Beyond Sarcasm: Intonation and Context as Relational Cues in Children's Recognition of Irony

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1. Irony in Context: Developmentally and Theoretically

For more than twenty years researchers have been trying to determine when children begin to understand irony. But we still don't have a clear answer. While some argue that irony comprehension emerges in early adolescence, (Demorest et al., 1983; Demorest et al., 1984) others find evidence of comprehension in middle childhood (Ackerman, 1986; Capelli, Nakagawa & Madden, 1990; Winner, 1988) or even earlier (Dews et al., 1996; de Groot et al., 1995; Keenan & Quigley, 1999; Ackerman, 1983).

Some of this confusion appears to be attributable to differences in the materials and procedures used (Creusere, 1999). Irony is a gradient phenomenon, ranging from subtle to crass, depending in part on the strength of the contextual cues available to infer the speaker's intent. Older children can apparently detect more subtle forms of irony and can succeed in tasks with substantial memory components. While younger children perform worse than adults, it is clear that they are not categorically incapable of understanding all aspects of irony. Their imperfect performance is often thought of as a bias to interpret statements literally (Demorest et al., 1984; Andrews et al., 1986; Ackerman, 1983; Ackerman, 1986; Winner, 1988). This results in a tendency to interpret a blatantly false statement as a lie or an error (Demorest et al., 1984; Sullivan et al., 1995). The child's increasing ability to interpret irony has been attributed both to concomitant changes in the child's theory of mind (Sullivan et al., 1995; Winner & Leekam, 1991; Happe, 1993) and to a growing knowledge of conventional norms (Ackerman, 1983; de Groot et al., 1995).

But differences in cue strength and task difficulty alone cannot account for lack of consensus on when children begin to understand irony. A crucial reason for this disagreement is that the question itself is ambiguous. Some experimenters are interested in the child's ability to determine the speaker's attitude. Typically, this is operationally defined as the ability to label utterances as "nice" or "mean". Other researchers ask their subjects to determine the speaker's intended meaning. This ability, the comprehension or construal of ironic statements, begins to appear around age 6 (see e.g., Keenan & Quigley, 1999). The studies that find the latest emergence of irony use tasks involving second-order belief judgments and the ability to distinguish ironic remarks from deception and ignorance. These skills are involved in what we will call the

logical modeling of irony, which is a metalinguistic construct distinct from instances of irony construal (Gibbs & O'Brien, 1991). The distinctions that we are making here can be clarified by examining the literature on adult irony comprehension.

1.1. Modeling Irony and Interpreting Ironic Statements

Figurative language is traditionally conceptualized as language in which what is meant is somehow different from that which is said (Grice, 1975; Searle, 1979). This is contrasted with 'literal' language use where the speaker's intended meaning matches some decontextualized construal of the utterance. Unlike other forms of nonliteral language, such as metaphor, an ironic utterance serves as a comment on the speaker's intentions, thus revealing her attitude towards the topic of the utterance (Winner et al., 1988). Irony differs from deception in that the ironist intends for the hearer to reconstruct his attitude from the ironic utterance.

Modeling irony in this way involves the attribution of second-order mental states and reference to the literal meaning of the utterance. It's tempting to take this description as a theory of how listeners comprehend ironic statements. But the above are merely logical distinctions that are needed to talk about irony and are not to be confused with the irony comprehension itself; that is, metalinguistic consciousness is not necessary for irony construal (Gibbs & O'Brien, 1991). Indeed, in some circumstances adults can interpret ironic utterances as quickly as literal utterances, suggesting that real-time processing does not always involve additional stages (Gibbs, 1986)[1]. This illustrates the importance of distinguishing between the logical modeling of irony (and the metalinguistic or ideological categories that are brought to bear by language users in irony comprehension and researchers in discussion of irony) and the process of irony comprehension by individuals (which may, but need not, utilize metalinguistic constructs).

