16 The role of inferences in narrative experiences

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Readers' narrative experiences are anything but passive. Consider a moment from the suspense novel *A Wanted Man* (Child, 2012). The hero, Jack Reacher, has been systematically working his way through a fortresslike structure, eliminating his enemies. He finally arrives at a room that contains the person he is trying to rescue, Don McQueen. He finds McQueen tied to a chair (p. 385):

> There was a man behind the chair.
> The man behind the chair had a gun to McQueen's head.
> The man behind the chair was Alan King.
> Living and breathing.
> Alive again.

It seems very likely that readers would become cognitively and emotionally engaged as these sentences unfold. McQueen has a gun to his head. "Oh no!" Alan King is alive. "How could that be?" The words of the text create an opportunity for readers to have a vivid and intense narrative experience.

The goal of this chapter is to explore the foundational role that inferences play to provide readers with experiences of this sort. We will focus on two phenomena. The first is exemplified by readers' impulse to encode mental contents such as "Oh no!" when they learn that McQueen has a gun to his head. We call such mental contents *participatory responses*: They represent the types of responses people would encode if the events were unfolding before them in real life (Gerrig, 1993; Gerrig and Jacovina, 2009). We will describe how the products of inferential processes lay the groundwork for a variety of participatory responses. Our second phenomenon is the *mystery*, exemplified by the puzzle provided at the end of this excerpt from *A Wanted Man*. Given strong evidence provided previously in the novel, how is it possible that Alan King is alive? This moment scratches the surface of the types of mystery with which texts are rife (Gerrig, Love, and McKoon, 2009; Love, McKoon, and Gerrig, 2010). We will consider how inferential processes help call readers'

attention to various mysteries and how those processes enable readers to engage with those mysteries.

In this chapter, we use the term "inference" to refer to information that was not explicitly stated in a text that becomes part of readers' discourse representations (cf. McKoon and Ratcliff, 1992). We also refer to "inferential processes" that give rise to inferences. Much research has tried to discriminate between those inferences that arise automatically and those that are the products of readers' strategic effort (for a review, see McNamara and Magliano, 2009). We will provide examples to illustrate the importance of both automatic and strategic inferences for readers' narrative experiences. In addition, we illustrate how individual differences in readers' automatic inferences as well as their strategic effort may yield quite distinctive narrative experiences. Note, also, that we intend our analyses to extend to the full range of circumstances in which people experience narratives (i.e., as viewers of films, television productions, live performances, and advertisements, as addressees for conversational stories, and so on). Although we use the term "readers" for most of this chapter, we intend that term as shorthand to refer to people's roles as experiencers of narratives across the full range of contexts.

An important goal of this chapter is to illustrate reciprocity between cognitive science theories and real-world narratives. On some occasions, we use the products of psychological research to consider why authors are able to achieve certain effects. We suggest that basic cognitive processes allow narratives to take particular forms. On other occasions, we look to real-world narratives to expand the scope of cognitive science inquiry. We suggest that authors achieve effects that should be accommodated within theories of narrative processing. To illustrate this reciprocity between research and reality, we provide a series of examples from real-world narratives.

We devote the major sections of the chapter to participatory responses and narrative mysteries. Within those two topics, we discuss particular types of inferences (i.e., anaphoric and predictive inferences) as well as cognitive processes that underlie readers' experiences of those types of inferences. For each major topic, we also discuss individual differences among readers that may allow their narrative experiences to diverge.

We begin now with a discussion of the importance of inferences for participatory responses.

Participatory responses

In an early scene in the Hitchcock (1964) film *Marnie*, Marnie has robbed an office safe and is trying to leave a building without getting

caught. She sees a cleaning lady through a glass partition. Marnie is worried that the cleaning lady will hear her walking by. To make her footfalls less audible, Marnie removes her high-heel shoes and puts them in the pockets of her jacket. But the shoes begin to slip out. To make this fact salient to viewers, Hitchcock intercuts close-ups of the slipping shoes with wider shots of an unaware Marnie. And then a shoe falls!

This moment from *Marnie* provides viewers with an optimal opportunity to encode participatory responses. To demonstrate that viewers avail themselves of such opportunities, Bezdek, Foy, and Gerrig (2013) had participants watch four brief excerpts from suspenseful movies. The participants were asked to think aloud as they watched the excerpts. Here is a sample of participants' responses to the scene with Marnie's shoes:

1. a. One of the shoes is probably going to fall out.
   b. Oh, this sucks. . . it's gonna fall.
   c. I feel like the shoe is going to fall off . . . shoe's going to fall out of her pocket 'cause she put it in her pocket and it's going to fall out and make a noise and then the janitor will know that she was trying to run.

2. a. That's what I thought she should do, she should take her shoes off so no one hears her. She's probably going to slip on the water or her shoe's going to drop. Good one . . . she should've held them.
   b. Oh that's cool . . . OH NO THE SHOE . . . the freakin' shoe. Why did she have to put it in her pocket; why couldn't she just hold the shoe?
   c. The shoe's going to fall out your pocket – just hold them. Told you your shoe's going to fall out your pocket. Your shoe's going to fall out your pocket . . . there it goes . . . ha!

