

Reprinted from:

d'Ydewalle, G., Eelen, P., & Bertelson, P. (Eds.) (1994).  
*International perspectives on psychological science*  
(Vol. 2, pp. 229-247). Hillsdale, NJ: Erlbaum.

# 11

## Two Routes to Persuasion: State of the Art

Richard E. Petty

Department of Psychology, Ohio State University, Columbus, Ohio,  
USA

Current research has focused on the idea that attitude change can result from two different kinds of persuasion processes. One type of persuasion emphasises the relatively effortful scrutiny of issue-relevant arguments, whereas the other focuses on the impact of simple peripheral cues. The antecedents and consequences of these two routes to persuasion are identified and two different dual route theories (the Elaboration Likelihood Model and the Heuristic-Systematic Model) are compared and contrasted. The chapter concludes with a discussion of whether variables serving as peripheral cues under low elaboration conditions can influence attitudes under high elaboration conditions. It is noted that these variables can have a reduced, unchanged, enhanced or reversed impact on attitudes as the elaboration likelihood is increased. The possible processes leading to these outcomes are discussed.

### INTRODUCTION

Until the 1980s, most theories accounted for attitude change by postulating one dominant process that was responsible for persuasion. For example, some of the earliest theories focused on learning as the major mechanism of attitude change. It was postulated that people either learned to associate positive or negative states directly with some attitude object as in classical conditioning (Staats & Staats, 1958), or people learned to associate various issue-relevant arguments with some conclusion (Hovland, Janis, & Kelley, 1953). In subsequent years, theories began to focus on the specific motives

that were responsible for persuasion. Different theorists postulated motives such as those to maintain cognitive consistency (e.g. dissonance theory: Festinger, 1957), preserve one's freedoms (e.g. reactance theory: Brehm, 1966) and impress other people (e.g. impression management theory: Tedeschi, Schlenker, & Bonoma, 1971). During the cognitive revolution of the 1970s, theories such as self-perception (Bem, 1972) and the attributional analysis of persuasion (Eagly, Wood, & Chaiken, 1978) began to address the manner in which people's specific inferences were responsible for attitude change. Other theories in this period focused on the specific informational bases of attitudes (e.g. Fishbein & Ajzen, 1975; Greenwald, 1968; Petty, Ostrom, & Brock, 1981c).

Some of these one-process theories were cast as general models of attitude change and suggested that the postulated mechanism was universally responsible for persuasion. Other theories acknowledged that the postulated process was more likely to operate under some conditions than others (e.g. dissonance was more likely for important attitudes), but little typically was said about whether attitude change would occur under conditions where the theory was not expected to operate, and if so, what process(es) would be responsible for attitude change under those circumstances.

Currently, two conceptual frameworks are popular for understanding persuasion (see Eagly, 1993). These models differ from many of the past theories in that they postulate more than one process that is responsible for persuasion, and they specify the conditions under which these processes are likely to occur.<sup>1</sup> These contemporary theories, the Elaboration Likelihood Model of persuasion (ELM: Petty & Cacioppo, 1981; 1986) and the Heuristic-Systematic Model (HSM: Chaiken, Liberman, & Eagly, 1989), were introduced initially in doctoral dissertations (Chaiken, 1978; Petty, 1977) and have guided a large number of persuasion studies since. What do these models say, what have we learned from them, and what are some of the issues that are still not understood?

### THE ELABORATION LIKELIHOOD MODEL OF PERSUASION

The ELM specifies an elaboration continuum which is bounded at one end by *no thought about the issue-relevant information available in a persuasion situation* and at the other by *complete elaboration of all of the relevant*

<sup>1</sup> Some of the earlier theories such as McGuire's (1968) Reception/Yielding Model of persuasion and Kelman's (1961) three-process (internalisation/identification/compliance) theory explicitly considered multiple processes of persuasion and the conditions under which each process would have a greater impact. Although these theories have considerable utility, they do not account for the range of variables and findings accommodated by the more recent multi-process theories.

information. At the high end of the continuum, people "scrutinize *all available information* in the immediate persuasion context ... in an attempt to evaluate the true merits of the arguments and position advocated" (Petty & Cacioppo, 1984b, p. 671; *emphasis added*). This is referred to as the *central route* to persuasion.<sup>2</sup> Processing under the central route can proceed in a relatively objective manner such as when a person is motivated and able to seek the truth wherever it might lead, or in a more biased fashion such as when motivational or ability factors make it more likely that one side over another will be supported (Petty & Cacioppo, 1986). The ELM assumes that the default motive in persuasion settings is to understand the world and develop accurate views. Bias can be produced, however, when other motives are made salient. As noted above, during the 1960s many such motives were identified by social psychologists. For example, if people came to feel that their autonomy to hold a particular view was threatened, the reactance motive could lead to defensive processing of a persuasive message (see Petty & Cacioppo, 1979a). Bias in information processing can also be introduced by ability factors even when the person is motivated to be objective. This could occur, for example, when vertical head movements (Wells & Petty, 1980) or a positive mood (Petty, Schumann, Richman, & Strathman, 1993) make positive thoughts more accessible than negative ones.

In any case, under the central route, whether the intensive information-processing activity is relatively objective or biased, the valenced thoughts that people have about the information presented determine the extent and direction of influence. Importantly, the ELM postulates that processes that are less effortful than systematic scrutiny of all of the available information can also influence attitudes. These *peripheral route* processes (e.g. self-perception, Bem, 1972; use of heuristics, Chaiken, 1980; classical conditioning, Staats & Staats, 1958; use of a balance schema, Heider, 1958; and so forth) are postulated to become more likely to determine attitudes as a person's motivation or ability to form a veridical attitude based on careful scrutiny of all relevant information is reduced. Because elaboration of issue-relevant information and more peripheral processes vary in their impact on attitudes along the elaboration continuum, attitudes are sometimes influenced in part by both central and peripheral processes. In the most simple sense, the ELM does three things: first, the ELM points to two general routes to persuasion; second, it outlines the consequences of these routes; third, it specifies the roles that variables can assume in persuasion settings.

