

CHANGES IN ATTRIBUTIONS OVER TIME: THE EPHEMERAL FUNDAMENTAL ATTRIBUTION ERROR

JERRY M. BURGER
Santa Clara University

Two experiments examined how attributions for another person's behavior change over time. Experiment 1 subjects who watched a persuasive speech tended to believe the speaker's real position on the issue was the one he advocated, even when told the speaker had no choice, thus replicating past research. However, this effect virtually disappeared when attributions were taken a week later. Experiment 2 subjects were randomly assigned to questioner and contestant roles for a quiz game. Contestants rated their general level of knowledgeability as less than their partners' when ratings were given immediately after the game, again replicating earlier findings. However, when attributions were given several days later, this effect also disappeared. Some of the variables and conditions that affect how attributions change over time are discussed.

The present set of experiments was designed to examine one of the most robust attributional phenomena—the tendency to attribute another person's actions to something about the person at the expense of giving adequate consideration to the situational causes of the behavior. This phenomenon was identified by Heider (1958), who described it as "behavior engulfing the field." Subsequent researchers have given this effect a number of names, including "overattribution effect" and "correspondence bias." However, because of its prevalence

This research was supported by the National Science Foundation, Grant #BNS-8718285. The author would like to thank Amy Bolter, Gina Ciavarelli, Julie Pavelich, Kris Stott, and Kim Vaccarello for their assistance in the data collection. Requests for reprints should be addressed to Jerry M. Burger, Department of Psychology, Santa Clara University, Santa Clara, CA 95053.

it is often referred to as the "fundamental attribution error" (Ross, 1977).

Although the fundamental attribution error has been found with a number of different experimental procedures, we will concentrate on two classic examples. One of these is the oft-replicated effect first demonstrated by Jones and Harris (1967). Subjects in these experiments are exposed to persuasive messages. Although some subjects are told the speaker/writer of the message was given no choice as to which side of the issue to advocate, the subjects still believe the speaker/writer's real position on the issue is similar to the one advocated. In other words, subjects erroneously attribute the behavior to the person (i.e., the speech must reflect his or her real opinions) instead of acknowledging the situational causes (i.e., the experimenter's demand to advocate one side of the issue).

The second example is a pair of experiments reported by Ross, Amabile, and Steinmetz (1977). Two subjects were asked to participate in a quiz game. One subject was randomly assigned to the questioner role. This subject asked ten general knowledge questions of the other subject, who was randomly assigned to the contestant role. When both subjects were later asked to rate their own and their partner's level of general knowledgeability, the contestants (who had difficulty answering many of the questions) rated their partner's knowledgeability as significantly higher than their own. Thus, the subjects made a personal attribution for their partner's ability to stump them, rather than recognizing that the situation was responsible for the behavior and that they could have stumped the other person if the roles had been reversed.

Although situational limitations on the fundamental attribution error have been found (Tetlock, 1985), it generally is considered among the most robust attributional phenomena. However, the research reported here addresses an important but unexplored variable that potentially limits this effect. That is, how stable is the fundamental attribution error over time? The question of temporal effects on attributions is an important one because most of the areas to which attribution theory has been applied (such as depression, relationships, and achievement) concern events that take place over what is often a considerable period of time.

Beyond this, there are many reasons to suspect that the strength of the fundamental attribution error might change over time. A growing number of investigations have demonstrated that the attributions we make for our own behavior often change in systematic ways over time (Burger, 1985, 1986; Burger & Huntzinger, 1985; Frank & Gilovich, 1989; Funder & Van Ness, 1983; Miller & Porter, 1980; Moore, Sherrod,

Liu, & Underwood, 1979). In addition, recent research demonstrates that it may be useful to distinguish between judgments made at the time the information is presented, as is typically the case in attribution research, and memory-based judgments (Bassili, 1989; Hastie & Park, 1986; Mackie & Asuncion, 1990). Higgins and Bargh (1987) have identified five variables that affect whether personal or situational information will be retrieved from memory and utilized when making attributions. These five variables are availability, accessibility, salience or visual access, perceived applicability, and motivational significance of the knowledge. What research in each of these areas suggests is that attributions made immediately after an event may be different from attributions made at a later time. Thus, it seems reasonable to ask how fleeting or stable the fundamental attribution error is.