The responses in (1a–c) demonstrate that viewers were quite likely to encode a pair of inferences: First, given the accumulating evidence, they inferred that the shoes were likely to fall; second, they inferred that, when the shoes fell, they were likely to make enough noise to alert the cleaning lady to Marnie's presence. The responses in (2a–c) show how some viewers integrated participatory responses into statements of those inferences. For example, the viewer in (2c) offered advice to Marnie ("Your shoe's going to fall out your pocket") and then enjoyed the fact that the advice was correct ("ha!"). Viewers' experiences of Marnie provide strong confirmation for our main contention that inferences often provide a foundation for participatory responses. Some viewers not only looked into the future, but they also used their precognition to attempt to direct Marnie's actions and to evaluate those actions once they occurred.

Bezdek et al. (2013) used the thoughts viewers articulated as they watched the film excerpts to define a taxonomy of participatory responses. Bezdek et al. were careful to differentiate between inferences and participatory responses. They specified that participatory responses did not add information to the viewers' mental model of the narrative. Rather, they were the products of viewers' emotional engagement. Table 16.1 presents the final taxonomy. The table indicates the many ways in which readers participate as they experience narratives. Responses (2a–c) illustrate several of the categories. The critical claim is that readers inevitably encode these types of mental contents, even when they are not specifically prompted to make their private thoughts public.

In the sections that follow, we will not attempt to specify exactly what types of participatory responses are likely to occur at particular narrative

Table 16.1 *Taxonomy of participatory responses (Bezdek, Foy, and Gerrig, 2013)*

Category	Definition	Examples
Emotional	Emotional responses as if the events were occurring in real life	"Oh my god!" "Oh no!"
Problem-solving instruction	Directly instructing a character to carry out a particular action to accomplish a goal	"Just do it!" "Get out of there!"
Problem-solving assertion	Suggesting a particular course of action without directly addressing a character	"He should run faster." "He better not go upstairs."
Replotting	Undoing an event or outcome	"He should've just moved away from the door right away." "He should've tried to hide behind a seat or somebody."
Outcome preference	Expressing a preference for a specific outcome	"He's leading him right into a trap, I hope." "I hope there's no one in the house."
Self-projection	Describing how the viewer would feel or act in a situation	"If people were onto me I wouldn't keep turning around like that." "I would leave and not go up there."
Positive character evaluation	Positive judgment of characters' actions	"Smart idea!" "Good job."
Negative character evaluation	Negative judgment of characters' actions	"That's stupid." "They're just dumb."

junctures. Rather, our goal is to demonstrate how the inferences that readers encode are necessary to create the contexts in which readers may experience any number of participatory responses. We consider readers' anaphoric inferences, their predictive inferences, and their preferences. We conclude the section by considering why, as a function of their participatory responses, readers may have greatly different narrative experiences.

Anaphoric inferences

As narratives unfold in time, readers must make connections between the present and the past. For example, readers of *The Dogs of Rome* (Fitzgerald, 2010) will miss the grave implications of the arrival of an "old man with no ears" (p. 364) if they are unable to make a link to a moment earlier in the text that involved an "older man": "Where his ears should have been were two crumpled pieces of pink flesh that resembled the @ of an email address" (p. 247). As in this case, the connection of present to past is achieved by an *anaphor*, a word or phrase that refers to a concept earlier in the text. Anaphors range from minimally specific pronouns (e.g., I, she, it) to more content-full expressions such as "old man with no ears." The inferential processes readers use to link anaphors to their referents have been the subject of a good deal of theoretical and empirical work (e.g., Gerrig and McKoon, 2001; Klin, Guzmán, Weingartner, and Ralano, 2006; Love and McKoon, 2010; McKoon and Ratcliff, 1980; O'Brien, Raney, Albrecht, and Rayner, 1997). Here, we focus not on the processes that give rise to anaphoric inferences but on their consequences for participatory responses.

Let's consider an example of how anaphoric inferences create a context for participatory responses. Early in the novel *The Trinity Six* (Cumming, 2011), Grek (who is working to protect a secret that is at the heart of the book) has entered a writer's workplace with a vial of the liquid form of "sodium fluoracetate": a poison "commonly used ... to control the spread of rats in sewers" (p. 33). Grek picks up a half-finished bottle of Evian, and pours the colorless poison "into the water, and sealed the cap." Grek succeeds at killing his prey. Somewhat later in the text, another killer contemplates the same method of execution (p. 174):

> Just as Alexander Grek had broken into [Charlotte Berg's] office, [Doronin] would access Meisner's apartment, add 10mg of sodium fluoracetate to the bottle of water which Meisner kept by his bed, and return to London on the next scheduled flight from Tegel.

In this case, the author has provided an abundance of memory cues to make it easy for readers to make the connection between the actions

Doronin plans and Grek's earlier success. Because most readers likely wish Doronin to fail, this efficient evocation of the earlier episode immediately creates a context for participatory responses.

A bit later in the novel, matters become even more intense. The novel's hero, Edward Gaddis, has a girlfriend, Holly, who has gotten out of bed because she "needed a glass of water" (p. 204). Now, the anaphoric inference from water to water creates intense feelings of urgency. Those feelings only grow when Holly proceeds to pour "herself a glass of water from a bottle in the fridge" (p. 206). If readers have made the connection, it's hard to imagine they won't encode participatory responses in the realm of "Don't drink the water!" What makes this moment even more intense is that Gaddis and Holly have no idea that anyone's water has been poisoned (i.e., they think that Grek's victim died of natural causes). As Holly pours her glass from the bottle and drinks the water ("the entire glass, like a cure for a hangover," p. 206), she has no idea that her life could be in peril. Again, it seems reasonable to imagine that responsible readers will do their best to provide Holly with some kind of mental warning.