<sup>2</sup> In the most general case, the ELM holds that at the high end of the elaboration continuum, people assess the "central merits" of the attitude object. However, the ELM recognises that what is perceived as central to the merits of any object or issue will vary with individual and situational factors (see Petty & Cacioppo, 1986, pp. 16-18).

## Two Routes to Persuasion

As noted above, the two routes to persuasion are the thoughtful and cognitively effortful central route and the less demanding peripheral route. According to the ELM, the various peripheral route processes have an impact on attitudes with increased probability as the motivation or ability to process all relevant information is reduced.<sup>3</sup> In these reduced elaboration settings, persuasion is dependent upon the presence of simple cues that can modify evaluations by processes that do not require systematic consideration of the central merits of the advocated position. That is, cues work by relatively simple processes such as "affect transfer" or "the invocation of heuristics".<sup>4</sup>

A large number of ELM studies have shown that as a person's motivation and ability to form an attitude based on the merits of a persuasive communication increase, persuasion increases if the information presented is cogent, but decreases if the information is specious. Thus, any variable that increases the likelihood of thinking can either increase or decrease persuasion depending upon the cogency of the information presented in the communication. For example, if increasing the personal relevance of a message increases message processing, more persuasion would result under high than low relevance if the arguments in the message were strong, but less persuasion would result if the message arguments were weak (see Petty & Cacioppo, 1979b). There is now a rather long list of variables that have been shown to both increase or decrease persuasion depending upon the quality of the arguments presented. In addition to the personal relevance of the message, these variables include whether: (a) the message is presented by multiple sources or a single source (Harkins & Petty, 1981); (b)

<sup>3</sup> As a general model of judgement, the ELM can be useful in accounting for a variety of evaluative (e.g. person perception) and non-evaluative (e.g. assessments of likelihood) judgements. That is, many judgements can be made by carefully scrutinising all relevant information, or by more cognitively simple means (see Petty, Priester, & Wegener, in press b). Here, the focus is on attitudinal judgements in response to a persuasive communication.

<sup>4</sup> It is important to note that reducing *either* motivation *or* ability can increase the impact of peripheral processes. For example, a person can be highly motivated to evaluate the central merits of an issue (e.g. the issue is of high importance), but have little ability to evaluate the central merits because of features external to the message (e.g. the message is presented too fast or many distractions are present) or because of features internal to the message (e.g. the message presents very little or no substantive information or the information presented is very ambiguous). If people think that they are unable to form veridical attitudes based on the information presented, but are highly motivated to think about the issue, they can either choose to remain undecided pending subsequent information search, or can generate their own issue-relevant information. This generation of information can be guided by peripheral cues in the persuasion environment (e.g. Burnstein & Vinokur, 1975). If they cannot remain undecided and are unable to generate sufficient substantive information relevant to the issue, they will rely on available cues in order to form their evaluations.

the message source is an ingroup or outgroup member (Mackie, Worth, & Asuncion, 1990); (c) the source is attractive or not (Puckett, Petty, & Cacioppo, & Fisher, 1983); (d) expert or not (Heesacker, Petty, & Cacioppo, 1983); (e) a fast or a slow speaker (Smith & Shaffer, 1991); (f) part of a majority or a minority group (Baker & Petty, 1993); (g) the message contains rhetorical questions or not (Petty, Cacioppo, & Heesacker, 1981b); (h) people believe the message is scarce or plentiful (Bozzolo & Brock, 1992); (i) the recipient is individually accountable for message evaluation or part of a group that is responsible (Petty, Harkins, & Williams, 1980); (j) the recipient is high or low in "need for cognition" (Cacioppo, Petty, & Morris, 1983); (k) knowledgeable about the topic of the message or not (Wood, Kallgren, & Priesler, 1985); (l) in a reclining rather than a standing posture (Petty et al., 1983b); (m) the message is processed in front of a mirror or not (Hutton & Baumeister, 1992); (n) the recipient is physiologically aroused or not (Sanbonmatsu & Kardes, 1988); (p) the message is repeated or presented just once (Cacioppo & Petty, 1989); (q) distraction is present during message exposure or not (Petty, Wells, & Brock, 1976); and others.

So, a variety of variables can determine the extent of persuasion by influencing how much thinking the person does about the communication. This research was valuable because it moved the field away from asking the question of whether variable *x* was good or bad for persuasion because it showed that many variables could either increase or decrease persuasion depending upon the quality of the issue-relevant information presented. When a variable such as message repetition increased message processing, persuasion was increased with repetition when the arguments were strong, but was decreased with repetition when the arguments were weak. When a variable such as distraction decreased message processing, persuasion was increased with distraction when the arguments were weak, but was decreased when the arguments were strong.

## Consequences of the Route to Persuasion

In addition to outlining the two routes to persuasion, a second contribution of the ELM is that it points to various consequences of attitudes formed or changed by these routes. That is, all else being equal, thoughtful (central route) attitude changes are postulated to be more persistent over time, resistant to counter-persuasive attempts, and predictive of behaviour than are the changes induced with little issue-relevant thought. In one study (Haugtvedt & Petty, 1992), for example, the resistance of attitudes that were newly formed via the central route were compared with newly formed attitudes that were changed to the same extent but by the peripheral route. Following the initial persuasive appeal, subjects were presented with a new

message that challenged their new attitudes. Subjects whose initial attitudes were formed as a result of considering the issue-relevant arguments resisted the attacking message to a greater extent than subjects whose initial attitudes were based on the presence of peripheral cues (see Petty, Haugtvedt, & Smith, in press a, for a review).

