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ATTITUDES AND ATTITUDE CHANGE

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CONTENTS

INTRODUCTION

Consistent with the prophesies and observations made in the last three reviews of attitudes published in this series (Eagly & Himmelfarb 1978, Cialdini et al 1981, Cooper & Croyle 1984), research and theorizing on the nature of

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attitudes and attitude change have made a strong comeback from the pessimism and decline of interest that characterized the late 1960s and 70s (see McGuire 1985 and Eagly 1986). This fact is reflected in both the number of articles that we initially uncovered and the number of compromises we were forced to make in selecting topics and articles to review.[1] Preparing even a selective review of the literature given the space allotted to us was at times an overwhelming experience, and it was with severe regret that we condensed interesting topics and findings from pages to sentences in our struggle to meet space limitations.

Our task would have been even more difficult and our concern about omissions more severe were it not for the appearance of several excellent review chapters in the third edition of the *Handbook of Social Psychology* (Lindzey & Aronson 1985). The topic of attitude measurement, which we omit, is well surveyed by Dawes & Smith (1985), and McGuire (1985) has once again provided researchers with an illuminating historical and futuristic overview of attitude theory and research. The impact of the mass media on attitudes is covered in a chapter by Roberts & Maccoby (1985), and Kinder & Sears (1985) have reviewed the interdisciplinary literature on political attitudes and opinions. In addition to these *Handbook* chapters, Cooper & Fazio (1984) have provided a review of dissonance theory, Insko (1984) an analysis of contemporary balance theory perspectives, Fazio (1986b) a retrospective on self-perception theory, and Eagly & Chaiken (1984) a review of contemporary theorizing in persuasion. Finally, the latest volume of the Ontario Symposium series (Zanna et al 1986) devoted itself to an integrative exploration of social influence.

While we have followed the format of previous reviews (e.g. Cooper & Croyle 1984) with the inclusion of major sections on attitude-behavior relations and persuasion, our review departs somewhat from recent tradition by inclusion of a separate section on the broad topic of attitude structure. The most unique aspect of our review, however, is the inclusion of a substantial section on minority (and, to a lesser extent, majority) group influence. Although we believe that recent research in this area will be of considerable interest to attitude change researchers and that readers will share our perception of its centrality to the social psychological literature on attitudes, the topic of minority influence has never received more than passing attention in previous reviews in this series (cf Kiesler & Munson 1975).

[1]Our charge was to prepare a selective review of the attitudes literature covering the period January 1, 1983 to December 31, 1985. Articles in press as of January, 1986 and a small number of unpublished manuscripts that we considered particularly noteworthy are also included. In addition to a computer-based search for relevant literature, we also hand-searched the major social psychological journals and solicited papers from over 100 researchers in the field.

Our major focus is on research that has investigated the role of cognitive structure and cognitive processes in attitude organization, formation, and change. Social cognitive approaches have long permeated the study of attitudes (see Eagly & Chaiken 1984, McGuire 1985, Eagly 1986), and so this emphasis on cognition is not so much a bias as it is an accurate representation of the present state of the field. Nevertheless, signaling that interest in motivation is indeed on the upswing (see Cooper & Croyle 1984), a healthy subset of the research we located raised questions regarding motivational and affective issues and (often) their relation to cognition.

ATTITUDE STRUCTURE

Consistent with McGuire's (1985, 1986) prediction that attitude research is entering a new "structural era," the last few years have produced a flurry of research and theorizing about the structure of attitudes and their relation to other cognitive systems. In this section we review this work and in the next provide an update of research on the broader structural issue (McGuire 1985) of the reciprocal relation between attitudes and behavior.

Single Versus Multicomponent Views of Attitude

The traditional question of whether attitudes are unidimensional or multidimensional continues to receive research attention. Whereas the unitary view regards attitudes as affective orientations toward objects (e.g. Fishbein & Ajzen 1975), the multidimensional view takes one of two forms. The tripartite model (e.g. Katz & Stotland 1959) assumes that attitudes have an affective, cognitive, and behavioral component, with each varying on an evaluative dimension. Criticisms that this model obscures the attitude-behavior relation (e.g. McGuire 1969, Fishbein & Ajzen 1975; but see Breckler 1984) have led some researchers to delete the behavioral component and to regard attitude as a two-dimensional construct (e.g. Bagozzi & Burnkrant 1979, Zajonc & Markus 1982).

Using covariance structure analysis, Bagozzi & Burnkrant (1979) reanalyzed data on attitude-behavior relations originally reported by Fishbein & Ajzen (1974) and concluded that an affective-cognitive model of attitude fit the data better than did a one-factor model. Dillon & Kumar (1985) performed a similar reanalysis (using LISREL IV, Joreskog & Sorbom 1978) but reached a different conclusion. They argued that although the affective-cognitive model could not be rejected, rival "two-factor" models that were interpretable as unidimensional attitudes with methods variation partialled out fit the data equally well. In a rejoinder, Bagozzi & Burnkrant (1985) challenged Dillon and Kumar's data interpretation and reported yet another reanalysis using the more powerful LISREL VI (Joreskog & Sorbom 1984). They found that the

affective-cognitive model achieved convergent, discriminant, and predictive validity while the one-component model failed to achieve even convergent validity.

Regarding the tripartite model, two data sets originally examined using a multitrait-multimethod approach (Ostrom 1969, Kothandapani 1971) have been reanalyzed twice using structural analysis (Bagozzi 1978, Breckler 1983). Both revealed that Ostrom's (1969) data weakly supported the tripartite model while Kothandapani's (1971) data conformed more to a single-factor model. Breckler (1984) argued that prior tests of the tripartite model lacked sensitivity because they relied on verbal measures of all three components and used symbolic attitude objects. To test his reasoning, Breckler conducted two studies in which the tripartite model was evaluated using LISREL V (Joreskog & Sorbom 1981). The tripartite (but not single-factor) model proved statistically acceptable and provided a good fit to the data from the first study which used nonverbal measures of affect and behavior and had subjects respond to a physically present attitude object (a snake). However, in a second study which utilized verbal measures of these components and had subjects respond to a mental representation of the same attitude object, the tripartite model was rejected.

A definitive judgment on the three- (or two-) versus one-dimensional issue seems premature given that the results of structural analyses sometimes vary with the sophistication of researchers' LISREL programs (and their abilities to generate plausible models). Moreover, Breckler's (1984) research suggests that attitude dimensionality may vary as a function of domain studied, and consequently that there may be no transcendental answer to the unidimensional versus multidimensional question. Breckler studied attitudes toward snakes because he assumed that this domain implicated multiple response systems. However, because people may respond to more abstract objects (e.g. sociopolitical issues) primarily at a conceptual level, attitudes toward these objects might be primarily unidimensional. Finally, we note that a multicomponent view is not antithetical to an expectancy-value model of attitude. In an interesting pair of papers, Bagozzi (1984, 1985) examines the Fishbein & Ajzen (1975) model and shows that this framework is just one of a number of unidimensional and multidimensional expectancy-value formulations that could be used to represent attitudes.

Breckler (1984; see also Greenwald 1982b) views attitude as a hypothetical response to an attitude object and affect, cognition, and behavior as three response classes. Other recent (and compatible) definitions view attitude as a disposition to respond favorably or unfavorably toward an object and affect, cognition, and behavior as three domains in which attitude is expressed in observable responses (Ajzen 1984, Davis & Ostrom 1984). In another recent rendition of the trilocular perspective, Zanna & Rempel (1986) have defined

attitudes as evaluative appraisals of objects and propose that affect (i.e. emotion), cognition, and behavior are three classes of *information* on which this evaluative judgment is based. Zanna and Rempel thus regard attitudes as separate cognitive entities [versus latent constructs (Breckler 1984)] which, consequently, may be accessed from memory independent of the (affective, cognitive, or behavioral) information on which they are based (see Lingle & Ostrom 1981, Fazio 1986a).

A notable feature of the Zanna-Rempel model is its attempt to initiate an integration of three views of attitude formation; Fishbein & Ajzen's (1975) expectancy-value formulation which Zanna and Rempel interpret as implying a relatively effortful and reasoned attitude formation process (but see Fishbein & Ajzen 1975, McGuire 1985), Bem's (1972) self-perception model which suggests a simpler, less effortful inference process (Taylor 1975, Chaiken & Baldwin 1981, Wood 1982, Tybout & Scott 1983), and an emerging view fired by the primacy of affect debate (Lazarus 1984, Zajonc 1984) and mere exposure research (e.g. Gordon & Holyoak 1983) which suggests that attitude formation requires little, if any, conscientious cognitive processing. In the Zanna and Rempel framework, these three perspectives are viewed as examples of the psychological processes by which cognitive, behavioral, and affective experience, respectively, determine attitudes. Although in need of testing and refinement (e.g. how do the three sources of information combine and interact to influence overall attitude?), this framework possesses numerous implications for various attitude phenomena (e.g. that "ambivalent" attitudes may arise when two or more sources of information yield conflicting evaluative judgments) and should prove heuristically useful to researchers.

Values, Attitudes, and Cognitive Structure

With notable exceptions (e.g. Scott 1959, Rosenberg 1960, Rokeach 1979), attitude researchers have neglected values, our normative beliefs about desirable goals and modes of conduct (Rokeach 1979). Recent research indicates that this neglect is waning; value measurement is being refined (e.g. Braithwaite & Law 1985) and values are broadening our understanding of intergroup and sociopolitical attitudes (e.g. Ellsworth & Ross 1983, McKirnan et al 1983, Sears 1983, Sears & Lau 1983, Tyler 1984, Kinder & Sears 1985), attitude change (e.g. Ball-Rokeach et al 1984), and ideologically based attitude systems (e.g. Feather 1984, 1985, Tetlock 1983c, 1984, 1986, Drake & Judd 1986).

SYMBOLIC ATTITUDES Although symbolic attitudes have yet to be defined with precision, they are regarded as involving strong affect, tied to important moral concerns or core values, and as primarily expressive (vs instrumental) in nature (Abelson 1982, Sears 1983, Herek 1986a). "Symbolic racism," the

most heavily researched of these variables, has been defined as "a blend of antiblack affect and the kind of traditional American moral values embodied in the Protestant Ethic" (Kinder & Sears 1981, p. 416). Attitudes toward value-laden issues such as capital punishment and abortion have also been termed symbolic by some researchers (Ellsworth & Ross 1983, Sears 1983). Given the paucity of research on symbolic attitudes, it is too early to judge the merit of the symbolic-nonsymbolic distinction.

Research by Sears and Kinder (e.g. Kinder & Sears 1981, Kinder & Rhodebeck 1982, Sears & Lau 1983, Sears & Allen 1984) has shown that whites' race-related political attitudes (e.g. opposition to busing) are better predicted by measures of symbolic racism than by measures of short-term material self-interest. Although not couched in terms of symbolic attitudes, studies by Tyler (1984, Tyler et al 1985a,b) have similarly shown that attitudes toward political leaders and institutions are better predicted by people's concerns about fairness than by the personal outcomes they associate with these attitude objects.

Symbolic racism research has not gone uncriticized. Both Bobo (1983) and Sniderman & Tetlock (1986) argue that the Sears and Kinder studies pitted symbolic racism against an overly narrow definition of self-interest, and Bobo claims that self-interest does predict busing attitudes when its definition is broadened (but see Sears & Kinder's 1985 rejoinder). Sniderman and Tetlock have criticized this research on other grounds as well, perhaps most importantly for failing to clearly define symbolic racism at either the operational or conceptual level. These authors also point out that despite their centrality to the symbolic racism construct, values such as individualism and self-reliance have not been assessed in Sears and Kinder's studies. If constructively received, these critiques should inspire a more precise understanding of symbolic racism and other symbolic attitudes and a clearer idea of what role, if any, values play in infusing these attitudes with their presumed emotional significance.

VALUES AND COGNITIVE STRUCTURE In a series of content analysis studies of political elites, Tetlock (1983c, 1984; Tetlock et al 1984, 1985) has found that complex reasoning about political and social issues is more characteristic of some ideological groups than of others. Specifically, this research indicates that members of the political right tend to reason in less integratively complex ways than do either moderates or left-wing ideologues. Yet, in addition to this "rigidity-of-the-right" phenomenon, complexity also varies with ideological extremity; in a study of British Parliamentarians, integrative complexity was more common among moderate (vs radical) socialists as well as among moderate (vs extreme) conservatives (Tetlock 1984).

