ONE

An Introduction to the Theory of Dissonance

It has frequently been implied, and sometimes even pointed out, that the individual strives toward consistency within himself. His opinions and attitudes, for example, tend to exist in clusters that are internally consistent. Certainly one may find exceptions. A person may think Negroes are just as good as whites but would not want any living in his neighborhood; or someone may think little children should be quiet and unobtrusive and yet may be quite proud when his child aggressively captures the attention of his adult guests. When such inconsistencies are found to exist, they may be quite dramatic, but they capture our interest primarily because they stand out in sharp contrast against a background of consistency. It is still overwhelmingly true that related opinions or attitudes are consistent with one another. Study after study reports such consistency among one person's political attitudes, social attitudes, and many others.

There is the same kind of consistency between what a person knows or believes and what he does. A person who believes a college education is a good thing will very likely encourage his children to go to college; a child who knows

he will be severely punished for some misdemeanor will not commit it or at least will try not to be caught doing it. This is not surprising, of course; it is so much the rule that we take it for granted. Again what captures our attention are the exceptions to otherwise consistent behavior. A person may know that smoking is bad for him and yet continue to smoke; many persons commit crimes even though they know the high probability of being caught and the punishment that awaits them.

Granting that consistency is the usual thing, perhaps overwhelmingly so, what about these exceptions which come to mind so readily? Only rarely, if ever, are they accepted psychologically *as inconsistencies* by the person involved. Usually more or less successful attempts are made to rationalize them. Thus, the person who continues to smoke, knowing that it is bad for his health, may also feel (*a*) he enjoys smoking so much it is worth it; (*b*) the chances of his health suffering are not as serious as some would make out; (*c*) he can't always avoid every possible dangerous contingency and still live; and (*d*) perhaps even if he stopped smoking he would put on weight which is equally bad for his health. So, continuing to smoke is, after all, consistent with his ideas about smoking.

But persons are not always successful in explaining away or in rationalizing inconsistencies to themselves. For one reason or another, attempts to achieve consistency may fail. The inconsistency then simply continues to exist. Under such circumstances—that is, in the presence of an inconsistency—there is psychological discomfort.

The basic hypotheses, the ramifications and implications of which will be explored in the remainder of this book, can now be stated. First, I will replace the word "inconsistency" with a term which has less of a logical connotation, namely, *dissonance*. I will likewise replace the word "consistency"

with a more neutral term, namely, *consonance*. A more formal definition of these terms will be given shortly; for the moment, let us try to get along with the implicit meaning they have acquired as a result of the preceding discussion.

The basic hypotheses I wish to state are as follows:

1. The existence of dissonance, being psychologically uncomfortable, will motivate the person to try to reduce the dissonance and achieve consonance.

2. When dissonance is present, in addition to trying to reduce it, the person will actively avoid situations and information which would likely increase the dissonance.

Before proceeding to develop this theory of dissonance and the pressures to reduce it, it would be well to clarify the nature of dissonance, what kind of a concept it is, and where the theory concerning it will lead. The two hypotheses stated above provide a good starting point for this clarification. While they refer here specifically to dissonance, they are in fact very general hypotheses. In place of "dissonance" one can substitute other notions similar in nature, such as "hunger," "frustration," or "disequilibrium," and the hypotheses would still make perfectly good sense.

In short, I am proposing that dissonance, that is, the existence of nonfitting relations among cognitions, is a motivating factor in its own right. By the term *cognition*, here and in the remainder of the book, I mean any knowledge, opinion, or belief about the environment, about oneself, or about one's behavior. Cognitive dissonance can be seen as an antecedent condition which leads to activity oriented toward dissonance reduction just as hunger leads to activity oriented toward hunger reduction. It is a very different motivation from what psychologists are used to dealing with but, as we shall see, nonetheless powerful.

And now a word about the remainder of the book. It ex-

plores, in a wide variety of contexts, the consequences of the existence of cognitive dissonance and the attempts on the part of humans to reduce it. If someone cared to write a certain kind of book about the hunger drive in human beings, it would turn out to be similar in nature to the present volume. There might be chapters exploring the consequences of attempts to reduce hunger in a variety of contexts, ranging from a child in a highchair to an adult group at a formal banquet. In a similar way, this book explores contexts ranging from individual decision situations to mass phenomena. Since reduction of dissonance is a basic process in humans, it is not surprising that its manifestations may be observed in such a wide variety of contexts.

The Occurrence and Persistence of Dissonance

Why and how does dissonance ever arise? How does it happen that persons sometimes find themselves doing things that do not fit with what they know, or having opinions that do not fit with other opinions they hold? An answer to this question may be found in discussing two of the more common situations in which dissonance may occur.

1. New events may happen or new information may become known to a person, creating at least a momentary dissonance with existing knowledge, opinion, or cognition concerning behavior. Since a person does not have complete and perfect control over the information that reaches him and over events that can happen in his environment, such dissonances may easily arise. Thus, for example, a person may plan to go on a picnic with complete confidence that the weather will be warm and sunny. Nevertheless, just before he is due to start, it may begin to rain. The knowledge that it is now raining is dissonant with his confidence in a sunny day and with his planning to go to a picnic. Or, as another

example, a person who is quite certain in his knowledge that automatic transmissions on automobiles are inefficient may accidentally come across an article praising automatic transmissions. Again, at least a momentary dissonance is created.

