

Readers' Experiences of Characters' Goals and Actions

Giovanna Egidi and Richard J. Gerrig
Stony Brook University

In this article, the authors examined readers' sensitivity to the match between characters' goals and characters' actions. In Experiment 1, readers integrated actions consistent with characters' goals more easily when there was a match between the extremeness of the actions and the urgency of the goals. In Experiments 2 and 3, characters' actions were consistent with either explicit or implicit goals. Participants showed different sensitivity to the mismatch between actions and urgent goals when they simply read the actions (Experiment 2) versus when they judged the likelihood of the actions (Experiment 3). Taken together, these results offer an account of how readers experience actions and goals when engaged in both local and global processing.

Keywords: reading comprehension, inference, goals, narrative, actions

Consider the following passage from T. Coraghessan Boyle's (1990) novel, *East Is East*:

When [Ruth] left for the day . . . [Hiro] stole out of the bushes, snatched the bucket on the run and careened back to his hiding place, the fish-paste sandwich—was that tuna?—already in his mouth. After he'd eaten it, after he'd licked clean the wrapping paper and probed the crevices of the box for the last hidden crumbs, he felt tainted and polluted, like the alcoholic who succumbs to the temptation to take the first forbidden drink. (p. 98)

Given only this brief passage, it seems likely that readers would infer that Hiro's goal—the goal to assuage his hunger—is rather urgent. In fact, had Hiro eaten quite recently, readers would likely find it difficult to understand why he acts in such an extreme fashion.

In this article, we argue that readers are attentive to the fit between characters' actions and their goals. In particular, we suggest that readers are sensitive to the match between how important goals are to characters and the means they take to accomplish those goals. Research on text comprehension has emphasized the crucial role that goals play in readers' construction of narrative representations. Because goals provide reasons for characters' actions, they allow readers to link actions with earlier parts of the text, thus forming coherent causal networks (Trabasso & Sperry, 1985; Trabasso & Van den Broek, 1985; Trabasso, Van den Broek, & Suh, 1989). Talk-aloud protocols have shown that when readers explain characters' actions, they invoke characters' goals; when recalling stories that contain goal–action causal chains, readers are more likely to remember details linked to those

causal chains (Trabasso & Suh, 1993; Wolfe, Magliano, & Larsen, 2005).

Because readers attend so closely to characters' goals, they find it relatively difficult to integrate actions that are inconsistent with those goals. Consider a story that begins by saying that Dick wished to vacation at a place “where he could swim and sunbathe” (Huitema, Dopkins, Klin, & Myers, 1993, p. 1054). Participants in an experiment read a statement of a consistent action (i.e., “He went to his local travel agent and asked for a plane ticket to Florida”) significantly more quickly than they did a statement of an inconsistent action (i.e., “He went to his local travel agent and asked for a plane ticket to Alaska”). A similar consistency effect emerged even when the goal was conveyed implicitly (e.g., “[Dick] had always been a real sun-worshipper”; Poynor & Morris, 2003, p. 9).

Our research takes as its starting point these results that strongly suggest that readers attend to the ways in which actions match particular goals. We suggest, however, that what has been largely missing from these studies is an analysis of differences among the intensities of goals and actions. In most accounts, all goals and actions are created equal. However, as we illustrated with the passage from *East Is East*, actions can be more or less extreme—and more or less extreme actions appear to project more or less urgent goals. When readers encounter an action in a narrative context, they might infer the sorts of goals that are likely causes of that action. We suggested, for example, that readers of the passage from *East Is East* would likely infer that Hiro was (very) hungry. If the text had previously stated or implied that Hiro was sated, readers should experience a mismatch between the goal inferred from the action and the goal indicated by the text. We would expect, as prior research has demonstrated, that readers would take extra effort to reconcile the inconsistency.

The initial purpose of our project was to demonstrate that readers are, in fact, sensitive to more subtle relationships between goals and actions. To demonstrate such sensitivity, we wrote brief texts that varied the extremity of characters' actions. Consider these two short passages from our first experiment:

Giovanna Egidi and Richard J. Gerrig, Department of Psychology, Stony Brook University.

This material is based on work supported by National Science Foundation Grants 0082602 and 9631040. We thank Uri Hasson and David Rapp for their helpful comments on this article.

Correspondence concerning this article should be addressed to Giovanna Egidi, Department of Psychology, Stony Brook University, Stony Brook, NY 11794-2500. E-mail: gegidi@ic.sunysb.edu

(a) Nell sprang out of the room and down the stairs. She forced her way out through the crowd in the hall.

(b) Nell printed a file and shut down the PC. She put her coat on, turned off the light, and left.

Both actions (a) and (b) suggest that Nell's goal is to leave the building. However, in the former case, Nell's dramatic behavior suggests that she has an urgent reason for her goal, whereas in the latter case, Nell's ordinary actions suggest that she has a more mundane motivation. Consider the following goal contexts for Nell's actions:

(c) Nell was sitting in her office in San Francisco. All of a sudden, the whole building started to shake. Nell heard someone shouting "Earthquake!" and got scared. She heard people screaming and running.