To explain both individual and domain-specific (Tetlock 1984) differences in complexity, Tetlock (1984, 1986) has proposed a value pluralism model which assumes that values underlie political ideologies and that ideologies vary not only in the kinds of values that are assigned high priority but also in the degree to which conflict between values is acknowledged. Whereas "monistic" ideologies (e.g. extreme conservatism) assign high priority to one value or to multiple values that are perceived as consistent, "pluralistic" ideologies give priority to values that may often imply conflicting positions on specific issues. According to the model, complexity is a function of the extent to which two or more important and conflicting values are operative. Tetlock (1986) confirmed this hypothesis in a study that measured subjects' value priorities and their integrative complexity with respect to each of six policy issues that activated value conflict. Complexity was greater to the extent that subjects assigned high and near-equal importance to the two conflicting values that were relevant to each issue.

Although Tetlock (1986) did not test the hypothesis that value conflict may result in attitudinal moderation, other findings from his study (e.g. complexity was negatively related to evaluative consistency of thought) as well as previous ones (Tetlock 1984) suggest that this hypothesis would be confirmed. As such, this research complements other recent work on cognitive structure and both evaluative extremity (Linville 1982, Judd & Lusk 1984) and attitude polarization after thought (Leone & Baldwin 1983, Leone et al 1983, Leone 1984, Chaiken & Yates 1985, Millar & Tesser 1986a, Drake & Judd 1986). For example, Judd & Lusk (1984) assert that judgmental extremity depends on both the number and correlation between attribute dimensions that characterize people's cognitive structures. Compatible with value-pluralism logic, these authors find that when uncorrelated, more dimensions give rise to less extreme attitudinal judgments (see Linville 1982) but when correlated, more dimensions produce more extreme judgments. Recent studies on thought-induced attitude polarization (Chaiken & Yates 1985, Millar & Tesser 1986a) have yielded compatible findings.

Impact of Attitudes on Information Processing

Research investigating whether attitudes exert selective effects on exposure and attention to information and on the perception, learning, and retention of information declined considerably in the 1970s as narrative literature reviews reached possibly overly pessimistic conclusions (see Cooper & Rosenthal 1980, Hedges & Olkin 1985) about the existence of several of these phenomena (e.g. Freedman & Sears 1965, Greenwald 1975). As discerned by Cooper & Croyle (1984), interest in the information processing effects of attitudes is reviving. Whether spurred by or simply paralleling the interest social cognition researchers have shown in similar issues (see Markus &

Zajonc 1985, Higgins & Bargh 1987), attitude researchers are addressing both classic and newer questions about how attitudes influence cognitive processes.

Recent studies on selective exposure (Chaffee & Miyo 1983, Frey & Rosch 1984, Sweeney & Gruber 1984, Frey & Stahlberg 1986) as well as two new reviews (Cotton 1985, Frey 1986) indicate that motivated selectivity effects [versus de facto exposure (see Freedman & Sears 1965)] can be obtained, particularly in nonlaboratory settings where implicit demands for high attention and impartial processing are less likely to operate (see Chaiken 1984, Eagly & Chaiken 1984, Frey 1986). For example, Sweeney & Gruber (1984) analyzed survey data collected during the 1973 Watergate hearings and found support for both the approach and avoidance components of Festinger's (1957) selective exposure hypothesis; while McGovern supporters sought out information about the scandal and hearings, Nixonites actively avoided it. As reviewed by Frey (1986), other research in this area has continued to explore variables (e.g. utility, familiarity, decision reversibility, refutability of information, impartiality norm) that either obscure this classic "congeniality" exposure effect or reverse it.

Like selective exposure, the issue of whether prior attitudes influence the learning and retention of new information is important because of its implications for understanding resistance and persistence processes in social influence. Labelled in the 1970s as an unreliable phenomenon (e.g. Fishbein & Ajzen 1972, Greenwald 1975) the hypothesis that people better remember attitudinally congruent information has been reexamined in a number of recent studies (e.g. Read & Rosson 1982, Bothwell & Brigham 1983, Gilmore et al 1983, Pratkanis 1984, Roberts 1984a,b, Howard-Pitney et al 1986, Hymes 1986) and pronounced real though of small magnitude in a recent meta-analytic review (Roberts 1985). Nevertheless, the attitude-memory relation is more complex than the simple congeniality hypothesis suggests and to date research has progressed little beyond the first generation (Zanna & Fazio 1982) issue of establishing that attitudes can, in fact, influence memory (see Chaiken 1984).

Regarding complexities, attitudinally extreme (vs moderate) information is sometimes better remembered, regardless of its consistency (Judd & Kulik 1980, Pratkanis 1984, Hymes 1986), and a number of results indicate that inconsistent attitudinal information sometimes (and for some people) enjoys a memorial advantage (e.g. Cacioppo & Petty 1979, Zanna & Olson 1982, Gilmore et al 1983). A similar complex of findings has been obtained in person memory research (see Markus & Zajonc 1985, Higgins & Bargh 1987) and attitude researchers have much to gain by consulting that literature for clues regarding the cognitive mechanisms that may underlie congruency and incongruency effects (e.g. Burnstein & Schul 1983, Crocker et al 1983,

Hastie 1981, 1984, O'Sullivan & Durso 1984, Stern et al 1984, Wyer & Gordon 1984, Bargh & Thein 1985). Incongruency effects, for example, may arise when people allocate greater attention to inconsistent information in order to integrate or reconcile such information with their preexisting schemas (or attitudes) or refute such information (e.g. Crocker et al 1983, Fiske et al 1983a, Schul et al 1983, Wyer & Frey 1983, Erber & Fiske 1984, Hastie 1984). While this literature provides important insights regarding cognitive mediation, with few exceptions (e.g. Erber & Fiske 1984), it is less informative about motivational issues. Thus, in pursuing attitude-memory relations, researchers should not lose sight of the motivational perspectives (e.g. dissonance theory, protecting one's opinions) that guided an earlier generation of research on this topic (e.g. Jones & Aneshansel 1956, Jones & Kohler 1958, Spiro & Sherif 1975) or ignore relevant findings from selective exposure and persuasion research (e.g. the impact of involvement on information processing). Methodologically, research testing attentional mechanisms underlying attitude-memory effects should take care to construct experimental settings that do not constrain subjects' levels of attention, and memory measures in this research should be broadened to include those tapping distortions (e.g. intrusions) in addition to the simple accuracy of recall measures that have characterized the vast majority of prior work (see Chaiken 1984, Schmidt & Sherman 1984).

Regarding other research on attitudes and cognitive processes, recent studies have explored assimilation and contrast effects in the perception of others' opinion statements (Judd et al 1983, Romer 1983), and the impact of attitudes on memory for the sources of persuasive messages (Johnson & Judd 1983), recollections of past behavior (Ross et al 1983, Olson & Cal 1984, Lydon et al 1986; see Ross & Conway 1986 for a review), expectancies regarding future events (Granberg & Brent 1983), and evaluations of attitude-relevant information (Vallone et al 1985). While most of these studies have documented congruency effects (e.g. past behaviors are construed to be consistent with current attitudes), incongruency effects have also been obtained (e.g. Vallone et al's "hostile media phenomenon"). As with research on memory for attitude-relevant information, the cognitive and motivational factors that produce these effects are not yet well delineated.

ATTITUDE-BEHAVIOR RELATIONS

Research investigating whether and how attitudes influence behavior continues to proceed along two lines. One concerns the ways that cognitions about a behavior are combined to create attitudes and/or intentions toward that behavior (e.g. Fishbein et al 1986) and relies primarily on correlational methodologies (combinatorial approaches). The other concerns the underly-

ing cognitive processes that influence the attitude-behavior relationship (e.g. Fazio 1986a) and relies primarily on laboratory experiments, but often at the expense of studying important social attitudes (process models). After reviewing examples of each of these approaches, we consider the reciprocal effect of behavior on attitudes.

The Theory of Reasoned Action

Although several combinatorial-type models have been proposed in relation to behavioral prediction (e.g. Davidson & Morrison 1983, Jaccard & Becker 1986) most research has been based upon Fishbein and Ajzen's (1975, Ajzen & Fishbein 1980) "theory of reasoned action." This theory suggests that behavior can be predicted through measurement of the individual's attitude toward the behavioral action (Aact) and social norms (SN) that influence the likelihood of performing the behavior. Evaluative judgments about the salient consequences of a particular behavior are assumed to be combined through an expectancy-value formulation to form Aact, while motivational desires to comply with a set of salient normative beliefs are assumed to be similarly combined to determine SN. Most importantly, both Aact and SN are assumed to influence behavior exclusively through behavioral intentions (BI). From its inception the theory has generated a great deal of research, much of which continues to be conducted in applied settings (e.g. Midden & Ritsema 1983, Budd & Spencer 1984, Shimp & Kavas 1984, Black et al 1985, Hoogstraten et al 1985, Fishbein et al 1986). Validity and measurement issues regarding the original model have remained under investigation (Jaccard & Sheng 1984, Bagozzi 1986), and a number of modifications have been proposed (Liska 1984, Ajzen 1985, Bagozzi & Warshaw 1986).

Originally, Fishbein & Ajzen (1975) argued that if everything could be measured precisely within a reasonable amount of time at the same level of specificity, and if the behavior was under "volitional control," then BI and behavior would be perfectly correlated. However, the now perennial search for variables that have effects on behavior that are *not* mediated by behavioral intentions has continued (Gorsuch & Ortberg 1983, Budd & Spencer 1984, Fisher 1984, Bagozzi & Schnedlitz 1985), and at this point it is quite clear that some variables do exert a direct influence on behavior. Perhaps the most robust of these is past behavior (Fredericks & Dossett 1983, Manstead et al 1983, Ajzen & Madden 1986). In fact, in a study that investigated class attendance, Ajzen & Madden (1986, study 1) found previous behavior to be the best single direct predictor of future behavior.

To account for variables whose behavioral impact may not be mediated through intentions, many researchers have suggested that new components be added to the original model. The extent of these proposed modifications ranges from the addition of a single component [e.g. a measure of "moral

obligation" (Gorsuch & Ortberg 1983)] to the inclusion of so many constructs (a total of 14 by Bagozzi & Warshaw 1986) that a virtually different model results.

One of the original developers of the theory of reasoned action has himself conceded the necessity of revision. Because the original theory did not include a construct that explicitly tapped the concept of "volitional control" (i.e. situational or internal obstacles to performing the behavior), Ajzen (1985; Ajzen & Madden 1986) has added such a construct as a third independent predictor and christened the new model a "theory of planned behavior." "Perceived control" is designed to tap the individual's perception of the obstacles that might prevent behavior from occurring and has been shown to have both direct and indirect (via behavioral intentions) effects on behavior. In fact, in a study on weight loss (Schifter & Ajzen 1985) perceived control, in addition to its indirect effects through intentions, had a larger direct relation to behavior than did BI itself.

Other researchers have suggested similar constructs to account for the effects of situational and personal constraints on behavior (Maddux & Rogers 1983, Rogers 1985, Ronis & Kaiser 1985, Warshaw & Davis 1985, Wolf et al 1986). For example, Warshaw & Davis (1985) measured individuals' subjective expectancies that they would actually perform a behavior (a construct that includes both intentions and perceived constraints on one's ability to perform the behavior), and Bagozzi & Warshaw (1986) attempted to differentiate internal (e.g. motivation, ability) from external (situational) factors that affect perceived control by including separate measures of each. How these new measures of personal control differ from, or add to, Bandura's (1977) concept of "self-efficacy" is not clear at this time.

At present, researchers seem preoccupied with adding new components to the theory of reasoned action in their efforts to increase the proportion of variance accounted for in behavior. In doing so, however, the attitude construct itself (i.e. Aact) seems often to have been relegated to secondary status and the distinctive expectancy-value conceptualization underlying the original model seems much less evident in its revisions. It is hoped that subsequent work on behavioral prediction will not lose sight of the role played by attitudinal factors and will continue to provide important theoretical insights regarding the attitude-behavior relationship (see Sherman & Fazio 1983).

