The Illusory Transparency of Intention: Linguistic Perspective Taking in Text

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Subjects read scenarios where a speaker made a comment that, depending on information that was privileged to the subjects, could have been interpreted as sarcastic or not sarcastic. Their task was to take the perspective of an uninformed addressee and determine whether he or she would perceive sarcasm. Overall, when subjects believed that the speaker was actually being sarcastic they were more likely to attribute the perception of sarcasm to the addressee—even when the message was conveyed in writing and could not have involved disambiguating cues such as intonation. Data from four different experiments suggest that readers do use information that is perspective-irrelevant and thus pose a problem for theories of language use that assume readers only use "relevant" information. © 1994 Academic Press, Inc.

Taking the perspective of protagonists who are also interlocutors is essential for readers' understanding of events and action in a text. Consider the following lines from Betrayal, a play by Harold Pinter (1978) that illustrate the importance of perspective-taking in text comprehension: Emma and Jerry are at the end of a 7-year affair that they conducted during many afternoons in a rented apartment.

Emma: We haven't spent many nights ... in this flat.
Jerry: No. [pause]. Not many nights anywhere, really (p. 42).

The reader immediately realizes that Jerry's utterance is an irritated reminder that they only spent afternoons together. At the same time, the reader realizes that Emma understood Jerry's intention. This is the result

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of the reader's attempt to take Emma's perspective as a protagonist. To appreciate this perspective-taking, consider a hypothetical situation where Jerry's uninformed wife had overhead this exchange. She would have had a very different interpretation in mind: She probably would have thought that Jerry implied that he and Emma had had a very brief affair. Such differential interpretations of Jerry's comment would result from differences in information available to Emma and to Jerry's wife. The only way the reader could realize that they would have reached different interpretations is by considering their access to information. In this sense, the reader takes the perspective of the protagonists and so can assess what they understand from utterances.

Such perspective taking must be accounted for by theories of text comprehension. When readers assess the comprehension of addressees they assess their understanding—or misunderstanding. This allows readers to infer the effect that utterances may have on addressees and subsequently contributes to the construction of a mental model of the interaction as part of the overall mental model of the text. This paper focuses on the way readers determine what an addressee understands from an utterance; specifically, it focuses on the constraints on the way readers use information about the accessibility of information to protagonists.

In general, perspective may be affected by properties of the text itself as well as by readers' own goals. For example, research on text comprehension reveals that vantage points affect readers' memory for content. Writers may actually induce a point of view by manipulating properties of the text. For example, Black, Turner, and Bower (1979) induced a particular point of view by using terms that imply different spatial perspectives, e.g., by describing the same action as "coming" or "going." They then showed that a shift in perspective made comprehension more difficult. Abelson (1975) demonstrated that the vantage point of a narrator results in different memory for details of the same text, suggesting that the representation of a text depends on assumed perspective. In addition to such literary techniques to induce perspective via properties of the text, there is evidence that readers' own attempts to take a certain perspective affects their memory for the text. For example, Pichert and Anderson (1977) found that people's memories for home descriptions were consistent with an assigned perspective. Those who took the perspective of a burglar were more likely to remember the location of expensive items, than those who took the perspective of home buyers (See also Anderson and Pichert, 1978; Goetz, Schallert, Reynolds, and Radin, 1983). Barsalou and Sewell (1984) asked people to judge typicality of categories from the perspective of people from a variety of subgroups such as a redneck and a hippie. They found high agreement in typicality within each perspective, suggesting that people used stereotypical information in their perspective-
taking. In general, such studies show that readers may adopt a vantage point which may affect their comprehension and memory for descriptions. Do readers also adopt the vantage point of a protagonist while assessing how that character understands utterances?

**READER'S EXPERIENCE AS LANGUAGE USERS**

Readers may know how to evaluate an addressee's understanding from their own experience as language users. As speakers, they constantly attempt to take the perspective of addressees and assess their understanding of utterances. For example, speakers not only monitor their own speech for errors but they also monitor their listener or addressee for signs of misunderstanding (Levelt, 1983, 1989). When speakers detect misunderstanding on the part of the addressees, they attempt to rephrase or repair their utterances (e.g., De Smedt and Kempen, 1987; Schegloff, 1987). In fact, even the planning of an utterance is affected by speakers' beliefs about their addressee's perspective. For example, speakers tailor utterances to listeners (Clark and Murphy, 1983) and accommodate to the particularities of their addressees' factual knowledge and expertise (Isaacs and Clark, 1987; Krauss and Fussell, 1991), linguistic competence, register and even dialect (Giles and Smith, 1979). Such audience design is also illustrated with speakers who address multiple audiences, showing some success in concealing from one audience what they convey to another (Clark and Schaefer, 1987; Fleming and Darley, 1991). Sometimes, speakers even solicit feedback from their addressee in order to make sure they are understood accurately, and if not, they change their speech accordingly (e.g., Cohen, 1984; Schober & Clark, 1989). Speakers, then, continually attempt to take their addressee's perspective in order to assess how they are being understood—or misunderstood.

While it is clear that speakers attempt to take their addressee's perspective into account, it is not clear how successful they are. Blum-Kulka and Weizman (1988) analyze naturally occurring misunderstandings and suggest that considerations such as face saving may prevent speakers from ensuring that their addressee understood them fully. Social factors as this one may prevent speakers from fully evaluating their own attempts to communicate effectively. In addition, there is one study that demonstrates that people do not always adjust their speech to their addressee's knowledge. Brown and Dell (1987; Dell, 1991) asked people to describe scenes that involved the use of typical or atypical instruments. For example, one scene concerned a murder with a knife (typical) or an icepick (atypical). People were more likely to mention the atypical than the typical instrument, presumably because of cooperative communicative principles (Grice, 1975). However, the increase in frequency of mention for the atypical instrument was independent of subjects' beliefs about their
addressees' knowledge of the instrument. Even when the addressee was informed about the instrument, subjects mentioned the atypical instrument more often than the typical one. Speakers, then, did not adapt the level of specificity of their descriptions to their beliefs about their listeners' knowledge. Brown and Dell explain this as an unavoidable effect of the structure of our concepts. These examples suggest that, in practice, speakers' perspective taking may be somewhat limited. They may not be consistent in their attempts to produce utterances that take the listener into account. Consequently, people's expertise as speakers may not be very useful in their perspective-taking attempts as readers.

SOURCES OF PROBLEMS IN LINGUISTIC PERSPECTIVE TAKING

Given a certain utterance, one of the reader's goals is to assess the intention perceived by the addressee. Because no utterance expresses a unique intention (Austin, 1962; Searle, 1975), the reader may not assume that the utterance itself is sufficient for the addressee to infer the conveyed meaning. Even simple utterances such as "the book is on the desk" may be used to convey a variety of intentions such as a description, a request, a challenge for a race for the book, an offer and so on. Of course, readers rely on additional information when deciding how addressees disambiguate utterances. They may consider two general kinds of information: (1) general contextual information such as information about the immediate environment and factual information about past events and (2) possible cues that the speaker may have provided to suggest a specific intention. For example, if the reader knows that both the speaker and the addressee are familiar with a certain person named Mary, the reader may assume that the addressee will identify the correct referent in "I saw Mary yesterday." Readers need not rely on information that is explicitly provided to them; they may also infer the availability of such information to the addressee. For example, they may assume that speakers convey intentions by disambiguating their utterances with appropriate cues. Consequently, if readers know that a speaker is not being serious, they may infer that the speaker has used facial or intonation cues to convey his or her intentions. In any case, readers' perspective-taking would be accurate only if they make exclusive use of information that is accessible to the addressee because only information that can be accessible to the addressee is relevant from his or her perspective.

THE RELEVANCE OF INFORMATION TO A PERSPECTIVE

Theories of language use take it for granted that readers would use information that is relevant to the addressee's perspective when they assess the understanding of that addressee. Sperber and Wilson (1986; 1987) suggested that principles of relevance seeking underlie all of lan-
guage use—that both speakers and listeners assume relevance on each other’s part. Many researchers disagree with the mechanism that Sperber and Wilson suggest for the identification of the relevant (e.g., Millikan, 1987; Russell, 1987; Wilks, 1987), but they would all agree that once relevant information is identified, it is used by interlocutors to disambiguate utterances. Similarly, once readers identify information that is relevant to the addressee’s perspective, they should use it appropriately in their assessments. The relevant information is the information that is accessible to the addressee, as Sperber and Wilson state: “An assumption is relevant to an individual at a given time if and only if it is relevant in one or more of the contexts accessible to that individual at that time” (p. 144).

Given such a definition of relevance, one may ask whether readers use only perspective-relevant information when they attempt to take perspective or whether they also use information that is inaccessible from that perspective. Consider the following text:

Mark asked his office mate, June, to recommend a restaurant; his parents were in town and he wanted to take them to a good place. “I strongly recommend this new Italian place, called Venezia. I just had dinner there last night and it was marvelous. Let me know how you all enjoy it.” That evening, Mark and his parents ate there; the food was unimpressive and the service was mediocre. The next morning, Mark said to her: “You wanted to know about the restaurant, well, marvelous, just marvelous.”

Some readers may think that Mark is simply trying to be kind to June, that he was saving face. In contrast, others would take his final comment “You wanted . . . just marvelous” as sarcastic. Those readers may reach a sarcastic interpretation because they make use of the information about Mark’s miserable experience at the restaurant. Note, though, that this information is privileged to the reader because only the reader is informed about the unimpressive food and mediocre service. June had no access to that information and therefore the reader can assume that this information is irrelevant from June’s perspective. The question is what role, if any, would this privileged information play in the reader’s assessment of June’s interpretation of Mark’s final comment?