(d) Nell was sitting in her office in San Francisco. The workday was almost over and she was tired. The clock on the wall chimed 5:00. Nell still had some work to finish, but it could wait.

The urgent action (a) seems better suited to Nell's goal to leave the building to survive the earthquake (c); the ordinary action (b) seems better suited to Nell's goal to leave the building to be done for the day (d).

Our initial experiment focused directly on the question of readers' sensitivity to the match between characters' actions and the goals that precede those actions. In that experiment, all the characters' actions were consistent with their goals (i.e., accomplished the goals); we only varied the match between the extremity of those actions as a function of the goals. In Experiments 2 and 3, we turned to situations in which actions did or did not accomplish goals in circumstances of goal conflict. In those experiments, we maintained a focus on goal urgency. However, we added a second implicit goal so that readers could experience actions that were either consistent or inconsistent with goals that varied in their

urgency. That pair of experiments examined the extent to which the span of readers' focus—on the immediate temporal flow of the story or on more global issues—affects the relative saliency of urgent goals.

Experiment 1

The purpose of the first experiment was to assess whether readers are responsive to the match between the urgency of characters' goals and the means characters take to achieve those goals. Participants read stories that began with sentences that established goals of either mild or urgent importance to the characters. Later in the stories, the characters carried out actions that were mild or extreme in their intensity. We predicted that readers would find it easier to understand stories that provided a match between actions and goals. To assess this prediction, we measured participants' reading times for the sentences that stated the characters' actions. We expected participants to produce longer reading times for mismatches.

Method

Participants. Twenty undergraduate students from Stony Brook University participated in this experiment for course credit. They were all native speakers of English.

Materials. We used 24 stories, each with eight sentences. The first four sentences provided motivation to make a goal of mild or urgent importance for the character. The next sentence explicitly stated the character's goal. The next two sentences stated actions that accomplished the goal either in a mild or in an extreme fashion. All action sentences had either 10 or 11 syllables. Overall, the mild and extreme actions had the same number of syllables. Finally, the last sentence was consistent with the earlier goal and the actions. Table 1 provides sample stories.

To develop the stories, we began with 30 goal statements. For each statement, we wrote motivation sentences that made the goals either mildly

Table 1
Two Examples of Stories Used in Experiment 1

Variable	Example 1	Example 2
Mild motivation	Farah had to move her stuff from Indiana to Arizona. She drove to Arizona in a truck with a friend. Days were warm and their throats were often dry. Once, in a small village, Farah felt that she was thirsty.	Dan has been working at the computer for a few hours. His hands are tired from typing. His eyes are strained from looking at the monitor. It's about time for a break and some fresh air.
Urgent motivation	Farah went on a solo expedition to the Sahara desert. Crossing the desert took her longer than she thought. She finished her water early and became thirsty and dehydrated. When she reached the first village, Farah was hardly able to walk.	Dan is working at the computer, when he smells smoke. The fire alarm and carbon monoxide detector begin to sound. Thick smoke fills the room. Breathing has become very difficult.
Goal	She wanted to drink something.	Dan wants to get outside.
Mild action	At a booth, she checked the soda selection. She argued over the price and bought a Coke.	He walks slowly downstairs into the kitchen. He pats the cat and heads to the back door.
Extreme action	She spotted an oily puddle on the ground. She ran to it and threw her head to it.	Rushing down the stairs he knocks over a chair. He grabs the cat and kicks the screen door open.
Final sentence	She drank and immediately felt better.	Outside, he is glad to have some fresh air.
Comprehension question	Farah needed to eat.	Dan goes downstairs.

or urgently important to the characters. We also wrote action sentences that described the characters as fulfilling the goal in a mild or extreme fashion. We normed both goal motivations and actions to ensure that our manipulations were successful.

To norm motivations, we asked 30 native English speaking undergraduates to read one of two questionnaires that contained 15 mild and 15 urgent goal motivations. The mild and urgent versions of each motivation were counterbalanced across the questionnaires. Participants answered questions with the frame, "How important is it to X that s/he achieves Y?" (e.g., "How important is it to Nell that she leaves the building?"). Participants provided ratings on a scale ranging from 1 (*not important at all*) to 9 (*extremely important*). On the basis of participants' ratings, we selected 24 pairs of motivations that differed by at least 3.5 points between the mild and urgent versions. The mean ratings were 4.22 and 7.98 for the mild and the urgent versions, respectively. The difference between these means was reliable in both subject (t_1) and item (t_2) analyses, $t_1(59) = -17.03$, $p < .001$; $t_2(47) = -15.10$, $p < .001$.

To norm actions, we asked 30 native English speakers to read one of two questionnaires that contained 15 mild and 15 extreme actions. The mild and extreme versions of the actions were counterbalanced across the questionnaires. Participants answered questions with the frame, "How extreme is X's action for achieving Y?" (e.g., "How extreme is Nell's action for leaving the building?"). Participants again provided ratings on a scale ranging from 1 (*not extreme at all*) to 9 (*very extreme*). We selected 24 pairs of actions that differed by at least 3.5 points between the mild and extreme versions. The mean ratings were 2.94 and 6.85 for the mild and extreme versions, respectively. The difference between these means was reliable, $t_1(59) = -12.55$, $p < .001$; $t_2(47) = -11.23$, $p < .001$. These normings resulted in the construction of stories that independently varied in the urgency of the goals and the extremeness of the actions.