We have started with this example of an anaphoric inference because, to a large extent, these sorts of inferences seem particularly unglamorous. Researchers often tout them as the types of inferences that readers must draw to ensure that they have had coherent narrative experiences (e.g., O'Brien et al., 1997). That is the spirit in which we glossed the "old man with no ears." However, as we have just seen, anaphoric inferences often connect readers to past moments in a narrative that have consequences for the readers' emotional engagement. Such is also the case for the "old man with no ears." His reappearance signals to readers that an act of revenge may be near at hand. Thus, a focus on participatory responses suggests that theories of narrative might consider not just when and how readers encode anaphoric inferences but, also, what ensues once they do so.

Predictive inferences

In the last section, we suggested that readers would feel a sense of urgency when Holly poured herself a glass of water. Readers' anaphoric inference gave them the idea that the water might be poisoned. However, the urgency also arises because readers likely encoded *predictive inferences* about what would happen were Holly to drink the water. We also saw in the example from *Marnie* that people are often prepared to look into the future. Still, note how much there is for *Marnie* viewers to do in this moment:

3. a. Viewers must infer that the shoes will fall.
   b. They must infer, should the shoes fall, how much noise they will make when they hit the ground.
   c. They must infer how audible that amount of noise is likely to be, given the film's indication of other noise in the environment.
   d. They must infer, based on those considerations, how likely it is that the cleaning woman will be able to hear that noise.
   e. They must infer whether, having heard the noise, the cleaning lady is likely to orient toward the noise in a way that will lead her to see Marnie.

Each of these inferences, and smaller gradations within them, could provide the context for readers' participatory responses.

As we noted earlier, researchers have often tried to discriminate automatic from strategic inferences. This quest has been particularly active with respect to the study of predictive inferences (for a review, see McKoon and Ratcliff, 2013). Taken together, the data support a theoretical approach called *memory-based processing* (Gerrig and O'Brien, 2005; McKoon and Ratcliff, 1992). The major claim of memory-based processing is that, through a memory process known as *resonance*, "incoming text information – as well as information already residing in working memory – serves as a signal to all of long-term memory, including both the inactive portion of the discourse representation as well as general world knowledge" (Gerrig and O'Brien, 2005, p. 229). If the products of resonance are sufficiently constrained by the discourse context, readers will encode reasonably specific predictions through automatic processes. For example, when participants in a study conducted by Lassonde and O'Brien (2009) read a story that emphasized the soft, unblemished metal on a brand new car, they were likely to encode the specific inference "dent" rather than the more general inference "damage" when a rock hit the car door.

Still, with respect to participatory responses, what matters most is that automatic processes often lead to some indication of the emotional valence of what lies in the future. Consider this sentence from a classic experiment (McKoon and Ratcliff, 1986):

4. The director and cameraman were ready to shoot close-ups when suddenly the actress fell from the 14th story.

If readers engage strategic reflection on this scenario, they should conclude that the actress is likely to die. However, McKoon and Ratcliff (1986) demonstrated that readers' automatic inference is no more specific than "something bad will happen" (see also McKoon and Ratcliff, 2013). It is unlikely that readers will have any long-term memory representations that are exactly about actresses falling from

14th floors and dying. If they did, the resonance process could find those traces, and yield the specific inference "die." However, for most readers, the resonance process will yield a mix of representations of various falls from various heights. What the majority of those traces will have in common is an outcome that was "something bad." An inference with only that specificity should be sufficient to prompt participatory responses. Any indication of what may lie in the future may prompt readers to yield a minimal response ("Oh no!" or "Yeah!"). Meanwhile, even such minimal participatory responses could create a context in which readers would begin to expend strategic effort to look into the future. Thus, *Marnie* viewers may be prompted by their sense of foreboding to contemplate the series of inferences we laid out in (3a–e). (We assume that readers will have insufficient life experiences to make all these inferences automatically.) In addition, as predictive inferences become more specific (through automatic or strategic processes), participatory responses are also likely to accrue more content. However, the important conclusion here is that predictive inferences provide an immediate trigger for participatory responses.

Readers' preferences

As readers experience narratives, they have ample opportunities to express preferences for how various aspects of the story should unfold. For example, the viewers who responded to the moment in which Marnie removed her shoes largely seemed to express the preference that she pass by the cleaning lady undetected. That preference is interesting, in part, because Marnie appears to have just robbed a safe. Apparently, readers' preferences are not always informed by their moral values (see Gerrig, 2005; Smith, 2011)! In any case, readers quite generally appear to root for one narrative outcome over another. They also may encode preferences with respect to characters' particular actions. For example, in *A Moment in the Sun* (Sayles, 2011), a black character, Dorsey, must decide whether to vote in the face of violent opposition from the white inhabitants of Wilmington, North Carolina. Dorsey debates with his wife, Jessie, about what he ought to do: "If it make you think better of me, Jessie, I am willing to suffer the consequences" (p. 458). It's hard to imagine reading this scene without encoding a preference on Dorsey's behalf. As a final example, readers may weigh in on the wisdom of characters' goals. Thus, in the novel *When Tito Loved Clara* (Michaud, 2011), Tito has the explicit goal of trying to win Clara back. Readers are likely to have mental opinions about the prudence of that goal.