However, with one exception (Jones, Riggs, & Quattrone, 1979), we are aware of no data on how attributions for another person's behavior might change as time passes.¹ Instead, most researchers appear to have implicitly assumed that the basic attributional effect remains intact long after the laboratory manipulation is administered and the dependent variables are completed. The research reported here was designed to test this assumption.

EXPERIMENT 1

Experiment 1 was designed to examine the stability of the fundamental attribution error over time using the classic Jones and Harris (1967) paradigm. As described earlier, researchers using this procedure find that people reading a persuasive message tend to believe the author's real position on the issue is similar to that advocated in the speech, even when told the author had no choice about which side to take.

METHOD

Subjects. One hundred thirty-two male and female undergraduates served as subjects in exchange for class credit.

Procedure. Subjects participated in groups ranging in size from three to eight. The experimenter explained that the study was concerned

1. Although Jones et al. (1979) looked at changes in attributions over a one-week period using a methodology similar to the one we used in Experiment 1, they did not test the hypotheses investigated here and do not report relevant data analyses. However, an examination of the relevant conditions in the figure they present indicates they found a pattern very similar to the one we report.

with speaking style. She told subjects they were to watch a videotape of a speech given by a student in a communication class at the university. Subjects were told the speaker's assignment was to give an "extemporaneous speech," and that he had been given only one hour to prepare a speech on the issue of gun control. The experimenter explained that the speaker had agreed to be videotaped and that the class instructor had provided several short articles to help him prepare his speech.

Half the subject groups were randomly assigned to the *No-Choice* condition. The experimenter explained to these subjects that the speaker had been told which side of the gun control issue he was to advocate and that the articles provided by the instructor all advocated that view. The remaining subjects, in the *Choice* condition, were told the speaker had his choice of speaking in favor of or against gun control and that articles advocating both sides of the issue had been provided.

At this point the experimenter played a 5-minute videotape. Half the groups saw an undergraduate male student give a speech in favor of gun control. The other half saw the same student give a speech against gun control. In reality, the speeches had been written beforehand by the experimenter. The pro and anti gun control speeches were matched for length and arguments.

When the tape was completed the experimenter administered a questionnaire asking subjects their impressions of the speaker and his speaking style. Subjects in the *Immediate* condition received a two-page questionnaire. The first page consisted of filler items asking about the number of arguments, how organized the speaker had been, and so on. The second page contained some additional filler items, but also included two items of interest to the experimenter. One of these asked subjects to indicate on an 11-point scale how they believed "the speaker genuinely feels about the issue of gun control," with 1 = Strongly Against and 11 = Strongly Supports. The other item asked subjects to indicate on a similar 11-point scale how they personally felt about the issue of gun control. Subjects in the *Delayed* condition received only the first page of the questionnaire immediately after viewing the tape. They returned seven days later to complete the second page of the questionnaire.

RESULTS AND DISCUSSION

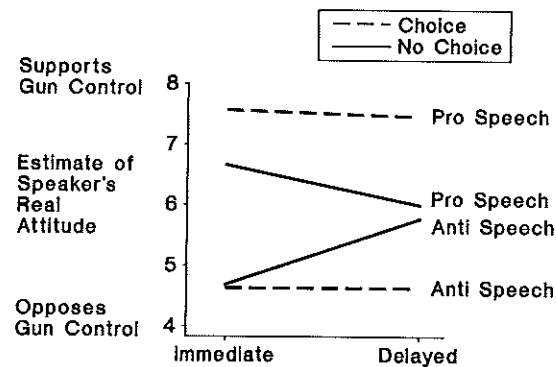
The attributions subjects made about the speaker's position on the issue of gun control were examined within a 2 (Choice–No Choice) by 2 (Pro Gun Control Speech–Anti Gun Control Speech) by 2 (Immedi-