We also used five practice stories and 24 filler stories that were similar in length and structure to the experimental ones. Most of the filler stories did not contain an explicitly stated goal. When they did, the goals did not appear at the same point of the story at which they appeared in the experimental stories. In addition, most of these stories did not contain extreme actions. The filler stories' function was to disguise the experiment's purpose and to allow counterbalancing.

Finally, for each story, we wrote a comprehension statement that was presented after participants finished reading the story (e.g., "Nell worked in a firm in Los Angeles"). For both experimental and filler stories, the correct answers to these statements were half "yes" and half "no" so that the experiment had an equal number of correct yes and no responses.

Design. Each story appeared in four versions. Goals were either of mild or urgent importance to the characters; actions were either mild or extreme. We used a Latin square to assign the four versions of each story to four different lists in a counterbalanced fashion.

Apparatus and procedure. We distributed the lists of stories into four experimental files. We conducted the experiment on two personal computers that recorded reading times and agreement responses. The sentences were displayed in the center of the screen in standard uppercase and lowercase type. Participants were seated in front of a color monitor with their hands resting on the keyboard. They began by reading the five practice stories. At the end of this practice session, the software notified the participants that this part was finished and that the experimental session was about to begin.

Participants read the stories line by line on the screen. They pressed a key marked "NEXT" to advance the lines and continue reading. At the end of each story, participants heard a warning sound from the computer and saw a prompt—"Is the following statement true?"—followed by the comprehension sentence. If they thought that the sentence was true, participants pressed the key marked as "YES". If they thought it was not true, they pressed the key marked as "NO." After participants gave their response, they received feedback (i.e., "Good!" or "Incorrect"). Then they saw a screen saying, "Think of a title for the story and write it down . . . now,"

and they wrote on paper a title for the story they had just read. We asked participants to write titles to ensure that they were reading attentively. Because both the answers to the comprehension questions and the titles were not relevant to the purposes of the study, we do not report them. Finally, participants saw a screen reading "Press the spacebar for the next story."

We asked participants to read the stories carefully and to answer the questions as quickly as they could while still being accurate. We asked them to keep their hands on the keyboard with their fingers on the YES and NO keys throughout the entire experiment so that they were always ready to respond.

Results and Discussion

We measured reading times for the two action sentences in each story. For both sentences, we removed responses in which participants' fingers slipped and hit the wrong key as well as responses deviating by more than three standard deviations from the group mean. This procedure resulted in a loss of 1.67% of the data for the first action sentence and 2.71% for the second action sentence.

We predicted that participants would produce the longest reading times when the characters' actions mismatched their goals. As shown in Table 2, the data accorded with our predictions for both actions sentences. To assess the reliability of this finding, we carried out analyses with both participants (F_1) and items (F_2) as random variables. These analyses showed that the interaction was reliable for the first action sentence but that it was attenuated for the second sentence: First action sentence, $F_1(1, 16) = 11.20$, $MSE = 455,657$, $p < .05$; $F_2(1, 20) = 5.42$, $MSE = 507,547$, $p < .05$; second action sentence, $F_1(1, 16) = 8.02$, $MSE = 318,282$, $p < .05$; $F_2(1, 20) = 3.65$, $MSE = 429,698$, $p = .071$.

With respect to the First action sentence, Table 2 demonstrates that participants experienced the greatest relative difficulty when an extreme action followed a mild goal (versus an urgent goal). Simple effect analyses confirmed that this 202-ms difference was significant, $F_1(1, 16) = 5.63$, $MSE = 454,855$, $p < .05$; $F_2(1, 20) = 8.83$, $MSE = 567,337$, $p < .05$. By contrast, the 67-ms difference for mild actions following a mild goal (versus an urgent goal) was not significant (both F s < 1.30). No other difference was reliable.

Reading times for the second action sentence indicated that participants found it relatively more difficult to reconcile a mild action with an urgent goal than with a mild goal. Simple effect analyses confirmed that this 225-ms difference was statistically reliable, $F_1(1, 16) = 7.27$, $MSE = 496,353$, $p < .05$; $F_2(1, 20) = 7.29$, $MSE = 707,531$, $p < .05$. However, the 22-ms difference for extreme actions following a mild goal (versus an urgent goal) was

Table 2
Results of Experiment 1: Participants' Reading Times (in Milliseconds) for the Actions and the Final Sentence

Variable	First action			Second action		
	Mild goal	Urgent goal	<i>M</i>	Mild goal	Urgent goal	<i>M</i>
Mild action	2,129	2,196	2,162	1,919	2,144	2,031
Extreme action	2,206	2,004	2,105	2,048	2,026	2,037
<i>M</i>	2,168	2,100		1,983	2,085	

not significant (both $F_s < 1.00$). No other difference was reliable. We found no main effects of goal urgency ($F_s < 2.80$) or type of action ($F_s < 1.00$) for either action sentence.