In each of these cases, readers' preferences are likely the product of inferential processes. We will make this point more concretely in the context of research that demonstrated how readers' preferences for particular outcomes structure their narrative experiences. Rapp and Gerrig (2002; see also Rapp and Gerrig, 2006) asked participants to read brief stories that ended with a time shift of either a minute or an hour. For example, in one story Jerry is a college freshman. He studies all night for a chemistry final because it would determine his final grade. Jerry sleeps through his alarm clock and rushes to the testing room in his pajamas, hoping he will not be too late. The two versions of the story, continued in this way:

5. a. A minute later, the professor announced that the test was over and collected the exams.
   b. An hour later, the professor announced that the test was over and collected the exams.

Then, one of two outcomes occurred:

6. a. Jerry wouldn't pass the chemistry course.
   b. Jerry managed to pass the course.

In the experiment, participants read one of four versions of each story that provided outcomes that were either consistent or inconsistent with the time that had passed. Participants took reliably longer to read and understand sentences when the outcome mismatched the time interval (e.g., when Jerry passed the course even though he arrived at the classroom only a minute before the end of the exam). This effect relies on readers' drawing appropriate inferences about what actions, given a particular scenario, could possibly transpire in a minute versus an hour as well as the consequences of those actions.

In a second experiment, Rapp and Gerrig added additional material into the stories that they intended as prompts for readers to encode preferences:

7. a. Jerry had worked hard and studied intensely to do well in school, even hiring a tutor to prepare for his tests.
   b. Jerry figured he'd cram for his final exams and simply copy from the other students if he didn't know the answers.

Through a norming procedure, Rapp and Gerrig ensured that (7a) produced (in most readers) a preference that Jerry pass the course, whereas (7b) produced a contrary preference. We suggest that these preferences relied on readers' past experiences in the world. In particular, the textual information should resonate through readers' long-term

memory to yield some collection of memory representations that refer to people's behavior with respect to exams. Readers may minimally infer that a character is a "good guy" or a "bad guy," or some more specific inference may emerge. Those inferences provide a context for readers to experience preferences.

When, in Rapp and Gerrig's experiment, participants read stories that induced outcome preferences, their reading times still showed an overall impact of the duration of time that had passed. They still understood, for example, that Jerry was unlikely to pass the course if the professor collected the exams after only a minute. However, readers' preferences also wielded an impact: Overall, reading times were shorter when the outcome matched the preferences and longer when the outcome mismatched. Thus, it took participants longer to read "Jerry managed to pass the course" when they wished that circumstances were otherwise. These results illustrate the interplay between inferences and participatory responses. Again, an inference (perhaps, "Jerry is a good guy") creates the context for a preference ("I want Jerry to pass his course"). These results also suggest why theories of narrative should be broader than their traditional scope (for a review of traditional theories, see McNamara and Magliano, 2009). Without consideration of readers' preferences, it would not be possible to make accurate predictions of why readers respond to the stories' outcomes as they do.

Individual differences

In this section, we have argued that readers' inferences create contexts that give rise to participatory responses. Against that background, we'd expect different readers to encode different inferences and, as a consequence, produce different participatory responses. Some individual differences in the inferences readers encode will arise as a product of the expertise they bring to particular domains (e.g., Fincher-Kiefer, Post, Greene, and Voss, 1988; Griffin, Jee, and Wiley, 2009; Spilich, Vesonder, Chiesi, and Voss, 1979). For example, one classic study demonstrated the importance of readers' knowledge by having participants listen to a half-inning of a fictional baseball game (Spilich et al., 1979). Participants who were high in baseball knowledge showed better recall memory for important features of the game, such as how runners advanced. High-knowledge individuals were also more likely to produce accounts of the game that included elaborations of the original text.

We can apply such results in the context of participatory responses. Consider a moment from *The Art of Fielding* (Harbach, 2011) in which

Mike Schwartz, the catcher for the Westish Harpooners, gets into an argument with an umpire about a bad call at home plate (pp. 162–3). Readers who have relatively little baseball knowledge may have a sense of foreboding. Readers with more baseball experience will likely be able to predict the probable outcome as Schwartz escalates his rhetoric (p. 163):

"Stand up and talk to me like a man," Schwartz said.
"Watch yourself."
"You watch yourself. You blew the call and you know it."

Given their ability to make concrete predictions based on Schwartz's behavior, we might expect that readers with greater baseball knowledge will encode participatory responses that are both more urgent and more specific. If, in fact, those readers encode warnings, such as "You're going to be ejected," those warnings will be in vain.

Readers' differing responses to another moment in *The Art of Fielding* may arise from other sources than expertise. Henry Skrimshander, the Harpooner's star shortstop, has played a devastatingly awful game. As a consequence, he wishes to resign from the team. The coach attempts to change Henry's mind: "You're not quitting anything. In fact, you're unsuspended, effective immediately. Practice starts in fifteen minutes. Go get dressed" (p. 366). This context provides readers with an opportunity to weigh in on Henry's decision. Should he, in fact, quit or should he accede to the coach's admonition that he suit up for practice? It seems quite likely that readers' responses to this moment will be quite variable, with respect to the mental advice they offer to Henry. Earlier, we briefly described how readers' preferences arise as a product of their memory representations. In the current context, it becomes important that each reader has representations of a unique set of life experiences. Based on those unique sets, individual readers are likely to define a dimension of responses that varies from an intense preference that Henry quit to an intense preference that he stay on the team. In the novel, Henry makes his decision. That creates a second opportunity for readers to bring their own life experiences to bear. Readers' responses are likely to populate a dimension from "good decision!" to "bad decision!"