2. Even in the absence of new, unforeseen events or information, the existence of dissonance is undoubtedly an everyday condition. Very few things are all black or all white; very few situations are clear-cut enough so that opinions or behaviors are not to some extent a mixture of contradictions. Thus, a midwestern farmer who is a Republican may be opposed to his party's position on farm price supports; a person buying a new car may prefer the economy of one model but the design of another; a person deciding on how to invest his money may know that the outcome of his investment depends upon economic conditions beyond his control. Where an opinion must be formed or a decision taken, some dissonance is almost unavoidably created between the cognition of the action taken and those opinions or knowledges which tend to point to a different action.

There is, then, a fairly wide variety of situations in which dissonance is nearly unavoidable. But it remains for us to examine the circumstances under which dissonance, once arisen, persists. That is, under what conditions is dissonance not simply a momentary affair? If the hypotheses stated above are correct, then as soon as dissonance occurs there will be pressures to reduce it. To answer this question it is necessary first to have a brief look at the possible ways in which dissonance may be reduced.

Since there will be a more formal discussion of this point later on in this chapter, let us now examine how dissonance may be reduced, using as an illustration the example of the habitual cigarette smoker who has learned that smoking is bad for his health. He may have acquired this information

from a newspaper or magazine, from friends, or even from some physician. This knowledge is certainly dissonant with cognition that he continues to smoke. If the hypothesis that there will be pressures to reduce this dissonance is correct, what would the person involved be expected to do?

1. He might simply change his cognition about his behavior by changing his actions; that is, he might stop smoking. If he no longer smokes, then his cognition of what he does will be consonant with the knowledge that smoking is bad for his health.

2. He might change his "knowledge" about the effects of smoking. This sounds like a peculiar way to put it, but it expresses well what must happen. He might simply end up believing that smoking does not have any deleterious effects, or he might acquire so much "knowledge" pointing to the good effects it has that the harmful aspects become negligible. If he can manage to change his knowledge in either of these ways, he will have reduced, or even eliminated, the dissonance between what he does and what he knows.

But in the above illustration it seems clear that the person may encounter difficulties in trying to change either his behavior or his knowledge. And this, of course, is precisely the reason that dissonance, once created, may persist. There is no guarantee that the person will be able to reduce or remove the dissonance. The hypothetical smoker may find that the process of giving up smoking is too painful for him to endure. He might try to find facts and opinions of others to support the view that smoking is not harmful, but these attempts might fail. He might then remain in the situation where he continues to smoke and continues to know that smoking is harmful. If this turns out to be the case, however, his efforts to reduce the dissonance will not cease.

Indeed, there are some areas of cognition where the existence of major dissonance is customary. This may occur when

two or more established beliefs or values, all relevant to the area of cognition in question, are inconsistent. That is, no opinion can be held, and no behavior engaged in, that will not be dissonant with at least one of these established beliefs. Myrdal (41), in the appendix to his classic book, states this quite well in connection with attitudes and behavior toward Negroes. In discussing the simultaneous existence of opinions and values concerning human beings in general, Negroes in general, specific groups of Negroes, and so on, Myrdal states:

> A need will be felt by the person or group, whose inconsistencies in valuations are publicly exposed, to find a means of reconciling the inconsistencies. . . . The feeling of need for logical consistency within the hierarchy of moral valuations . . . is, in its modern intensity, a rather new phenomenon. With less mobility, less intellectual communication, and less public discussion, there was in previous generations less exposure of one another's valuation conflicts [pp. 1029, 1030].

While I find myself in disagreement with Myrdal in the importance he places on the public exposure of the dissonance, I feel it is a good statement of some of the reasons why strong dissonance exists in this area.

The notions introduced thus far are not entirely new; many similar ones have been suggested. It may be of value to mention two whose formulation is closest to my own. Heider (25), in an as yet unpublished manuscript, discusses the relationships among people and among sentiments. He states:

> Summarizing this preliminary discussion of balanced, or harmonious, states, we can say that they are states characterized by two or more relations which fit together. If no balanced state exists, then forces toward the [balanced] state will arise. Either there will be a tendency to change the sentiments involved, or the

unit relations will be changed through action or cognitive reorganization. If a change is not possible, the state of imbalance will produce tension, and the balanced states will be preferred over the states of imbalance [Part II].

If one replaces the word "balanced" with "consonant" and "imbalance" with "dissonance," this statement by Heider can be seen to indicate the same process with which our discussion up to now has dealt.