Theories of language use typically assume, at least implicitly, that readers use only perspective-relevant information. The only sources of information that are relevant and should affect the readers’ decision are the way Mark worded his utterance and any cues that readers infer that he might have used. For example, the reader may conclude that June perceived sarcasm because Mark twice echoed her recommendation with the word “marvelous” (Sperber, 1984). In addition, readers may make the reasonable assumption that Mark used intonation to convey his sarcasm—this may cue June for a sarcastic interpretation.
Apart from such possible cues, no other information should affect the readers’ perspective taking. Their information of the events per se or inferences about the intention itself should not affect their judgment about what the addressee understands. In this example, readers’ privileged information about the events in the restaurant should have no bearing on their assessment of June’s perception of sarcasm. Theories of the perception of verbal irony and sarcasm differ regarding what makes an utterance sarcastic or ironic, whether it is an echo (Jorgensen, Miller and Sperber, 1984; Sperber, 1984), a reminder (Kreuz and Glucksberg, 1989), or pretense (Clark and Gerrig, 1984). Yet, these theories would agree that addressees’ perception of sarcasm should not be affected by information they do not have—it cannot be affected by information that is privileged only to the reader. In general, then, theories of language use would predict that readers would disregard privileged information when evaluating an addressee’s perspective.

In contrast to the literature on language use, research on people’s non-linguistic judgments may suggest otherwise. Several findings indicate that readers’ privileged information could affect their assessment of the addressee’s understanding. In general, people tend to underestimate the extent to which they rely on their own interpretations of events (i.e., construals) and assume that others would perceive these events in the same way (See a review in Griffin and Ross, 1991). For example, Newton (1990) showed that people who are asked to tap a familiar tune tend to overestimate the ability of others to recognize that tune, presumably because of the way they themselves construe their own tapping given the tune which is accessible only to them. In a similar vein, readers may use their privileged information to interpret the utterance of a speaker when inferring his or her intention. If they also disregard their reliance on that information they may conclude that the addressee would perceive the same intention.

A related finding is that outcome information induces hindsight bias: Fischhoff and his colleagues (Fischhoff, 1975; Fischhoff and Beyth, 1975) compared subjects’ estimates of the likelihood of an event before and after providing them with outcome information. They found that when subjects learned that a certain event occurred, they revised their estimates of its original likelihood. More importantly, subjects did not realize the effect that the outcome information had on their estimates and predicted that uninformed subjects would provide similarly enhanced estimates (See Hoch and Lowenstein’s, 1989 report of the conditions for the reverse effect.) Hindsight is not restricted to events with uncertain outcome. Baron and Hershey (1988) showed that even when people know the exact probability of an event, outcome information affects their judgment of the quality of related decisions. In their study, subjects were told that
a doctor had to make a decision whether to operate knowing the likelihood of success in advance. The actual success or failure of the operation affected subjects' evaluation of the quality of the doctor's decision. Such disregard for others' perspective persists even when it leads people to incur actual monetary losses. Samuelson and Bazerman (1985) demonstrated that negotiators often overbid because they do not use information about their opponent's knowledge which is diagnostic about the value of the product. Camerer, Loewenstein and Weber (1989) showed that traders do not make full use of information that is privileged to them, even when they know that the information is inaccessible to the other party. Their subjects behaved as if the uninformed others had partial access to that information. Moreover, this "curse of knowledge" was not completely eliminated by market forces, resulting in the traders' loss of money.

Construal effects, hindsight, and outcome bias are the result of very general cognitive mechanisms. To the extent that linguistic interpretations are affected by the same cognitive mechanisms, one would expect readers to exhibit an analogous bias when evaluating the understanding of an addressee: Readers' privileged information may affect the way they take the addressee's perspective and lead them to infer that the addressee perceives the same intention as they do. Thus, in the restaurant example above, the reader might have difficulty disregarding privileged information about the events in the restaurant. The reader may be more likely to think that June would perceive sarcasm in Mark's comment when they read that Mark's dinner was deplorable than when they think the dinner was good. This effect should be distinguished from the possible effect of inferred cues: Readers may think that June perceived Mark's intention because he used cues such as intonation to convey his intention. But to the extent that readers use their privileged information about the event itself, it should affect their assessment of June's perspective even when no such cues are possible, as with written messages.

In sum, if readers exclusively use information they believe to be accessible to a certain perspective in assessing that perspective, then only information such as the utterance itself and cues that may be available to June may affect the readers' assessment of June's perception of sarcasm. Readers' privileged information should not play any role in their assessment of June's perspective because such information is inaccessible to her and therefore irrelevant to her perspective, by definition. In contrast, there are reasons to expect the reverse. That is, readers may use their privileged information even though they know it is privileged. Readers may interpret the utterance in line with the information and believe that June would perceive the same intention they do. This would lead readers to believe that addressees, such as June, would perceive the supposedly
transparent intention of the speaker. The following studies explore the possibility of such illusory transparency of intention.

**EXPERIMENT 1**

This experiment investigates whether readers use privileged information while assessing the understanding of an addressee. Using scenarios such as the restaurant story above, this study evaluated the effect of two sources of information: inferred cues and information about a relevant event. Subjects read scenarios and indicated whether the addressee would perceive sarcasm in the speaker’s final comment. It is reasonable that subjects would use inferred cues (e.g., intonation) when assessing the addressee’s understanding. This by itself would not constitute evidence for an illusory transparency of intention. However, to the extent that privileged information about an event causes subjects to attribute the perception of the speaker’s intention to the addressee, they would be exhibiting an illusory transparency of intention.

To tease apart the potential effects of these sources of information, two elements were manipulated: (1) the event information that was privileged to the subjects suggested different intentions, either sarcastic or not sarcastic; and (2) the modality of the utterance was crossed with the event information, either spoken or written. To understand the rationale consider the restaurant example in Table 1. The only difference between the two Privileged Information conditions is that in one case subjects read that the dinner was very good and in the other that it was terrible. The negative information is more likely to suggest that Mark was being sarcastic than the positive information. This privileged information may cause readers to attribute to June more perception of sarcasm when they know that the dinner was terrible. However, such a difference would not necessarily reflect an illusory transparency of intention in the spoken modality because readers may justifiably infer differential cueing, e.g., they may believe that Mark used a sarcastic intonation in one case and not in the other. In contrast, when the utterance is written, i.e., Mark writes his comment to June on a note, readers cannot infer any differential cues between the two event information conditions. They may believe that June would perceive sarcasm because the particular wording suggests sarcasm, e.g., Mark’s echo of “marvelous,” or any other aspect of the written message itself. However, any such inference should be exactly the same regardless of the privileged information about the event outcome because the wording is identical. Therefore, if readers of the written messages attribute more perception of sarcasm to June when the event at the restaurant (of which June is unaware) suggests sarcasm than when it does not, this would constitute evidence for an illusory transparency of intention.
ILLUSORY TRANSPARENCY OF INTENTION

TABLE 1
The Restaurant Scenario

Each of the four versions in Experiment 1 began with the following:
Mark asked his office mate, June, to recommend a restaurant; his parents were in town and he wanted to take them to a good place. "I strongly recommend this new Italian place, called Venezia. I just had dinner there last night and it was marvelous. Let me know how you all enjoy it," said June who really liked that place. That evening, Mark and his parents ate there;
The information below appeared immediately after this text. Each version differed with respect to the modality of Mark's utterance and privileged information:

<table>
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<th>Modality</th>
<th>Negative</th>
<th>Positive</th>
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<tr>
<td>Spoken</td>
<td>The food was unimpressive and the service was mediocre. The next morning, Mark said to her: &quot;You wanted to know about the restaurant, well, marvelous, just marvelous.&quot;</td>
<td>The food was indeed delicious and the service impeccable. The next morning, Mark said to her: &quot;You wanted to know about the restaurant, well, marvelous, just marvelous.&quot;</td>
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<tr>
<td>Written</td>
<td>The food was unimpressive and the service was mediocre. The next morning, Mark left a note on her desk: &quot;You wanted to know about the restaurant, well, marvelous, just marvelous.&quot;</td>
<td>The food was indeed delicious and the service impeccable. The next morning, Mark left a note on her desk: &quot;You wanted to know about the restaurant, well, marvelous, just marvelous.&quot;</td>
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It is possible that privileged information would have an effect only for spoken utterances and not for written ones. Such a result would be clear evidence against an illusory transparency of intention because if the effect in the spoken version is partially due to readers' mere knowledge of the event, then it should also be manifested in the written conditions. In case of no difference between the two written versions, one may conclude that readers successfully disregarded their privileged information and that the effect for the spoken modality reflects an inference that Mark cued Jane for his intention. In contrast, any effect for the written conditions would be evidence for an illusory transparency of intention because no differential cues are possible.

Method

Subjects. Thirty-two native English-speaking college students participated in this experiment as a partial fulfillment of requirements for an Introductory Psychology class. None of them had participated before in a similar study. Each session lasted approximately 45 min.
Materials. A total of 32 scenarios served as experimental materials: Eight different scenarios, each in four versions. As illustrated in Table 1, each scenario described two protagonists and an event that was accessible to the speaker protagonist, but was inaccessible to the second protagonist, the addressee. Each scenario ended with a comment by the speaker that made reference to the event. The information about the event could have been used to determine the speaker’s intention as either sarcastic or not. In two of the cases, the event was negative which suggested that the speaker was being sarcastic and in the remaining two cases the event was positive and did not support such an interpretation. The two scenarios that included the same event information differed in the modality of the final comment: The utterance was either spoken or written. For convenience, I will refer to the utterer as the “speaker” even when he or she wrote the message.

Subjects received materials in booklets that included 15 scenarios, 8 experimental scenarios and 7 fillers, each appearing on a separate page. The fillers had a similar story format except that their final utterance related a communicative intention other than sarcasm (i.e., a variety of conversational implicatures). The experimental items in each booklet included only one version of each of the 8 different scenarios, so that each subject received two exemplars in each condition (i.e., 2 spoken-sarcastic; 2 spoken-not sarcastic; 2 written-sarcastic; 2 written-not sarcastic). Each subject, then, read only one version of each scenario but read scenarios in all four conditions. Scenarios and versions were counterbalanced, yielding four different booklets. Each individual booklet was shuffled to randomize the order of the items and the fillers.