### Multiple Roles for Variables

A third contribution of the ELM is that it identifies general categories of processes by which variables have an impact on persuasion. That is, the model identifies certain roles that any variable can play in determining attitude change. For example, consider a message endorsed by an attractive source. According to the ELM, an attractive source (compared to a neutral source) could influence attitudes by: (a) influencing a person's motivation to think about the message (e.g. the recipient might be curious about what such an attractive person thinks about the issue and processing is therefore increased); (b) influencing a person's ability to think about the message (e.g. the presence of the attractive source might distract the recipient from message processing); (c) biasing the ongoing information-processing activity (e.g. by placing the recipient in a pleasant mood, an attractive source might make positive thoughts more accessible than negative ones); (d) serving as a persuasive argument itself (e.g. the recipient might think, "If I use the shampoo she recommends, my hair will look as nice as the source's"); or (e) invoking a peripheral cue process such as postulated by balance theory (i.e. the recipient might realise that disagreement with a liked person would be unpleasant, so agreement follows).

In sum, work on the ELM has shown that there are two routes to persuasion that operate in different circumstances, and there are different consequences of each route to persuasion. Furthermore, there are different roles that variables can play in the persuasion process. Importantly, the ELM holds that any one variable can serve in each of these different roles, though in different circumstances. According to the ELM, when the elaboration likelihood is relatively low, variables (to the extent that they have any impact at all) should serve as simple cues and induce persuasion by one of the peripheral persuasion processes (e.g. classical conditional, self-perception, heuristic reasoning). When the elaboration likelihood is high, variables should not influence persuasion as much because of their invocation of peripheral processes. Instead, these variables can lead to attitude change if careful processing indicates that the variable is relevant to determining the central merits of the object or issue, or the variable biases the ongoing information-processing activity. Finally, when the elaboration likelihood is moderate, variables are influential in determining the extent of thinking.

In the first wave of ELM research, some investigators were tempted to categorise variables such as source attractiveness into just one of the possible roles outlined above (e.g. Stiff, 1986). That is, some variables were seen as motivating thinking, others were seen as cues, and so forth. This categorisation approach to persuasion variables is *inappropriate*, however, and many variables can serve in multiple roles in different situations.

### THE HEURISTIC-SYSTEMATIC MODEL

Like the ELM, the HSM focuses on different persuasion processes that can operate in different situations. More specifically, the HSM focuses on two distinct processing modes in which people can engage. When engaging in *systematic processing*, people "scrutinize all informational input for its relevance and importance to their judgment task" (Chaiken et al., 1989, p. 212). Thus, systematic processing is comparable to the central route process outlined by the ELM. Furthermore, like the ELM, the current HSM holds that "systematic processing can be unbiased or biased depending upon motivational and cognitive factors" (Chaiken et al., 1989, p. 213). When engaged in *heuristic processing*, people retrieve from memory learned rules (e.g. "experts' statements can be trusted") that allow them to evaluate a message without carefully processing all of the information presented. Because heuristics are learned knowledge structures, their use depends upon their availability in memory and their accessibility at the time of judgement.<sup>5</sup>

Although the ELM and HSM have much in common, there are a few notable differences. First, the ELM views heuristic processing as just one member of a family of peripheral route processes that have an impact on attitudes when the elaboration likelihood is low. Note that if a person was unmotivated to think about the issue-relevant information presented and judged a message by generating a *novel* on-line inference such as "anyone dressed like that can't know what they are talking about", rather than by retrieving a stored decision rule, the resulting influence would be an instance of the peripheral route to persuasion, but would not be a result of heuristic processing.<sup>6</sup> Similarly, although the ELM allows for the prediction that all peripheral route processes (e.g. classical conditioning: Cacioppo, Marshall-Goodell, Tassinari, & Petty, 1992) have a smaller impact on attitudes as the elaboration likelihood is increased, the HSM does not.

<sup>5</sup> Fiske's piecemeal/category model of impression formation (e.g. Fiske & Pavelchak, 1986) bears some similarity to the ELM and HSM. That is, in piecemeal processing, all information about a person is considered individually. In category-based processing, people rely on the implications of an overall stereotype—a simpler form of judgement.

<sup>6</sup> Of course, any novel heuristic can be argued to be an instantiation of a more general heuristic such as "when I don't feel right about it, I don't accept it". At this level of generality, however, the heuristic approach becomes somewhat vacuous.

Second, in contrast to the postulated trade-off between the impact of central and peripheral processes on attitudes postulated by the ELM, the HSM argues that the impact of systematic and heuristic processing can both increase as the elaboration likelihood is increased. In particular, as long as the two processing modes do not yield conflicting evaluations (such as when an expert source presents weak arguments), the HSM holds that heuristic processing adds to the impact of whatever systematic processing has occurred. Although the ELM proposes a trade-off between the impact of central and peripheral processes along the elaboration continuum, this does not mean that central and peripheral processes never co-occur or cannot have a joint impact on attitudes. In fact, at most points along the elaboration continuum, there is likely to be some co-occurrence of processes and some joint impact—that is the nature of a continuum.<sup>7</sup> Furthermore, the ELM trade-off hypothesis does not imply that peripheral processes are less likely to occur as the elaboration likelihood is increased (e.g. the ELM does not require that people are less likely to access heuristics as the elaboration likelihood is increased). Rather, the trade-off hypothesis only suggests that as the elaboration likelihood is increased, central route processes have a greater impact on attitudes, whereas peripheral route processes have a reduced impact on attitudes. Finally, it is important to note that the trade-off hypothesis does not mean that variables that serve as peripheral cues when the elaboration likelihood is low cannot influence attitudes when the elaboration likelihood is high. In fact, as outlined in more detail below, the ELM holds that the impact of variables serving as cues under low elaboration conditions can be reduced, unchanged, enhanced or even reversed as the elaboration likelihood is increased! In sum, the trade-off hypothesis only means that a variable is less likely to have its impact on attitudes via a peripheral process as the elaboration likelihood is increased.<sup>8</sup>

<sup>7</sup> This fact has not been appreciated by some reviewers of the ELM who have implied (incorrectly) that the model holds that central and peripheral processes cannot exert a joint impact on attitudes (Eagly & Chaiken, 1993; Stiff, 1986).

