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Models of Attitude Change: Theories That Pass in the Night

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The inclusion of a book on attitude theory in a series devoted to controversies is highly justified by the state of the field. In any controversy there are at least two opposing views on the subject in question—and a recent survey counted thirty-four distinguishable models of attitude change (Ostrom, 1968)! When the controversy occurs in a field of science, the ultimate outcome depends on which side proves to be closer to empirical fact; the tremendous amount of effort that has gone into attitude research in the past two decades is therefore not surprising.

Theoretical controversies are beneficial to scientific progress to the extent that they lead to critical experiments—experiments that clearly show that one theory predicts events more accurately

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than another. Platt (1964) describes the best course of development as a series of alternative hypotheses (this is the controversy stage) followed by empirical tests designed so that each possible outcome will support only one hypothesis—and so on to finer and finer predictions.

There are few psychological theories that can be posed against each other so neatly as to produce this logical tree. The complex array of statistical techniques needed by psychologists to distinguish between relevant and irrelevant influences on their data testifies to theoretical imprecision (Platt, 1964) and inadequate experimental control (Skinner, 1956). Attitude theories and experiments share these characteristics, which in a relatively young science, dealing with highly variable phenomena, may be unavoidable and may in fact help to generate novel and increasingly fruitful hypotheses (Hafner and Presswood, 1965).

The problem with attitude theories is that they seldom stand in clear opposition to each other. Some models are so vague that while almost any outcome can be related to the theory in some way, prediction is highly speculative. In such a situation, a critical test is impossible to achieve. Others are so similar to each other that experiments could test only trivial differences, or so dissimilar in scope, language, and approach that one is hard put to identify areas in which their predictions or methods are comparable. Even when such areas are found, and empirical data do exist, one can usually find alternative interpretations that save each of the theories from having to admit inadequacy. That is the reason for the title of this essay: models that can so seldom be pitted against each other conclusively are indeed like ships that pass in the night.[1] This may be (as Charlie Brown once put it) not a fault, but a character trait. Quite probably there is no metatheory that can ever explain every aspect of attitude change. In that case, many theories may have parts of the truth, and each can be utilized in the specific situation for which it is most useful (like the wave and quantum theories, which are used to explain different aspects of the physical nature of light). Such a multi-

plicity of theories has been proposed for social psychology in general (Deutsch and Krauss, 1965). Even if this is the appropriate solution, however, we must identify the domain in which each theory is most powerful; and for that effort we need more specificity and greater overlap than are available to us now.

One may ask whether, in view of these difficulties, it is worth while to study the theories of attitude change. While there is some disagreement on the value of theorizing *per se,* the weight of scientific opinion is favorable. Science strives to explain, predict, and control events. Theories are necessary as an explanatory framework, since if there are no explicitly stated conceptual linkages among events, their actual relationship to each other may easily be overlooked. Good empirical research tells us the facts; a good theory tells us what the facts mean. In the same way, theoretical constructs are used to predict the future: once we have an idea of the ways in which antecedent conditions influence the outcome, their pattern can be fitted into a theoretical framework that points to the most likely consequence. If the theory is explicit enough, its strong and weak points can be identified by the accuracy of its predictions. Finally, a good theory defines its components so precisely and is so closely related to experimental operations that the relevant antecedents can be deliberately manipulated to obtain a predicted result. Not until it has reached this stage has the theory attained its full power and utility. The fact that no attitude theory has arrived at this point so far indicates that our understanding of the phenomena of attitude change is at present inadequate; the actual shortcomings should serve to indicate areas in which more research and thinking are needed.

SOME AREAS OF DISAGREEMENT

The very definition of "attitude" has been embroiled in controversy. To many workers the concept has three components: cog-

nition, affect, and behavior. Some writers restrict the term to the first two dimensions, and view behavior as an independent dimension that may be but does not have to be a function of attitude. Still others use "attitude" to mean only emotional reactions, and refer to cognitive responses as "beliefs." These distinctions are by no means trivial. For example, many cigarette smokers admit that smoking is harmful to their health. While they accept this idea intellectually and emotionally, they continue to smoke. If we define behavior as part of attitude, then we see this situation as an attitude with components that are either inconsistent (in which case we are moved to investigate how this internal conflict developed) or differentially relevant to a variety of circumstances (in which case we turn our attention to the determinants of relevance). From the second viewpoint, the attitude is internally consistent; the reason it did not lead to action resides in other attitudinal, personality, and environmental factors.[2]

Another area of lively disagreement is that of attitude measurement. Problems of scoring and interpreting evaluations and beliefs have vexed numerous investigators. Just what, for example, is the meaning of a response of "zero" or "neutral" on a "plus-minus" or "like-dislike" attitude scale? A number of answers are possible:

1. The subject has no attitude on the issue.
2. The subject is a middle-of-the-roader.
3. The subject is ambivalent.
4. The subject is being reticent or uncooperative.
5. The subject is afraid to answer because of the possible interpretation that might be put on his real feelings if he revealed them.

Quite obviously, these reasons for a neutral response have very different antecedents and consequences; yet no attitude instrument can differentiate adequately among them.

Scaling is the most common method of measuring attitudes, and many of the techniques developed for psychophysics find social application here. Other measures, such as the semantic dif-

ferential (Osgood, Suci, and Tannenbaum, 1957), were specifically developed for evaluating concepts and symbols. As usual, there are several unresolved issues. An obvious one is whether a given measurement technique is accurate; or rather, how accurate it is in comparison with others. There is the question of how widespread certain response tendencies are (giving "extreme" answers on rating scales, for example), and how personality may be related to such tendencies. Still another problem is the effect on attitude scaling of the difference between the rater's own position and other positions sampled by the test. How well can a person who takes a strong stand on a subject discriminate among items representing divergent viewpoints?[3]

Some attitude researchers concentrate on persuasive technology. Whether one-sided or two-sided messages are better, whether the strongest arguments should be presented first or last, whether conclusions should be stated or only implied—these questions will not concern us here. They have been intensively investigated by a group of researchers at Yale University (Hovland et al., 1957), and their findings as well as those of other investigators were summarized in a how-to book by H. I. Abelson (1959; revised, Karlins and Abelson, 1970). Neither shall we cover the factors of source prestige and credibility, of environments which facilitate the task of the persuader, or of the ways in which susceptibility to the message can be decreased.[4] When we turn to the major theoretical systems on which this book focuses, it becomes clear that "major" is difficult to define and is to a large extent a matter of personal choice. There is one obvious dichotomy in the literature, between theories that propose that attitude change occurs because of a need for cognitive and emotional consistency, on the one hand, and theories based on other psychological concepts (mostly learning and perception) on the other. The first sort of explanation is the more widely used, and has led to the greater amount of research; four of the eight selections in this book concentrate on consistency theories (two of them on cognitive dissonance, the dominant construct in this

group). Other chapters use the learning, perception, and utility models. The research relevant to the theories is covered only briefly.[5]

CONSISTENCY THEORIES

Explications of attitude change often invoke motivational constructs. Theorists assume that attitudes serve some function—to provide cognitive structure, to facilitate the processing of information, to fit the individual into his group, to maintain self-esteem, or whatever. Once an attitude succeeds in gaining the goal for which the individual intended it, it will not change without some reason. The reason must go beyond a mere encounter with new information; the new attitude must be more pleasing or useful in some way than the old. As in other motivational models, there are two alternative emphases: an internal need that is reduced by a response and an external reward that the response may make attainable. The parallel to drive and incentive theories in general is obvious. We would be well advised, however, to suppress the associations that terms such as "drive" are likely to call forth; the accumulated connotations of forty years of traditional experimental psychology should not be transferred blindly into the attitude area.

Motivational theories of attitude change have undoubtedly been the most important propositions offered over the past decade or so, and the experimental literature reflects their popularity. Among these approaches, consistency theories represent a dominant trend. The key assumption of these models is that human beings require their attitudinal systems to be internally consistent, and that a state of inconsistency is (by analogy) non-homeostatic. Attitude change then follows as a way to restore the stable state.

Theorists do not agree unanimously on the motivational basis of consistency. Some workers ignore the issue for various reasons (see Singer, 1966), while others propose a variety of answers to such questions as whether the "consistency motive" is one mo-

tive or several, absolute or relative, innate or learned, aimed at eliminating inconsistency or at maintaining some optimal level (McGuire, 1966). These questions need not delay us here, but the lack of agreement—or rather the lack of empirical resolution —is a serious flaw in the consistency literature.

In the paper reprinted as Chapter 2 of this book, Zajonc (1960) describes three important versions of consistency theory. He also discusses research based on these formulations, and therefore I shall not treat it in detail here.

Balance Theory

Balance theory, as it was originated by Heider (1946, 1958), analyzes systems consisting of two or three persons (or two persons and an object), with any two of these entities related to each other by either positive or negative sentiments, or not related at all. The model is most relevant when belongingness (the unit relation) does exist; then, the sentiment relations are balanced if they provide a good Gestalt—if a liked person agrees and a disliked person disagrees with one's own sentiments toward the third entity. Newcomb (1953) enlarged the model to include communicative acts as linkages; Cartwright and Harary (1956) mathematicized it, clearing up some ambiguities and extending it to systems of more than three entities. Feather (1967) built further upon Cartwright and Harary's improvements in a communication context.

While the basic idea was persuasive, the theory was vague and incomplete. For example, the three-entity relationship did not take into account the fact that liking and disliking usually flow in two directions (with only two people involved, mutual liking or disliking represents balance). Though in many situations there are both positive and negative feelings toward a person or object, and though affects vary greatly in intensity (both "like" and "adore" are positive, but they are hardly equivalent), there was no way to assess the relative or absolute strength of sentiments. Furthermore, as Insko (1967) points out, experimenters have inferred imbalance when a subject rates himself as feeling un-

easy, tense, or unpleasant on a scale from pleasant to unpleasant; but a stable-unstable rating of the relationship would seem more relevant to the theory, and certainly to attitude change. Unfortunately, such ratings of stability may not be very reliable, and (a major flaw) there are no unequivocal behavioral measures of imbalance. But other consistency theories have not even tried to develop an independent measure of the hypothetical state; honor is due at least for the recognition of the problem.

Another problem is that the unit relationship introduces a high degree of vagueness. For one thing, "belonging together" can be inferred from many relationships: ownership, causation, proximity, responsibility, membership, and so on. If an experimental finding can be explained by a bond that unites two entities, the experimenter can surely find a definition of unity that is plausible in the particular situation. And there is another problem: while things may either belong together or not, there seems to be no equivalent of like–not like–dislike. The best candidate seems to be "belong apart," and the effects of such a relationship on attitudes need to be investigated.

Insko (1967, pp. 162–63) cites some proverbs that contradict balance theory ("Opposites attract"; "Familiarity breeds contempt") and gives Heider's resolution of these dilemmas (for example, dissimilarity can result in liking if the characteristics of the two people involved complement each other). Other theories could offer less tortuous explanations; as an exercise, the reader might work out a balance interpretation of the Arab saying "The enemy of my enemy is my friend" as applied to the average American's strong dislike of both Nazis and Communists, who are mutual enemies. This is a losing game: if it could not be done, the exercise would show a striking exception to a basic aspect of the theory (which supports the proverb). But it can (by emphasizing the Nazis' and Communists' joint hostility to the United States). The room for semantic maneuvering is obvious, and the consequent loss of precision greatly weakens the theory.