Process Models

The second approach to the study of the attitude-behavior relationship has been to investigate the underlying cognitive processes by which attitudes influence behavior. Virtually all the research considered in this section investigates the general question of how the relative activation of an attitude or of particular "elements" of an attitude (e.g. cognitions and feelings) at the

time attitudes are expressed or behaviors performed affects the attitude-behavior relationship. Following Higgins et al (1982), we use the term "accessibility" to refer to this activation and reserve the related term "availability" to denote the *existence* of a construct in memory.

ATTITUDE ACCESSIBILITY In the best-developed program of research on attitude accessibility, Fazio and his colleagues (Fazio & Zanna 1981, Fazio et al 1982, 1983, 1984, 1986, Powell & Fazio 1984, Fazio 1986a, Fazio & Williams 1986, Kardes et al 1986) have investigated under what circumstances an attitude is activated (made accessible) upon exposure to a corresponding attitude object. This activation is assumed to be necessary for a substantial attitude-behavior correlation, because if an object does not activate an associated attitude, then the attitude will be unlikely to influence behavior toward the object. In Fazio's (e.g. 1986a) model, attitude is defined as the association between an object (e.g. Democrats) and an evaluation (e.g. "very good"), and the *strength* of this association determines the degree to which the attitude is activated upon exposure to the object. Attitude strength (i.e. associative strength) is operationalized as reaction time (RT) to evaluative queries about the attitude object. Individuals who can quickly evaluate the attitude object are assumed to have a strong attitude, or object-evaluation association, which causes the attitude to be spontaneously activated in the presence of the object and therefore increases attitude-behavior consistency.

Fazio has demonstrated that attitude strength varies as a function of several factors. For one, the manner of attitude formation is critical. Direct experience with the attitude object, which enhances attitude-behavior correspondence (e.g. Smith & Swinyard 1983, Manstead et al 1983; see Fazio & Zanna 1981), produces a stronger object-evaluation association (Fazio et al 1982). A second factor that influences associative strength is the number of times that the attitude has been expressed. For example, Fazio et al (1982) had subjects copy their attitude toward a given object onto several sheets of paper. Compared to control subjects who did not perform this task, repeated-expression subjects evidenced a stronger object-evaluation association as measured by their response latencies to a subsequent attitude query.

Although the above studies were suggestive, they did not make clear whether manipulations of direct experience or repeated expression actually increase the likelihood that attitudes will be spontaneously activated in the presence of their corresponding attitude objects. Recently, more direct tests of this hypothesis have been conducted (Fazio et al 1983, 1986). For example, in a study on attitudes toward puzzles, Fazio et al (1983) first increased associative strength for experimental subjects through either repeated expression or direct experience, while control subjects did not have their attitudes toward the experimental puzzles "strengthened." Then subjects participated in an

"unrelated" experiment where one of the puzzles was presented within a series of drawings. As predicted, for subjects whose attitudes had been strengthened (but not control subjects) this priming manipulation influenced their subsequent ratings of an ambiguous stimulus in the direction of the valence of their attitudes toward the puzzle that had been used as a prime. These findings thus demonstrate that, for people whose attitudes have been strengthened, the mere presence of the corresponding attitude object can indeed activate their attitude. In another study, Fazio & Williams (1986) documented the importance of long-term individual differences in the strength of the object-evaluation association. In this study, the latencies of subjects' responses to a query about their Presidential preferences were predictive of attitude-behavior correspondence such that the attitudes of subjects who responded more quickly were more predictive of subsequent voting behavior.

A study by Lord et al (1984) is also relevant to the attitude accessibility hypothesis. In this study, subjects' behavior toward an individual and their attitudes toward a *group* to which the individual presumably belonged were consistent only when the individual was a prototypic exemplar of the group. This finding is consistent with Fazio's accessibility hypothesis if it is assumed that the prototypic group member, as a "good" example of the attitude object, was able to activate subjects' attitudes toward the group itself.

Fazio et al (1986) have suggested that attitude activation in the presence of an attitude object may occur "automatically"; that is, without any conscious, intentional cognitive processing (see Bargh 1984, Sherman 1986, Higgins & Bargh 1987). To demonstrate this, these authors first selected individuals who manifested fast or slow response times in a preliminary task that assessed their attitudes toward various objects (e.g. music). In a subsequent task, these attitude objects were briefly presented to subjects just before they made evaluative judgments about unrelated adjectives (e.g. appealing). Response times for these latter judgments served as the primary dependent measure. Priming subjects with objects toward which their attitudes matched the evaluative valence of the target adjective facilitated response times with respect to the latter judgments, but only for subjects who were assumed to have a strong object-evaluation association. Moreover, because this priming effect was observed at a very short prime-target interval (.3 sec) and not at a longer interval (1 sec), Fazio et al concluded that the activation of these subjects' attitudes had occurred automatically. It is too early to speculate on what impact this evidence regarding automatic activation will have on our general understanding of the attitude-behavior relationship because the extent to which evaluative responses made within one second after exposure to an attitude object are capable of influencing overt behavior in more realistic settings is, at present, uncertain.

The research of Fazio and his colleagues provides a promising approach to

the study of the processes underlying the attitude-behavior relationship. In particular, this approach provides some insights regarding how factors that moderate the attitude-behavior relationship (e.g. direct experience, Fazio & Zanna 1981; self-monitoring, Snyder & Kendzierski 1982; moral reasoning, Rholes & Bailey 1983) may operate. For example, Kardes et al (1986) recently extended past research demonstrating higher attitude-behavior correspondence for low (vs high) self-monitoring subjects by showing that response latencies to an attitude query were faster for low self-monitors.

Nevertheless, in the long run, the attitude strength construct will require further articulation. For one, the primary measure of this construct (response time) is also influenced by attitude extremity (Judd & Kulik 1980, Powell & Fazio 1984, Wyer & Gordon 1984, Fazio & Williams 1986) and the overlap between extremity and strength of the object-evaluation association has not always been controlled for experimentally (but see Fazio & Williams 1986). How the strength of the object-evaluation association relates to other measures of "attitude strength" (e.g. confidence, certainty) is also not yet clear (see Raden 1985). Moreover, the accessibility model does not clearly differentiate individuals for whom the attitude is not activated upon exposure to the object because of the weakness of the object-evaluation association from those for whom the attitude is not activated because the attitude itself is not available (a non-attitude).

ACCESSIBILITY OF UNDERLYING ATTITUDE ELEMENTS Research conducted by Wilson and his colleagues (Wilson et al 1984, 1986, Wilson & Dunn 1986) has focused, not on the accessibility of attitudes per se, but rather on the relative accessibility of cognitions that influence attitude judgments (see Fishbein & Ajzen 1975). In this research, subjects (whose behavior is subsequently assessed) are asked to consider "why they hold the attitude that they do" before they express their attitude toward a given object. Wilson suggests that this "analyzing reasons" manipulation, through a process called "cognitivization" (Wilson et al 1986), activates a different set of cognitions than those that are normally accessible to the individual (and which presumably guide behavior). Hence, Wilson hypothesizes that the correspondence between attitudes assessed after such an intervention and subsequent behavior will be low.

This hypothesis has been supported in a number of studies (see Wilson et al 1986). For example, in a field setting, Wilson & Dunn (1986) had students who were standing on a cafeteria line participate in a "survey" of soft drink preferences. Just before soliciting their attitudes toward each of six drinks, some subjects were asked to give reasons why they liked or disliked each drink, while others were not. Later, subjects were observed purchasing a given soft drink. Subjects in the "analyzing reasons" (versus control) condi-

tion evidenced a lower correlation between their beverage attitudes and behavior, presumably because their expressed attitude after "cognitivation" did not match the attitude that (presumably) later influenced their purchase behavior. On the surface, these findings seem surprising because they appear to contradict other studies demonstrating that increasing people's awareness of their attitudes (by having them consider their feelings about the attitude object or through more general self-awareness manipulations) increases attitude-behavior correspondence (e.g. Snyder & Swann 1976, Carver & Scheier 1981, Wicklund 1982).

In a recent experiment designed to address this paradox, Millar & Tesser (1986b) hypothesized that superficially similar manipulations such as "analyzing reasons" and "focusing" (i.e. considering one's feelings) differentially activate the cognitive and affective components of an attitude, respectively. In their study, an "analyzing reasons" manipulation produced higher attitude behavior correlations when behavior was seen in a cognitive light (the puzzles used as the attitude object were seen as instrumental for success at an upcoming "analytical ability" test), while a "focusing" manipulation led to higher attitude-behavior correspondence when behavior was (assumed to be) more affectively driven. More generally, these findings, which support an affective-cognitive model of attitude, indicate that attitudes will be predictive of behavior only when there is a match between the component that underlies the expressed attitude and the component that influences the behavior (see Abelson 1982, Breckler 1984, Zanna & Rempel 1986).

Kallgren & Wood (1986) have also obtained data relevant to accessibility and the attitude-behavior relation. These authors found that the number of attitude-related beliefs and behaviors subjects listed in a two minute period added to the prediction of subsequent behavior over and above that made by attitude measures alone (see also Davidson et al 1985). Although framed in terms of attitude accessibility, such thought-listing tasks may tap the availability of attitude-relevant information or the ability to elaborate on one's attitude rather than accessibility per se.

In summary, there is growing evidence that variability in attitude accessibility or in the accessibility of various attitude "elements" influences both expressed attitudes and the attitude-behavior relationship. Interesting questions for subsequent research include investigating what attitude elements or components are most influential in determining attitudes and behaviors (see, for example, Fiske et al 1983b), how long an attitude or attitude element made accessible remains accessible, and whether attitudes can be primed out of the awareness of the individual. A test of the latter would probably necessitate less obtrusive accessibility manipulations (see Higgins et al 1977, Srull & Wyer 1979, Bargh & Pietromonaco 1982) than have been used thus far (Fazio et al 1983, 1986). If more subtle manipulations prove to influence

expressed attitudes in the same way that impression formation can be influenced by nonobvious manipulations of the relative accessibility of trait terms (e.g. Bargh & Pietromonaco 1982), then evidence for subliminal persuasion may be in hand.

The Impact of Behavior on Attitudes

The attitude change that results from behavior that individuals are induced to perform continues to attract research attention. Several mechanisms now exist to account for such attitude change, including self-perception (Bem 1972), dissonance reduction (Festinger 1957), impression management (e.g. Riess et al 1981) and ego enhancement (Steele & Liu 1983).

SELF PERCEPTION In the past, dissonance explanations were pitted against self-perception explanations (see Cooper & Fazio 1984, Fazio 1986b). Research by Fazio et al (1977) seems to have put this controversy at least temporarily to rest with evidence that, ceteris paribus, dissonance applies to behaviors outside of the "latitude of acceptance" while self-perception applies to behaviors within this latitude. Perhaps as a result, self-perception theory has not received much recent attention in relation to the induced compliance phenomenon (see Crano & Sivacek 1984 and Fazio et al 1984 for other applications of the theory and Fazio 1986b for a review).

In a program of research that bears surface resemblance to self-perception research, Higgins and his colleagues (Higgins & Rholes 1978, McCann & Hancock 1983, Higgins & McCann 1984) have shown that people's behaviors, in the form of their self-generated verbal or written descriptions of a target person, can influence their attitudes toward the target after a temporal delay. Specifically, subjects in their research have been shown to base their subsequent attitudes toward the target on their earlier descriptions of him or her, without appropriately discounting the context in which the descriptions were made (see Higgins & Stangor 1986 for a formal model of these context-induced judgments). For example, Higgins & McCann (1984) asked subjects to communicate information about a target person to another person who purportedly liked or disliked the target. With no other external inducements, communicator-subjects tailored their message to "please" their audience, especially high authoritarian subjects who communicated to a high status audience (see also Tetlock 1983a). Subjects' attitudes proved to be biased in the direction of the evaluative tone of their original (context-induced) message, especially for those who expressed the attitudes 10–14 days (vs immediately) after writing the message. These findings are important because they provide a rare illustration that attitudes expressed primarily because of strategic concerns (rather than as expressions of true feelings) may eventually become internalized (Kelman 1961).