Echoic theories of irony provide an alternative to the conventional account (Sperber & Wilson, 1995; Kreuz & Glucksberg, 1989). These theories hold that an ironic utterance gets its meaning by alluding to implicit expectations or explicit comments. The literal meaning of an ironic statement 'echoes' an expectation which has been violated. That expectation might be based on a cultural norm, the salient attitude of the listener or another participant, or previous discourse. The ironic speaker alludes to this expectation and points out the violation by making a parallel statement in a context where it is unlikely to be literally true. The listener can construe a statement as ironic only when either

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1. Other researchers have found evidence consistent with a processing stage in which the literal meaning is considered and rejected (Giora, 1995; Giora 1998; Dews & Winner, 1997). The existence of this empirical dispute highlights our primary point that the category of irony must be distinguished from the phenomenon of irony comprehension.

a conventional norm or an expressed attitude is sufficiently salient to serve as an "antecedent" for the ironic "echo." Thus, as Kreuz and Glucksberg (1989) show, the less an utterance indexes societal norms or expectations the more explicit its antecedents must be in prior discourse to achieve a similarly robust ironic effect.

The role of echoic information as a cue for ironic construal has been developmentally explored by Keenan and Quigley (1999) who found that echoic ironic utterances are comprehended by children as ironic more than non-echoic ironic utterances. Keenan and Quigley (1999) also importantly show that it is at the intersection of non-veridicality (i.e. context discrepancy with utterance), intonation, and echoic information that irony is most fully comprehended by children.

1.2. The Conflation of Sarcasm and Irony

The study of irony has focused on sarcasm. This is particularly true of the developmental research (Creusere, 1999). In most of this work the critical utterances are assertions with positive literal meanings, negative intended meanings, and clear victims. This has led to a tendency to treat the two terms as interchangeable and forego definitions (Lee & Katz, 1998). But ironic utterances come in many forms--inappropriate questions, over polite requests and understatements (Kumon-Nakamura, Glucksberg & Brown, 1995)--suited to convey varying sentiments (Dews & Winner, 1997).

This focus on sarcasm reflects its availability for metalinguistic analysis—it is culturally salient (as a genre of speech and type of personhood), easily labeled, and offers a clear cut case of a discrepancy between the context and literal meaning (in contrast to hyperbole or understatement). It also appears to be more frequent than many other forms of irony. Dews and Winner's (1997) found that most of the irony used in television programming aimed at either children or adults is sarcasm. The few ironic compliments that are used are typically more subtle and sophisticated, and are targeted at adults. Echoic theories offer a possible explanation for the relative infrequency of ironic compliments (Kreuz & Glucksberg, 1989). Ironic statements can echo either expectations that were raised within the discourse or more general social norms. Since social norms are typically positive (e.g., Boy Scouts should be thrifty, brave, clean and reverent) ironic compliments will usually require an antecedent within the discourse while sarcastic utterances do not.

De Groot et al. (1995) have argued that ironic insults are more easily understood by children than ironic compliments. However, their studies involved the production, imitation, or classification of these different kinds of irony. Thus the question of whether children are equally adept at interpreting ironic compliments is unresolved.

1.3. The Role of Intonation

It has long been noted that ironic statements are frequently spoken with a marked intonation, often termed 'the ironic tone of voice' (Cutler, 1976). Though not necessary for an ironic construal (Gibbs & O'Brien, 1991), intonation's robust correlation with the actual use of irony makes it potentially useful cue for comprehension. Many researchers have explored children's use of intonation for detecting or understanding irony, but results have been contradictory. Several studies have found that six year olds make little use of intonation compared with older children (eight and up) and adults (Ackerman, 1983; Ackerman, 1986; Winner & Leekam, 1991; Sullivan et al. 1995; Ackerman, 1983; Demorest et al. 1984). Winner et al. (1987) found that intonation did not facilitate the ironic comprehension of even eight and ten year olds. In contrast, de Groot et al. (1995), Keenan and Quigley (1999), and Happe (1995) have all found that intonation does facilitate six year olds' irony comprehension. In sum, it is unclear what the role of intonation is and whether it changes over development.

The failure to distinguish between metalinguistic categories (e.g., 'ironic tone of voice') and processing theories has colored much of the work on intonation as a cue in irony comprehension. Many studies essentialize the 'ironic tone of voice' and conflate salient beliefs about irony and intonation (i.e. about sarcasm) with the role of intonation in general (e.g. Capelli et al., 1990; de Groot et al., 1995; Dews et al., 1996; Winner et al., 1987, see Creusere's 1999 discussion). If we look closely at studies that describe the "ironic" or "sarcastic" intonation (many do not and simply presuppose its meaning, e.g. Demorest et al., 1984; Ackerman, 1986; Winner et al., 1987) it is usually a nasal, stressed intonation conveying negative affect. However, there are a multiplicity of 'tones of voice' usable to convey irony, including, for example, a positive tone of voice (Winner, 1988). In sum, just as we cannot conflate irony with its most salient cultural form, sarcasm, we cannot conflate the intonation stereotypically paired with sarcasm with the role of intonation in irony in general. Since all of the developmental studies to date have employed the 'ironic tone of voice' (conveying negative affect) discussed above, we do not know how different kinds of intonation act in the construal of different kinds of irony.