<sup>8</sup> Different peripheral route processes require different *minimal* motivation and ability levels to have an impact on attitudes (e.g. a self-perception process presumably requires that a person have a greater motivation and ability to evaluate a message than does classical conditioning or mere exposure processes). Thus, when going from extremely low levels of elaboration likelihood to moderately low levels, the impact of some peripheral processes (such as self-perception and other attributional inferences) can be increased. Once past the minimal point on the continuum necessary to invoke the process, however, moving higher along the continuum should reduce the impact of the process on attitudes. That is, as the elaboration likelihood is increased further, the peripheral process should account for less variance in the overall attitude (assuming, of course, that the informational environment enables individuals to form an attitude based on the central merits of the issue; see footnote 4).

## IS THERE AN IMPACT OF "PERIPHERAL CUES" UNDER HIGH ELABORATION CONDITIONS?

Although the ELM holds that there is a trade-off between the impact on attitudes of peripheral route processes (e.g. self-perception) and central route processes (elaboration of issue-relevant information) along the elaboration likelihood continuum, as noted above, this does not mean that a variable that serves as a simple cue cannot have an impact at high levels of elaboration. That is, a variable serving as a peripheral cue can have some persuasion *impact* or outcome under both high and low elaboration conditions, but the underlying *processes* producing these outcomes are postulated to differ. What happens to peripheral cue effects as the elaboration likelihood is increased?

### Reduced Impact Effects

The earliest research on the ELM and HSM focused on the reduced or attenuated impact of variables serving as cues as the elaboration likelihood was increased. For example, Petty, Cacioppo and Goldman (1981a) found that the message source (i.e. whether the message on an educational issue came from a Princeton University professor or a local high school student) had a smaller impact on attitudes when the personal relevance of the communication was increased (and a manipulation of argument quality had an increased impact). Similarly, Petty and Cacioppo (1984a) found that the mere number of arguments in a message had a smaller impact on attitudes as the personal relevance of the message was increased (but argument quality had a larger effect). Why do certain cue manipulations have a reduced impact under high elaboration conditions?

One possible explanation for the reduced impact of cues is that people pay less attention to (and may not even process) certain peripheral variables when they are thinking about the message content (*cue-attention hypothesis*). For example, the recipient might not even notice the attractiveness or credibility of the source, or might not be cognisant of the mere number of arguments that the message contains. Interestingly, in a commentary on the ELM, Stiff (1986) thought that the ELM *required* this process to account for cue-reduction effects. Petty, Kasmer, Haugtvedt and Cacioppo (1987) noted that this was not true and that reduced impact effects were found to occur even when subjects in both high and low elaboration conditions recognised the differential qualities of the peripheral cues. In one study, for example, even though both high and low elaboration subjects showed equal recognition of the qualities of a likeable versus a dislikeable source, the attitudes of low elaboration subjects were more influenced by these qualities than were the attitudes of high elaboration subjects (Petty, Cacioppo, &

Schumann, 1983a). Thus, differential awareness of, or attention to, peripheral source cues is not a requirement for a reduced impact effect under high elaboration conditions.

A variation of the cue-attention hypothesis provides an alternative account. Consider the possibility that people do not form their attitude judgements until after the message is received, and that whatever factors are salient at the time of judgement have a greater impact on attitudes. The *cue-salience hypothesis* contends that although both high and low elaboration subjects may have attended to the source (or other cue) information when it was presented initially, it is less *salient* (or spontaneously accessible) at the time of attitude expression for the high elaboration subjects presumably because of the extensive argument processing in which they engaged. For low elaboration subjects, the peripheral cues are more salient because there is less interference from thoughts about the arguments. If this hypothesis is correct, one would expect the cue effect to be re-established if the cues are presented after the message arguments or, if presented early, are made especially salient or vivid at the time of judgement (cf. Kelman & Hovland, 1953).

A third hypothesis makes the assumption that subjects are considering the information during message exposure and updating their attitudes as the information is presented. The *cue-loss hypothesis* says that peripheral cues have an initial impact on attitudes, but that under high argument processing conditions, consideration of the issue-relevant arguments leads to an on-line reduction in the impact of the cue by the time message processing is completed. This could occur, for example, if the cue is drowned out by the arguments or is undermined by the implications of the arguments.

A fourth, *cue-extremity hypothesis*, says that cues are viewed less extremely under high than low elaboration conditions. The ELM has focused mostly on the greater elaboration of issue-relevant arguments that occurs when variables such as personal relevance motivate enhanced scrutiny of a persuasive message. However, perhaps people engage in greater thought about the cues when the elaboration likelihood is low than high. If high elaboration conditions lead to less thought about a peripheral cue (because more than cue information is being considered), and less thought about the cue leads it to be evaluated less extremely, the cue would therefore be expected to have a reduced impact on attitudes. Little evidence exists for this hypothesis as a *requirement* for the reduced impact of cues, however, since research shows a reduced impact effect occurs even when subjects rate the cues similarly (e.g. on likeability, credibility, etc.) in high and low elaboration conditions (e.g. Petty et al., 1983a).

