

Persuading People via Computer-Based Narratives

Persuasive Technology Lab, Stanford University
BJ Fogg, Angela Booker, Abbe Don, and others
April 2004

Project Summary

In January of 2003 we began investigating how computer systems can use the power of narrative to change people's beliefs and behaviors. Our approach was unusual: Rather than using computers to change the nature of narrative, we investigated how computers can weave together sequences of interactivity and narrative (what we call "WIN") to produce an impact more powerful than using either interactivity or narrative alone. We believe this WIN pattern has never before been investigated systematically.

Over the past year our research has included the following:

- Collecting a set of readings that give insight into narrative and into computer-based storytelling.
- Identifying WIN experiences in the analog world, in video games, and computer programs.
- Identifying examples of software products that use WIN for a persuasive purpose.
- Mapping out the WIN patterns in software products to create a simple language and orthography.
- Creating prototypes that demonstrate the flexibility and power of WIN experiences.
- Creating a system to testing the appeal of first-person narratives easily.
- Outlining possibilities for future research.

This document reports on our progress so far (until end of March 2004). Note that this project will continue for at least another year.

Project Goal

To gain insight into how computing products can weave interactivity and narrative in ways that change what people believe and do.

Why Does This Matter?

Insights from this project will enhance computer-based learning, training, motivation, and persuasion, both in theory and practice.

Introduction to WIN – Weaving Interactivity and Narrative

People love stories. And for thousands of years narratives have shaped people’s beliefs and behaviors. We believe that storytelling is a type of technology developed before recorded history to pass along the best practices of a culture. Stories embedded in folktales, songs, rituals, and in other forms have promoted honesty, courage, teamwork, fidelity, among other things. Promoting these values—both in attitude and behavior—helped people and cultures survive. Of course, many people before us, such as Walter Ong,¹ have also recognized narrative’s important role. Anthropologist Barbara Myerhoff goes so far as to label humans as *homo narrens*, meaning that just as humans have a biological imperative to reproduce, they also have an imperative to reproduce culturally, through passing on stories and rituals².

In the past century new technologies have leveraged the persuasive power of stories – on radio in the 30s, on movie screens starting in the 40s, and today on TV commercials, hour after hour. Have computers also leveraged the persuasive power of stories? We find little evidence. We propose that narrative has not yet been widely used to make computing-based experiences more engaging or influential. In other words, even a mediocre TV movie generally packs more persuasive power than current examples of interactive fiction or online storytelling.

In the last decade, however, one important exception has emerged: video games. In our Lab’s research to find what makes video games motivating, we found that many popular games include segments of narrative, periods of time where the player doesn’t interact; she simply watches and absorbs part of a story. These are sometimes called “cut scenes.” The earliest video games didn’t have cut scenes; they were all about interactivity. A player dropped in a quarter or launched the Atari console and started firing away. But the art of game design has evolved. Today video game designers know (and argue about) the important role cut scenes play in compelling gaming experiences³.

Consider the latest versions of *Mortal Kombat* and *Pikmin*. Although these popular computer games differ in many ways, they have one thing in common: both games shift between interactivity and narrative elements. In the competitive world of digital gaming, interactive games have evolved to include narrative—setting the stage, providing transitions between levels, rewarding player achievements. Weaving interactivity and narrative has become a “best practice” in game design. We propose that the inclusion of cut scenes in video games is an important development in making these games more fun and, ultimately, more persuasive.

Something powerful happens—something quite difficult to capture in scientific language—as a narrator conveys a story while an audience listens or watches. To modify the traditional narrative form simply because computers now allow interactivity is to change the nature of narrative; this change, we propose, potentially weakens narrative’s persuasive impact. New interactive experiences can be engaging, we agree, but there is something powerful in the traditional narrative form that has successfully conveyed attitudes and behaviors from one generation to the next.

Throughout our research we have chosen to adhere to a traditional narrative form and not allow the audience to also become the storyteller. We find it striking that video games,

¹ Ong, W. (1982). *Orality and Literacy: The Technologizing of the Word*, London and New York: Methuen

² Myerhoff, B. (1978). *Number Our Days*. New York: Dutton

³ For evidence about the extent to which game designers think about narrative in games, see the programs from the latest game developer conferences: <http://www.gdconf.com/>

arguably the most intense form of human-computer interaction, now incorporate segments of traditional narrative to increase the appeal.