Osgood and Tannenbaum (43) recently published a paper in which they also formulated and documented a similar idea with respect to changes in opinions and attitudes. In discussing the "principle of congruity," as they call it, they state: "Changes in evaluation are always in the direction of increased congruity with the existing frame of reference [p. 43]." The particular kind of "incongruity" or cognitive dissonance with which they deal in their study is produced by the knowledge that a person or other source of information which a subject regards positively (or negatively) supports an opinion which the subject regards negatively (or positively). They proceed to show that under such circumstances there is a marked tendency to change either the evaluation of the opinion involved or the evaluation of the source in a direction which would reduce the dissonance. Thus, if the source were positively evaluated and the opinion negatively evaluated, the person might end up reacting less positively to the source or more positively to the issue. It is also clear from their data that the particular outcome depends on whether the evaluation of the source or of the issue is initially more firmly rooted in the person's cognition. If his attitude toward the source is highly "polarized," then the opinion is more likely to change, and vice versa. Indeed, by careful initial measurement of the attitudes toward the sources and toward the opinions before the dissonance is introduced, and by careful measurement of how resistant each of these is to change, the authors are able to predict

quite nicely the direction, and in some instances the amount, of change in evaluation.

The important point to remember is that there is pressure to produce consonant relations among cognitions and to avoid and reduce dissonance. Many other writers have recognized this, although few have stated it as concretely and as succinctly as the authors we have mentioned. The task which we are attempting in this book is to formulate the theory of dissonance in a precise yet generally applicable form, to draw out its implications to a variety of contexts, and to present data relevant to the theory.

Definitions of Dissonance and Consonance

Most of the remainder of this chapter will deal with a more formal exposition of the theory of dissonance. I will attempt to state the theory in as precise and unambiguous terms as possible. But since the ideas which constitute this theory are by no means yet in a completely precise form, some vagueness is unavoidable.

The terms "dissonance" and "consonance" refer to relations which exist between pairs of "elements." It is consequently necessary, before proceeding to define these relations, to define the elements themselves as well as we can.

These elements refer to what has been called cognition, that is, the things a person knows about himself, about his behavior, and about his surroundings. These elements, then, are "knowledges," if I may coin the plural form of the word. Some of these elements represent knowledge about oneself: what one does, what one feels, what one wants or desires, what one is, and the like. Other elements of knowledge concern the world in which one lives: what is where, what leads to what, what things are satisfying or painful or inconsequential or important, etc.

It is clear that the term "knowledge" has been used to in-

clude things to which the word does not ordinarily refer—for example, opinions. A person does not hold an opinion unless he thinks it is correct, and so, psychologically, it is not different from a "knowledge." The same is true of beliefs, values, or attitudes, which function as "knowledges" for our purposes. This is not to imply that there are no important distinctions to be made among these various terms. Indeed, some such distinctions will be made later on. But for the definitions here, these are all "elements of cognition," and relations of consonance and dissonance can hold between pairs of these elements.

There are further questions of definition one would like to be able to answer. For example, when is an "element of cognition" *one* element, or a group of elements? Is the knowledge, "the winter in Minneapolis is very cold" an element, or should this be considered a cluster of elements made up of more specific knowledge? This is, at present, an unanswerable question. Indeed, it may be a question which does not need answering. As will be seen in those chapters where data are presented and discussed, this unanswered question does not present a problem in connection with measurement.

Another important question concerning these elements is, how are they formed and what determines their content? At this point we want to emphasize the single most important determinant of the content of these elements, namely, *reality*. These elements of cognition are responsive to reality. By and large they mirror, or map, reality. This reality may be physical or social or psychological, but in any case the cognition more or less maps it. This is, of course, not surprising. It would be unlikely that an organism could live and survive if the elements of cognition were not to a large extent a veridical map of reality. Indeed, when someone is "out of touch with reality," it becomes very noticeable.

In other words, elements of cognition correspond for the most part with what the person actually does or feels or with what actually exists in the environment. In the case of opinions, beliefs, and values, the reality may be what others think or do; in other instances the reality may be what is encountered experientially or what others have told him.

But let us here object and say that persons frequently have cognitive elements which deviate markedly from reality, at least as we see it. Consequently, the major point to be made is that *the reality which impinges on a person will exert pressures in the direction of bringing the appropriate cognitive elements into correspondence with that reality*. This does not mean that the existing cognitive elements will *always* correspond. Indeed, one of the important consequences of the theory of dissonance is that it will help us understand some circumstances where the cognitive elements do not correspond with reality. But it does mean that if the cognitive elements do not correspond with a certain reality which impinges, certain pressures must exist. We should therefore be able to observe some manifestations of these pressures. This hypothesized relation between the cognitive elements and reality is important in enabling measurement of dissonance, and we will refer to it again in considering data.

It is now possible to proceed to a discussion of the relations which may exist between pairs of elements. There are three such relations, namely, irrelevance, dissonance, and consonance. They will be discussed in that order.

Irrelevant Relations

Two elements may simply have nothing to do with one another. That is, under such circumstances where one cognitive element implies nothing at all concerning some other element, these two elements are irrelevant to one another. For example, let us imagine a person who knows that it

sometimes takes as long as two weeks for a letter to go from New York to Paris by regular boat mail and who also knows that a dry, hot July is good for the corn crop in Iowa. These two elements of cognition have nothing to do with one another; they exist in an irrelevant relation to each other. There is not, of course, much to say about such irrelevant relations except to point to their existence. Of primary concern will be those pairs of elements between which relations of consonance or dissonance can exist.

