## Narrative research in communication: key principles and issues
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Veröffentlichungsversion / Published Version
Zeitschriftenartikel / journal article

# Narrative Research in Communication:
# Key Principles and Issues

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**Highlights**

• Narrative has taken a central presence in Communication research.
• Although few communicaiton scholars make a distinction between narrative and story, narrative and story need to be defined for conceptual and analytical clarity.
• Stories provide causal linkages between events while narratives have specific structures that affect the involvement and attention that is required to develop those linkages.
• Narration simulates the social world through abstraction, simplification and compression.
• In situation models, words, actions, ideas, sounds and images are all brought together to enable us to experience a narrative for ourselves.
• It is inevitable that we will adopt the perspective of characters so that we can understand a narrative.
• However, we maintain our attitudes, stereotypes, prejudices, and knowledge of the world that we have experienced. We don't become the character, but the character is us.
• Perspective taking is influenced by the nature and type of character goals and motivations, as well as our knowledge of real-world (physical) constraints on the narrative action, and even some physical aspects of the audience member.

**Abstract**

A great deal of recent research on communication has been developed in the general area of narrative or narrative effects. The majority of this work has brought in older communication concepts without reconciling those concepts with what has been learned about narrative in other social sciences. This review covers some of the major points from research on narrative to help expand the knowledge base and suggest directions for additional work in the field of communication.

**Editor:** Giorgio P. De Marchis, Universidad Complutense de Madrid, Madrid, Spain

# Content

During the past decade, the concept of narrative has taken a prime place in a number of areas of communication research, including studies of entertainment, news, political communication, and health communication (Landreville & Lamarre, 2011; Lee, Hecht, Miller-Day, & Elek, 2011; Kim, Bigman, Leader, Lerman & Cappella, 2012; Prestin, 2013). While we continue to build a body of work focused on narrative in communication, there has been a tendency to build our knowledge from scratch, or from prior research in communication, without paying significant attention to research in Psychology, Neuroscience, Literature, Narratology and Education that has also been focused on narrative. These other fields have amassed a body of knowledge about audience interaction with narratives and developed a literature related to narrative structure, processing and effects that is directly relevant to current issues in communication.

This article examines the literature from diverse areas to develop an overview of what is known about narrative processes and effects. The article will focus on what has been learned in other fields and how that knowledge can inform our research, fill in gaps, and explain certain principles that may be useful in understanding communication processes as they apply to narratives. After describing that literature, we will focus on the idea that some of the gaps in the communication literature can be illuminated from what has been shown in other fields, and other issues can be studied more fruitfully in a cross-fertilization of techniques and methods. We argue that such an approach can enrich the knowledge base of multiple fields of study and enable communication researchers to progress more quickly in scientific study of narratives.

## Communication and Narrative

In communication, researchers have tended to not worry about a definition of narrative, and typically assume that everyone knows what a narrative is. Appel,

2008; Bilandzic and Busselle (2008); Busselle & Bilandzic, (2009, 2011); Cole (2010); Glaser, Garsoffky & Schwan (2009); Green & Brock (2000); Igartua and Barrios (2012); Kim, et al., (2012); Lee, et al., (2011); Moyer-Guse and Nabi (2010); Oliver, Dillard, Bae & Tamul (2012); Simons & Green (2013); Slater & Rouner (2002); Zwarun & Hall (2012) offer no definition of narrative except to consider story and narrative equivalent. Many of the above works focus on such concepts as comprehension, cultivation, persuasion, enjoyment, or narrative transportation, and these variables are reactions to a narrative (e.g., enjoyment, narrative transportation) or components of narrative processing (e.g., comprehension, cultivation, persuasion). However, given the large volume of recent communication research focused on narrative, our field would do well to develop a definition.

Those who distinguish between the two terms are likely to consider narrative as the structure of all the events in a story, while the story is the sequence, or order, in which the events occur. Whether we use narrative or story, though, has implications for what we might expect in terms of communication processing and effects. Indeed, much of the work on comprehension of narratives via reading assume that comprehension strategies are based in problem solving, in which the reader attempts to establish a chain of causal relationships from the opening of the narrative to its conclusion (Albrecht, O'Brien, Mason & Myers, 1995; Trabasso & van den Broek, 1985; Radvansky & Curiel, 1998).

Traditionally, narrative has been defined as a sequence of two temporally ordered clauses. A change in their order will result in a change in the interpretation of the sequence. More recently, others (e.g., Herman, 2009) have noted that narratives have a spatiotemporal, rather than temporal, order, so any definition needs to include both space and time in relation to narrative events. Chang's (2013) study of narrative advertising effects, for example, refers to two key features: chronology and causality. Escalas' (2006) piece suggests that narratives tell stories by including one or more episodes with actors engaged in actions to achieve goals. While no definition is able to meet the requirements of the many fields in which narrative research is conducted, nearly all of them involve the following four characteristics: actors, events, time and space. The connection between the actors and events is through a fourth consideration, that the spatio-temporal sequencing is causal.

