E.M. is based, it also follows that if people hold stable, strong perceptions of self, they may expect attitudes formed by these means to have characteristics more similar to peripheral than central route attitudes. Consistent with this notion, Taylor (1975) found that when attitudes were formed by a self-perception process, the attitudes were not predictable of subsequent behavior.

However, some research has shown that attitudes formed on the basis of a review of past behavior can have characteristics similar to attitudes formed via the central route (e.g., Fazio, Herr, and Olney 1984; Kiesler and Sakamura 1966; Zanna, Olson, and Fazio 1981). The E.M. holds that the critical issue for examining the consequences of attitude change is whether the change is based on behavioral information or some other type of information (e.g., affective). According to the E.M., the crucial factor concerns how the behavioral (or other) information is processed. For example, consider two people who initially rate Detergent X as +3, but then, after being reminded that they washed their clothes with this detergent last week, report attitudes of +4. What are the likely consequences of the attitude change induced by this behavioral information? The E.M. holds that in order to answer this it is important to distinguish the diligent consideration of issue-relevant behavioral information (e.g., the last time I washed my clothes with Detergent X they came out clean and smelling fresh, therefore I like Detergent X) from the use of behavior as a simple cue (I used Detergent X to wash my clothes, therefore I must like Detergent X). It is the latter type of inference that is typical of self-perception. Whenever people are asked to reflect upon their behavior, it is possible that many issue-relevant thoughts and feelings that are central to the merits of the issue or object under consideration will be invoked and involved in attitude change. If so, the change may not be considered to be the relatively simple self-perception inference.

Finally, we note that the attribution approach has also been useful in understanding how people make inferences about relatively simple cues. For example, Eagly, Chaiken, and Wood (1981) have argued that people often create internal mental representations of communicators, which they then use to form expectations regarding the communicator's position. This expectation is formed from premesen-cue cues regarding the communicator's traits and situational pressures. For example, a bank president might be expected to advocate opening a savings account in his or her bank. If the expectation is confirmed by the communicator's presentation, little persuasion will occur if the recipient attributes the message to the traits and pressures that initially generated the expectation. However, when the premeses-expectation is disconfirmed, persuasion will be increased if the disconfirmation makes the speaker appear more credible (e.g., Eagly, Wood, and Chaiken 1983; Smith and Hunt 1978). Similarly, when the external incentives (e.g., money) for a celebrity product endorsement are made salient, the endorsement is less effective than when an external attribution is not possible (for a review, see Folkes 1988). It is important to note that the attributional framework holds that attitude change may occur without the person evaluating the actual merits of the object. Instead, an inference may be made about why a communicator took a particular stance, and the nature of this inference determines the effectiveness of the message.

The Heuristic Model. Like the attributional framework developed by Eagly and her colleagues, the heuristic model of persuasion represents an explicit attempt to explain why certain peripheral cues, such as source expertise or message length, have the impact that they do. However, the heuristic model, as outlined by Chaiken (1980, 1987), focuses on heuristics retrieved from memory rather than decision rules generated on-line. That is, Chaiken proposes that in contrast to "systematic" (or central route) processing, many source cues, message cues, and other cues are processed by means of simple schemas or cognitive heuristics that people have learned on the basis of past experience and observation. To the extent that various persuasion rules of thumb are available in memory, they may be retrieved to evaluate persuasive communications.

For example, because of either prior personal experience or explicit training, people may come to process the peripheral cue of the number of message arguments by invoking the heuristic "more arguments in favor of something, the more valid it is" (a length implies strength heuristic; Alba and Marmorstein 1987; Petty and Cacioppo 1984; Wood et al. 1985). If this heuristic is available in memory and accessed during exposure to a persuasive communication, it should make agreement more likely than if the heuristic was not accessed.

Appropriate Emphasizing Affect

The self-perception and heuristic models focus on simple cognitive inferences that can modify attitudes. Next, we discuss theoretical approaches emphasizing the role of affective processes in attitude change.