In many instances, however, it becomes quite a problem to decide a priori whether or not two elements are irrelevant. It is often impossible to decide this without reference to other cognitions of the person involved. Sometimes situations will exist where, because of the behavior of the person involved, previously irrelevant elements become relevant to one another. This could even be the case in the example of irrelevant cognitive elements which we gave above. If a person living in Paris was speculating on the corn crop in the United States, he would want information concerning weather predictions for Iowa but would not depend upon boat mail for getting his information.

Before proceeding to the definitions and discussion of the relations of consonance and dissonance which exist if the elements are relevant, it may be well to stress again the special nature certain cognitive elements have—usually those cognitive elements which correspond to behavior. Such a "behavioral" element, by being relevant to each of two irrelevant cognitive elements, may make them in fact relevant to each other.

Relevant Relations: Dissonance and Consonance

We have already acquired some intuitive notion of the meaning of dissonance. Two elements are dissonant if, for one reason or another, they do not fit together. They may be

inconsistent or contradictory, culture or group standards may dictate that they do not fit, and so on. It is appropriate now to attempt a more formal conceptual definition.

Let us consider two elements which exist in a person's cognition and which are relevant to one another. The definition of dissonance will disregard the existence of all the other cognitive elements that are relevant to either or both of the two under consideration and simply deal with these two alone. *These two elements are in a dissonant relation if, considering these two alone, the obverse of one element would follow from the other.* To state it a bit more formally, x and y are dissonant if not-x follows from y. Thus, for example, if a person knew there were only friends in his vicinity and also felt afraid, there would be a dissonant relation between these two cognitive elements. Or, for another example, if a person were already in debt and also purchased a new car, the corresponding cognitive elements would be dissonant with one another. The dissonance might exist because of what the person has learned or come to expect, because of what is considered appropriate or usual, or for any of a number of other reasons.

Motivations and desired consequences may also be factors in determining whether or not two elements are dissonant. For example, a person in a card game might continue playing and losing money while knowing that the others in the game are professional gamblers. This latter knowledge would be dissonant with his cognition about his behavior, namely, continuing to play. But it should be clear that to specify the relation as dissonant is to assume (plausibly enough) that the person involved wants to win. If for some strange reason this person wants to lose, this relation would be consonant.

It may be helpful to give a series of examples where dissonance between two cognitive elements stems from dif-

ferent sources, that is, where the two elements are dissonant because of different meanings of the phrase "follow from" in the definition of dissonance given above.

1. Dissonance could arise from logical inconsistency. If a person believed that man will reach the moon in the near future and also believed that man will not be able to build a device that can leave the atmosphere of the earth, these two cognitions are dissonant with one another. The obverse of one follows from the other on logical grounds in the person's own thinking processes.

2. Dissonance could arise because of cultural mores. If a person at a formal dinner uses his hands to pick up a recalcitrant chicken bone, the knowledge of what he is doing is dissonant with the knowledge of formal dinner etiquette. The dissonance exists simply because the culture defines what is consonant and what is not. In some other culture these two cognitions might not be dissonant at all.

3. Dissonance may arise because one specific opinion is sometimes included, by definition, in a more general opinion. Thus, if a person is a Democrat but in a given election prefers the Republican candidate, the cognitive elements corresponding to these two sets of opinions are dissonant with each other because "being a Democrat" includes, as part of the concept, favoring Democratic candidates.

4. Dissonance may arise because of past experience. If a person were standing in the rain and yet could see no evidence that he was getting wet, these two cognitions would be dissonant with one another because he knows from experience that getting wet follows from being out in the rain. If one can imagine a person who had never had any experience with rain, these two cognitions would probably not be dissonant.

These various examples are probably sufficient to illustrate how the conceptual definition of dissonance, together with some specific meaning of the phrase "follow from," would be used empirically to decide whether two cognitive elements are dissonant or consonant. It is clear, of course, that in any of these situations, there might exist many other elements of cognition that are consonant with either of the two elements under consideration. Nevertheless, the relation between the two elements is dissonant if, disregarding the others, the one does not, or would not be expected to, follow from the other.

While we have been defining and discussing dissonance, the relations of consonance and irrelevance have, of course, also been defined by implication. If, considering a pair of elements, either one *does* follow from the other, then the relation between them is consonant. If neither the existing element nor its obverse follows from the other element of the pair, then the relation between them is irrelevant.

The conceptual definitions of dissonance and consonance present some serious measurement difficulties. If the theory of dissonance is to have relevance for empirical data, one must be able to identify dissonances and consonances unequivocally. But it is clearly hopeless to attempt to obtain a complete listing of cognitive elements, and even were such a listing available, in some cases it would be difficult or impossible to say, a priori, which of the three relationships holds. In many cases, however, the a priori determination of dissonance is clear and easy. (Remember also that two cognitive elements may be dissonant for a person living in one culture and not for a person living in another, or for a person with one set of experiences and not for a person with another.) Needless to say, it will be necessary to cope with this problem of measurement in detail in those chapters where empirical data are presented and discussed.

The Magnitude of Dissonance

All dissonant relations, of course, are not of equal magnitude. It is necessary to distinguish degrees of dissonance and to specify what determines how strong a given dissonant relation is. We will briefly discuss some determinants of the magnitude of dissonance between two elements and then turn to a consideration of the total amount of dissonance which may exist between two clusters of elements.