Figure 1, for example, indicates some of the possibilities for a simple story involving three events. For simplicity, characters, space and time are not shown. Narrative A is a simple story arranged in the order in which events took place. The focus for an audience member will be on specific points of the story and how different events relate. Narrative B uses the same three events, but opens at the ending event, proceeds to the first event, and moves to the second event. This second narrative, ostensibly the same as in the first example (the same three events occurred), though, is structured differently. If we mov Event3 to the beginning, there are two issues that need to be resolved. The first of these issues is the question of relating Event3 to Event1 in some sort of causal relationship. The second requires the audience member to resolve Event3 via Event2. In that sense, much more work is involved in comprehending the narrative of narrative B than narrative A, while in all cases, the story remains essentially the same. The third example, narrative C, requires the audience to resolve each event in terms of what they are told after the event has transpired. Again, the same story is being told, but this type of story is likely to involve different skills in comprehending the narrative.

It would appear that Narrative A can be understood with lower involvement, attention, and cognitive processing, than would be needed in Narrative B or Narrative C. Narrative B includes some of the characteristics of Narrative A (moving from Event1 to Event2), but, for comprehension, will also involves a different skill, one that allows the audience member to recall the details of Event3 in enough detail and long enough to enable its resolution through Event2. Narrative C involves some of the cognitive abilities of Narrative B, but in a different manner. In this case, each event must be explained by the event that directly follows it in the narrative.

For purposes of this review, then, narratives and stories are similar in that both require at least one actor and at least one event connected through some sort of causal spatio-temporal framework. Such a definition may fit narrative in interpersonal and mediated formats. A story consists of those actors, events, space and time described within the temporal sequence of events. The narrative presents the actors, events, space and time in the order in which they are revealed to the audience. Notions such as
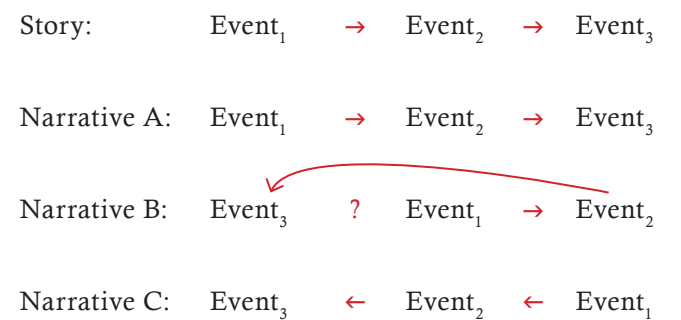
| Story: | Event$_1$ | → | Event$_2$ | → | Event$_3$ |
|---|---|---|---|---|---|
| Narrative A: | Event$_1$ | → | Event$_2$ | → | Event$_3$ |
| Narrative B: | Event$_3$ | ? | Event$_1$ | → | Event$_2$ |
| Narrative C: | Event$_3$ | ← | Event$_2$ | ← | Event$_1$ |

**Figure 1.** A simple story expressed in three different narratives

identification may be associated with the story more than the narrative. Other concepts, such as transportation, persuasion and the construction of meaning may be more likely to be associated with the processing of, and reactions to, narrative. Without empirical evidence, we can only offer conjecture, but, at minimum, with definitions, we can ask these types of questions.

## Narrative Structure and Meaning

Given the definition and illustration provided above, we can surmise that narratives have a structure – a specific sequencing of events, actions, character entrances, character exits, and temporospatial locations. Some research has begun to uncover the effects of these narrative structures and their implication for audience involvement, understanding, and enjoyment. Bundgaard and Ostergaard (2007), for example, indicate that narrative structure describes how certain characters move from one state of existence to another. The structure, they note, is a dynamic means to organize meaning. Using Hemingway's "A Very Short Story" as an example, they indicate that reversing the order of the story changes the story from one a hopelessly sordid story to a love story following classical narrative traditions.

In the Bundgaard and Ostergaard (2007) work, simply reversing the order of events leads to very different conclusions. A study by Chang (2013) indicates that when we recognize aspects of narrative structures, such as the spatial location, we are able to process narratives more efficiently. Chang reasoned that episodic memory models (Wyer, Hung & Jian, 2008), can be easily accessed and

activated by presentation of ads set in similar circumstances. Chang found support for the idea that these episodic memory models make narratives easier to comprehend. When confronted with a snow scene versus a mountain scene as an ad background, participants, who were more likely to have experienced mountains than snow, had higher comprehension of the ad, even though both versions incorporated the same text.

Within the field of communication, the *formal features* of content have been studied much longer than have been narratives per se. Formal features are those aspects of the narrative that are a part of the narrative itself, such as chronological order, fades, dissolves, cross-cutting, etc., as well as visual effects, voices, sounds and pacing. Many are used by convention to indicate the passing of time, of two events occurring consecutively, or occurring at the same point in time. Formal features may also be used to help audience members understand a narrative by directing attention or providing information (Boiarsky, Long & Thayer, 1999; Calvert, Huston, Watkins & Wright, 1982; Huston, et al., 1981). Research on formal features suggests that with children's commercial television, formal features are used to attract attention (e.g., fast cuts, music, sound effects), while educational television used formal features to enhance comprehension or engage in elaborate processing, such as with long zooms, or singing (Calvert, et al., 1982). Bilandzic (2003) has suggested that these features also are used as cues to media audiences in deciding which television programs to watch while scanning. Bilandzic & Busselle (2008) also suggest that formal features enhance emotions and facial expressions in audiovisual media.