Classical Conditioning. One of the most direct means of associating "affect" with objects, issues, or people is through classical conditioning. In brief, conditioning occurs when an initially neutral stimulus (the conditioned stimulus, CS) is associated with another stimulus (the unconditioned stimulus, US), which is connected directly or through prior conditioning to some response (the unconditioned response, UR). By pairing the US with the CS, the CS becomes able to elicit a conditioned response (CR) that is similar to the UR. For
example, the taste of a banana split elicits a pleasant consummatory response in most people. However, the mere sight of a banana split will elicit a similar pleasant response. Then, the sight of a banana split may be paired with the name of a restaurant in an advertisement to produce pleasant feelings toward the restaurant (for relevant reviews, see McSweeney and Bierley 1984; Petty, Cacioppo, and Kasper 1981; and Gardner 1985).

Considerable psychological research has shown that attitudes can be affected by pairing initially neutral objects with stimuli about which people already feel positive or negative. For example, people's evaluations of words (e.g., Staats and Staats 1958), other people (e.g., Griffin 1970), political slogans (e.g., Razran 1940), products (e.g., Gresham and Shimp 1985), and persuasive communications (e.g., Rogers 1983) have been modified by pairing them with such affect producing stimuli as unpleasant odors and temperatures, the onset and cessation of electrical shock, harsh sounds, and elevating or depressing flora (e.g., Gauvain 1962, Shimp 1962; Zanna, Kiesler, and Pilkonis 1970).

Similar work on consumer behavior has shown that the use of pleasant pictures in ads can produce favorable product attitudes even if the pictures are irrelevant to the product (e.g., Mitchell and Olson 1981), though it is not clear that this transfers to other effects. Although some studies have been unsuccessful in producing conditioning effects with advertising stimuli (especially when there is only one conditioning trial; e.g., Allen and Madden 1985; Kellaris and Cox 1986), other research has proven supportive (e.g., Bierley, McSweeney, and Vamos 1983; Krueger-Riel 1983). For example, in a series of studies, Stuart, Shimp, and Engle (1987) paired brand names with pleasant pictures (e.g., a mountain waterfall) or with neutral ones several times. To control for contingency awareness and demand effects (see Page 1974), subjects were divided into those who were and were not aware of the contingency between brand name and picture. Although in one study 48 percent of subjects reported awareness of the contingency, the conditioning effect was present for both the aware and the unaware group. The single contingency factors was essential, and the manipulations were especially susceptible to the simple transfer of affect from one stimulus to another when the likelihood of object-relevant thinking is rather low. In a later study, Golds and Shimp (1980) investigated the power of a simple affective cue to influence attitudes toward a product when the likelihood of elaboration is at a maximum. A pin for the product was low. Before viewing any ads, subjects in the low-elaboration condition were told that their task was to decide whether or not they should purchase time on television for their ads, and that they would be able to choose a brand of pen from among the pens advertised in the segment that they would judge. The low-elaboration subjects did not expect to advertise the ad agency and did not expect to make a choice among pens. All subjects were exposed to two ads for a pen. One ad presented strong attributes about the pen (e.g., never smudges), whereas the other featured pleasant music rather than relevant information. About one hour after ad exposure, subjects were given a choice between the two advertised brands. The low-elaboration subjects favored the pen advertised with pleasant music, whereas the high-elaboration subjects favored the pen advertised with the relevant information (see also, Batra and Ray 1985; Suri 1983).

