Episode 10: Tell Me a Story

Show Notes
Many of our memories are structured around stories. They are a very powerful device, that allow us to remember and experience more than what we might otherwise. Using story and narrative within games can increase our enjoyment of them. I discuss the psychological reasons for this.

Game References
Adventure, Assassin's Creed: Origins, Charterstone, Colossal Cave, Dungeons and Dragons, Everybody's Gone to the Rapture, Fiasco, Gloomhaven, Gone Home, Haunted House, Horizon Zero Dawn, Kingdom Death: Monster, Legend of Zelda: Breath of the Wild, Missile Command, Pandemic Legacy, Shadow of Mordor, Shadow of War, Space Invaders, Star Wars: Battlefront II, Tales of the Arabian Nights, and What Remains of Edith Finch

Research References
Bartlett, F. C., & Burt, C. (1933). Remembering: A study in experimental and social psychology. *British Journal of Educational Psychology*, *3*(2), 187-192.
Blessing, S., & Skowronek, J. (2014, January). The Power of Personalization: Making a Museum Visit More Memorable with a Personalized Story. In *Proceedings of the Cognitive Science Society* (Vol. 36, No. 36).
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Schank, R. C. (1990). *Tell me a story: A new look at real and artificial memory*. New York: Scribner.

War of the Ghosts story http://penta.ufrgs.br/edu/telelab/2/war-of-t.htm

Transcript

Hello! Welcome to Episode 10 of the Cognitive Gamer podcast. I am your host, Steve Blessing. Today's topic is the role of narrative in playing games, both video games and board games. From a psychological perspective, the importance of story and narrative probably can't be overstated. We often organize our cognitions around stories, and so they become a very central focus to our thoughts.

Indeed, a very famous cognitive scientist, Roger Schank, wrote a whole book on the importance of story in our memories and cognitions. The thesis of the book, which has the same title I gave this episode, Tell Me a Story, is that our intelligence is highly structured by narrative, and that if we hope to have a true artificial intelligence someday, that AI will also have a need for story. I'll touch on that aspect maybe a little bit towards the end, but for now, let's consider the role of story and narrative in games.

When I started playing video games in the 1970's and 80's, there wasn't really much of a story behind the games, outside of shoot the aliens. At least, 10 year old me didn't care much about the story. I was recently curious about some of the instructions that came with the Atari 2600 games that I used to play back then, and found that the website atariage.com has all the instructions for

these games. Space Invaders came with 12 pages of instructions, but it was all about the controls and the different game variants. Another early game for the Atari, Adventure, actually did have a page or so of backstory, about the evil wizard that stole the chalice. It even names the dragons that you had to fight (Yorgle was the yellow dragon). Another 2600 game I remember playing is Haunted House, which came out in late 1981. The developer here came up with a much more extensive backstory. Here's the first paragraph: "Many years ago in the small town of Spirit Bay, there lived a mean old man named Zachary Graves. Old man Graves was not a very well liked person. He rarely left the old mansion and spent most of his life brooding about the decaying, four story house. When he died, the house was condemned and locked up." It then continues for several more paragraphs. Did the player need any of this depth for the game? No, and probably many didn't even read it. But, for those who did I imagine it did add to the atmosphere. And, it probably helped the designer of the game as well.

Of course, even some early games for the first computers had very involved stories, not only in terms of outside the game, but also in the game as well. I'm thinking in particular of Colossal Cave, the text adventure game developed for the early PDP machines. In that game, and the similar games that came after it produced by companies like Infocom, you played the story, indicating where you wanted to go and solving puzzles. In some sense, the story was the game, and recent games like Gone Home, Everybody's Gone to the Rapture, and What Remains of Edith Finch, are similar. In these games, you interact with the environment presented in the game to learn more about the story contained within the game. As you examine the environment, more of the story reveals itself. I have personally found these games to be a very rich experience, and the different ways that the designers have used to communicate the story have been very satisfying.

Why is story so powerful? Even simple stories require a lot of cognitive processing, most of which goes into making connections within your memory. For example, consider this four sentence story: "Toby wanted to get a birthday present for Chris. He went to his piggy bank. He shook it. There was no sound." After hearing the story, I could ask you questions like who went to the piggy bank? The "He" at the start of the second sentence is somewhat unclear, as two names were mentioned in the first sentence, but it's cleared up by the second sentence's action. I could ask if Toby was happy or sad at the end of the story, and most everyone would say he was sad. I could ask why does it matter that there was no sound? To answer all of these questions requires the listener to use previously stored knowledge to fill in the gaps, so to speak, of the story. The story doesn't have everything in there, so the writer expects the reader to infer what is missing. That's true of any story, and in part what makes it such a cognitively demanding task. And, that's also what makes it so rewarding and more memorable. All these connections that end up getting made as the listener understands the story becomes part of the fabric of memory, that associative network that we talked about back in Episode 1. The more connections that are made in memory, the more memorable those items are.