## Origins of Narrative

Narrative and story are inherently connected to play. Singer (1995) described the role that imaginative play holds for children – it is a precursor to daydreaming and adult pretending games. Oatley (2011) has described these processes as building blocks enabling children to enter story worlds and begin to develop sophisticated mental simulations. Oatley notes that Freud was one of the first to suggest that narrative fiction itself derives from childhood play. Freud felt that the writers draw from childhood play for their material, and that for many adults play is

carried out in day-dreaming as an expression of wishes.

Singer (1995; Singer & Singer, 1990) suggests that childhood play aids in development of mastery and confidence in negotiating the world, although he also notes that Sutton-Smith's (1988) description of play as developing a sense of competition and power may be valid as well. Both theorists have argued that childhood play is a training ground for adulthood. Much of childhood play involves the use and reworking of shared narratives – groups of children often form a narrative by using what they know of historical events or media stories, with different children taking the roles of certain characters within the narratives. As Oatley (2011) notes, children move easily back and forth between enacting roles in a story and developing their own story lines within the same activity, even switching between roles as necessary to further the story.

Play is where we learn to interact with others, where we learn to communicate intentions, where we develop and follow rules, and suffer the consequences when we break those rules. We also learn to anticipate others' moves and reactions to our moves. Oatley (2011) notes that many mammals engage in play and suggests that play prepares us for potential danger and forges strong social bonds.

Singer (1995) describes childhood play as a method that children have for dealing with complexity and novelty. Play enables them to a) re-experience or reconstruct events, interactions or thoughts that evoke the emotions of interest, excitement and joy; b) avoid situations that evoke anger, fear, sadness or shame/guilt; c) express their emotions as fully as possible, and d) help control emotional expression when it is necessary to do so. Singer then suggests that play is really the attempt to deal with real world objects and people.

Through play, children match novel stimuli with what is already known. If it is not possible to match with what is known, play is used to reshape the people and objects to manageable sizes so that they can be explored and manipulated. This is the process described by Oatley (2011) as miniaturization, or shrinking events, and objects to a manageable size. Toy soldiers, dolls, miniature castles, stuffed animals, and war games involving only a few children are all manifestations of this type of miniaturization.

Oatley (2011) connects this notion of childhood play to narrative by reaching back to Aristotle's notion of *mimesis* (world-making) as being a part of learning from childhood on. Through mimesis, the child rehearses, replays and so learns about the world and how to interact within it. As a child matures, the objects become mental objects in story worlds.

## Simulated Worlds

The worlds described by Aristotle and those who study children's play have only recently been extended to narrative as something akin to complicated simulations. Mar and Oatley (2008) have suggested similarly that narratives provide a simulation of the social world, providing the impetus for learning rules and behaviors involved in social interaction. Narration simulates the social world through abstraction, simplification and compression. The simulation becomes a deep experience of social interaction which is seen as facilitating communication and our understanding of social information. Bruner (1986) further suggests that humans build cognitive structures that represent the objects and events in our lives in a process that is similar to those structures we build for narrative because both have a similar function: to help us better understand the world around us. A number of others have written about the importance of narrative and world-making to understanding our world, and how our understanding of the real world affects our interpretation of narratives (Gerrig, 1993; Gerrig, Brennan, & Ohaeri, 2001; Graesser, Singer, & Trabasso, 1994).

Graesser, et al. (1994) developed a theory of inferences that are made during narrative processing. According to their work, audience members abandon the process of inference and meaning making if they do not have proper background knowledge. Gerrig and colleagues (Gerrig, 1993; Gerrig, et al., 2001) have suggested two important inferences we make while reading. One of these, projected knowledge, occurs when readers use evidence from a narrative to project their own knowledge to the characters: we assume the characters will have the knowledge we have about the world. Their second suggestion is called projected co-presence and suggests that the audience members infer that multiple characters have knowledge of the same information; sometimes that knowledge is something the audience member him/herself does not

## Situation Models

Cressey (1938) described our mental imaginings as neither wholly social nor wholly nonsocial; instead, he said they are *extrasocial*. Cressey thought we worked out various social worlds and imagined ourselves in those worlds. The sophisticated research techniques available to us today have made it evident that the imaginative worlds we learned how to construct in childhood are constructed with virtually all narratives (Graesser, Bowers, Olde, & Pomeroy, 1999; Magliano, Taylor, & Kim, 2005; Noh & Stine-Morrow, 2009; Zwaan & Radvansky, 1998; Zwaan, 2004). These worlds are much more complex than researchers would have imagined only a few years ago.

We have used the term situation model to describe these worlds, although a number of similar terms have been used, such as simulations and imagined worlds. Some researchers include situation models and character models as two different components (cf., Bilandzic & Busselle, 2011), and many other models of content and process have been proposed, including constructionist theory (Graesser, et al. 1994); event-indexing (Zwaan, Langston, & Graesser, 1995), landscape model (van den Broek, Bohn-Gettler, Kendeou, Carlson, & White, 2011); or the resonance model (Albrecht, et al., 1995). For most researchers, the situation model encompasses all the components of the story, including characters, situations, events, objects, settings, as well as those components which we must bring into the story from the real world so that the story makes sense (physical reality such as gravity, historical knowledge of people and events, etc.) (Graesser, et al., 1999).