IMPRESSION MANAGEMENT Impression management (the idea that individuals change their attitudes after writing a counterattitudinal essay in order to avoid appearing inconsistent to others) has gradually replaced self-perception as dissonance theory's prime competition in the induced compliance paradigm (Riesse et al 1981). Generally, recent research has been more supportive of dissonance explanations, both in studies that have manipulated impression management concerns through the status or attractiveness of the experimenter (Rosenfeld et al 1983, 1984) and in studies where postessay attitudes have been assessed under conditions that presumably minimize self-presentational concerns (Jamieson & Zanna 1982, Stults et al 1984).

Overall, however, it seems likely that both dissonance reduction and impression-management concerns operate to produce attitude change after the performance of counterattitudinal behavior (Rosenfeld et al 1983, Elkin & Leippe 1986; see also Tetlock & Manstead 1985). Supporting the multiple determination idea, Baumeister & Tice (1984) demonstrated that attitudes may change in the induced compliance paradigm even under low choice conditions and, conversely, that perception of free choice can produce attitude change even under conditions of complete privacy. What would seem most useful at this time would be an attempted taxonomy of the relevant situational and individual difference factors that influence which mechanisms prevail, under which conditions, and for which people (see Carver & Scheier 1981, Paulhus 1982, Schlenker 1982, Sorrentino & Hancock 1986).

DISSONANCE IN SOCIAL SETTINGS Several recent studies have productively extended the induced compliance paradigm into more social settings by showing that the group itself may influence the magnitude of attitude change that results from counterattitudinal behavior. In a particularly interesting study, Zanna & Sande (1986) had subjects write a consequential, counterattitudinal essay either alone or in groups of three. In the group conditions, the three members worked together to write the essay but expressed their pre- and postessay attitudes privately. Attitude change in the "alone" conditions was greater for those who had free choice than for those who did not, replicating the standard induced compliance effect. However, in the group situation, attitude change occurred for low choice groups but not for free choice groups. Indirect measures suggested that, although dissonance was equally high for individuals in the free choice/group condition as it was in the free choice/alone condition, subjects in the group situation were able to diffuse responsibility for the content of the essay to other group members, thus eliminating the need for attitude change.

In a related study, Cooper & Mackie (1983) found that group membership may serve to prevent attitude change under certain conditions. In this study, subjects who were members of an established pro-Reagan group participated

in an experiment where they were asked to write essays. Some wrote an essay that was counter to an issue that defined their group membership (supporting the reelection of Carter), while others wrote an essay that was relevant to, but not defining of, group membership (supporting the extension of government-sponsored health programs). Under free choice conditions, attitude change was observed on the nondefining issue but not on the defining issue, as the latter was presumably prevented by social pressure from the group. Interestingly, individuals in the free choice/definitional condition were observed to reduce their dissonance-produced arousal by devaluing members of a pro-Carter group more than individuals in the other experimental conditions. Recent work by Mackie (1986, Mackie & Cooper 1984) on attitude polarization in groups (see also Hinsz & Davis 1984, Orive 1984, Isenberg 1986) also demonstrates the complicating effects that social settings (e.g. needs for group identity) can have on attitudes and attitude change.

These studies are interesting demonstrations of dissonance in social settings and suggest that the social context may serve to either increase or reduce dissonance, and thus affect attitude change. The effects of social context on dissonance-related attitude change (e.g. Cooper & Mackie 1983, Zanna & Sande 1986) and on self-persuasion (e.g. Higgins & McCann 1984) represents one of the more important recent advances in the study of the effects of behavior on attitudes.

ATTITUDE CHANGE INDUCED BY PERSUASIVE MESSAGES

Although one's own behavior can be an important basis for attitude formation and change, the bulk of the attitude change literature considers how influence results from people's exposure to the opinions of others. In persuasion research, subjects read or hear a verbal message consisting of an overall position and usually one or more supportive arguments. Typically, this message is associated with a single communicator (but see Harkins & Petty 1983). The last section of the chapter reviews research in which subjects, often in group settings, are exposed to either the unelaborated or elaborated statements of minority and/or majority group sources.

Persuasion research continues to manifest its long-standing interest in cognitive processes although, as we shall see, motivational issues are beginning to resurface after a period of neglect (see Cooper & Croyle 1984, Eagly & Chaiken 1984). In Eagly and Chaiken's (1984) review of contemporary theorizing, a convenience distinction (which we adopted in discussing attitude-behavior research) was drawn between "process" theories that provide qualitative descriptions of the mechanisms involved in accepting persuasive messages (e.g. attributional reasoning) and "combinatorial" theories that primarily provide quantitative descriptions of how recipients integrate rele-

vant information to form an overall judgement (e.g. information integration theory). Reflecting most current research, our review focuses on process perspectives. For more comprehensive reviews, we refer readers to the Eagly and Chaiken chapter [which includes discussion of how process theories can be linked to combinatorial theories, especially to Anderson's (e.g. 1981) information-integration model] and to McGuire's (1985) *Handbook* chapter.

Two broad-brush sketches of persuasion are currently fashionable, with one emphasizing and the other de-emphasizing detailed information processing. Attitude change theories epitomizing the first perspective [e.g. cognitive response approach (Petty et al 1981); McGuire's 1972 reception-yielding framework] have been labeled "central routes to persuasion" by Petty & Cacioppo (1981) and "systematic" approaches by Chaiken (1980), two terms we use interchangeably. The second "cognitive miser" (Fiske & Taylor 1984) perspective is reflected in Chaiken's (1980, 1986b) heuristic processing model, Cialdini's (1986) consideration of heuristic principles in compliance settings, and Petty & Cacioppo's (1981, 1986) "peripheral route" perspective.

Regarding heuristic processing and the peripheral route to persuasion, researchers have sometimes confused the terms by equating them (e.g. Kruglanski 1986, Sherman 1986). The heuristic model asserts that persuasion is often mediated by simple decision rules (e.g. "length implies strength") that associate certain persuasion cues (e.g. message length) with message validity (Chaiken 1980, 1986b). In contrast, the peripheral route refers to a family of attitude change theories that specify factors or motives that produce attitude change without engendering active message and issue-relevant thinking (Petty & Cacioppo 1981, 1986). These peripheral routes include cognitive perspectives such as heuristic processing (Chaiken 1980) and attributional reasoning (e.g. Kelley 1967, Bem 1972, Eagly et al 1981). However, the peripheral label is also used to refer to models which specify simple affective mechanisms in attitude change (e.g. classical and operant conditioning; also see Batra & Ray 1985 and Lutz 1985), perceptual models such as social judgment theory (Sherif & Sherif 1967), and social-role perspectives which assert that people often agree (or disagree) with messages for reasons that (presumably) would not necessitate thinking about message content [e.g. to identify with or promote a social relationship with liked communicators or comply with powerful ones (Kelman 1961); to manage a favorable social identity (Schlenker 1980)]. So as not to restrict the term "peripheral processing," or dilute the meaning of "heuristic processing," we suggest that they not be used interchangeably.

Message- and Issue-Relevant Thinking: A Systematic Approach

The central-peripheral framework, also called the Elaboration Likelihood Model (Petty & Cacioppo 1986), postulates that central processing occurs

when people are both motivated and able to engage in message- and issue-relevant thinking. These factors are also viewed as key determinants of systematic processing although, regarding their independence, Chaiken (1986b) speculates that some abílity-reducing variables (e.g. severe distractions) may also undermine motivation for detailed processing.

Recent research suggests a fairly large number of variables that either motivate or enable recipients to engage in message- and issue-relevant thinking. Situational variables include high (vs low) personal relevance of the message topic (e.g. Petty & Cacioppo 1984, Howard-Pitney et al 1986; also see Harkness et al 1985), high (vs low) match between message content and recipients' functional or schematic predispositions (Cacioppo et al 1982, DeBono 1986), repeated (vs single) exposures to messages (Cacioppo & Petty 1985), written (vs broadcast) messages (Chaiken & Eagly 1983), presenting arguments in rhetorical (vs statement) form (Burnkrant & Howard 1984), and having subjects recline (vs stand) during message exposure (Petty et al 1983b). Individual difference variables include prior knowledge about the message topic (Srull 1983, Wood et al 1985) and need for cognition (Cacioppo et al 1983; for studies implicating other situational and individual difference determinants of this processing mode see Harkins & Petty 1983, Heesacker et al 1983, Pallak et al 1983, Tetlock 1983a,b, McFarland et al 1984, Reardon & Rosen 1984, Yalch & Elmore-Yalch 1984, Jepson & Chaiken 1986, Sorrentino & Hancock 1986, Worth & Mackie 1986).

Systematic processing has been assessed in a variety of ways, including self-report, reading time, and argument recall (e.g. Chaiken 1980), number of message- and issue-relevant cognitions generated on thought-listing tasks (e.g. Burnkrant & Howard 1984, Chaiken 1980), physiological measures (Cacioppo & Petty 1986), and whether subjects are able to discriminate between intrinsically strong versus weak persuasive arguments (e.g. Petty et al 1983a). The latter experiments are particularly important because they confirm the prediction (Chaiken 1980, Chaiken & Eagly 1976, 1983, Petty & Cacioppo 1981) that message variables such as complexity and argument quality influence persuasion primarily to the extent that recipients are able and motivated to attend to and process persuasive argumentation. Strong (vs weak) messages induce greater persuasion, for example, for persons who are higher in need for cognition (Cacioppo et al 1983), when recipients are more knowledgeable about the message topic (Wood et al 1985), and when arguments are presented in rhetorical form (Burnkrant & Howard 1984).

INVOLVEMENT Subjects led to believe that the message topic (e.g. comprehensive exams) will (vs won't) impact on their own lives have also been shown to be less persuaded by weak messages but more persuaded by strong ones (e.g. Petty & Cacioppo 1979, 1984; Petty et al 1981a, Leippe & Elkin

1986). This view of personal relevance, or "issue-involvement" (Petty & Cacioppo 1986), as a motivator of message- and issue-relevant thinking suggests an image of the systematic information processor as open-minded and unbiased and contrasts sharply with earlier views suggesting that ego-involved persons should be uniformly resistant to counterattitudinal messages (e.g. Sherif & Hovland 1961, Kiesler et al 1969). Several recent studies, however, suggest that some compromise position is necessary. Burnkrant & Howard (1984) failed to replicate the argument quality by personal relevance interaction described above. Moreover, in their study, personal relevance influenced the valence, but not the quantity, of message-relevant thinking. More recently, Howard-Pitney et al (1986) found that while higher personal relevance increased systematic processing, this processing tended to be biased in favor of subjects' initial attitudes.

These sorts of findings have led to the suggestions that at more extreme levels of issue involvement, processing may terminate or become biased (Petty & Cacioppo 1986) and that involvement may have curvilinear effects on persuasion when messages contain strong arguments (Burnkrant & Howard 1984, Cooper & Croyle 1984). Alternatively, we suggest that it may be useful to adopt a multifaceted view of involvement (Greenwald 1982a, Greenwald & Breckler 1984, Greenwald & Leavitt 1984, Greenwald & Pratkanis 1984) and to examine the extent to which different types of involvement differentially impact on information processing and persuasion. The latter may be a fruitful task since involvement-like terms have long been one of the area's major vehicles for representing motivational factors in persuasion.

Although traditionally, issue involvement has been distinguished from "response involvement" recent attempts to define the latter primarily in terms of impression management concerns (e.g. Leippe & Elkin 1986, Petty & Cacioppo 1986) seem too narrow given the variety of ways in which this construct has been operationalized over the years (e.g. Johnson & Scileppi 1969, Chaiken 1980, Leippe & Elkin 1986). There are several other ways of distinguishing involvement that may be more useful to researchers. In addition to issue involvement which, following current usage (Petty & Cacioppo 1986), might be defined as the extent to which the message *topic* is seen as personally relevant or significant, the term "position-involvement" might be defined as the extent to which recipients have a vested interest in (Sivacek & Crano 1982) or are committed to (e.g. Kiesler 1971, Abelson 1986) one side of the issue or the other. Although these two types of involvement may often be highly related [particularly when studied in nonmanipulated form (see Howard-Pitney et al 1986)], they are probably worth distinguishing. For example, it may be that at lower levels of position involvement, higher issue involvement leads, as studies have shown (e.g. Petty & Cacioppo 1984), to more and relatively "objective" processing because people are concerned with

"seeking the truth" on a personally important topic (see also Leippe & Elkin 1986). Yet, at higher levels of position involvement, recipients may be more concerned with defending or salvaging the validity of their preferred positions and, thus, may engage in more biased information processing (Abelson 1986). To these, still other terms may be added to capture other senses of involvement. For example, something like "content involvement" may be needed to represent the idea that some messages, perhaps because of their self-relevant content, stimulate greater processing than do other messages (e.g. Cacioppo et al 1982, DeBono 1986; see also Greenwald & Leavitt 1984, McGuire 1985). And something like "accuracy" or "validity" involvement may be needed to reflect the idea that even when topics are low in *personal* relevance, recipients may be more or less motivated to process issue-relevant information carefully because they are made to feel more or less accountable for the accuracy of their judgments (see Chaiken 1980, Tetlock 1983b) or perhaps more or less responsible to others for whom the topic may be of extreme importance (e.g. to defendants in judicial settings; also see Kruglanski's 1986 discussion of fear of invalidity). Finally, terms like "relational," or "social-identity," and "self-identity" involvement (see Greenwald 1982a) may be needed to capture the ideas that people in persuasion settings may often be primarily concerned with formulating opinions that will facilitate favorable social impressions and maintain their own self-esteem. Like other types of involvement, variations in these two motivational concerns may also impact on the magnitude and nature of information processing in social influence settings (see McFarland et al 1984, Tetlock 1983a, 1985, Leippe & Elkin 1986).

