The Effects of Time on Cognitive Consistency

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Time dissipates to shining ether the solid angularity of facts. No anchor, no cable, no fences avail to keep a fact a fact.

—Emerson (1865)

In conducting early dissonance studies, some researchers noticed a peculiar phenomenon. When they first started running subjects in an experiment, their reactions as experimenters were naturally somewhat awkward. In particular, after completing their manipulation of the independent variable and before measuring the dependent variable, there were often a number of unintended and annoying delays. Sometimes, for example, the experimenters had to think a moment before they remembered where they had placed their questionnaires. Sometimes they forgot the subjects' pencils. With additional practice, of course, the experimenters began to give a smooth, polished performance. By now the questionnaires for the dependent measure were at their fingertips, sharpened pencils were at each subject's chair, and the experiments moved without interruption. But, curiously enough, researchers found that with the achievement of a polished performance, with the elimination of the awkward pauses, variability in the data often increased.

These researchers came to the reasonable conclusion that dissonance reduction probably takes time. If one is testing a cognitive theory, concerned with what goes on in people's minds, it is plausible to argue that one must give the subjects time to think. And so, a delay between the manipulation of dissonance and the measurement of the resulting dissonance reduction was incorporated into many dissonance studies. Researchers found that such a delay increased their predictive ability. Since time is not itself an independent variable in any of the consistency theories, this delay is not necessary theoretically. But in practice such a delay is often essential. The passage of a certain amount of time seems necessary

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before dissonance reduction or consistency increase occurs. Data consistent with this notion are available in McGuire (1960a, 1960b).

Time is an important variable only because it allows other variables to operate. In this chapter, consequently, we will be discussing the effect of *events* in time, rather than the effect of time in and of itself, on efforts to achieve and maintain consistency in decision-making situations.

Three aspects of a decision will be crucial to our discussion. The first important aspect of a decision is that it has practical consequences. The decision-maker has a good chance of maximizing his rewards and minimizing his frustrations if he makes a wise choice. The goodness of the potential outcomes of the choice alternatives are always considered in dissonance analyses of decision-making, and, usually, this aspect of the decision is thought to be of prime importance.

There is, however, a second reason why individuals attempt to make wise decisions. People ordinarily want to be considered good decision-makers by themselves and others. When people inquire about our choices, it is embarrassing to confess that we have acquired a house with roaches and silverfish, a bald wife with no teeth, or clothes that disintegrate in the rain. A bad decision says some very negative things about us. There is evidence, in fact, that if one expects to hear that he made a bad decision regardless of what he chooses, he will avoid making a decision altogether (Braden & Walster, 1964).

Finally, a decision is an important point in time for the decision-maker for one more reason. A decision acts to shut the door on one's possibilities. By making a commitment, the decision-maker may move from a state in which all things are possible to a state in which only one thing is possible and other things are impossible. Although the degree to which a decision limits one's opportunities will vary with the strength and type of commitment, it usually—at the very least—makes courses of action other than the one chosen more difficult to follow. Freedom of choice, especially among pleasant alternatives, can be an enjoyable state of affairs, but it ends abruptly when a decision to restrict oneself occurs.

In this chapter we will discuss events which are likely to occur and to affect efforts to achieve consistency within three gross time intervals after the decision: events immediately following a decision, intermediate events, and events which are likely to occur long after a decision has been made.

I. IMMEDIATE POSTDECISION EFFECTS: REGRET AND SUBSEQUENT DISSONANCE REDUCTION

Dissonance researchers reasoned that in order to reduce postdecision dissonance one must, immediately after a decision, be mainly preoccupied with attending to any existing dissonance. Hence, they hypothesized that as soon as a decision is made all of the negative aspects of the chosen alternative and all of the positive aspects of the rejected alternative become salient for the person. They felt such concentration on dissonance would produce, phenomenally, a feeling of regret in the decision-maker.