2. Experimental Goals

This study looks at the effect of three variables on the comprehension of irony. First, we explore the effect of the speaker's intonation. Rather than simply presupposing the singularity of the 'ironic tone of voice', we explore the roles of different kinds of intonation. How is intonation used as a cue for meaning construction? Is intonation simply a conventionalized cue used for the detection of non-literal meaning or is it used to get directly to the attitude of the speaker? In this study intonation is manipulated along two *affective* poles: positive vs. negative affect, thus sidestepping the rather unclear construct, the

'ironic tone of voice.' However, note that most studies describe the 'ironic tone of voice' as conveying negative affect, by isolating affect we take a step towards taking apart this notion.

Second, following de Groot et al. (1995) we compare ironic insults (sarcasm) and ironic compliments. There are a number of possible differences between these two forms of irony, which cannot are not teased apart in this study: a) differential frequency in everyday discourse (Dews & Winner, 1997), b) differential conventionality (including differential affinity with cultural stereotypes of irony) (Kreuz & Glucksberg, 1989), c) differential valences of the 'literal' meaning of the ironic utterance (positive vs. negative), and d) the different attitudinal states of the different forms (positive vs. negative). Because they are less frequent and less conventional, we might expect that children would have a harder time with ironic compliments.

Finally, we examine two age groups to look at how comprehension of these forms changes as a function of age. To explore possible categorical problems children may have with irony we chose to use stories whose contextual discrepancy was highly salient and robust, thus decreasing the processing constraints related to context-utterance saliency (Ackerman, 1982) and increasing the chance of children's comprehension of irony (Ackerman, 1983). Ironic utterances were explicitly echoic following Keenan and Quigley (1999). The age group used to compare with adults was six year olds, as this is the time when second-order theory of mind is emerging (Dew & Winner, 1997) and when metalinguistic abilities are emerging (Creusere, 1999; Winner, 1988), as well as the age of most contention.

The primary question is 'when children begin to interpret irony at around age six, what have they learned?' Schematically, we could have two possible theories:

1) Children have heard many sarcastic utterances in their short lives and they have made the narrow generalization that when a person has done badly someone can say something nice but really mean something nasty. Since sarcastic utterances are associated with mean intonation, children may infer that positive comments said in a nasty tone do not mean what they appear to.

2) Children may have made a more abstract generalization from the limited data: when the context is discrepant with the literal meaning, the speaker may mean something different from what they are saying. A child who made a broader generalization might interpret prosody as a direct cue to speaker's intent (positive tone means positive meaning) or in relation to the literal meaning (when the prosody doesn't match the literal meaning, interpret the statement ironically).

3. Method

3.0. Participants and Materials

32 adults (18-21 years old, 11 males, 21 females) from the University of Pennsylvania and 16 children (5;10 to 7;0 inclusive, 7 males, 9 females) were tested. All participants were native English speakers.

16 basic story scenarios were written. All of the characters were children. From the basic story scenario, 4 variants were produced for a total of 64 different story formations. First, the initial speaker in the story was made either to boast or to self-doubt with respect to some expected performance. The actual performance of the bragger/self-doubter was always contrary to the expected performance; thus, the boaster always failed and the self-doubter always succeeded. Secondly, the final utterance produced by a peer was either positive or negative by a 'literal' construal. Story's final utterances were made to be explicitly echoic of a prior utterance. From one story scenario, four story forms were produced: 1) Boast (failure to perform), Positive surface form [ironic insult], 2) Boast (failure to perform), Negative surface form [literal insult], 3) Self-Doubt (successful performance), Negative Surface form [ironic compliment], and 4) Self-Doubt (successful performance), Positive surface form [literal compliment]. The surface polarity of the final utterance either made the final utterance discordant or concordant with the preceding context. Note that with this story construction technique, there are only two base story forms and two final utterances; four stories are produced through their crossing.