Now consider those games I had mentioned previously, like Gone Home and Everybody's Gone to the Rapture. As you wonder around the home in Gone Home, or the English village in Everybody's Gone to the Rapture, you find numerous clues to what has happened; some piece to the story that you are trying to figure out. It could be somewhat subtle like the items found on a desk, or a bit more obvious like a note or phone message. All of these items coalesce into a

cohesive story. I realize these games aren't for everyone, but for those of us who do like them, they depend on forming these associative connections in our long term memory. The best of these games follow the author's adage, "Show, don't tell" in order to make the experience that much more meaningful for the player.

I had mentioned the simple games I used to play as a kid, like Space Invaders and Missile Command. Nowadays, if you look at the popular games, many of them have a large story component. You have Legend of Zelda: Breath of the Wild, Horizon Zero Dawn, the new Assassin's Creed, and games like Star Wars: Battlefront II have a single-player campaign that contains a narrative story. These are all triple-A titles, so obviously these games with stories resonate with people. Going back to Roger Schank, the cognitive scientist, he would make the point that oftentimes what gets people aren't dry statistics and figures, but the personal story. Politicians know this all too well. When they want to make a point, they will talk about someone's personal story. People much more readily invest and relate to those types of stories, as opposed to trying to make a policy argument based on statistics. As you play these games, you get involved in the story. That makes for a much more meaningful experience, and one that you remember longer after you have put the game down.

Let's talk about how and why stories are so memorable. Indeed, there's a mnemonic device simply called the Story Method that you can easily employ to remember more information. It's quite simple, and you have probably used it without realizing it. When given a list of things to remember, simply connect those items together with a story. That's an effective way to boost the 5 or so items you might remember to many, many more. Like discussed in Episode 7 about chunking, putting items together in a story essentially puts them into larger chunks, and with more associations in memory, which greatly increases the probability you will be able to recall them.

I'll tell you about my main research project over the last few years. A developmental psychologist, Jeff Skowronek, and I have been working with the local children's museum, the Glazer Children Museum. We wanted to make a more memorable experience for kids as they toured the museum. We developed a series of activities at each exhibit area, and all of these activities were wrapped around the same story. You had to help Peter the Parrot get back home. We did an experiment, examining how kids who did the activities with the cohesive Peter the Parrot narrative did versus kids who did the same activities, but did not have the cohesive story that tied everything together. The Peter the Parrot children stayed longer at the museum, enjoyed the experience more, and most importantly, remembered more of their museum visit at a 2 week follow-up. This was obviously a big win for the use of narrative, and one that we are following up with using an even larger cohesive story that ties together more exhibits at the museum.

Now then, remembering stories is not perfect. I don't want to give you the wrong idea here. It's just that they are better than not having that cohesive narrative structure. Back when telling stories was more of an art form, performers could seemingly remember entire epics for retelling, like the Odyssey or the Iliad. Except they didn't really. Each retelling was at least slightly different than the last. The storytellers remembered the waypoints, not the exact words. That allowed them to navigate to each point, getting the broad brushstrokes correct, but there would

be differences in the details. And by and large, that's fine. It's "good enough for government work" as they say.

We see that in modern experiments looking at how people remember stories. One of the classics is Frederic Bartlett's War of the Ghosts study. Bartlett wrote a book that came out in 1933, and the book was called Remembering: A study in experimental and social psychology. As I say, it's a classic in the field, and really started off a lot of research into what became modern cognitive psychology, particularly with regards to schema theory. In the best known experiment in the book, Barlett gave his participants a story to read. Bartlett was a professor Cambridge University, so his participants were all young Englishmen. The title of the story was War of the Ghosts, and it was a Native American story. I'll link to the actual story in the show notes, but it was quite a bit different in terms of style, structure, and proper names than what these English men would have been familiar with. These participants read the story, told to remember it, and then were brought back to Bartlet's lab a day later, a week later, and at other intervals to see how much of the story they remembered. Looking at absolute amount, they remembered a bit less each time, until that leveled off. But, they still remembered the kernel of the story. Part of the interesting finding was how they sometimes misremembered parts of the story, making the proper names sound more like English names and having the story follow more of a structure they were familiar with as opposed to the Native American story. The main idea, though, is that they were remembering the story via the schemas they had learned by growing up with an English story tradition. But, they were still remembering the gist of the story, by and large.