PERSISTENCE In addition to other mechanisms that influence attitudinal persistence (e.g. Anderson 1983, Anderson et al 1985; Baumgardner et al 1983), the amount of message- and issue-relevant thinking that recipients engage in is thought to be important. Specifically, attitudes formed on the basis of systematic processing, compared to those formed on the basis of simple decision rules or other peripheral mechanisms, have been postulated to be relatively enduring and predictive of subsequent behavior. Although findings consistent with these hypotheses have been obtained in several published studies (Chaiken 1980, Chaiken & Eagly 1983, Pallak et al 1983, Petty et al 1983a), stronger support, particularly regarding the attitude-behavior link, awaits further research. In addition, these straightforward hypotheses may have to be modified to take account of potentially contingent factors (e.g. temporal salience of peripheral cues; type(s) of involvement operative in setting). Finally, the related idea (see Chaiken 1980) that systematic processing may be a prerequisite for obtaining sleeper effects is consistent with recent research indicating that this effect occurs primarily when discounting cues

come after message exposure and when messages are constructed to have a strong initial impact on opinions (Hannah & Sternthal 1984, Pratkanis & Greenwald 1985, Greenwald et al 1986).

ROLE OF RECEPTION PROCESSES Much (though not all) of the above research has been guided by the cognitive response theory logic (e.g. Petty et al 1981c) that persuasion is a function of the favorability and amount of message- and issue-relevant thinking that occurs in persuasion settings (e.g. Petty & Cacioppo 1984; see Cacioppo et al 1981 for a review of other "cognitive response" categories). From a broader information processing perspective, however, this focus on cognitive appraisal and elaborative thinking tends to ignore other processing steps that have been proposed in relation to persuasion (McGuire 1972, 1985). In particular, recent research has been relatively silent regarding the role that reception processes play in persuasion, despite the fact that at least minimal levels of attention to and comprehension of message content would seem necessary preconditions for cognitive appraisal and elaboration (see Leippe 1979, McGuire 1985, Ratneshwar & Chaiken 1986).

Eagly & Chaiken (1984) trace this neglect of reception—a process featured in McGuire's (e.g. 1972) information processing paradigm—to a number of factors. Perhaps most importantly, they note that researchers have generally failed to appreciate that widely used measures of reception such as argument recall are inherently poor indexes of reception because such "learning" measures reflect not only reception—the encoding of message content—but also the storage of message content in memory and its subsequent retrieval. Consequently, most investigators have equated the reception-persuasion relation with the relation between message learning and attitude change (e.g. Fishbein & Ajzen 1981, Petty & Cacioppo 1981) and, on the basis of numerous studies showing low or nonsignificant correlations between argument recall and attitude change, have concluded that reception is unimportant in accounting for persuasion (e.g. Greenwald 1968, Fishbein & Ajzen 1972, Brock & Shavitt 1983, Gibson 1983; see Eagly & Chaiken 1984 for studies that have yielded support for the reception-as-mediator hypothesis).

In addition to refreshing researchers' memories on the point that even the McGuire (1972) paradigm did not view reception as a general, transituational mediator of persuasion (and hence would not predict uniformly high recall-attitude correlations), Eagly & Chaiken (1984) also argue that low argument recall-persuasion correlations are ambiguous regarding the importance of reception because they may often be attenuated due to methodological factors and, more importantly, because details of message content may be forgotten after they are encoded and an attitude judgement formed. In this regard, it is instructive to mention how social cognition research has dealt with a similar issue, the fact that judgments (e.g. impressions) do not consistently covary

with memory for experimentally provided information (e.g. trait adjectives). Rather than assuming that the reception and subsequent memory for such information is "unimportant," researchers have treated the recall-judgment link as an empirical and theoretical issue (e.g. Anderson & Hubert 1963, Dreben et al 1979, Bargh & Thein 1985, Carlston & Skowronski 1986). Recent research indicates, for example, that a strong memory-judgment link may obtain primarily when people do not or cannot form "on-line" (Bargh & Thein 1985, Hastie & Park 1986) impressions during information acquisition. Heavily implicated in these studies is the role of processing objectives or goals (see Srull & Wyer 1986); on-line impression formation is most likely when people have the attentional resources and a judgment goal in mind (Sherman et al 1983, Bargh & Thein 1985). For persuasion, these findings suggest the hypothesis that recall-attitude correlations may be relatively low in experiments in which subjects, because of strong prior attitudes or instructional sets, have the explicit or implicit goal of expressing an opinion judgment. In contrast, such correlations may be somewhat higher in experiments that utilize relatively novel opinion topics and disguise the fact that subjects' opinion judgments will subsequently be solicited.

The assertion that cognitive responses are more important (or, to rephrase things, more proximal) determinants of persuasion than memory for message content (e.g. Greenwald 1968, Petty & Cacioppo 1981), while possibly true, is tangential to the reception issue. Attentional and comprehension processes in persuasion are fundamentally important and deserve greater and more detailed scrutiny (see Eagly & Chaiken 1984, Ratneshwar & Chaiken 1986). Signaling renewed interest in these issues, Schmidt & Sherman (1984) have postulated the existence of generic "position schemas" that influence people's comprehension and miscomprehension of persuasive argumentation and possibly their propensities to generate counterarguments. These authors also suggest that low recall-attitude correlations in past research may have been due in part to the fact that researchers have focused primarily on memory for actually presented arguments and have not adequately addressed the importance of intrusions (see also Loken & Wyer 1983). Finally, we note that the importance of attentional mechanisms in persuasion is reflected in recent research that has applied vividness logic (see Taylor & Thompson 1982) to issues such as the persuasive impact of pictorial information (Kisielius & Sternthal 1984), communication modality (Chaiken & Eagly 1983), and both fear and health messages (Rogers 1983, Sherer & Rogers 1984, Meyerowitz & Chaiken 1986, Robberson & Rogers 1986).

Heuristic Processing and Other Peripheral Modes

Chaiken's (1980, 1982, 1986b) heuristic model proposes that people often use simple decision rules in judging the validity of persuasive messages (e.g.

"length implies strength," "expert's statements can be trusted," "consensus implies correctness"). Consequently, without fully absorbing the semantic content of persuasive argumentation or engaging in cognitive elaboration, people may agree more with messages containing many (vs few) arguments, with expert (vs inexpert) communicators, with messages that most (vs few) others agree with, and so on (see Chaiken 1986b for a discussion of the relation between these rules and the representativeness heuristic). In contrast to Petty & Cacioppo's (e.g. 1986) central vs peripheral framework, which some have interpreted as positing two mutually exclusive routes to persuasion (Stiff 1986), heuristic and systematic processing are viewed as parallel modes of information processing (Chaiken 1982, 1986b, Eagly & Chaiken 1984).

Persuasion cues that are thought to be typically mediated by simple decision rules include a variety of source variables and some message and contextual variables. Consistent with the logic that such cues exert their maximal impact on persuasion when recipients are not processing systematically [because systematic processing often provides recipients with message- and issue-relevant information that contradicts a simple decision rule (Chaiken 1986b)], manipulations of source credibility, likability, physical attractiveness, message length, number of arguments, audience reactions, and consensus information have been shown to have a significant impact on persuasion when motivation or ability for message- and issue-relevant thinking is low but little impact when motivation and ability are high (e.g. Chaiken 1980, 1986a,b, Petty et al 1981a, 1983b, Cacioppo & Petty 1984, Petty & Cacioppo 1984, Yalch & Elmore-Yalch 1984, Wood et al 1985, Haugtvedt et al 1986, Ratneshwar & Chaiken 1986, Axsom et al 1987; see also Borgida & Howard-Pitney 1983). That mood manipulations may exert a greater impact on persuasion for subjects who are not highly knowledgeable about the message topic (Srull 1983) is explicable by the heuristic model only to the extent that a simple decision rule relating mood to message validity (e.g. "If it makes me feel good, it must be reasonable") could be said to underlie this cue's persuasive effectiveness (see also Worth & Mackie 1986). Alternately, the persuasive impact of mood may represent some other peripheral attitude change mechanism such as classical conditioning.

Other research on heuristic processing indicates that increasing the salience or vividness of persuasion cues that are typically processed in heuristic fashion increases their persuasive impact, presumably because making these cues salient increases the accessibility of the simple decision rules that are associated with them (Chaiken & Eagly 1983, Pallak 1983). In addition to indirect evidence that heuristic processing often mediates the persuasive impact of a variety of source, message, and contextual cues (e.g. Chaiken & Eagly 1983, Pallak 1983, Axsom et al 1987, Petty & Cacioppo 1984, Wood et al 1985), recent studies (e.g. Wilson et al 1985; see Chaiken 1986b) have

shown that manipulating the accessibility of simple decision rules and/or their perceived reliability through priming tasks increases the likelihood that these rules will be used to evaluate message validity in subsequent persuasion settings.

Under many circumstances, heuristic processing probably represents a self-consciously selected satisficing strategy on the part of message recipients. The extent to which such processing might also proceed, at least in some settings, in a less controlled, "automatic" fashion is presently unclear (Eagly 1986, Sherman 1986). Given that heuristic and systematic processing may often proceed in parallel (Eagly & Chaiken 1984, Chaiken 1986b), the possibility also exists that the presence of heuristic cues (e.g. credibility, message length) in persuasion settings may sometimes bias recipients' evaluation of message- and issue-relevant information. Although this possibility has not been investigated directly, some findings regarding source credibility effects (e.g. Sternthal et al 1978) are suggestive.

Aside from heuristic processing, the only other "peripheral" attitude change mechanism that has received more than passing empirical or theoretical attention is Eagly et al's (1981) attributional analysis of communicator characteristics. As discussed more fully in relation to minority influence, this perspective posits that recipients' judgments of message validity (and, hence, persuasion) are the outcome of their causal analysis of plausible reasons for communicators' stated positions on issues. Labeled as a peripheral approach in Petty & Cacioppo's (1981, 1986) framework because it does not implicate message- and issue-relevant thinking, attributional reasoning represents a processing mode that is presumably less effortful than message- and issue-relevant thinking but more effortful than heuristic processing (see Eagly & Chaiken 1984).

Determinants of Processing Mode and More on Motives

With researchers' increased awareness that multiple modes of processing may operate in persuasion settings has come an increased understanding of the conditions under which recipients employ one mode or another. Although much remains to be learned about the determinants of processing modes and the extent to which these modes represent parallel versus mutually exclusive processes, some principles that govern their usage can be derived from current research (see also Eagly & Chaiken 1984, Eagly 1986).