Our insight into video games led us to look for examples of weaving interactivity and narrative in other places. We started to see analog experiences in a new light. A preacher's sermon, a coach's pre-game pep talk, an AA meeting—each of these experiences attempts to motivate and influence people. In many cases we found that these experiences combined narrative and interactivity to motivate people.

One of the more amusing examples we found in our research comes from MTV's "The Real World." In this show a group of teenagers live together are given tasks to do and problems to solve. During one of the episodes, a group living in Las Vegas was in disarray⁴. They were angry at each other and far from unified. The producers of the show then brought in a person called "Awesome Ann." Her job was to unify the group. The team-building process Awesome Ann uses—her method for changing attitudes and behaviors—involves two modes: narrative and interactivity. In other words, to build unity and overcome disagreements, Awesome Ann switches between activities involving narrative and interactivity. As the show progresses the young people start changing, little by little. Eventually, toward the end of the show, viewers see that Awesome Ann has succeeded: the group is reunited. The young people gather in a circle with their arms around each other. They chant in unison. Then they hug and cry. Of course, this show is not a scientific study, and it may not convey what really took place in Las Vegas. Just the same, we found Awesome Ann's apparent methods as just another anecdotal example of the impact WIN can have in changing attitudes and behaviors.

We've seen this pattern of weaving together interactivity and narrative in a variety of other contexts. We've concluded that an influence process that weaves together interactivity and narrative is not new; it's just been unrecognized, unnamed, and unstudied. Dating back perhaps thousands of years, creating effective WIN experiences has been an art, driven by intuition; it has also been a craft, learned by apprenticeship. To the best of our knowledge, no one has taken a scientific approach to studying experiences that weave interactivity and narrative. The systematic investigation of WIN has been our goal.

Reading to instruct and inspire our team

An early part of our research was to gather a set of materials to help our team understand narrative on its own and to understand how narrative elements have been used in computer-based products. We put together an ad hoc reader. The contents of this reader are listed in Appendix 1. To be sure, our list of readings does not include everything written on the topic, but for our team this set helped us discuss core definitional issues and understand some of the previous work in domains like interactive fiction.

Talking with expert practitioners

In this research we assumed that expert practitioners understood things about weaving interactivity and narrative that science did not. As a result we created a list of expert practitioners who may have an intuitive or practical understanding of how these two modes could work together to change attitudes and behaviors. We invited a number of these people to talk with our lab about their practice. In each case we found that these expert practitioners not only used storytelling in their work, but they also used interactivity, such as structured discussion, role playing, small group activities, and group goal setting.

⁴ <http://www.mtv.com/onair/realworld/season12/episodeguide/index.jhtml?intNum=13>

Below we've listed the expert practitioners who shared their work and insights with our lab.

Tina Syer
Positive Coaching Alliance
<http://www.positivecoach.org/>

Jim Thompson
Positive Coaching Alliance
<http://www.positivecoach.org/>

Alice Ray
CEO and Founder, Ripple Effects
<http://rippleeffects.com/>

Rebecca Stockley
Dean & co-founder, Bay Area Theater Sports School of Improvisation
<http://www.improv.org/>

Peggy Monahan
Director of Programs and Exhibits, Tech Museum of Innovation
<http://www.thetech.org/>

In all these discussions we found that although these expert practitioners each used interactivity and narrative, they had not yet realized they were weaving these modes together to achieve a persuasive impact (Alice Ray was the exception: Her products make conscious use of these two modes). The expert practitioners recognized this fact during our discussions and agreed that WIN described their approach.

Examples of WIN in software products

Throughout this research we have gathered examples of software products that weave together interactivity and narrative for persuasive ends. Finding these examples was painstaking, like searching for a needle in a haystack. It is not simply a matter of searching on Google or analyzing articles from previous researchers.

To qualify for our list, a software product needed to fulfill three criteria: (1) use traditional narrative in some form, (2) allow interactivity during parts of the overall experience (this needed to be more than simply clicking a button to continue), and perhaps hardest of all (3) be designed specifically to change an attitude or behavior or both.