These 64 (denotationally distinct) stories were also varied such that the reported speech section of the final utterance was spoken with either a positive (expressing positive affect) or negative intonation (expressing negative affect) for a total of 128 distinct stories. All the materials were recorded by a female actress who was blind to the manipulations and hypotheses. To insure that she remained blind, the story bodies were recorded separately from the final sentences in an order where no two story-bodies were recorded back to back, and the brag and self-doubt variants were mixed. The final utterances were recorded grouped by the type of intonation manipulation. With respect to the intonation, the recording of the final utterances were ordered such that two final sentences from the same story were not contiguous and positive vs. negative valences ('literal meanings') were mixed. The actress was instructed to produce the positive sentences with a positive or friendly tone and to produce negative sentences with a mean or disapproving tone. No reference was made to irony or sarcasm. She was instructed to read the story bodies "as if she was telling a story to a young child". See the appendix for an example of a story with questions.

3.1. Design and Procedure

Intonation (positive vs. negative) and context (concordant or discordant) were manipulated within subjects and story type (boast or self-doubt) was manipulated between subjects. 8 lists containing 16 test stories and a sample

story were created so that each story scenario appeared once in each list and every scenario appeared in each condition across the lists. Context discrepant and context-concordant utterances and intonation were balanced across the list to prevent runs of similar story types. A template was created regarding the ordering of intonation and the context-utterance relationship which was rotated between lists such that each story form was equally represented across the lists at different positions in the lists. A second was generated by reversing each list. Overall, the experiment used a 2 (age) X 2 (context-utterance relationship: concordant vs. discordant) X 2 (intonation: positive vs. negative) X 2 (story type: boast vs. self-doubt) design. All three variables (story type, context, and intonation) were manipulated within items (each story base had 2 X 2 X 2 versions).

This study models its methodology loosely off of Capelli et al. (1990) who first asked an open-ended question to assess irony comprehension (e.g. "Why did X say that?"). The open-ended question provides a forum for subjects to supply an answer unbiased by the question. If subject answered in a way which was confusing, evasive or failed to illustrate their construal of the utterance, they were given a two alternative force choice question (e.g. "Did X mean Y or not Y?"). The first represented the literal construal, while the other the ironic construal. A memory question was also provided to test the child's overall comprehension of the stories, to gauge their attentiveness to the stimuli, and to determine whether subjects were changing the facts of the story to match their construals for ironic items. The questions used to assess irony comprehension only tested whether the subjects understood as the speaker's meaning and did not employ a rigorous set of questions to extract whether children made second-order belief judgments when calculating the speaker meaning (cf. Winner & Leekam, 1991; Andrews et al., 1986). As Creusere (1999) points out, if adults need not and do not perform these operations (though they may be necessary logical distinctions to model irony proper), why expect it of children?

4. Results

Thus, both children and adults comprehended irony more in the ironically motivated stories than in the literally motivated stories. This resulted in a reliable effect of context on interpretation for both adults ($F(1,15) = 599.568$, $p < 0.001$) and children ($F(1,15) = 177.632$, $p < 0.001$). But there was a significant age-context interaction in both the items analysis ($F(1, 15) = 86.147$, $p < 0.001$) and subjects analysis ($F(1,44) = 18.773$, $p < 0.001$). Adults performed better on discrepant context (i.e. ironic) stories than children, 87.11% ironic construal versus 50.78%, and comparably on the concordant context (i.e. literal) stories, 1.56% versus 3.91%.

Both the adults and children performed as well on the ironic compliments as they did on the sarcastic remarks Consequently, there was no effect of story type for adults ($F(1,15) < 1$, $p < 0.7$) or for children ($F(1,15) < 1$, $p < 0.440$) and

no interactions of story-type with context or age. Effects and interactions with intonation will be discussed below.

The children's performance on the ironic statements could be characterized in two very different ways. The effect of context indicates that the children, as a group, are reliably distinguishing between concordant and discordant statements. They interpret discordant statements nonliterally about half of the time but they almost never interpret concordant statements in this way. This suggests that as a group the children have some ability to interpret irony. Alternately, we focus on the fact that children are at chance on the discordant statements and conclude that they have no ability to comprehend the meaning of ironic statements. Much of the apparent divergence in the literature is due to disagreements about which interpretation to take. We prefer the former, both because it recognizes the difference in children performance across condition and because it is consistent with the pattern of performance in individual children.