A fifth hypothesis focuses on differential weighting of cues in high versus low elaboration conditions. The *cue-weighting hypothesis* assumes that the peripheral cues have relatively little impact on attitudes under high

elaboration conditions because when people are highly motivated and able to process all relevant information, although they are aware of the cue, they do not consider it particularly relevant in making their evaluative judgements. That is, when motivation and ability are high, people weight their evaluations of the peripheral cues less in determining their attitudes. This view suggests that under high elaboration conditions, the cues are not less salient (as specified by the *cue-salience hypothesis*), or ignored (as specified by the *cue-attention hypothesis*), or seen as less extreme (as specified by the *cue-extremity hypothesis*), nor are the cues initially effective but drowned out or undermined (as specified by the *cue-loss hypothesis*). Rather, the cues are in essence discounted as irrelevant at the time of attitude judgement. This hypothesis isolates the reduced impact of cues in the *integration* stage of information processing.<sup>9</sup>

Neither the ELM nor HSM currently specifies the conditions under which each of the specific mechanisms outlined above accounts for the reduced impact of cues under high elaboration conditions, though these hypotheses have testable implications. These questions have not yet been addressed because, for the most part, they deal with second-generation issues in the development of the two route theories. That is, these questions were not cogent, relevant or important until sufficient evidence had accumulated in support of the primary postulates of these theories. Once these second-generation questions are addressed, of course, a third generation of questions comes to mind. For example, what if it turns out that the cue weighting hypothesis can be shown to account for the trade-off effect produced by certain elaboration moderators? The next generation of questions would likely focus on *why* and *how* differential weighting occurs. Are cues weighted less when people are thinking by a process of "discounting" whereby the cues are simply dismissed? Or are cues weighted less (and arguments more) because people come to have more "confidence" in their assessments of the arguments as a result of their thinking about them? Then, if it turns out that confidence is the key to weighting, researchers can next turn to why differential confidence is produced, and so on.

<sup>9</sup> Of course, it is not necessary that just one of these hypotheses prove true. In addition, one could generate parallel *argument hypotheses* that provide possible accounts for why issue-relevant arguments have a greater impact on attitudes as the elaboration likelihood is increased. For example, the *argument-extremity hypothesis* would contend that increased thinking about the arguments under high elaboration conditions leads the arguments to be viewed more extremely, and this extremity produces the greater impact of arguments on attitudes. In contrast, the *argument-weighting hypothesis* would say that as the elaboration likelihood is increased, the arguments are not seen more extremely, but are given greater weight than cues in determining attitudes. Investigators are just now beginning to systematically examine these cue and argument hypotheses (e.g. McKenzie & Spreng, 1992).

### Unchanged, Enhanced and Reversed Impact Effects

As noted above, variables such as source attractiveness can have a favourable impact on attitudes when the elaboration likelihood is low if they are capable of invoking some peripheral mechanism. Importantly, these same variables are also capable of influencing attitudes under high elaboration conditions if they provide information relevant to the central merits of the attitude object, or if the variable biases the processing of whatever issue-relevant information is presented. Depending on the *outcome* of these processes, a variable that serves as a peripheral cue under low elaboration conditions, can either lose the impact it had under low elaboration conditions (see also discussions above), can have an unchanged impact, can have an enhanced impact, or even a reversed impact on attitudes as the elaboration likelihood is increased.

For example, consider a study in which a subject is to rate another individual. The subject is led to believe that the target individual is either hypothetical (low elaboration likelihood) or a potential work partner (high elaboration likelihood). Furthermore, the subject is placed in a positive or a neutral mood prior to the rating. That is, consider a mood (positive vs neutral)  $\times$  elaboration likelihood (high vs low) experimental design. In this study, the target person is described by two positive characterisations and one negative characterisation (see Table 11.1). For simplicity, assume that in the low elaboration-neutral mood baseline condition, people don't think about the behavioural information at all and simply rate the target as +1 (the default for unfamiliar human beings). Now assume that in the low elaboration-positive mood condition, the subject invokes the "I feel good, so I must like it" heuristic. This produces a rating of the target of +2, one point higher than when no positive mood was present.

Finally, assume that in the high elaboration-neutral mood condition, the person carefully scrutinises the presented information and integrates it as shown in Table 11.1 by using some expectancy value formula such as that specified by Fishbein and Ajzen (1975). This person would come to rate the target individual as +1 [i.e.  $\sum(b_i)(e_i) = +1$ ], the same as the neutral mood person who did not scrutinise the information.

TABLE 11.1  
Likelihoods and Evaluations of Information about a Hypothetical Person

| Information                             | Likelihood (b) | Evaluation (e) | (b)*(e) |
|---|----------------|----------------|---------|
| His teacher said that he is honest      | 0.5            | +2             | +1      |
| His mother said that he is unfriendly   | 0.5            | -2             | -1      |
| His best friend said that he is helpful | 0.5            | +2             | +1      |

The question we are focusing on here, however, is what effect does the positive mood manipulation have under the high elaboration conditions? Here, the ELM outlines two possibilities. First, the person will now scrutinise all information for its relevance to the required judgement. Thus, the subject might look internally and via misattribution come to think that the good feeling is due to the presence of the target person. If this is true, then the subject's mood is directly relevant to the evaluation of the target person. If feeling good is evaluated +2, and the person thinks that there is a 0.5 chance that the target person has produced (or will continue to produce) a good feeling, this information would add one point to the evaluation, yielding an overall rating of +2 (i.e. +1 from the information in Table 11.1 and +1 for the positive mood). The effect of positive mood appears to be the same under high and low elaboration conditions (i.e. an unchanged effect). Note, however, that even though the positive mood is adding one point under both the high and low elaboration conditions, this outcome is the result of a peripheral/heuristic process in the low elaboration condition, but is the result of a central process in the high elaboration condition.<sup>10</sup>

A second possibility is that the positive mood could influence the processing of the issue-relevant information (see Petty & Wegener, 1991). For example, if good things seem more likely and bad things seem less likely when in a positive mood (e.g. Meyer, Gaschke, Braverman, & Evans, 1992), the probabilities of the positive traits associated with the target might increase from 0.5 to 1.0 and the probability associated with the negative trait might go to 0. The net result of this would be that the target person would now be rated as +4 [i.e.  $(1)(2) + (0)(-2) + (1)(2) = +4$ ]. The positive mood manipulation now has an enhanced impact effect as the elaboration likelihood increases. The fact that positive mood can produce similar directional effects under high and low elaboration conditions, but for different reasons, was demonstrated by Petty et al. (1993). In two separate studies, positive mood enhanced attitudes under both high and low elaboration conditions, but path analyses showed that mood had a direct effect on attitudes under low elaboration conditions, whereas positive mood influenced attitudes via its impact on the positivity of the thoughts generated under high elaboration conditions.