While Cartwright and Harary have resolved a few of these problems, most of them remain. In short, balance theory is relevant to a great number of areas—among them friendship devel-

opment (Newcomb, 1961), conformity (Brown, 1965, pp. 673–77), and reactions to criticism (Pilisuk, 1962)—but it explains the past much better than it predicts the future.

COGNITIVE AND AFFECTIVE CONSISTENCY

A much more sophisticated version of balance theory was developed by M. J. Rosenberg and R. P. Abelson. An early version of the model emphasizes consistency between attitudes (affect) and beliefs (cognition) toward a given object (Rosenberg, 1956, 1960a). Objects are liked to the extent that they are believed to be helpful or harmful to the individual's other significant attitude objects. If an object is positively valued and is seen as advancing other preferred objects (if an integrationist Democrat, for example, believes that his party is working for racial equality), the structure is consistent; but if the same liked object is believed to be hindering the attainment of other such objects (if our Democrat looks at some southern Democratic congressmen), there is inconsistency. And, according to the homeostatic model, when inconsistency exceeds the individual's tolerance limits, change occurs to restore consistency. In a similar vein, McGuire (1960) has analyzed Socratic questioning to show how it makes the individual aware of logical inconsistency among his beliefs, with a consequent striving for consistency.

In another version (Abelson and Rosenberg, 1958; Rosenberg and Abelson, 1960), cognitive elements (mental representations) are affectively related to each other in one of four ways: positively, negatively, ambivalently, or not at all. Positive and negative relationships are analogous to Heider's two sentiment relationships combined with unity, while ambivalence is a combination of positive and negative relationships (a step forward in allowing for complexity). In the null relationship, there is no connecting affect. A pair of cognitive elements linked in one of these ways is a cognitive unit, which thus has both cognitive and affective components.

In Chapter 3,[6] Abelson and Rosenberg list eight rules of "psycho-logic" (the test of which is psychological, not formal, acceptability), which predict new cognitive units from existing

units. (If a student likes a certain professor, and the professor recommends a particular book, the student will expect to like the book. It's not logical, since one can like a man without sharing his taste in literature—but it's psycho-logically consistent.) When units are in accord with these predictions, balance exists; when there is ambivalence or inconsistency, there is imbalance. If the imbalance is recognized, and if the individual is motivated to think about the situation (note that these are further improvements in specifying relevant factors), cognitive steps are taken to resolve it. Motivation to reduce inconsistency is comparatively low when the existing relationship is to the individual's advantage (people are less bothered by the statement "Someone you dislike likes you" than by "Someone you like dislikes you," although both statements involve imbalance). The model provides for several balancing techniques (Abelson, 1959), adding complexity (which is good) and reducing precision (which is bad). The techniques include ceasing to think about the inconsistency, "denial" (the alteration of cognitive relations, similar to the resolution process described by Heider), bolstering (strengthening a cognitive unit to overwhelm the perceived inconsistency), differentiation (redefining a cognitive element), and transcendence (relating the inconsistent components to a larger concept that subsumes them both). Resolution techniques are used hierarchically, with the simplest ones (those requiring the fewest cognitive steps) attempted first. Incidentally, it may be a commentary on the state of the field that the recognition of "ceasing to think" as a way to resolve the problem represented a significant contribution.

Among the research efforts relevant to the theory, Rosenberg's (1960*b)* experiment deserves special honors for ingenuity. In this study, subjects were given posthypnotic suggestions to induce changes in the affective component of attitudes ("When you awake . . . [the] idea of Negroes moving into white neighborhoods will give you a happy, exhilarated feeling"); when they were awakened and asked to describe their attitudes, the perceived utility of the attitude object had changed to restore con-

sistency with the altered affect. While hypnosis experiments should be evaluated with care, this is a striking and novel approach to consistency.

Another study (Rosenberg and Abelson, 1960) gave support to the hypothesis that the resolution of inconsistency follows the path of least resistance—that is, the technique that requires the least change is the one that is used. The subjects were told that the manager of the rug department in a department store, a man named Fenwick, had in the past raised the volume of rug sales. Now, however, Fenwick was planning a modern art display in his department, and such displays were known to reduce sales. The subjects were asked to play the roles of the owners of the store, with positive attitudes toward sales and either positive or negative attitudes toward Fenwick and modern art. In these roles they were to rate three messages. One of the messages argued that modern art increases sales, one denied that Fenwick was planning the display, and one said that Fenwick had not maintained sales. As predicted, in each case the message that led to restored balanced by changing only one sign was rated highest. If a subject was pretending to like Fenwick, modern art, and high sales, the original situation was "imbalanced" because Fenwick was in effect planning to hurt sales; the message that art displays increase sales would change the display-sales relationship to positive, restoring balance. This message was in fact rated most pleasant, persuasive, and accurate by the subjects whose roles called for positive attitudes toward Fenwick and modern art. Again, a somewhat unclean technique was used to good effect.

This approach is in several ways a great improvement over the original balance theory. It states explicitly that imbalance leads to change only if the individual is aware of it and is motivated to reduce it; the approach also recognizes (although it does not investigate thoroughly) individual differences in the ability to tolerate imbalance. The interrelationships possible among cognitive units become increasingly complex. Perhaps most important, ways of reducing inconsistency are defined and a principle is stated for predicting their order of preference. There is still no

way to measure gradations in affect, and the definition of cognitive relations is somewhat vague, although some recent work (summarized in Abelson, 1968) is making inroads on the relationships implied by various connective verbs. In general, however, the theory is a powerful one worthy of further empirical consideration. Sad to say, it has not caught the imaginations of many researchers, and is to a great extent lying dormant—not an uncommon fate among psychological theories, many of which remain only partially explored. Which formulation will suffer this fate and which will arouse widespread furor and experimentation seems to be a matter of style and perhaps of the spirit of the times rather than of intrinsic value.

Congruity Theory

The second major consistency approach described by Zajonc (1960 and Chapter 2 of this volume) is Osgood and Tannenbaum's congruity theory (Osgood and Tannenbaum, 1955; Tannenbaum, 1967). This theory is integrally involved with a measurement technique proposed by Osgood et al. (1957) and known as the semantic differential, the first such close relationship between a theory and a scaling technique. One important component of the semantic differential is the evaluative dimension. Objects are evaluated on a seven-point scale, one pole representing "good" and the other "bad." The theory proposes that attitudes tend toward simplicity—that is, they tend to lie at the extremes of the good-bad dimension. A second proposition states that when two objects that are rated differently become related, they are subsequently given ratings more nearly alike. Thus if Mr. Smith, who dislikes President Nixon (rating of -3 on the evaluative dimension) and likes the idea of withdrawing American troops from Vietnam ($+3$), reads that President Nixon advocates troop withdrawal, congruity theory would predict that Smith's rating of Nixon would move from -3 toward the positive end of the scale and his ratings of troop withdrawal would move down from $+3$ toward the negative end. The relation be-

tween Nixon and troop withdrawal is associative, or positive. Relations may also be negative or dissociative, as in balance theory.

Tendency toward simplicity is a highly dubious proposition. Even if extreme judgments are "simpler"—and, while this proposition may seem likely, it is difficult to test—the general scaling literature shows that most judgments made by most people are not extreme. One may also question the adequacy of a seven-point scale to investigate this problem, since so small a dimension may lump a wide range of potential ratings from -3 to $-\infty$ and from $+3$ to $+\infty$ into the "extremes." At any rate, it seems clear that no "tendency" can be shown to exist without specification of the personality and situational variables that affect its activation.

The second hypothesis, known as the principle of congruity, is more testable as well as more interesting. Following this principle, we would predict that if a positively rated and a negatively rated object are linked, the ratings of both would move toward neutrality; if both of two linked objects are either positive or negative, but differently so, their subsequent ratings would be between their original ratings. Pressure toward congruity is a function of the polarity of the original scale values. In all cases of incongruity, the more polarized object (that is, the one closer to ± 3) will change less than the other. There is an "assertion constant," calculated ad hoc from data (Osgood and Tannenbaum, 1955), which is applied to rating results to allow for the fact that attitude toward the source of an assertion changes less than that toward the object of the assertion. In other words, if President Nixon (-3) endorses a troop withdrawal ($+3$), the rating of the President will improve less than the rating of withdrawal will deteriorate. There is also an ad hoc "correction for incredulity" to explain the reduction in obtained change when the subject does not wholly accept the link that is claimed to exist ("I don't believe he really meant it!").

The theory is particularly relevant to that old area of attitude research, prestige suggestion. The congruity model predicts that the more prestigious the source of an assertion or message—that

is, the higher the source's evaluative rating—the greater the change of attitude toward the object of the assertion. The research results are not clear-cut, however; other variables affect the relationship between the source's prestige and the efficacy of a persuasive attempt. In fact, cognitive dissonance theory predicts that in some situations a negatively rated source is the most potent changer of attitude (Smith, 1961): when we agree to do what a disliked person asks, our attitude toward the task becomes more favorable than when a liked person makes the request. (An interesting experiment reported by Smith is described below, under "Dissonance Theory.")

Incidentally, there is a source of ambiguity here. While reviewers sometimes write as if a high evaluative rating were synonymous with prestige, this is not necessarily the case. Any reader —and any writer, too—can think of people whom he likes very much but whom he would not consider a prestigious source of arguments. Furthermore, prestige is seldom universal: a respected speaker on politics may be widely known as ignorant, biased, or both on the subject of art (see Feldman, 1966a). Thus the rating scale must be specified somewhat more exactly than it is in the prestige suggestion literature before this material can be interpreted in terms of congruity.

Osgood and Tannenbaum's use of the seven-point semantic differential eliminates one objection to balance theory, the oversimplified positive vs. negative categories of affective relations. Unfortunately, the third relationship, "assertion," remains not only dichotomous (either associative or dissociative), but vaguely defined as well. The concept that the evaluation of the source changes along with the attitude toward the object of the assertion is novel, interesting, and empirically challenging. Another improvement is the fact that any number of assertions can be included in the prediction formula; their overall effect is the average rating of the characteristics that each imputes to the object.

An alternative hypothesis, that overall change is a function of the summed ratings (Anderson and Fishbein, 1965), has some empirical support but has been criticized on methodological

grounds (S. Rosenberg, 1968). The congruity model predicts both the direction and the amount of attitude change, but—except for the incredulity provision—ignores alternative methods for reducing imbalance or incongruity, such as those posited by R. P. Abelson (1959).

The use of mathematical formulae is generally considered a significant step forward in explicitness, and the congruity model has provided this to some extent. The facts remain, however, that the relationships underlying the numbers are still somewhat vague and that some of the formulae represent ad hoc patchwork. It may be that even such relatively primitive mathematics is more precise than our concepts and measures now warrant.