This example from *The Art of Fielding* illustrates how easily and substantially readers' experiences of the same narrative might diverge. Suppose one reader, Ann, wishes for Henry to stay on the team whereas another, Bob, wishes for him to quit. Suppose Henry decides to stay on the team. After Henry makes this decision, Ann and Bob will be in quite different psychological states. Ann is likely to read the rest of the novel

with an eye to supporting her belief that Henry's decision was prudent; Bob is likely to be seeking evidence that Henry was unwise.

In fact, Jacovina and Gerrig (2010) demonstrated that readers' individual responses to characters' decisions affected their experience of narrative outcomes. Jacovina and Gerrig asked participants to read a series of brief stories that arrived at everyday dilemmas. They chose dilemmas for which they could reasonably expect their college-age participants to have abundant expertise. For example, in one story, a character named David must decide whether to wear casual or formal garb to his niece's sweet sixteen party. When each story arrived at the character's decision point, participants gave explicit ratings of which decision they favored and with what strength (i.e., "Definitely choose . . . ," "Probably choose . . . ," and "No preference"). The stories continued with the characters making their decisions (e.g., David chose his attire). Finally, the stories ended with outcomes that cast light on the decision (e.g., "He saw that with a few exceptions, they were formally dressed," or "He saw that with a few exceptions, they all dressed casual"). Participants' reading times for these outcomes depended on their particular preferences. Suppose the story concluded with "He saw that with a few exceptions, they all dressed casual." The participants who preferred that David wear casual attire took less time to read that sentence than the participants who preferred that David be more formal. Thus, participants' own preferences determined whether the stories had endings that were easy or hard for them to understand.

These results indicate how easily and definitively readers' experiences of the same narrative may diverge. Different life experiences may yield different inferences. Those inferences may yield different participatory responses. Given this accumulation of differences, it becomes easy to understand why people, after comparing notes with their peers, might hardly believe that they've read the same novel or viewed the same movie.

We turn now to a consideration of how mysteries affect readers' narrative experiences.

Mysteries

We opened this chapter with an intriguing moment from *A Wanted Man* (Child, 2012): Jack Reacher has discovered Alan King, to be "alive again" (p. 385). This moment provides an engaging example of a narrative mystery – an instance in which a text establishes a gap between what the narrator knows and what the reader knows (see Gerrig, Love, and McKoon, 2009). In fact, on this definition, every text provides an infinite number of mysteries. Consider another sentence from the same scene:

"The man behind the chair had a gun to McQueen's head." Readers could cause themselves to ask any number of questions:

8. a. What type of chair?
   b. How far behind the chair was the man standing?
   c. What type of gun was he holding?
   d. How close, exactly, was the gun to McQueen's head?
   e. What part of McQueen's head?

It seems unlikely that ordinary readers would expend much effort to encode or resolve most of these questions. This moment from *A Wanted Man* both allows us to assert that mysteries have an impact on readers' narratives experiences and to ask, "Which mysteries?"

This question provides an interesting parallel to the study of inferences. Theorists of text processing recognized, early and often, that every text permits an unlimited number of inferences (e.g., Rieger, 1975). Consider all the inferences readers could potentially attempt with respect to the properties of the chair to which McQueen has been bound. Given the forward motion of this text, readers would likely have no motivation to encode these inferences. In fact, most research on inferences has focused on determining exactly which inferences readers do actually encode (for a review, see McNamara and Magliano, 2009). With respect to mysteries, the initial question becomes, when do mysteries have an impact on readers' narrative experiences? In that context, a second question immediately presents itself: What impact does a particular mystery have?

Before we move on, we want to make some observations to ensure that our use of the concept of mystery is clear (cf. Gerrig et al., 2009). To begin, we stress that mysteries occur in all narrative works, irrespective of genre. In fact, authors of literary fiction often deform the time line of their narratives to highlight gaps between what the narrator, characters, and readers know. Such is the case, for example, in *When Tito Loved Clara* (Michaud, 2011), in which an essential mystery is why and how Clara disappeared from Tito's life. We also emphasize that mysteries have different scope within readers' narrative experiences. Some mysteries are, in a sense, the official topic of an entire narrative. Thus, readers of *Stagestruck* (Lovesey, 2011) understand that the novel largely centers on the mystery of who put a caustic substance into the makeup of an actress of dubious talent. Other mysteries occur with far less warning, as when Alan King suddenly turns up (apparently) alive again. Some mysteries endure over long durations. For example, in *A Moment in the Sun* (Sayles, 2011), the text raises the possibility that Niles Manigault has been killed (p. 911):

The pain is worse than Niles has imagined, the first blow snapping his collarbone close to the neck and twisting as it rends him apart, and he hears something like the bellowing of a mule before the white light –

His fate is revealed twenty-six pages later (on p. 937). Other mysteries are resolved almost instantly. To solve the mystery of Alan King, the reader need only turn the page. Some mysteries will never be resolved. What exactly befell Tony Soprano at the end of the television series *The Sopranos*? We offer these observations to reinforce the claim that an understanding of readers' responses to mysteries should figure as an important element of a comprehensive account of narrative processing.

