Guidelines for First and Third-Person Mimetic Fantasy Toy Design for Ages 7-12

by

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Abstract

Over the past four decades, toys have slowly moved away from independent story-driven play to media-driven play. Skinning toys to match the most current media or movie has become more significant than story-driven toys designed to encourage imaginative/ fantasy play, both independently and in social groups. Two perspectives are explored, first-person and third-person play. Through exploring first and third-person play, a series of criterion are developed and tested in order to better design toys that promote storytelling and imaginative play. This is done while still maintaining that notion that toys will need to be skinned with current media types in order to remain relevant in the current marketplace.

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Chapter 1

Introduction

1.1 Problem Statement

Toy design over the last several decades has often degenerated into a marketing campaign for movies and television shows. Companies have found a sweet spot where parents will buy the toys and the children want them but there is no personal growth with the use of them. The growth I see lacking are the communication skills necessary to tell stories. Many of today's toys have preset narratives associated with them that make it difficult for a child to break that initial stream of consciousness and create their own independent story lines. If child were to play with one of today's toys, they would find their storyline interrupted by pre-programmed catchphrases or the need to change out an accessory on a figure in order to continue the play session. Toys today have too many interruptions and do not facilitate a consistent stream of thought in a child. This thesis will explore first and third-person play perspectives to determine what types of toys promote the telling of independent stories and the telling of group stories in social environments, while showing the need for these types of toys as learning devices for social behavior and intelligent communication.

1.2 Need for Study

This study is important because as our culture shifts and becomes more media driven a select few get to tell stories for us. In order help foster the art of storytelling in children, designers should integrate greater storytelling opportunity into their toys. This art is learned at a young age through play and the development of imagination. The story telling skills learned and developed as children are reflected in their ability to successfully communicate, work with others, and synthesize ideas as an adult. These story telling skills must be nourished and encouraged from a young age. Developing guidelines to facilitate better design in toys and to create them in a story focused direction is critical for child development and the communication abilities of future generations.

1.3 Objective of Study

The objective of this thesis is to explore the story telling value of first and third-person toys and examine the effects of media on children and determine how it influences their play in order to develop design guidelines that promotes storytelling and imaginative/fantasy play. The design guidelines will then be used to create a prototype toy in order to evaluate the successes of the design guidelines.

1.4 Definition of Terms

1. **Canon -** a sanctioned or accepted group or body of related works

   the *canon* of great literature
2. **Costume** - An outfit worn to create the appearance or characteristics of a particular period, person, place , or thing. Halloween *costumes.*
3. **Fantasy Play** - s a rich and rewarding activity that helps toddlers practice all kinds of new skills. By talking to and interacting with their stuffed animals, dolls, and toys, children strengthen their verbal and social skills; by devising their own plots (what happens next?) children practice problem-solving.
4. **Figure** - a doll representing a person or fictional character known for vigorous action, such as a soldier or superhero. The figure typically is posable, with jointed limbs.
5. **First-Person Toy** - A category of toy broken down into a prop, costume, or location modifier.
6. **Generators** - People who create concepts, ideas, or stories
7. **Location Modifier** - A themed play space
8. **Narrative -** a spoken or written account of connected events; a story
9. **Playset** - a themed location to play with miniature figures and vehicles
10. **Plot -** devise the sequence of events in (a play, novel, movie, or similar work)
11. **Prop** - a portable object other than furniture or costumes used on the set of a play or movie
12. **Skinned** - When a toy is themed to an existing franchise.
13. **Spectacle -** an event or scene regarded in terms of its visual impact.

14. **Story** - an account of imaginary or real people and events told for entertainment. A plot or story line.
15. **Theme** - a specific and distinctive quality, characteristic, or concern
16. **Third-Person Toy** - an action figure, vehicle, or playset
17. **Toy Universe** - cross compatibility amongst a toy group
18. **Trope** - a common or overused theme or device
19. **Toy Vehicle** - a miniature model of an existing care themed or not designed for play.

1.5 Assumptions

For this study there is an assumption that toys are a vehicle for storytelling and they can be divided in two groups, first-person and third-person. In general, it is assumed that it is possible to create a set of guidelines for designing toys that promote development the ability to tell stories.

1.6 Scope and Limits

This study focuses on children ages 7-12 and studies the effects of first and third-person toys on imaginative and story driven play. Toys outside the category of fantasy play will not be examined. After the design guidelines are used to develop prototype toys, the toys' success will be assessed by a method of comparative product analysis.

1.7 Anticipated Outcomes

- Specific data points on the contribution that first-person and third-person toys have on skill building related to story telling.
- A set of guidelines for the development of first-person and third-person toys that enhance the story telling ability of, and fantasy play by children.
- Applied development guidelines to a toy as a method of evaluation.
- Development of first and third-person prototype toys based on the proposed design guidelines.

Chapter 2

Literature Review

"Emerson said 'In our fine arts, not imitation but creation is the aim'" (Dramatic Imagination, Robert Jones,1987, pg. 131). Toys are something near and dear to all of us. Growing up we all had them. They may have come from the toy store, been passed down from an older sibling, or even been an everyday object that our imaginations went wild with, opening up doors in our mind to new and exciting places. Toys were often the biggest informer of the way we played when we were children, whether it was by ourselves or with others. The way we communicate with others and how we learn to tell stories is often driven by the imaginative and play opportunities we have as children. This play can be experienced in two ways, first-person play and third-person play. These two types of play and how their outcomes can be modified via toy design is what I will support in this review. Through the examination of imagination, social context, and an examination of story, a series of design guidelines can be created for first-person and third-person toy development that enhances the story telling capacity both for the toy and for the child. Imagination is key when talking about a child's ability to tell a story. Exploring play beyond child's entertainment is important. Developing a list of skills that foster storytelling in children will be important in the toy design/ product design process, therefore approaching the design process as a developmental aid for children.

Story 2.1

> Beginning with story, Robert McKee (1997) said,
>
> Whether it's the triumph of crazed entrepreneurs over Hittite demons in GHOSTBUSTERS or the complex resolution of inner demons in SHINE; the integration of character in THE RED DESERT or its disintegration in THE CONVERSTATION, all fine films, novels, and plays, through all shades of the comic and tragic, entertain when they give the audience a fresh model of life empowered with an affective meaning. To retreat behind the notion that the audience simply wants to dump its troubles at the door and escape reality is a cowardly abandonment of the artist's responsibility. Story isn't a flight from reality but a vehicle that carries us on our own search for reality, our best effort to make sense of the anarchy of existence. (pg.12).

McKee takes a rather philosophical view of story that at first glance might seem beyond the understanding of young people this thesis is aimed to design for. However, McKee's words are quite applicable.

When McKee says "To retreat behind the notion that the audience simply wants to dump its troubles at the door and escape reality is a cowardly abandonment of the artist's responsibility" one could just as easily substitute the word "artist" with designer. Toy designers have a responsibility to integrate story into their toys. Much like a toy designer in the educational toy market would not create a design to teach a child the alphabet incorrectly, the toy designer designing for pretend play should not neglect their teaching obligations… enabling children to

tell stories through their play. When children pretend, they are story telling. Sometimes they are telling a story to themselves and sometimes they are telling it within a group. In the case of the group, each child is sharing their desires for the direction of story, playing their roles as characters navigating the chosen narrative of the day.

When McKee states that "Story isn't a flight from reality but a vehicle that carries us on our own search for reality, our best effort to make sense of the anarchy of existence," it seems somewhat melodramatic and nihilist. Some might view this and find the statement beyond the consideration of your average 7-12 year-old (the demographic of this thesis). While this thought is not at the forefront of their minds, children are constantly trying to make sense of the world around them. Until they understand the world, the things they don't understand are "anarchy". The way children work through and solve these problems is through the story telling of their pretend play.

2.2 Simulations

The stories children tell when they are pretending can be viewed as simulations of the mind. This notion is teased out in Dr. Stewart Brown's (2010) book *Play*.

> Byers speculates that during play, the brain is making sense of itself through simulation and testing. Play activity is actually helping sculpt the brain. In play, most of the time we are able to try out things without threatening our physical or emotional well-being. We are safe precisely because we are just playing.
>
> For humans, creating such simulations of life may be play's most valuable benefit. In play we imagine and experience situations we have never encountered before and learn from them. We can create possibilities that never existed but may in the future. We make

new cognitive connections that find their way into our everyday lives. We can learn lessons and skills without being directly at risk.(pg. 34).

Children need a safe way to navigate the anarchy of life. The more often they pretend, the more they strengthen this skill of "simulation". This is a skill that carries on into adulthood. An example of this is given by psychoanalyst Ethel Person who writes that "…through therapy, one client discovered that much of his effectiveness in business came from repeated imaginings of possible interactions that he might have on a particular issue. By the time he actually had the conversation, he was usually pretty well prepared for any contingency" (cited in Brown, 2010, pg. 12). While as a child the imaginings of being a superhero, slaying dragons, or flying through space may be fanciful, the skills learned from pretend play as a child can help with responses to the very real world problems they will face in their future. Dr. Brown (2010) summarizes "The genius of play is that, in playing, we create imaginative new cognitive combinations. And in creating those novel combinations, we find what works". (pg. 37)

In order to understand how to design toys for children, we must have some understanding of how they think, more specifically, how they think at particular ages. This thesis focuses on the demographic of children ages seven to twelve. In order to jump into the subject, however, we will start with examining age six. In the book *The Complete Book of Children's Play* Heartley and Goldenson (1970) provide an examination of child's play ages six to teenage years. Let us take a look at some of their thoughts.