In situation models, words, actions, ideas, sounds and images are all brought together to enable us to experience a narrative for ourselves. We construct these situation models as we process the information, so that we feel the experience much as we engage with the real world (Zwaan & Radvansky, 1998). In simulating the narrative world, we rely on the information we have developed about people and how they behave. Our simulation enables us to make predictions about past and future narrative events, and these predictions are either confirmed or denied as

the narrative progresses (described as *plotting* – Holland, 1975, or *replotting* in Gerrig, 1993). In this way, we sharpen our own knowledge of humans while learning about situations we may have never experienced (e.g., becoming a parent), or could never experience (e.g., being born of a different race or ethnic background) in the real world. Without narrative, told interpersonally or through media, all we know of the world is what we have experienced directly.

Radvansky (2008) has shown that, as we read or watch a narrative, the situation model that develops has a number of components that contribute to our comprehension and memory for story events. The first of these is the overall situation model – a memory representation of the situation described in a narrative. Research has shown that the situation model memory is separate from memory of the narrative itself (Johnson-Laird, 1983; Zwaan & Radvansky, 1998). The situation model is embedded within a spatial-temporal framework that provides the context for defining any particular part of the narrative (Radvansky & Zacks, 1991). Radvansky suggests that within this spatial-temporal framework are specific *tokens* that stand for the entities in a story: people, objects, concepts, etc. Each of these tokens has external and internal properties (e.g., physical properties, such as size and hair color, or mental properties, such as emotions, motivations, etc.).

Another component within this situation model or simulation is the relation between the tokens as they relate to the narrative. These include such things as ownership, social connections, spatial proximity, and so forth. Radvansky (2008) suggests that the probability that any particular token or relationship is included in the model will be a function of the degree to which it will be involved in an interaction among the elements. The tokens involved in one character taking car keys from a dresser might not be important if the person is going to simply drive a car to a destination, and the destination is more relevant to the story. The same act, if the person taking the car keys should not be driving due to alcohol consumption or other reasons, may be critical to the story. The token representing that action may be nearly inactive in the former, while in the latter scenario, the token might take the center stage of the model, in anticipation of what might happen next.

The final component in this version of the situation

model is one of linking relations between spatial-temporal frameworks within a story. These linking relations provide connections (usually causal) between different aspects of the tokens. Radvansky (2008) and others have shown that memory for the situation model lasts much longer than memory of a text itself (Kintsch & Mross, 1985; Radvansky, Zwaan, Curiel & Copeland, 2001). One will remember that the keys were taken much longer than the sentence used to describe the character taking the keys.

Radvansky's program of research has also demonstrated, and the research provided an explanation for, what is called the fan effect which has long been observed in psychology. The fan effect is an increase in memory retrieval time (or errors in retrieval) due to increased associations with a concept. If people memorize three sentences that indicate three different locations for an object (A ball is in the yard, A ball is on the roof, A ball is under the car, for example), it takes longer to verify that any one of the sentences was read before than if one sentence had been used (e.g., A ball is in the yard). This is because people are thought to develop three different situation models – one for each location, since the same object cannot be in 3 different locations. However, if they are given three sentences in which the objects are all different, but the location is the same (e.g., A ball is under the car, A stick is under the car, a squirrel is under the car), the information is integrated into a single situation model, and no effect is observed on retrieval time or error rate when asked whether a sentence has been read before.

Radvansky (2008) goes on to show that people organize situation models around actual world knowledge (e.g., events in the world, social conventions, ownership, space and time). For more elaborate narrative memory, Radvansky and others (Zwaan, 1996) have shown that with situation models created during consumption of a narrative, information about various tokens within the narrative follow general rules for spatial-temporal location in the real world. That is to say that we categorize and remember narrative objects in a way that reflects how a protagonist would interact with it in the real world, subject to time, space, gravity, weight and mass (Radvansky, 2008; Zwaan, 1996).

The situation model presented by Busselle and Bilandzic (2009) is consistent with much of this research, but is focused on audience effects association with construc-

tion of the situation model (e.g., transportation, flow, comprehension) rather than the particular components of the model. The models and details presented in this section focus instead on tokens of the narrative and the linking relations between the tokens.

## Continuous Updating

As we construct situation models of narratives, portions of the information from the narrative is available in short-term memory (Mareno-Rios, Rodriguez-Menchen, & Rodriguez-Gualda, 2011; Oatley, 2011; Rapp & Kendeou, 2009; Reidl & Young, 2010; Weingartner & Klin, 2005, 2009). However, these details need to be updated after an event or change in a situation, character, time or location (Brunyé, Mahoney, & Taylor, 2010; Gerrig, Brennan, & Ohaeri, 2001). Because we have a limited capacity short-term memory, our thoughts and ideas must be taken out of short-term memory to make room for new information when the narrative focus changes,. Situation models appear to be constructed as a kind of bridge between short-term and other types of memory. That is, as the situation model is updated with new information, short term memory holds the new information while long term memory is accessed and alternative models are constructed. Each of these versions must be placed in long-term memory so that it is accessible as events change. Short term memory provides for the maintenance of retrieval cues for the models in long-term memory. The long-term memory model is relatively stable, while the short-term memory is much more volatile (Ericsson & Kintsch, 1995; Flanagan, 2008; Schneider & Dixon, 2009).