Our list of WIN examples can be found at <http://captology.stanford.edu/WINexamples/>

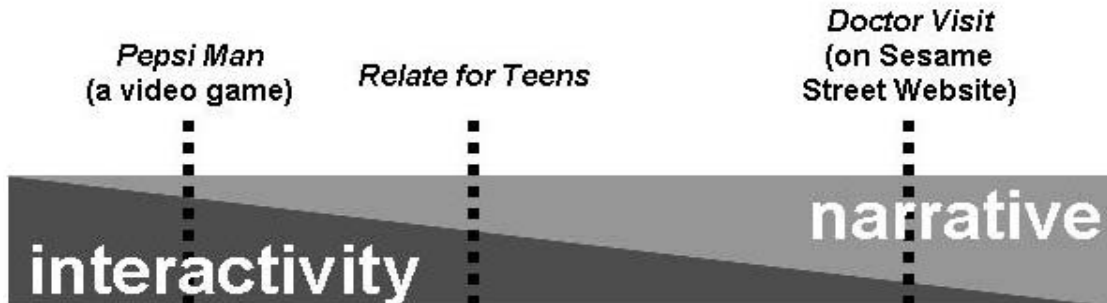
Mapping out WIN experiences

As our research team analyzed and discussed a variety of WIN experiences, we began using visuals to describe the similarity and differences in what we found. This process of discussion eventually led to simple methods for describing the differences in WIN experiences.

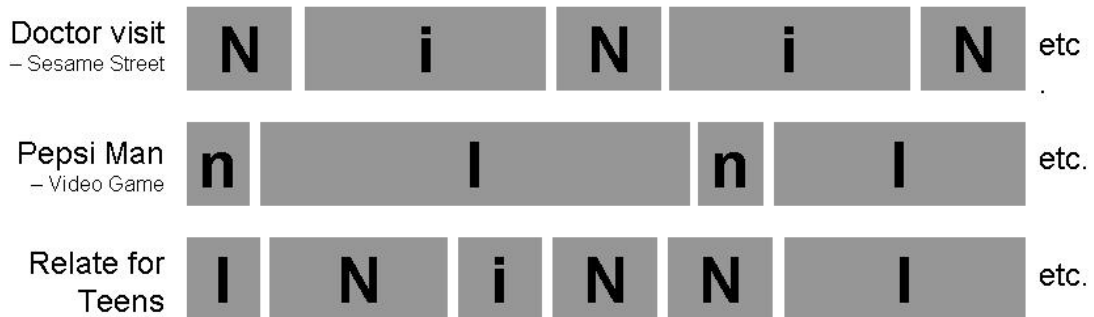
We noted that each WIN experience uses a different mix a narrative and interactivity. Some examples have lots of interactivity, with just a few segments of narrative. Other examples were mostly about telling a story and included only a few segments of interactivity (again, as a

team we decided that simply clicking a button to continue or reverse story was not a notable use of interactivity).

The diagram below maps out three different WIN experiences. It shows how the video game *Pepsi Man* focuses heavily on interactivity, while the online *Sesame Street Doctor Visit* relies more heavily on narrative. The CD-ROM product *Relate for Teens* is more evenly balanced between narrative and interactivity.



In addition to mapping out relative emphasis, we have created a method for mapping out the nature and sequencing of WIN experiences, highlighting the duration and importance of each element (N = key narrative, n = minor narrative; I = key interaction; i = minor interaction). The diagram below shows that the online *Sesame Street Doctor Visit* uses strong but brief narrative segments, allowing long periods of unscripted interactions between the story elements (in this interaction kids can click on objects—they explore the environment). In contrast, the *Pepsi Man* video game uses a brief narrative to set up a long and structured segment of interactivity. In the *Pepsi Man* video game the narrative elements return periodically to give focus to the experience and to motivate the players. As the diagram shows, *Relate for Teens* offers a more flexible WIN structure, as well as providing at least two types of interactivity.



We continue to use this orthography to describe the different examples of WIN experiences.