2.3 Age Six

Six is likely to appall and baffle grownups. His play is filled with sounds of violence. "Bang, band, your dead!" "Kill the rat!" Let's get 'em!" "Hurry up you dope!" His favorite

taunts are apt to be epithets like “Fatty,” “Gimpy,” “Two-Eyes,” “Butter-fingers,” and “Stinker.” Girls are not immune to enthusiasm for the expressions.

When six is not pursuing his fellows with cocked guns, his is rolling on the ground with them in exuberant scuffles. The tattered knee, the shredded elbow the scuffed toe are his emblems. Not even the cast-iron patch or triple riveted seam can outwit him.

Grownups are apt to feel that chairs are for sitting and the floor for walking. Six knows better. He sprawls and rolls the floor, uses his bed for a trampoline, makes a fort of the sofa. Outside, any culvert must be explored, all trees and fences must be climbed. It sometimes seems that a chimpanzee and six have much in common.

New kind’s of motion excite him. He begs for a bicycle because his tricycle has grown too sedate. He throws himself recklessly into problems of balance, and he is hungry for speed. Skating, skiing, tobogganing-he is ready to try them all.

More speed means more ground to cover. The backyard has grown to small. Six needs the street, playground, park, and fields for his new ventures in playing and growing. Six has outgrown the back yard in another way. He cannot stay there and wait for other children to come to him. He needs to go where they are.(Goldenson, 1970, pg. 144-145)

The picture of six is painted as an action adventurer pushing all the boundaries he can with little regard for himself. He is ready for action and his play reflects it. Right now play seeks body thrills. While the six-year-old’s actions may be reckless, his or her pretend play may not be as action-oriented as the rambunctious gallivanting may suggest. Heartley and Goldenson (1970) describe it thusly:

> Something new has appeared in dramatic play since the child's fifth birthday. Now dramas include more than one or two children, often depend on a leader, and involve give and take between groups rather than single players. In addition, interest in the same subject may go on for several days.
>
> While the rather prosaic experiences of everyday life, like the store-keeping and transportation, may take up the greater part of time used for dramatic play, topics that are charged with a great deal of emotion (for adults, mostly) come up rather often. It is not unusual for example, to see a group of six-year-olds solemnly conducting a funeral service for a "corpse" that was the principal character for a hospital drama a short time before. Facing what he is afraid of in play, and overcoming it time after time, is Six's favorite device for warding off trouble. In a hazy way, the child is afraid he might lose his parents, might have no one take care of him, might die. Hence the repeated funerals. (pg. 150-151)

Six's imaginative playtime is spent working out some of life's great mysteries, in some cases, the mystery of death. It is not uncommon for a grandparent, aunt or uncle, or even parents' friends to die during the age of six. The six-year-old is using pretend play and storytelling to examine the unknowns in life as a way of becoming comfortable with the situations around him, including situations as extreme as processing death.

At age six, a child is starting to get into comic books, super heroes, and fantasy worlds. Their rambunctious behavior lends themselves to the enjoyment of action heroes and space adventurers, things the American boy has found fascinating for over sixty years. Many of these interests are reflected in modern toy design. Children of this age and beyond are saturated with comic book characters; they are in their coloring books, television shows and movies. It is no

wonder why young children enjoy hero play so much. The enjoyment of these themes and characters are as much about social connection as they are individual interests. This view is supported by Heartley and Goldenson (1970):

> At six, the spell of mass entertainments really begins. The child must be able to have the latest information about his favorite characters if he is to be an informed part in his groups talk and play. The animal comics still maintain their pull, but cowboy heroes and reign supreme at this age, closely followed by detectives and space characters. In all these classifications there are fairly wholesome choices to be made.
>
> Since noise and violence of characterizes Sixes active play, it is not surprising that these elements should attract them in more passive entertainment. It has been pointed out that the fantasies which fascinate the young audience on both radio and television are not very different from those he produces spontaneously: they provide a hero who can be a projection of himself and who is able to triumph over all obstacles. (pg. 160)

Young children are fascinated by the power these characters have. In the life of a six-year-old everyone is bigger, taller and stronger. They spend the majority of their life at that age submitting to authority figures, be it mom, dad, an older brother/ sister, or school teacher. They are able to execute so much control over their bodies and are so curious that they can often feel held back by others. In most cases this feeling is unjustified and is simply those in authority doing what's best for the child. But six year old's are envious of adult freedom. It is easy to see why they would gravitate to the action heroes of comic books or the movie screen; after all they can leap tall buildings in a single bound and there is no one to tell them not to do it.

2.4 Age Seven

Age six is our foundation for the interests that are to come. Now that we have established those interests and some of the associated behavior let us examine age seven.

> Limp figures strew the ground. One moves and grown faintly. From a rude shelter two large-headed shapes dash to the groaner and lift up his shoulders. Hands under armpits, they tug and drag his dead weight with effort until they reach the shelter. Head lolling, eyes closed, he seems to be past help. Hurriedly a doctor sits astride him, apparently administering artificial respiration. The spacemen have scored their first shot of the day.
>
> The names change, a few details of the play change, but the pattern seems to never change: one group of boys and girls flings itself recklessly in pursuit of another, which flees, darting and feinting, finally turning and chasing the pursuers. Hunt and chase games go on, perennially. (pg. 184)

As you can see, the rambunctiousness that existed in the six-year-old has continued into seven with some important differences. They are now starting to generate more complex narratives. They are ready for story to take up a major role in their play. Heartley and Goldenson (1970) noticed that:

> Seven shows his greater sophistication by varying the roles he plays. Bandits, space-men, commandoes join the simple cowboys and Indians of a more innocent time. Guns, noise, vigorous movement still characterize the play, but more realistic details have found their way in. Now the wounded are removed from the battlefield and cared for. Each side is organized and several kind of roles must be filled. Doctors and nurses, for example, are felt to be as necessary to war as fighters.

> Emblems of belonging are prominent. An army must have a uniform-even if it is only a paper bag worn over the head. There are rules: the dead cannot be killed again; help must be given to a man who asks for it. Each group has a definite organization or at least a leader. (pg. 184-185)

In addition to this newfound ability to develop complex narratives, seven-year-olds have become rule followers, so long as it is themselves and their peers that are making up the rules. This newfound appreciation for structure is what allows these now complex stories to take place. Some in the peer group are actors, but some, who are more suited for the role, have become both actor and director; coordinating teams, establishing storylines, and assigning roles. Were you to arrive at the beginning of one of these play sessions, it might very much seem like a behind the scenes look at the production of a movie.

Seven-year-olds are able to understand fantasy in a different way than they could when they were six. "His approach to the world of fantasy is different from what it was before because now it is quite deliberate; he knows that different rules apply to reality, and he is busy marking out the boundaries that separate that two worlds" (Heartley & Goldenson, 1970, pg. 193). This ability to tell the difference between the real world and the world of fantasy by no means interrupts the enjoyment of playing pretend, but enhances it. Knowing the difference between reality and fantasy gives the seven-year-old greater control over the fantasy world the child is playing in. It takes play time from something that just occurs to something the child is capable of initiating. That level of control makes the play more pleasurable.

At this age, seven-year-olds have become generators. They are no longer passive when listening or reading a story. They have definite opinion on what they would do if they were in a

dangerous situation. This is often voiced when a hero something different from what they would do. This is exemplified by Heartley and Goldenson (1970):

> "Know what *I'd* do?" says Seven when his story book hero is thrown into prison. "I'd take that stinky old guard and knock him out, that's what I'd do," and he flourishes clenched fists. No passive listener, he projects himself wholeheartedly into the story, identifying himself as the most sympathetic figure. He likes few things better than acting out part of the character from the familiar tale, and can stay in the role from the beginning to the end of the dramatization. Books are beginning to feed into his dramatic play, and by playing out the parts he makes the books come alive. (pg. 195)

While Heartley and Goldenson were referring to the effects of books, the same thing can be said for the response to television and movies. Part of being on the edge of your seat implies that in that dangerous situation you might do something differently, and because you cannot impose your will over that character you are simply a slave to the outcome. Because the seven-year-old does not always receive preferred outcomes in his books, movies, or television shows, the child utilizes the freedom of play time to act out alternate scenarios, creating an alternate time line of events within the same universe as before, while consuming his or her favorite media. In play time the child has once again become the director.

By becoming the director, inspired by the media just consumed, the seven-year-old is able to communicate beyond his or her reading level. Provide for situations he might not understand in the written word, but is perfectly capable of understanding through experience and improvising through a role during pretend play. Heartley and Goldenson share this opinion and offer a warning of what may happen if children are not able to express these alternate universe they have established in their minds.

It is important for Sevens to have a chance to tell stories as well as listen to them, to help them keep their feeling for the spontaneous, imaginative use of language. The books they are able to read themselves are necessarily simple in style and limited in vocabulary. Without continuing encouragement to express things their own way, children may make this flatness their own. (pg. 195).