The situation model itself provides the gist of the situation (Radvansky & Curiel, 1998). As we read or listen to a narrative, we process words or actions and the propositions (or meaning) that connects the words/actions. The situation model enables us to ignore the exact words that are used in favor of retaining what is meant by the words. In this way, we are better able to update situation models. We lose the exact words that were said, but maintain fast access to the ideas that are being communicated within the narrative.

Thus, for example, if we read that "Mary gave a book to Sally," then given a list of sentences and asked if we have read any of them before, we are more likely to think

we have read "Sally was given a book by Mary" before than we would if the sentence were "Mary gave a car to Sally," even though the latter sentence is much closer in terms of the words being used. The meaning is more similar in the first instance than in the second.

Having the meaning of the narrative in short term memory, rather than all the details of a narrative, allows us to update the situation model quickly and efficiently, without having to keep too many items in short term memory. In fact, effective comprehension requires us to create these abstract representations of the narrative (Johnson-Laird, 1983, Mar & Oatley, 2008).

## Predictive Simulations

Gerrig (1993) describes something he refers to as anomalous replotting: actively thinking about what could have happened to change the outcome (p.177). Research, though, suggests that, in addition to thinking about how a narrative outcome could have been different – a retrospective assessment – we also actively make predictions and guesses as to future events, implications of actions, and other details within the context of processing the narrative (Lynch & van den Broek, 2007; Magliano, Dijkstra, & Zwaan, 1996; McDonald, Sarge, Collier, Lin, & Potocki, in press). In that sense, prediction further indicates how active our construction of the situation model may be.

Because it is not necessarily retrospective, plotting might be a better descriptor of what happens when we hear, read or watch a narrative. Plotting is a method of making a series of predictions about what will happen next, and allows the person who is reading the narrative to consider multiple implications, multiple outcomes, and many different pathways toward conclusion of a story. It is likely that many of the emotions we experience, such as suspense or surprise, are a result of our expectations in contrast to narrative events. While much of plotting is internal and mental, there has been anecdotal evidence of the effects of plotting for many years, with reports of people giving advice or talking directly to characters on television (Gantz, Wang, Paul & Potter, 2006; Kassing & Sanderson, 2009). The notion of parasocial interaction is related to the idea of plotting, but in parasocial interaction, the idea is that an audience member engages in an interaction with the character as if the character is real. With plotting, there may be no thought that the on-screen character is real, but the audience members may be talking aloud as they work out the details or implications of the plot.

## Social Components

Connecting narrative to social processes is unavoidable. While a narrative might not include people, it will inevitably include some aspect that we understand to be a part of our social world. If the narrative involves animals or even simple dots as characters, we will still ascribe motivations that are human to the characters. As Oatley (2012) indicates, our mental simulations help us understand physical and social rules, individual motivations and reasoning, and other factors that are highly dependent on the skills we have learned as social creatures. Using different terms, Paul Cressey (1938, pg. 519) long ago described motion picture viewing in similar ways: instead of facilitating social interaction, the cinema serves chiefly to set up imaginative states. In these, imaginative participation takes the place of social participation.

In other words, with narratives we simulate social experiences or interactions, rather than participate in them. The accuracy of our simulations will depend on how well we understand the social conventions involved. We might, for example, read a science fiction story about a creature from another planet. In that case, we simulate a world in which such an interaction is possible, and we also simulate the behavior of the humans and the creature, based on what we know of humans, and, likely, other stories of aliens interacting with us. While our processing of narratives will have many of the psychological characteristics of a true social interaction, it will not actually have the interaction, only a simulated interaction as a part of the larger simulation of that world.

The social connection between narrative and the real world cuts both ways. Not only does our social knowledge enable us to make more sense of the narrative (Lynch & van den Broek, 2007), but there is evidence that, as we make sense of the narratives in our lives, we may be increasing our empathy and understanding of people in the real world (Mar, Oatley, & Peterson, 2009).

## What We Do with a Narrative

If the research is correct that the situation models that are created when we hear, watch or read a narrative help us function in the real world, then there is a need for us, as humans, to construct accurate situation models. The situation model is an individual construction that draws from, but differs from, the information in the narrative itself.

For each of us, the situation model is somewhat different, and largely dependent on various individual characteristics, such as the degree of attention, our understanding of the social system depicted in the narrative, the details that attracted our attention, etc. While we remember some aspects of the exact text or plot, we also have to use our own knowledge to interpret the narrative in a meaningful way (Lynch & van den Broek, 2007; Zwaan, Graesser, & Magliano, 1995).

Much as we interact in the real world, our situation models need to be dynamic so that we can respond to changes among any of a number of actors or events, make corrections as different pieces of information are brought to light, and used to predict events ahead of time.