BELIEF CONGRUENCE

Rokeach (1968) has proposed a principle of belief congruence as a substitute for the Osgood and Tannenbaum congruity principle. This model measures the importance of a given belief by the number of other beliefs with which it is connected ("centrality") rather than by its usefulness for goal attainment (as in Rosenberg and Abelson's balance model). Beliefs are important to the extent that they concern one's own identity, are shared with other people, are learned by encounter with the belief object rather than at secondhand, and are not merely matters of taste. Using hypnosis to induce a change in belief, Rokeach found that beliefs categorized *a priori* as differing in centrality were to some extent distinguishable by factor analysis, that central beliefs resist change, and that when central beliefs do change, they produce changes in the rest of the belief system.

The Gestalt foundation of Rokeach's theory implies an interactive pattern that differs from a simple additive or averaging effect. In this approach, assertions are "unique configurations cognitively representing a *characterized subject* (S), capable of being characterized in many ways, and a *characterization* (C), capable of being applied to many subjects" (Rokeach, 1968, p. 84). If C and S are relevant to each other, there is cognitive interaction between them (CS). The resolution of incongruence between C and CS and between S and CS depends upon their re-

lative centrality. For example, if a fervent enemy of "the world-wide Communist conspiracy" encounters a Yugoslav Communist, the C (Communist) is more important to his attitude than either the S (Yugoslav) or the CS (Yugoslav Communist). For a person who is interested in national differences within the Eastern bloc, the S may be of paramount importance. This consideration of incongruence and relative importance in context results in a number of possible resolutions and in the abandonment of the assertion constant and the correction for incredulity. The emphasis on configuration or pattern rather than on mere averaging or summing increases the complexity—and probably the realism—of the view. It has also led to interesting research on the interplay of racial and attitudinal similarity as factors in interpersonal relations. For example, under some circumstances racially prejudiced religious whites prefer religious Negroes to atheistic whites (Rokeach, 1968).

Insko (1967) points out the vagueness of the interaction construct as well as other conceptual and methodological inadequacies in the Rokeach model; and for a Gestalt approach, the definition of context is rather restricted. Helson (1964) has done a more thorough analysis of contextual factors in his adaptation-level formulation, which is discussed in a later section on cognitive and perceptual theories. While there is some evidence in support of Rokeach's predictions, no persuasive data have appeared in an attitude change paradigm. At the moment, belief congruence is at best a potentially useful modification of the consistency construct, its particular contribution being its emphasis on configuration rather than additivity. Its real worth awaits the clarification of ideas (the idea of interaction, for example) and of measures (such as those of centrality), followed by rigorous research and interpretation.

Cognitive Dissonance Theory

Of the formulations based on the concept of consistency, cognitive dissonance theory (Festinger, 1957) is the most lively one in today's literature. In fact, it is probably the most lively of all

attitude theories: it has originated the largest number of experiments, it has attracted the most adherents, and it has aroused the greatest controversy. The supporters of dissonance theory have a penchant for surprising predictions, for cute experimental designs, and for just enough loopholes in procedure and interpretation to provide attractive targets for their opponents. We shall have a look at some examples of the nonobvious hypothesis, the ingenious experiment, and the inviting weakness.

The theory was first presented by Festinger (1957) and extended by, among others, Brehm and Cohen (1962) and Lawrence and Festinger (1962). Briefly, it focuses on the consequences of incompatibility between two related cognitions, which may be thoughts, memories, beliefs, or attitudes. Such incompatibility, or dissonance, is aroused when the opposite of one cognition is implied by the other. For example, studying for a test implies (is consonant with) getting a good grade; if one studies hard and then gets a bad grade, dissonance is aroused. This is a simple starting point not greatly different from those of other consistency theories and considerably less elegant than some; but from this acorn has grown an oak with very widespreading branches indeed.

More than any other homeostatic approach to attitude change, cognitive dissonance theory relates its hypotheses to overt action. In fact, its most intriguing aspect is its reversal of the usual question, "How do attitudes influence behavior?" Much of the research of cognitive dissonance adherents—or "dissonancers," as Rosenberg (1968) conveniently calls them—has to do with the effects of behavior on the behaver's attitudes. Aspects of this concern are the effects of acting in opposition to one's real beliefs (counterattitudinal performance, frequently mislabeled "forced compliance")[7] and of psychologically costly experiences such as severe embarrassment or intense effort. Research has also been done on the attitude change and the seeking of information that follow the making of a decision.

Counterattitudinal behavior is the context for what are probably the most famous nonobvious predictions of cognitive dissonance theory. Festinger and Carlsmith (1959) originally demon-

strated that a person who received a small reward for lying to someone else eventually came to believe his own lies more firmly than did someone who had received a large reward. Festinger and Carlsmith's design asked the subject to convince someone else that an actually boring task was really interesting. One group of deceivers was offered $20 each and the other group $1 to perform this task. After their performance, the subjects were asked to evaluate the experiment. The $1 group rated it as interesting and worthwhile. The $20 group rated it quite negatively.

The theory predicted this outcome, since a large reward is sufficient justification for a small deception, while to mislead an innocent victim without significant compensation arouses dissonance (an interesting judgment on moral codes). The dissonance is reduced if the liar comes to believe himself, since then he retroactively (or perhaps concurrently) erases the untruth. Incidentally, the phenomenon had been found by Kelman in 1953, before the theory was published by Festinger.

An interesting variation has been the study of dissonance effects of hunger, thirst, and pain. High-dissonance subjects have reported less intense reactions after such unpleasant experimental manipulations than low-dissonance subjects; when subjects were paid only a small amount, they reduced their dissonance by minimizing the unpleasantness of the experience. Physiological and behavioral differences were compatible with self-ratings; for instance, high-dissonance subjects deprived of food not only reported being less hungry than low-dissonance subjects, but actually ate less (Brehm, 1962; Zimbardo, 1969). Bankart and Lanzetta (1968) extended this design to the reactions of heavy smokers who were deprived of tobacco, and their findings also supported the dissonance hypothesis: that is, high-dissonance subjects missed cigarettes less than low-dissonance subjects.

Dissonance theory predicts that people who obey to avoid being severely punished will evidence less attitude change than those who comply with a mildly threatening demand. Again, one can justify counterattitudinal behavior by citing a strong threat; but when the external consequences would not be very severe,

the threat seems insufficient to explain the hypocrisy, so the attitude is changed (since one's actions are acceptable if they are not *really* counterattitudinal). This hypothesis was supported by the results of an experiment in which children were told they would be punished (either mildly or severely) for playing with a desirable toy (Aronson and Carlsmith, 1963). The findings imply that if we want to change people's attitudes toward the behavior we demand of them, we should induce them to comply by offering a small reward or threatening them with mild punishment if they refuse. On the other hand, if mere obedience or cooperation is all we want, we will get more people to comply by increasing our bribes and our threats.

Related to these experiments are studies that associate some unpleasant factor with an activity, a goal, or a demand for obedience. One famous article (Aronson and Mills, 1959) concerned girls who suffered through an embarrassing initiation in order to hear a supposedly exciting discussion that turned out to be quite dull. These girls evaluated the discussion more positively than subjects who did not experience a severe initiation (a finding of some relevance to fraternities). Dissonance was reduced by the rationalization that the discussion really was worth the price. Another aspect of the same process is the effect of obeying a disliked person. In an ingenious experiment (Smith, 1961), Army reservists were offered fifty cents each to eat a grasshopper. Supposedly the Army wanted to investigate the acceptability of unusual foods. When the request was made by an aloof and formal person, only half complied; when it was made by someone the reservists wanted to please, over 90% agreed to cooperate. But among all compliant subjects, those who obeyed the less likable persuader liked the grasshopper more! The dissonance mechanism, presumably, was: "Why would I do this for such an unlikable character? Obviously because what he asked me to do wasn't all that bad," versus "I'll eat the grasshopper because I like you; I don't have to like *it*."

An article by Myers (1963) tells of an experiment in which psychologists were presented with a hypothetical situation in

which some subjects experienced victory and others defeat, and were asked to speculate on which subjects would be willing to go through the experiment again. Each psychologist was asked to make two predictions, one based on dissonance theory and one representing his own personal conjecture. On the basis of dissonance theory, most respondents predicted that the losers would come back; but their independent guess was that the winners would do so. This is not only an enjoyable study to read, but it demonstrates vividly the widespread feeling that dissonance theory always predicts an outcome that seems unlikely. As Myers points out, the information given was too incomplete to permit anyone to derive a dissonance hypothesis from it. Did all the hypothetical losers expect to win? If some of them did not, then they experienced no dissonance when they lost. And if dissonance has been aroused, there are alternate ways to reduce it. Volunteering for another session is one possible resolution, but not the only one. It is interesting, though, that most of the responding psychologists agreed on what the theory would predict, and also uniformly disagreed with that prediction.

The effects of effort represent a closely related dissonance analysis. We would expect that the more one has to work to reach a goal, the more valuable the goal will seem. While attempts to demonstrate the truth of this hypothesis are not very conclusive, there is some evidence to support it (Zimbardo, 1965). Lawrence and Festinger (1962) pointed out that dissonance theory predicts rat behavior: it takes longer to extinguish a response in a rat trained on a partial reinforcement schedule than in one trained on a 100 percent reinforcement schedule, and so on. Cognitive dissonance in rats—a thought to chill the rat-runner's soul!

Another noteworthy feature of dissonance theory is its treatment of what happens after a decision is made. Inner conflict before decision has long been studied by psychologists (Lewin, 1935; Miller, 1944). The general conclusion has been that both the desirable and the undesirable characteristics of an object or event seem stronger as one gets closer to it in space or time.

Thus ambivalence about a decision should reach its height just before a decision is made. But what happens immediately afterward?

Festinger (1957) indicates that the act of choosing is the demarcation between conflict (which leads to conflict resolution) and dissonance (which leads to dissonance reduction). Like the intensity of conflict, the intensity of dissonance increases with the similarity in the attractiveness of the possible choices. There is no problem if you choose a good job over a bad one; but when you have chosen one of several jobs that are almost equally good (or bad), the decision arouses dissonance. The choice may be revoked, or both alternatives may be incorporated into a larger category, or—most often—the chosen alternative is reevaluated as being really *much* better. This is contrary to Lewin's (1938) position, that once a choice has been made between two goals, the unchosen one begins to look better. To bolster dissonance reduction, information favorable to the preferred choice may be sought out while information favoring the rejected alternative is rejected. Evidence on the reevaluation issue supports dissonance theory fairly well (Festinger, 1964; Insko, 1967); but selective exposure to information, and particularly selective avoidance of information, have not been demonstrated at all adequately (Sears, 1968).