Creating examples of WIN experiences

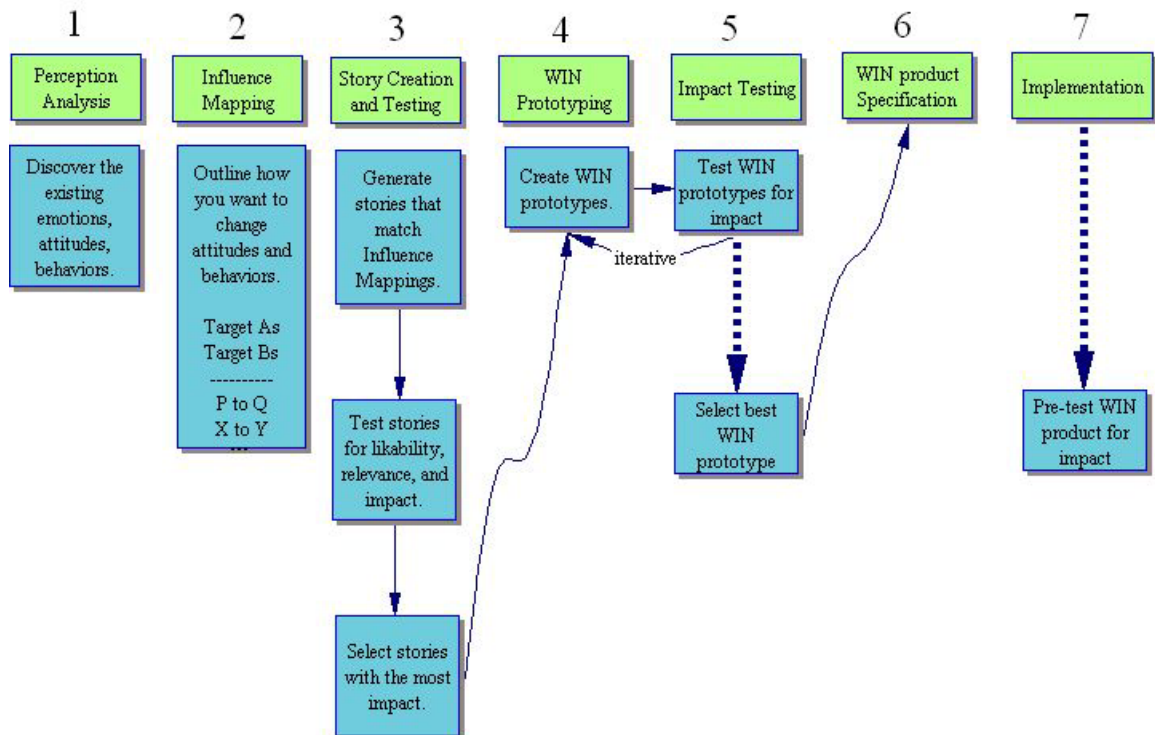
During the period of our research, we devoted five weeks of a computer science studio design course to creating prototypes of WIN experiences. Students were encouraged to explore the

possibilities and create experiences that were unconventional. Some of these examples can be found at <http://captology.stanford.edu/WINprototypes/>

In general we found many ways to put together interactivity and narrative in a software-based experience. For example, one prototype was a multiple choice quiz, with each possible answer given in the form of a video story. People taking the quiz would listen to each story and choose the one that answered the question best. Another prototype used segments of a story as a reward for users who completed a tedious interactive task.

We expected to find a finite number of forms for WIN experiences. But we haven't yet found a limit to the types of experiences WIN can take. Even so, we still expect that there will be certain WIN structures that work best, just as there are certain structures that work best for musical compositions.

As we developed a variety of prototypical WIN examples, we gained insight into what seems the best method for creating these experiences. The result of this insight is summarized in a process chart we created, shown below:



While doing the design research, we found the key to creating WIN experiences hinges on creating effective stories or parts of stories. Once we had compelling stories that promoted the values or behaviors advocated, then we could go about the business of creating the interactive segments to accompany the stories. This was not the process we expected. As designers of other types of interactive experiences, we expected that creating the segments of interactivity would drive the process. We now see our assumptions were wrong. When creating WIN experiences, we now believe you must first start with the stories that matter and then develop segments of interactivity, not the other way around.

We have not yet used the seven-step process to create a commercial-quality product. In the coming months of our research we hope to learn more about what works and doesn't work when creating WIN experiences.

Creating and testing stories

Once we discovered that creating effective WIN experiences depends on having compelling stories that promoted the target attitude or behavior, we wanted to find a reliable method of creating and identifying these stories. Drawing on our experience in evaluating sound elements quickly over the Web, we created a web-based engine for evaluating stories, specifically videos of people telling their own first-person stories.

We needed a subject matter area for part of our research, and we selected sleep deprivation in the workplace. Our goal was to generate stories that would change attitudes and behaviors about sleep, especially as it related to workplace productivity. We could have chosen other topics, of course, but we chose sleep because our lab already had expertise in the area of sleep deprivation, including a Ph.D.-level researcher who had worked in industry training pilots and train conductors to manage sleep better.

Because of the costs involved, we ruled out creating stories in a cartoon or animated format. Instead, we shot video of people telling personal stories.

We conducted two rounds of pilot testing to shoot and test the videos. We shot video of ourselves and our friends telling stories about sleep and sleep deprivation. We edited the video into discrete stories and uploaded the stories onto our research system. In total we collected about 200 evaluations of this pilot set of stories. From the successes and failures in our pilot studies, we learned to shoot the videos better, to edit them more effectively, and to prompt the narrators to tell good stories in the first place (key steps: modeling storytelling behavior, asking good questions, and then listening empathetically).