We speculate that readers' different sensitivity to the mismatch of extreme and mild actions in the first and second sentence reflects their different levels of familiarity with these two types of actions. In general, extreme actions are less usual than mild ones (Kahneman & Tversky, 1982). As a consequence, extreme actions might appear immediately and easily inappropriate for mild goals. They might require additional processing when readers initially encounter the mismatch of the actions with the goals but not necessarily later on. Mild actions, instead, being more usual, might at first appear appropriate for a wider number of situations and might at first seem suitable to accomplish goals with a wider range of motivation strengths. Therefore, readers might take some time to detect the inappropriateness of those mild actions for extreme goals. As a consequence, readers might engage in additional processing at a later stage than for extreme actions.

This first experiment supported the prediction that readers are sensitive to the match between characters' actions and the goals to which characters presumably intended those actions to be relevant. However, in this experiment, all the actions were relevant for the achievement of the goals. In Experiments 2 and 3, we turn to circumstances in which characters' actions either accomplish that goal or an alternative implicit one.

Experiment 2

As we noted in the introduction, one way in which cognitive psychologists have demonstrated the importance of goals is to show that readers are sensitive to circumstances in which characters' actions contradict their goals (Huitema et al., 1993; Poynor & Morris, 2003). In those studies, the inconsistent actions were actions that did not aim at the achievement of the goal. In our first experiment, both the mild and extreme actions achieved the goal. Therefore, we designed Experiment 2 to test whether the urgency of a goal affects readers' integration process of an action that does not accomplish the goal.

Our stories departed somewhat from past studies that have provided readers with circumstances in which actions contradicted goals. Consider this story:

John was having a great time traveling across the country. He had agreed to meeting a couple of friends in Mexico in 2 hr. He still had more than 150 miles to cover. He wanted to cross the border.

Suppose the story ends with this action:

John stretched on the front seat and dozed off.

In keeping with past research, we would predict that readers would find it difficult to assimilate this action because it contradicts John's goal. However, we also wonder how readers could produce a coherent representation of the text—the text does not make sense. For that reason, we wrote sentences that we intended to provide the characters with secondary, implicit goals (Poynor & Morris, 2003). For John, the story included the sentence, "When he stopped to buy gas, he realized that he was tired." In this context, readers can understand why John might doze off in his front seat.

Now suppose that John needs to cross the border for some reason more important than meeting his friends:

John had been in desperate need of money. He robbed a Starbucks and was driving away from the city. He thought that if he could make it to Mexico before noon, the police would not get him. He wanted to cross the border. When he stopped to buy gas, he realized that he was tired.

This story can end in one of two ways:

John released the hand break and went on.

John stretched on the front seat and dozed off.

Readers now have a context for either action. However, how easy should they find it to assimilate the information that John chose to take a nap if what he really needs to do is to cross the border?

Researchers have previously considered circumstances in which narratives provide characters with multiple goals. That research has yielded the very general finding that readers are attentive to the most recently mentioned goal in a text—the goal that has been established nearest to the reader's current focus. This result emerges from two different theoretical frameworks. Within the explanation-based framework, readers give special attention to the most recent goal to make sense of the sentences that follow until the goal is achieved (Magliano & Radvansky, 2001; Suh & Trabasso, 1993; Trabasso & Wiley, 2005). Within the memory-based framework, the relative shift in the accessibility of goal information occurs as a function of ordinary memory processes (Gerrig & O'Brien, 2005; McKoon & Ratcliff, 1992; Myers, O'Brien, Albrecht, & Mason, 1994). A distal goal becomes less accessible because it is displaced from working memory by local goal information.

Both of these theories suggest that local goals will be more prominent in readers' narrative experiences. Thus, we might expect that readers would find it equally easy to integrate the characters' actions with the local, secondary goal irrespective of the urgency of the distal, primary goal. For example, in the case of John's story, narrative processing theories predict that readers should take less time in reading that John dozes off than that John drives on. This should happen irrespective of whether John is driving to the border to meet friends or to escape police capture. Thus, by varying the urgency of the distal goal, we can further assess the generality of this finding that local goals matter most.

For this experiment, we made an important change to our stories. To ensure that the urgency of the goal would make readers' integration of inconsistent actions more difficult, we wanted readers to believe that the characters had a reasonably high level of commitment to their goals. For this purpose, we omitted the mild goals we had used in the first experiment, and we created a category of moderate goal motivations. We intended this category to establish a midpoint between the mild and urgent goals. In light of the results of Experiment 1, we expected participants to experience more difficulty reading inconsistent actions after more urgent goals.

Method

Participants. Fifty-two undergraduate students from Stony Brook University participated in this experiment for partial fulfillment of course requirements. They were all native speakers of English.

Materials. We used 16 stories, each with seven sentences. The first three sentences provided motivation to make a goal of moderate or urgent importance for the character. The next sentence explicitly stated the character’s goal. The next suggested an implicit goal for the penultimate sentence, which stated an action that was either consistent with the first explicit or with the second implicit goal. All action sentences had either 9 or 10 syllables; for each story the consistent and inconsistent actions had the same number of syllables. We also took care to minimize and equate argument overlap between action sentences and the rest of the stories. Finally, the seventh sentence was neutral with respect to the earlier goal and the actions. Table 3 provides sample stories.