We also wish to note the relationship between this concept of a narrative mystery and the affective response of suspense. Not all mysteries will involve suspense: Uncertainty is a necessary but not a sufficient condition to give readers an experience of suspense. For example, Ortony, Clore, and Collins (1988) argued that suspense requires "a Hope emotion and a Fear emotion" (p. 131) in the context of uncertainty between two (or more) outcomes. Thus, readers who hope that the odious Niles Manigault is dead, but fear that he may not be, will experience suspense until the matter is settled. Some mysteries will not generate suspense because they do not have sufficient focus (i.e., an explicit contrast between outcomes) that allows readers to develop their preferences. Other mysteries will not generate suspense because readers are largely indifferent between two outcomes, even if they have sufficient focus. Thus, readers experience suspense for the subset of mysteries that have particular formal properties. That subset may be different for different readers.

In this section, we will demonstrate the importance of inferential processes to address the questions of when and how readers' narrative experiences are affected by mysteries. We will suggest, in particular, that inferential processes both help call readers' attention to mysteries and also often provide the substance of readers' responses. We will begin by reviewing research that demonstrates the impact of a particular type of mystery. Then we broaden our scope to engage, once again, with the topics of anaphoric and predictive inferences. Finally, we consider how mysteries often engage processes of convergent and divergent thinking.

The impact of small mysteries

Consider this moment from *The Dogs of Rome* (Fitzgerald, 2010), in which Alec Blume, a chief commissioner on the Roman police force, learns that a large number of people have been walking around, compromising a crime scene (p. 13):

"What people?"

"D'Amico was here. Then he went, only to be replaced by the Holy Ghost, of all people."

In this excerpt, both "D'Amico" and the "Holy Ghost" are new to the narrative, but they are introduced in a fashion that suggests Blume will know who they are. Gerrig, Love, and McKoon (2009; see also Love et al., 2010) characterized this exact sort of situation as a "small mystery" – one in which readers have a strong expectation that the identity and importance of these characters will soon be revealed.

Gerrig et al. (2009) conducted a series of experiments to demonstrate that mysteries of this sort have an impact on readers' narrative experiences. They suggested that characters (such as D'Amico) remain relatively accessible in readers' discourse representations until a narrative establishes how a character will function within a particular world. Consider this brief story (p. 152):

9. Anton was getting course credit doing volunteer work. Every evening, without fail, he wore a jacket and tie to work in an office for three hours. A co-worker named Jeremy asked Anton why he'd gotten involved. Anton said, "If I work for Lawrence, it will count for my major." Jeremy replied, "It's important to get a solid education."

Gerrig et al. called a character such as Lawrence a *focal character*. In this version of the story, the focal character's function within the narrative world presents a small mystery. A different version of the story resolved that function:

10. Anton said, "If I work for the senator, Lawrence, it will count for my major."

Ordinarily, we expect that, as readers make their way through a narrative, new information will displace old information in working memory. However, Gerrig et al. predicted that, when characters' functions remain unresolved, their accessibility in readers' discourse representations will be less likely to fade. To test this prediction, Gerrig et al. asked participants to read stories one line at the time. At some point, the story was interrupted by a test word. Participants attempted to respond as quickly as possible whether that word had appeared in the previous part of the story. Gerrig et al. demonstrated that participants found it easier to indicate, for example, that Lawrence had appeared in the story when Lawrence's role remained unresolved. Additional experiments showed that this small mystery had a broad impact on readers' narrative experiences. For example, when the focal character's role remained unresolved, participants processing of information was disrupted downstream from the

point at which the story introduced the mystery. Participants also had worse memory for story information that followed the introduction of a focal character when the mystery remained unresolved (Love et al., 2010).

These experiments demonstrate why a consideration of mysteries must be a component of a comprehensive theory of narrative experiences. In the next sections, we review the importance of inferential processes with respect to readers' responses to mysteries.

Anaphoric and predictive inferences

We saw earlier how anaphoric inferences create a context for participatory responses. These same inferences may draw readers' attention to mysteries. Recall our example from *The Trinity Six*, in which Holly has poured herself a glass of water. Inferential processes will lead readers back to the earlier, poisoned water. A mystery is whether this water is poisoned as well. The mystery arises as readers contemplate whether the connection between the two instances of *water* is superficial, or has deeper causal implications. We see a similar example in the novel *When Tito Loved Clara* (Michaud, 2011). Tito Moreno works for a moving company. He has been alerted by a customer that, during a move, an item of great sentimental value has gone missing (p. 117):

> The bangle. A gold bangle. It was in the top drawer of my bureau and now it's not there.

Tito promises to make a sincere effort to find the bangle. The bangle weighs heavily on his thoughts because the customer who lost it, Mrs. Almonte, was a major figure in the life of Clara Lugo, Tito's lost love. Tito believes that a character named Raúl may have stolen the bangle. He tracks Raúl from New York City to a house in suburban New Jersey (p. 132):

> A minivan was now in the driveway of the house across the street. The engine cut off and a chubby, brown-skinned girl [Deysei] in overalls and short sleeves walked from the car toward the front of the house. On her arm – *son of a bitch* – was what looked from this distance to be a gold bangle. But he didn't have time to dwell on that, because the driver's side door slammed and, around the back of the minivan, here came Clara.

Readers will, no doubt, make the connection between this gold bangle and the one that Tito seeks to find. However, that link provides at least two layers of mystery. On their own behalf, readers may wonder if, in fact, this is the same bangle. If they conclude that the bangle on Deysei's arm is the very same bangle, they will have to wonder how it

came into her possession. Meanwhile, readers may also try to represent how, in the same moment, Tito will experience both the question of the bangle and other mysteries. For example, readers know why Tito's search for the bangle has led him to Clara – but Tito does not. Tito still has many pieces to fit together. These examples generate a more general conclusion about anaphoric inferences. Each time inferential processes yield a link of apparent identity from a current element of a narrative to some past element, readers are faced with a mystery: Is the identity valid?