One obvious determinant of the magnitude of dissonance lies in the characteristics of the elements between which the relation of dissonance holds. *If two elements are dissonant with one another, the magnitude of the dissonance will be a function of the importance of the elements.* The more these elements are important to, or valued by, the person, the greater will be the magnitude of a dissonant relation between them. Thus, for example, if a person gives ten cents to a beggar, knowing full well that the beggar is not really in need, the dissonance which exists between these two elements is rather weak. Neither of the two cognitive elements involved is very important or very consequential to the person. A much greater dissonance is involved, for example, if a student does not study for a very important examination, knowing that his present fund of information is probably inadequate for the examination. In this case the elements that are dissonant with each other are more important to the person, and the magnitude of dissonance will be correspondingly greater.

It is probably safe to assume that it is rare for no dissonance at all to exist within any cluster of cognitive elements. For almost any action a person might take, for almost any feeling he might have, there will most likely be at least one cognitive element dissonant with this "behavioral" element. Even perfectly trivial cognitions like knowing one is taking a walk on a Sunday afternoon would likely have some elements dissonant with it. The person who is out for a walk might also know that there are things around the house requiring his attention, or he might know that rain was likely, and so on. In short, there are generally so many other cognitive elements relevant to any given element that some dissonance is the usual state of affairs.

Let us consider now the total context of dissonances and consonances in relation to one particular element. Assuming momentarily, for the sake of definition, that all the elements relevant to the one in question are equally important, *the total amount of dissonance between this element and the remainder of the person's cognition will depend on the proportion of relevant elements that are dissonant with the one in question.* Thus, if the overwhelming majority of relevant elements are consonant with, say, a behavioral element, then the dissonance with this behavioral element is slight. If in relation to the number of elements consonant with the behavioral element the number of dissonant elements is large, the total dissonance will be of appreciable magnitude. Of course, the magnitude of the total dissonance will also depend on the importance or value of those relevant elements which exist in consonant or dissonant relations with the one being considered.

The above statement can of course be easily generalized to deal with the magnitude of dissonance which exists between two clusters of cognitive elements. This magnitude would depend on the proportion of the relevant relations between elements in the two clusters that were dissonant and, of course, on the importance of the elements.

Since the magnitude of dissonance is an important variable in determining the pressure to reduce dissonance, and since we will deal with measures of the magnitude of dissonance repeatedly in considering data, it may be well to

summarize our discussion concerning the magnitude of dissonance.

1. If two cognitive elements are relevant, the relation between them is either dissonant or consonant.

2. The magnitude of the dissonance (or consonance) increases as the importance or value of the elements increases.

3. The total amount of dissonance that exists between two clusters of cognitive elements is a function of the weighted proportion of all relevant relations between the two clusters that are dissonant. The term "weighted proportion" is used because each relevant relation would be weighted according to the importance of the elements involved in that relation.

The Reduction of Dissonance

The presence of dissonance gives rise to pressures to reduce or eliminate the dissonance. The strength of the pressures to reduce the dissonance is a function of the magnitude of the dissonance. In other words, dissonance acts in the same way as a state of drive or need or tension. The presence of dissonance leads to action to reduce it just as, for example, the presence of hunger leads to action to reduce the hunger. Also, similar to the action of a drive, the greater the dissonance, the greater will be the intensity of the action to reduce the dissonance and the greater the avoidance of situations that would increase the dissonance.

In order to be specific about how the pressure to reduce dissonance would manifest itself, it is necessary to examine the possible ways in which existing dissonance can be reduced or eliminated. In general, if dissonance exists between two elements, this dissonance can be eliminated by changing one of those elements. The important thing is how these changes may be brought about. There are various possible ways in which this can be accomplished, depending upon the type of cognitive elements involved and upon the total cognitive context.

Changing a Behavioral Cognitive Element

When the dissonance under consideration is between an element corresponding to some knowledge concerning environment (environmental element) and a behavioral element, the dissonance can, of course, be eliminated by changing the behavioral cognitive element in such a way that it is consonant with the environmental element. The simplest and easiest way in which this may be accomplished is to change the action or feeling which the behavioral element represents. Given that a cognition is responsive to "reality" (as we have seen), if the behavior of the organism changes, the cognitive element or elements corresponding to this behavior will likewise change. This method of reducing or eliminating dissonance is a very frequent occurrence. Our behavior and feelings are frequently modified in accordance with new information. If a person starts out on a picnic and notices that it has begun to rain, he may very well turn around and go home. There are many persons who do stop smoking if and when they discover it is bad for their health.

It may not always be possible, however, to eliminate dissonance or even to reduce it materially by changing one's action or feeling. The difficulty of changing the behavior may be too great, or the change, while eliminating some dissonances, may create a whole host of new ones. These questions will be discussed in more detail below.

Changing an Environmental Cognitive Element

Just as it is possible to change a behavioral cognitive element by changing the behavior which this element mirrors, it is sometimes possible to change an *environmental* cogni-

tive element by changing the situation to which that element corresponds. This, of course, is much more difficult than changing one's behavior, for one must have a sufficient degree of control over one's environment—a relatively rare occurrence.