Finally, consider the possibility that positive mood could have a reversed impact effect under high compared to low elaboration conditions. For this to occur, the same variable that produces a favourable impact on attitudes under low elaboration conditions must produce an unfavourable impact on attitudes under high elaboration conditions. Recent research shows that

<sup>10</sup> Of course, depending upon how a person evaluates feeling good and the likelihood with which feeling good is linked to the target person, the positive mood could add more or less than one point to the other information in Table 11.1 under high elaboration conditions.

positive mood is capable of this. First, recall that positive mood can influence attitudes favourably when people are not thinking about the message arguments and that positive mood can produce a favourable bias to the cognitive activity when the elaboration likelihood is high. Can positive mood also produce an unfavourable bias to the information-processing activity under high elaboration likelihood conditions? Research by Wegener, Petty and Klein (in press) suggests that it can. In this research, people in a positive or negative mood were exposed to a message containing positively framed arguments (e.g. "if you stop smoking, you'll live longer") or to a message that was negatively framed (e.g. "if you don't stop smoking, you'll die sooner"). Because people in a positive mood tend to see positive things as more likely to occur, but negative things as less likely to occur, this suggests that if a message is framed negatively rather than positively, a person in a positive mood would see a negative consequence of not stopping smoking as less likely than a person in a negative mood. If so, the positive mood person should be persuaded less by the message because the argument would be seen as less compelling. That is, a person in a positive mood who gets the negatively framed argument "you'll die sooner if you don't stop smoking", will be more likely to counterargue with "it's *not* very likely that I'll die if I don't stop smoking" than a person in a negative mood. This is exactly what Wegener et al. (in press) observed. When the message was framed positively, people in a positive mood were persuaded more than those in a negative mood, but when the message was framed negatively the reverse occurred. Path analyses were consistent with the view that the effects of mood on attitudes were mediated by the subjects' judgements of the likelihoods of the consequences outlined in the message arguments. Thus, for negatively framed messages, positive mood would be expected to have a favourable impact on attitudes under low elaboration conditions (because of a peripheral process), but under high elaboration conditions the impact of mood on attitudes would be reversed, because of the effect of mood on the assessment of the likelihood of the consequences in the message.<sup>11</sup>

<sup>11</sup> Note that the biasing effect of mood in this case is not due to "heuristic processing biasing systematic processing" (Chaiken et al., 1989, p. 227) because no mood heuristic is involved. In fact, we suspect that, in many cases, the retrieval of a mood heuristic would attenuate any bias that might have occurred. The reason for this is that heuristics that are invoked under high elaboration conditions would be subjected to careful scrutiny. If some heuristics are viewed by the message recipient as producing a bias (e.g. "I only like it because of my mood"), awareness of this bias could lead to efforts to correct for and remove the bias when the person is highly motivated to be accurate (e.g. see Petty & Wegener, 1993). The notion that heuristics are subjected to scrutiny under high elaboration conditions also suggests that some heuristics will survive the scrutiny better than others (e.g. an accuracy heuristic such as "experts are correct" might survive better than a heuristic such as "I agree with people I like", if the motive for central processing is to be accurate).

## ADDITIONAL ISSUES FOR RESEARCH

The discussion above suggests that in the coming years, persuasion researchers might profitably attend to the various effects that can result from peripheral cues as the elaboration likelihood goes from low to high. That is, variables serving as cues under low elaboration conditions can have a reduced, unchanged, enhanced or even reversed impact on attitudes as the elaboration likelihood is increased. It is important to understand the processes by which these effects occur, however.

Two other issues also warrant increased research attention in the future. First, although the ELM and HSM have helped to move the field beyond the question of whether a given variable increases or decreases persuasion, many studies guided by the ELM and HSM have framed their primary research question in terms of whether variable *x* increases or decreases central or systematic *information-processing* activity (e.g. Bless et al., 1990; Chaiken, 1980; Mackie, 1987; Petty & Cacioppo, 1979b). However, there is no reason to suspect that a given variable will invariably increase or decrease information-processing activity. That is, some studies suggest that the same variable that increases message-processing activity in one context can decrease it in another (e.g. Baker & Petty, 1993; Petty et al., 1981b). The general moderators of these reversals are important to uncover.

Second, relatively little empirical attention has been paid to the specific processes by which peripheral cues have their effects. Although there are a number of peripheral processes that have been postulated, it is rare for persuasion theorists to do more than speculate about the peripheral process by which a variable had an impact. Thus, even though an investigator labels an effect under low elaboration conditions as due to heuristic processing (e.g. Chaiken, 1980) or to classical conditioning (e.g. Gorn, 1982), clear mediational evidence is typically lacking.

## SUMMARY

In summary, what is the state of the art with respect to current two-route persuasion models? The ELM and HSM have specified a limited number of roles and processes for variables in the persuasion setting and the consequences of these processes. Because of the rather complex patterns of findings for which these theories can account, they have proven useful. Even though these theories outline a limited number of roles for variables and this has simplified the processes of persuasion to a manageable set, the fact that variables can serve in multiple and opposite roles in different circumstances suggests that researchers will need to focus additional attention on the underlying processes by which variables produce a given persuasion outcome. It is now very clear that different persuasion outcomes

can be produced by the same underlying process, and the same persuasion outcome can be produced by different underlying processes.

### ACKNOWLEDGEMENT

Preparation of this chapter was supported by NSF Grant BNS 90-21647.