Procedure and design. Each booklet began with an explanation about the task—to take the perspective of the addressee and to determine whether the addressee perceived the intention of the speaker. The instructions were: “We are interested in how people understand text. On each page you will read a short story and answer the question that follows it. Let’s practice with an example: Please read the following story and answer the question below.” After reading the instructions and a warm-up scenario about Nadine making a comment to Bob, the instructions read “Did Bob take this comment as sarcastic? If you think that he believed that she was sarcastic please put an X next to ‘Yes’ below. If you think that he may have thought so, but you are not sure, mark ‘‘Maybe.’’ If you believe that he did not think her comment was sarcastic, mark ‘‘No.’’” Following these instructions, subjects read each item and answered a question regarding the addressee’s understanding. For example, following the Restaurant scenario subjects answered the question: “Did June take Mark’s comment as sarcastic?” They responded by circling YES, MAYBE, or NO. After they finished the booklet, subjects were instructed to do two additional things for each item: (1) to explain their rating regarding the addressee’s perception and (2) to indicate what they thought was the speaker’s intention, e.g., “Did you think Mark was being sarcastic?” (YES, MAYBE, or NO). Upon completion they indicated in writing their guess as to the purpose of the experiment. The design was a 2(Modality: Spoken vs. Written) × 2(Privileged Information: Negative vs. Positive) within-subjects design.

A theory that assumes that readers disregard their privileged information while assessing addressee’s understanding would predict different patterns of results for the spoken and written conditions. This theory would predict an interaction between Privileged Information and Modality because it would predict a difference only between the two spoken conditions: Readers should attribute more perception of sarcasm to the addressee when the event is negative than when it is positive, because they would assume that the speaker used information to convey a sarcastic intention with the negative event. In contrast, this theory would predict no difference between the two written conditions because, from the addressee’s perspective, the information in the message is identical regardless of the event. This prediction is consistent with accepted theories of language use. In contrast, if readers do not discount their privileged information then there should be a similar effect for the written conditions.
Results and Discussion

The data were analyzed separately for the assessment of the addressee's perspective and for subjects' own perception of sarcasm. In addition, for each subject, the data were averaged within each of the four different conditions. This analysis with subjects as a random effect is referred to as $F_1$. Similarly, the data for each item in each version was averaged across subjects and the set of means was analyzed with items as a random effect. Analysis over items is referred to as $F_2$.

Subjects' own perception of sarcasm. Subjects indeed perceived more sarcasm in the utterances that followed events suggesting sarcasm. For spoken utterances, in only 3% of the cases did subjects perceive sarcasm (i.e., a YES answer) when the event did not suggest it. But when the event did suggest sarcasm, subjects thought that it was present in 59% of the cases. Written utterances revealed the same results: In only 3% of the cases when the event did not suggest sarcasm did subjects think that sarcasm was intended. In contrast, when the event did suggest sarcasm, in 60% of the cases subjects judged the speaker's (i.e., writer's) intention as sarcastic (See the complete report of YES/MAYBE/NO distribution in Table 2.)

To compute a combined sarcasm score, these data were coded as follows: YES responses received the value of 1, NO the value of -1, and MAYBE responses were counted as 0. The values for stories of the same version were averaged for each subject, so each subject contributed one mean for each of the four different conditions ($F_1$). Similarly, the values for each item were averaged for each of the four conditions ($F_2$). These data were submitted to a $2(\text{Modality}) \times 2(\text{Privileged Information})$ Analysis of Variance with repeated measures. Only Privileged Information had a reliable effect, $F_1(1,31) = 94.84, p < .0001, MS_e = .476, F_2(1,7) =$

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<td>Negative</td>
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<td>Spoken</td>
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<tr>
<td>%MAYBE</td>
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<td>%NO</td>
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148.01, p < .001, MS_e = .075. For both Modality and the interaction, Fs < 1. This analysis confirms that the different versions of the stories were perceived as intended: With a negative event, subjects were more likely to perceive the speaker's comment as sarcastic than with a positive event information. In general, then, one may conclude that subjects used their privileged information to infer the speaker's intention. This conclusion should be made with caution because subjects responded to this question after they assessed the addressee's understanding. Experiment 2 will provide independent evidence on this point.

Judgments of addressees' perception of sarcasm. Table 3 contains the percentage of YES/MAYBE/NO choices for each of the four conditions. These data suggest that readers are willing to attribute categorically the perception of sarcasm to the addressee in line with their privileged information: Overall, while only 3% responded YES when the event did not suggest sarcasm, 25% were willing to say that the addressee would perceive sarcasm when the event information did suggest sarcasm. This pattern of results was the same for spoken (3% and 23%) and written utterances (3% vs. 27%). As with subjects' own perceptions, sarcasm scores were calculated (YES = 1, NO = −1, and MAYBE = 0) and submitted to a 2(Modality) × 2(Privileged Information) Analysis of Variance with repeated measures. Privileged Information had a reliable effect, F1(1,31) = 14.7, p < .001, MS_e = .544, F2(1,7) = 42.67, p < .001, MS_e = .047. Modality had no effect, F1 and F2 < 1. More importantly Modality did not interact with Privileged Information, both Fs < 1.

Evidence for illusory transparency of intention. In general, subjects thought that addressees would perceive sarcasm more when their privileged information about the event indicated that the speaker was being sarcastic than when they thought the speaker was not being sarcastic. The

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main source of evidence is the difference between the two Privileged Information conditions within the Written modality: Even when the message was conveyed in writing and no differential cues could have been inferred by the subjects, they thought more sarcasm would be perceived when subjects' own privileged information about the event suggested it. Whether subjects relied on inferred cues or not, the results of the written modality constitute clear evidence of illusory transparency of intention.

One may argue that effect of illusory transparency is relatively small because in only 23% of the spoken and 27% of the written utterances did readers attribute the perception of sarcasm to addressees while a full 52 and 59% (respectively) replied NO. However, this comparison is misleading because it does not take into account the base rate which is reflected in subject's own perception of sarcasm. In other words, even with a negative event, some subjects may not perceive the comment as sarcastic. In those cases, one would not expect subjects to attribute the perception of sarcasm to the addressee. Therefore, the extent of the illusion of transparency must take into account the difference in the rate of subjects' own perception of sarcasm between the two Privileged Information conditions. When this baseline is considered, the effect seems fairly large: In subjects' own perception of spoken utterances, the difference between the percentage of YES responses for the two Privileged Information conditions is 55 percentage points (58–3%). The corresponding difference for their assessment of the addressees' perception is 21 points. Similarly, the baseline for the written utterances of the same difference is 57 percentage points (60–3%) and the corresponding difference for the addressees' assessment is 24 points. Given these baselines, the effect is indeed large.

Regardless of experimental condition, the conditional probability that subjects would attribute their own perception to the addressee is quite large—even though the addressees did not have the information that was available to the subjects. Of those cases when subjects thought that the speakers were sarcastic, 41% thought the addressees would also think the speakers were sarcastic. In contrast, when they thought that the speaker was not being sarcastic, only 2% thought the addressees would perceive sarcasm. This probably exaggerates the strength of the relationship between the two measures because the same subjects answered both questions and may have simply attempted to be consistent. Experiment 2 will provide independent ratings of the speaker's intentions and will allow for "cleaner" comparisons.

Evidence for inference of differential cues. There was very little evidence that subjects in the Privileged Information conditions used differential cues: The use of such cues would have been demonstrated by a larger effect for the spoken than the written modality. Instead, the two modalities yielded exactly the same pattern of results, as the absence of
an interaction suggests. In fact, the difference in YES responses between the two written conditions was a bit larger than the corresponding difference between the two spoken conditions (24% vs. 21%, respectively). The only suggestion of a possible effect of differential cues may be detected in those cases where subjects qualified their answer with a MAYBE. While the same percentage of subjects (14%) answered MAYBE in the two Written conditions, twice as many answered MAYBE in the Spoken modality when the event was negative than when it was positive (25 and 13%, respectively). This is exactly the pattern of results that would be expected if the spoken conditions involved the inference of differential cues, only that it is relatively weak because it only occurred in the MAYBE answer category. Subjects do not seem to be confident enough to answer with an unqualified YES in those cases. In general, there is no evidence that subjects assumed differential cues in the different modalities.

This possibility might be explored by examining the kind of explanations that subjects provided. However, an analysis of these explanations was not very revealing. To a large extent, the explanations were rationalizations which is consistent with Nisbett and Wilson’s (1977) claim that people have limited access to the reasons for their behavior. Twelve percent of the explanations made reference to the wording of the message, which is a non-differentiating cue such as: “He just loves great comedians. This implies that he thought this one wasn’t great.” Subjects made reference to the speaker’s (assumed) tone of voice in only 5% of the cases, e.g., “His tone probably implied he didn’t like the show,” and made reference to physical cues in only 2%, e.g., “His exhaustion will show”—a total of 7% for such potentially valid cues. Given that these cues were only relevant in the spoken messages the proportion of explanations that refer to valid cues is in fact 14%. But even this is surprisingly low. The explanations, then, may contribute more in what they do not reveal: They lack ample references to differential cues.

In sum, Experiment 1 strongly suggests the existence of an illusory transparency of intention: Readers often do not disregard their privileged information when they assess the understanding of an uninformed addressee. Yet there are several potential problems with this experiment. First, it could be the case that asking subjects to judge perceived intentions is not an optimal methodology. To address this problem, Experiment 3 asked subjects to predict the addressees’ future action or reaction. But before dealing with this question, Experiment 2 will address a more serious methodological problem that may undermine the conclusion regarding the illusory transparency of intention. The main problem is that even with written utterances, there is potential “information” in the very fact that the speaker was perceived as being sarcastic. The goal of Experiment 2 is to eliminate this alternative explanation.
EXPERIMENT 2

In Experiment 1, regardless of whether the utterance was spoken or written, the effect can be explained away as follows: As the data of subjects’ own perception indicate, they inferred that the speaker was being sarcastic more often when the event information suggested sarcasm than when it did not. When they read the scenario that suggests Mark was being sarcastic, all they know about him is that on that particular occasion he expressed sarcasm. As a result, they may infer from this piece of information that Mark is characteristically a sarcastic person. In contrast, those subjects who read the scenario in which Mark was not being sarcastic do not have a reason to make such a dispositional inference. Moreover, because subjects are aware that June knows Mark they may infer that she shares the “information” about whether Mark is typically sarcastic. Therefore, the argument goes, subjects may infer that addressees of speakers of sarcastic utterances would be inclined to think that those speakers are being sarcastic. If this is the case, then these data reflect such inferences on the part of the subjects and do not necessarily suggest an illusory transparency of intention.