At seven comic and storybook characters still play a major role in the child's life. The comics seem to gain in fascination with each year. Our discussion in chapter 7 applies as well to Seven and Sixes. Tastes do not change much from the previous year. Now and then we hear of a child who tries to "fly" in imitation of some airborne hero, but by at large there does not seem to be much harm in this type of story for the healthy child: the forces of good still triumph over the forces of evil, and action rather than gruesomeness is their major attraction. (pg. 195).

These heroes are still mentors of sorts, helping children through rough times in their childhood and providing for hours of entertainment. I emphasize the importance of comic books at each age level simply to point out that these characters are more than just entertainment to these children. They are analogs for processing life's events and fuel for the imagination. When children have themed totems (figures of characters or objects those characters possess) it helps to ease along the process of story development, in many ways facilitating those alternate universes mentioned above. These toy types help make stories leap from the pages or off the screen and out of the minds of children into the their hands.

2.5 Eight and Nine

Six and seven are foundational years for developing fantasy play skills. As we move forward to ages eight and nine we see some changes, but many of the previous interests and abilities stay the same or become amplified.

> Eights and Nines are like Sevens, only more so. They want to rebel, but they want to belong. They want to make rules, but they want to break them. They are even more full of paradoxes. On occasion they can be even fresher. Eights and Nines become so absorbed in new exciting activities that the ordinary routines of life are often forgotten. They may wear watches but be oblivious to time. They seem to use every conceivable mean of asserting themselves… (Heartley & Goldenson, pg. 222)

At ages eight and nine media takes on a much more prominent role in the child's life. Story consumption is a common pastime, filling their minds with new story-telling opportunities that will be banked and used in their play later.

> During the period from eight to nine, the average youngster devotes many hours per a week to radio, television, motion pictures, and comic books. The reasons are clear enough: they offer the kind of material these children can enjoy; in ways they can understand. Intricate plots, subtle characterization, delicate shading are still beyond them. They are looking for clarity, dramatic impact, colorful action-and they can have these by merely twisting a dial or spending a few cents of their allowance. (Heartley & Goldenson, 1970, pg. 222)

"The tastes of boys and girls, which once were quite similar, are beginning to diverge. More boys than girls revel in heroic exploits, racket-busting, and slapstick humor" (Heartley & Goldenson, year, pg. 222). While girls this age are losing interest in action heroes, the boys are

just now picking up steam. This information lets us know that while girls may be un-interested, continuing to develop unique hero-oriented toys for boys should still be considered at this age.

2.6 Preteens

Our last age group we will look at is preteens. These ten, eleven, and twelve-year-olds are still just as interested in fantasy play as they were before but responsibilities are beginning to pile on. School is becoming increasing more complex, new social experiences are beginning to develop, they are playing sports or participating in after school activities, etc. The biggest threat to their life in fantasy play is simply time. While they are more capable than ever of coming up with complex and interesting tales and play scenarios, there is just simply not the time that there used to be. Heartley and Goldenson summarize these effects with this warning:

> But how can anyone be creative if he is constantly on the move? There must be time to ponder, time to let experiences sink in. This is the only way to be sure that our children benefit from play in their own individual ways. It is far better for them to engage in fewer activities and have time to develop them and feel their effects, than to put them on a conveyor belt that carries them swiftly and thoughtlessly from on pursuit to another. (Heartley & Goldenson, 1970, pg. 254)

2.7 Fantasy

Now that we have taken a look at the age demographic in this thesis, let us take a look at fantasy on its own. We have seen through the study of the age groups that six to twelve-year-olds participate heavily in fantasy play. But what does that mean? In the book *A Childs Right To Play: A Global Approach* (Clements & Fiorentino, 2004) it is explained thusly:

Fantasy play, pretend play, make-believe play-all of these are aspects of the same type of cognitive and effective process. In such processes, children (and adults) deliberately enter a world where the mind's inner landscapes become the playground, where external objects are used as symbols for internal images. In different expressions of fantasy play, children reenact day-to-day experiences, experiment with behaviors and roles that reflect their inner needs, wishes, and fears, and develop problem-solving and self-regulating capacities. It is important to recognize that fantasy play is never frivolous or silly. On the contrary, it is the most serious business with the most serious purpose. Fantasy play gives us a life line to the important parts or psyches. That is one reason that we adults will never willingly relinquish our right to fantasy play anymore than we did as children.

Children are capable of mental representation at approximately the age of two, when they begin to engage in fantasy play. At first the child plays alone, but at about three years of age playing with a friend is preferred. However, if the child is alone an imaginary companion is still available. By the age of four or five, social dramatic play becomes important and children engage in roll-enactment of a story or are capable of having a plan of action or focusing on a role identity.

Research by Sutton Smith (1967), Rosen, (1974), and others revealed that sociodramatic play (make-believe play) helps children develop increased problem-solving skills, not only in social interactions but also on cognitive tasks; personal confidence and self-image; helps children learn to negotiate their impulses, with themselves and with others; help children learn to delay gratification; and help children understand the perspectives and opinions of others. Studies by Piaget (1962), Erikson (1963), and Bettleheim (1975) revealed that imaginative fantasy play permits children to

intellectually respond to situations through fantasy, consolidates learning and memory through practice in continuous testing on both emotional and intellectual levels, strengthens autonomy and initiative against forces beyond the child's control, increases emotional stability since the child can manipulate the circumstances, and allows the child to "out power" fears that seem menacing. Children can safely engage in role-play, character play, regression, risk, adventure, nonsense, silliness, and humor- they can "be" fantasy creatures of all types. This kind of activity fosters self-awareness, planning ability, and role taking capacities. Vandenberg, Singer, and Paul (1968) stated that fantasy play is a "critical cognitive skill a form of organizing and reorganizing the means and actions of possibilities of one's experiences that enhances the flexible and varied uses of one's capacities for daily problem-solving" (p.195). Singer and Singer (1979) commented that "by re-playing and re-shaping schemas, a sense of control and power is gained over a small part of a vast and in impenetrable universe" (p.195). Children who engage in fantasy play early in life exhibit more imagination and creativity when they become older (Vandenberg, 1971; Singer & Singer, 1979; Sutton Smith, 1967). (Clements & Florentino, 2004, pg. 23 – 24)

As noted above, there are obviously many benefits to fantasy play. Many of those benefits were seen earlier in the information gathered on the various age groups. Once the child becomes of age (around five or six), fantasy play becomes more common. While fantasy play is somewhat natural to children, how to foster it through toy design is the primary goal of this thesis. Just as toddlers might pick up on certain numbers and letters without instruction, children too participate in fantasy play. But, just as we know it is

better to teach the toddler the alphabet it is also better to provide fantasy education opportunities through toy design.

2.8 Narrativization of Toys

Now that we have an understanding of story, play, age demographics, and fantasy play, let us examine narrativization of toys. To understand how story and toys came together we will examine toys through the lens of history, starting from ancient times moving forward to the media-centric toys of today.

Toys have been around for thousands of years. Our history of them is limited by the robustness of the toy. Objects that were heavily played often don't survive childhood and preserved specimens are rare but they do exist. “In the Moravian Museum in Brno there is a miniature mammoth (figure 1) made from fired clay 25,000 years ago. 5cm long and 4 cm in high”. (Fleming, 1996, pg. 81) It is not so different from the miniatures we see today.

Figure 1. Mammoth Artifact (Moravian Museum 2015)

If we skip ahead to 1000 BC we can see an Egyptian miniature tiger (figure 2) that is more interactive. On the back of the toy is a string that connects to a hinged jaw allowing it to open and close. (Fleming, 1996, pg. 81)

Figure 2. Egyptian Miniature Tiger (Fleming 1996)

Toys did not evolve dramatically until the 1800's. Most toys up to this point were detailed replicas from everyday life. These included dolls, lead soldiers, animal replicas, and puppets extending all the way back through the Middle Ages and Greek and Roman times. Mostly admired for their high detail, the line between decorative objects and toys was blurred.

In 1811 William West, whose haberdashery shop was close to several London theaters, created the English Toy Theatre (figure 3) also known as Juvenile Drama as a side business.

These theaters were made out of cut out pieces of paper both for the theatre structure and characters. These theater sets often had a theme such as “Mother Goose”, where children could act out a narrative they already knew, with familiar characters and backdrops. “Middle class English children of the nineteenth century, evenings were often spent consigned to an austere playroom by absent parents” (Fleming, 1996, pg. 83), thus making and enacting dramas like their adult parents were attending at the theatre. These theater toys became very popular, spreading across Europe and eventually finding their way to the United States. This theatre toy introduced the concept of spectacle and narrative to children’s toys.

Figure 3. English Toy Theatre (Fleming 1996)

Moving towards a more contemporary concept of toys is the mechanization of play things. Throughout history people have been fascinated by the idea of automata from Da Vinci’s early “robots” to the later “Japanese Karakuri” (fortune telling or writing machines.) The fascination of

Automaton reached its peak of complexity and popularity in the nineteenth century… "Spring operated cycle dolls, steam-driven boats, and wheeled engines etc. were common by the end of the century. When the brothers Montgolfier took to the air in a balloon it inspired the rubber-band powered flying toys. It is widely believed that these clockwork toys are what inspired the Wright brothers experiments…" (Fleming, 1996, pg. 89). The development of the coiled wire spring and the development of transfer art work to tinplate's allowed for the mass manufacturing of tin toys (figure 4), allowing them to be one of the first mass produced series of toys. These toys were enjoyed and manufactured well into the 1960's.