CRITICISMS AND ALTERNATIVES

There is probably no other critique so all-encompassing and so devastating as the paper by Chapanis and Chapanis (1964) which appears as Chapter 4 of this volume. One of the basic criticisms, which really applies to most consistency research, is that methodologically dissonance is used as an independent variable when theoretically it is an intervening or a dependent variable. That is, subjects in a "dissonance condition" are compared with those in a "no-dissonance condition," the experimenter's manipulations defining the conditions. But people no doubt differ in their reactions to those manipulations, and the subjects in both "conditions" are likely to represent a wide range of dissonance

arousal. It would seem an urgent matter to develop specific measures of dissonance, either physiological or in paper-and-pencil format (as balance theorists have attempted to do; see the earlier section on balance theory, under "Consistency Theories"). Without these, the argument becomes circular: How does the experimenter *know* that subjects in the dissonance group really experienced dissonance? Because their attitudes changed. Why did the attitudes of these subjects change? Because the subjects had experienced dissonance. And when subjects in the dissonance group *don't* change their attitudes, the experimenter may conclude that they must be reducing dissonance in some other way, and therefore throw out their data—the basis of another serious criticism.

The Chapanis article makes three major points that must be considered in any examination of the cognitive dissonance literature: first, that experimental designs have been so confounded that alternative interpretations of the data are frequently plausible; second, that the data analysis is to some extent (sometimes a very great extent) invalidated by such improper practices as the selective dropping of subjects; and third, that these shortcomings are frequently ignored in later references to the experiments, with resultant exaggerated claims of support for the dissonance hypothesis. (See Insko, 1967, for some recent evidence on the third point.) Readers of secondary sources—students, for example—are easily misled by this last practice. Studies result in nonsignificant trends, or in mixed significant and nonsignificant outcomes, or in significant outcomes after highly questionable analyses, thus providing much less than clear-cut support for the theory. These weaknesses are seldom pointed out in sympathetic reviews or introducton sections. It should also be noted, but often is not, that when the theory makes absolute predictions, relative differences are not necessarily adequate evidence. For example, in the Festinger and Carlsmith (1959) study, the hypothesis was that high-dissonance subjects would enjoy the task while low-dissonance subjects would find it unpleasantly boring. Yet, while there were significant intergroup differences in the right

direction, the absolute ratings of all groups were close to neutral. Similarly, an experiment that finds subjects preferring information that supports a decision to information that opposes the decision does not critically test the dissonance hypothesis that unfavorable information will be *avoided*.

Silverman's (1964) defense against the Chapanis' criticisms, which is reprinted as Chapter 5, takes up the first two kinds of objections separately. His major argument in response to the alternative explanations advanced by the Chapanises is that there is no empirical reason to prefer these explanations to one based on dissonance theory. For instance, while a certain result may be due to suspicion, no evidence is presented in support of the contention. This argument is an excellent impetus for further research, but not an impregnable defense of dissonance theory: the Chapanis article was not intended to be a research report, and the raising of other, equally plausible hypotheses seems a permissible attack on a theoretical system. Obviously the validity of the attack and of the theory then depend on further experiments that, through strong inference, pose the dissonance and the alternative hypotheses against each other. Adherence to dissonance theory is certainly more parsimonious than the multiplicity of alternative explanations; but parsimony is only a pragmatic guideline, not an empirical test. If several variables are necessary before a complex set of phenomena can be understood, devotion to only one leads to inadequate understanding.

Some of Silverman's criticisms of specific alternatives are also worthy of consideration. As an example, let us take the experiment in which subjects who worked hard for a reward did not show the secondary reinforcement effect (liking the color associated with a reward) found in a low-effort group (Aronson, 1961). Aronson's article maintained that secondary reinforcement and dissonance canceled each other with high effort: dissonance reduction led to preference for the unrewarded color. The Chapanis paper explained that effort and reward rate were confounded. Since with high effort there was less reinforcement, there was also less secondary reinforcement, and references to

dissonance are unnecessary. Silverman's defense quotes Skinner to refute the Chapanis' implication that high reward rate leads to greater secondary reinforcement effects. However, the paper by Ferster and Skinner (1957) compares continuous with intermittent reinforcement, not different rates of intermittent reinforcement with each other—which was the nature of the Aronson procedure. When Silverman deals with the effects of reward on attitude change after lying (Festinger and Carlsmith's 1959 study), his citation of Lependorf's dissertation raises some interesting questions. Can it be that there is a real difference in the degree of self-justification after lying for fifty cents and for five cents? And how could it be that $1 is not sufficient justification for lying when another group gets $20 (Festinger and Carlsmith, 1959) but is enough when the other group gets fifty cents (Cohen, 1962)? Such questions cannot be answered adequately until degrees of dissonance arousal can be measured.

As for the methodological and statistical faults cited in the Chapanis review, the defense rests upon necessary compensation for lack of precision and upon the failure (with one exception) of the Chapanises to demonstrate how the flaws could have affected the conclusions. These, like the previous arguments, strongly indicate that while dissonance theory is by no means indefensible, it is in need of more convincing empirical support. The *post hoc* elimination of subjects, for example, is a tactic for getting the desired result artificially; and calling it "induction" does not exonerate the practice. Data based on such methods are highly suspect, and need to be confirmed before they can be accepted as convincing evidence.

In an important research contribution, Rosenberg (1965) not only suggested an alternative to some dissonance explanations, but also performed an experiment to test his hypothesis. The suggestion was that differential reward leads to different degrees of anxiety concerning the experimenter's opinion of a subject who agrees to lie for pay. Rosenberg called this particular kind of anxiety "evaluation apprehension." In the high-reward condition, suspicion and disbelief of the experiment's stated purpose

are aroused and lead to apprehension. "Why would this psychologist offer me twenty dollars for such an easy task? Obviously, to see how I react to a bribe—so I will not indicate that my real attitude has changed." Rosenberg also pointed out (1966) that the agreement to be on call for future participation, far from being a justification for the high retainer, may arouse even more suspicion: "It may be true, as the experimenter claims, that his assistant has failed to show up and he really needs help, but why hire an inexperienced undergraduate like me as a permanent substitute if he expects future emergencies?" When evaluation apprehension was reduced by making the subject think that the counterattitudinal behavior and the attitude measurement were two separate experiments, and that neither experimenter would know the subject's performance on the other's study, dissonance effects were not found. It seems, then, that evaluation apprehension is an adequate alternative to cognitive dissonance in this particular design.

Other substitutes have been proposed to explain other dissonance findings: feelings of achievement, relief from embarrassment, sexual arousal, and expectation of future discomfort (Chapanis and Chapanis, 1964); self-judgment in which one infers his attitudes from his own behavior, but with no postulate of an intervening aversive state that causes attitude change (Bem, 1965 [Chapter 7 of this volume], 1967, 1968*b*); self-persuasion (Janis and King, 1954); defense against a feeling of having behaved improperly, and the anticipation of negative social consequences (Pepitone, 1966).

Conversely, dissonance adherents have been finding variables that tend to determine whether dissonance will in fact occur. It is quite clear that the theory is not always supported (see Insko, 1967). For example, Collins, with a number of associates, has done close to twenty experiments on forced compliance, mostly with nondissonance results (Collins, 1969). It now appears that support for the theory is more likely when there is little or no justification offered for complying (Freedman, 1963); when the subject perceives that he is free not to comply but does so of his

own volition (Brock, 1968*a*); when he commits himself as publicly and firmly as possible (Brehm and Cohen, 1962; Carlsmith, Collins, and Helmreich, 1966); and when he feels that he is being asked to persuade an open-minded audience (Nel, Helmreich, and Aronson, 1969).

What can we say about dissonance theory in general? It obviously is not *the* solution to all problems of prediction and explanation in the attitude area. While it makes possible more direct empirical confrontations with other theories than most other approaches do, the crucial question for experimenter and student seems to be "not which but when" (Aronson, 1969, p. 20); in other words, which theory is better *in a particular situation*.

Internally, the model is vague in many of the same areas as other consistency theories. What are the "cognitions" among which dissonance can exist? Apparently, responses of almost every kind. How do we determine the relevance of a given cognition? When incompatible cognitions arouse dissonance, what factors in the cognitions are responsible for the magnitude of the dissonance? We don't know. Why do subjects comply if the justification is "insufficient"? Logically, the fact that they do comply would seem to indicate that there must be *some* adequate reason; and if there is, why should they experience dissonance? Dissonance is typically definable as a situation that the experimenter thinks is dissonant; is there a way to assess dissonance independently? How can we identify or control various methods of dissonance reduction? These questions have as yet no good answers.[8]

There has been much recent work on experimental artifacts —the tendency of experimenters to get the results they expect, and of subjects to act as they think the experimenter expects them to act (Rosenthal and Rosnow, 1969). Dissonance researchers have ignored this problem; to an unknown extent, therefore, dissonance results may be artifactual. The extent is quite likely to be large. Since the tasks given subjects are often unpleasant or fatiguing, and since noncompliers are thrown out, the group that is left consists of people who by definition are submissive to the experimenter's rather extreme demands. It is

probable that such people will generally try to please the experimenter, and giving him the responses they think he wants is the most obvious way of pleasing him. Furthermore, the elaborateness of the staging and the great number of pilot studies required to get the production just right may result in experimental procedures that maximize the demands implied to the subject. It would be interesting to calculate the proportion of procedures with which an experimenter has succeeded in arousing dissonance (in his opinion) out of all the procedures with which he has attempted to do so. The difficulty of getting the effect may indicate the fragility of the phenomenon; the difficulty of explaining why some procedures are "successful" and other, similar ones are not shows the vagueness of the dissonance concept.

As for the effect of the experimenter's expectations, Cooper, Eisenberg, Robert, and Dohrenwend (1967) have found that they could wash out the dissonance effect by using experimenters whose expectations were systematically manipulated. This extremely serious warning seems so far to have gone unheeded. Rosnow and Robinson (1967, p. 307) have noted that "findings by supporters of dissonance theory seem consistently to confirm it, while findings by its opponents seem consistently to refute it." This does not seem to bother some of the disputants; Brehm (1965) has gone so far as to suggest that only a researcher who has previously confirmed the theory is fully qualified to disconfirm it, since only such a person has demonstrated a grasp of the conceptual and methodological problems involved. This argument has a kernel of merit: a grasp of the problems should be demonstrated by critic and supporter alike. However, it is a fallacious prescription in the light of what we know about experimental artifacts. From this point of view, the criterion is the opposite: confirmation should come from researchers who have previously obtained negative results.

The research is certainly copious, and this fact has been offered as a sort of a justification for the theory: "Happily, after more than 10 years, it is still not proven; all the theory ever does is generate research" (Aronson, 1969, p. 31). But that is not

enough; what is needed is a formulation that accounts for attitude change of differing kinds, magnitudes, and persistence, at various stages of development, in a variety of situations, and which can be confirmed or disconfirmed by both experimental and field data (Koslin, 1967).

Deutsch and Krauss (1965), referring to the idea that originating research is what really counts, speculate that "undoubtedly Festinger would rather be stimulating than right" (p. 76). Considering the amount of commitment and work that the development of a good theory entails, I doubt that. (Festinger, too, disagrees, quite vehemently.)[9] From an empirical point of view, Festinger has been both stimulating *and* right; and also wrong. Of the theories discussed so far, dissonance is certainly the most wide-ranging. Its truth value cannot be judged on the basis of the existing data. An independent measure of dissonance appears to be a prerequisite for valid testing and for an authoritative assessment.