Experiment 2 addressed this alternative explanation by using the same speaker across all scenarios. Recall that every subject read scenarios from all four versions, so that the event information suggested that the speaker is being sarcastic in half the scenarios and not sarcastic in the other half. To the extent that subjects infer from half the scenarios that the speaker is characteristically sarcastic they should still believe this about the speaker when he or she is not being sarcastic. Similarly, given that all addressees are familiar with the speaker they should all know whether this person is typically sarcastic. Recall that the alternative explanation of the results of Experiment 1 rests on the assumption that subjects made inferences about the character of each speaker, depending on whether they thought that they were sarcastic or not. Then they attributed the “knowledge” about the character of each speaker to the addressee because the addressee knew the speaker. It is possible, then, that given a “sarcastic character” an addressee would be more likely to infer sarcasm than given a non sarcastic character. Different from Experiment 1, in this experiment, the speaker was the same person across all scenarios. Therefore, whatever character subjects infer for the speaker, it should be the same across all scenarios. Consequently, if the effect replicates even when the speaker is one and the same person across all scenarios it can no longer be attributed to differential inferences about different speakers but only to the subjects’ privileged information.

The goals of Experiment 2 are threefold: The main purpose is to evaluate this alternative explanation. The second goal is to replicate the ear-
lier findings with a new set of items. The third goal is to collect assessments of speaker’s intention from subjects who were not asked to consider the addressee’s perception. Such an independent measure would allow an evaluation of the link between subjects’ own perception of intention and the extent to which they attribute such perceptions to the addressees.

Method

**Subjects.** Fifty-six college students participated in this experiment for course credit. All were native English speakers, and none had participated in such an experiment in the past. Twenty-four subjects (the ‘‘Assess Intention Only’’ group) provided their perception of speakers’ intentions whereas the other 32 participated in the main experiment (the ‘‘Assess Intention and Perception’’ group) and also assessed the perception of the addressee.

**Materials.** This experiment used 12 scenarios, each in four versions as before: the utterances as spoken or written and the privileged information either negative or positive. Altogether, then, there were 48 different scenarios. The basic structure of each scenario was the same as in Experiment 1, except that the speaker was the same person (‘‘David’’) across all scenarios. To enhance subjects’ belief that the scenarios were all about the same person, the different events were ordered chronologically so that the first described David applying for college and the last referred to him in his first job right after college. As a result, the order of presentation of items was the same in all booklets. Four different booklets were created as before, so that each subject saw one version from each of the twelve scenarios, three items in each version. The order of versions in each of the four booklets was determined randomly, with the exception that all three items of the same version were not to appear consecutively. Items and versions were counterbalanced as in Experiment 1.

**Procedure and design.** The design was a within subjects 2(Modality) × 2(Privileged Information). The procedure for the ‘‘Assess Intention and Perception’’ group was similar to the procedure of the first experiment: They first determined for all items whether the addressee would perceive sarcasm (YES, MAYBE, or NO) and then went back to explain their decision and to determine whether they thought the speaker was actually being sarcastic or not. This group of subjects took about 40 min to complete the booklet. The ‘‘Assess Intention Only’’ group did not assess the addressee’s perspective but only provided their own perception of sarcasm with a similar choice set. These subjects completed the experiment in about 15 min.

The instructions for this experiment were a bit more elaborate than those in Experiment 1. They read as follows:

We all use sarcasm or irony occasionally. For example, imagine that on winter break a friend back home asks you about school. If you reply: “I just love being a student, and the exams are my most favorite part” you are most probably being sarcastic. Sometimes, though, expressions of sarcasm are a little more subtle. For example, you could say to a friend during a most boring lecture: “Well, it is always good to have an interesting lecture.” Here, you don’t really mean the opposite of what you say, but you are making a sarcastic comment about the boring lecture you must attend.

On each page you will read a short story and answer the question that follows it. The stories will describe different situations within the life of a person named ‘‘David.’’ After you read a story, you will be asked a question about it. Typically, the story will end with a comment by David to another person and you will be asked to judge whether that person thought David was being sarcastic or not.
The instructions to the “Assess Intention Only” group were identical except for the description of the assessment task itself.

Results and Discussion

As in Experiment 1, the data were coded to compute combined sarcasm scores that were averaged over subjects as well as over items, separately for each of the measures. Each data set was submitted to a 2(Modality × Privileged Information) Analysis of Variance with repeated measures.

Independent judgment of speaker’s intention. One goal of Experiment 2 was to provide a measure of the speaker’s intended meaning as perceived by independent subjects (those who were not asked to assess the addressee’s perspective). The “Assess Intention Only” group reported that David was sarcastic more often when the event information suggested such an intention (See Table 4). Overall, when the event was negative, subjects thought in 67% of the cases that the speaker was being sarcastic (YES responses) while only 19% thought he was not sarcastic (NO responses). In contrast, only 17% answered YES when the event was positive whereas a total of 71% responded with NO. This pattern was the same across both modalities. Indeed, the Analysis of Variance of the combined sarcasm score revealed a reliable effect only for Privileged Information, $F(1,123) = 123.18, p < .001, MS_e = .200, F2(1,11) = 42.88, p < .001, MS_e = .288$. There was no Modality effect, $Fs < 1$, and more importantly, the two factors did not interact, $Fs < 1$. Overall, then, independent readers (the “Assess Intention Only” group) perceived more intended sarcasm in the speakers’ final comment when Privileged Information suggested sarcasm than when it did not.

“Assess Intention and Perception” group’s judgments of speaker’s intention. The main group of subjects provided an evaluation of David’s

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intentions that was similar in pattern to that of the “Assess Intention Only” group. Overall 73% thought that David was being sarcastic (YES) with a negative event while 19% did not (NO). With a positive event, only 25% thought he was being sarcastic as opposed to 64% who thought he was not being sarcastic. Again, this pattern was the same in both modalities (See Table 5; Data for this measure are labeled “Intended”). Again, an ANOVA revealed a reliable effect only for Privileged Information, \(F(1,31) = 56.02, p < .001, MS_e = .491, F(2,1,1) = 10.31, p < .001, MS_e = .219\). There was neither a Modality effect nor an interaction between Modality and Privileged Information (all \(F_s < 1\)). In general, then, subjects in the “Assess Intention and Perception” group perceived more sarcasm when the event information suggested such an intention.

**Assessment of addressees’ perception of sarcasm.** The main point of interest in this experiment is whether privileged information affects readers’ perspective of addressees’ perceptions even with same-speaker utterances. Indeed, the results in this experiment present strong evidence for the existence of the illusory transparency of intention. Overall, when Privileged Information suggested sarcasm 49% answered YES and 38% NO. When it did not suggest sarcasm, the pattern of answers reversed, 23% YES and 59% NO. Moreover, this pattern was the same in both modalities (See Table 5). As in Experiment 1, a sarcasm score was calculated (1, 0, and \(-1\) for YES, MAYBE, and NO, respectively) and submitted to a two way Analysis of Variance with repeated measures. Only Privileged Information had a reliable effect, \(F(1,31) = 15.66, p <

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*Note. Intended* indicates the percentage of cases when subjects thought that the speaker was actually being sarcastic; *Perceived* indicates the percentage of cases when subjects thought the addressee would perceive sarcasm.
.001, $MS_e = .459, F(1,11) = 15.85, p < .001, MS_e = .170$. Modality had no effect and the two factors did not interact, all $F$s < 1.

Figure 1 shows the mean sarcasm score of David's intended meaning as perceived by the "Assess Intention Only" group and the sarcasm score that reflects the degree to which subjects thought sarcasm would be perceived by the addressee. One can immediately see that the pattern for the spoken and the written conditions is identical. Moreover, the score of the intended meaning clearly serves as upper and lower limits for the perceived meaning: With a negative event, the rate of perceived sarcasm attributed to the addressee was not higher than the rate of intended sarcasm. On the other hand, with a positive event the rate of sarcasm attributed to the addressee was not less than the rate of intended sarcasm.

Note that the sarcasm scores in this experiment were higher across the board than the scores of Experiment 1. This may simply be a result of the different scenarios that were used in the two experiments but it may also be due to the fact that all scenarios shared the same speaker in Experiment 2. Recall the reason that Experiment 2 used the same speaker across all scenarios: Subjects in Experiment 1 could have inferred that speakers who were sarcastic in a particular scenario were characteristically sar-

![Graph](image-url)

**Fig. 1.** Mean sarcasm score of judgments of speaker's intention ("intended") and perceived by addressees ("perceived") as a function of privileged information in Experiment 2.
castic. Indeed, subjects in Experiment 2 may have concluded that David is characteristically sarcastic because he made a sarcastic comment in 50% of the scenarios; this may explain why subjects in Experiment 2 thought that more sarcasm would be perceived overall compared to subjects in Experiment 1—even when the event did not suggest sarcasm. However, such inferences did not affect the illusory transparency of intention. Even though David may be characteristically sarcastic, 82% of the subjects thought that more sarcasm would be perceived when he intended it than when he did not. Moreover, although the baseline increased in Experiment 2, the difference between the two event information conditions was similar and a bit larger in the second experiment: In the spoken modality, the difference for Experiments 1 and 2 was 20 and 24 percentage points, respectively; in the written modality, the difference was 24 and 29, respectively.

EXPERIMENT 3

The first two experiments used a direct method to provide solid evidence for the existence of an illusory transparency of intention in reading. Experiment 3 provides converging evidence using a more indirect measure. Instead of directly deciding whether or not the addressee would perceive sarcasm, subjects in this experiment predicted a future reaction or action of the addressee. They decided between two possible courses of action that the addressee may take: either an action that is consistent with the perception of sarcasm in the speaker’s utterance or an action that is consistent with no perception of sarcasm. For example, consider the restaurant scenario in Table 1. After reading the scenario readers may predict that when June is asked by a different friend for a restaurant recommendation she would be more likely to (1) recommend the same restaurant, or (2) recommend a different restaurant. If the readers think that June would perceive sarcasm, then they should be more likely to predict that she would recommend a different restaurant. To the extent that they show preference for (2) over (1) in accord with their privileged information, this will constitute an illusory transparency of intention.