Figure 4. Tin Toys (Retro Planet 2018)

In 1901 the patent for the building toy "Mechanics Made Easy" was received and by 1907 the name had changed to "Meccano" and was growing in popularity, and by 1913 its competitor the Erector Set was on the market (Fleming, 1996, pg. 91). Another more popular building toy wouldn't be developed until 1947. In 1947 the injection molded plastic brick Lego came to market, only becoming available in the United States in the 1960's. It became a

worldwide household name and is still a modern favorite of children.

By 1930 most homes had a radio in them. A paradigm shifting technology. Dramas could be enjoyed by the whole family. The same set of narratives were available in mass across the nation, joining mass narrative and mass production for the first time. In 1931 the Orphan Annie Radio hour aired; with a corporate sponsor, Ovaltine. With this sponsorship came a participatory toy, the decoder ring. The Orphan Annie decoder ring allowed a child to be a part of the Orphan Annie secret society and decode secret messages. This is one of the first mass media toys made. It certainly would not be the last.

In the 1940's the next mass narrative device came to America. The television not only delivered stories, but it also delivered visuals, something that was a favorite of the toy industry. Television allowed the toy industry to create replicas, its backbone for centuries. Its backbone, however, became its crutch. From the 60's to present day, merchandising rights became the primary driver for toy sales.

From the 1960's to the 1980's many television and movie franchised toys were produced. Every child wanted miniatures of their favorite heroes, vehicles, or occasionally artifacts and props. One movie launched a toy franchising movement that had never been seen before. It would forever change the toy market.

George Lucas maintained the merchandising rights for his film Star Wars, released in 1997, while letting Fox maintain the rights to the movies. Lucas had seen the wave of television toys for the previous 30 years and hedged his bets that merchandising was where he could make his money. He was right; of six billion dollars produced by Star Wars between 1977 and 1996 one third of that money came directly from sales of toy merchandising. This merchandising move was quickly utilized by other companies, leading to the corporatization of toys in the

1980s.

In the 1980s cable television had exploded. Nearly seventy percent of households in the United States had cable (O'Conner, 2016). Children's programming and cartoons were abundant and many shows and movies had their own toy line. Cheap and more precise manufacturing methods and the explosion of plastics made toys cheaper and highly sought after with a huge middle class ready to buy. By the end of the 80's toy companies had their own production companies and the show itself was the commercial for the toy, most notably Hasbro's Transformers.

> In the mid-90s, the Federal Communications Commission mandated that broadcast networks limit advertising of foods and products (usually sugary cereals and toys) that specifically targeted kids watching during the cartoon time. Networks realized that the restrictions on advertising meant the Saturday mornings would be less profitable for ABC, NBC, FOX and CBS. The networks looked for programming that was not subject to the advertising regulation so they could be profitable. (O'Conner, 2016)

Eliminating key advertising revenue, lead to the demise of Saturday morning cartoons, putting children's programming and advertisement solely on cable and out of the government's reach… for now.

2.9 Modern Media

Armed with this history of how narrative become connected to toys, let us take a glimpse at the effects of our modern media on children. First we will examine the significance of modern written media. As noted in the various age groups, comic books, or comic book characters, still

have quite a hold on the youth of today. In 2016, $1.085 billion dollars' worth of comic books were sold (Comic and Graphic 2016). Heartley and Goldenson (1970) ask:

> Why are forty million comic book still sold every month, despite the beckoning fingers of television, radio, and other competing media? The answer can only be that they are geared closely to our children's inner lives. Within their covers, youngsters find welcome relief from a world that is often confusing and confining. The pictures and words and ideas are readily understood. The stories "come out right," and bring with them the assurance that life will be on their side. The tempo is swift and the action dramatic-keyed to their own restless energy.
>
> These are only the most general appeals of the comic books. Others, more specific, are just as powerful. The action stories of young people the thrill of high adventure and the chance to worship heroes who fulfill their aspirations. Science fiction gives their imaginations full reign, and makes them feel at home in an expanding world of mechanical marvels. (pg. 304-305)

Today's children are saturated with comic books heroes, both in print form and cinematic universes produced by the likes of Marvel (A property of Disney) and DC comics (Warner Brothers). These ventures into the fictional realm are inspiring, educational, and entertaining. One example is science fiction. These modern tales are closer to reality than the legends and fairytales of old; They may arouse an interest in science, though the emphasis is on gadgets and action rather than theory and research. "The youngster's frequent questions, 'Could it really happen?' is an excellent opening for giving him realistic information" (Heartley & Goldenson, p. 305). Because the ultimate desire of fantasy is a hope for it to be reality; children often ask themselves "how can I make this real?". The answer to these questions can drive kids into careers

in science, engineering, and design as they grow older. Toy designers can help satiate these desires by providing children with a middle ground of toys that fulfill these fanciful needs in a safe way.

> Now let us examine our most common form of media, television and cinema.
>
> … The importance of electronic media in children's learning and development have been recognized by parents and professionals for many years. Electronic media as a factor in the socialization and education of young children is known to operate on both formal and informal levels. For instance, teachers use multimedia instruction in classrooms, and parents and others are well aware of how much children learn from television and other forms of media outside of school. In many ways, the media can be seen not only to affect play, but are also used as vehicles or objects of play. (Heartley & Goldenson, 1970, pg. 211)

Television and movies can educate and inspire children as well as inform their play. Television can be a great educator, providing children with new stories to enact during their play time. Much like we teach children their multiplication tables in a math class knowing that they will eventually use them to improvise solutions to more complex math problems, the television can act in the same way, providing starting points for stories and tropes to build off of during a play session. This opinion is further supported by Heartley and Goldenson:

> The bulk of research conducted on television viewing and the play of young children suggests that television is a negative influence, preempting playtime and possibly impeding creativity. Some researchers, however, believe that television can be used to build play competence in children. These researchers have reasoned that, after all, there are some common elements that the medium shares with make-believe play- visual

> fluidity, time and space flexibility, and fantasy-reality distinctions. The content of specific programs, furthermore, may stimulate fantasy play by giving children ideas for certain play episodes. (Heartley & Goldenson, 1970, pg. 213)

Watching television and movies themselves are a form of play. As previously described, pretend play is a simulation of the mind. Watching a movie and embodying the action in your mind can be a visceral an experience as playing pretend. Heartley and Goldenson (1970) explain it this way:

> Watching movies or television and listening to the radio are essentially passive activities that may affect play at a later time by triggering the imagination in some way. We must recognize, however, that the acts of watching and listening are themselves forms of play. When children participate in these activities, they not only escape from reality in some sense, but also enjoy what they are doing at the time. As Mergen (1982) notes: "Roller coaster rides, car chases, aerial combat all become almost as exciting on the screen as in real life." The enjoyment of motion in the playground or on the screen is an aspect of physical play sometimes referred to as vertigo (Caillois, 1961). (pg. 215)

2.10 Realism of Toys

We now have an understanding of how media effects our children and how it can inform play. Next we will examine toy development. One question to ask when developing a toy is; How realistic does a toy need to be in order for a child to tell themselves a convincing narrative? The whole process of imagination is dependent upon a child convincing themselves that what's happening is "real".

Realism and structure are related features of toys. Realism refers to the degree to which a toy resembles its real life counterpart. Barbie dolls, with their detailed features and life like accessories, are more realistic than rag dolls. Structure refers to the extent to which toys have specific uses. High- realism toys are considered to be highly structured and to have very specific uses. For example, a realistic replica of a police car lends itself to only one use, being a police car. The less realistic Community Playthings cars, which look like blocks of wood with wheel attached, are much less structured and can easily represent any kind of vehicle. Figure 9-2 illustrates how play materials form a continuum from completely unstructured materials like mud, sand, water, and water to highly structured instructional materials like shoe-lacing boards, which can be used in only one, adult-specific way. (Johnson, Christie, & Yawkey, 1987, pg. 179)

FIGURE 9–2

The Structure of Play Materials

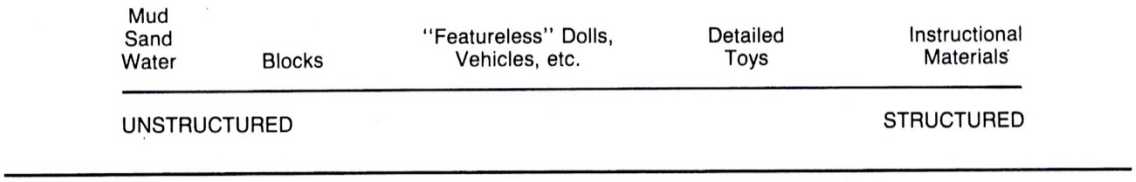

Figure 5. The Structure of Play Materials (Johnson, Christie, & Yawkey, 1987, pg. 179)

While it might seem that featureless dolls and vehicles provide for the most "flexible" play. Without constraints provided by themes, a detailed and interesting story can be harder to generate. In order to teach story and fantasy, toy designers want to operate in the detailed toy section seen in the figure above, as the featureless dolls and vehicles category does not allow for development from media sources and instructional materials fall into the educational toy category rather than structured fantasy.

Just because a toy is themed does not mean it will not have adventures outside of its own world. Children take their themed toys on all kinds of adventures and will on occasion make their own accessories to make those adventures possible. On occasion a themed toy might completely break out of its own theme, becoming a character from a completely different franchise. Theme is simply an agreed upon starting point that makes jumping into fantasy play more accessible to children with varying fantasy ability.