ate-Delayed) ANOVA. The relevant means for this analysis are shown in Figure 1. Not surprisingly, there was a significant main effect for the speech variable, with subjects hearing the Pro Speech estimating the speaker's position as more in favor of gun control than those hearing the Anti Speech, $F(1,124) = 103.81, p < .001$. However, to determine if the basic Jones and Harris (1967) effect was replicated, we compared the responses of the Pro and Anti Speech subjects in the Immediate condition who also had been told the speaker had no choice of position. A specific cell comparison reveals that No Choice subjects hearing the Pro Speech estimated the speaker's real position on the issue as more in favor of gun control than No Choice subjects hearing the Anti Speech, $t(35) = 5.20, p < .001$. Thus, the Jones and Harris effect was replicated.

A significant speech by choice interaction also emerged in the analysis, $F(1,124) = 21.83, p < .001$, as well as a significant time by direction interaction, $F(1,124) = 6.72, p < .01$. Finally, a significant three way interaction was found, $F(1,124) = 4.66, p < .03$. As shown in the figure, these interaction effects are the result of changes in the No Choice conditions over time. Subjects who thought the speaker chose his own position did not change their perceptions of his real attitude over the seven days. However, subjects told the speaker had no choice about which position to advocate were less likely to use the speaker's behavior as a clue to his attitude when asked about the speaker's attitude a week later. Indeed, as illustrated in Figure 1, the fundamental attribution error manifested by these No Choice subjects in the Immediate condition virtually disappeared in the Delayed condition.

Subjects were also asked to indicate their own position on the gun control issue. Only a significant main effect for type of speech emerged

FIGURE 1
Mean estimate of speaker's real position on gun control.



from the three-way ANOVA, $F(1,124) = 8.44, p < .004$. Subjects who heard the Anti Gun Control Speech were more against gun control than those who heard the Pro Gun Control Speech. Apparently the speech was persuasive.

The data demonstrate quite clearly that the attribution effect not only diminished over time, but that it completely disappeared in the delayed conditions. One might argue that this change over time merely indicates that the subjects forgot about the speech and made a middle-range guess about the speaker's real position. However, because subjects in the Choice conditions did not show this pattern when they returned one week later, this possibility seems unlikely. Before discussing the findings further, we conducted a second experiment to try to replicate the effect with a different experimental paradigm.

EXPERIMENT 2

We used the Ross et al. (1977) quiz-game procedures in the second experiment. As described earlier, contestants and questioners in these experiments overestimated the influence of the person (i.e., knowledgeability level) and/or underestimated the impact of situational factors (i.e., the assigned roles) for the subjects' performances in a quiz game. As in the first experiment, we extended the Ross et al. procedures by asking some of the subjects to give their attributions immediately after the task, while others returned several days later to give theirs. Based on the results of the first experiment, we expected the strength of the fundamental attribution error, reflected in the difference between the two subjects' estimates of knowledgeability, to decline over time.

METHOD

Subjects. Forty male and 56 female undergraduates participated in the experiment in exchange for class credit.

Procedures. Subjects participated in the experiment in same-sex pairs. Subjects were told not to sign up for a session with someone they knew, and the experimenter verified at the beginning of the session that the two subjects did not know one another.

The experimenter explained that she was interested in incidental learning, that is, the kind of information people learn without really

trying. She explained that this would be examined through a short trivia game, with one of the subjects acting as the questioner and the other the contestant. Subjects then drew slips of paper to determine which role they would play. Each drew one of two slips of paper from the experimenter's hand, then read aloud whether the slip said "Questioner" or "Contestant." Thus, it should have been quite clear to the subjects that the role assignment was random.