Changing the environment itself in order to reduce dissonance is more feasible when the social environment is in question than when the physical environment is involved. In order to illustrate rather dramatically the kind of thing that would be involved, I will give a rather facetious hypothetical example. Let us imagine a person who is given to pacing up and down in his living room at home. Let us further imagine that for some unknown reason he always jumps over one particular spot on the floor. The cognitive element corresponding to his jumping over that spot is undoubtedly dissonant with his knowledge that the floor at that spot is level, strong, and in no way different from any other part of the floor. If, some evening when his wife is away from home, he breaks a hole in the floor at that exact spot, he would completely eliminate the dissonance. The cognition that there is a hole in the floor would be quite consonant with the knowledge that he jumps over the place where the hole exists. In short, he would have changed a cognitive element by actually changing the environment, thus eliminating a dissonance.

Whenever there is sufficient control over the environment, this method of reducing dissonance may be employed. For example, a person who is habitually very hostile toward other people may surround himself with persons who provoke hostility. His cognitions about the persons with whom he associates are then consonant with the cognitions corresponding to his hostile behavior. The possibilities of manipulating the environment are limited, however, and most endeavors to change a cognitive element will follow other lines.

If a cognitive element that is responsive to reality is to be changed without changing the corresponding reality, some means of ignoring or counteracting the real situation must be used. This is sometimes well-nigh impossible, except in extreme cases which might be called psychotic. If a person is standing in the rain and rapidly getting soaked, he will almost certainly continue to have the cognition that it is raining no matter how strong the psychological pressures are to eliminate that cognition. In other instances it is relatively easy to change a cognitive element although the reality remains the same. For example, a person might be able to change his opinion about a political officeholder even though the behavior of that officeholder, and the political situation generally, remain unchanged. Usually, for this to occur, the person would have to be able to find others who would agree with and support his new opinion. In general, establishing a social reality by gaining the agreement and support of other people is one of the major ways in which a cognition can be changed when the pressures to change it are present. It can readily be seen that where such social support is necessary, the presence of dissonance and the consequent pressures to change some cognitive element will lead to a variety of social processes. This will be developed in detail in Chapters Eight, Nine, and Ten, which consider the social manifestations of pressures to reduce dissonance.

Adding New Cognitive Elements

It is clear that in order to eliminate a dissonance completely, some cognitive element must be changed. It is also clear that this is not always possible. But even if it is impossible to eliminate a dissonance, it is possible to reduce the total magnitude of dissonance by adding new cognitive elements. Thus, for example, if dissonance existed between some cognitive elements concerning the effects of smoking and cognition concerning the behavior of continuing to

smoke, the total dissonance could be reduced by adding new cognitive elements that are consonant with the fact of smoking. In the presence of such dissonance, then, a person might be expected to actively seek new information that would reduce the total dissonance and, at the same time, to avoid new information that might increase the existing dissonance. Thus, to pursue the example, the person might seek out and avidly read any material critical of the research which purported to show that smoking was bad for one's health. At the same time he would avoid reading material that praised this research. (If he unavoidably came in contact with the latter type of material, his reading would be critical indeed.)

Actually, the possibilities for adding new elements which would reduce the existing dissonances are broad. Our smoker, for example, could find out all about accidents and death rates in automobiles. Having then added the cognition that the danger from smoking is negligible compared to the danger he runs driving a car, his dissonance would also have been somewhat reduced. Here the total dissonance is reduced by reducing the *importance* of the existing dissonance.

The above discussion has pointed to the possibility of reducing the total dissonance with some element by reducing the proportion of dissonant as compared with consonant relations involving that element. It is also possible to add a new cognitive element which, in a sense, "reconciles" two elements that are dissonant. Let us consider an example from the literature to illustrate this. Spiro (51) gives an account of certain aspects of the belief system of the Ifaluk, a nonliterate society. The relevant points for our purposes here are as follows:

1. In this culture there is a firm belief that people are *good*. This belief is not only that they should be good but that they *are* good.

2. For one reason or another, young children in this culture go through a period of particularly strong overt aggression, hostility, and destructiveness.

It seems clear that the belief about the nature of people is dissonant with the knowledge of the behavior of the children in this culture. It would have been possible to reduce this dissonance in any number of ways. They might have changed their belief about the nature of people or have modified it so that people are wholly good only at maturity. Or they might have changed their ideas about what is and what is not "good" so that overt aggression in young children would be considered good. Actually, the manner of reducing the dissonance was different. A third belief was added which effectively reduced the dissonance by "reconciliation." Specifically, they also believe in the existence of malevolent ghosts which enter into persons and cause them to do bad things.

As a result of this third belief, the knowledge of the aggressive behavior of children is no longer dissonant with the belief that people are good. It is not the children who behave aggressively—it's the malevolent ghosts. Psychologically, this is a highly satisfactory means of reducing the dissonance, as one might expect when such beliefs are institutionalized at a cultural level. Unsatisfactory solutions would not be as successful in becoming widely accepted.