This indirect measure has two advantages. First, people do not normally judge perceived intentions in an explicit manner as they were instructed to do in Experiments 1 and 2, but they do habitually predict others’ behavior. The task in this experiment, then, may be more “natural.” Secondly, this measure requires an implicit inference about the addressees’ perception of the intention. In addition, it requires an inference that the addressee would not only perceive the intended meaning but would act accordingly: When the restaurant was terrible, the readers must not only infer that Mark’s utterance was sarcastic and that June perceived
it, but also that she would not recommend that restaurant in the future. Therefore, a replication with this measure should be strong converging evidence.

Experiment 3 had two secondary goals. It is possible that the instructions, which focused on sarcastic intentions and their expressions, may have created a unique situation that induced the results of Experiments 1 and 2. Though this is only a remote possibility, this experiment was designed to test it by manipulating the instructions. Half the subjects read instructions as in the second experiment that elaborated on the differences between sarcastic and non sarcastic intentions. The other half read instructions that did not mention intentions but only explained the task of predicting the addressee's behavior. Here is the relevant part of the instructions that did not discuss intentions:

In this experiment you will read about the adventures of David and Nick as they progress from high school, through college, and out into the work force. At the end of each episode, David will comment, either verbally or in writing, on something that transpired during the episode. The person that David addresses (the addressee) can respond in all sorts of ways. Two of these possible responses are given at the end of each episode. Your task is to choose the more likely response.

The other secondary goal was to test the possibility that the effect is due to the familiarity between the speaker and the addressee. It could be that subjects think that the intended meaning would be perceived because they assume that the speaker and addressee have idiosyncratic cues that ensure effective communication. To test this, a subset of the items included communication between strangers. If this alternative explanation is correct, then there should only be an effect for interlocutors who are familiar with each other.

Method

Subjects. Thirty-two native English speakers participated in the experiment as part of an Introductory Psychology class. The data of one subject were excluded because they were incomplete. Subjects were tested in groups of 5 to 15; each session lasted approximately 20 min.

Materials. The materials of Experiment 2 were partially rewritten to suit the purposes of Experiment 3 (See complete list of items in the Appendix.) The main difference was in the question the subjects answered: Instead of deciding whether the addressee would perceive sarcasm or not, subjects predicted the addressee's immediate-future action by choosing among two alternatives. As in Experiment 2, the speaker was always "David." Different from the second experiment, in eight of the items the addressee was the same person, "Nick," and in the remaining four the addressees were strangers to David. Here is an example of an item where David speaks to Nick, the event is negative and the utterance is in the spoken modality:

On his first weekday off, David decides to go shopping. While walking downtown, he is stopped by a man holding a clipboard. The man says he is a research assistant, working for a college psychologist who is studying people's responses to surveys.
He asks David to take a minute and answer the question, "How do you like participating in surveys?" He was asked to give his answer into a tape recorder. The research assistant assures him that the response is confidential and will only be heard by the psychologist. David, remembering his college days and how irritating it had been to participate in surveys for the psych. class he had taken, responds "Life would be absolutely grand if I could participate in every survey."

After reading the scenario, subjects answered the following question:

Which is the psychologist more likely to do next? Please circle A or B.
A. The psychologist thinks to himself, "Great—another comedian."
B. The psychologist thinks to himself, "Finally—someone who can see the importance of surveys like this one."

As in Experiment 2, this experiment used 12 different scenarios, each in four versions: a spoken utterance with a negative or positive event; a written utterance with a negative or positive event. The items were presented in booklets that were constructed exactly as in Experiment 2, with versions and answers counterbalanced. This yielded eight different booklet types, each appearing with one of two sets of instructions. One set of instructions was similar to the instructions used in the first two experiments. The other instructions were shorter and did not mention the perception of intentions, nor did it mention sarcasm. Again, because of the chronological nature of the events that the scenarios described, the order of items was the same across booklets.

Procedure and design. The design was a mixed 2(Instruction Type) × 2(Familiarity: Friend or Stranger) × 2(Modality) × 2(Privileged Information), with Instruction Type being a between-subjects variable and all the rest within-subjects. The procedure was similar to that of the first two experiments. Subjects read the instructions, responded to a couple of warm-up scenarios, and completed their booklets.

Results and Discussion

The results clearly replicate the findings of the first two experiments: Overall, many more subjects predicted that the addressee would behave as if he or she perceived sarcasm with the negative than with the positive event (54% vs. 24%). This pattern of results was similar for both modalities, with 35 percentage points difference for the spoken modality, and 24 percentage points difference when the message was written (see Table 6).

Moreover, a similar pattern of results was obtained for both familiar addressees and strangers, though the difference was larger for friends. When David knew the addressee, the difference was 38 percentage points

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within the spoken modality and 27 points within the written modality (See Table 7). The same pattern of differences occurred when a stranger was the addressee: 29 and 20 points for the spoken and written modalities, respectively. Instruction Type did not seem to alter the main finding. There was a difference of 25 percentage points within the written modality for both types of instructions (See Table 8). The only possible effect that instructions may have had was in the spoken conditions, where the intention-focused instructions yielded a larger difference (46 points vs. 25 points). It seems that a focus on intentions intensifies the effect only with spoken utterances, perhaps because such a focus promotes the inference of differential intonation cues.

Preliminary analyses revealed that Familiarity did not have a reliable effect and did not interact with any other factors. Therefore, Familiarity was not included as a factor in the following analysis. For each item, in each version, the rate of sarcasm-related choice was calculated. These numbers were submitted to a mixed 2(Instruction Type) × 2(Modality) × 2(Privileged Information) Analysis of Variance, with Modality and Privileged Information as repeated measures. The analysis revealed the expected pattern of findings: Only Privileged Information had a reliable effect, $F(1,22) = 61.66, p < .0001, MS_e = .0351$. It did not interact with Instruction Type ($F(1,22) = 1.73, p > .2, MS_e = .0351$) or with Modality ($F < 1$). The three-way interaction was not reliable ($F(1,22) = 2.46, p > .13, MS_e = .0246$), Modality had no effect ($F(1,22) = 1.78, p > .19, MS_e = .0443$), and did not interact with Instruction Type ($F < 1$).

The main result of Experiment 3 is that readers are more likely to predict an addressee's reaction that is consistent with perceived sarcasm when their privileged information suggested that the speaker was being sarcastic than when it suggested that the speaker was not being sarcastic. The important part of the findings is that this happened not only when readers believe that the speaker verbalized the utterance but also when the message was conveyed in writing, when no intonation cues could have been used. While the first two experiments show that readers think in-

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TABLE 7
Percentage of Predictions of Addressee's Reaction That Is Consistent with Perceived Sarcasm in Experiment 3, as a Function of Familiarity of Interlocutors
TABLE 8
Percentage of Predictions of Addressee's Reaction That Is Consistent with Perceived Sarcasm in Experiment 3, as a Function of Type of Instructions

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tentions would be perceived regardless of addressee's lack of information, Experiment 3 demonstrates how they think that addressees are likely to act on these perceptions.

The secondary goals of this experiment were also achieved. First, familiarity of the speaker with the addressee had no bearing on the original effect; even when the addressee is a complete stranger, readers are more likely to think that they will behave in a manner consistent with the speaker's intended meaning. Second, the effect cannot be attributed to an "unnatural" focus on intentions in the instructions. Even when the instructions did not mention intentions, the original effect was obtained. Most importantly, the effect within the written modality was the same for both instruction types. It seemed to have an effect on the size of the effect for the spoken modality (although not a reliable one), but the spoken modality is not important for the argument in focus.

EXPERIMENT 4

In Experiments 1 through 3, subjects used their privileged information and consistently attributed to an addressee the perception of sarcasm whenever they themselves thought that the speaker was being sarcastic. Yet, one may argue for a different interpretation of the results. It is possible that subjects were too restricted by the question "Did the addressee perceive sarcasm? Yes, Maybe, No." One can imagine that subjects never thought that the addressee would perceive sarcasm, but instead thought that the addressee would have perceived a variety of other intentions. For example, when they read that David had a terrible experience at the restaurant, they may have thought that the addressee perceived a polite white lie. They may also imagine that the addressee would have a completely different reaction to the utterance than can be captured by the dichotomy of sarcasm/no sarcasm. For example, recall that in the psychology survey scenario David thinks about his experience in experiments which was either positive or negative and then he responds "Life would be absolutely grand if I could participate in every
survey. Subjects may simply think that the psychologist thought that David lost his marbles. If this is true, then one can also imagine that given the restricted choice, and the way the question was framed, subjects may have chosen the sarcastic option as the best approximation to what they really thought the addressee would perceive. This would seriously limit the conclusions that one could draw from these experiments.

One may doubt this possibility because subjects did have the opportunity to qualify their response by choosing MAYBE. If indeed the question about perceived sarcasm was too restrictive, subjects should have preferred the MAYBE option more than the "YES" for sarcastic intention. In fact, subjects rarely chose the qualified MAYBE option (around 14%), and when the event was negative they consistently chose YES more often than MAYBE. Yet, even though the alternative explanation may be unlikely, it should be evaluated empirically. Experiment 4 is designed to test the possibility that the results of the previous experiments are an artifact of a restrictive measure. To do this, the experiment must demonstrate both that subjects are more likely to attribute a sarcastic intention to the speaker when the information is negative than positive, and that they are more likely to attribute the perception of sarcasm to the addressee with negative than positive information.

This experiment was the same as the previous three, except that the question included four options and an open-ended "other" option. For example, the question for the psychology survey scenario was: "The psychologist thinks that . . ." followed by five options. The options were that the psychologist (1) would perceive sarcasm or mockery, (2) would think that David was being sincere, or (3) would think that he was lying. A fourth option was vaguely related (that he would think that "David wanted to be a psychologist"), and a fifth option was an open ended "other." Subjects were encouraged to choose the option that best fits their understanding and to use the "other" option if they have an answer that is different from the four options. The alternative explanation suggested that subjects chose the YES option for sarcasm when the event was negative because they had no other reasonable alternative. It assumes that had they had a choice, then the rate of sarcastic attributions would not depend on the event information. If the alternative explanation is correct, then subjects should use the "other" option often, and the difference in the rate of sarcasm attributions between the event information conditions should disappear.