Walster (1964) performed an experiment to test this hypothesis. After the subjects in this experiment had made a decision, the attractiveness of the chosen and rejected alternatives were measured at varying

intervals of time following the decision. Walster hypothesized that if the regret phenomenon occurs one should find that, in a period soon after the decision, the chosen alternative becomes less attractive and the rejected alternative more attractive than they were before the decision. She further hypothesized that after this, of course, one would obtain the usual evidence of dissonance reduction.

Walster attempted to find a decision situation in which the regret phase of the postdecision process would be likely to be relatively long-lasting. She felt that such a situation would be one in which the subjects were offered a decision between alternatives which had both positive and negative aspects, one which was reasonably important to the subjects, and one in which the decision would have lasting consequences. The situation used met these requirements. Her subjects were men who had just been drafted into the army. Each man was given a choice of which of two occupational specialties he wanted to be assigned to for his two years in the service. In order to make dissonance reduction in this situation rather difficult, the descriptions of the occupational specialties were written so as to emphasize both positive and negative aspects of each alternative. All subjects rated the attractiveness of the jobs predecisionally. One-fourth of the subjects rerated the jobs immediately after they had made their decisions. The other subjects rerated the jobs after an interval of 4 minutes, after an interval of 15 minutes, or after an interval of 90 minutes. Subjects in conditions in which they did not immediately rerate the jobs were sent into a room to wait by themselves and were provided with nothing to help them occupy the time.

In this section we will be concerned only with the results of the first three conditions. The data showed that the subjects who rerated the jobs immediately after making the decision evidenced relatively small and insignificant change in the direction of dissonance reduction. However, those subjects who rerated the jobs after a 4-minute delay showed the opposite of dissonance reduction. In this condition, the chosen alternative decreased somewhat in attractiveness and the rejected alternative increased in attractiveness. There is evidence, then, for the existence of a regret phenomenon in the 4-minute condition. Fifteen minutes after the decision there was no evidence of regret but clear evidence of dissonance reduction. At this time, the chosen alternative was rated as more attractive than it was initially and the rejected alternative was rated as less attractive than it was initially.

The regret finding in the 4-minute condition was supported by the results of another experiment in which it was demonstrated that there is a tendency for people to reverse their decisions immediately after making them (Festinger & Walster, 1964). These studies and a few incidental findings from other studies not designed to directly test the regret hypothesis (Brehm, Cohen, & Sears, 1960; Brehm & Cohen, 1962) suggest that a feeling of regret is indeed often experienced immediately after a decision is made.

Why should regret occur? Let us review the line of deduction which gave rise to the regret hypothesis. The argument went that immediately after a decision is made, the person must necessarily focus his attention on any existing dissonance before he can reduce it: "After all, how else can we expect dissonance to be reduced other than by focusing on, and trying

to do something about, the dissonant relations?" (Festinger, 1964b, p. 128). It was further reasoned that one consequence of focusing on the dissonance would be that the dissonant elements would loom larger and seem more important than the consonant elements and, hence, a feeling of regret would result.

This argument is perhaps deceptively simple. Specifically, according to this rationale, what is it that motivates an individual to focus upon the dissonant relationships? He focuses on these relationships because he wants to reduce dissonance. Thus, before he focuses on the relationships, he must already be feeling some dissonance or psychological discomfort. This line of reasoning appears to have the underlying assumption that at the time of making his choice, the individual is only partially aware of the dissonant relations involved in choosing a particular alternative. Thus, after the choice, he is only vaguely aware that something is awry, and, it is this free-floating dissonance which motivates him to seek the source. It is the painful discovery of the cause of discomfort, according to the formulation, that produces regret.

If this explication adequately represents the unstated reasoning of the regret researchers, then we would be led to hypothesize that the situations in which we are most likely to find regret are those in which a person makes a decision which inherently has a great deal of dissonance tied to it, but the person has not had time, predecisionally, to become fully aware of the dissonant relationships. Supporting this line of thinking are the results of several experiments (Davidson & Kiesler, 1964; Jecker, 1964a; Davidson, 1964) which suggest that with a long period of predecisional deliberation of the alternatives, dissonance reduction proceeds rather rapidly after the decision. Whether or not the regret period is bypassed altogether is another question, but one might perhaps speculate that it is.