## Embodied Situations

If we return to our definition of a narrative, we recall that it refers to actors and events occurring within a space or multiple spaces, connected through a causal spatio-temporal sequencing. If we consider a simple narrative within the context of that definition, we see that even simple narratives result in very complex situations. Multiple actors are likely to be in a number of different locations at different points in time. Evidence is accumulating that our situation model conforms to our expectations about real world physics, time and geography, such that these simulated worlds work very much like the real world (Brunyé, et al., 2010; Drumm & Klin, 2011; Klin & Drumm, 2010; Moreno-Rios, Rodriguez-Menchen, & Rodriguez-Gualda, 2011; Schneider & Dixon, 2009).

Research has indicated that in addition to time, space, actors, sequencing and causality, adults keep track of psychological factors related to the actors. In addition, we bring our knowledge of the real world into our simulation such that everyday objects that are, or in real life would be, in the vicinity of the actors will be in our simulation. A kitchen will likely include an oven in our simulation, for example, whether it is included in the narrative or not (Fecica & O'Neill, 2010; Zwaan, 1996; Zwaan & Radvansky, 1998).

Sundermeier, van den Broek, and Zwaan (2005), as an example, found that, not only are story objects and their locations included within the situation model, the causal structure, or even a presumed causal structure, influences the extent to which those objects were cognitively available to readers. In a murder mystery, for example, a gun that is mentioned in the narrative will remain highly accessible in the situation model we develop; a description of what was eaten for breakfast by a character is likely to be relatively inaccessible after the breakfast is over.

A growing number of studies provide evidence that we *embody* the narrative situation. In embodied cognition, high-level cognitive processes are grounded in bodily mechanisms of perception, action and affect (Barsalou, 2008; Glenberg, Goldberg, & Zhu, 2011). In essence, our understanding of what is being communicated requires us to activate our own experiences with the world (Fecica & O'Neill, 2010). The evidence is mounting to indicate that, during the processing of a narrative, readers actually simulate perceptual, motor and affective content of narratives (Brunyé, Ditman, Mahoney, Augustyn, & Taylor, 2009; Fecica & O'Neill, 2010; Glenberg, 2010; Speer, Reynolds, Swallow, & Zacks, 2009; Zwaan, 2004).

Fecica and O'Neill (2010) note that numerous neuro-imaging and behavioral studies have provided evidence consistent with an embodied account of situation models. They cite evidence from 12 studies to suggest that when we read, hear about, or watch actions, brain regions associated with those actions are activated. This includes running, walking, speech, object manipulation, navigation of spatial movements, and any of a host of activities. When a narrative situation changes to involve another action, the brain region involved in performing that action becomes activated (Fecica & O'Neill; Speer, et al., 2009). In other words, the evidence is mounting that, when reading, listening to or watching narratives involving perceptual and motor movements, our minds quite literally simulate the events and actions described.

Similar studies have shown a number of aspects of embodied reading of narratives. Silent reading, for example, reflects the reader's regional accent (Filik & Bar-

ber, 2011). The use of pronouns in stories results in readers embodying the actor's perspective when "you" or "I" is used, but an external perspective when "he" is used (Brunyé, et al., 2009), and that readers actually simulate the sounds of auditory images, such as engines clattering when reading about the engines (Brunyé, et. al, 2009).

Reaction time studies also support the view of an embodied situation model and indicate that the narrative actions and events prime those actions for us. Zwaan and colleagues (Zwaan, et al., 1995; Zwaan & Radvansky, 1998; Zwarun & Hall, 2012), for example, have shown that we recognize pictures similar to events described in narratives faster than we recognize pictures that are inconsistent with a narrative we have read. Glenberg & Kaschak (2002) show that we are faster at making movements that are consistent with a narrative we have just read than we are when the movements are inconsistent with those narratives.

Even more intriguing, readers apparently simulate the length of time required for events in a story. Fecica and O'Neill (2010) report a study by Matlock that found that readers took longer to read the sentence "Road 49 crosses the desert" when they had been told that the desert is 400 miles in diameter than they did when they had been told that the desert was 30 miles across. These findings appear to be a result of the simulation, not of issues in reading interference or other extraneous results. In their own study, Fecica and O'Neill found that even pre-literate children (3-5 years old) simulate a character's movement while listening to a story, and that real-world knowledge and expectations of the duration of locomotion (walking and driving) influence the processing time required to comprehend the story.

Additionally, Fecica and O'Neill (2010) found that the motivating factors of narrative characters (e.g., eagerness or dread of completing an action) influenced the simulation of the character's actions. This was true even when their own attitudes toward the event ran counter to those of the character. In other words, children's processing time is consistent with a described character's perspective, not their own perspective. Still more interesting, character perspective effects in their study were only evident when the character's movement was under that character's control (i.e., walking), and not when the character was being driven by a parent (i.e., the character was in a car). Taken together, the Fecica and O'Neill (2010) results

provide strong support for the idea that even young children are not only able to simulate a character's movement, but do so consistently, and that these simulations follow the laws and expectations of real-world influences, including psychological states, distances and modes of transportation.