The experimenter then explained each subject's task. She told the questioner that his or her job was to compose ten "challenging but not impossible questions" for the contestant. The questioner was instructed to write questions on a sheet of paper provided by the experimenter that could be answered in a word or two. The experimenter instructed the questioner to avoid questions that were too simple or questions that would be impossible for the contestant to answer. She also gave some examples of the kind of questions she wanted. Next, the experimenter explained the contestant's task. As was done in the Ross et al. (1977) experiments, the experimenter told the contestant to compose ten relatively easy questions that probably could be answered by about 90 % of high school freshmen. The experimenter explained that this done to help the contestant "warm up" for the game.

Subjects were given time to write their questions. This usually took about 10 minutes. The questioner then asked the contestant his or her questions one at a time, providing the correct answer if the contestant could not come up with the answer.

Half the subject pairs had been randomly assigned to the *Immediate* condition. Subjects in this condition were separated following the game and administered a questionnaire. The questionnaire contained several filler items about their impressions of the game. The questionnaire also contained the two key items. First, subjects were asked to rate on a 100-point scale their level of general knowledge as compared to the average student at the university, with 1 = Very Unknowledgeable and 100 = Very Knowledgeable. Next, subjects were asked to use the same scale to rate their partner's general knowledgeability level. Subjects were assured that their partner would not see their responses.

Subjects in the *Delayed* condition were dismissed at the end of the quiz game, but reminded to return for the second part of the experiment at the scheduled time three or four days later. To prevent subjects from discussing the experiment, the experimenter dismissed the two subjects about 30 seconds apart. When subjects returned they were separated and given the questionnaire. In addition to the items answered by subjects in the Immediate condition, subjects in the

Delayed condition were asked if they had talked with their partner since the first session. No subject indicated that he or she had.

RESULTS AND DISCUSSION

An attribution error score was calculated by subtracting the knowledgeable rating given for the partner from the knowledgeable rating subjects gave themselves, as was done in the Ross et al. (1977) experiments. If subjects were able to accurately recognize the impact of their ability and the impact of the random role assignment on what happened during the quiz game, we would expect this score to average out to near zero for both the contestant and the questioner. In the absence of any error subjects would recognize that the questioner's ability to stump the contestant is a result of the role assignment and that the contestant probably could stump the questioner if roles were reversed. However, an average negative score for the contestants and a positive score for the questioners would indicate a tendency to overestimate the role of the person's ability level and underestimate the impact of the random role assignment, i.e., the fundamental attribution error.

When this score was examined through a 2 (Immediate-Delayed) by 2 (Questioner-Contestant) ANOVA, two significant main effects emerged. The questioners' difference scores were significantly more positive than the contestants' scores, $F(1,92) = 5.58, p < .02$. In addition, subjects in the Immediate condition had more negative scores than subjects in the Delayed condition, $F(1,92) = 14.27, p < .001$. Most important, the predicted interaction emerged in this analysis, $F(1,92) = 3.87, p < .05$. As shown in Table 1, the Ross et al. (1977) findings were replicated in the Immediate condition. That is, while questioners demonstrated only a slight tendency to see themselves as more knowledgeable than the contestants, the contestants were more likely to attribute their difficulty during the game to their partner's superior knowledgeable ability. However, this difference virtually disappeared in the Delayed condition.

Like the results from Experiment 1, the results from the second experiment indicate that the fundamental attributional error disappeared when subjects gave their attributions several days after the game. Consistent with Ross et al.'s findings, the attributional error was found only for the contestants in the immediate condition. Unlike the first experiment, it is possible that the contestants in the second experiment gathered additional relevant information for making their

TABLE 1
Self and Partner Knowledgeability Ratings

	SELF	PARTNER	DIFFERENCE
Immediate			
Contestant	55.50	65.33	-9.83
Questioner	63.25	61.58	1.67
Delayed			
Contestant	60.96	62.13	-1.17
Questioner	66.63	64.17	2.46

attributions during the days between experimental sessions. For example, by doing well on a midterm exam the day after the quiz game contestants could have reminded themselves that they are more knowledgeable than their quiz-game performance indicated. Nonetheless, the results demonstrate that the Ross et al. effect is relatively short-lived, and complement the findings from Experiment 1 in which acquiring additional information about the speech was not possible.