Though the lack-of-awareness proposition may possibly explain some regret phenomena, it does not seem to be an altogether compelling explanation for the one concrete demonstration of regret we have. Specifically, in the Walster experiment subjects had been given detailed descriptions of both the positive and negative aspects of each alternative. Thus, it seems unlikely that the subjects were not well aware of the negative aspects of the alternatives predecisionally. In addition, the positive and negative aspects were not so numerous as to cause difficulty keeping them clearly in mind and the decision was important enough that we can suspect that subjects studied the alternatives carefully before making a decision. Are there, then, perhaps other explanations of the regret phenomenon?

Some recent work by Brehm suggests another possible determinant of regret. That a state in which one has freedom of behavior is valued by the individual is the basis upon which Brehm (1966) has constructed a theory of psychological "reactance." Brehm deals variously with situations in which a person's alternatives are restricted in a completely fortuitous and impersonal manner, in an apparently intended and personal manner, restricted by a source over which one has little or no power, or by a source over which one has great power. Brehm cites evidence to support his hypothesis that howsoever a person's alternatives are restricted, when an element of choice is eliminated, the person experiences reactance. Reactance is posited to be a state of motivational arousal with a directional quality. Specifically, it is directed toward the reestablishment of whatever freedom

is lost, or threatened with loss, and against any further losses of freedom. According to Brehm, reactance manifests itself in part through an increase in the perceived attractiveness of the restricted alternative. This increase is hypothesized and shown to be a direct effect of the alternative's having moved from a position of 'possible' to 'impossible.'

Though Brehm deals with restriction of alternatives in predecisional situations and with restriction through an outside agency, we can see common elements between these reactance situations and the regret situation in which one restricts one's alternatives oneself by making a decision. Perhaps, then, the phenomenon of regret is simply an instance of a phenomenon of wider generality. If this is true, it should be the increase in the attractiveness of the rejected alternative, rather than a decrease in the chosen, which contributes the lion's share to the regret phenomenon. Is there any evidence for this? When we look at the data from the Walster study we find that the amount of increase in the attractiveness of the rejected alternative is, indeed, approximately 2½ times the amount of the decrease in attractiveness of the chosen alternative. Though this is barely suggestive, one might speculate that we would be most likely to find regret in those situations in which one eliminates through choice many alternatives even though the amount of dissonance in the situations was held relatively constant. Situations in which the actual decision especially restricts one's own freedom of behavior, rather than another person's, might also be particularly likely to produce regret.

There is perhaps one additional reason why restricting one's alternatives by making a decision should lead to regret. Very rarely does one's array of choices include the ideal, or perfect, alternative which would most fully maximize one's rewards following the decision. When a professor is trying to decide between a job offer at Podunk, which has good facilities but low salaries, and a job at Nothing U., which promises a high salary but is notorious for its poor facilities, it almost always occurs to him that the whole problem would be solved if only Harvard would offer him a job (Walster, 1964). Once the professor commits himself to the offer from Podunk U. he must finally relinquish hope of receiving that last-minute bid from Harvard. As long as he stays in the predecision state, going to Harvard remains a possibility, remote though it may be. When he makes his commitment, however, the door shuts on Harvard and he must begin to resign himself to life in Podunk. The rejection of ideal alternatives, as well as available alternatives, may contribute to the feeling of regret immediately after the decision.

II. INTERMEDIATE TIME EFFECTS: GATHERING INFORMATION FROM THE ENVIRONMENT

In the laboratory, a subject's ability to reduce dissonance is limited by his own creative ability. The subject usually has to think of all the dissonance-reducing cognitions himself. In a natural setting, however, and with the passage of a moderate period of time, people are not usually limited to their own resources. For example, much of the dissonance a person experiences may be either reduced or increased by information provided by friends and acquaintances. What these acquaintances think, and whether the information and opinions they provide increase or decrease the dissonance

a subject is experiencing, would seem to depend in part on how the dissonance was produced.