NONCONSISTENCY THEORIES

That there are consistency theories aplenty we have seen; they are dominant in number, in adherents, and in research. In comparison with this mainstream, other approaches seem mere rivulets unless we arbitrarily combine them in a category of theories that have little in common beyond the fact that they are not based on consistency. It is these theories, mostly centered around learning and cognition, that now concern us. (There is also a small, barely begun trickle of my own favorites, *anti*consistency theories: that is, theories asserting that man seeks variety, novelty, and excitement, even at the expense of balance, congruence, or consonance. Unfortunately, these approaches are as yet hardly evident in the attitude area, although they are gaining ground among theories of personality, motivation, and development.)

In general, the nonconsistency theories emphasize that attitudes have adaptive significance to the people who hold them.

They may be based on past reinforcements, or on the prospect of future reinforcements; they may be guidelines to make the world seem more understandable or more friendly; they may aid the individual to defend, express, or actualize himself. No intervening aversive state is needed to bring about attitude change; in fact, these theories are frequently concerned with attitude *formation* rather than change.

Learning Theories

One general view of attitude development is that attitudes are learned either through reinforcement or through contiguity. As learning theories have become increasingly important in experimental psychology, several psychologists have proposed learning theories of attitude change. The first systematic proposal of this sort was Doob's (1947), which considers attitude to be an implicit response intervening between stimuli and overt responses. In line with the theories of Hull and Spence, this implicit response has the properties of energizing and guiding behavior.

The specific nature of the cue provided by an attitude depends upon previous rewards and punishments: if an action has been rewarded in the past, the attitude that led to it is strengthened. Also, a stimulus similar to one that was present in a former favorable stimulus-attitude-action chain will tend to evoke the same response through the process of generalization. As we shall see, other derivations from learning theory have also been applied to the attitude area.

INCENTIVE THEORY

One extensive line of work based on the learning viewpoint is the incentive theory of the so-called Yale group, which was led by Carl I. Hovland. The conceptual framework is outlined in Hovland, Janis, and Kelley (1953), and many publications have described the group's research. The theory argues that a new opinion is accepted (assuming that the message is received and understood) if there is a potential reward or incentive for such acceptance. Working under this general rule, the researcher

seeks to establish the likelihood of such a positive consequence in a given situation, to determine how to maximize its probability, and so on. For example, the Yale theorists proposed that being "right" on an issue is a rewarding experience; that in most people's experience, believing the statements of experts in their fields of expertise has usually led them to be right; and that therefore people will tend to believe a persuader whom they consider an expert on the issue in question. Specific details are explained by principles (such as generalization and extinction) based on general learning theory.

If this seems like a rather complex analysis of a simple situation, let us look at another problem. As we saw earlier, dissonance theory holds that arguing against one's real beliefs produces a change in those beliefs only if there is no strong external reason for engaging in the task to begin with. Reinforcement theory predicts just the opposite: that an argument will be accepted if it is associated with reward; that money or social approval or some sort of victory gained by counterattitudinal behavior should lead to attitude change in the direction of the behavior. There are empirical data supporting both hypotheses (Insko, 1967). Aronson, a staunch dissonancer, concludes that although high incentive in itself may lead to attitude change, under some conditions it produces dissonance instead (1966). The specific variables that determine the strength of these two conflicting tendencies are still to be identified. One relevant finding is that dissonance effects are found when subjects feel free not to comply, and incentive effects when they do not feel that they can refuse (Linder, Cooper, and Jones, 1967; Holmes and Strickland, 1970); this is the kind of research needed to define the issues clearly.

Another direct confrontation between incentive theory and dissonance theory occurs on the issue of effort. On the one hand, effort supposedly arouses dissonance and may lead to attitude change; on the other hand, the harder one has to work for a given outcome, the less pleasurable that outcome should seem—a matter of profit rather than of straight reward. If the profit is

little, there should be little attitude change. It appears that the two theories complement each other, and that both explain some of the data: Fromkin (1968) reported a reinforcement effect for rewarded stimuli (they were preferred to nonrewarded stimuli, particularly when effort was low, and their attractiveness declined as effort went up) and a weak dissonance effect for nonrewarded stimuli (they tended to become more attractive as effort increased).

PERSUASIVE COMMUNICATION MODELS

Chapter 6 (Weiss, 1967) presents a brief overview of the application of a strict learning approach to attitude change. The parallels between data derived from attitudinal and nonattitudinal learning studies are particularly interesting. Another point that should be noted is the ability of this model to explain such well-established phenomena as the tendency to remember arguments with which one agrees (selective learning). This particular paper (expanded in Weiss, 1968) gives specific empirical instances of the general analogues discussed by Hovland, Janis, and Kelley (1953) and others.

Weiss (1963) also offers a unique application of learning principles to a specific change in social attitude, defection from social movements. According to this analysis, four social situations, each associated with a learning process, explain defection and subsequent adherence to another movement. One of these situations is the unavailability of the movement when a member leaves the area where it is functioning or when the movement itself collapses. In this case, stimulus generalization leads the member to seek out another movement similar to the first. Failure of the member to gain rewards from membership is another such situation. It is followed by the extinction of belief, participation, or both, depending on which has not been reinforced, with little likelihood of recruitment into a new group. If the individual receives no rewards and in addition is mildly punished for belief and/or participation in the movement, he will leave it and transfer his allegiance to another group. If rewards are nonexis-

tent and punishment is severe, he will leave the group and not join another. The selection of a new group is a function of severity and target of punishment, intergroup similarity, and the individual member's initial level of belief and participation. The final choice depends upon reinforcement and repetition. This ingenious presentation, with historical examples of the four categories, offers some interesting alternatives to other models of group membership as well as to the standard laboratory-centered attitude-learning approaches.

Weiss applies conditioning principles to an old dichotomy investigated by the Yale group—the difference between the effects of explicit and implicit conclusions in a persuasive message—and shows that the effects of explicit conclusions follow the rules of instrumental conditioning, while those of implicit conclusions follow the rules of classical conditioning (see Chapter 6, Figures 11 and 12). There is considerable evidence that the reinforcement of certain attitude-related responses by verbal approval will strengthen those responses by instrumental conditioning (see Bem, 1968b; Insko, 1967). It has also been demonstrated that the repeated coupling of an innocuous stimulus with either pleasant or unpleasant adjectives will make the originally neutral stimulus take on positive or negative meaning by classical conditioning. For example, nonsense syllables paired with favorable adjectives eventually are rated as more pleasant than nonsense syllables paired with unfavorable adjectives (Staats and Staats, 1958). The association between stimuli and such nonverbal reinforcers as food also changes attitudes toward the stimuli (Insko, 1967).

The attitude models based on learning theory reflect the variety of learning theory versions and emphases. Greenwald (1968), for example, argues that remembering—that is, having learned—a message and being persuaded by it do not necessarily to together. Rather, what is learned is a set of cognitive responses to the message. Attitude change is then a function of the acceptability of these responses on the basis of other beliefs, reinforcement history, and the like. An individual who encoun-

ters a message to which he has previously learned favorable responses and associations is more likely to find the message persuasive than one who has not. Similarly, a subject who generates and rehearses his own arguments is likely to be persuaded by the rehearsal (see also Insko, 1967). Here we have an alternative to the dissonance explanation of role-playing. It is the learning of such positive responses, not dissonance aroused by commitment or effort, that leads the persuader to believe his own argument. The superiority of this model to other learning theories (which emphasize attention to the argument, the impact of newly discovered points, or satisfaction engendered by the performance) remains to be tested. This approach emphasizes the existence of a relatively complex cognitive superstructure built upon a learning base. In this aspect, it is highly compatible with Bem's (1967) view that "dissonance" effects occur when subjects examine their past behavior.

SELF-PERSUASION THEORY

Bem's self-persuasion theory (1965, [Chapter 7 of this volume], 1967, 1968a, 1968b, 1968c) focuses on the information derived from observing one's own behavior. The individual who is receiving positive outcomes from performing a particular act will be likely to repeat the act, in accordance with the laws of learning; the fact that he is doing something over and over again indicates to him that he must like doing it. To use Bem's favorite example, the answer to the question "Do you like brown bread?" is "I guess I do, I'm always eating it." Note that the emphasis is on the behavior, as befits a theorist who calls himself a radical behaviorist. But the attitude does not undergo any change in order to match behavior, as in the dissonance postulate; rather, the attitude is inferred from the behavior, and the inference is made by the behaver himself. The implication is that attitudes as such are unimportant. In fact, they are perhaps nonexistent until we are asked (or ask ourselves) to explain our actions. When that happens, an appropriate attitude statement is formulated. Bem points out, however, that the individual cannot always iden-

tify the specific behavior on which his inference is based. This last point, made almost in passing, seems to dilute the rigor and testability of the model.

Research has supported Bem's arguments in two ways. First, it has demonstrated that learned behavior is used to infer attitudes about the stimuli associated with the behavior. It is important to note that the attitudes are not merely verbal responses associated with the stimuli, as in the Staats' classical conditioning approach. Thus in Chapter 7's Experiment III, when subjects were required to make extreme evaluations of originally neutral stimuli in the presence of a cue that they were to tell the truth, they later indicated that their "true" attitude was indeed relatively extreme ("I rated the cartoon as very funny and the truth light was on; I guess I think it *is* very funny"). Bem (1966) has also trained subjects to believe that the false statements they made when the truth light was on were really true.

The other line of evidence comes from a series of studies that Bem calls "interpersonal replications." These involve a written description of one or another of the popular dissonance scenarios. Each group of subjects reads the description of the situation as it was perceived by one group in the original experiment, and is informed that those particular subjects agreed to do as they were asked (to lie, to go hungry, and so on). The replication subjects are then asked to describe the attitude of the original participants. It turns out that these ratings are usually quite close to those obtained in the dissonance studies. If an external observer can infer the subject's attitude from a description of his behavior, there is no reason to think that the subject himself cannot make the same inference from observing his own behavior. Thus, Bem argues, there is no need to postulate intervening motivational processes such as dissonance.

So far, no attack has succeeded in refuting this explanation, although some contradictory data have been reported (see Jones, Linder, Kiesler, Zanna, and Brehm, 1968; Bem, 1968c). Whether the model will stand up under more detailed and possibly hostile testing remains to be seen. In spite of its originality

and obvious strength, it has not attracted many adherents yet. One reason for this besides its newness, may be its simplicity: in this field, insistence on a behavioral focus and deemphasis of intervening processes are truly quite radical.[10] Such an insistence seems to many workers in the field not merely simple, but simplistic. Moreover, Bem has had very little to say about the determinants of the behavior on which attitudes are based. In one study (Bem, 1968a), operant conditioning techniques were used to train institutionalized children to say that they liked a lot of brown bread (Bem's interest in brown bread is intriguing, especially to a fellow enthusiast). Another group was repeatedly told that it liked a lot of brown bread. Both groups increased their consumption of brown bread about equally. Bem interprets these data as showing that self-instruction and external instruction are similar in their power to direct behavior. More work on these and other relevant factors is obviously needed.