As suggested by Schmidt & Sherman's (1984) work on generic position schemas and Wood et al's (1985) work on prior issue-relevant knowledge, comprehension and message- and issue-relevant thinking may be highly dependent upon recipients possessing at least marginal levels of prior knowledge about the message topic. Prior learning is also an important determinant of whether recipients utilize the simple decision rules specified by the heuris-

tic model because to use such rules, people must have learned and stored in memory the particular knowledge structures that are relevant to available persuasion cues. Moreover, if available in memory (Higgins et al 1982), such knowledge structures must be activated upon presentation of the persuasion cues that are associated with them. Presumably, situational factors such as cue salience (e.g. Pallak 1983) and the frequency and recency of prior activation (e.g. Wilson et al 1985) influence the accessibility of such structures and, hence, their persuasive impact (see Trope & Ginossar 1986 and Higgins & Bargh 1987 for a similar perspective on the use of statistical versus nonstatistical rules in judgment problems). Another important determinant of processing mode is the amount of effortful thinking which it requires. As demonstrated by much current research, people may prefer less effortful modes of processing unless they are especially motivated to engage in a more effortful process.

In speculating about the determinants of processing mode when recipients are primarily concerned with "truth seeking" or maximizing the validity of their opinions, Eagly & Chaiken (1984) suggested that choice of processing mode might also depend on it's *sufficiency* for determining the validity of a message's overall position. If, for example, a causal analysis of the plausible reasons for a communicator's message did not yield a clear-cut assessment of message validity, another processing mode such as message- and issue-relevant thinking might be invoked (e.g. Wood & Eagly 1981). While the sufficiency principle, in combination with the least effort principle, suggests that people often progress from less effortful to more effortful modes, under some circumstances, the reverse direction may also occur (Eagly & Chaiken 1984).

Because processing occurs in the service of motivational goals (see Higgins 1981, Gerard & Orive 1986, Srull & Wyer 1986), perhaps the most important (but least researched) determinant of processing mode is the recipient's primary goal in a particular setting. For example, when people are more concerned with forming a judgment that will be "correct" in the eyes of others rather than "correct" in a truth-seeking sense, it is unlikely that knowledge structures of primary relevance for judging message validity (e.g. the heuristic model's simple decision rules) would be activated or utilized. Nevertheless, even in these settings, choice of processing mode may depend highly on its effortfulness and sufficiency in meeting processing goals. Tetlock (1983a), for example, has shown that when subjects expect to discuss their opinions with another person, whether that other person's views are known or unknown has an important impact on how much subjects think about the opinion issue. When the other's views were known, subjects seemed to use a simple "acceptability heuristic" (Tetlock 1985) and expressed an opinion that closely matched the other person's viewpoint. When the other's views were un-

known, however, subjects' engaged in more extensive information processing, presumably still in the service of formulating an interpersonally acceptable opinion judgment. An explicit recognition that information processing occurs in the service of people's intrapersonal and interpersonal goals should stimulate a closer examination of the motives that are activated in persuasion settings and that recipients bring with them to these settings and how these motives impact on information processing and attitude change.

ATTITUDE FUNCTIONS An explicit interest in the motivational bases of persuasion is reflected in recent attempts (DeBono 1986; Herek 1986a,b; Hooper 1983; Shavitt 1986; Shavitt & Brock 1986; Snyder & DeBono 1985, 1986; Spivey et al 1983) to test and elaborate the original functional theories of attitudes, particularly those of Katz (1960) and Smith et al (1956). Most of this work has focused on the a priori identification of functions, a perennial stumbling block to research in this area (see Kiesler et al 1969, Himmelfarb & Eagly 1974, Lutz 1981).

In harmony with the strategy followed in much initial work on functions (e.g. Katz et al 1956, McClintock 1958), Snyder & DeBono (1986) suggest that individual differences in attitude functions can be assessed indirectly via personality measures such as self-monitoring (Snyder 1974), machiavellianism (Christie & Geis 1970), authoritarianism (Adorno et al 1950), and need for approval (Crowne & Marlowe 1964). In their empirical work, Snyder and DeBono have shown that the attitudes of high self-monitors may often serve a social adjustive function (Smith et al 1956), whereas the attitudes of low self-monitors may often serve a value-expressive function (Katz 1960). For example, in three studies in which subjects were exposed to product advertisements that were either image-oriented or quality-oriented (presumed to appeal to social adjustive versus value-expressive concerns, respectively), high self-monitoring subjects were more influenced by image-oriented than by quality-oriented ads while the reverse was true for low self-monitoring subjects (Snyder & DeBono 1985). DeBono (1986) obtained similar findings in a study on attitudes toward mental illness, and further showed that functionally relevant messages were processed more systematically (see above).

Given the success of Snyder and DeBono's experiments, subsequent research might pursue their suggestion that personality measures other than self-monitoring might serve as reasonably good indicators of attitude function. Nevertheless, because this strategy assesses variation in function only across individuals and not across attitude objects or situations, other measurement strategies are also needed. To address this need, several researchers have explored the utility of open-ended techniques for measuring functions directly. Herek (1986a,b), for example, asks subjects to explain their attitudes toward some topic and these written protocols are content-analyzed to identify the predominant functions that the attitude object serves. In analyzing

essays on the topic of homosexuality, Herek found evidence for three major functions that corresponded roughly to Katz's value-expressive, ego-defensive, and instrumental functions. A similar thought-listing task has been used by Shavitt & Brock (1986; Shavitt 1986) to explore the hypotheses that different attitude objects may activate different functional concerns and that messages that match an object's functional profile are more persuasive than those that don't.

The further development of these and other (more easily scored) direct measures of function is important for several reasons. First, as shown by Herek's (1986a) research, such measures can be used to validate the existence of postulated functions such as those originally proposed by Katz and Smith et al. Also, as suggested by Shavitt & Brock's (1986) work, such measures can be used to examine variation in attitude functions across attitude objects and domains. They might be used, for example, to substantiate the claim that "symbolic" attitudes primarily serve an expressive rather than instrumental function (e.g. Ellsworth & Ross 1983, Sears 1983; see Attitude Structure section). Finally, direct measures of function may facilitate research on the more subtle functional hypothesis (Smith et al 1956, Herek, 1986a) that attitude functions may vary in their importance as a basis for attitude formation and change across situations. For example, whereas social adjustive concerns may be most likely to guide attitude expression in situations where important reference groups are present, value-expressive concerns no doubt guide attitude expression in situations in which people are forced to confront their values (Rokeach 1985).

Critics of a functional approach might argue that the perspective boils down to Fishbein & Ajzen's (1972, 1975) point that to be persuasive, a message must address a person's salient beliefs. The task of measuring functions, in other words, could be viewed as an attempt to discover the salient (instrumental, value-expressive, social adjustive, etc) beliefs that underlie individuals' attitudes toward various objects in various situations. While this argument has some merit, particularly for practitioners of persuasion, for advancing our understanding of persuasion, the functional approach possesses unique heuristic and predictive value because of its explicit focus on the motivational underpinnings of attitude formation and change.

MINORITY AND MAJORITY GROUP INFLUENCE

In 1969, Moscovici, Lage, and Naffrechoux initiated a corrective to the conformity literature whose "functionalist" perspective, Moscovici (1976) later argued, emphasized the submission of minorities to the neglect of their role as agents of social change or innovation. In a mirror-image rendition of the Asch (1951) paradigm, groups of four subjects and two confederates judged the color of slides that were unambiguously blue. In a consistent

minority condition, the confederates claimed to see "green" on each of 36 trials while in an inconsistent condition, the confederates saw "green" on 24 trials and "blue" on 12. Although small in magnitude, the results were clear: "Green" responses were made 8.42 percent of the time by subjects faced with a consistent minority, 1.25 percent of the time by subjects exposed to the inconsistent minority, and only .25 percent of the time by control subjects whose judgments were made in the absence of confederates. Thus, a minority—albeit only a consistent one—could indeed exert influence.

Since this demonstration, a moderate sized literature has accumulated. While the scant attention to minority influence in previous reviews in this series might be said to mirror American social psychology's general neglect of group research (see Maass & Clark 1984, Steiner 1986), it is likely that the literature itself contributed. Like many conformity studies that served as their springboard, numerous minority influence studies have utilized measures and tasks (e.g. perceptual and aesthetic judgments; perceptual and decision making tasks) that appear quite different from those that mark the attitudes literature. Nevertheless, more recent research has broadened to include studies utilizing more explicit attitudinal measures and tasks. As such, the relevance of this literature to the attitudes area is now quite apparent (see Eagly 1986, Zanna et al 1986). Our review focuses on what we perceive to be this literature's major issues and most promising directions. For more comprehensive reviews, we recommend two recent literature reviews (Maass & Clark 1984, Tanford & Penrod 1984) and Moscovici's (1985b) *Handbook* chapter.

Behavioral Consistency and Attribution Theory

As indicated by Moscovici et al (1969), minority consistency seems a key factor in successful innovation. Although Moscovici (1976) discussed several other "behavioral styles" (e.g. fairness, investment) of successful minorities, consistency—the stable, systematic, or patterned responses of a minority over time (Tanford & Penrod 1984)—has been the most heavily researched of these variables.

With occasional exceptions (e.g. Wolf 1985), the hypothesis that a minority's consistency increases its influence has received widespread support (e.g. Nemeth et al 1974, Moscovici & Personnaz 1980, Mugny & Papastamou 1980, Bray et al 1982, Mugny 1982, Richardson & Cialdini 1986). But why? Moscovici and Nemeth (Moscovici & Faucheux 1972, Moscovici & Nemeth 1974) proposed that the minority's consistency (along with their distinctiveness) led perceivers to regard the minority as certain and confident about their position and that it was this "dispositional" attribution that was the more proximal determinant of successful innovation.

While Moscovici and Nemeth's attributional account of consistency has

been widely accepted, as Maass & Clark (1984) note, it has rarely been subjected to the stringent testing that has been imposed on mediational hypotheses in other areas (e.g. Batson 1975, Wood & Eagly 1981) and some correlational findings (e.g. Richardson & Cialdini 1986) are not congenial to the idea. Further, Maass & Clark (1984) have criticized the Moscovici and Nemeth formulation conceptually (e.g. for "automatically" assuming that consistency fosters attributions of certainty rather than inferences such as "craziness and dogmatism," p. 438) as well as for failing to account for several empirical findings, including the inhibiting effect of behaviorally "rigid" minorities (e.g. Mugny 1975, Mugny & Papastamou 1980; see Mugny 1982) and a few demonstrations that "double minorities" (i.e. both social and numerical minorities) are sometimes less influential than "single" (i.e. numerical) minorities (Maass & Clark 1982, Maass et al 1982, Mugny et al 1983 as cited in Maass & Clark 1984; but see Nemeth & Wachtler 1973).

In their own analysis of consistency, Maass & Clark (1984) make use of Kelley's (1967) cube model and his augmentation and discounting principles (Kelley 1972). In their analysis (impartial or majority) perceivers process consensus and consistency information but not distinctiveness information because of its unavailability in the typical innovation experiment (where only one entity or issue is discussed). Because the minority disagrees with the majority, perceivers infer low group consensus, and if the minority behaves consistently, they will infer high consistency. This pattern of low consensus/high consistency lead Maass and Clark to agree with Moscovici and Nemeth that perceivers will make dispositional attributions about consistent minorities (see Orvis et al 1975). Moreover, they argue that this attribution (which they implicitly assume is often certainty and confidence, p. 437) will be augmented because social pressure from the majority constitutes a plausible inhibitory cause for the minority's deviance. But more important, to explain when certainty attributions will prevail versus other types of (person?) attributions, the discounting principle is invoked. Maass and Clark argue that the dispositional attribution of certainty will tend to be discounted to the extent that other plausible (and also facilitative) causes for the minority's consistent behavior are available. For example, in accounting for the reduced effectiveness of rigid minorities and double minorities, Maass and Clark suggest that alternative plausible causes for the minority's consistent behavior such as dogmatism and self-interest respectively may have led subjects to discount certainty and confidence.

Although Maass & Clark's (1984) analysis represents a needed extension of Moscovici & Nemeth's (1974) theorizing, as this year's unpaid critics of the literature, we suggest that a different attributional perspective be taken. Our main criticism of both of the above analyses is their focus on perceivers' attributions regarding the *minority's underlying dispositions* (e.g. their cer-

tainty). Curiously, this focus seems more in harmony with correspondent inference theory (Jones & Davis 1965) than with the theorizing that presumably inspired both formulations. In Kelley's (1967, 1972) analyses, the perceiver's central task was not inferring the communicator's (or minority's) dispositions, but rather inferring the causes for the communicator's *message*. In his ANOVA account of persuasion, Kelley (1967) used the term "entity" attribution to refer to perceivers' tendencies to attribute the communicator's message to the environment under discussion. This attribution (which was maximized by a pattern of high consensus, consistency, and distinctiveness) increased persuasiveness because it implied that the communicator's message provided a truthful description of external reality. And in his subsequent multiple plausible causes framework [which features the augmentation and discounting principles (Kelley 1972)], perceivers were viewed as scanning available information for possible causes of the communicator's message and taking into account whether there were one or more causes that seemed plausible and whether these causes would be facilitative or inhibitory in relation to the position stated in the message.