With various mistakes behind us, we then began the task of collecting stories we hope to use in a commercial-quality product. We asked two companies to allow us to talk with their employees about sleep deprivation. One company was a large software maker in Silicon Valley. The other company was a large retail organization based in San Francisco. From these videotape sessions we extracted 42 stories for testing.

We are still testing these stories in our web-based engine. Our preliminary data suggest some interesting insights. We have found fairly good consensus about which stories are good and which stories are not. We have also found what seems to be a strong correlation between the attractiveness and charisma of the speaker and how highly people evaluate the story. Although we don't have a statistical measure for this finding, as a lab we conclude that women in our sample told more likable stories than men. We believe this is because the women tended to show more emotion and more animation, and we suspect that this then led to more liking of the stories.

In future research we hope to separate the visual element of the video from the audio element to see what impact the visual element has on perceived quality of the story. We also may examine how the same story is perceived in text versus audio formats.

Our next steps in researching WIN experiences is to examine these same stories for persuasive impact. In the previous data we examined the stories only for appeal. We believe that appeal will correlate highly with impact, but we want to make sure and in the process find a reliable way to assess persuasive impact. With this data in hand, we will then take the best stories and work toward our goal of creating a software-based experience that promotes better sleep hygiene. We will use this prototype in research to examine various theoretical and practical questions.

The future of WIN

While we are currently studying how WIN experiences can be delivered through traditional computers, we find mobile phones to be a more compelling platform for narrative. At least two ideas lead us to this conclusion. First of all, because mobile phones are highly personal devices, people likely experience content from those phones in a way that is more personal and more influential than content from a desktop computer.

Second, we believe the context of use matters. When people use a desktop computer they're sitting upright and not terribly relaxed. This is not an ideal posture for consuming stories or for being persuaded. People rarely watch TV while sitting at their computer desk. Instead, people seem to prefer to consume stories while they are in a relaxed posture. Because WIN experiences rely on effective stories, we hypothesize that mobile phones will be a more effective platform than desktop computers. Not only will users be willing to take the time to listen to a story, we believe people will more receptive to persuasive messages.

Because of our bias toward mobile phones, our vision for this project includes learning how to create WIN experiences for mobile phones and testing what aspects of those experiences matter in the practical and theoretical ways. To this end we anticipate merging our lab's research in WIN and our lab's research on persuasion through mobile devices. We expect these lines of research to come together in late 2004 or early 2005.

Some Key Questions in Our Future Work

- 1. What are the functions of stories in computer-based persuasion?**
(e.g., to model behavior, to inspire hope, to evoke emotion, etc.)
- 2. What are the functions of interactivity in computer-based persuasion?**
(e.g., to increase involvement, to give first-hand experience, etc.)
- 3. How does interactivity make a story more effective?**
(e.g., it increases arousal, it creates readiness for a message, etc.)
- 4. How does a story make interactivity more effective?**
(e.g., it provides motivation for activity, it increases emotional involvement)

Potential for Impact

Computer technology opens new doors for researching, creating, and distributing WIN experiences. Increased insight in this area could create a potential to change people's attitudes and behaviors in ways never before possible. For example, in researching WIN experiences, our online system can now test stories to identify which stories have an impact on specific types of people. Alternately in creating WIN experiences, a computer could glean information from an interaction in order to select a specific story from a large database of proven stories. From a distribution standpoint, WIN experiences could be delivered through mobile handsets, increasing reach beyond the desktop. The potential for impact is significant. Computer-supported WIN experiences could lead to large-scale interventions to improve health, enhance learning and training, boost workplace performance, and motivate participation in civic life.

Appendix 1: Our Ad Hoc Reader

Weaving Interactivity & Narrative (WIN): An Introduction
Compiled in the Stanford Persuasive Technology Lab

I. What is narrative? Theoretical and practical perspectives for framing discussion and explaining the power of narrative in human experience

Abbott, H. Porter (2002). *The Cambridge Introduction to Narrative*. Cambridge, UK: Cambridge University Press. pp. 1-35.

The chapters included here provide a good background for understanding what is meant by narrative, as well as various viewpoints represented throughout the field. This provides a good foundation to begin the investigation of WIN.

Bruner, J. (1991). The Narrative Construction of Reality. *Critical Inquiry*, 18, 1-21.