When one is irrevocably committed to an important choice, and asks his friends what they think about the choice, we would guess that one's friends would usually be benevolent. There is no point in telling a fellow who has just married the ugliest girl in town that he has made a poor decision, and there is evidence that such gadfly behavior would not be rewarded by the fellow who is experiencing dissonance (Aronson & Ross, 1966).

In addition, important decisions, and thus decisions which by their very nature produce a great deal of dissonance, often bring one into physical contact with people who will aid in reducing dissonance. If one chooses to go to Yale instead of Harvard, he goes to a place where others have made the same decision. Yale students can be expected to have more positive attitudes toward Yale than students who have chosen to attend Harvard. Although fate can always play nasty tricks, and one is never assured that the environment will reduce all the dissonance one experiences from making an important choice, dissonance reduction in such situations is probably the most likely alternative.

There are, however, many dissonance-producing situations in which the people in one's environment could be expected to be malevolent rather than benevolent, insofar as reducing one's dissonance is concerned. For example, one can experience dissonance because he has chosen a course of action that is unacceptable to other people in the immediate environment. The nun who decides the atheistic position has a great deal of merit and the Ford salesman who buys a Pontiac are not likely to receive a great deal of support for their decisions from the people in their environments. In fact, since their deviant stands produce dissonance for their peers, these peers are likely to be anxious to challenge their stands actively (e.g., Schachter, 1951). The prevalence of such a tendency for peers to argue against one's deviant choice is one reason that has been suggested for a possible lack of a relationship between attitude change and subsequent related behavior (Festinger, 1964a).

In any natural setting, then, the opinions of one's peers will be a crucial determinant of whether or not one can reduce dissonance. When individuals ask whether or not dissonance reduction processes maintain themselves over time, they often forget the crucial importance that new information provided by both fate and others will have on efforts to achieve and maintain consistency.

III. LONG-TERM EFFECTS: LOSS OF MEMORY AND CHANGES IN MOTIVATION

It is a common observation that the passage of time has a marked effect on memory. Psychologists have often suggested not only that facts are forgotten in time, but that they are selectively forgotten. Researchers from diverse areas of psychology have proposed and tested the notion that people tend to forget information that does not support their wishes, beliefs, or attitudes. For example, Berelson and Steiner (1965) in their summary of scientific findings conclude, "Representations of the past, as of the present, but even more so, tend to become more simple, more internally consistent, and more 'stable figures' than they are in actuality; they also tend to conform to retroactive expectations and, to some extent, to the wishes of the subject."

Working in a learning-theory framework, Levine and Murphy (1943) tested the hypothesis that a person would be better able to learn and retain material that was congruent with his attitudes than to learn and retain material that was incongruent with his attitudes.

The authors found that consistent material is learned faster and forgotten more slowly than material from the inconsistent passages. Further, they suggest that these retention differences become more marked, though not significantly so, over time. Additional experimental support for the proposal that people remember consistent statements better than inconsistent ones is provided by Edwards (1941), Watson and Hartman (1939), Weiss (1953), and Taft (1954).

In a charming study, Jones and Kohler (1958) suggested an amendment to the simple Levine and Murphy formulation. They agreed that people were biased in their learning of controversial statements. However, they proposed that what kind of argument a person would find especially satisfying to remember would depend on the plausibility of the argument as well as on whether or not the argument supported one's own position. They pointed out that a ludicrously poor argument by one's opposition is something one wants to remember, and that an implausible argument by well-intentioned but unintelligent supporters of one's own position is something one would probably rather forget. It is very comforting to believe that all the wise men are on your side and all the fools are with the opposition. Jones and Kohler demonstrated that one finds it easier to learn plausible arguments supporting his own position than opposing his position, and easier to learn implausible arguments opposing one's own position than supporting one's position.