Merely Exposure. Another procedure for modifying attitudes through simple affective means was identified by Zajonc (1968) in his work on "mere exposure." In this research, Zajonc and others have shown consistently that when objects are presented to the individual on repeated occasions, the mere exposure is capable of making the individual's attitude toward these objects more positive (Zajonc and Markus 1982, p. 125). An early explanation for the mere-exposure effect was provided by Titchener (1910) who proposed that familiar objects like people experience a "flow of warmth, a sense of ownership, a feeling of intimacy" (p. 411). The most recent work on this phenomenon indicates that simple repetition of objects can lead to more positive evaluations even when people do not recognize that the objects are familiar. For example, in one study Kunst-Wilson and Zajonc (1980) visually presented polygon images to subjects a number of times under viewing conditions that resulted in chance reports of recognition. During a later session, subjects were shown pairs of polygons under ideal viewing conditions. In each pair, one shape was one of the polygons that had been seen in the earlier session, but the other shape was new. Subjects were asked which shape they liked better and which one they had seen before. Even though subjects were unable to recognize beyond chance which of the polygons was new and which was old, they showed a significant preference for the old over the new shapes.

Mere exposure effects have been shown in a number of studies using a variety of stimuli. In addition to the polygons, such stimuli as tones, nonsense syllables, Chinese ideograms, photographs of faces, and foreign words have been used (e.g., Matlin 1970; Wilson 1979; Zajonc 1980). More interesting, what these stimuli have in common is that they tend to be meaningless and are relatively unlikely to elicit spontaneous elaboration. In fact, the simple affective process induced by mere exposure appears to be more successful in influencing attitudes when processing of the repeated stimulus is minimal (e.g., Obermiller 1985). When more meaningful stimuli have been repeated, such as words or sentences, mere-exposure effects have been less common. Instead, when processing occurs with repetition, the increased exposure enhances the dominant cognitive response to the stimulus. Thus, attitudes toward negative words (e.g., "hate") and weak message arguments become more favorable, but attitudes toward positive words (e.g., "love") and strong arguments become more favorable, at least until the point of tedium is reached (e.g., Cacioppo and Petty 1985; 1989; Grush 1976; Sawyer 1981).

Alternative Approaches to Affect. Previous approaches to the role of affect in persuasion, such as classical conditioning and mere exposure, have tended to show that affective processes are most likely to influence attitudes for low-knowledge, low-relevance, and/or initially meaningless attitude objects or issues. This does not mean, however, that affect will influence attitudes since thinking about the elaboration likelihood is low. According to the ELM, when the likelihood of issue-relevant thinking is low, affect will serve largely as a peripheral cue, providing meaning to the attitude object by a simple association process. As the likelihood of elaboration increases, affect (like other variables) may take on different roles.

Specifically, when the elaboration likelihood is more moderate, affect (like source attractiveness, Puckett et al. 1983; and credibility, Moore et al. 1986) has been shown to have an impact on the extent of argument elaboration. In particular, people who have been placed in a positive mood have shown less inclination to process message arguments than people in a neutral mood (Bless et al. 1980; Mackie and Worth 1989, Worth and Mackie 1987). At this point it is not clear if positive affect engages more cognitive capacity than neutral mood (reducing the ability to process) or whether people in a positive mood are less motivated to process the arguments because the message might attenuate the good mood. 10

When the elaboration likelihood is high and people are processing the message arguments already, the ELM holds that affective states may bias information processing activity or bias the interpretation of arguments (Petty, Cacioppo and others 1980). For example, if a message recipient experiences fear during a message on cigarette smoking, this might influence the person's perception of the severity of the threat of smoking on their health or the
subjective likelihood of the negative consequences postulated (Johnson & Tversky 1983, Rogers 1983, Schwartz, Serwaj, and Kunger 1983). When people are actively processing a message, affect can serve as a retrieval cue for material in memory, influencing what comes to mind, and coloring the ongoing information processing activity (Bower 1981; Ken 1984).