TASK-EXPERIENCE THEORY

Breer and Locke (1965) have developed an interesting learning model that accepts the importance of reinforcement and generalization, but concentrates on the ways in which these factors affect the development of attitudes based upon the performance of various types of activity, or "task experience." Their thesis is that when one operates on certain stimuli to achieve an outcome, the nature of the stimuli (difficult or easy, for example), the nature of the operations (socially cooperative or individualistic), and the nature of the outcome (successful or failing) give rise to new attitudes. Task performances have four components: cognitive, affective, evaluative, and behavioral. The cognitive component involves the building of hypotheses and the selection of tactics. The affective component (which Breer and Locke call "cathectic") is the emergence of preference and attachment to certain responses. The evaluative component is the judgment of the legitimacy of given responses by social and individual norms. Behavior, of course, is the set of overt actions with which the other three components are concerned.

Let us see how the components are related. If a task necessitates social cooperation for success, then as a group progresses in its performance, the members will "(1) become *cognitively* aware that cooperation is instrumental to task success, (2) *behave* in a cooperative fashion, (3) develop a *cathectic* interest in co-operating with each other, and (4) establish *norms* defining cooperation as a legitimate and expected form of behavior" (Breer and Locke, 1965, p. 13; italics mine). Thus positive reinforcement or the prospect of positive reinforcement shapes all four components into an integrated orientation. Such orientations are then generalized to other, similar task situations ("lateral generalization") and to general cultural beliefs and norms ("vertical generalization"). So, for example, the members of the group described above will tend to have a cooperative attitude when they work at other tasks with other groups, at least until they are negatively reinforced as a result. They will also come to believe that cooperation is, in general, a desirable and useful characteristic.

This rather complex version of conditioning theory does not deal with the effects of verbal persuasion as such, and thus differs from most other theories of attitude change. Its broad definition of "tasks" enables it to deal with religious beliefs, societal factors and general social change, occupational choice and success, and many other areas of attitude and behavior. To date, task-experience theory has attracted very little attention among attitude workers, partly because of its sociological emphasis and partly because of its lack of interest in the more popular or traditional variables—persuasive messages, role-playing, and so on. It is worth pursuing, however, both for its own intrinsic value and as a means of delineating crucial boundaries between theories. For example, it predicts that only task performance, not mere commitment to the task, will result in the learning of new attitudes, and that reward and attitude change are positively correlated. Both predictions are contrary to those of dissonance theory. The concern with long-term everyday activity, in contrast to the laboratory orientation of most dissonancers, may underlie

this disagreement. If so, we may start to identify the appropriate theory for a given situation.

STRENGTHS AND WEAKNESSES OF LEARNING MODELS

Learning theory has been widely used to explore the effects of motivational (especially fear) arousal on persuasibility, the differential power of one-and two-sided arguments or of earlier and more recent arguments, and so on. In order not to arouse dissonance, I shall retain my earlier restriction on such largely technological questions.

What good are these models? For one thing, the confrontations between learning theories and the dissonance school provide the largest proportion of critical experiments in the literature. Some of these tests have identified weaknesses or omissions in one theory or the other; others have given us ideas about the appropriate conditions and areas in which a given theory is most powerful. Learning models have also accomplished the translation of vague ideas into relatively concrete, operational, and sometimes even quantitative terms. Their emphasis on the parallels between attitudes and other behavioral and cognitive phenomena has also been of value.

As for their weaknesses, one is the refusal of most of the theorists to commit themselves to a system. From Hovland et al. (1953) through Weiss (1967), we have comments that the presentation is only preliminary, the parallels drawn are only analogies. While this may be justifiable at one point in time, it would be nice to see some progress toward stronger statements. A related shortcoming is the fragmentary nature of the general approach, which makes it difficult to evaluate the usefulness of learning theory as such. As Kiesler et al. (1969, p. 154) say of these theorists, "One thing is certain—they do not cite each other." Also, the research and theorizing alike tend to concentrate on relatively simple situations, such as original attitude acquisition. Here reinforcers are fairly easily manipulable, the cognitive and affective complexity of the issues is not formidable, there is no preexisting involvement, and the whole enterprise re-

mains comparatively undemanding. Other problems arise from the nature of learning theory itself, and from the vagueness of its relevant variables when they are transferred to the attitude area: the difficulty of defining the nature of reinforcement independently and of measuring the reinforcing value of outcomes (particularly in complex, multi-outcome situations); the uncertain relationship between reinforcement and drive, and the question of identifying and measuring the drive that is operating; the dispute about the relative importance of association and reinforcement; and the evaluation of the role of other intervening variables, such as awareness and cognitive manipulation. All of these are questions to which learning theory has no clear-cut answers. Some faults, like the unevaluated role of experimental artifacts and the measurement problem, are shared with other attitude models.

There is no doubt that the learning approaches as a class currently offer the only good explanations of some attitude phenomena, such as the classical conditioning of attitudes. In other areas, they present plausible alternatives or complements, usually to consistency models. While I doubt that we shall soon see one integrated learning theory of attitude change (which Festinger [1968] discerns on the horizon), the book by Greenwald et al. (1968) has already stimulated research and thinking that may lead in that direction. At the very least, the consistency approaches are likely to become less dominant than they have been in the past decade, and the theories mentioned here may prove to be strong competitors.

Functional Theories

Somewhat related to learning theory is the functional approach. While functional theorists do not usually bother with the processes of learning, they are interested in the instrumental nature of attitudes. That is, an attitude serves some useful purpose; when the individual concludes that this usefulness has ended or that a change may be more useful, the attitude will be likely to

change. Reinforcement and incentive, then, provide the common ground between the two schools. The major conceptual difference is that functional theorists emphasize the types of real-life adaptive values served by attitudes (Insko [1967] calls these approaches "type theories"). Learning adherents, while using many kinds of reinforcers in experimentation, have not tried to evaluate the general importance or relevance of these rewards. The task-experience analysis of Breer and Locke (1965), described earlier, is close to being a combination of these two emphases.

The functional approaches also have some relevance to the idea of consistency. For example, they deal with the conditions that lead the individual to experience inconsistency as a noxious state, with the reasons for choosing one of several alternative modes of inconsistency resolution, and with levels of relevant motivation. Most importantly, they ask the question: "Consistency for what?" (Katz, 1968).

MOTIVATIONAL CONSTRUCTS

Functional theories, obviously, involve motivational constructs. Thus Katz, beginning with three relevant motives (Sarnoff and Katz, 1954), eventually described four such factors (Katz, 1960). Of these, the adjustive function (also called the instrumental or utilitarian function) is closest to that emphasized by learning theorists: the motive is to obtain extrinsic reward (that is, to obtain useful objects and avoid painful ones), and attitudes are maintained or changed to the extent that they fulfill this function. The ego-defensive function is the protection of one's self-respect and feelings of worth and competence, the need to deny one's own shortcomings, and so on. The classical Freudian defense mechanisms are intricately involved with attitudes in this regard; for example, the role of projection in the development of racial prejudice, and of reaction formation in the pattern of authoritarianism.[11] Katz's "value-expressive" function —the desire to be true to one's beliefs and norms, to communicate these beliefs to others, and to defend them when appropriate

—is related to ego psychology in personality theory. Finally, the knowledge function fulfills man's need for a structured, certain, and predictable world. Here the theory may be closest to consistency hypotheses, and is certainly related to information-processing theories of personality (Mancuso, 1970; Schroder and Suedfeld, 1971). Incidentally, the relevance of this approach to various personality formulations is one of its attractive and useful characteristics. Katz also describes the dimensions of attitudes —their connections with other attitudes and with behavior, their intensity, and so on.

In a similar analysis, Smith, Bruner, and White (1956) use social adjustment, object appraisal, and externalization as their constructs. Social adjustment is the utility of an attitude in gaining social approval; object appraisal is the cognitive utility of the attitude in directing the individual to attend and respond to important aspects of the environment; and externalization is the equivalent of ego defense, which transfers the perceived source of anxiety from the self and its conflicts to the environment.

Smith et al. further discuss object-relevant characteristics of attitude. Their analysis is quite compatible with the one offered by Katz (1960). For instance, attitudes differ in the extent to which their objects are differentiated. An opinion that research in psychology is good or bad because science *per se* is good or bad is relatively undifferentiated. A more complex view might weigh research in psychology against the use of the same resources in other sciences, or in social projects, or in reducing taxes; or it might weigh the advantages of research against threats to privacy and nonconformity; or it might evaluate various kinds of research in various areas of psychology (research on psychopharmacology for clinical use, for example, as compared with learning studies using rats), and so on. While the resulting decisions—to support or not to support a research program, for instance—may be the same, there are obvious differences in the specific attitudes. Salience, time perspective, informational support, and object value are probably strongly related to this dimension of differentiation. Salience is the importance of the attitude object to the person; time perspective is the duration

of his interest in it; informational support is the amount of knowledge he has that is relevant to it. Perceived complexity probably increases as these other three variables increase. The last characteristic, object value, is the positive or negative valence of the attitude object.

An attitude changes when its functional utility decreases. The decrease may be caused by a change in reinforcement contingencies or by the development of new needs (for the adjustive functions); by an increase in insight and self-acceptance (for ego defense and externalization); by the emergence of self-doubt or the discovery of more appropriate ways of expressing selfhood (for value expression); or by the impact of new information (for knowledge and object appraisal).

The formulation of Smith et al. has led to no empirical research, and that of Katz and Sarnoff to little more. Both have elements of several general theories—learning, psychoanalytic, and cognitive—and the Smith approach also emphasizes social consequences. This and their close connection to personality theory are intriguing advantages. Their major problem is to define clearly and operationally the unique combination of functions served by a specific attitude and the environmental characteristics that can be manipulated to frustrate these functions. If this last could be done experimentally and the resultant changes predicted, the theories would be on a firm footing. The theories give more attention to individual differences in motivation and perception than other approaches do, and recognize the multiple determinants of attitudes (the fact that a given attitude can serve a number of functions). Both are significant improvements compared to such overgeneralized approaches as consistency and reinforcement theories. On the other hand, these same qualities make experimental verification difficult unless the personal world of each subject is thoroughly understood. Both conceptual and operational specificity need to be increased.

PROCESSES OF ATTITUDE CHANGE—A FUNCTIONAL ANALYSIS

Chapter 8 presents the functional theory of Kelman (1961). Restricting itself to three instrumental roles of attitudes and atti-

tude change, this approach is relatively specific. Kelman spells out the sources of the three processes of change: the power, the attractiveness, and the credibility of the communicator and the communication. This categorization links up well with analyses of social power in general (for example, Raven, 1965; see Suedfeld, 1966), thus embedding itself usefully in another important area of social psychology.

The description of the environmental factors that must be present for each process to work is also valuable. Note that the antecedents and consequents of each type of change are quite distinct, making the derivation of clear-cut testable hypotheses possible, with less opportunity for *post hoc* juggling than is provided by most theories. There are, of course, situations in which more than one process is operating—in brainwashing, for example (see Suedfeld, 1966); but it should not be too difficult to design experiments in which such overlap is eliminated.