Method

Subjects. Sixteen college students participated in this experiment for Introductory Psychology course credit. All were native English speakers; none had participated in a similar experiment before. Subjects were tested in small groups and each session lasted about 40 min.
Materials. This experiment used the 12 scenarios with their four different versions from Experiment 3, with minor editing. Different from the previous experiments subjects did not decide whether the addressee would perceive sarcasm or not. Instead, each scenario was followed by the sentence, "[the addressee] thinks that . . ." with five options. For example, following the restaurant scenario (See scenario 10 in the appendix for the relevant version) subjects had the following choices:

Nick thinks that . . .
—David is being sarcastic and did not actually like the restaurant
—David means that he enjoyed the dining experience
—David is lying to avoid insulting Nick’s taste in food
—David likes to experience a wide range of ethnic cuisine
—Other: ____________________________________________________

As a rule, all items had the first two options—that the addressee will either perceive a sarcastic intent or a contextually appropriate variant such as mockery, and that the addressee will think that David meant what he said. All items included a variant of a lie option, either that the addressee will think the speaker was telling a white lie, being polite or considerate, or that the addressee was straight out lying with an intention to deceive or both, depending on the scenario’s constraints. The fourth option differed among scenarios. In some cases, as with the psychology surveys, it was an intention that was irrelevant to the scenario. When possible, it expressed an interpretation of the utterance that was relevant to the scenario but different from sarcasm or lying. The sarcastic option in this experiment is analogous to the YES option in Experiments 1 and 2 and to the sarcasm-consistent reaction in Experiment 3. All items also appeared with a question about the speaker’s intended meaning. The same set of options were used for this measure, only that they were preceded with a query about the speaker’s intent, e.g., “What is David’s intention?”

As in previous experiments, each scenario appeared in one of four versions, with the utterance either spoken or written and the event either positive or negative. The items were presented in booklets. Each booklet included 2 fillers and all 12 scenarios. Scenarios and versions were counterbalanced so that three scenarios appeared in each of the four versions in each booklet type. This yielded four different booklets. The order of the scenarios was fixed across booklets, but the order of version was randomly determined. Each booklet had two parts. In the first part scenarios appeared with the question about the addressee’s perceived intention. In the second part, the same scenarios were printed but with the question about the speaker’s intended meaning.

Procedure and design. To be conservative, the instructions did not focus on sarcasm as in previous experiments. Instead, the instructions stressed the idea that an intention can be conveyed in different ways. Here is a sample of the relevant part of the instructions:

When we speak, we convey many intentions. We request, question, demand, mock, suggest, describe, scorn, complain, conceal, express sarcasm, thank, and so on. We convey these intentions in a variety of ways. Sometimes we say exactly what we mean. For example, we can request a book by saying: “Please hand me the book.” Alternatively, we can request indirectly. by saying “I need that book over there.” In this case, even though we did not explicitly request the book, we intend the addressee to understand our intention.

Subjects were told that in each scenario, David will make a comment that will appear in bold letters and their task is to “determine how David’s comment will be understood by the person with whom he is speaking.” Then subjects received a practice item and were told to indicate what the addressee would think David intended by choosing one of the four inten-
tions provided. If none of these options seemed adequate to them, they were instructed to write down an answer in their own words in the “other” option. Following each scenario, subjects indicated their confidence in their answer on a five-point scale, with 1 “Not Confident at all,” 2 “Somewhat Confident,” 3 “Moderately Confident,” 4 “Pretty Confident,” and 5 “Absolutely Confident.”

Subjects first answered the question about the addressee’s perception for all items and then received instructions to indicate their own perception of the speaker’s intended meaning in each scenario. They completed this for the practice item and then proceeded to indicate the intended meaning for all items. They indicated their confidence in their answer by using a scale similar to that used in the first part of the experiment.

The design was identical to that of the first two experiments: 2 (Modality: Spoken vs. Written) × 2 (Privileged Information: Negative vs. Positive Event), all within subjects. The experiment was designed to test the alternative explanation for the results of the previous experiments. This alternative suggested that subjects’ greater tendency to attribute to the addressee the perception of sarcasm when the event was negative is a result of the restricted number of options. This experiment provides subjects with more options, including an open-ended category to state any intention they desire. If the alternative explanation is correct, then this measure should eliminate the phenomenon found in Experiments 1–3: There should be no difference between the tendency to attribute the perception of sarcasm to the addressee when the event is negative than when it is positive. In contrast, if the phenomenon is not an artifact of the restricted measure, then illusory transparency should hold in this experiment as well.

Results and Discussion

The first thing that one notices about the results is that subjects rarely used the open-ended “other” response option. Only 2.7% of the responses were in the “other” category. In two cases, the subject did not specify the intention. In one case, the “other” response clearly corresponded to the “sarcastic” category, e.g., “He’s angry and being sarcastic.” Another “other” response clearly corresponded to the “sincere” category “[he is] surprised and complimenting.” The last “other” response was not clearly related to any of the categories. Given the scarcity of these responses and their relative transparency, one native English speaker coded them as “sarcastic,” “sincere,” and “irrelevant.” These data points were included with the corresponding “sarcastic,” “since,” and “irrelevant” responses. Therefore, the responses of the “other” category are included in the analysis as part of the specified categories. In addition, three responses were not included in the analysis because the subject marked two or more incompatible options for the same item.

The main point of interest in this experiment was whether the multiple response method would eliminate the tendency to attribute more perception of sarcasm to the addressee when the event was negative and the speaker was being sarcastic. I will address this in two ways: by presenting the contingency data of “intended” and “perceived” meaning and by considering the rate of “sarcastic” choices in the four different conditions. Table 9 shows the frequency and percentage of each intention-
<table>
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<tr>
<th>Speaker's intention</th>
<th>Addressee's perception</th>
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<tbody>
<tr>
<td></td>
<td>Sarcastic</td>
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<tr>
<td>Sarcastic</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>55%</td>
</tr>
<tr>
<td>Sincere</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>White lie</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>19%</td>
</tr>
<tr>
<td>Lie</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>33%</td>
</tr>
<tr>
<td>Unrelated</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>17%</td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
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<td>31%</td>
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category attributed to the addressee, given the subjects’ own perception of the intention of the speaker. The attribution of a perceived intention to the addressee is highly related to the intention of the speaker: When the speaker was being sarcastic, subjects were much more likely to attribute the perception of sarcasm to addressees than to attribute to them the perception of a sincere comment (55% vs. 19%). In contrast, when subjects thought the speaker was being sincere, they were much less likely to think that the addressee would perceive sarcasm than sincerity (10 and 84%, respectively). This pattern of results was the same for the spoken and written modalities. When the speaker was perceived as sarcastic, perception of sarcasm was attributed more than sincerity in both modalities (Spoken: 59 and 19%; Written: 45 and 23%). When the speaker was perceived as sincere, subjects attributed to the addressee less perception of sarcasm than sincerity (Spoken: 10 and 90%; Written: 19 and 67%). In general, then, when subjects perceived a certain intention (i.e., the second question) they were more likely to attribute the perception of that intention rather than other intentions to the addressee (i.e., the first question).

While the relationship between the answers on both the perception and intention questions support the hypothesis, it is more crucial to demonstrate that the perception of intended sarcasm and the tendency to attribute that perception to the addressee depended on the privileged event information. Figure 2 presents the rate of sarcastic choices for both measures, judgments of speaker’s intended meaning (i.e., second question) as
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Fig. 2. Mean rate of sarcastic category for speaker's intended meaning and addressee's perception as a function of privileged information in Experiment 4.

well as attribution of the perception of sarcasm (i.e., the first question) to the addressee given event information and modality.

Judgments of speakers' intended meaning. Figure 2 demonstrates that subjects judged the speakers' intended meaning, by and large, as intended. In both modalities, subjects were much more likely to judge the speakers' intention as sarcastic when the event was negative than when the event was positive (Mean rates = Spoken: .57 and .11, respectively; Written: .59 and .17, respectively). This suggests that subjects were not "forced" to choose the sarcastic option in previous experiments by default, but that the difference between the two event information conditions reflects differential perceptions of intended sarcasm.

Judgments of addressees' perceived intention. Figure 2 also provides the rate of attribution of perception of sarcasm to the addressee. As in previous experiments, it is clear that the two modalities have identical patterns of results. In addition, the privileged event information had the same effect on attributions to the addressees as demonstrated before. When the event was negative, the rate of attribution of the perception of sarcasm was much higher than when the event was positive (Spoken: .45 and .19, respectively; Written: .40 and .17, respectively).
The rate of attribution of perception of sarcasm was computed for each subject in each condition and for each item in each condition. These means were submitted to a 2(Modality: Spoken vs. Written) × 2(Privileged Information: Negative vs. Positive Event) analysis of variance with repeated measures. Only Privileged Information had a reliable effect, $F(1, 15) = 7.64, p < .02, MS_e = .125, F(2, 11) = 10.86, p < .01, MS_e = .059$. Modality had no effect and did not interact with Privileged Information, all $F$s < 1.

The confidence measures revealed a relatively high level of certainty in the answers, but no interesting differences between the different conditions. Subjects' mean confidence for both the intention and perception questions was 4.1 on a 5-point scale, and it did not vary much depending on condition. The mean confidence in the answer to the intention question (second question) with the spoken modality was 4.1 and 4.2 for the negative and positive events and the same with the written modality. The mean confidence in the addressee's perception answer was 4.0 and 4.1 for the spoken modality with negative and positive information respectively, and 4.1 for both written modality conditions.

To sum, Experiment 4 replicated the basic result of Experiments 1 through 3, using a measure that is unrestrictive. Therefore, the results of these experiments cannot be attributed to an artifact of the method; instead, they reflect people's natural tendency to use information that is relevant to the speaker's intention when they take another's perspective, even when the information is inaccessible to the other.