In research on the effects of advertising, current work is focused on the manner in which the feelings invoked by a commercial or a television program affect attitudes toward the advertisement and the featured brand. Some research has supported the view that the effect of feeling on brand attitudes is mediated largely by attitudes toward the advertisement (e.g., Holbrook and Rout 1967). However, other studies suggest that feelings can have a more direct effect on brand attitudes and beliefs (e.g., Edell and Burke 1977). As noted previously, the ELM would expect that both direct and indirect effects are possible depending upon the elaboration likelihood conditions. For example, Stavem and Aaker (1988) found that the direct effect of feelings on brand attitudes was greater at low-repetition levels rather than high-repetition levels since more cognitive activity presumably occurs with repeated exposure.11

Similarly, the effect elicited by a television program should be capable of modifying attitudes via the central or peripheral routes. In one study, for example, motivation to process an ad for a pen was varied in the context of a television program that elicited both positive or negative affect (Shumann 1986). Although attitudes toward the pen were affected similarly under high- and low-motivation conditions, thoughts about the product were influenced by the affect manipulation only when motivation was high. This result is consistent with the idea that affect modifies attitudes via the peripheral route when the likelihood of thinking was low, but via the central route when ad elaboration was high (for further discussion see Petty, Clee, and Baker, in press).

CHARACTERISTICS AND CONSEQUENCES OF ATTITUDES PRODUCED BY DIFFERENT ROUTES TO PERSUASION

Our review of the major theories of persuasion suggested a variety of processes by which attitudes might be changed. In addition, we have used the ELM to suggest some of the general conditions under which each of the various processes would be more likely to operate. For example, consider the decade-long controversy regarding the viability of dissonance theory versus self-perception theory. Both conceptualizations predict the occurrence of attitude change, although for different reasons (Greenwald 1975). As noted earlier, self-perception theory focused on a relatively simple cognitive inference as the basis of change, whereas dissonance theory postulated a more cognitively active process of rationalization. Thus, the dissonance process should be most likely when feelings foster a high likelihood of elaboration (i.e., conditions of high personal relevance, consequences, responsibility, prior knowledge, etc.); rather than a low likelihood of elaboration. Research is generally supportive of this view (e.g., Fazio, Zanna, and Cooper 1977; Cooper and Fazio 1984). On the other hand, self-perception processes should be more likely to operate when the elaboration likelihood is rather low (i.e., conditions of low personal relevance, consequences, responsibility, prior knowledge, etc.). This, too, has received empirical support (e.g., Chaiken and Baldwin 1981, Taylor 1977; Wood 1982).

In this section we turn briefly to some of the important characteristics and consequences of attitudes induced by different processes. In particular, we focus on the temporal persistence of attitude changes, the resistance of attitude changes to counterpersistence, and the ability of attitudes to predict behavior.

Resilience to Counterpersistence

Resistance refers to the extent to which attitude change is capable of surviving an attack from contrary information. The stronger the attack can withstand, the more resistant are the attitudes. In a consumer context, contrary information may come from sources such as competitive advertising or from unfavorable product trial experiences.

Although attitude persistence and resistance tend to coexist, their potential independence is shown conclusively in McGuire’s (1966) work with his “you should brush your teeth after every meal” task. To be highly persistent in a vacuum, but very susceptible to influence when challenged. As McGuire notes, people have very little practice in defending these beliefs because they have never been attacked. These beliefs were likely formed with little relevant thinking at a time during childhood when extensive thinking was relatively unlikely. Instead, the truisms were probably repeated repeatedly by powerful, likable, and expert sources. As noted earlier, the continual presence of a belief with positive cues may produce a relatively persistent attitude, but these attitudes may not prove resistant when attacked.

The resistance of attitudes can be improved by motivating and enabling people to defend their positions is shown clearly in McGuire’s (1966) important early work on inoculation theory. Using a biological analogy, McGuire suggested that just as people can be made more resistant to a disease by giving them a mild form of the germ, people can also be made more resistant to dissonant messages by...
inoculating their initial attitudes. The inoculation treatment consists of exposing people to a few pieces of counterattitudinal information prior to the threatening, pro-status quo communication, and showing them how to refute this information. This presumably produces subsequent resistance because the inoculation poisons a threat that motivates and enables people to develop bolstering arguments for their somewhat weak- ened attitudes (e.g., McGuire and Papageorgis 1961). In a related consumer study on resis-
tance, Koenig and Asael (1987) exposed sub-
jects to a negative product trial experience after they were exposed to a one-sided or two-sided advertisement for the product. Consistent with McGuire's model and previous research on one-sided versus two-sided messages (e.g., Lumsdon and Jane 1963), the two-sided ad-
verted to greater protection against the subsequent negative trial experience.