Children's performance in the discordant conditions appears to be bi-modally distributed suggesting that there two groups within the population (literalists and ironists). In contrast the adult performance is normally distributed around the mean of 96% irony comprehension. 63% of the children are responding in a consistent fashion ($p < .05$, by a binomial test). The adult performance is not more systematic in this respect; only 66% of the adults performed reliably above chance. Unlike the adults, however, the children are split evenly into two groups: a) those who answer consistently literally on the ironic stories, and b) those who answer consistently ironic on the ironic stories (and who answer literally on the literal stories). In sum, there is no evidence that the children are performing "at chance" in the discordant context.

Note that the age differences in irony comprehension are not due to general memory differences. Age is not significant ($F(1,44)=1.935$, $p<0.171$) for predicting memory differences, and children performed just as well on the concordant conditions as the adults (children=98.44% vs. adults=96.48%). However, the children but not adults appeared to occasionally revise their memory of the ironic stories to fit with their (literal) interpretation of the target utterances. Thus, there was a context difference for the memory questions, where children were misremembering the discordant stories more than the concordant stories (98.44 % for the concordant vs. 87.50 % for the discordant contexts), $F(1,44)=5.551$, $p<0.023$. There was no such effect in adults.

Intonation was initially coded as positive or negative, thus testing the notion that there is something inherent to either a positive or negative intonation that marks irony. When coded as such, the intonations are not significantly different from each other (children, $F(1,15)<1$, $p<0.350$; adults, $F(1,30) < 2$, $p<0.196$), nor is there an interaction of context and intonation (children, $F(1,15)=2.032$, $p<0.176$; adults, $F(1,30)<1$, $p<0.963$). However, we do find a significant interaction between context-intonation-story type in the subjects analysis for both children and adults (children, $F(1,14)=5.645$, $p<0.032$, adults, $F(1,30)=6.528$, $p<0.016$). Thus, context and story type are interacting, distinguishing between positive (concordant self-doubt, discordant boast) and

negative (discordant self-doubt, concordant boast) literal meanings of the final utterances, *in tandem with the intonation manipulation*. Since intonation facilitates irony comprehension *relationally*, it can be better conceptualized as concordant or discordant with the literal meaning of the final utterance. That is, this effect can be viewed as a function of the relationship between the 'literal' meaning of the final utterance (which is a function of the story type) and the valence (+/-) of the intonation. Coding intonation as either discordant or concordant with the literal meaning of the final utterance foregrounds the interaction of context, story type, and intonation (+/-). Intonation, when coded this way, in subjects analysis, is significant for children ($F(1,14)=5.645$, $p<0.032$) as well as for adults ($F(1,30)=6.528$, $p<0.016$). The reason for the non-significance in the items analysis is most likely due to variation between the strength and salience of the intonation manipulation of the final utterances.

The differences between the concordant and discordant intonational categories in the discordant context condition are similar for children and adults, 11% and 14% respectively. There was no reliable interaction between age and prosody ($F(1,44)<1$, $p<0.9$). Thus, children and adults appear to be using intonation in the same way to the same degree. However, this apparent similarity is difficult to interpret for two reasons. First, the strength of the context manipulation may introduce of ceiling effect for adults leading us to underestimate their reliance on irony. Second, the effect of intonation should be limited to those subjects who are willing to consider nonliteral construals. Since many of the children are not doing this, we may be underestimating the effect of intonation on the interpretation of those who are.

5. Discussion and Conclusions

We find that by six years of age some children can correctly construe sarcastic utterances and ironic compliments. Even though children performed significantly worse than adults they did comprehend the discordant stories as ironic significantly more than the concordant stories. While children answered the memory questions as well as adults, they were more likely to revise ironic stories retroactively to fit with their literal interpretations. Even when children did not comprehend the irony they often hesitated or initially refused to answer the meaning question, suggesting that they realized that something abnormal was going on (cf. Ackerman, 1983). Thus, though children are not completely literal they are also not as sensitive to irony or as adept at inference as adults.

Our finding that ironic compliments and sarcasm were understood equally well contrasts with results of de Groot and colleagues (1995). This difference could be due to differences in the stories or the tasks. Our context manipulation was strong, leaving no ambiguity about the truth of the target utterance. According to echoic models of irony, positive statements are more easily construed as ironic only because social norms are generally positive. We provided predictions that could serve as antecedents for the ironic statement, eliminating the need to search for a negative social norm to interpret the ironic

compliments. Additionally, children were not asked to model or produce the final ironic utterance *contra* de Groot et al. (1995), but were simply asked questions based on the stories.