In a similar process to Experiment 1, we began the development of the stories with 20 goal statements. For each statement, we wrote motivation sentences that made the goals seem either moderately or urgently important to the characters. We normed these passages to ensure that the urgency manipulation was successful. We asked 26 native English speaking undergraduates to read one of two questionnaires containing 40 items—20 experimental items (one of the two passages for each goal statement) and 20 fillers. For each passage, participants answered a version of the question, “How important is it to X that s/he achieves Y?” (e.g., “How important is it to John that he crosses the border?”). Participants provided ratings on a scale ranging from 1 (*not important at all*) to 9 (*extremely important*). On the basis of this norming, we selected 16 pairs that differed by at least 1.5 points between the moderate and urgent versions. The mean ratings were 6.24 and 8.07 for the moderate and the urgent versions, respectively. The difference between these means was reliable in both subject and item analyses, $t_1(25) = 11.16, p < .001$; $t_2(30) = 6.89, p < .001$. The norming study in Experiment 1 yielded a mean of 4.22 for the mild goals. Thus, as we intended, the moderate goals for Experiment 2 were roughly midway between mild and urgent.

We also wrote five practice stories and 16 filler stories that were similar in length and structure to the experimental ones. Some of the filler stories were modified versions of the filler stories we used in Experiment 1; others were new. Most of the filler stories did not contain an explicitly stated goal.

When they did, the goals did not appear at the same point of the story at which they appeared in the experimental stories. The filler stories’ function was to disguise the experiment’s purpose. As in Experiment 1, we wrote a comprehension statement for each story (e.g., “John is driving to Mexico”) that was counterbalanced so that half of the statements were true, and half were false.

Design. There were four versions of each story. The primary goals were either of moderate or urgent importance to the characters, and actions were either consistent with the primary distal goal or consistent with the secondary local goal. We used a Latin square to assign the four versions of each story to four different lists in a counterbalanced fashion.

Apparatus and procedure. The apparatus and procedure were the same as in Experiment 1.

Results and Discussion

We measured reading times for the action sentence. We removed responses more than three standard deviations above the group mean. This procedure resulted in a loss of 1.56% of the data.

In this experiment, the characters’ actions were always consistent with either the primary or the secondary goal. This gave readers the possibility to experience more ill effects of one type of inconsistency than the other. As shown in Table 4, participants’ mean reading time for actions consistent with the secondary goal was 151 ms faster than the mean reading time for actions consistent with the primary goal, $F_1(1, 48) = 5.91, MSE = 69,789, p < .05$; $F_2(1, 12) = 4.95, MSE = 17,615, p < .05$, thus supporting the prediction that readers would more readily integrate actions that were consistent with the secondary goal.

At the same time, Table 4 displays data that are consistent with an expectation that more urgent goals would prevail. Although there was no main effect of urgency (both $F_s < 1.50$), the critical

Table 3
Two Examples of Stories Used in Experiments 2 and 3

Variable	Example 1	Example 2
Moderate motivation	Rob is a big Yankees fan. Tonight at 8 the Yankees are playing against the Red Sox. Rob has been watching TV since 7:30.	Harry is very busy this time of the year. It is not easy for him to find a couple of free hours in his schedule. However, he thinks that having his teeth checked annually is important.
Urgent motivation	Rob is a big Yankees fan. Tonight at 8 the Yankees are playing the last game of the World Series. Rob bet a friend \$500 that he can recall every out in the game.	Two days ago, Harry started to have a very painful toothache. In the past few hours the pain has become unbearable. Now he can hardly eat or move his head, and his face is swollen.
Primary goal	He wants to watch every single minute of the game.	So this afternoon Harry wants to go to the dentist.
Sentence suggesting a secondary goal	When the game is about to start, his sister calls him.	When he’s about to leave, his boss asks him to look into a long file.
Action consistent with primary goal	Rob tells his sister he’ll call back later.	Harry quickly slips out of the office.
Action consistent with secondary goal	Rob listens to all his sister’s troubles.	Harry sits at his desk once again.
Final sentence (Experiment 2 only)	He hopes that the Yankees will win.	Then he drives away in the city.
Comprehension question	Rob receives a phone call from his sister.	Harry wants to go to the dentist.

Table 4

Results of Experiments 2 and 3: Reading Times of Actions (in Milliseconds) and Percentages of Yes Responses in Judgments of Appropriateness of Actions

	Experiment 2			Experiment 3		
	Moderate goal	Urgent goal	<i>M</i>	Moderate goal	Urgent goal	<i>M</i>
Action consistent with primary goal	2,050	2,022	2,036	71.4	88.2	79.8
Action consistent with secondary goal	1,819	1,951	1,885	33.8	15.2	24.5
<i>M</i>	1,934	1,986		52.6	51.7	

interaction between urgency and locality was reliable: The more urgent the primary goal, the more difficult it was for readers to assimilate the action consistent with the secondary goal, $F_1(1, 48) = 5.91$, $MSE = 69,789$, $p < .05$; $F_2(1, 12) = 4.95$, $MSE = 17,615$, $p < .05$. Simple effects tests confirmed that readers read action sentences consistent with the secondary goal more slowly when the primary goal was urgent, $F_1(1, 48) = 4.41$, $MSE = 135,174$, $p < .05$; $F_2(1, 12) = 5.26$, $MSE = 23,587$, $p < .05$. No difference emerged for action sentences consistent with the primary goal.