Although there is relatively little work on the specific qualities that render attitude changes resistant to counterattack, current research sug-
gests that attitudes tend to be resistant when they are accessible, when they are supported by a strong work of underlying beliefs, and when people are motivated to use these beliefs to defend their positions (e.g., Wood 1982). Thus, when atti-
dudes are formulated via direct experience (e.g., Wu and Shaffer 1987), or via the central route (e.g., Hartvig et al. 1989), or when the processing conditions motivate a negatively biased interpre-
ation of the message (e.g., Petty and Caci-
opppo 1979a), resistance is likely.

**Attitude-Behavior Consistency**

Perhaps the most important quality of atti-
dudes for those interested in understanding con-
sumer behavior concerns the ability of attitudes to predict peoples' actions. A number of situa-
tional and dispositional factors have been shown to enhance the consistency of attitudes with behaviors. For example, attitudes have been found to be more predictive of behavior when (1) the persons tested are of a certain personality type (e.g., are low in self-monitor-
ing, Snyder and Swann 1976; or high in "need for cognition," Cacioppo, Petty, Kao, and
Rodriguez 1986), (2) the attitudes in question are consistent with underlying beliefs (e.g., Nisbett 1973), (3) the attitudes are based on high rather than low amounts of issue-relevant knowledge and/or personal experience (e.g., Davidson, Yantis, Norwood, and Montano 1985; Fazio and Zanna 1981; Smith and Swinyard 1983), (4) the attitudes were likely formed as a result of issue-relevant thinking (e.g., Petty, Cacioppo, and Schumann 1983; Verplanken 1989), (5) the cues in the situation indicate that the person's attitude is relevant to the behavior (e.g., Borgida and Campbell 1982) and others (for reviews see Ajzen 1989; and Pieters 1988).

A number of methodological considerations have also proven to be important if attitudes are to predict behaviors. In particular, the attitude and behavior should be measured at the same level of correspondence (e.g., general attitudes predict multiaxial criteria, specific attitudes predict single behaviors; Ajzen and Fishbein 1977; Baggazzi 1981). Also, the attitude and behav-
ioral measures should be separated by some time lag (Davidson and Jaccard 1979) and under similar conditions (e.g., Millar and Tesser 1986a). If people are asked to think about the basis of their attitudes just prior to attitude measurement, attitude-behavior consis-
tency may be reduced if thinking produces an expressed attitude that is not representative of the true attitude (Wittkopf, Douglass, Kraft, and Lile 1989). It is also important to note that behav-
ioral prediction in general can be improved by including factors other than attitudes (e.g., so-
cial and personal norms, Ajzen and Fishbein 1977; habits, Triandis 1977; and perceived control, Ajzen 1988) in one's model.

Two general models of the process by which attitudes guide behavior have achieved consid-
erable attention. First, in Ajzen and Fishbein's (1980) "theory of reasoned action," the assump-
tion is that "people consider the implications of their actions before they decide to engage or not engage in a given behavior" (p. 5). Specifically, a person forms intentions to perform or not perform behaviors, and these intentions are based on the person's attitude toward the behav-
ior as well as his or her perception of the

12In an extension of the model into a "theory of planned behavior," Ajzen (1988) argues that people also consider the likelihood that they will have the necessary skills and oppor-
tunities to engage in the behavior. This factor is also impor-
tant in Warshaw's (1980) behavioral expectation model.
but when consequences are low, spontaneous attitude attachment is likely to be more important. Similarly, as the time allowed for a decision is reduced, the importance of spontaneous attitude attachment processes is increased over more deliberative ones.