> Take, for example, the so-called trendy toys, which, not unlike magnets, draw children to them. Most adults find them stereotypic and – not seldom – violent in appearance. The earlier-mentioned Mutant Ninja Turtle is, to my eyes, a grotesque, menacing-looking mixture of animal and human being; whatever can one do with it?
>
> However, the way my grandson Erik played with it changed my mind, at least where the play repertoire is concerned. First, the Turtle was a parachute jumper who "accidentally" crashed into the big sea. The parachute was a little party hat with a rubber band tied under the arms or the Turtle, and the sea was the kitchen sink filled with water. Later, I met the Turtle in the shape of a web-footed frogman (with paper "webs" taped under his feet) and also in the role of Batman "flying" around the room with his (paper) cape on, rescuing everyone worthy of that brave enterprise. As the Turtle symbolizes both an animal and a human being, from a child's perspective its magic is that it can be given either role. Maybe it is this mixture of human and animal qualities that makes children find toys like the forest family and My Little Pony so appealing. We cannot, however, give the toy all the credit for an extensive play repertoire. It takes fantasy too. (Goldstein, 1995, pg. 64-65)

While the toy itself was enough to jumpstart the child's imagination, the boy continued development on the toy himself by providing the toy with accessories to fit different play situations. These personalization's of his own toy show a desire for more detailed specific accessories for the various scenarios the boy is acting out through his figure. The way the boy played with his toy, both through his language and through his modifications, suggests that his storylines follow the theme that the toy provided, giving the child an initial structure from which he could build his story off of.

"This research, for the most part, found that children's play and language tend to follow the themes suggested by the toys or props themselves. This is especially true of functionally explicit or realistic toys having a clear function such as a doctor's kit or truck" (Goldstein, 1995, pg. 34). This may be a clue as to whether first-person experiences or third-person experiences elicit more independent story telling.

2.11 Boys, Girls and Adventure

By this point it should be noticed that there is something missing from the cited research. It would appear that we have left out girls. We have spoken of "boys toys" and the examples we have given have mostly dealt with young boys. The reason for this is twofold; as mentioned before, boys tend to stay in this fantasy play stage for a longer period of time than girls leading to greater economic appeal for them and "boys toys" should not be gender exclusive. Girls can and should play with them as well. What are classically considered "boys toys" are actually the often exhibit characteristics that make them ideal for story-telling based play.

A study sought to examine sex-typed toys and children's ability to suggest new innovative ways of using them. Such toys were presented to children in Grades 1 to 3 by

> Erica Rosenfield (1975). The children were asked to think of strange, exciting, and interesting ways in which they could change the toys so that boys and girls might have more fun playing with them. Both boys and girls presented more varied ideas for improving the masculine toys. It appears that these toys had more potential for unique or creative use. (Goldstein, 1995, pg. 22).

Boys toys have often been geared towards varied story lines. They are also typically more adventurous stories that either gender would be interested in. This is the area in which creating a gender neutral toy would be valuable. If girls are interested in the boy's toys, there needs to a perception change in order for them to feel more comfortable playing with them while still maintaining the masculine draw for young boys. According to Goldstein (1995), "Cross gender play actually inhibits girls exhibition of confidence with both neutral and male preferred toys. Thus it is important to consider toys and social participants jointly" (pg. 43). Boys may dominate the play conversation in mixed gender social scenarios. This may also be the only time a female gets the chance to play with "boy's toys" on their own. Parents should consider buying girls these toy types, especially considering that female representation has increased in this category since the release of *Star Wars: The Force Awakens* (2017) and *Wonder Woman* (2017). Where the lead character was in fact female.

Most of the fantasy play we have discussed has centered around action heroes and comic book stories. Due to the nature of the content in these story types, the play that results can be perceived as aggressive. Some may ask; Is the play too violent? Is this war play healthy for our kids? The instinct might be to say "no, it is not healthy," and it might even seem to take away the innocence from our children. It is precisely because they are so innocent that makes this war play acceptable. Adults often will project their world view on play, not considering they have an

understanding of the world their child does not. Violence to a child is simply action, adventure, and escape.

> Fun is fighting with unreal fantasy figures: cowboys, Pirates, elves, Asterix and Obelix, playmobiles, and space figures. Such fighting has hardly any connection to reality and hardly shows any direct aggressiveness. The children themselves are certain about this, about the distance to reality: "It's important that one knows it is not true"; "One can live in one's fantasy"; "I prefer the weightlessness of space. In my room, I can break my nose. In space I'm weightless; nothing can happen to me there." Do war toys make children aggressive? We do not think so. They are part of play, of "let's pretend," and most of the children know that. Fun is excitement: "action, until the last second, action!" "One doesn't know where are the enemy is hiding". Fun is deciding on your own: "I can simply do what I want to do, without parents, teachers". Fun is the feeling of power: "One feel stronger"; "One feels like people in the movies". (Goldstein, 1995, pg. 93)

2.12 Aggressive Play

Aggressive play is also the most accessible type of play for most children. The rules are easily understood and consistent across most play groups. This type of play also encourages story telling as the action plots are easily understood, making it easy for all participants to improvise their roles while maintaining the integrity of the plot. Goldstein (1995) summarizes it thusly:

> * *Aggressive play is simply fun.* It is dynamic, exciting, and usually strongly physical. It is action accompanied by laughter, cries, onomatopoeic vocalization.

> * *Because it is so dynamic and exciting in a simple way, aggressive play usually appears as a theme that enables the child to participate easily*. Each participant knows immediately what is going on: pursuit/flight; chasing/becoming a prisoner; hiding/being found again; shooting/being hit; aiming – hitting/destroying. These are well known basic patterns that function immediately. An explanation is not required. For this reason, aggressive play themes are also advantageous as connecting links and play situations where there is disagreement about the organization and the rules of play. (pg. 106)

2.13 Make it Clear

It is important for play time plots to be as clear as possible. When children are using imaginative play with each other, language becomes even more important. Not only is what they are saying a script of sorts driving the story, but if there is a breakdown in communication on what an object is or what the other participant is doing the play will come to a halt. When children are playing together, the narrative must be structured enough that both the players can understand the storyline. Small misunderstandings can end the session. Like having to explain a joke, too much explanation makes the game no longer fun. This notion is supported by Goldstein (1995): "The ambiguity that comes with such play has possible consequences. The play episode may end immediately because the ambiguity is such that players cannot reach mutual understanding" (pg. 34).

> Although some fantasy episodes do end this way, there is often an intermediate phase wherein children try to clarify the ambiguity of asking directly (e.g., what's that mean?) or indirectly for explication (such as by repeating the ambiguous theme with a questioning intonation "A car?') the result of such clarification sequences, even when the

> play ends end rather quickly, is that children attempt to explicate, with decontextualized language, the meaning of their play statements. Children seem to be motivated to explicate their themes because they enjoy the fantasy that will ensue (p. 35)

The concept of interrupted play can be applied to physical toys. Many of today's action figures come with multiple feature elements such as heads and hands. The need to change out physical parts to continue a storyline tends to interrupt the story a child is attempting to structure. An overuse of technology that takes control away from the child during play can also hinder development of the storyline being created.

2.14 Technology in the Toy World

Technology has become a thorn in the side of toy designers. Toy design trends demonstrate that many have tried to make pretend play more like a videogame than a fantasy pretend play session. The problem with including technology in this type of play is that it attempts to control the environment too much. The toy company Mattel came to that conclusion in 2017 while Hasbro is still trying to heavily incorporate technology into its toy lines to its own detriment. Let us examine the choices of both companies through articles published in the Wall Street Journal.

Barbie is becoming less techy.

> Mattel Inc. Chief Executive Margo Georgiadis is shutting down products with extraneous technology from its Barbie lineup and elsewhere in the toy maker's portfolio. Instead, the former executive of Alphabet Inc.'s Google is focusing on more proven play patterns like a Barbie line focused on baking and cooking, another featuring different occupations like beekeeping, and products backed by strong media content.

Gone is an attempt to launch a Hologram Barbie that the company showcased last year that was to cost a couple of hundred dollars. It also axed a high-tech line of baby monitors called Aristotle. Ms. Georgiadis, who joined Mattel last year, felt that Mattel too often tried to incorporate technology into toys without considering whether it was a good fit.

"It's a good one-off but not a platform that we could create a sustained experience over time," Ms. Georgiadis said in an interview at Mattel's showroom at the North American International Toy Fair in New York…

Mattel showed off a more curated selection of its upcoming toys Friday ahead of a meeting with investors. Barbie's selection lacked the high-tech gadgets of prior years. Its main lineup was tied to cooking and baking, a traditional play pattern for young girls and one that takes advantage of popular television-cooking shows.

The products include an ultimate kitchen with a Barbie-branded moldable compound where children can make pretend sandwiches, waffles and pies. Another focus is on play sets involved with different careers, like farming and a veterinarian. Mattel also is continuing to add more Barbie dolls with different skin tones, hair colors and body types to its Fashionista line.