GENERAL DISCUSSION

The findings from the two experiments provide consistent evidence that while people often overutilize personal information when making attributions for another's behavior (the fundamental attribution error), the strength of this effect may diminish significantly over time. In the low-impact tasks typically used in laboratory demonstrations of the effect, the fundamental attribution error may even disappear after a few days. Obviously, the findings suggest caution when applying the fundamental attribution error to situations that occur over a long period of time.

Most important, the experiments raise questions about the nature of the basic effect and why it seems to diminish significantly over a short period of time. Although a more complete model of this process can be forthcoming only with many additional studies, we can suggest several variables that need to be considered in such a model. First, we should look at variables that affect the relative cognitive accessibility of personal and situational information in on-line versus memory-based judgments. In particular, the relative salience of this information would seem critical. Several investigations have demonstrated that information about the person is much more likely to capture the attributor's attention than information about the situation, at least during on-line

processing (Arkin & Duval, 1975; Storms, 1973; Taylor & Fiske, 1978). As a result, the personal information tends to overshadow the situational information and lead to a personal attribution for the behavior. This effect has often been identified as part of the fundamental attribution error. However, in the two experiments reported here the salient personal information did not continue to engulf the field in memory and recall. Rather, there appeared to be a difference in the decay of personal and situational information over time, such that the strength of the fundamental attribution error diminished as time passes.

Why might this be the case? One possibility is that, at least in the situations examined here, the personal information was more vivid and concrete and therefore more accessible than the less vivid and more abstract situational information (Nisbett & Ross, 1980; Pavio, 1971). For example, subjects did not actually see the speaker in Experiment 1 being told he had no choice over which side to advocate. Consequently, this situational information may have been less accessible immediately after the task than the more vivid personal information. However, the relative advantage the personal information has in terms of cognitive accessibility may decline as the vividness of the imagery fades over time and the information is stored in a manner similar to the situational information.

Second, the relative accessibility of personal and situational information also may be affected by the extent to which people think about the event. Gilbert, Pelham and Krull (1988) have demonstrated that people often switch from personal to situational attributions when they take the time and effort to engage in extended attributional activity. The investigators provide data to suggest that consideration of and attributions to situational variables may require that the individual expend the extra effort needed to go beyond the simple personal attribution. This suggests that whether the fundamental attribution error ever develops and how much it diminishes over time, if at all, will vary as a function of how much effort people put into thinking about the event. For example, people may give a great deal of thought to the actions of another person when that behavior is of particular importance or is difficult to understand, such as when a romantic partner suddenly runs off with someone else. In such a case the partner's behavior may be brought to mind, perhaps even obsessively, many times over a period of weeks or perhaps months. However, one study suggests that this line of reasoning may also be incomplete (Koltai & Burger, 1989). When subjects in this study explained the dissolution of a former romantic relationship, something they presu-

ably would do a lot of thinking about, they tended to shift from personal to situational attributions somewhere between six months and a year after the break-up.

Third, a complete understanding of this effect probably also should consider the role of ego-enhancing motives and the extent to which people are able to and motivated to collect additional information following the event in question. Research on attributions for one's own behavior suggests that such motives may lead to a selective decay in memory and consequently to changes in attributions over time (Burger & Huntzinger, 1985). That is, people are motivated to recall ego-enhancing information, such as personal attributions for successes, and forget information that runs counter to these motives, such as situational explanations for successes. When explaining the behavior of others, we can speculate that people also are motivated to selectively recall or seek out information in a way that satisfies their personal needs. For example, subjects in the second experiment may have been motivated to seek out and recall information that disconfirmed their initial attribution suggesting that other students were more knowledgeable than they were.

Finally, although the fundamental attribution error disappeared completely in the two experiments, we would not argue that this error is therefore an illusion or that it always disappears after a short period of time. Rather, the results demonstrate that at least sometimes the effect disappears in a relatively short amount of time. Identifying the conditions under which these changes in attributions over time are enhanced or diminished remains the challenge for future research.