Before moving on, it is worth while to emphasize again that the presence of pressures to reduce dissonance, or even activity directed toward such reduction, does not guarantee that the dissonance will be reduced. A person may not be able to find the social support needed to change a cognitive element, or he may not be able to find new elements which reduce the total dissonance. In fact, it is quite conceivable that in the process of trying to reduce dissonance, it might even be increased. This will depend upon what the person

encounters while attempting to reduce the dissonance. The important point to be made so far is that in the presence of a dissonance, one will be able to observe the *attempts* to reduce it. If attempts to reduce dissonance fail, one should be able to observe symptoms of psychological discomfort, provided the dissonance is appreciable enough so that the discomfort is clearly and overtly manifested.

Resistance to Reduction of Dissonance

If dissonance is to be reduced or eliminated by changing one or more cognitive elements, it is necessary to consider how resistant these cognitive elements are to change. Whether or not any of them change, and if so, which ones, will certainly be determined in part by the magnitude of resistance to change which they possess. It is, of course, clear that if the various cognitive elements involved had no resistance to change whatsoever, there would never be any lasting dissonances. Momentary dissonance might occur, but if the cognitive elements involved had no resistance to change, the dissonance would immediately be eliminated. Let us, then, look at the major sources of resistance to change of a cognitive element.

Just as the reduction of dissonance presented somewhat different problems depending upon whether the element to be changed was a behavioral or an environmental one, so the major sources of resistance to change are different for these two classes of cognitive elements.

Resistance to Change of Behavioral Cognitive Elements

The first and foremost source of resistance to change for *any* cognitive element is the responsiveness of such elements to reality. If one sees that the grass is green, it is very difficult to think it is not so. If a person is walking down the street, it is difficult for his cognition not to contain an element corresponding to this. Given this strong and sometimes overwhelming responsiveness to reality, the problem of changing a behavioral cognitive element becomes the problem of changing the behavior which is being mapped by the element. Consequently, the resistance to change of the cognitive element is identical with the resistance to change of the behavior reflected by that element, assuming that the person maintains contact with reality.

Certainly much behavior has little or no resistance to change. We continually modify many of our actions and feelings in accordance with changes in the situation. If a street which we ordinarily use when we drive to work is being repaired, there is usually little difficulty in altering our behavior and using a different route. What, then, are the circumstances that make it difficult for the person to change his actions?

1. The change may be painful or involve loss. A person may, for example, have spent a lot of money to purchase a house. If for any reason he now wants to change, that is, live in a different house or different neighborhood, he must endure the discomforts of moving and the possible financial loss involved in selling the house. A person who might desire to give up smoking must endure the discomfort and pain of the cessation in order to accomplish the change. Clearly, in such circumstances there will be a certain resistance to change. The magnitude of this resistance to change will be determined by the extent of pain or loss which must be endured.

2. The present behavior may be otherwise satisfying. A person might continue to have lunch at a certain restaurant even though they served poor food if, for example, his friends always ate there. Or a person who is very domineer-

ing and harsh toward his children might not easily be able to give up the satisfactions of being able to boss someone, even if on various grounds he desired to change. In such instances, of course, the resistance to change would be a function of the satisfaction obtained from the present behavior.

3. Making the change may simply not be possible. It would be a mistake to imagine that a person could consummate any change in his behavior if he wanted to badly enough. It may not be possible to change for a variety of reasons. Some behavior, especially emotional reactions, may not be under the voluntary control of the person. For example, a person might have a strong reaction of fear which he can do nothing about. Also, it might not be possible to consummate a change simply because the new behavior may not be in the behavior repertory of the person. A father might not be able to change the way he behaves toward his children simply because he doesn't know any other way to behave. A third circumstance which could make it impossible to change is the irrevocable nature of certain actions. If, for example, a person has sold his house and then decides he wants it back, there is nothing that can be done if the new owner refuses to sell it. The action has been taken and is not reversible. But under circumstances where the behavior simply cannot change at all, it is not correct to say that the resistance to change of the corresponding cognitive element is infinite. The resistance to change which the cognitive element possesses can, of course, not be greater than the pressure to respond to reality.

Resistance to Change of Environmental Cognitive Elements

Here again, as with behavioral cognitive elements, the major source of resistance to change lies in the responsiveness of these elements to reality. The result of this, as far as behavioral elements go, is to tie the resistance to change of the cognitive element to the resistance to change of the reality, namely, the behavior itself. The situation is somewhat different with regard to environmental elements. When there is a clear and unequivocal reality corresponding to some cognitive element, the possibilities of change are almost nil. If one desired, for example, to change one's cognition about the location of some building which one saw every day, this would indeed be difficult to accomplish.

In many instances, however, the reality corresponding to the cognitive element is by no means so clear and unambiguous. When the reality is basically a social one, that is, when it is established by agreement with other people, the resistance to change would be determined by the difficulty of finding persons to support the new cognition.

There is another source of resistance to change of both behavioral and environmental cognitive elements. We have postponed discussion of it until now, however, because it is a more important source of resistance to change for environmental elements than for others. This source of resistance to change lies in the fact that an element is in relationship with a number of other elements. To the extent that the element is consonant with a large number of other elements and to the extent that changing it would replace these consonances by dissonances, the element will be resistant to change.

The above discussion is not meant to be an exhaustive analysis of resistance to change or a listing of conceptually different sources. Rather, it is a discussion which attempts to make distinctions that will help operationally rather than conceptually. In considering any dissonance and the resistance to change of the elements involved, the important factor in the attempt to eliminate the dissonance by changing

an element is the total amount of resistance to change; the source of the resistance is immaterial.