Separately, Mattel is trying to tie its toys more closely to more compelling content. The "Thomas & Friends" show is moving to a new television channel, Nick Jr., and will feature more female train characters and include episodes in new places instead of the familiar Island of Sodor setting. The Thomas toys reflect the changes, with new characters and play sets. (Ziobro, 2018)

Margo Georgiadis understood the that the overuse use of technology in toys hurts their playability. While people initially have positive reactions to the technology in toys when they see them at toy fairs, that does not translate into a desire to buy them. A "Holographic Barbie" ultimately misses the point of Barbie, a figure in which girls may pick and choose their own adventures. Once these technological controls were added in, many of the choices they once had with the more basic dolls were taken away, limiting the playability of the toy. Mattel has also decided to seek out television franchising opportunities for toy development. In contrast to Mattel's new direction, Hasbro has decided to continue pursuing deep integration of technology into toys despite the recent flop of their *Playmation* line.

Playmation (Fritz, 2016) is described by the manufacturer thusly:

> Playmation is the next step in the evolution of play, where digital gets physical and imagination gets real. Inter-connected products with embedded content let players step into the world of Marvel's Avengers! Control the adventures with wearable gear that lets users feel the battle and puts them at the center of the action.
>
> With the Playmation Marvel Avengers Starter Pack, players have the core products they need to carry out their first missions and fight alongside Earth's Mightiest Heroes in the battle to defend the world from Ultron! The Starter Pack comes with 4 locations and 25 missions out of the box so that players can jump right into the action! (amazon)

It seems *Playmation* touches on several positive attributes illustrated in this literature review. It is themed, focuses on action, uses comic book characters, and is organized around aggressive play. Its failure can be blamed on its price point. Originally the starter pack for this device retailed at $120.00. Each additional figure cost $15.00 (amazon), a price point getting relatively

close a videogame console. To further exacerbate the problem, to receive updated missions a tablet or smartphone is required, costing the user another several hundred dollars if they did not already have such a device. Beyond the cost of the device, playtime with the toy was tightly controlled by the pre-programmed adventures developed by the company. Disney's response to the poor sales was written about in The Wall Street Journal (2017):

> Walt Disney Co.'s plans to transform the toy business are headed in a direction similar to "Pokémon Go" after a disappointing first year for its Playmation products.
>
> Launched with fanfare last year, Playmation was meant to usher Disney into a new era of internet-connected, wearable toys that communicate with each other and can be updated from the cloud.
>
> The first wave of Playmation products, launched last October, were based on Disney's Marvel superheroes such as Iron Man and Hulk. Unlike many of its toys produced completely via licenses, Disney developed much of the technology behind *Playmation* itself. Hasbro Inc. handled manufacturing and distribution.
>
> Sales of Marvel *Playmation* products have fallen short of internal targets, according to a person who worked on the project. They are now being heavily discounted. A "starter pack," originally priced at $120, is now $23 on Amazon.com . On Disney's retail website, *Playmation* character toys that originally cost $15 are on sale for $4.
>
> Ratings on retailers such as Amazon are high, however, indicating that many people who used *Playmation* liked it.
>
> A Disney spokeswoman said the company remains "bullish on the blending of physical and digital to create new kinds of connected play experiences."

The struggles of *Playmation* underscore how difficult it is to launch a costly and complex new toy "platform," including a core product and add-ons, in an environment where children have so many digital options. Interactive is one of the few entertainment businesses in which Disney has struggled recently, as evidenced by the shutdown this past spring of its "Infinity" videogame franchise.

Last year, Disney said it was planning to launch "Star Wars" Playmation toys this fall and ones based on "Frozen" in 2017. However, those plans were put on hold after poor sales for the Marvel products, according to people familiar with the matter…

Despite lackluster sales, Hasbro and Disney still plan on moving forward with more digital/ reality merges. Touted as action adventure play, it appears that it is anything but. With heavy control imposed over the playtime with mission specific adventures, it makes it difficult for the participant to generate new story concepts when there is always a computer limiting and instructing you what to do next.

The goal here is not to eliminate technology from toys. Sometimes it can augment play in exciting ways. The important thing is that technology is used to enhance a child's existing abilities, providing more control during play time, not less.

It takes a great deal of fantasy to pretend that a baby doll can be fed and be spoken to, or to go out walking with or even be bitten by a stuffed textile toy animal, regardless of how realistic in features they both may be. In fact, there are such high-realism toys as cake-eating (!) and talking and crying baby dolls, and there are teddy bears with a beating heart and even teddy bears that answer to, or rather echo, what they are told. Although modern electronics make toys more and more like people, animals, cars, or trains in the real world, they are still far from the real stuff. The fact that children happily accept and

manage to put life into them is a childhood miracle. (Goldstein, 1995, pg. 63)

In this literature review we have discussed story, child development, fantasy, media, the love of comic book characters, and the integration of technology into toys. In chapter three this information will combined to create a list of design guidelines for first and third-person fantasy toy design. By applying this research, the guidelines developed will be tested by developing a first and third-person toy based off the guidelines and research.

Chapter 3

Toy Design Guidelines

The two play perspectives that this thesis will develop are first-person and third-person play. What does this mean exactly? In the realm of fantasy play, as it relates to toy design, children can play utilizing first-person objects (props, costumes, play spaces) or third-person objects (figurine, vehicle, playset). When taking a stroll down most toy isles, you will see these toy categories (excluding building toys and game products). By defining these categories, we can better develop design guidelines.

3.1 First-Person Play

Throughout the literature review, the spoken words of children during playtime are referred to as a script of sorts. Because children participating in fantasy/pretend play assign roles, have an improvised script, and act out a plotline, we will define the first-person category guidelines as supporting tools that a director of a movie might have. Those categories may include props, costumes, and location modifiers (setting). By reinforcing play by children in these categories in the first-person, we will be equipping them with more than just toys, but tools that enable and support story-telling play.

3.2 Props

A “prop” is a term most commonly used in the entertainment industry referring to an object that a character uses to help move the story forward. This is also a category in toy design. Just like the entertainment industry when a child uses a prop, they are using it move forward their own story. In the case of a toy it could be something like a Nerf Gun, Bat Gadget, a sword, etc. A “prop” has the most story telling potential in the first-person category. By using a prop a child can take on the role of a character by being in possession of and using one of the characters objects or posessions. The perception is that these props have already been imbued with the experiences of the character as witnessed by the child in the source material. With that comes a pre-determined structure that serves as a jumping off point for a child to tell a story of their own.

3.3 Costumes

Costumes can be an effective way for a child to take on a character role. In the adult world we might call it “dressing for the job you want”. In this case the child is dressing as the person they want to be. While costumes do help move a story along and help us identify who is who as a character, they do not help the child reach a story depth comparable to a prop. The costume only provides an aesthetic outer shell and does not augment a child’s existing abilities to become that of the character they are portraying. Costumes are most effective for mirror play (the self-perception of the character) and social play, where identifying who your character is in a social context can be significant in how the group forms the story arc. In the case of costumes, we are assisting in marking characters and identifying teams, something the 7-12 age demographic finds useful.

> Emblems of belonging are prominent. An army must have a uniform-even if it is only a paper bag worn over the head. There are rules: the dead cannot be killed again; help must be given to a man who asks for it. Each group has a definite organization or at least a leader. (Heartely & Goldson, 1970, pg. 184-185).

3.4 Location Modifiers

Play spaces are the first-person zones that establish a location unique to a characters universe. If it's Darth Vader, the location may be a section of the Death Star or a Star Destroyer. If its Batman, it could be a section of the Bat Cave. In designing these spaces, considerations must be made to ensure the play space is in the character universe. It must provide a child with interactions not otherwise available, and those interactions must be in child's control at all times. A location modifier simply provides a themed place for action.

3.5 Third-Person Play

The third-person category of toy design can still be filtered through the lens of being your own director. Many directors such as George Lucas have used miniature figures, sets, vehicles and ships for both filming and to help plan out shots in film. The professional entertainment industry is still creating with these miniatures/toys. Many of the same rules that applied to first-person toys apply here as well.

The third-person category is divided into three parts, figurine, vehicle and playsets. Their first-person counterparts are props, costumes, and location modifiers. We will first look at the character centric category of figurines.

3.6 Figurine

Figurines are the most significant story telling toy in the third-person category. They enable the personification of a character or multiple characters. When children have a multi-character story arc, using figures is the better solution than development in first-person categories. It is also a better solution when there is not an opportunity to augment a child's existing ability in the first-person. When developing these figures, it is important to give the figure all of the abilities that a character might have, allow a wide range of physical articulation, and the ability to play alternate identities if relevant to the character. If a character has an alternate identity (ex. Peter Parker/ Spiderman) but it is not playable as such, only half of the story of the character can be told, significantly limiting the toys' story telling power.

3.7 Vehicle

Vehicles can play a vital role in a story. Batman would have a hard time getting to the other side of Gotham City if he had to walk, Luke Skywalker would have stayed on Tataouine without his X-Wing, and James Bond would be lady-less and riding a bicycle to stop Goldfinger. While the Batmobile, X-Wing, and Bond's Aston Martin are classic examples of vehicles in cinema and integral to the stories they are in, toy companies often introduce themed vehicles that do not exist in the canon (the specific world of the story) or even in the universe of the characters they supposedly belong to.

One notorious example of the misuse of vehicle is "The Spider Cycle". The "Spider Cycle" (figure 6) is a vehicle that does not exist in the canon or the Spiderman universe that has been constantly pushed on the toy market. While seemingly trivial, the underlying error is that vehicle undermines one of Spiderman's canonical abilities, swinging through the city on his web.