Predictive inferences also often call readers' attention to mysteries. Recall our example from *Marnie*. As the viewers reported their thoughts, almost all of them made some mention of the inference that the shoes were going to fall (Bezdek et al., 2013). Some viewers also added material that indicated that they'd noted some mysteries that would follow as a consequence:

11. a. She dropped the shoe in the . . . okay, I find it hard to believe that the cleaning lady's not going to hear the shoe drop and turn around.
    b. How'd she not even notice that? She must be like a deaf old woman.
    c. Of course that woman mopping wouldn't hear. That woman's crazy thinking that she's going to make noise with just a shoe.

Note that the viewer in (11b) has found her way to the correct solution (i.e., the cleaning woman is, in fact, hearing impaired) whereas the viewer in (11c) reaches a conclusion that may be valid but isn't the one that Hitchcock, apparently, intended.

We also reviewed evidence earlier suggesting that readers may not encode specific expectations. Thus, people may read "The director and cameraman were ready to shoot close-ups when suddenly the actress fell from the 14th story" and encode an inference akin to "Something bad will happen." Circumstances of this sort immediately present the mystery, "Exactly what bad thing *did* happen?" Thus, this one-sentence story presents a rather powerful cliffhanger. The cliffhanger is not present in the text. Rather, readers' predictive inferences, however lacking in specificity, help them find their way to the mystery that makes the moment suspenseful.

Of course, the tradition for cliffhangers, and mysteries more generally, is that authors often make readers wait to learn an outcome. In the next section, we consider the types of activities in which readers may engage while authors make them wait.

Convergent and divergent thinking

The research on small mysteries provided a concrete demonstration of the capacity of mysteries to draw readers' mental resources. In this

section, we review circumstances in which readers might be inclined to take a voluntary pause, as they experience a narrative, to engage in particular types of thinking that will give rise to inferences. In particular, we focus on the types of thinking that have been associated with creativity, *convergent thinking* and *divergent thinking* (Eysenck, 2003; Guilford, 1959). Convergent thinking helps people to fuse ideas, pull concepts together, and find solutions to problems with one well-defined answer. By contrast, divergent thinking is responsible for novelty and allows people to form many solutions to problems with ill-defined answers. Both types of thinking are relevant to readers' experience of mysteries.

Consider the classic genre mystery. Earlier, we alluded to *Stagestruck* (Lovesey, 2011). As the novel unfolds, a police detective named Peter Diamond leads a team of officers who are tasked with discovering who it was that laced an actress's makeup with a caustic substance. Readers have the opportunity to use their convergent thinking skills to draw their own inferences about the identity of the guilty party. The author (mostly) plays fair, so that attentive readers could gather together various clues so that their inferences converge on the right solution. Part of the readers' fun is pitting their own convergent thinking ability against Diamond's and his colleagues.

Still, we emphasize that readers' opportunities to engage in convergent thinking do not just arise in particular genres. Consider a compelling mystery that arises in the literary novel, *The Family Fang* (Wilson, 2011): Are Caleb and Camille Fang (the parents of the family Fang) dead? This is a good moment for convergent thinking, because clues push in opposite directions. The official, Officer Dunham, who contacts the children, Annie and Buster, believes the Fang parents are, in fact, dead (pp. 155–6):

> There is a significant amount of blood around the car, there are signs of a struggle, and we have been dealing with similar incidents occurring at rests stops around this area for the past nine months. I don't want to alarm you, but there have been four incidents in East Tennessee involving rest-stop abductions, all ending in homicides.

The children believe that this is an elaborate performance piece by their artist parents. They marshal evidence that a disappearance of this sort would be consistent with their parents' past art practice. Readers have the opportunity to determine, for themselves, how they believe the pieces fit together. Readers' convergent thinking may, in addition, be influenced by an aesthetic question: Will the novel be more interesting if the parents are dead or alive?

Narratives also provide readers with abundant opportunities to engage in divergent thinking. Consider another moment from *A Wanted Man*

(Child, 2012). Along with two partners, Jack Reacher is moving stealthily across a piece of land that they believe is a farm. They begin to sense *something* in the distance (p. 345):

> And then they saw it. Maybe the greater proximity did the trick, or maybe the wind moved the cloud and threw a couple of extra moon beams down to earth. Or maybe both.
>
> It wasn't a farm.

The mystery here is clear: If "it" wasn't a farm, what was it? The scene provides an optimal prompt for divergent thinking. The classic laboratory measure of divergent thinking is the Alternate Uses Task (AUT; Guilford, 1967). For this task, participants must generate many uses for common objects, such as a brick, newspaper, or paper clip. Novelty is measured by the originality of an idea in a given sample of responses. This moment from *A Wanted Man* provides readers with the opportunity to generate ideas for what "it" might be. In a sense, they are testing their own ingenuity against the author's creativity. Readers are likely to be most impressed when the author provides an answer to, in this case, "not a farm" that eludes their own divergent thinking.

Readers also have opportunities to engage in both convergent and divergent thinking when characters are faced with dilemmas. For example, in *Hell & Gone* (Swierczynski, 2011), Charlie Hardie has been sent to a prison that is far below ground, with its one exit welded shut. To add to his misery, the prison has a "death mechanism" (p. 74) that will call everyone (prisoners and guards) should anyone try to escape. The novel provides abundant prompts for readers to make mental attempts to help Charlie find his way out of this very locked room. Reasonable ideas are regularly thwarted.