The implications for persuasion of Kelley's multiple plausible causes framework have been developed and successfully tested in several experiments by Eagly and her colleagues (see Eagly et al 1981). Attesting to the greater viability of their perspective, which focuses on attributions about message validity, the Eagly et al research has shown that inferences about communicators' dispositions bear, at best, an indirect relation to persuasion. Regarding Kelley's ANOVA model, Eagly & Chaiken (1984) noted that it has received only limited testing in social influence settings despite its considerable explanatory power. In spelling out the theory's relevance, these authors argued that even in settings that do not provide all information necessary for building the complete Persons X Occasions X Entities matrix, the theory remains useful since various cues in such settings may enable perceivers to make reasonable guesses about how such a matrix might be completed (see also Orvis et al 1975). As noted earlier, for example, Maass & Clark (1984) do not consider distinctiveness information because most experiments deal with only one entity or opinion topic. Yet it is possible that information relevant to this dimension might sometimes stem from other cues, such as the minority's claim that their position was distinctive to the issue under discussion (see Eagly & Chaiken 1984).

Researchers have much to gain by exploring the utility of attribution theory. Nevertheless, as discussed below, attributional reasoning is not the only mode of processing that occurs in group influence settings. Further, current analyses would have to be expanded in order to capture the unique complexities of many of these settings where, for example, perceivers may often be faced with the simultaneous task of inferring the causes of both

the minority's and majority's message. Moreover, because attributional approaches assume that perceivers are oriented toward maximizing the validity of their opinions (see Kelley 1967, Eagly & Chaiken 1984), unless informed by other perspectives, such approaches may have limited utility in settings (see below) in which motives such as social approval are paramount.

Minority Versus Majority Influence: Dual Process Views

Building on his earlier theorizing, Moscovici (1980, 1985a) has argued that minority and majority influence are qualitatively different. Majorities instigate a "comparison" process in which the individual's attention focuses on the majority while minorities, if consistent, induce a "validation" process in which the individual's attention focuses more on the stimulus or topic under discussion. These processing differences, which resemble the peripheral-systematic distinction, lead to the prediction that minority influence will be deeper and more enduring. In addition, motivational forces conspire to encourage public agreement with the majority (to gain social approval) and public disagreement with the minority [to avoid rejection and, perhaps, viewing the self as an outgroup member (Mugny 1982)]. Thus, Moscovici concludes that majorities induce "compliance" in which change is publicly expressed but tends to remain only at a "manifest," direct level, whereas minorities induce "conversion" in which change occurs at a "latent," indirect level.

The compliance-conversion distinction embraces the traditional distinction between surface compliance and private acceptance (Kelman 1961). However, Moscovici's notion of "latent" influence, and no doubt his recognition that conformity can produce genuine opinion change (e.g. Insko et al 1983, 1985; Jennings & George 1984; see also Allen 1965, 1975) led him to a broader distinction. In essence, even when majorities induce genuine change, this change should be ephemeral and detectable only on (public or private) measures that relate directly to the issue under discussion. In contrast, minority-induced changes should be more detectable at the private and latent level.

The major research strategy for evaluating this dual process model has involved comparing majority and minority sources to see if they affect differential amounts of public versus private influence, direct versus indirect influence, or differential levels of persistence. Our reading of this research leads to the following observations. Majority influence does seem to be greater than minority influence on public measures (e.g. Mugny 1976, Maass & Clark 1983). And though it often occurs publicly and not privately (e.g. Moscovici & Lage 1976), majority influence is not restricted entirely to the public level since majority source effects are sometimes found on private direct measures (e.g. Wolf 1985) and occasionally on private indirect measures (e.g. Mugny 1984, Mackie 1985). Minority influence, on the other

hand, is rarely manifested publicly but is observed with some regularity on private, direct measures of acceptance (e.g. Nemeth & Wachtler 1974, Wolf 1979, Maass & Clark 1983) and often [but not always (Wolf 1985)] on private, indirect measures (e.g. Wolf 1979, Papastamous 1983, Aebischer et al 1984). On the differential persistence issue, the results are equivocal, with one study (Moscovici et al, reported in Moscovici 1980) reporting greater persistence for minority sources and another (Mackie 1985) giving the edge to majority sources.

While this research generally supports dual process expectations, more is needed, particularly regarding latent influence. Different researchers have operationalized this construct in different ways (e.g. Aebischer et al 1984, Wolf 1985), and the degree to which these operationalizations tap one construct is not yet clear (see Wolf 1986). More research is also needed on the understudied persistence issue and perhaps on the additional hypothesis (suggested by research on systematic processing) that attitudes induced by minority sources might be more predictive of subsequent behavior.

As suggested by current persuasion research, a second strategy for evaluating the dual process model would be to track the cognitive processes that underlie minority versus majority influence. Although only a handful of such results are available, this strategy promises to become a growing trend among researchers. Tesser et al (1983) examined how much attention subjects paid to stimuli (noises) they were asked to judge after learning about the judgments of either one or three ostensibly present other subjects. Consistent with Moscovici's validation process, subjects in the minority (vs majority) conditions evidenced marginally greater attention to the experimental stimuli. Supplementary analyses, however, led to the more refined observation that attention was bimodal in the majority conditions, with some subjects paying little attention to the stimuli (as Moscovici would predict) and others paying much attention (see also Campbell et al 1986).

Consistent with the idea that individuals more carefully process information in the minority paradigm, Moscovici et al (reported in Moscovici 1980) found that subjects recalled more of a persuasive message when it stemmed from a minority (vs majority) source. Nevertheless, three experiments that have assessed cognitive responding have yielded equivocal results (Maass & Clark 1983, Exp. 2; Mackie 1985, Exp. 1 and 2). In these studies, subjects were simultaneously exposed to messages from majority and minority sources [e.g. pro vs con gay rights (Maass & Clark 1983)] and listed their thoughts about "both the majority and minority position" (Maass & Clark 1983) or their "feelings and reactions to the discussion" (Mackie 1985). Subsequently, these thoughts were classified as pertaining to either the majority's or minority's position and as favorable or unfavorable to that position. Although some significant results were obtained, none of the three studies found that subjects

generated more message/issue relevant thoughts about the minority's position. Because of their within-subjects designs, however, while these studies are revealing about the favorability and *target* of subjects' thought (i.e. minority vs majority) they do not directly address the question of whether minorities (vs majorities) *stimulate* greater or lesser amounts of thinking (e.g. even if minority sources did instigate greater issue-relevant thinking, such thinking could be targeted toward the minority's message, the majority's, or the issue more generally). To obtain clearer information on this issue, future research should turn to between-subjects designs in which subjects are exposed to messages from either majority or minority sources. In addition, we urge researchers to appreciate both the richness and problems of thought-listing tasks (see Miller & Colman 1981, Eagly & Chaiken 1984). Subsequent research could employ more elaborate coding schemes that more fully captured the nuances of Moscovici's theorizing [e.g. by coding for both message-oriented and source-oriented thoughts (see Chaiken & Eagly 1983)] and should avoid thought-listing directions (e.g. Maass & Clark 1983) that may place demands on subjects to list only one type of thought.

MINORITIES INDUCE DIVERGENT THINKING Other evidence bearing on the dual-process perspective stems from Nemeth's (1985, 1986a,b) research on group problem solving. Although Nemeth's theoretical view is similar to Moscovici's in some respects, there are important differences.

Like Moscovici, Nemeth asserts that in majority influence settings, attention and thought focuses on the majority's position. However, while Moscovici elaborated little on this comparison process, Nemeth contends that the stressfulness of such situations (e.g. Nemeth 1976) and perhaps other factors [e.g. an assumption that the majority is correct (see Chaiken 1986b, Cialdini 1986, and Axsom et al 1987 for discussions of the "consensus" and "social validation" heuristics)], leads to superficial processing where people's attention and thought converge on the majority's stated position and does not extend to a full consideration of the issue. In contrast, minority sources are postulated to stimulate a greater amount of thinking, and this thinking tends to be more divergent.

For Nemeth, the consequences of these postulated processing differences are much broader than those implied by Moscovici's model which deals primarily with movement toward the specific positions advocated by majority and minority sources. In contrast to this "prevailing" notion of influence, which she aligns more with majorities, Nemeth argues that the unique social influence value of minorities derives from their stimulating the sort of thinking that leads to creative, high quality decisions and judgments.

Support for Nemeth's views come from a series of studies on group problem solving (Nemeth & Wachtler 1983, Nemeth & Kwan 1985, 1986).

For example, Nemeth and Wachtler (1983) asked subjects to detect "standard" figures that were embedded in one or more of six "comparison" figures. On each trial, the standard was easily seen in one comparison but not in the remaining five. Subjects made their judgments in groups of six in which either 2 or 4 confederates claimed to see the standard in both the easy comparison figure (a correct response) and in one other figure (a correct or incorrect response, depending on condition). Consistent with much past research, majorities (regardless of their correctness) elicited greater compliance. More important, however, subjects exposed to minority (vs majority) sources were more likely to find novel correct solutions. Similar findings have been obtained in other studies in this series (see Nemeth 1986a,b) and compatible results suggesting that minorities stimulate high quality decision making were obtained in a study on jury deliberation (Cowan et al 1984).

MULTIPLE MOTIVES AND PROCESSING MODES The dual-process perspective implicates two motivational bases for majority influence [normative and informational (Deutsch & Gerard 1955)] and one for minority influence (informational). Moreover, even when motivational base is held constant at the informational level, this perspective views majorities as inducing temporary (albeit genuine) opinion shifts while minorities are seen as effecting deeper, more permanent changes. In essence the dual-process perspective associates peripheral attitude change mechanisms with majority influence and systematic mechanisms with minority influence. Yet this "two-process" account is probably an overly simplistic view of the variety of motives and modes of processing that operate in group influence settings.

Regarding motivation, Kelman's (1961) distinctions between compliance and identification (two normative modes) and internalization (an informational mode) indicate that three (vs two) motives often spur agreement with majorities: the desire to gain/avoid social approval/disapproval (compliance), the desire to identify with liked others by genuinely adopting their opinions (identification), and the desire to hold valid opinions (internalization). Although creative researchers might conjure up situations in which the former two motives impact on minority influence, it seems likely that the prime basis for minority influence is informational.

On the cognitive front, we suggest the following complications. First, although it may often be true that the genuine opinion changes induced by majorities are fleeting because they reflect some peripheral attitude change route such as source identification (Petty & Cacioppo 1981) or heuristic processing (Chaiken 1986b, Cialdini 1986), persuasion research suggests that this view is too limited. For example, because high issue-involvement often facilitates central processing, individuals confronted with majorities advocating positions on issues of considerable personal relevance may—more than

Moscovici or Nemeth predict—engage in the kind of message- and issue-relevant thinking that often confers greater persistence. Similarly, we might predict that high need for cognition individuals (Cacioppo et al 1983) will process a majority's message just as systematically as they might process a minority's message. Also, communicating public agreement with majorities may ultimately result in internalized attitude change because of motivational forces such as dissonance reduction (see Himmelfarb & Eagly 1974, Maass & Clark 1984) or because of the delayed cognitive consequences that such goal-directed social communications often have for communicators' own attitudes (e.g. Higgins & McCann 1984; see Attitude-behavior section). Further, the genuine, albeit somewhat shallow (Kelman 1961) attitude change that might result from individuals' desires to identify with an attractive majority group may well persist if (unlike most laboratory experiments) the group continues to be a source of social identity for the individual as time goes by (see Levine & Moreland 1985).

Paralleling persuasion research, across both majority and minority settings at least three processing modes are implicated: heuristic processing, attributional reasoning, and message- and issue-relevant thinking. As discussed earlier (see Persuasion section), researchers still lack a thorough understanding of when these modes [and perhaps more sophisticated ones such as divergent thinking (Nemeth 1986a)] operate and how they may impact upon one another. Nevertheless, at the mode of processing level, ***multiple*** cognitive processes are likely to underlie both majority and minority influence.