Instead the implication is that Spiderman will ride though New York city launching missiles at all who get in his way. By undermining a character's ability, the story potential has been undermined.

Figure 6. Spider Cycle (Hasbro)

In the picture above, the motorcycle has taken the place of nearly all Spiderman's abilities. The figure does not have any flexibility, web, spider sense, or the ability to stick to a wall. The play has been reduced to a rolling dart gun. That's not to say that a child could not be imaginative with this toy. The information in the literature review tells us some children are adept at pretending without canon or established story frameworks. The failure here lies with the

designer. They did not provide for story-telling in their toy design (by the guidelines in this thesis).

When developing vehicular toys for storytelling the designer should consider the following: Is the vehicle in universe? Does it have all the features the vehicle canonically possesses? Is there figure crossover (can a figure or multiple figures fit in the vehicle)? Additionally, a trap to avoid (with a toy vehicle intended for storytelling) is making the vehicle remote control. A remote control vehicle changes the game play from story generation to skilled game play (navigating obstacles with a vehicle), thus obfuscating the intent of the toy much the same way the Spider Cycle was turned into a shooter instead of a vehicle.

3.8 Play Set

When building universes and telling stories, play sets can contribute by expanding the abilities of a figure or providing for unique actions sequences not otherwise possible. Traditionally playsets have been designed well, as they naturally gravitate towards to providing story-oriented circumstances. Play sets can provide specific playable story scenarios which can be acted on by the child with enough variation that they can continue to be exciting. When developing play sets, it is important to remember that they are a supplementary toy. They provide new interactions for figures and vehicles. The designer must ask themselves if the play set utilizes existing figures or vehicles in their third-person collections and if it improves those interactions beyond the existing capabilities of those figures and vehicles alone. Play sets stress the significance of building consistent toy universes.

3.9 Toy Universes

The notion of a toy universe should not be confused with the idea of a toy line. It is common for a toy line to have crossover interactions with toys specifically designed for that line. A toy universe has far more broader compatibility. If toys are designed to interact with each other over the scope of a much larger period such as 6 years (the full range of the 7-12 year demographic) it allows for a much larger and deeper collection to be built. Videogame systems are a good example of this method. The console itself is viable for 6-10 years before another one makes it obsolete, allowing for longer term investment by the owner. Toy designers should be striving to develop cross-compatible toy universes that are not so quickly outdated. The flavor of the month toy development process has lent itself to un-interesting story-less development that encourages the child to care as little about the story than the designer did when creating the toy. Long term cross-compatibility in first-person and third-person toy development allows for the growth of the child's mind utilizing consistent tools (while adding more) during this 6-year period.

3.10 Story Depth

The guidelines discussed above for first-person and third-person toys are necessary to build the potential for story depth. While each child is different and their imagination will take them in different directions, the designer must attempt to provide the opportunity for in depth complex stories without creating barriers.

3.11 Mapping It All Out

The following are a series of scoring charts for first and third-person categories of toy development as proposed in this thesis. These charts can be used to analyze an existing design or

to develop a design from scratch. When developing a toy, it should be run through this process at each phase in its iteration. It is important to note that a perfect score on these charts does not indicate it is a perfect toy or that it would do well on the market. These charts indicate the story telling potential each toy has. Each chart's goal is to be a guide, not for creativity, but as a watchdog to focus the story telling so that the toy enhances the story-telling ability of the child and does not introduce obstacles that hinder story play.

> …rich dramatic play is fragile and can be ephemeral. It exists, to a large extent, in the minds of players, and the play frame can be easily broken or destroyed by players themselves when they violate the rules, by outside intruders, no matter how well intentioned, or by any distraction that pulls the players out of their fantasy. (Bateson, 1995, cited in Clements and Fiorentino, 2004, pg. 11)

These charts ask several questions of the designer. Each question answered positively increases the story depth potential of the toy. Using the assessment points assigned to each question gives the designer a sense of where the toy lies on the story telling spectrum. The higher the number of points in a question the greater its significance is to increasing story depth. Ideally a toy will answer positively to all questions.

3.12 First-Person Charts

Prop

		Assessment Points
1	**Is it in universe?**	Yes 10
2	**Can you augment a childs natural ability?**	Yes 6
3	**Does it use light, sound, or perform and action?**	Yes 4
4	**Does the child control the light, sound, or perform an action?**	Yes 4
5	**Does the prop have pre-programmed speech?**	No 8

Figure 7. Prop Guidelines

Prop:

Is it in universe? If the prop is in universe, that means while it does not originate from a specific pre-existing storyline, it does logically fit with in the world of that character. The existence of the new prop should not change the character in such a way that is counter-intuitive to the foundation of that character. (10 Points)

Can it augment a child's existing ability? If the answer to this question is yes, that means the design is capable of making a child feel like they have that hero's super power or ability. An example of this would be making a child feel like they have superspeed when they are running at a normal pace. If the answer to this question is no, consider working in the 3rd person category on a figure, vehicle, or playset. (6 Points)

Does it have light, sound, or perform an action? The purpose of a toy is to give a child some form of interaction beyond what they might be able to produce in its absence. Lights,

sounds, and actions are what will help determine the prop's intent during play. The prop only needs to have one of these in order to receive a positive score on that question. (4 Points)

Does the child control the light, sound, or action? This question is one of the most significant on this list. Taking control away from the child during play and making them slave to a button that cycles through several different effects to get to the one of their choice can break the play cycle by inserting an obstacle to their desired story line, thus breaking the play frame referred to by Clements and Fiorentino (2004). (4 Points)

Does the prop have pre-programmed speech? When developing a story driven toy for a child, you do not want to take away their speech. When a child is playing and improvising to create their plot, speech is the primary element they use to control their story. By including pre-programmed, story driven speech, the toy then begins to control the plotline. There is an exception to this rule. Sometimes speech can fall into the sound effect category. An example of this would be if you had an electronic wrist gadget that was supposed to be a shield; when you press the button the shield sound effect turns on and then the onboard computer says "shields activated." That would be considered a sound effect as the speech is not plot or character-centric. (8 points)

Costume

		Assessment Points
1	**Is it in universe?**	Yes 10
2	**Is it accurate to the character?**	Yes 6
3	**Does it fit a variety of age ranges?**	Yes 4

Figure 8. Costume Guidelines

Costume:

Is it in universe?. If the costume is in universe, that means while it does not originate from a specific pre-existing storyline, it does logically fit with in the world of that character. The existence of the costume should not change the character in such a way that is counter-intuitive to the foundation of that character. (10 Points)

Is it accurate to the character? This question relates specifically to the aesthetics of the costume. Making sure the costume is accurate to what is on the page or screen is the only power a costume has, so it must be designed and executed well. (6 Points)

Does it fit a variety of age ranges? Similarly related to the question above, this question also deals with aesthetics. If the child has a muscle chest plate that is too small and only covers the center of his body the illusion is destroyed. Similarly, if a cape that goes from shoulders to feet on a seven-year-old but only goes to mid-back on an eleven-year-old, that will also hurt the illusion. A costume's power comes in how it makes the child look. Deviating from these aesthetics hurts their purpose. (4 Points)

Location Modifier

		Assessment Points
1	**Is it in universe?**	Yes 10
2	**Does it utilize existing props?**	Yes 6
3	**Does it have Lights, Sound or Perform an action?**	Yes 4
4	**Does the child control the lights, sound or action?**	Yes 4

Figure 9. Location Modifier Guidelines

Location Modifier:

Is it in universe? If the location modifier is in universe, that means while it does not originate from a specific pre-existing storyline, it does logically fit with in the world of that character. The existence of the new location should not change the character in such a way that is counter intuitive to the foundation of that character. (10 Points)

Does it utilize existing props? This is the first toy universe question in these charts. This question is asking if there is cross-compatibility or interactions between the location modifier and a prop or props. Simply put, does the Bat gadget cause something to happen in the Batcave? Interactions between the two toy types can help build a more complex play routine by expanding the universe of toy relationships. How expansive to create this universe is up to the designer or the design team and should be a consideration. (6 Points)

Does it have light, sound, or perform an action? The purpose of a toy is to give a child some form of interaction beyond what they might be able to produce in its absence. Lights, sounds, and actions are what will help determine the location modifiers intent during play. The location modifier only needs to have one of these in order to receive a positive score on that question. (4 Points)

Does the child control the light, sound, or action? This question is one of the most significant on this list. Taking control away from the child during play and making them slave to a button that cycles through several different effects to get to the one of their choice can break the play cycle by inserting an obstacle to their desired story line, thus breaking the play frame referred to by Clements and Fiorentino (2004). In the case of a toy universe where a prop interacts with a location modifier, those interactions need to be under the control of the child as well. (4 Points)

3.13 Third-Person Charts

FIGURE

		Assessment Points
1	**Can you transition between the character and alter ego?**	Yes 2
2	**Does your figure have all character abilities?**	Yes 6
3	**Does the child control the abilities?**	Yes 4
4	**Does the figure have pre programmed speech?**	No 8

Figure 10. Figure Guidelines

Figure:

Does your character have an alter ego? When a character has an alter ego they are, essentially, two characters in one. They live together in a symbiotic relationship. In comics, movies and television shows, this juxtaposition is where most of the drama is formed. In these universes there is a very real danger to someone knowing the hero's secret identity.