Kelman's theory, like the other functional systems, is conceptually relevant to nonlaboratory situations; unlike some, it is also amenable to field *testing*. Identification with a liked communicator, compliance with the demands of a powerful one, and internalization of the message of a believable one can be measured in educational, political, military, religious, and other settings. The relative potency of each process and its interactions with other processes present interesting research problems. All in all, this appears to be the most promising of the functional theories; with the increasing interest in nonconsistency approaches, we may soon see the performance of more of the necessary empirical groundwork.

REACTANCE THEORY

More restricted discussions based on a functional approach have appeared recently. One interesting variant is the idea that adherence to existing attitudes in the face of persuasive pressure (or "reactance" against the pressure) serves to enhance one's feeling of personal freedom and self-reliance, even when the communicator is prestigious and trustworthy, the message is

credible and informationally valuable, and the probable outcome of acceptance is positive (Brehm, 1966). This hypothesis may explain the resistance to change found in so many attitude studies, particularly in field research dealing with significant "real-life" attitudes, and the occasional boomerang effect, in which an attitude changes in the direction opposite to that advocated by the message (for instance, a rise in smoking rates after publication of figures linking smoking with disease). Although this model is as yet quite vague, it is nice to see social psychologists paying attention to people's striving toward freedom.

DISCREPANT ACTION THEORY

Baron (1968) reinterprets the consequences of counterattitudinal behavior (or "discrepant action") as the result of three factors. First, there may be a moral dilemma; many behaviors demanded of subjects in dissonance and related experiments are considered immoral in our society (talking someone into participating in an unpleasant experience, administering painful shocks, and so on). Now, if one has done this for a reward, the greater the "bribe," the greater the guilt; but the more embarrassment or effort associated with the act—that is, the more we suffer while doing these things—the less the guilt. Since guilt, like cognitive dissonance, implies discomfort, in such a simple situation Baron's hypothesis concerning subjective feelings is directly contradictory to explanations derived from dissonance theory. So is his conjecture that a liked communicator, being more likely to reduce guilt feelings, is a more powerful source of change than a disliked one. Hedonic dilemmas occur when one has made a bad bargain, expended too much effort for too little reward, chosen the wrong alternative. This should lead to discomfort, which is reduced by deciding that the choice, the reward, the bargain are really better than one supposed at first. Here dissonance theory agrees. Finally, consensual validation dilemmas occur when a person's counterattitudinal behavior makes him doubt his own previous beliefs, leading to awareness of inconsistency and to uncertainty.

Some interesting hypotheses can be derived from this approach. For example, characteristics that make a communicator effective in solving one kind of dilemma will be irrelevant in solving another: for advice in moral dilemmas, integrity and disinterest are important; in consensual validation dilemmas, expertise is best. Moral dilemmas may lead to problems with self-respect and to serious attitudinal changes; hedonic dilemmas are relatively easy to solve by selective memory or selective information seeking. Again, experiments delimiting the proper role of dissonance theory can be derived from this approach. In fact, the theory points out that inconsistency can function as a positive motivation. This is so because inconsistencies may lead to increased accuracy in the evaluation of oneself and others or to social relations with new and valued others—a step toward an anticonsistency viewpoint.

CONFLICT THEORY

A last functional approach, which also incorporates the importance of incentive, is the conflict theory of Janis and Mann (1968). It is based on the hypothesis that information (including attempts at persuasion) presents a challenge to existing attitudes and actions. This challenge and the resultant conflict motivate the individual to seek out and evaluate alternative courses of action. A five-stage process is proposed: appraisal of the challenge, appraisal of alternatives, selection of the best alternative, commitment to a new policy despite negative information (this fourth stage reflects the importance of commitment and of reactance), and, if the feedback becomes negative enough, a return to the first stage, whereupon the cycle will presumably be repeated.

Utilitarian reinforcement for oneself and for significant others, social reinforcement, and self-evaluation play important roles in the development of new attitudes in response to challenges to old ones. These factors represent the functions that attitudes are to serve, and conflicts revolve around the extent to which present and alternative attitudes do in fact serve them. Janis and Mann view conflict before and after a decision as a continuous process,

with both objective and distorted evaluations occurring in both stages. Here the theory differs from that of Festinger, who takes the position that objective judgment predominates before a choice is made and distortions are dominant afterward.

The postulates of conflict theory are fairly specific and appear to be clearly testable. So far, the theory has not been very influential; it has not dealt with many of the standard questions of attitude change, has not been presented in detailed form, and has very little relevant evidence to offer.

STRENGTHS AND WEAKNESSES OF FUNCTIONAL MODELS

One important contribution of the functional theories is their emphasis upon purposiveness in attitude formation and change. Their lists of relevant factors vary, but they also overlap, and it is quite clear that these approaches are much more amenable to integration than other types of theories. Unfortunately, they have led to relatively little research so far, so that their validity and power are largely untested. The generality of many constructs makes empirical testing difficult, and there is always the problem of measuring the relative and joint strengths of the various motives; but some of the theories at least indicate appropriate paths toward this goal.

Cognitive and Perceptual Theories

The important variables in theories that concentrate on cognitive and perceptual factors are the discrepancy between the attitude advocated by a communication and the attitude held by the listener, the discrepancy between a message and previously encountered messages, and (as before) the perceived usefulness or value of the message itself.

ADAPTATION-LEVEL THEORY

An attempt to apply a comprehensive model of perception and attention to the attitude area has been made by Helson (1964), the originator of adaptation-level theory. In this model, stimuli

are arranged on a unidimensional scale, and the response to any stimulus then varies in accordance with its position on the scale in relation to other stimuli with which the respondent has experience. In the perceptual realm, for example, a subject who has lifted a series of five- to ten-pound weights may judge a one-pound weight to be very light, while a subject who has been lifting one- to five-ounce weights (and therefore has a different adaptation level) may call that same one-pound stimulus quite heavy. The adaptation level is affected by the surrounding environment and previously encountered stimuli as well as by the characteristics of the objects being judged. This level is the scale point or range within which stimuli are evaluated as neutral, in between, midway between the two extremes of the dimension.

In generalizing this model to attitude change, Helson and his co-workers (see Helson, 1959; Insko, 1967) carried out a large number of studies. Helson assumes that the behaviors and attitudes that a person usually experiences or observes represent his adaptation level, and that this level will change if the subject encounters new stimuli. Most of the research has attempted to accomplish such change by providing models to whose behavior the individual could conform. These experiments verify common-sense assumptions, such as that when people are asked to contribute money toward some common enterprise, their contributions are larger when other donors give an average of seventy-five cents than when the average donation is a quarter. The theory is not the unique predictor of such results, nor has it led to any very striking predictions of other results. Because of the difficulty of quantifying attitudes, this extension of the theory has not been very successful. That part of the research which manipulates several variables simultaneously leaves unanswered the difficult question of how the various adaptation levels interact and combine; when an experiment involves models whose behavior affects adaptation level along several independent dimensions, the theory cannot predict the subject's performance. On the whole, this approach has been unexciting to attitude researchers. While change in adaptation level may in fact be the

mediating mechanism in certain conformity situations, the theory offers no predictions or explanations that are superior to those offered by other systems. So far, no one has extended the theory to the many situations in which attitude change occurs independently of any aspect of conformity.

Nevertheless, some general characteristics of the approach are admirable. Helson insists on the importance of observable stimulus characteristics and of the effects of these characteristics on evaluative, cognitive, and emotional responses. To the extent that intervening variables are used, they are based on the same concepts: observed and recalled stimuli are dimensionalized alike. There is no need for constructs (such as inconsistency) that are neither observable nor measurable. If this behaviorist position could be made more powerful and stimulating, it might remove some of the fuzziness of attitude theories. Another good point is Helson's concept of the motivating nature of intellectual activity. He rejects the dominance of primary drives and reinforcers, and of aversive states brought on by inconsistency, and emphasizes the positive nature of problem-solving, insight, and the processing of information. In this he is allied with the "new look" in motivational theory, and has helped to lay the foundation for an anticonsistency explanation of attitude change (see Helson, 1966).

SOCIAL JUDGMENT THEORY

The social judgment or assimilation-contrast theory advanced by Sherif (Sherif and Hovland, 1961; Sherif, Sherif, and Nebergall, 1965) puts more emphasis on the cognitive scale than adaptation-level theory does, but it too uses dimensionality as the basic concept in judgment and emphasizes the importance of the stimuli that anchor the ends of a given scale. Sherif approaches the problems of sensory discrimination from the general direction of psychophysics, assigning stimuli to various places on a scale. Consistent differences between objective characteristics and subjective judgment, and between the judgments of various individuals, are important in psychophysics and perhaps even

more important in this psychophysical model of attitude change. The relevant dimension is agreement or acceptance, and Helson's problem in identifying and combining a number of scales is avoided. The theory proposes that internal scales are developed through evaluation of stimuli (arguments) and through social influence. In this development both internal and external anchors have important parts to play. Internal anchors are reference points that have been established through experience, such as one's attitudes; external anchors are provided by the actual stimuli or by group consensus.

Sherif is concerned with the consequences of discrepancy between anchors. An attitude—an internal anchor—represents the portion of the reference scale with which the individual most agrees, which he likes and accepts. A persuasive message is a stimulus that covers a different portion of the same scale. If these two parts of the scale are close together or actually overlap, the new information is perceived as compatible with the existing attitude system, and is "assimilated" into it. The greater the discrepancy between the two anchors, the more change will occur—as long as the discrepancy remains within the latitude of acceptance. Once the difference is so great that the message is close to the opposite end of the scale (the least accepted, most disliked point of view), it enters the latitude of rejection. Then the new stimulus is evaluated as being so far from the recipient's own view that it cannot possibly be incorporated ("contrast"); there will be no attitude change, or the large discrepancy may even lead to a boomerang effect. It should be pointed out that explicitly partisan, extreme statements and statements of objective fact (rather than opinion) are not subject to assimilation-contrast effects (Sherif et al., 1965). Ego involvement in the issue—the centrality of the attitude—narrows the range of acceptance, reduces the neutral noncommitment range, and widens the latitude of rejection. This is why open-mindedness on a topic is usually associated with a relative lack of interest in it. Unfortunately, the lack of a good independent measure of involvement has led to problems.

While the research based on these concepts has had mixed results, the lack of consistent confirmation must be attributed largely to gaps in the theory rather than to specific errors in it. For example, the idea that there is a curvilinear relationship between discrepancy and attitude change (greater discrepancy increasing change in the region of acceptance and decreasing it in the region of rejection) has been tested in many studies, and has not always been supported. One problem is that discrepancy has often been confounded with the subject's own position; to include subjects with varying attitudes while keeping discrepancy constant calls for many subjects and many messages. When the confounding occurs, it leads to ceiling effects on both discrepancy and attitude change. It also appears that independent variables not considered by the theory play a part—the credibility of the communicator and of the message (an incredulity measure, like Osgood and Tannenbaum's [1955], might help), confounding variables such as group pressure, and so on. This approach is more closely tied to phenomena and measurement, and is more testable, than most. Since the scale is very explicit, the fudge factors so useful to other theorists are not available. On the other hand, the limitation of the model to a description of one set of phenomena makes the label "theory" somewhat premature: the implication of generality is misleading. The questions answered by the assimilation-contrast concept have been of restricted scope. It is clear that wider applicability, added complexity, and more research are needed to establish social judgment theory as an important explanation of attitude change.