Our data provide support for the importance of urgency: When the primary goal was urgent, readers were less swift to read the action that was consistent with that local goal. However, the data also provide strong corroboration for the idea that local goals play a dominant role in the way that readers experience narratives. Thus, even when John was being chased by the police, readers found it relatively easy to assimilate the action that he would stretch out and doze off. For our final experiment, we wished to demonstrate circumstances in which readers took a more global view on the relative importance of characters' explicit and implicit goals.

Experiment 3

The purpose of this experiment was to test how readers evaluate the characters' actions when encouraged to do so in the global perspective of the entire story. To this end, rather than having participants read action sentences, we ended each story with a statement of the action and asked participants to indicate whether it accurately described what they felt would happen next in the story. We have used this task in earlier research to determine what narrative features influence readers' judgments when we encouraged them explicitly to reflect on the narrative as a whole (e.g., Rapp & Gerrig, 2002, 2006). In this case, we wished to see whether readers were more affected by the inconsistency of actions with more urgent goals when they took a moment for such explicit reflection. In this task, we expected readers to judge as most appropriate those actions that accomplished the most urgent—although distal—goal, especially when the primary goal was more urgent.

Method

Participants. Twenty undergraduate students from Stony Brook University participated for research credit. They were all native speakers of English.

Materials. We used the same stories, fillers, and practice stories that we used in Experiment 2, excluding the last sentence. Table 3 provides samples.

Design. Each story appeared in four versions. The primary goals were either of moderate or urgent importance to the characters, and actions were either consistent with the primary distal goal or consistent with the secondary local goal. We used a Latin square to assign the four versions of each story to four different lists in a counterbalanced fashion.

Apparatus and procedure. The apparatus was the same as in the previous experiments. Participants began by reading the five practice stories. At the end of this practice session, they were notified that this part was finished and the experimental session was about to begin. Participants read the stories line by line on the screen. They pressed a button on the keyboard to advance the lines and continue reading. At the end of each story, they heard a warning sound followed by the presentation of the action sentence (e.g., "John released the hand break and went on"). We instructed participants to decide whether that sentence accurately described what they felt would happen next in the story. We asked them to press the key marked as "YES" if they thought that it did and to press the key marked as "NO" if they thought that the sentence did not match what they felt would happen. We also told them that there was no right or wrong answer to the question and that they should express their own opinion.

After making this judgment, participants heard another tone from the computer and saw a prompt—"Is the following statement true?"—followed by the comprehension sentence (e.g., "John is driving to Mexico"). If they thought that the sentence was true, participants pressed the YES key, otherwise they pressed the NO key. After participants gave their response, they received feedback (i.e., "Good!" or "Incorrect"). Then they saw a screen reading "Press the spacebar for the next story." Finally, we instructed participants to read and respond as quickly and accurately as possible throughout the experiment.

Results and Discussion

We removed two responses in which a participant pressed an inappropriate key. Because we recorded the time it took participants to make their responses, we also removed trials in which responses took longer than three standard deviations above the group mean. These removals resulted in a loss of 3.42% of the data.

Once again, we began our analyses with the question of with which goal readers more expected characters' actions to be consistent. In Experiment 2, participants read actions that were consistent with the primary goal more slowly than they read actions consistent with the secondary goal. However, as shown in Table 4, the current experiment revealed a different pattern. Participants judged as more appropriate the actions consistent with the primary goal, $F_1(1, 16) = 161.52$, $MSE = 0.039$, $p < .001$; $F_2(1, 12) =$

28.83, $MSE = 0.165$, $p < .001$. Apparently, a manipulation that prompted readers to consider a larger view of the narrative kept their focus on the primary goal.

We found an interaction of urgency with the type of goal, $F_1(1, 16) = 17.89$, $MSE = 0.033$, $p = .001$; $F_2(1, 12) = 7.74$, $MSE = 0.063$, $p < .05$. Simple effect analyses showed that readers endorsed the action consistent with the primary goal more often when that goal was urgent, $F_1(1, 16) = 5.42$, $MSE = 0.051$, $p < .05$; $F_2(1, 12) = 5.97$, $MSE = 0.037$, $p < .05$. They endorsed the action consistent with the secondary goal more often when the primary goal was moderate, $F_1(1, 16) = 28.02$, $MSE = 0.011$, $p < .001$; $F_2(1, 12) = 6.41$, $MSE = 0.041$, $p < .05$. There was no main effect of urgency (both F s < 1.00).

These data highlight the importance of goal urgency: Readers were most likely to endorse the action consistent with the primary goal when that goal was urgent. Although readers always preferred that the action be consistent with the primary goal, this preference was attenuated when the goal was moderate. The results of Experiments 2 and 3 provide an interesting contrast. In Experiment 2, we found that the participants' predilection during reading was to integrate actions with the local goal, although in some cases they were affected by the initial goal. However, in Experiment 3, we found that readers were capable of weighing the relative importance of an explicit and implicit goal when they were encouraged to do so.