Minority Versus Majority Influence: A Unitary View

Several mathematically formulated social influence models pose an apparent challenge to the dual process perspective. Most notably, both social impact theory (Latané 1981, Latané & Wolf 1981) and Tanford & Penrod's (1984) social influence model treat majority and minority influence within a common theoretical framework and view both influence forms as part of a single process.

Latané's (1981, Latané & Wolf 1981, Wolf & Latané 1985, Wolf 1986) social impact theory asserts that the degree to which individuals are influenced is a multiplicative function of the number of sources, their strength (e.g. expertise), and their immediacy (e.g. proximity). The latter two factors are the theory's vehicle for representing important distal influence variables [e.g. behavioral style and group cohesiveness (see Wolf 1986)]. Nevertheless, with few exceptions (e.g. Wolf & Latané 1983, Wolf 1985), most tests of the theory's predictive power in relation to majority and minority situations have focused on the group size factor (Latané & Wolf 1981, Tanford & Penrod 1984; see also Mullen 1985, 1986 and Jackson 1986 for discussions of research findings regarding strength and immediacy). Social impact theory

assumes that a negatively accelerating positive power function relates group size to observed influence; the first source exerts the greatest impact and each additional source a progressively smaller impact. Latane & Wolf (1981) fit power functions to a handful of conformity and minority influence studies in which number of influence sources had been manipulated and found that their model was able to account for a substantial portion of influence variance in both domains.

Tanford & Penrod (1984) have developed a more elaborate Social Influence Model (SIM) which differs from social impact theory (SIT) in some respects yet still focuses primarily on (majority and minority) group size. The most important difference between models is that, in contrast to SIT's group size function, the SIM posits an S-shaped "Gompertz" growth function; whereas the second and third influence sources are expected to exert a greater impact than the first, after this (inflection) point, each additional source exerts a progressively lesser impact. Other notable differences include the fact that the SIM features parameters such as individual differences in persuasibility, type of task and response mode, and source consistency that SIT either does not address or represents via its strength and immediacy variables (for more detailed comparisons, see Tanford & Penrod 1984 and Wolf 1986). On the basis of a meta-analysis of a large number of studies on conformity, minority influence, and deviate rejection, Tanford and Penrod found that the SIM provided a somewhat better fit to existing data than did SIT. More important, however, regression analyses indicated that the amount of influence observed in these studies was largely a function of the number of influence sources and targets. Although the finding that power lies primarily in numbers may not be worldshaking, the fact that group size (transformed by the growth function) accounted for 51% of the variance in influenceability (regardless of whether it was induced by majority or minority sources) is impressive, considering that the second most important predictor of influence, source consistency, accounted for only 10% of the variance and several other variables (e.g. public vs private response mode) did not significantly predict influence. It should be noted, however, that the issue of whether group size interacts with variables such as consistency or response mode was not addressed by Tanford and Penrod, who included no relevant interaction terms in their regression analyses.

On the basis of these results, Tanford & Penrod (1984) concluded that majority and minority influence are part of a "single process" (p. 221), a view shared by Latane and Wolf (e.g. Wolf & Latane 1985), who claim further that the differences between majority and minority influence are merely quantitative. On the surface, such claims seem odd since both of these models are silent with respect to underlying psychological mechanisms (see below). In contrast to these models, Mullen's (1983) recent model of group size does

attempt a more process-oriented account of influence. In brief, Mullen argues that in groups with two or more subgroups, individuals' levels of self-attention increase as the relative size of their subgroup decreases and that increased self-attention heightens motivation to match salient behavioral standards (see Carver & Scheier 1981). Thus, in conformity situations (in which the majority's position is assumed to be the standard), Mullen argues and provides evidence that self-attention and conformity covary and that both increase with majority size. Although promising, Mullen's model has not yet been applied to minority influence and in such settings the terms behavioral standard (defined presently as "group norm") and self-attention [which currently refers to public rather than private self-attention (see Carver & Scheier 1981)] will probably require broadening.

Single Versus Dual Process Views: A Resolution and Conclusions

For arguments favoring the dual process over single process viewpoint and vice versa, we refer readers to articles by proponents of each (Maass & Clark 1984, Wolf 1986; also see Doms 1984). Here we offer our own simple-minded resolution: Both camps have been right and both have been wrong.

Regarding the number of processes issue, it appears that single process and dual process theorists have been using the same term differently. Specifically, Latane and Wolf's and Tanford and Penrod's use of "process" seems to refer to the predictive power of their models and/or to their models' functional principles (e.g. SIT's multiplicative function). In contrast, dual process theorists seem to use this term in its more usual sense to refer to psychological processes such as attributional reasoning or issue-relevant thinking. While we prefer the latter usage, it may well be the case, as the single process theorists contend, that the influence impact of both majorities and minorities can be predicted accurately by the equations of social impact theory and the social influence model. However, in contrast to the single or two- process view, our earlier discussion of multiple motives and processing modes gave away our conclusion that multiple psychological processes are operative in both majority and minority influence settings.

A related issue concerns whether differences between majority and minority influence are of a qualitative nature, as dual-process theorists see it (e.g. Moscovici 1980, 1985b, Nemeth 1986a), or merely quantitative, as single process theorists have argued (e.g. Wolf & Latane 1985). Here again it seems that both positions bear some truth. If the term qualitatively different is reserved for attitude change processes that reflect different motivational goals (e.g. seeking social approval versus valid opinions), we think there is merit to the view that some processes operative in majority settings (e.g. compliance, identification) are qualitatively different from those operating in minority

settings (e.g. causal reasoning about message validity). Yet, when similar motivational goals (e.g. seeking veridical opinions) underlie both forms of influence, the qualitative-quantitative distinction loses meaning. As we argued earlier, although current dual-process theorizing aligns systematic information processing primarily with minority influence, such processing may well occur in majority settings for certain people (e.g. those high in need for cognition) or under certain circumstances (e.g. involving issues). Similarly, although attributional reasoning has been discussed almost exclusively in the context of minority influence, there is little doubt that this mode of processing also occurs in majority influence settings (e.g. Ross et al 1976). Whether these modes occur to a greater or lesser degree in majority versus minority settings would seem to be primarily a quantitative issue.

In summary, differences between majority and minority influence may sometimes be qualitative (when different motives operate) and other times quantitative (when similar motives operate). As noted in relation to persuasion, group influence researchers need to attain a better understanding of the motives or goals that are aroused in group influence settings [and also individual differences in motivational goals (e.g. Sorrentino & Hancock 1986)], how these goals impact on modes of processing, and how different modes of processing may interact.

We expect that the information processing trend in recent minority influence research will continue and that criticisms of this area's lack of process-oriented methodologies (Maass & Clark 1984) will become obsolete. Nevertheless, in pursuing cognitive accounts of minority (and majority) influence, researchers must not lose sight of important motivational issues by focusing excessively on cognition or by utilizing paradigms that are impoverished in terms of their motivational aspects. As others (e.g. Maass & Clark 1984, Levine & Moreland 1985) have noted, much research on minority and majority influence has studied "minimal" groups with no history and no future. In reading the literature we came across still other studies in which "majority" and "minority" sources were neither physically nor temporally present in the influence setting (e.g. Maass & Clark 1983, Mackie 1985). Although we do not minimize its difficulties, the investigation of real groups with real histories and futures interacting over a length of time may be required to fully understand the complexities of both social control and innovation (see Allen 1985, Levine & Moreland 1985). Finally, although central to much of Moscovici's (1976) initial theorizing, few investigators have studied the impact of social (vs numerical) minorities on innovation (e.g. Maass et al 1982, Kitayama 1983, Aebischer et al 1984). We are hopeful that the next few years will reveal increased attention to this important question as well as increased attention to relevant group process perspectives such as social categorization (Tajfel 1978, Turner 1982, 1985).

CONCLUSION

In the last review, Cooper & Croyle (1984) predicted that the dominance of cognitive approaches in the attitudes area would begin to recede as motivational issues returned to the forefront. Although progress on the motivational front cannot be described as rampant, there are healthy signs in the literature that motivational and affective issues, once a central focus of theorizing and research in the area, are again being raised. Such signs are evident, for example, in recent conceptualizations of attitudes which attempt to distinguish affect, or emotion, from "mere" evaluation (e.g. Breckler 1984, Zanna & Rempel 1986), in research that has attempted to link values to attitudes (e.g. symbolic racism research), in discussions of the conditions under which people are likely to form attitudes (Fazio 1986b), in the renewed empirical interest in attitude functions (e.g. Snyder & DeBono 1986), and in persuasion and group influence researchers' growing awareness that information processing in influence settings occurs in the service of motivational goals (e.g. Eagly & Chaiken 1984, Tetlock 1985, Howard-Pitney et al 1986, Nemeth 1986a).

The fact that attitude researchers are beginning to readdress fundamental issues of motivation does not mean, however, that interest in cognition is waning. Rather, as in other areas of social psychology (see Sorrentino & Higgins 1986), the theme we see emerging in the literature is that cognition cannot be studied in isolation from motivation and that a firm and explicit knowledge of the latter is a prerequisite for fully understanding the cognitive processes underlying attitude organization, formation, and change. We are hopeful that the next several years will reveal significant progress toward this theme's realization and greater articulation.

Our review has paid little attention to methodological issues. With the exception of some research on attitude-behavior relations, which has been conducted in field settings, most research on attitudes is still heavily laboratory-oriented and reliant on the college student as research subject. The attitudes area, like social psychology in general, has clearly survived earlier critiques (e.g. Elms 1975) that these features limited the validity of experimentation. Yet the extent to which research has actually changed very much is debatable. In fact, Sears (1986) claims that social psychological research has steadily increased its reliance on college students and laboratory settings.

Although we do not wish to argue that another "crisis" is imminent and that laboratory experimentation with college subjects be abandoned, researchers do need to be more sensitive to its liabilities. For example, the verbally skilled nature of this subject population in combination with the verbal environment of many laboratory settings and their implicit demands for high attention and

"impartial" processing (Frey 1986) may have contributed to researchers' underestimating the importance of reception processes in persuasion (Eagly & Chaiken 1984) and drawing pessimistic conclusions about phenomena such as selective exposure and selective retention (Chaiken 1984, Frey 1986). In addition to these liabilities, Sears (1986), Eagly (1986, 1987), and Levine & Moreland (1985) have suggested that the typical laboratory experiment, because of its impoverished and somewhat detached social environment, may also underestimate the extent to which group norms, social roles, and social identity affect social influence. While we feel that many of these liabilities could be addressed creatively within laboratory settings (see Levine & Moreland 1985), more research on social influence in natural settings (e.g. Cialdini 1986) and on what people report about naturalistic social influence strategies (e.g. Offermann & Schrier 1985, Rule et al 1985, Steffen & Eagly 1985, Howard et al 1986, Rule & Bisanz 1986) would be desirable complements to our laboratory-based knowledge of attitudes.

Our impression of recent research is a relatively optimistic one. Rather than appearing as collections of diverse findings unified only by labels (e.g. persuasion, attitude-behavior relations), some of the subareas we have reviewed reveal a considerable amount of conceptual coherence. When consistency of findings is evaluated only at the phenotypic level of the impact of particular independent variables (e.g. issue-involvement or distraction in persuasion, direct experience or thinking about one's attitudes in the attitude-behavior area), this coherence may not seem so evident. Yet, when viewed at the genotypic level of the impact of the cognitive processes (e.g. message- and issue-relevant thinking in persuasion; attitude accessibility in the attitude-behavior area) that are often influenced by such independent variables (see Eagly & Chaiken 1984), the case for conceptual coherence improves considerably. In this regard, we should also note that although meta-analytic review techniques have often been applied primarily at the phenotypic level (e.g. Tanford & Penrod 1984, Roberts 1985), such techniques are beginning to be used more frequently to test mediational hypotheses and to examine the consistency of research findings at the genotypic level (see, for example, Mullen 1985, Eagly 1987, Isenberg 1986). The continued development of these quantitative reviewing procedures (e.g. Hedges & Olkin 1985) and the likelihood that they will be increasingly applied to attitudinal phenomena should prove to be a boon to subsequent reviewers of the field.

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