Bruner details 10 features of narrative. The big take-aways are: a) narrative exists because of breaches in hermeneutics (or scripts); b) accrual of narratives constitutes the development of history, traditions and culture.

Graesser, Arthur C., Olde, B., Klettke, B. (2002). How Does the Mind Construct and Represent Stories? In M.C. Green, J.J. Strange and T.C. Brock (Eds.), *Narrative Impact: Social and Cognitive Foundations* (pp. 229-258). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

This chapter discusses Constructionist Theory and how levels of representation need to maintain consistency in order to result in comprehension. The chapter provides a framework for understanding how comprehension works as well as a review of other theories. A key take-away is the use of the “why-question” above all others in developing comprehension. It also mentions reader goals as a feature of governing comprehension. This article begins to provide a foundational understanding about how interactivity may be woven with narrative to enhance the reader’s experience and to promote certain types of understanding or learning.

II. How Does Narrative Work?: Organization and Comprehension

Trabasso, T. and van den Broek, P. (1985). Causal Thinking and the Representation of Narrative Events. *Journal of Memory and Language*, 24, 612-630.

This article reviews theories and studies about what is memorable in narrative. The reviewed factors—category of event, causal chain event, and connections between events—covary, but can also produce their own unique effect on what is recalled. This is a useful article for anyone who wants to design narrative and interaction pieces for learning or persuasion.

NOTE: For more detailed discussion of the causal chain, see the Trabasso and Sperry article in the appendix.

Zwaan, R.A., Langston, M.C., and Graesser, A.C. (1995). The Construction of Situation Models in Narrative Comprehension: An Event-Indexing Model. *Psychological Science*, 6(5), 292-297.

This article addresses the length of time information can be recalled from memory depending on its event type. Situation is more readily remembered than textbase and surface index, though text can

enhance strong situational memory. This article is useful for appreciating narrative as a good choice for learning and long-term memory.

III. Narrative Effect: What is the potential to influence beliefs and actions?

Strange, J.J. (2002). How Fictional Tales Wag Real-World Beliefs: Models and Mechanisms of Narrative Influence. In M.C. Green, J.J. Strange and T.C. Brock (Eds.), *Narrative Impact: Social and Cognitive Foundations* (pp. 263-286). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

This chapter examines how fictional accounts can influence beliefs. It clarifies ways in which a fictional piece can imply “factual” representation of reality. It chronicles several studies that expose the mechanisms by which known fictional accounts can influence real-world perceptions: context encoding failure, context comprehension failure, and context engulfment. It shows the interplay between context and content in comprehension as well as memory. It also points out that the human mind will see to justify or corroborate claims with other elements. This is an important chapter for understanding fictive influence.

Schank, R.C. and Berman, T.R. (2002). The Pervasive Role of Stories in Knowledge and Action. In M.C. Green, J.J. Strange and T.C. Brock (Eds.), *Narrative Impact: Social and Cognitive Foundations* (pp. 287-313). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

This chapter explains how stories relate to the organization of memory and are, therefore, compelling. Key points address the fact that the listener governs the “power” of the story through his/her goals and experience. Also, for learning to take place, there must be an “expectation failure” that is then associated with an explanation. Care should be taken here because the new association becomes the memory, even in a known/familiar story, whether the explanation is appropriate or not.

Wheeler, S.C., Green, M.C., and Brock, T.C. (1999). Fictional narratives change beliefs: Replications of Prentice, Gerrig, and Bailis (1997) with mixed corroboration. *Psychonomic Bulletin & Review*, 6(1), 136-141.

This article details three experiments undertaken to confirm the location effect discussed in the Prentice, et al. article. Results indicate powerful narrative persuasion, but they do not corroborate the mediating factor of location. There is not a clear explanation for the anomaly, other than, perhaps, sampling error. Key point: narrative is persuasive, simply as a form, even when it is not necessarily trying to be.

NOTE: For original article by Prentice, Gerrig, and Bailis see the appendix.

Deighton, J., Romer, D., and McQueen, J. (1989). Using Drama to Persuade. *The Journal of Consumer Research*, 16(3), 335-343.

This article talks about argumentative claims versus feeling-driven/feeling-evoking drama. The study focused on the degree to which the viewer is drawn to counterargue as advertisements become more dramatized. Findings indicate that drama is less likely to trigger counterargument than argument-oriented methods of communication. Belief will likely be more easily effected, then, in the dramatic situation. Findings are consistent with Prentice, et al. and Wheeler, et al.