Waly and Cook (1966) reported three failures to replicate the Jones and Kohler findings and found support for the Levine and Murphy findings in only one of their three replications. If we were to accept the Levine-Murphy results we might be led to conclude that cognitive consistency would tend to *increase* with time. A good argument could be made for this point of view. If a person is motivated to alter the past, it is undoubtedly easier to distort reality systematically when one's memories are distant and vague than when they still possess the 'solid angularity of facts.'

Dissonance researchers have recently conducted some studies which give us a little more evidence concerning the effect that the passage of time has on cognitions that one has previously altered in order to reduce dissonance. In experiments of this type, the investigators have not assumed that consistency would increase in time, but have simply assumed that dissonance-produced effects would be strong enough to endure for a reasonably long period of time. Freedman (1965b), for example, appears to believe that although dissonance-reduction effects are doomed to dissipate to some extent with the passage of time, some residual and measurable effects will even exist after a fair amount of time has elapsed. Two studies are directly relevant to our question as to whether distortions which enhance consistency increase, maintain themselves, or dissipate in time.

According to some dissonance theorists, any time a person abstains from performing a very desirable action he will experience dissonance. The knowledge that he is not performing an act is dissonant with the combined

cognitions that it is desirable to perform the act and that he does what is desirable. If the person has some good reason why he abstained from performing the desirable action, he will have little dissonance. For example, the person who is forced to abstain from a pleasurable act, or whose strong moral principles prevented him from performing the act, has a good reason why he did not perform the desirable act, and should experience little dissonance. If, on the other hand, a person has few reasons and little justification for abstaining from a desirable act, and yet he does abstain, he should have a great deal of dissonance and should be strongly motivated to find additional reasons why he did not perform the act. He should try to reduce dissonance, perhaps by convincing himself that there were good reasons for abstaining from it, or perhaps by convincing himself that he did not want to perform the act.

Aronson and Carlsmith (1963) tested the preceding hypothesis with nursery school children. Children were brought into the experimental room, shown some toys, and asked to rank-order them. Then, the experimenter said he was leaving the room and forbade them to play with one of the highly ranked toys while he was gone. In the Severe Threat condition, the children were offered a great deal of justification for not playing with the toy. In the Low Threat condition, children were offered very little justification. Then the experimenter left, leaving the child with the temptation to touch the forbidden toy, and hopefully, to resist the temptation. Finally he returned and asked the children to rank-order the toys. Aronson and Carlsmith measured just one mode of dissonance reduction—the extent to which children derogated the toy they had been tempted to, but refrained from, playing with. The investigators expected Severe Threat children to derogate the forbidden toy less than Mild Threat children, and this hypothesis was supported.

In one portion of the experiment, Aronson and Carlsmith ran each child in either a Mild or Severe Threat condition and obtained a measure of dissonance reduction 45 days later. When we look only at the data from this portion of the experiment, it is possible to compare the dissonance reduction immediately after dissonance was engendered with that still existing 45 days later. Though the number of subjects is now so small that statistical comparisons are impossible, it appears that there is little change in the amount of dissonance reduction children exhibit 45 days after the initial experimental session from that they demonstrated initially. In short, the induced effect appears to persist over time.

A delayed measure of dissonance reduction was also secured by Freedman (1965b) in a tightly controlled replication and extension of Aronson and Carlsmith's study. The Freedman procedure differed from the Aronson procedure in that in addition to Mild Threat and Severe Threat experimental groups, Freedman also added Mild and Severe Threat control groups to this experiment. (In these control conditions, the experimenter did not leave the room; instead he sat down at a nearby desk and did paper work in the experimental room for 10 minutes. Since the experimenter was observing them at all times, children in these conditions were not tempted to play with the toy, and therefore should not have experienced dissonance because they had never made a choice to avoid the desirable toy.) Freedman measured changes in children's ratings of the toys from before to after dissonance was generated. Most important to us, however, is the fact that Freedman also secured a behavioral measure of subject's actual tendency to play with the toys from 23 to 64 days after the original dissonance induction. In these follow-up experimental sessions a woman tester suggested that the children play with some toys while she scored the tests. Among these toys was the previously forbidden toy. Whether or not the child touched the previously forbidden toy was the behavioral measure of dissonance reduction.