SUMMARY AND CONCLUSIONS

Our goal in this chapter has been to outline current theories of attitude change as they relate to understanding consumer choice. Although there were many early attempts to apply basic psychological research to understanding advertising and consumer preferences (Strong 1925, Cox 1960), and applied research programs often proceeded in isolation from each other, and a large body of conflicting research findings appeared in both the psychology and consumer behavior literature. Over the past two decades there has been a growing consensus in the appropriate use of theory and methods among basic and applied researchers, and much has been learned about the underlying determinants and consequences of attitude change.

In this chapter we have argued that it is useful to divide the theoretical processes responsible for attitude change into those that emphasize central and those that emphasize peripheral routes to persuasion. This framework allows understanding and prediction of what variables affect attitudes and in what general situations. It also permits understanding and prediction of the consequences of attitude change. We have emphasized that all attitudes (e.g., whether toward an ad or a brand) can be based on cognitive, affective, and behavioral information, and that any one variable can have an impact on persuasion by invoking different processes in different situations. Finally, we noted that attitudes that appear to be different when measured can be quite different in their underlying basis or structure and thus can be quite different in their temporal persistence, resistance, or in their ability to predict behavior.

Although much progress has been made in understanding the processes responsible for attitude change, much work remains to be done. We hope that the next decade will bring advances in several areas. First, greater appreciation is needed for the fact that any one variable is capable of multiple roles in the persuasion process. At present, most studies still focus on the "true" process by which a variable has an impact on attitudes. For example, in a recent paper Hong and Wyer (1989) discussed several ways in which the "country-of-origin" (C-O) of a product might have an impact on attitudes toward the product. That is, the country-of-origin could (1) act as an informational argument like any other, (2) serve as a simple peripheral cue for inferring product quality, (3) activate concepts and knowledge that bias information processing, and (4) affect the extent of processing of the attribute information provided. But Hong and Wyer appeared to assume that just one process would turn out to be the correct one. Although their research suggested that the C-O of a product enhanced elaboration of the other attributes presented (especially when subjects were not otherwise motivated to elaborate), our view is that different situations could be constructed in which C-O would serve in other roles. For example, if the attribute information were too complex to elaborate, or were presented too rapidly, or if subjects were distracted from processing, then C-O might serve as a simple peripheral cue. Research is only just beginning on the multiple roles for variables and the situations in which variables switch roles. Thus, much work needs to be done.

A second area of research that warrants increased attention concerns the consequences of attitudes changed by different means. Although considerable work has examined the extent to which existing attitudes are predictive of behavior (e.g., Ajzen and Fishbein 1980), relatively little work has been conducted on the ability of newly formed or changed attitudes to predict behavior. Similarly, research on the ability of new attitudes to persist over time and resist pressure from countervailing messages is needed. In addition to the conceptual significance of this work, investigations of the consequences of attitudes changed by different means has much practical significance. That is, it may no longer be sufficient to judge the effectiveness of experimental treatments (or advertising campaigns) solely by the amount of attitude change that they produce. A campaign that produces 2 units of change that persist over time may be more desirable than one that produces 6 units of change that decay rapidly.

A third area that is likely to engage the interest of researchers concerns the emotional bases of attitudes. Although important work on the cognitive foundations of attitudes and the cognitive structure of opinions will undoubtedly continue (e.g., Fishbein, Breckler, and Greenwald 1989), the next decade will likely bring new ways of conceptualizing and investigating the role of affect in persuasion. What role can affect play in persuasion and what processes can it elicit? What are the consequences of affective versus cognitive versus behavioral persuasion? Under what circumstances and for which people and products is each type of persuasion most effective?

The accumulated research on attitude change clearly indicates that the processes of persuasion are diverse and complex, but need not be mysterious. We expect that the next decade will bring greater appreciation for the complexity and pervasiveness of attitudinal phenomena and will continue the integrative advances that are a joint product of both basic and applied research.

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