Alternately, our findings may reflect the un-socialized baseline for irony comprehension of children. Thus, because their irony comprehension may not be based upon metalinguistic classifications of language use ("sarcastic" vs. "literal") they may not make the distinction between ironic insults and ironic compliments, which in of themselves do not differ in any in principled linguistic way. Indeed, only one child subject typified the ironic stories as "sarcastic" in this answers while a majority of the adults did. Clearly this pattern of performance suggest that children who are just beginning to comprehend the speaker's meaning have already formed a strategy for interpretation that works equally well for ironic insults and ironic compliments. We see no sign that children make a narrow generalization based on a corpus made up mostly of sarcasm. Thus irony comprehension in children cannot be simply reduced to a matter of convention or frequency of specific types of irony (in our case ironic insults vs. compliments). It clearly involves the development of a more general skill. Determining just how broad this initial generalization is and degree to which it is linked to other changes is a challenge for future research.

Adults and children used intonation in the same way and to the degree. Though the effect was modest, showing that both children and adults mainly relied upon context discrepancy to calculate the ironic meaning, intonation did facilitate ironic comprehension in an interesting way. Our results confirmed the dangers of reifying intonation, *a priori,* as non-relational cue, independent of its context of use. While these results cannot disprove the existence of an absolute cue *per se* (e.g. the nebulous notion of 'the ironic tone of voice'), we did show that intonation can act as a relational cue. The import of this, of course, is that now instead of asking the typical question 'does intonation affect irony comprehension?' the relevant question is 'what *kinds* of intonations in what *kinds* of contextual relationships affect (or do not affect) irony comprehension?'. Interestingly, children performed as well as adults in their use of intonation. Thus, even at the age of six children are using intonation relationally, integrating and comparing multiple modalities of linguistic input to calculate meaning.

We can interpret the relational effect of intonation in two ways which are not completely separable: a) as a function of concordance or discordance with the 'literal' meaning of the final utterance, b) as a cue that directly links up with the speaker's attitude state when a non-literal interpretation is motivated (that is, this effect only occurred in the discordant context situation minimally arguing against concordance with speaker attitude as the main contribution of intonation). Thus, we haven't definitively distinguished between: 1) a theory where prosody is judged in relation to the literal meaning; and 2) a theory where prosody is a direct cue to speaker's meaning in a contextually contingent scenario. But we have ruled out a third theory, implicit in the literature, where prosodic cues only play a role by signaling irony ('the ironic tone of voice'). It is impossible to tease the other possibilities apart in this study since every

discordant relation between the literal meaning of the final utterance and the intonation is simultaneously a relation of concordance between the speaker meaning (as ironic) and the intonation, and because literal meaning need not be apprehended for non-literal meaning to be understood.

To empirically approach a complicated issue like irony is necessary to distinguish between cognitive processes and metalinguistic or ideological phenomena. The results regarding intonation showed that we must distinguish between cultural ideologies about irony/language and cues used in actual instances of comprehending irony. This is not to say that such ideologies or metalinguistic knowledge are unimportant, for to be sure they are. This, in fact, seems to be one primary difference between adults and children. However, given that this metalinguistic knowledge need not be involved in every instance of irony comprehension or in the same way across instances, they two types of phenomena must be distinguished. Both are crucial for understanding the social life of irony and irony in social life.

Appendix

Boast Story Type: Jim had a big soccer game on Saturday. He was really, really confident that he was going to play well. He thought he was very good, and he said to his teammate Bobby, "I am going to be a really big help to the team today." On Saturday though, Jim played terribly, and the team lost. After the game Bobby said to Jim,
Discordant statement: "You really were a big help to the team today."
Concordant statement: "You really didn't help the team today."

Self-Doubt Story Type: Jim had a big soccer game on Saturday. He was really, really worried about whether he was going to be play well. He didn't think that he was very good, and he said to his teammate Bobby, "I really won't be any help to the team today." On Saturday though, Jim played great and scored the winning goal. After the game Bobby said to Jim,
Discordant statement: "You really didn't help the team today."
Concordant statement: "You really were a big help to the team today."

1st speaker-meaning question: "Why did he say that?"
2nd speaker-meaning question: "Did he mean that Jim helped the team or didn't help the team?"
Memory Question: "Did the team win?"

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