Green, M.C. (2002). Narrative Worlds, Real Impact: How Stories Affect Beliefs. Presented at IGEL 2002, Pecs, Hungary.

This paper details study of “transportation level” with respect to belief changes/influences. Transportation refers to the degree to which the reader is engaged with the story. Findings indicate greater belief influence as transportation increases, regardless of being told the story is fact or fiction.

Slater, M.D. (2002). Entertainment Education and the Persuasive Impact of Narratives. In M.C. Green, J.J. Strange and T.C. Brock (Eds.), *Narrative Impact: Social and Cognitive Foundations* (pp. 157-181). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

This chapter covers the persuasive impact of educational entertainment. It looks at how television programs that encourage various forms of health consciousness and practices affect behavior and beliefs of the viewing public. It examines the role of models of behavior (remember Bandura). It also considers the role of “transportation” or “absorption”. Findings indicate importance of balance between subtlety and persuasive goals.

IV. Interactivity Meets Narrative: What does it look like? How can we design for it?

Young, R.M. (in press). The Cooperative Contract in Interactive Entertainment. In A. Bond, et al. (Eds.), *Socially Intelligent Agents*. London: Klumwer Academic Press. Also available online at: <http://liquidnarrative.csc.ncsu.edu/pubs/sociallyintelligentagents.pdf>

This article discusses how the cooperative contract between participants in a conversation is also present during interactivity and narrative processes. To honor the contract, Young suggests mediation as the tool to balance between narrative coherence and user control. These ideas indicate that an effective balance can result in enhanced experience, but a poor balance can “alienate” the user. This is reminiscent of the goals in the Deighton article to limit counterargument and, as a result, maintain flow of interaction.

Meadows, M.S. (2002). *Pause & Effect: The Art of Interactive Narrative*. Indianapolis: New Riders. pp. 37-69.

These chapters define a version of interactive narrative in which the author defines the space, but the interactor generates the particular narrative content through actions. Meadows defines a set of principles for interaction and talks about the goal of mingling experience and meaning for “true” interaction. He also supports an open system that improves as use continues. He describes a process by which the reader changes the system and the system, in turn, changes the reader. Focus of the book is on helping the designer. Meadows goal is for interactive narrative to inspire action. He believes the goal of interaction is for the reader to discover and create. This is a somewhat different concept than offered by Young, for instance, regarding “mediation.”

V. Appendix: Additional articles for more in depth explanation of concepts discussed in the reader

Schank, Roger C. and Abelson, Robert P. (1977). *Scripts, Plans, Goals and Understanding: An Inquiry into Human Knowledge Structures*. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers. pp. 1-21.

This chapter offers a way to understand how humans draw meaning from language and create episodes and scripts for storing that meaning in memory. It explains Conceptual Dependency Theory. It also stresses the importance of the relationship between content and form. It provides insight for understanding why narrative plays a powerful role in our lives. Discussion of scripts provides a building block for narrative understanding.

NOTE: This is the first chapter of a book that, when taken in its entirety, can provide a useful understanding of the concept of “scripts” that is frequently referenced in other articles.

Trabasso, T. and Sperry, L.L. (1985). Causal Relatedness and Importance of Story Events. *Journal of Memory and Language*, 24, 595-611.

This article provides an account of how to identify causal relationships among statements as well as a causal chain that links events/sentences throughout the story. A study of judgments of importance indicates a positive relationship to the degree of connectivity of statements. The article is most useful

for understanding how causal relationships (connections and chain membership) effect what is judged as “important” and, therefore, remembered.

NOTE: This article provides a more in depth discussion of the “causal chain” concept that is discussed in the Trabasso and van den Broek article in section 2.

Prentice, D.A., Gerrig, R.J., and Bailis, D.S. (1997). What readers bring to the processing of fictional texts. *Psychonomic Bulletin & Review*, 4(3), 416-420.

This article highlights experiments that tested the knowledge/beliefs comprehenders brought to the task and the effect on their resulting level of acceptance/resistance. When the story is presented in the familiar environment (home setting), participants resisted things that challenged their beliefs. However, when the environment was not their own (away setting), they went along with the same assertions more readily. This made them more vulnerable to false assertions. Key finding here: it is not “suspension of disbelief” that must be achieved, but overcoming of presently held beliefs. NOTE: The findings in this article were reviewed with only mixed corroboration in the following article...read on).

NOTE: This is the original study addressed in the Wheeler, Green and Brock article in section 3.