General Discussion

Our project examined readers' responses to the urgency of characters' goals and the extremity of characters' actions. To begin, we predicted that readers would be sensitive to the match between goals and actions. Experiment 1 demonstrates that readers more easily integrated actions, the extremity of which matched the urgency of the characters' goals. When an extreme action followed a mild goal (vs. an urgent goal), participants took a relatively long time to indicate that they had understood the action sentence.

In Experiment 1, the actions were always consistent with the goal: What varied was the match between urgency and extremity. In Experiments 2 and 3, we examined cases in which the consistency of the characters' actions with respect to particular goals was variable. Specifically, characters' actions were consistent with only one of two goals—an explicit primary goal and an implicit secondary goal. With respect to the text structure, the primary goals were also more distal than the secondary goals at the moment the characters accomplished their actions. In Experiment 2, we measured participants' reading times for the actions consistent with either goal. In Experiment 3, we recorded participants' evaluations of characters' actions in the perspective of the whole story.

For Experiments 2 and 3, we assumed that readers inferred a secondary goal based on the stories' implicit statements. We presupposed, for example, that participants who read "When [John] stopped to buy gas, he realized that he was tired" would encode (to some extent) the goal "John wishes to relieve his fatigue." Our assumption arises from work by Poynor and Morris (2003), who (as we noted in the introduction) demonstrated that readers perform similarly with respect to explicit goals (e.g., "He wanted to go somewhere warm and sunny") and implicit goals (e.g., "He had always been a real sun-worshipper"). Although it would have been possible to conduct Experiments 2 and 3 with

explicitly mentioned secondary goals, the use of implicit goals provides an even stronger contrast between goal urgency and goal localness. Experiment 2 demonstrates that, even with an implicit indication of a goal, readers found it easier to assimilate actions consistent with the most recent although implicit goal. It seems likely that the results would be even more skewed toward the secondary goal if that goal were explicit. Experiment 3 demonstrates that when readers considered the entire span of the story, they deferred to the primary goal. We do not know whether that would remain true if the secondary goal was explicit.

Experiments 2 and 3 illustrate the importance of bringing different tasks to bear on the study of text processing. In our previous research, participants' reading times and judgments have often been parallel (e.g., Rapp & Gerrig, 2002, 2006). However, Experiments 2 and 3 demonstrate why this need not—and should not—always be the case. In particular, we suggest that the reading time paradigm encourages participants to attend to local coherence—the temporal flow of story events—whereas the judgment task encourages participants to attend to global coherence—the overall importance of story events. To the extent that, for particular stories, local and global considerations are not wholly consistent, we would expect the tasks to provide different patterns of results. We require both tasks to provide a full account of how readers experience narratives.

We propose that this task contrast also relates to a more general distinction that has emerged from social psychological research related to attribution theory. This theory holds that people make sense of their own or others' behavior by looking for its causes (for a review, see Försterling, 2001). Research on attribution has yielded a well-known phenomenon called the *actor-observer effect* (Jones & Nisbett, 1972; Watson, 1982). In general, individuals tend to ascribe causes of their behavior—as actors—to situational, external factors, but they tend to ascribe causes of others' behavior—as observers—to dispositional, personal factors (e.g., Malle & Pearce, 2001; Robins, Spranca, & Mendelsohn, 1996). The participants in Experiment 3 generated results that held characters to a higher standard of prudence. Specifically, those participants mostly indicated that they thought characters would avoid temptation (e.g., John would forgo his nap) in favor of a more urgent goal (e.g., John would attempt to elude police capture). By contrast, readers in Experiment 2 seemed content to imagine that a character would stop for a nap even when the police were close on his heels.

We speculate that the difference between these two experiments might arise, in part, because Experiment 2 encouraged participants to experience the narrative more like observers, whereas Experiment 3 encouraged participants to experience the narrative more like actors. Specifically, readers in Experiment 2 might have found it relatively easy to attribute characters' inconsistency of actions with their primary goals to dispositional factors—that is, characters' flaws. By contrast, participants in Experiment 3 may have taken the time to project themselves into the characters' position to see how they would or should act. That relative shift toward choosing actions rather than just observing the results of those choices (i.e., the actions themselves) would explain the differences in the results of Experiments 2 and 3.

If this speculation is correct, these experiments suggest that under normal circumstances of reading, people process texts more like observers than actors. In Experiment 3, we might have

changed this perspective by changing the task. However, it is possible that an overt feature of texts could also have an impact on how readers undertake causal analyses. Consider this contrast:

John had been in desperate need of money. He robbed a Starbucks and was driving away from the city. He thought that if he could make it to Mexico before noon, the police would not get him. John wanted to cross the border. When he stopped to buy gas, he realized that he was tired. John stretched on the front seat and dozed off.

I had been in desperate need of money. I robbed a Starbucks and was driving away from the city. I thought that if I could make it to Mexico before noon, the police would not get me. I wanted to cross the border. When I stopped to buy gas, I realized that I was tired. I stretched on the front seat and dozed off.