Another influential experiment was done by Sulin and Dooling in 1974 called the Carol Harris experiment. Similar to Barlett's study, participants were given a short story to remember. The story was about Carol Harris, who was a very difficult child. Well, half the participants heard the story of Carol Harris. The other half of the participants heard exactly the same story, but substituted in for Carol Harris' name was Helen Keller's. Everything else was identical. Some number of days after reading the story about either Carol Harris or Helen Keller, the participants came back to the lab to be quizzed on it. It was a simple true/false quiz. For one question, participants had to answer true or false, did the sentence, "She was deaf, dumb, and blind" appear in what you read? That sentence did not appear in the original passage, but the participants who read the story with Helen Keller were much more likely to answer true than those who read about Carol Harris.

Both of these show how memory for story changes across time. One could look at the differences and errors that arise in our memory. Indeed, we'll have a future podcast about this topic, about how are memories are not tape recorders, and that memory is very malleable. But for now, I would like to highlight as just as important the consistencies between recall and the fact that these narratives are remembered at all. The error in the Carol Harris experiment is due to people associating the story to a prior, more strongly remembered narrative about Helen Keller. The errors in Barlett's experiment are essentially the same, that the young men were using prior narrative to help them remember the new story. The power of story is very strong in us, as both of these experiments ultimately indicate.

I've concentrated mostly on video games so far, and how narrative has been used with them. But, narrative is also becoming more important in board games as well. There's obviously a very rich

tradition of role playing games in that realm. When I played Dungeons and Dragons back in the day, it was more about hack and slash and looting dungeons, but I realize now we were missing out on a lot of the excitement and enchantment of these games. We did develop backstories for our characters, at least somewhat, but much of the role playing, such as it was, was really about getting us to the next monster encounter so we could get some more treasure. The intricacies and wonder of truly role playing a character and spinning a shared narrative was somewhat lost on this 13 year old boy. I'll give a special shout out here to John and Ryan, part of my old D&D group back then, who may be listening. Hearing more about modern RPGs makes me excited for those types of games, where players take turns spinning a story, one that ends up being quite memorable. In particular I'm thinking about games like Fiasco, where the dice rolling is at a minimum and players build off each other as the plotting and motivation of the characters get sketched out.

But, narrative is not only present in role playing games. More standard board games are also introducing more narrative elements. A few episodes ago I devoted an episode to Pandemic Legacy. This is the top game on boardgame geeks rankings, and the second season of the game has just been released. At least part of the attraction here is the narrative contained within the game. Just think about the words being used here, second season, like a TV show. Note, however, that it doesn't take much narrative! Just a few sentences between games, to hook the players along, really deepens the experience and has helped that game create memorable experiences for lots of players.

Other board games also try to deepen the experience through the use of narrative. This goes beyond theme, but obviously that's important as well. Many of these you can see have roots in the role playing game tradition. Tales of the Arabian Nights is an older game that does this, giving players a book with various passages to read and choices to be made. Gloomhaven has a booklet of scenarios that players go through, and games like Kingdom Death: Monster and Charterstone have similar mechanisms to inject a cohesive narrative into the game. It's exciting to see how board games build upon having these narrative structures within them. As humans we yearn for stories. Have you ever played a game like 7 Wonders, a game without a narrative structure really at all, but yet imagined how your city was progressing through the ages, building up a story about how this city was all about creating a military might, and this one was one was much more about scientific advancement? Oh look, we have Athens and Sparta right here, and your imagination just takes it? With these newer games, Pandemic Legacy, Gloomhaven, and the like, designers are testing the bounds of what can be done in this particular medium in order to utilize narrative to create a truly wonderful experience for players.

When I first mentioned the cognitive scientist Roger Schank at the beginning, I stated that part of his thesis was that if AIs were going to be truly intelligent, they would have to deal with stories in the same way humans deal with stories. Schank came out of a more computer science background, and so this is something that interested him. I was recently listening to another podcast, Idle Thumbs, and they fielded a question about procedurally generated narrative in video games, and if at any point would computers be able to create a story rivalling that of a human-created story. This is exactly what Schank was talking about! The hosts thought it would be a long time before computers could create a compelling narrative, and I largely agree. I'm not a very good futurist, so I don't want to hazard a guess. At some point, though, it will happen. I

forget if the hosts brought this up, or if it was part of the original question, but they talked a little bit about the Nemesis system that's in the Shadow of Mordor and Shadow of War games. There's a bit of procedurally generated content there, as you either kill or defeat the orc leaders, but just a little bit. And, if you have ever read any computer generated prose, you know there's still a ways to go before they

That wraps up this episode of Cognitive Gamer. I hope you enjoyed the discussion of narrative in games, and that it prompts you to consider how story makes games more memorable. I'm still trying to decide what the next episode will center on, so it will be a surprise to all of us! As always, I welcome any comments or questions you may have, so please email me, steve@cognitivegamer.com and also visit my website, cognitivegamer.com. Also, you can like me on Facebook, Cognitive Gamer, or follow me on Twitter, @cognitive_gamer. Until next time, remember to think about what you play, and have fun doing it.