### REFERENCES

- Baker, S.M., & Petty, R.E. (1993). *Majority and minority influence: Source advocacy as a determinant of message scrutiny*. Unpublished manuscript, Ohio State University.
- Bem, D.J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology*, Vol. 6, pp. 1-62. San Diego, CA: Academic Press.
- Bless, H., Bohner, G., Schwarz, B., & Strack, F. (1990). Mood and persuasion: A cognitive response analysis. *Personality and Social Psychology Bulletin*, 16, 331-345.
- Bozzolo, A.M., & Brock, T.C. (1992). Unavailability effects on message processing: A theoretical analysis and an empirical effect. *Basic and Applied Social Psychology*, 13, 93-101.
- Brehm, J. (1966). *A theory of psychological reactance*. San Diego, CA: Academic Press.
- Burnstein, E., & Vinokur, A. (1975). What a person thinks upon learning he has chosen differently from others: Nice evidence for the persuasive-arguments explanation of choice shifts. *Journal of Experimental Social Psychology*, 11, 412-426.
- Cacioppo, J.T., & Petty, R.E. (1989). Effects of message repetition on argument processing, recall, and persuasion. *Basic and Applied Social Psychology*, 10, 3-12.
- Cacioppo, J.T., Petty, R.E., & Morris, K.J. (1983). Effects of need for cognition on message evaluation, recall, and persuasion. *Journal of Personality and Social Psychology*, 45, 805-818.
- Cacioppo, J.T., Marshall-Goodell, B.S., Tassinari, L.G., & Petty, R.E. (1992). Rudimentary determinants of attitudes: Classical conditioning is more effective when prior knowledge about the attitude stimulus is low than high. *Journal of Experimental Social Psychology*, 28, 207-233.
- Chaiken, S. (1978). The use of source versus message cues in persuasion: An information processing analysis (Doctoral dissertation, University of Massachusetts-Amherst). *Dissertation Abstracts International*, 39, 438B.
- Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*, 39, 752-766.
- Chaiken, S., Liberman, A., & Eagly, A.H. (1989). Heuristic and systematic processing within and beyond the persuasion context. In J.S. Uleman & J.A. Bargh (Eds), *Unintended thought*, pp. 212-252. New York: Guilford Press.
- Eagly, A.H. (1993). Uneven progress: Social psychology and the study of attitudes. *Journal of Personality and Social Psychology*, 63, 693-710.
- Eagly, A.H., & Chaiken, S. (1993). *The psychology of attitudes*. Orlando, FL: Harcourt Brace Jovanovich.
- Eagly, A.H., Wood, W., & Chaiken, S. (1978). Causal inferences about communicators and their effect on opinion change. *Journal of Personality and Social Psychology*, 36, 424-435.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row, Peterson.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fiske, S.T., & Pavelchak, M.A. (1986). Category-based versus piecemeal-based affective responses: Developments in schema-triggered affect. In R.M. Sorrentino & E.T. Higgins (Eds), *Handbook of motivation and cognition: Foundations of social behavior*, pp. 167-203. New York: Guilford Press.
- Gorn, G.J. (1982). The effects of music in advertising on choice behavior: A classical conditioning approach. *Journal of Marketing*, 46, 94-101.
- Greenwald, A.G. (1968). Cognitive learning, cognitive response to persuasion, and attitude change. In A.G. Greenwald, T.C. Brock, & T.M. Ostrom (Eds), *Psychological foundations of attitudes*, pp. 147-170. San Diego, CA: Academic Press.
- Harkins, S.G., & Petty, R.E. (1981). Effects of source magnification of cognitive effort on attitudes: An information processing view. *Journal of Personality and Social Psychology*, 40, 401-413.
- Haugtvedt, C.P., & Petty, R.E. (1992). Personality and persuasion: Need for cognition moderates the persistence and resistance of attitude changes. *Journal of Personality and Social Psychology*, 63, 308-319.
- Heesacker, M., Petty, R.E., & Cacioppo, J.T. (1983). Field dependence and attitude change: Source credibility can alter persuasion by affecting message-relevant thinking. *Journal of Personality*, 51, 653-666.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: John Wiley.
- Hovland, C.I., Janis, I.L., & Kelley, H.H. (1953). *Communication and persuasion: Psychological studies of opinion change*. New Haven, CT: Yale University Press.
- Hutton, D.G., & Baumeister, R.F. (1992). Self-awareness and attitude change: Seeing oneself on the central route to persuasion. *Personality and Social Psychology Bulletin*, 18, 68-75.
- Kelman, H.C. (1961). Processes of opinion change. *Public Opinion Quarterly*, 25, 57-78.
- Kelman, H.C., & Hovland, C.I. (1953). "Reinstatement" of the communicator in delayed measurement of opinion change. *Journal of Abnormal and Social Psychology*, 48, 327-335.
- Mackie, D.M. (1987). Systematic and nonsystematic processing of majority and minority persuasive communications. *Journal of Personality and Social Psychology*, 53, 41-52.
- Mackie, D.M., Worth, L.T., & Asuncion, A.G. (1990). Processing of persuasive in-group messages. *Journal of Personality and Social Psychology*, 58, 812-822.
- McGuire, W.J. (1968). Personality and susceptibility to social influence. In E.F. Borgatta & W.W. Lambert (Eds), *Handbook of personality theory and research*, pp. 1130-1187. Chicago, IL: Rand McNally.
- McKenzie, S.B., & Spreng, R.A. (1992). How does motivation moderate the impact of central and peripheral processing on brand attitudes and intentions. *Journal of Consumer Research*, 18, 519-529.
- Meyer, J.D., Gaschke, Y.N., Braverman, D.L., & Evans, T.W. (1992). Mood-congruent judgment is a general effect. *Journal of Personality and Social Psychology*, 63, 119-132.
- Petty, R.E. (1977). A cognitive response analysis of the temporal persistence of attitude changes induced by persuasive communications (Doctoral dissertation, Ohio State University). *Dissertation Abstracts International*, 38, 3961B.
- Petty, R.E., & Cacioppo, J.T. (1979a). Effects of forewarning of persuasive intent and involvement on cognitive responses and persuasion. *Personality and Social Psychology Bulletin*, 5, 173-176.
- Petty, R.E., & Cacioppo, J.T. (1979b). Issue involvement can increase or decrease persuasion by enhancing message-relevant cognitive responses. *Journal of Personality and Social Psychology*, 37, 1915-1926.
- Petty, R.E., & Cacioppo, J.T. (1981). *Attitudes and persuasion: Classic and contemporary approaches*. Dubuque, IA: Brown.
- Petty, R.E., & Cacioppo, J.T. (1984a). The effects of involvement on responses to argument quantity and quality: Central and peripheral routes to persuasion. *Journal of Personality and Social Psychology*, 46, 69-81.
- Petty, R.E., & Cacioppo, J.T. (1984b). Source factors and the elaboration likelihood model of persuasion. *Advances in Consumer Research*, 11, 668-672.