The contrast here is between third-person and first-person narration. The first-person perspective should encourage readers to identify more with the character and, thus, take on a more actor-like analysis of events. Some initial data support this contention that readers' causal analyses are sensitive to the narrative voice. Consider an experiment in which participants read a story in third or first person about a baseball player who fails to catch a long fly ball (Gerrig, 2001). Readers judged the extent to which the player was responsible for the team's defeat. The results show that readers attributed a greater causal role to the character when the story was in the first person. We predict, similarly, that readers would undertake somewhat different analyses of the match between actions and goals when the characters had articulated those goals in the first person. Our future research will pursue affects of first- versus third-person narration on readers' goal analyses.

We began this article with a literary excerpt that recounted a character's rather extreme actions: Hiro, for example, "stole out of the bushes, snatched the bucket on the run and careened back to his hiding place" (Boyle, 1990, p. 98). From this excerpt, we developed the prediction that readers would expect the extremity of Hiro's actions to match with the urgency of his goals. Our experiments generally support this prediction that readers experience both goals and actions as varying along these dimensions. However, we also learned that—however urgent a goal might be—readers still are most attentive to the consistency of characters' actions with respect to the most local goal. In our stories, urgent goals only exerted a strong influence when readers adopted a global perspective on characters' actions.

References

- Boyle, T. C. (1990). *East is East*. New York: Viking.
- Försterling, F. (2001). *Attribution: An introduction to theories, research, and applications*. New York: Psychology Press.
- Gerrig, R. J. (2001). Perspective as participation. In W. van Peer & S. Chatman (Eds.), *New perspectives on narrative perspective* (pp. 303–325). Albany, NY: State University of New York Press.
- Gerrig, R. J., & O'Brien, E. J. (2005). The scope of memory-based processing. *Discourse Processes*, 39, 225–242.
- Huitema, J. S., Dopkins, S., Klin, C. M., & Myers, J. L. (1993). Connecting goals and actions during reading. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 19, 1053–1060.
- Jones, E. E., & Nisbett, R. E. (1972). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds.), *Attribution: Perceiving the causes of behavior* (pp. 79–94). Morristown, NJ: General Learning Press.
- Kahneman, D., & Tversky, A. (1982). The simulation heuristics. In D. Kahneman, P. Slovic, & A. Tversky (Eds.), *Judgment under uncertainty: Heuristics and biases* (pp. 201–208). New York: Cambridge University Press.
- Magliano, J. P., & Radvansky, G. A. (2001). Goal coordination in narrative comprehension. *Psychonomic Bulletin & Review*, 8, 372–376.
- Malle, B. F., & Pearce, G. E. (2001). Attention to behavioral events during interaction: Two actor–observer gaps and three attempts to close them. *Journal of Personality and Social Psychology*, 81, 278–294.
- McKoon, G., & Ratcliff, R. (1992). Inference during reading. *Psychological Review*, 99, 440–466.
- Myers, J. L., O'Brien, E. J., Albrecht, J. E., & Mason, R. A. (1994). Maintaining global coherence during reading. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 20, 876–886.
- Poynor, D. V., & Morris, R. K. (2003). Inferred goals in narratives: Evidence from self-paced reading, recall, and eye movements. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 29, 3–9.
- Rapp, D. N., & Gerrig, R. J. (2002). Readers' reality-driven and plot-driven analyses in narrative comprehension. *Memory & Cognition*, 30, 779–788.
- Rapp, D. N., & Gerrig, R. J. (2006). Predilections for narrative outcomes: The impact of story contexts and reader preferences. *Journal of Memory and Language*, 54, 54–67.
- Robins, R. W., Spranca, M. D., & Mendelsohn, G. A. (1996). The actor–observer effect revisited: Effects of individual differences and repeated social interactions on actor and observer attributions. *Journal of Personality and Social Psychology*, 71, 375–389.
- Suh, S., & Trabasso, T. (1993). Inferences during reading: Converging evidence from discourse analysis, talk-aloud protocols, and recognition priming. *Journal of Memory and Language*, 32, 279–300.
- Trabasso, T., & Sperry, L. L. (1985). Causal relatedness and importance of story events. *Journal of Memory and Language*, 24, 595–611.
- Trabasso, T., & Suh, S. (1993). Understanding text: Achieving explanatory coherence through on-line inferences and mental operations in working memory. *Discourse Processes*, 16, 3–34.
- Trabasso, T., & Van den Broek, P. (1985). Causal thinking and the representation of narrative events. *Journal of Memory and Language*, 24, 612–630.
- Trabasso, T., Van den Broek, P., & Suh, S. Y. (1989). Logical necessity and transitivity of causal relations in stories. *Discourse Processes*, 12, 1–25.
- Trabasso, T., & Wiley, J. (2005). Goal plans of action and inferences during comprehension of narratives. *Discourse Processes*, 39, 129–164.
- Watson, D. (1982). The actor and the observer: How are their perceptions of causality divergent? *Psychological Bulletin*, 92, 682–700.
- Wolfe, M. B. W., Magliano, J. P., & Larsen, B. (2005). Causal and semantic relatedness in discourse understanding and representation. *Discourse Processes*, 39, 165–187.

Received November 23, 2005

Revision received March 31, 2006

Accepted April 18, 2006 ■