### Cross-Modality Effects

These kinds of effects might be classified as within modality effects because they are related to the content of the narrative itself, and a function of the medium being used to communicate the narrative. Other researchers have focused on cross-modality effects: what happens when a different communication modality is provided during the construction of a situation model. So, for example, a printed narrative includes auditory information, such as how to pronounce a word, or the screech of a locomotive.

An intriguing study by Schneider and Dixon (2009) focused on the speed with which readers were able to reinstate a simulation after a disruption. They found that when images were provided as visuospatial cues related to the model (i.e., a printed narrative involving a committee meeting used a picture of an office as a related visual) the interruption effect was smaller than when visuospatial cues were unrelated to the model (i.e., that same narrative with a picture of a kitchen).

A piece by Brunyé, et al., (2010) found that when participants read a narrative that involved walking they altered their reading speed to match a metronome that was audible in the background. When footsteps, rather than a metronome, were audible while reading a narrative, there was an effect on how large (in physical terms) the space within the narrative would be. The finding suggests that narratives are simulated, and cross-modality information can alter how fast we process those narratives. More importantly, our memories of spatial aspects of the narrative can be altered by cross-modality information we obtain while processing the narrative.

### Embodied Characters

It is common to suggest that we become a character when we are heavily involved in a narrative (Cohen, 2001). Many times, there is an accompanying suggestion that

we have lost ourself in the story (Green and Brock, 2000). Current research is suggesting that, while we never lose our self in the story – we are always conscious of who we are and what we are doing – in a sense, we become all of the characters in a narrative.

Thinking broadly, the literature is suggesting that, the perspective taking we do while engaged in a narrative does improve our understanding of the story, but it also moderates whether the audience feels the emotional response the character would feel (Mano, Harada, Sugiura, Saito, & Sadato, 2009). Our mind simulates the action of an actor – any actor we see, read about or hear about (Klin & Drumm, 2010; Magliano, et al., 2005; Albrecht, et al., 1995; Frisson & Wakefield, 2012; Weingartner & Klin, 2009; Brunyé, Ditman, Mahoney, & Taylor, 2012). If that is the case, all of the actions of all of the characters become part of the situation model (Fecica & O'Neill, 2010; Sereno, O'Donnell, & Sereno, 2009); we cannot stop that process. Thus, in some ways, we take the perspective of, not just our favorite character, but our least liked character, and minor characters in between. We mentally perform the behaviors they perform, and coordinate that performance with the real world details that we believe will apply to the situation. The embodiment of character actions leads to a perspective taking that is unavoidable (Brunyé, et al., 2010).

## Character Goals

If narrative understanding involves comprehension and connections between the events described in a narrative, then another question arises as to how character actions relate to character goals and motivations, and how audience members understand those goals (Magliano, et al., 2005; Morra & Guðbjörnsdóttir, 2009; Morrow, Greenspan & Bower, 1987; Oatley, 2011; Riedl & Young, 2010).

If we become the character in terms of movements, gestures, and behaviors, whether they are hero, villain, or subsidiary characters, a question that follows is whether we also take on the goals and motivations of the characters in a process known as *goal contagion*. Albrecht, et al., (1995) find that readers do adopt the goals of a narrative character, when they are told what those goals are. In their study, participants adopted the goals of a character even if the goal had been satisfied from the pro-

tagonist's perspective, a finding which they saw as counter to causal reasoning models of goal adoption. Going further, they found that, if asked to view the situation from the perspective of the protagonist, the readers only adopted the protagonist's goals when the goals had not yet been satisfied. It appears that goal contagion occurs quite readily. However, when a reader adopts the perspective of a character, a character's goals and whether they have been achieved from the perspective of the character become salient factors (Albrecht, et al., 1995).

Aarts, Gollwitzer and Hassin (2004) found support for goal contagion but similarly conclude that it is not an automatic process. While mimicry or embodiment may not be under our conscious direction, adopting characters' goals appears to be: they are not adopted when the observed character's goal is conducted in a manner that is unacceptable, or if the attainment of the goal will be seen as unattractive to the audience member.

Most narratives are complex interweaving of multiple events and multiple characters having differing goals. Magliano, et al., 2005) examine what happens when goals collide in the form of different goals for different characters. They find even more evidence that our adoption of goals is under our control. While we can adopt the goals of characters, it is probably more accurate to say that we monitor the goals of characters in terms of what those goals are and the extent to which they are completed. Magliano, et al., (2005) find that we monitor multiple characters' goals, but that we monitor the most prominent characters' goals to a greater extent than we monitor the goals of lesser characters.

## Implications of Narrative Research for Communication Research

As a field, we are often thinking ahead of our capacity to test the ideas we may have. As other fields have developed methods and techniques to test some of the ideas that are similar to those our field has held for many years, we may see some cross-fertilization and a resultant clarification, of some of our basic concepts. Identification, for example, has been prominent in our field, at least since the Payne Fund Studies of the 1930s. Unfortunately, though, the conceptualization and measurement of identification has often been devoid of the narrative

context. Narrative research has begun to clarify what happens in the interaction between character and audience member.