Readers' unsuccessful attempts to aid Charlie should increase their feelings of suspense. Consider research by Gerrig and Bernardo (1994) that demonstrated how suspense varied with the apparent elimination of solutions to characters' dilemmas. In one experiment, Gerrig and Bernardo created a story about James Bond. In the story, Bond had a confrontation with a villain, Le Chiffre, and Le Chiffre's henchmen. During a scuffle, Bond moved his fountain pen deeper into his breast pocket, as if to indicate that the pen had some problem-solving significance for escape. At the end of the *pen-removed* version of the story, the villain searched Bond and confiscated the pen. At the end of the *not-removed* version, Bond retained his pen. Participants who read the pen-removed version reported higher levels of suspense than those who read the not-removed version. When faced with the removal of the pen, we suggest that readers engaged in a brief bit of divergent thinking. By convincing themselves that the pen provided *some* solution for Bond,

readers also likely convinced themselves that, by virtues of the pen's removal, Bond's options had been narrowed. Readers' strategic use of their own inferential processes caused them to experience the scenario as more suspenseful.

But will all readers have undertaken this mental effort? In our final section, we turn to individual differences with respect to convergent and divergent thinking.

Individual differences

We have suggested that readers have ample opportunities to engage strategic effort to address narrative mysteries. They may encode inferences as the products of either convergent or divergent thinking. Within the territory we have outlined, there is abundant room for readers' efforts to bring about radically different experiences. Here, we provide a sketch of relevant individual differences.

To begin, people differ in their ability to engage in convergent and divergent thinking (Hennessey and Amabile, 2010). For example, researchers often measure convergent thinking using the Remote Associates Test (RAT; Mednick, 1962). The test challenges participants to find a single word that connects three other words. Thus, a participant might see "land," "hand," and "house." The word that connects them is "farm." In one study using the RAT, college students attempted to solve twenty-five problems (Smith, Huber, and Vul, 2013). Their performance ranged from 16 percent to 68 percent correct. We suggest that such individual differences would likely also have an impact on readers' ability to piece together the clues to generate a solution to a mystery. Similarly, individual differences in divergent thinking could affect the quantity or quality of mental assistance readers are able to give when characters are imperiled. Recall the research we just reviewed that demonstrated readers' role in their experiences of suspense (Gerrig and Bernardo, 1994). Individual differences in divergent thinking may affect the extent to which readers experience suspense.

Readers' narrative experiences will also differ as a function of their motivation to engage in either convergent or divergent thinking. Recall the moment from *A Wanted Man*, in which the text reads, "It wasn't a farm" (Child, 2012, p. 345). Readers will choose how much effort they wish to expend, in the moment, to infer what the not-farm could be. Some readers will likely take up the author's invitation to engage in creative thought whereas others will likely immediately choose to turn the page. Similarly, some readers of *Stagestruck* (Lovesey, 2011) will labor to infer the perpetrator of the assault against the actress (and other

crimes that follow), whereas others will cede full responsibility to the detective, Peter Diamond, to unmask the villain(s). Individual readers' motivation may be influenced by their *self-efficacy for creativity* (e.g., Carmeli and Schaubroeck, 2007; Choi, 2004; Tierney and Farmer, 2002). Generally speaking, self-efficacy is people's belief that they can perform adequately in a particular situation (Bandura, 1997). Creative self-efficacy is people's particular belief that they can perform well on a creative task. Self-efficacy has a positive relationship with creative performance (e.g., Carmeli and Schaubroeck, 2007; Choi, 2004). Readers may not specifically think of narrative experiences as a domain in which they need to exercise creative thinking. Still, some readers are likely to have developed a sense of themselves as being, for example, good at solving (genre) mysteries. A history of perceived successes would lead to a type of self-efficacy that would likely affect both the types of narratives readers would choose to consume and the mental effort they would expend once they have begun to experience those narratives.

Readers' narrative experiences will also differ as a function of the products of their convergent and divergent thinking. Recall *The Family Fang* (Wilson, 2011), in which readers face the mystery of whether Caleb and Camille Fang are actually dead. Some readers will use convergent thinking processes to infer that the Fangs are, in fact, dead, whereas other readers will infer that they are still alive. In the face of those inferences, readers' experiences will radically diverge. Each type of reader (i.e., dead or alive), will evaluate subsequent events in a different light. They must determine how new evidence supports or challenges their initial inference. And, of course, one group of readers will be wrong. The novel's resolution will play out quite differently, once again, as a function of individual differences in the products of convergent thinking.

Conclusions

In this chapter, we have discussed two pervasive elements of readers' narrative experiences: Their encoding of participatory responses and their engagement with mysteries. In each case, we have suggested how inferences often create a context for these phenomena to wield an impact. Inferences often lead readers to encode participatory responses. Inferences help readers recognize when a mystery is present; readers engage the inferential processes of convergent and divergent thinking to address those mysteries. Although we have discussed participatory responses and mysteries separately, we hope it has become clear that they often emerge at the same moments, and intensify people's experiences: At the same time viewers engage mental effort to prevent Marnie

from letting her shoe drop, they are contemplating the mystery of what might happen if and when it does. This moment obtains much of its vigor from the foundation of viewers' inferences.

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