**GENERAL DISCUSSION**

In all four experiments, readers attempted to take the perspective of addressees and assess the way they would understand utterances. Accurate perspective taking would require that readers disregard information that was privileged to them and inaccessible to addressees. Experiment 1 demonstrated that readers are affected by their privileged information and do not disregard it even though that information is inaccessible from the addressees' perspective. Their privileged information allowed them to disambiguate the intention of the speaker which in turn led them to believe that the addressee would perceive that intention—despite the fact that the addressee did not have access to the information. In general, when readers thought that the speaker was being sarcastic they were more likely to believe that the addressee would perceive that intention than when they did not think the speaker was sarcastic. The same result was obtained in the second experiment with same-speaker utterances across a variety of scenarios. Experiment 3 suggested that readers do not only infer that addressees perceive the intended meaning but also con-
clude that addressees would act accordingly. Experiment 4 replicated the phenomenon with a multiple-choice measure.

In general, the results converge on one major theme: When readers have information that allows them to detect the intention of a speaker, they tend to believe that that intention is likely to be perceived as such even when there are no explicit or obvious cues regarding the intention. In this sense, their privileged information makes the intention seem relatively transparent—making it appear as though the utterance is more likely to convey the intended meaning rather than plausible alternative intentions. How can this phenomenon be explained? There is no reason to expect that this illusory transparency is the product of a single variable. Instead, it is probably the result of a variety of mechanisms. I will discuss two kinds of potential sources: the effect of general cognitive mechanisms of disambiguation, and the effect of readers' beliefs about the nature of interpersonal communication.

The illusory transparency of intention may partially be a product of construal. In general, we know that when people disambiguate stimuli they experience difficulty realizing that the same stimuli may be construed differently (Griffin and Ross, 1991). Utterances are ambiguous stimuli which can convey a variety of different intentions. The results of these experiments indicate that once readers know or infer the actual intention, they believe that the utterance is more likely to convey that particular intention rather than other plausible intentions. In other words, such construal may reduce the set of potential interpretations that are available to the reader. In addition to a restriction of the interpretation set, it would be interesting to explore whether this process involves a distortion of the stimuli itself. For example, readers may be more likely to pay attention to those aspects of the utterance that are consistent with their interpretation. In the restaurant scenario, for instance, readers may have focused on the double echo in Mark's utterance, "... marvelous, just marvelous," when they believed that Mark was actually sarcastic.

But subjects did not only construe the utterance in line with their own privileged information—they also thought that addressees would do the same, even though the addressees clearly lacked the crucial disambiguating information. As outlined in the introduction, this is similar to findings in the research on hindsight bias where event-outcome information leads people to believe that the outcome is relatively predictable to others even though they know that the others are uninformed (Fischhoff, 1975; Fischhoff and Beyth, 1975). Even monetary incentives are insufficient to eliminate an egocentric "curse of knowledge" as demonstrated by Camerer, Loewenstein, and Weber (1989). In these non-communicative tasks, privileged information induces an egocentric perspective in readers' evaluation of interlocutors' understanding. With such information, readers
are likely to overestimate the extent to which addressees would grasp the intended meaning (i.e., underestimate the ambiguity of the utterances).

This finding seems strange given our familiarity with literary devices. It is strange because we know that readers of text are capable of distinguishing between their own privileged information and information that is available to protagonists. In fact, dramatic irony is possible only because readers do not attribute their privileged information to protagonists. For example, readers of Oedipus know about his tragic situation and they also know that he doesn’t know. This privileged information does not lead them to believe that he knows it. This discrepancy between what the audience knows and what they know that the protagonist does not know creates the dramatic tension that is to be resolved at the end of the play. If readers consistently take an egocentric perspective then it would be almost impossible to create such dramatic tension. How can this be reconciled with the results of these experiments that suggest that readers indeed take an egocentric perspective and are systematically affected by privileged information?

Let me suggest that the results of these experiments are not only consistent with the experience of dramatic irony but that an illusory transparency of intention contributes to such dramatic tension. To appreciate this, one must distinguish between factual information per se and information that bears upon a speaker’s intended meaning. Readers and audiences have no difficulty separating their factual privileged information from the protagonist’s knowledge; they typically do not attribute their factual knowledge to protagonists when they know that it is inaccessible to them. At the same time, they use this information when they interpret the speaker’s utterances. Once they disambiguate the utterance, the intention becomes relatively transparent in their eyes. The relative transparency of the intention creates expectations that anyone would be able to perceive it—even the uninformed protagonist. Consequently, the meta-cognitive awareness that the factual information is inaccessible creates a dramatic tension which may be enhanced by the experience of seemingly transparent intentions that make its resolution seem imminent.

Communication and Naive Theories

Information about communicative intentions may affect readers’ perspective taking not only by construing the utterance but also via their intuitive theory of communication. Readers may have relied on their “intuitive theories” to evaluate the extent to which the addressee would perceive the speaker’s intention. While the first reason may be based on readers’ “subjective experience” with the utterance, the second is more analytic (See a discussion of this distinction in Jacoby and Brooks, 1984;
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Jacoby and Kelley, 1987). In general, people's intuitive or folk theories seem to play a role in their reasoning about different content domains such as physics and psychology (e.g., McCloskey, 1983; McCloskey and Kohl, 1988; Rips and Conrad, 1990). Similarly, people may possess a theory of communication that is a subset of their intuitive theory of mind.

There is growing research on the development of the child's theory of mind (e.g., Wellman, 1990; Astington, Harris, & Olson, 1988) and the development of an intuitive theory of communication (e.g., Perner & Wimmer, 1987). Unfortunately, we know relatively little about the adult's theory of communication (Keysar, 1993). One can imagine that a small set of simple principles of such an intuitive theory of communication could lead readers to use their privileged information inappropriately when assessing an addressee's understanding. For example, if readers believe that speakers are "Griceans" then they believe that speakers cooperate in conversation (Grice, 1957, 1975, 1978). If speakers cooperate then they should create utterances that are comprehensible by their specific addressees. In this sense, readers would believe that because speakers create utterances with transparent intentions vis-à-vis their addressees that therefore they are quite likely to be effective communicators. In the restaurant example, the intention may seem transparent, not only when it is possible that Mark may have used intonation, but also when no such cues are possible, as with the written messages. Even then, an intuitive theory of communication could have led readers to believe that Mark successfully conveyed his intention because of a fundamental belief in a speaker's effectiveness—a belief in the transparency of intentions. Although the role and function of people's intuitive theories of communication are relatively unexplored, these results raise the possibility that Grice's theory of cooperation may be an adequate description of such an intuitive theory of communication.

Implications

**Perspective and relevance.** The results of these experiments undermine a basic assumption of theories of language use: It is commonly assumed that when people attempt to make sense of text they make use of information that is relevant and do not use irrelevant information. Relevance of information is defined relative to perspective: Information is relevant only if it is accessible from a certain perspective (Sperber and Wilson, 1986). The readers in Experiments 1–4 clearly violated this assumption. Readers used information to evaluate an addressee's understanding even though it was clearly inaccessibile from their perspective.

These results may reflect directly on the normal operation of the comprehension system: The illusory transparency of intention may be a pe-
cular by-product of such an operation. The results suggest that the understanding system gives precedence to considerations of intention-relevant over perspective-relevant information. This makes sense given that the main goal of comprehension is to disambiguate speakers' communicative intentions. Therefore, it would be functionally useful for the system to give prominence to intention-relevant information. Consequently, it may become difficult to disregard such information. Once the intended meaning of an utterance has been perceived, it seems to be more likely to be conveyed than any other intention. In this sense, the process that achieves comprehension undermines related functions of the comprehension system—by affecting perspective taking in linguistic settings it affects the way readers attempt to comprehend how others comprehend.

Implications for speakers. Perspective taking is important not only for readers but also for speakers. Speakers constantly attempt to take the perspective of their addressees in order to assess the extent to which they successfully convey their intentions. It is possible that speakers experience a similar illusory transparency of intention—given that they are generally aware of what they themselves intend. As a result, speakers may produce utterances that are more ambiguous than they realize but believe that they are being understood. If this is the case, then the illusory transparency of intention may be a systematic cause of miscommunication.

There are good reasons to expect that speakers avoid such an illusory transparency but there are also some indications that they reveal the same kind of egocentric bias as do readers. Differently from readers, speakers may solicit feedback from their addressees, actively evaluate the addressee's understanding, and adjust their own utterances accordingly. Indeed, there is evidence that speakers accommodate to their addressees (e.g., Giles & Smith, 1979) and that they attempt to adjust their speech following feedback from addressees (e.g., De Smedt & Kempen, 1987; Schegloff, 1987). These studies indicate that a typical conversational setting allows speakers to use strategies that preempt such an illusory transparency of intention.

On the other hand, there is evidence to suggest that speakers may exhibit an egocentric perspective: Schober (1993) reports that speakers who give instructions (i.e., directors) in a referential communication task tend to be more "egocentric" when they give instructions to a real addressee than to an imaginary one. He showed that directors of real addressees tend to use deictic expressions that reflect their own spatial perspective. Newton's (1990) findings that subjects grossly overestimated others recognition rate of familiar tunes they finger tap may suggest a similar conclusion. By analogy, one may expect speakers to perceive
their own utterances as transparent given that they know the intentions that their utterances are formulated to convey. This suggests that the potential for an illusory transparency exists for speakers as well. If this is true, it doesn’t necessarily mean that speakers actually exhibit such an illusion, but at least that it is one of the systematic problems that the production and comprehension systems must resolve. It is possible, then, that the illusory transparency of intention is as common among speakers as it is among readers.

CONCLUSION

A written dialogue requires that readers take the perspective of interlocutors in order to make sense of text. Such perspective taking is sensitive to readers’ own privileged information and therefore affected by their perspective. Readers do not disregard their own interpretation of the speaker’s utterance: The very fact that they have information about the speaker’s intention makes them more likely to believe that the intention would be perceived by the addressee. Having privileged information that bears on the intention of the speaker, readers take the intention to be relatively transparent and systematically underestimate the ambiguity of utterances. Because the normal functioning of the interpretive system gives prominence to intention-relevant information, it gives rise to an illusory transparency of intention.

APPENDIX

Items from Experiments 3 and 4: Each scenario appears in its Spoken/Negative Information version. The negative event information is underlined, and the modality information is italicized (items in the experiment itself were neither underlined nor italicized.) In the Positive Information condition, the Positive Event information replaced the underlined section, and in the Written condition the Written Modality information replace the italicized information. A and B are the alternative predicted reactions that subjects chose from in Experiment 3. For expository purposes, A is always a sarcasm-consistent reaction and B is the sincere-consistent reaction. In the actual experiment the order was counterbalanced. Experiments 1 and 2 had similar, but not identical, items.