REFERENCES

- Arkin, R. M., & Duval, S. (1975). Focus of attention and causal attributions of actors and observers. *Journal of Experimental Social Psychology, 11*, 427-438.
- Bassili, J. N. (1989). Traits as action categories versus traits as person attributes in social cognition. In J. N. Bassili (Ed.), *On line cognition in person perception* (pp. 61-89). Hillsdale, NJ: Erlbaum.
- Burger, J. M. (1985). Temporal effects on attributions for academic performances and reflected-glory basking. *Social Psychology Quarterly, 48*, 330-336.
- Burger, J. M. (1986). Temporal effects on attributions: Actor and observer differences. *Social Cognition, 4*, 377-387.
- Burger, J. M., & Huntzinger, R. M. (1985). Temporal effects on attributions for one's own behavior: The role of task outcome. *Journal of Experimental Social Psychology, 21*, 247-261.
- Frank, M. G., & Gilovich, T. (1989). Effect of memory perspective on retrospective causal attributions. *Journal of Personality and Social Psychology, 57*, 399-403.
- Funder, D. C., & Van Ness, M. J. (1983). On the nature and accuracy of attributions that

- change over time. *Journal of Personality*, 51, 17-33.
- Gilbert, D. T., Pelham, B. W., & Krull, D. S. (1988). On cognitive busyness: When person perceivers meet persons perceived. *Journal of Personality and Social Psychology*, 54, 733-740.
- Hastie, R., & Park, B. (1986). The relationship between memory and judgment depends on whether the judgment task is memory-based or on-line. *Psychological Review*, 93, 258-268.
- Higgins, E. T., & Bargh, J. A. (1987). Social cognition and social perception. *Annual Review of Psychology*, 38, 369-425.
- Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
- Jones, E. E., & Harris, V. A. (1967). The attribution of attitudes. *Journal of Experimental Social Psychology*, 3, 1-24.
- Jones, E. E., Riggs, J. M., & Quattrone, G. (1979). Observer bias in the attitude attribution paradigm: Effect of time and information order. *Journal of Personality and Social Psychology*, 37, 1230-1238.
- Koltai, D. C., & Burger, J. M. (1989). *The Effects of Time on Attributions for Relationship Dissolutions*. Paper presented at the annual meeting of the Western Psychological Association, Reno, NV.
- Mackie, D. M., & Asuncion, A. G. (1990). On-line and memory-based modification of attitudes: Determinants of message recall-attitude change correspondence. *Journal of Personality and Social Psychology*, 59, 5-16.
- Miller, D. T., & Porter, C. A. (1980). Effects of temporal perspective on the attribution process. *Journal of Personality and Social Psychology*, 39, 532-541.
- Moore, B. S., Sherrod, D. R., Liu, T. J., & Underwood, B. (1979). The dispositional shift in attribution over time. *Journal of Experimental Social Psychology*, 15, 553-569.
- Nisbett, R., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment*. Englewood Cliffs, NJ: Prentice-Hall.
- Pavio, A. (1971). *Imagery and verbal processes*. New York: Holt, Rinehart and Winston.
- Ross, L. (1977). The intuitive psychologist and his shortcomings: Distortions in the attribution process. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 10, pp. 174-221). New York: Academic Press.
- Ross, L. D., Amabile, T. M., & Steinmetz, J. L. (1977). Social roles, social control, and biases in social perception processes. *Journal of Personality and Social Psychology*, 35, 485-494.
- Storms, M. (1973). Videotape and the attribution process: Reversing actors' and observers' points of view. *Journal of Personality and Social Psychology*, 27, 165-175.
- Taylor, S. E., & Fiske, S. T. (1978). Salience, attention, and attribution: Top of the head phenomena. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 11, pp. 249-288). New York: Academic Press.
- Tetlock, P. E. (1985). Accountability: A social check on the fundamental attribution error. *Social Psychology Quarterly*, 48, 227-236.