Freedman's hypothesis received some support. When we consider children's *ratings* of the avoided toy (which were taken immediately after dissonance was induced), we see that they did not vary significantly among conditions although the changes tended to be in the predicted direction. The delayed behavioral measures of dissonance reduction were significant, however. Children in the Mild Threat experimental condition avoided playing with the forbidden toy more than did children in any other group. Only one-third of the Mild Threat experimental condition children touched the toy. In all other conditions, two-thirds of the children played with the toy.

Unfortunately for our purpose, the rating of the attractiveness of the forbidden toy which was taken immediately after the induction of dissonance and the behavorial measure of attractiveness taken after a 23–64-day delay are not in comparable units. Because of the difference in the dependent variables, it is impossible to tell if the derogation of the toy produced in an attempt to reduce dissonance increased in strength, decreased in strength, or remained the same with the passage in time. All we know is that there is behavioral evidence of dissonance-produced derogation 23–64 days later, even though the immediate measures of dissonance reduction were not significant.

It is clear that the available data provide no definite answer to our question as to whether the consistency of cognitive elements increases, maintains itself, or decreases over time. We can, however, offer some speculations that seem plausible. The passage of time would seem to have two general, and opposite, effects on the maintenance of cognitive consistency. First, as much previous research has demonstrated, time makes specific memory much vaguer. If a person maintains a continuing desire to reduce dissonance, the passage of time and the blurring of memory should make it easier to do so. However, in most of the circumstances in which dissonance is aroused, the desire to reduce dissonance probably does *not* remain at a constant high level over a long time period. For the second effect that time often has is to make decisional outcomes that were important at an earlier time less important and less salient. When you are a very old man, it is probably not too important that you once chose to sign up for a Chemistry 3 afternoon section instead of a morning section, even though the choice between a morning and an afternoon section might have seemed to be a vitally important one at the time you made it. Other events and other choices crowd in on us as time passes. Consequences which were once important are adapted to or altered. After the passage of much time current decisions undoubtedly become more important than previous ones.

We mentioned earlier one possible reason usually not specified in dissonance formulations why it is important for a person to make a good decision. We suggested that one undoubtedly wants to make a good decision because the goodness of a decision provides information to ourselves and others about our capabilities. If this is so, a second reason why past

decision and dissonance-producing situations probably lose importance as time passes is because they no longer provide very much information about us. No longer is the information crucial information about how one *is*, but rather it is merely information about how one *was*. It is much easier to admit that you were once a fool than to admit that you currently are one.

Thus, we would speculate that in most real-life dissonance-producing situations, dissonance reduction would markedly decrease in time. It is only in those situations where the elements which produced dissonance initially continue to be important and relatively salient that we would expect dissonance reduction to maintain itself or even increase in time. Consider, for example, two brothers who each buy a used car on the same day, but on very different terms. The first brother pays cash for his car; the second brother, though he has the cash, decides to purchase his car on a long-term payment plan. If at the end of one year we ask the brothers how they feel about their cars, we would expect the all-cash brother to have had a great deal of dissonance about the car at the time he bought the car, but since he has not had a monthly reminder of his decision, the decision should now be forgotten to some extent. He should exhibit less dissonance-reduction than the long-easy-payment brother, who should still be very concerned about his choice. Though his initial dissonance may have been equal to his cash-paying brother's, his motivation to continue reducing dissonance would seem to be greater, since each time he makes a car payment he is forced to think about his choice and to justify his decision to himself.

Ordinarily, then, we would guess that with the passage of time one cares less and less about the issue and forgets more and more the controversy as well as his techniques for reducing dissonance. With the passage of a great deal of time it is likely that the outcomes of previous decisions are now taken into account only as items of information which must be rated objectively in order that new decisions can be made as wisely as possible.