Although the relationship of the empirical work to the theory is sometimes vague, there has been much field research generated by supporters of this approach. The importance of studying the individual in a realistic context and, above all, in the context of his social environment never escaped Sherif, as it did so many others. The reference group is always present, either physically or symbolically. As a source of information and consensual validation, it continuously affects responses to persuasive attempts. The work of social judgment theorists on voting behavior, on the

attitudes of socially committed individuals, and on intergroup relations has not had the artificiality and triviality of many experimentally "pure" programs.

PERSPECTIVE THEORY

Ostrom and Upshaw (1968), in their description of the perspective model, make explicit one of the implications of perceptual-cognitive theories in general: the idea that attitudes can change without any alteration of one's beliefs about the object. It is not necessary to persuade oneself that a previously disliked politician is really a paragon of virtue; it is sufficient to compare him with a new set of anchors. He is what we have always thought him to be, but compared to X, that's really not so bad!

While a change in beliefs is not necessary for a new attitude label, it may be required if that label is to be maintained. The decision that our politician is not so bad may then motivate us to reexamine his specific characteristics. "Perspective" is the range of attitudes that one considers before rating his own attitude as positive or negative. With changes in the ends of this range (end anchors), the place of the individual's own attitude is modified. The anchors may be changed by new information or by the reevaluation of existing stimuli. The increasing acceptance of social changes once considered radical as new, even more radical ones come along has been frequently observed.

The model is, on the whole, in accord with common sense, but its scope is restricted to only a portion of the situations relevant to attitude change. There is some work on mathematical expression and definition of possible outcomes, and its implications for attitude scaling (which is outside the province of this book) have challenged some older beliefs. For research on self-concepts, reference groups, and the like, it is an interesting thought that two people can have completely different specific beliefs and opinions on many topics and yet use the same label: a rural southern white and an urban black may both label themselves Democrats. The opposite can also occur: two people with basically similar beliefs may use contrasting labels; and to confound the issue further, these contrasting labels may confuse the nature of any agreement or disagreement that may exist between them. Of two adherents of the NAACP, for instance, one may have a perspective which includes organizations ranging from the Ku Klux Klan to the NAACP, and may label himself a radical, while the other, with a scale extending from the Klan to the Black Panthers, may call himself a moderate or even a conservative.

COMMODITY THEORY

Brock's commodity theory (1968b), new and only partially developed, deals with the availability of a class of objects as an important variable in many kinds of situations. Applied to the study of attitudes, the "objects" are messages or other informational communications. Their basic value depends on their utility: "The value of a commodity is . . . the extent to which it accounts for response variance when compared to other stimuli" (Brock, 1968b, p. 246).

If the information is hard to obtain, or if one must wait a long time for it, its value is enhanced—a change that Brock has unfortunately decided to call "commodification." The higher the perceived value of the information to the recipient, the more likely he is to modify his attitudes to bring them into harmony with it. The contrast with reinforcement and with some utility theories is apparent; the idea that cost increases value is more akin to dissonance theory.

While at this stage there is no real theory, and nothing much new, there are a few interesting thoughts. One is that, if information is to increase in value because it is difficult to obtain, the would-be recipient must be interested in the topic. This idea should be a truism to anyone not hopelessly trapped in the "I've got a secret" syndrome of our childhood, but not many theorists have been fully aware of it. Second, information increases in value with the perception that it is available to only a few people, or can be communicated by only a few people—the

"inside dope" syndrome. Finally, information increases in value if the person who has it is reluctant to part with it or has difficulty in communicating it. These factors may reduce the effects of massive, obtrusive advertising campaigns.

Brock cites some research that tends to support his hypotheses, and there are relevant anecdotes and examples from history, economics, and other disciplines. At the moment the eventual contribution of the model is difficult to predict. A connection between attitude and general exchange theory would be desirable if it provided a meaningful contribution rather than merely another set of labels. Whether the commodity approach meets this criterion remains to be established. As usual, there is the problem of a general measure of value, to say nothing of effort and of what "scarcity" means—although it certainly seems possible to develop appropriate indices. I do recommend the evaluation of the theory that Brock provides at the end of his presentation: it's nice to see a theorist who recognizes criticisms as something other than straw men that he can knock down to enhance the image of his formulation. Students who read these passages will discover some good comments on the model; colleagues may find a model to follow.

THE UNCERTAINTY MODEL

Chapter 9, which was specially written for this volume, presents the uncertainty model originated by Koslin. This approach uses some of the constructs of social judgment theory. Specifically, it asserts that messages are judged on a dimension from one's own attitude to the attitude most dissimilar to it, and it recognizes latitudes of acceptance and rejection. But the function of attitudes as informational input is believed to mediate the differential effects of small and large discrepancy.

The attempt to construct a stable and sensible view of the world leads to the development of attitudes, a functional interpretation that may explain consistency models too. New information, including persuasive messages, may shake up that cognitive organization. The reference scale becomes confused. Once this confusion occurs, the relative locations of stimuli and the discrepancies between them shift; in this situation a new scale can make previously rejected statements acceptable. There is an interesting parallel between this view and the unfreezing-changing-refreezing sequence of the brainwashing process, as analyzed by Schein (1961).

In the induction of uncertainty, moderately discrepant messages are most effective. Small discrepancies provide information that agrees to some extent with the existing attitude, and thus stabilize the scale; highly discrepant statements are rejected as irrelevant or obviously wrong (see also Festinger, 1954). In general, there is a curvilinear relationship between discrepancy and confusion, and a positive linear relationship between confusion and attitude change. A prestigious communicator makes the message seem more useful as information, enhancing the reinforcing effect of a congruent statement and making moderately and greatly discrepant communications more potent as disorganizers of the scale. The portions of the scale where uncertainty will exist can be specified; as we have seen, such specificity is rare indeed.

This model is in its early stages of development. The relevant research is scarce, but what there is supports the hypotheses (see Koslin and Pargament, 1969). Like Sherif, Koslin has developed a scaling technique that is appropriate to test the induction of instability and is in its own right a contribution to attitude measurement. One of the great contributions of the theory is that its intervening variable, uncertainty, can be independently measured —unlike such intervening variables as cognitive dissonance. Furthermore, results obtained by this technique are much less liable to distortion by evaluation apprehension, suspicion, and other such factors than are those obtained by a simple rating. So far, the measure is a rather cumbersome one to take and to score; but that's still much better than no measure at all.

Like some of the reinforcement propositions and like the com-

modity approach, this model has yet to undergo serious development and testing. In its combination of judgment and utility and its linkage of these to current motivational theory (which emphasizes the importance of cognitive structuring, predicting, and coping with information), the model appears to be powerful. It seems to be testable, and should stimulate further research; it also appears applicable to a variety of attitude change problems.

CONCLUSION

To rehash the outlines and the criticisms of each theory at this point would be unkind to the reader. In general, it is clear that consistency theories have dominated the field in the past fifteen years or so. In spite of all their shortcomings of specificity and measurement, such models appear to be good explanations of certain aspects of attitude change. Now many leaders in the field agree that nonconsistency approaches are about to come into their own. These are usually much more crude than the consistency models; this is both a cause and an effect of the latter's influence.

For the near future, the internal development of alternative theories should be a prime task: the tightening of logic, the identification of relevant variables, the deduction of testable hypotheses, the extension into broader areas. Many of these propositions are minitheories. Their future may be to complement other, more general formulations, or they may grow into greater applicability. While this conceptual development occurs, empirical work will also emerge. We will see much more field research, the testing and application of attitude theory in socially important contexts as well as in the laboratory. The next fifteen years may see the meeting and merging of some theories and the delineation of the appropriate domain of each. If nothing else, the "glorious entertainment" (Barzun, 1964) will go on; but I think there will be much else.

NOTES

1. Cynics may suggest that several theories must have the sheltering darkness of night in order to pass, and that the light of day would cause them to fail; this is the beauty of metaphor.
2. The interested reader may turn to Katz and Stotland (1959), Fishbein and Raven (1962), and Triandis (1964). A comprehensive review is given in Fishbein (1966), and some implications of this controversy for research methodology are pointed out by Sechrest (1969).
3. The basic scaling methods used are described by Krech, Crutchfield, and Ballachey (1962); Fishbein (1967) offers a selection of more advanced analyses. Good presentations of specific viewpoints are offered by Stevens (1966) and by Koslin and Pargament (1969).
4. Information on these issues can be found in Hovland, Janis, and Kelley, 1953; Biderman and Zimmer, 1961; Schein, 1961; Suedfeld, 1966; and McGuire, 1964.
5. Readers who desire more detailed treatments may refer to the primary sources, or to the following collections: for general theoretical discussion, Insko (1967) and Kiesler, Collins, and Miller (1969); for theory and research based on the consistency model, Abelson, Aronson, McGuire, Newcomb, Rosenberg, and Tannenbaum (1968) (the size and quality of the volume justify the awesome array of editors) and Feldman (1966*b*); for work springing from other approaches, Greenwald, Brock, and Ostrom (1968); and for reprinted research articles on attitude change, Rosnow and Robinson (1967) and Fishbein (1967). Most texts and books of readings in general social psychology also contain relevant portions. To facilitate further reading on general principles and research topics, references in this book are made, whenever appropriate, to summaries, reviews, and compilations rather than to original reports.
6. The general structure and some specific derivations of the theory are discussed in detail in the first part of the chapter; the section on the mathematical system gives a more rigorous analysis, which some students will find useful.
7. The inaccuracy of this term lies in its implication that the subject is *forced* to do something. But he is usually bribed, or at worst fairly mildly threatened. Note, for example, the number of subjects who refuse to comply. Scientific ethics seldom permit serious coercion in the laboratory; for a discussion of the possible relevance of dissonance theory in a severely threatening situation, see Schein's (1961) book on brainwashing.
8. Zastrow (1969) discusses some of these and other aspects of the theory at greater length.
9. Personal communication, March 12, 1969.

10. A purist may ask how a "behavioristic" theory can feature subjects who infer their attitudes from self-observation. To *behaviorists* this may not be behavioristic; but to *attitude theorists*, it is. It's all a matter of perspective (see the section on Ostrom & Upshaw's perspective theory later in this chapter).
11. Sarnoff has built this particular aspect into a psychoanalytic theory of attitude change, using the constructs of Freudian theory (see Sarnoff, 1960; Insko, 1967).

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2 The Concepts of Balance, Congruity, and Dissonance

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Robert B. Zajonc *is Professor of Psychology and Program Director at the Research Center for Group Dynamics at the University of Michigan. He is well known among social psychologists for a willingness to propose bold and stimulating hypotheses in a variety of areas, and for his ability to demonstrate support for these hypotheses through diverse methods. His work on the presence of others as a determinant of performance level and his studies of the attitudinal effects of stimulus familiarity are good examples of both characteristics. The article that follows is one of the best general overviews of the consistency theories.*

Common to the concepts of balance, congruity, and dissonance is the notion that thoughts, beliefs, attitudes, and be-