1. David needs some cash for a high school dance. He decides to baby-sit the dog of his best friend and neighbor, Nick, for a long weekend. As Nick gives David instructions he adds, “Damian is a wonderful dog. He’ll be great company for you.” David loves animals and all weekend long he exhausts himself trying every trick he knows to play with Damian,
but Damian is unresponsive, preferring to sleep or play with his chew toys alone. When Nick returns to the house, he asks David how Damian behaved. David responds, “Wonderful dog. And he’s such great company.”

Positive Event:

David has a lot of work to do this weekend and is glad that Damian is happy sleeping or playing with his chew toys alone.

Written Modality:

—Since he has to leave for an appointment an hour before Nick is due back, David leaves him a note to which he adds,

Predicted Reaction:

A. Nick appears confused and says, “That’s odd. Damian is usually much friendlier.”

B. Nick rewards Damian for being such a good companion for David over the weekend.

2. Before David knew it, his first college summer has passed, and the day to choose his sophomore classes had come. Nick, now a freshman in the same college, is curious about one of the professors. He decides to write David a note which asks, “How is Jones as a professor? Is he a nice guy?” As it turns out, David knows the professor well because he had taken his class. However, he hadn’t gotten along with the professor because the prof. had been rude to him. With that in mind, he immediately responds by knocking on Nick’s door and telling him, “Oh yeah, Professor Jones is a real nice guy.”

Positive Event:

David had taken this professor’s class the previous year and had gotten along with him very well.

Written Modality:

—writing back,

Predicted Reaction:

A. Following David’s advice, Nick decides not to register for the professor’s class.

B. Following David’s advice, Nick registers for the professor’s class.

3. During spring quarter of David’s junior year, Nick moves in with him. Since their respective schedules vary a great deal, they don’t see each other very often. When David wakes up in the morning, Nick is already in class. David is in charge of paying the phone bills, but Nick, worrying that David would forget, leaves him numerous notes reminding him to pay the bill. Since David plans to pay the bill the day it is due, seeing yet another note from Nick irritates him. When he returns home,
David tells Nick, "Gosh, thanks ever-so-much for reminding me to mail the telephone bill."

Positive Event:
Although David has been planning to pay the bill the day it’s due, he almost forgets to take it with him on the morning of the due date. What reminds him is seeing yet another note from Nick on his way out the door.

Written Modality:
—David leaves a note for Nick saying,

Predicted Reaction:
A. Nick feels bad about not having more faith in David and decides to stop leaving reminders for him.
B. Thinking that David appreciates the notes, Nick continues to leave them for him.

4. Now an active senior, David is in the dorm lounge practicing a monologue for his first college play. Nick occasionally looks up from reading a magazine and eventually asks, "Do you want my opinion on that?" Since David is not feeling secure or objective about his own judgment in this case and he wants some help, he says, "No, I was just talking to hear myself."

Positive Event:
Since David is confident that he can judge his own performance objectively.

Written Modality:
—leaves the room when he is finished. David continues practicing and then leaves for rehearsal. When David returns he finds a note from Nick asking,
—writes back,

Predicted Reaction:
A. The next time Nick sees David, Nick gives him some constructive criticism and helpful suggestions for improvement.
B. Nick decides to keep his opinion to himself.

5. Three weeks after David joins an intramural basketball team, Scott, a freshman from another dorm, decides to join as well. Since Scott is eager to make new friends, he offers to help David by picking up a package for him. Later that afternoon while Scott is delivering the package at David’s dormitory, he notices that David’s next door neighbor is moving out to go overseas. On his way out, Scott leaves a note asking, "Did you know your neighbor is leaving?" When David returns, he reads the note and thinks about his neighbor’s inconsiderate friends and his tendency to
blast his stereo at all hours of the morning. He calls Scott and leaves a message on his answering machine saying, "Thanks for delivering the package. And about my neighbor—I'm really sorry to see him go. Anyway, I guess I'll see you at practice tomorrow."

Positive Event:
cool friends and his genuine concern for others.

Written Modality:
—At practice the next day, David notices that Scott isn't there. He leaves a note on Scott's locker saying,

Predicted Reaction:
A. At their next practice Scott asks, "Why are you glad your neighbor is leaving? Was he a jerk?"

B. After listening to the message, Scott decides to call David back to cheer him up.

6. David and Nick are supposed to finish a report for a class presentation on Friday. Since Nick also has a history exam that day, he completes his share of the project Thursday morning so he can spend the rest of the day in the library. Nick leaves his notes and a few graphs on David's desk with a message saying all David has to do is put the report together. However, David can't figure out Nick's organizational system, and ends up spending three hours "putting it together." On the way to class the next morning, Nick says to David, "Hope it wasn't too much for you." David replies, "Oh, it was nothing. I just put it together."

Positive Event:
David has no trouble figuring out Nick's organizational system and finishes it quickly.

Written Modality:
—The next morning, Nick leaves early to work on a computer program, for which only the campus computer lab has the necessary software. On his way out, he leaves a note for David saying,

Predicted Reaction:
A. Nick asks, "What do you mean? Weren't my instructions clear enough?"

B. Nick says, "Good, because I felt guilty about not being there to help finish it off."

7. After David graduates and Nick finishes his junior year, they decide to move into an apartment. While David is on a 2-week vacation before the start of his new job, Nick tries to pleasantly surprise him by redeco-
rating. He takes a bunch of bean bags and plants and changes the style of the living room. When David comes back, he thinks the place is a disastrous attempt to be stylish and says, "I never knew our place could be like this."

Positive Event:

is very pleased with the new style.

Written Modality:

—Since Nick is already asleep, David writes him a note to let him know he's back. At the end David adds,

Predicted Reaction:

A. Later that evening, Nick asks, "What's wrong with it?"
B. Nick is very pleased and decides not to change a thing.

8. After months of hard work, David receives a promotion. With his new found wealth, he feels he should try to be a bit more cultured. One afternoon, he asks a new secretary to recommend a theater production since his parents are in town from New York. She tells him, "A new play just opened last night; there are no reviews out yet since it's a small production, but I thought it was marvelous. Let me know if you enjoy it." That evening, David and his parents go to the play. They find it to be very unimpressive and think the actors are terrible. The next morning, David tells the secretary, "You wanted to know about the play? Well, it was marvelous, just marvelous."

Positive Event:

They find it to be very impressive and think the actors are terrific.

Written Modality:

—the new secretary isn't in the office so David leaves her a note saying,

Predicted Reaction:

A. The next time the secretary sees David, she says, "We must have very different tastes. What didn't you like about the play?"
B. The next time the secretary sees David, she says, "I'm glad you enjoyed it. The butler scene was my favorite!"

9. On his first weekday off, David decides to go shopping. While walking downtown, he is stopped by a man holding a clipboard. The man says he is a research assistant, working for a college psychologist who is studying people's responses to surveys. He asks David to take a minute and answer the question, "How do you like participating in surveys?" He was asked to give his answer into a tape recorder. The research assistant
assures him that the response is confidential and will only be heard by the psychologist. David, remembering his college days and how irritating it had been to participate in surveys for the psych. class he had taken, responds “Life would be absolutely grand if I could participate in every survey.”

Positive Event: 

fun

Written Modality:
—He was asked to write his answer on a form provided by the research assistant,
—read
—writes,

Predicted Reaction:
A. The psychologist thinks to himself, “Great—another comedian.”
B. The psychologist thinks to himself, “Finally—someone who can see the importance of surveys like this one.”

10. A few months later, Nick graduates and begins working with David in the same company. One day, while David is trying to decide where to go for lunch, Nick urges him to go to the Grand Opening of Chef Rob’s Place. Nick would have gone too, but he had made other plans weeks ago. Nick says, “You’ll love him. He’s the best chef from my grandparent’s hometown. I heard that Rob moved to the city because his business is expanding.” Following his advice, David goes to the restaurant, but hates the place. When he returns to work, David tells Nick, “Oh, and about the restaurant, I just love small town chefs.”

Positive Event:

and loves the place

Written Modality:
—David leaves a note on Nick’s desk saying,

Predicted Reaction:
A. Nick asks, “What didn’t you like about the restaurant?”
B. Nick says, “Would you like to eat there again this weekend? I can’t wait to try his new recipe for lasagna.”

11. This company where David and Nick work is expanding and begins relocating some employees. Nick is reassigned to the new Arizona branch. When David hears about the move, he thinks about how much he hates hot places and how inconvenient it would be to move to a new place. He says to Nick, “Tough break. It must be a pain to have to move to Arizona.”
Positive Event:

nice it would be to get a tan and how fun it would be to move to a new
place.

Written Modality:

—leaves a note on Nick’s desk, which says,

Predicted Reaction:

A. Nick finds David and says, “Yeah. I hate packing, and I’m going to
miss all my friends around here.”

B. Nick finds David, grins and says, “Yeah. How could I possibly
enjoy living in such a warm, sunny place?”

12. After weeks of trying to coordinate a meeting with Mr. Hill, a
well-known self-made millionaire, David finally succeeds. Before going to
Mr. Hill’s office, David receives a phone call from Nick, whom he hadn’t
seen in months. Nick wants to come for a visit that afternoon, but David
explains that it won’t work out due to the appointment with Mr. Hill.
David arrives at Mr. Hill’s office promptly and is greeted by the secre-
tary, who says that Mr. Hill is running late, but will be with him shortly.
*An hour and a half later, the secretary tells David, “Mr. Hill has to finish
an important deal. I must cancel your appointment. Do you mind?”*
Thinking of how he could’ve seen his dear friend instead of wasting his
time waiting for Mr. Hill, *David replies, “Mind? Of course not.”*

Positive Event:

Realizing that there is still time to have lunch with Nick,

Written Modality:

—An hour and a half later, the secretary has a messenger deliver a note
to David, which says,
—David writes back,

Predicted Reaction:

A. The secretary is annoyed with David and doesn’t ask him to re-
schedule the appointment.

B. The secretary sends for David and says, “Thank you for being so
understanding. When would you like to reschedule your appointment?”

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