There has always been confusion as to whether we become the character or we enter the story world. In the former version, we are the character, and so lose ourselves as we interact with others and perform actions in the story world. In the latter version, we remain ourselves, but we act and react to events or actions, sometimes agreeing, sometimes disagreeing with what the character does. In the former instance, we have little choice in our actions and reactions, while in the latter, we are able to think about and choose alternative courses of action, regret choices made by the character, or warn "I told you so."

The difference lies in what we, as audience members, bring to the narrative context. Do we keep our attitudes, stereotypes, prejudices, and knowledge of the world that we have experienced, or do we adopt those characteristics that we know are what the character thinks, feels or believes? The picture that is emerging from psychological research is that the former explanation is more likely. We retain our ability to step out of the action and back into it at any time (Rapp & Kendeou, 2009), we only adopt the goals of the characters to the extent that our real selves see those goals as appropriate within the narrative situation (Magliano, et al., 1996; Magliano, et al., 2005), and we therefore have an experience of being in the story world, but still apart from it (Gerrig, 1993).

That change alone provides a great deal of explanation as to why we might see counter-arguing occurring in a narrative. If the protagonist's goals are not complementary to the audience members, thoughts that accompany the processing are likely to follow a counter-narrative: I wouldn't do that if I were her. The notion of *transportation* or *narrative absorption* comes into play in this sense because identification often focuses attention on the idea that what we refer to as transportation. The research suggests two important questions that have not been addressed: can one be absorbed (transported) in a narrative without identification? Can we be absorbed without having compatibility between characters, goals and context? It is clear that the greater the compatibility between context, character, goals and our own beliefs and attitudes, the less counter-arguing we should see, and some types of counter-arguing clearly reflect a rejection of the narrative. What does counter-arguing a narrative suggest when that

counter-arguing takes the form of advice, of disagreement with a character's actions on moral or ethical grounds, or other issues? Certainly not rejection of a narrative - more likely there is a deep involvement of some kind. The types of 'participatory responses' that Gerrig (1993) describes are not parasocial interaction, and certainly do not fit with traditional views of identification. People often counter-argue because they are involved in a narrative. While as a field we have not been very specific about the antecedents of identification, transportation or narrative absorption, the literature we have described points at some intriguing possibilities that need further investigation.

Similarly, while Busselle and Bilandzic (2011), and a number of other researchers see identification and perspective-taking as equivalent concepts, the narrative literature outlined above is suggesting something else. Perspective taking is influenced by the nature and type of character goals and motivations, as well as real-world (physical) constraints on the action and physical aspects of the audience member (Brunyé, et al., 2009; Filik & Barber, 2011; Speer, et al., 2009; Zwaan, 2004). The literature in communication does not suggest any such limitations.

The notion of multiple characters does typically not even enter the discussion on identification. Narrative research, though, has taken note of the fact that there is nearly always more than one character, and that these other characters are monitored fairly closely. Such information has important implications for the social impacts of narratives, our learning about social interactions in the real world, and still more information of concern for real-world campaigns.

Very little research in communication has even alluded to character goals, yet the literature suggests that character goals may predict perspective-taking. Magliano, et al. (2005) provide a starting point for such research. Their method (event partonomy), as well as their results, provides an intriguing possibility for our field. In this case, participants segment activities into discrete actions, and indicate when actions change. They found that, when focusing on a narrative, participants make situation change judgments that were consistent with monitoring the goals of multiple characters, so that the situation changes with character goal status.

The notion of embodied cognition – that our minds

mimic the movements of characters in a narrative, and cannot really stop ourselves from doing so – has important implications for video game and violent media research. While a great deal of attention has focused on the idea that video games provide rehearsal for violent actions, the narrative research suggests that reading a story, watching a film or even listening to a story on radio also has such effects. It will be important to document not just that violent games have different effects than these other media, but also to explain why. Narrative research offers us that opportunity.

Another concern that has not really been addressed well in research on communication is the distinction between narrative and story. While for many purposes, we are talking about the same thing when we refer to a narrative and a story, when we do research, it becomes clear that certain research procedures change narratives, while others change stories. Experimental procedures, for example, might present a story in two different ways (e.g., one chronological version and one in reversed chronology), making two narratives. Other studies might present two different stories (e.g., one version where a character dies, one version where a character lives). The implications are important for our understanding of processing and reactions to stories and narratives, but if we never make the distinction, we will never understand the difference.

It is tempting to think of narrative structure as something along the lines of formal features (e.g., cuts, pacing, fades, scene changes, etc.), which are easily measured with video, audio or textual material. However, while these may be devices used within a specific kind of narrative structure, it is important for us to realize that a narrative structure is a very complicated concept. A change in the narrative structure may result in a change in the interpretation of the story. So, for example, the choice between a cut or fade may help in communicating a director's intention, but will the interpretation of the story remain the same? It will likely depend on certain aspects of the larger narrative structure, but these effects are virtually unstudied in mainstream communication research.

Taken as a whole, the inquiry into narrative has led to some interesting, even exciting findings about this particular aspect of communication. Some of these developments fly in the face of traditional assumptions about how communication works. Our field has been slow to incorporate these new ideas – possibly because of inertia, possibly because of a need to reexamine older ideas or conventional methods. Whatever the reason for the delay, research into communication and narrative has the potential to transform the field of communication. Let us hope it is welcome.

## Acknowledgements

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