Strange, J.J. and Leung, C.C. (1999). How Anecdotal Accounts in News and in Fiction Can Influence Judgements of a Social Problem’s Urgency, Causes, and Cures. *Personality and Social Psychology Bulletin*, 25(4), 436-449.

This article addresses the ways in which news and fiction can influence our perception of causes, depending on their chosen focus. News and fiction can also influence perceptions of reasonable solutions to the problem, as well as urgency of the problem in society. The mere presence of the stories can influence that sense of urgency, though story form also plays a role.

NOTE: This article is referenced a few times in other articles in this reader. It appears in the appendix for those interested in a closer look.

Appendix 2: A partial list of WIN examples

Elmo Goes to the Doctor

<http://www.sesameworkshop.org/sesamestreet/stories/flash.php?contentId=108867> Elmo teaches kids not to be afraid of going to the doctor.

Powerful Bones/Powerful Girls

<http://www.cdc.gov/powerfulbones/index2.html>

Site created by the CDC to educate girls about how to be powerful and take care of their bones. Girls are welcomed by a character named Carla who persists throughout the site. Mix of stories, scenarios, and interactive games.

Star Sleeper

<http://www.nhlbi.nih.gov/health/public/sleep/starslp/>

"Garfield and the National Center on Sleep Disorders Research have teamed up to bring you information on sleep and how it helps kids do their best at whatever they do. Similar in visual design and tone to the Powerful Bones web site.

Code Red Rover

<http://coderedrover.org/>

Website created by Home Safety Council, a nonprofit organization of Lowe's Home Improvement Warehouse, to educate children and families about safety in the home.

The Adventures of Elena the Power Girl

<http://www.cdm.org/58/viewPage.asp?mlid=55>

Online component for an exhibit about power and conservation at the Children's Discovery Museum.

Dealing with It

<http://www.the-n.com/dealing/>

This work in general is getting closer to a combination of storytelling/narrative and persuasion.

Relate for Teens

<http://www.rippleeffects.com/relateforteens/>

Ripple Effects is a company that helps schools, youth-serving organizations, and businesses change social behavior in ways that improve performance.

Go Army

<http://www.goarmy.com/index08.htm>

Website for recruiting. Within the Go Army website, view the "Army of One" feature which offers "8 true stories. 8 real soldiers. Around the clock. Get inside the reality of what it's like to be a Soldier in the US Army. Watch the lives of Soldiers as they push their limits, use their minds and forge new directions.

America's Army

<http://www.americasarmy.com/>

The computer game "America's Army" is a very powerful example of persuasive technology. This website is dedicated to supporting and selling the game as well as linking to "Go Army" and other military web sites.

Pepsi Man

http://www.ex.org/4.5/55-game_pepsiman.html

This is a website that describes the Pepsi Man game available on PlayStation.

Appendix 3: Other resources

<http://liquidnarrative.csc.ncsu.edu/pubs/DAmerson01.pdf> .

Article about use of camera to create feel of interactivity in narrative.

<http://liquidnarrative.csc.ncsu.edu/pubs/>

Technical papers out of the Liquid Narrative group.

<http://www.altx.com/ebr/abr6/6koskima/kosbody2.htm>

Defines interactive narrative in terms of types of interactive choices that can be made, etc.

<http://www.altx.com/ebr/threads/threads.htm>

image+narrative.

<http://www.evilcoffee.org/blog/archive/000097.html>

Journal on limited traditional definition of narrative.

http://cid.nada.kth.se/pdf/cid_54.pdf

Article about developing interactive narrative.

<http://web.nwe.ufl.edu/~jdouglas/plucked.pdf>

focused in issues of intention and interpretation.

http://www.pierregander.com/phd/interactive_narratives_course.html

Course on interactive narrative...includes a few readings.

<http://www-cgi.cs.cmu.edu/afs/cs.cmu.edu/project/oz/web/oz.html>

project about art and interactive drama.

<http://www.mantex.co.uk/reviews/meadows.htm>

Review of *Pause & Effect*

http://www.lcc.gatech.edu/~murray/IN_01/

Another course description. Has some good examples of interactive narrative.

http://laci.lcc.gatech.edu/interactive_narrative.php

Interactive narrative examples

<http://www.inms.umn.edu/elements/>

the elements of digital storytelling

<http://www.elasticspace.com/interaction/narrative/>

Lecture notes from Timo Arnall from a lecture given to Channel 4 in London.

<http://www.1up.com/article2/0,2053,1539307,00.asp>

Long article on the history and evolution of text adventure games.

<http://www.postmodernparables.com/specials.html>