Limits of the Magnitude of Dissonance

The maximum dissonance that can possibly exist between any two elements is equal to the total resistance to change of the less resistant element. The magnitude of dissonance cannot exceed this amount because, at this point of maximum possible dissonance, the less resistant element would change, thus eliminating the dissonance.

This does not mean that the magnitude of dissonance will frequently even approach this maximum possible value. When there exists a strong dissonance that is less than the resistance to change of any of the elements involved, this dissonance can perhaps still be reduced for the total cognitive system by adding new cognitive elements. In this way, even in the presence of very strong resistances to change, the total dissonance in the system could be kept at rather low levels.

Let us consider an example of a person who spends what for him is a very large sum of money for a new car of an expensive type. Let us also imagine that after purchasing it he finds that some things go wrong with it and that repairs are very expensive. It is also more expensive to operate than other cars, and what is more, he finds that his friends think the car is ugly. If the dissonance becomes great enough, that is, equal to the resistance to change of the less resistant element, which in this situation would probably be the behavioral element, he might sell the car and suffer whatever inconvenience and financial loss is involved. Thus the dissonance could not exceed the resistance the person has to changing his behavior, that is, selling the car.

Now let us consider the situation where the dissonance

for the person who bought a new car was appreciable but less than the maximum possible dissonance, that is, less than the resistance to change of the less resistant cognitive element. None of the existing cognitive elements would then be changed, but he could keep the total dissonance low by adding more and more cognitions that are consonant with his ownership of the car. He begins to feel that power and riding qualities are more important than economy and looks. He begins to drive faster than he used to and becomes quite convinced that it is important for a car to be able to travel at high speed. With these cognitions and others, he might succeed in rendering the dissonance negligible.

It is also possible, however, that his attempts to add new consonant cognitive elements would prove unsuccessful and that his financial situation is such that he could not sell the car. It would still be possible to reduce the dissonance by what also amounts to adding a new cognitive element, but of a different kind. He can admit to himself, and to others, that he was wrong to purchase the car and that if he had it to do over again, he would buy a different kind. This process of divorcing himself psychologically from the action can and does materially reduce the dissonance. Sometimes, however, the resistances against this are quite strong. The maximum dissonance which could exist would, in such circumstances, be determined by the resistance to admitting that he had been wrong or foolish.

Avoidance of Dissonance

The discussion thus far has focused on the tendencies to reduce or eliminate dissonance and the problems involved in achieving such reduction. Under certain circumstances there are also strong and important tendencies to avoid increases of dissonance or to avoid the occurrence of disso-

nance altogether. Let us now turn our attention to a consideration of these circumstances and the manifestations of the avoidance tendencies which we might expect to observe.

The avoidance of an increase in dissonance comes about, of course, as a result of the existence of dissonance. This avoidance is especially important where, in the process of attempting to reduce dissonance, support is sought for a new cognitive element to replace an existing one or where new cognitive elements are to be added. In both these circumstances, the seeking of support and the seeking of new information must be done in a highly selective manner. A person would initiate discussion with someone he thought would agree with the new cognitive element but would avoid discussion with someone who might agree with the element that he was trying to change. A person would expose himself to sources of information which he expected would add new elements which would increase consonance but would certainly avoid sources which would increase dissonance.

If there is little or no dissonance existing, we would not expect the same kind of selectivity in exposure to sources of support or sources of information. In fact, where no dissonance exists there should be a relative absence of motivation to seek support or new information at all. This will be true in general, but there are important exceptions. Past experience may lead a person to fear, and hence to avoid, the initial occurrence of dissonance. Where this is true, one might expect circumspect behavior with regard to new information even when little or no dissonance is present to start with.

The operation of a fear of dissonance may also lead to a reluctance to commit oneself behaviorally. There is a large class of actions that, once taken, are difficult to change. Hence, it is possible for dissonances to arise and to mount

in intensity. A fear of dissonance would lead to a reluctance to take action—a reluctance to commit oneself. Where decision and action cannot be indefinitely delayed, the taking of action may be accompanied by a cognitive negation of the action. Thus, for example, a person who buys a new car and is very afraid of dissonance may, immediately following the purchase, announce his conviction that he did the wrong thing. Such strong fear of dissonance is probably relatively rare, but it does occur. Personality differences with respect to fear of dissonance and the effectiveness with which one is able to reduce dissonance are undoubtedly important in determining whether or not such avoidance of dissonance is likely to happen. The operational problem would be to independently identify situations and persons where this kind of a priori self-protective behavior occurs.

Summary

The core of the theory of dissonance which we have stated is rather simple. It holds that:

1. There may exist dissonant or "nonfitting" relations among cognitive elements.

2. The existence of dissonance gives rise to pressures to reduce the dissonance and to avoid increases in dissonance.

3. Manifestations of the operation of these pressures include behavior changes, changes of cognition, and circumspect exposure to new information and new opinions.

Although the core of the theory is simple, it has rather wide implications and applications to a variety of situations which on the surface look very different. The remainder of the book will spell out these specific implications of the theory and will examine data relevant to them.