- Petty, R.E., & Cacioppo, J.T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer-Verlag.
- Petty, R.E., & Wegener, D.T. (1991). Thought systems, argument quality, and persuasion. In R.S. Wyer Jr & T.K. Srull (Eds), *Advances in social cognition*, Vol. 4, pp. 147-161. Hillsdale, NJ: Lawrence Erlbaum Associates Inc.
- Petty, R.E., & Wegener, D.T. (1993). Flexible correction processes in social judgment: Correcting for context-induced contrast. *Journal of Experimental Social Psychology*, 29, 137-165.
- Petty, R.E., Wells, G.L., & Brock, T.C. (1976). Distraction can enhance or reduce yielding to propaganda: Thought disruption versus effort justification. *Journal of Personality and Social Psychology*, 34, 874-884.
- Petty, R.E., Harkins, S.G., & Williams, K.D. (1980). The effects of group diffusion of cognitive effort on attitudes: An information processing view. *Journal of Personality and Social Psychology*, 38, 81-92.
- Petty, R.E., Cacioppo, J.T., & Goldman, R. (1981a). Personal involvement as a determinant of argument-based persuasion. *Journal of Personality and Social Psychology*, 41, 847-855.
- Petty, R.E., Cacioppo, J.T., & Heesacker, M. (1981b). Effects of rhetorical questions on persuasion: A cognitive response analysis. *Journal of Personality and Social Psychology*, 40, 432-440.
- Petty, R.E., Ostrom, T.M., & Brock, T.C. (1981c). Historical foundations of the cognitive response approach to attitudes and persuasion. In R.E. Petty, T.M. Ostrom, & T.C. Brock (Eds), *Cognitive responses in persuasion*, pp. 5-29. Hillsdale, NJ: Lawrence Erlbaum Associates Inc.
- Petty, R.E., Cacioppo, J.T., & Schumann, D.W. (1983a). Central and peripheral routes to advertising effectiveness: The moderating role of involvement. *Journal of Consumer Research*, 10, 135-146.
- Petty, R.E., Wells, G.L., Heesacker, M., Brock, T.C., & Cacioppo, J.T. (1983b). The effects of recipient posture on persuasion: A cognitive response analysis. *Personality and Social Psychology Bulletin*, 9, 209-222.
- Petty, R.E., Kasmer, J.A., Haugtvedt, C.P., & Cacioppo, J.T. (1987). Source and message factors in persuasion: A reply to Stiff's critique of the elaboration likelihood model. *Communication Monographs*, 54, 233-249.
- Petty, R.E., Schumann, D.W., Richman, S.A., & Strathman, A.J. (1993). Positive mood and persuasion: Different roles for affect under high and low elaboration conditions. *Journal of Personality and Social Psychology*, 64, 5-20.
- Petty, R.E., Haugtvedt, C.P., & Smith, S. (in press a). Elaboration as a determinant of attitude strength. In R.E. Petty & J.A. Krosnick (Eds), *Attitude strength: Antecedents and consequences*. Hillsdale, NJ: Lawrence Erlbaum Associates Inc.
- Petty, R.E., Priester, J.R., & Wegener, D.T. (in press b). Cognitive processes in persuasion. In R.S. Wyer & T.K. Srull (Eds), *Handbook of social cognition*, 2nd edn. Hillsdale, NJ: Lawrence Erlbaum Associates Inc.
- Puckett, J.M., Petty, R.E., Cacioppo, J.T., & Fisher, D.L. (1983). The relative impact of age and attractiveness stereotypes on persuasion. *Journal of Gerontology*, 38, 340-343.
- Sanbonmatsu, D.M., & Kardes, F.R. (1988). The effects of physiological arousal on information processing and persuasion. *Journal of Consumer Research*, 15, 379-385.
- Smith, S.M., & Shaffer, D.R. (1991). Celebrity and cajolery: Rapid speech may promote or inhibit persuasion through its impact on message elaboration. *Personality and Social Psychology Bulletin*, 17, 663-669.
- Staats, A.W., & Staats, C.K. (1958). Attitudes established by classical conditioning. *Journal of Abnormal and Social Psychology*, 57, 37-40.
- Stiff, J.B. (1986). Cognitive processing of persuasive message cues: A meta-analytic review

- of the effects of supporting information on attitudes. *Communication Monographs*, 53, 75-89.
- Tedeschi, J.T., Schlenker, B.R., & Bonoma, T.V. (1971). Cognitive dissonance: Private ratiocination or public spectacle? *American Psychologist*, 26, 685-695.
- Wegener, D.T., Petty, R.E., & Klein, J.K. (in press). Effects of mood on high elaboration attitude change: The mediating role of likelihood judgments. *European Journal of Social Psychology*.
- Wells, G.L., & Petty, R.E. (1980). The effects of overt head movements on persuasion: Compatibility and incompatibility of responses. *Basic and Applied Social Psychology*, 1, 219-230.
- Wood, W., Kallgren, C.A., & Priesler, R.M. (1985). Access to attitude-relevant information in memory as a determinant of persuasion: The role of message attributes. *Journal of Experimental Social Psychology*, 21, 73-85.