Can you transition between the character and alter ego? This drama should be playable. It adds complexity to the playtime dramas and makes the child consider that "with great power comes great responsibility". When a character/ figure has an alter ego but it is not represented, the story telling potential is cut in half because you are only telling half the story. If the character does not have an alter ego this question may still be answered positively as a part of the character is not being neglected. (2 Points)

Does your figure have all character abilities? Abilities have as much to do with character as the alter ego. Their abilities determine how they fight a villain, the roles they play on a team, and even some of their day to day life struggles. A full set of character abilities allows the child to call on these powers on demand and set up character-centric play situations that provide a sense of wonder and magic because the powers are seemingly "real". If the abilities are simply provided, the child's imagination will do the rest. A similar effect is accounted in Jeffery Goldstein's book: (6 Points)

> First, the Turtle was a parachute jumper who "accidentally" crashed into the big sea. The parachute was a little party hat with a rubber band tied under the arms or the Turtle, and the sea was the kitchen sink filled with water. Later, I met the Turtle in the shape of a web-footed frogman (with paper "webs" taped under his feet) and also in the role of Batman "flying" around the room with his (paper) cape on, rescuing everyone worthy of that brave enterprise. As the Turtle symbolizes both an animal and a human being, from a child's perspective its magic is that it can be given either role. Maybe it is this mixture of human and animal qualities that makes children find toys like the forest family and My Little Pony so appealing. We cannot, however, give the toy all the credit for an extensive play repertoire. It takes fantasy too. (Goldstein, 1995, pg. 64-65)

Does the child control the abilities? Control questions, as mentioned before, are the most important questions to score positively on. Much like the light, sound, and action category with a prop, children need complete control over the figure's abilities so their play is not interrupted by an undesired activation of powers. When, where, and how a figure uses its powers is significant to the story the child is trying to tell. (4 Points)

Does the figure have preprogrammed speech? When developing a story driven toy for a child, you do not want to take away their speech. When a child is playing and improvising to create their plot, speech is the primary element they use to control their story. By including pre-programmed, story driven speech, the toy then begins to control the plotline. Many figures on the market have pre-programmed catchphrases. Many even boast about the number that they have. This is a failure on two fronts. The first is the control element. Cycling through multiple phrases to get to the one that might be desired breaks the play frame. The second failure is the speech is taken away from the child and the toy imposes its will on the storyline being developed by the child. (8 Points)

Vehicle

		Assessment Points
1	**Is it in universe?**	Yes 10
2	**Is it remote controlled?**	No 6
3	**Does it have all features of the orginal Vehicle?**	Yes 4
4	**Can it fit a figure or multiple figures?**	Yes 4

Figure 11. Vehicle Guidelines

Vehicle:

Is it in universe? If the vehicle is in universe, that means while it does not originate from a specific pre-existing storyline, it does logically fit with in the world of that character. The

existence of the new vehicle should not change the character in such a way that is counter intuitive to the foundation of that character. The example given earlier of the Spider Cycle applies here. (10 Points)

Is it remote controlled? I will preface by saying that there is nothing wrong with a remote-control vehicle. They can provide hours of fun and they are certainly entertaining. There is also nothing wrong with a remote control toy being themed to any franchise. Remote control vehicles, however, are not centered around pretend play. Their game type is centered around piloting and navigating obstacles. A remote control vehicle can leave your sight line and come back into it. The focus and the nature of the task is too distracting foster a story telling environment. Toy vehicles should be under the power of child at a close distance in order to build the moments necessary to tell the story. (6 Points)

Does it have all the features of the original vehicle? The average car may not be feature full, but car features can be significant to a character. While providing Spiderman with a motorcycle may be a mistake and undermine his character, providing Batman with one does not. Batman's abilities come from the gadgets and vehicles he uses on each mission. A feature packed vehicle in this case is entirely appropriate and in both canon and universe. The more features the child can call on to tell the story the better. (4 Points)

Can it fit a figure or multiple figures? This is another toy universe question. This question is asking if there is cross-compatibility or interactions between the vehicle and a figure. Interactions between the two toy types can help build a more complex play routine by expanding the universe of toy relationships. The third-person category provides more toy universe opportunities as figure, vehicle, and playset and all coexist together. (4 Points)

Play Set

		Assessment Points
1	**Is it in universe?**	Yes 10
2	**Does the location inhance a figures abilities?**	Yes 4
3	**Does it utilize existing figures?**	Yes 4
4	**Does it utilize existing vehicles?**	Yes 4

Figure 12. Play Set

Play Set:

Is it in universe? If the playset is in universe, that means while it does not originate from a specific pre-existing storyline, it does logically fit with in the world of that character. The existence of the new playset should not change the character in such a way that is counter-intuitive to the foundation of that character. (10 Points)

Does the location enhance a figure's abilities? The playset should provide for new interactions not otherwise possible with the figure on its own. (4 Points)

Does it utilize existing figures? This question is asking if there is cross-compatibility or interactions between the playset and a figure. Simply put, does a Batman figure cause something to happen in the Batcave? Can he sit at the Bat Computer? Does the Bat Computer do something when the figure sits down? Interactions between the two toy types can help build a more complex play routine by expanding the universe of toy relationships. (4 Points)

Does it utilize existing vehicles? This question is asking if there is cross-compatibility or interactions between the playset and a vehicle. Interactions between the two toy types can help build a more complex play routine by expanding the universe of toy relationships. The location should enhance a vehicle's capabilities or at the very least provide a place for it to be. (4 Points)

These guidelines are meant to create story potential in fantasy-oriented toys. Meeting all the suggested guidelines does not mean that the toy is perfect or that it will do well on the market. It is a system and a metric for testing for obstacles to children's fantasy/pretend play in the first and third-person. The ultimate goal of the guidelines is to make the designer consider what they are designing towards and if they a providing for proper story development. How these goals are accomplished are up to the individual creativity of the designer. The designer must be knowledgeable of the story universes and of the characters they are designing for in order to take full advantage of the guidelines.

Chapter 4

Application of Design Guidelines

In order to make clear the design guidelines for first and third-person memetic toy design a demonstration of design in both categories, with the guidelines applied is necessary. In order to show that these newly designed toys are an improvement over existing products on the market a competitive product analysis must be done comparing the products developed in this thesis to the closest related product on the market. This chapter will address the above.

It is important to remember that applying the guidelines from chapter three, to a toy design, does not guarantee a market success. It means that the designer will have increased the story telling potential of the toy. Some stories and characters can be relatively un-interesting and may not have a mass market appeal. The appeal and the execution of the product is still largely determined by the creativity of the designer and the methods they use to accomplish the design guidelines discussed in this thesis.

This chapter will cover, in part, the development of a first and third-person toy design using the guidelines from chapter three. The characters selected to develop from were DC Comics “The Flash” for the first-person product and Marvel’s “Spiderman” as the third-person product. Comic book characters have been selected in the case due to their long term cultural relevance to American children, broad media presence, and the complexity that comes from realizing superpowers with in a toy.

4.1 The Flash Mask: First-Person

In order to develop for the character of the flash the characters abilities must be known so they may be represented. What are The Flash's abilities? The answer, superspeed. The Flash can run up to speeds faster than the speed of light. The effect is that he can get places quickly and people and objects around him may appear to move in slow motion due to the great speed at which he is moving. Now that the character abilities are known, the next decision that must be made is; can a child's existing ability be augmented to achieve the character abilities effects? The answer to this question determines whether or not the toy should be pursued in the first or third-person. In this case the first-person category was chosen due to a child's ability to run.

Now it is known that the product will be developed in the first-person category, a sub category must be selected. Because access to the child's visual and auditory senses are needed to build this illusion of super speed, the decision to create a mask was made, as it provided the most immediate access to those senses. This decision places development in the prop category.

4.2 Prop Category Development

Figure 13. Flash Mask

The flash mask pictured above was developed using the prop development guidelines. The first questions asked is “Is it in Universe.?” In this case the answer is “yes”. More specifically, it is in the Zach Snyder, Justice League Movie universe. The aesthetic of the mask comes from the version of The Flash created for Ezra Miller (figure 14) in the Justice League Movie.

Figure 14. Ezra Miller Flash (Justice League Movie, 2017)

After establishing the story universe connection, the next question is "Can you augment a child's existing ability?". The child's existing ability to run was augmented with optical illusions and sound effects to create the illusion of speed. In order to create the optics necessary for speed, 3D printed lenses were create to test various magnifying properties in order to make object appear to be moving past them quickly. In order to create the sound effects, speakers were installed into the mask and controlled by an Arduino and various shields.

4.3 Creating Speed Lenses

Using a Form 2 3D (formlab.com) printer lenses were printed out of a clear resin, sanded and polished until clear. Each lens had a different type of magnifier to produce different results. After several iterations, a beaded lens was decided on due to its ability to make objects move

quickly by obscuring them and making them appear to look like streaks of light. The lens drops down in front of the eyes when the right side lightning bolt on the mask is pressed. This was accomplished by placing a servo in the mask to move it up and down.

Figure 15. Speed Lens

4.4 Creating Sound Through Movement

The same sound effects used in the Justice League Movie for The Flash were incorporated into the mask and used for the toys sound effects. These effects were controlled using an Arduino Uno (Arduino.cc), a 9 axis motion shield, and an ADA Fruit Wave shield.

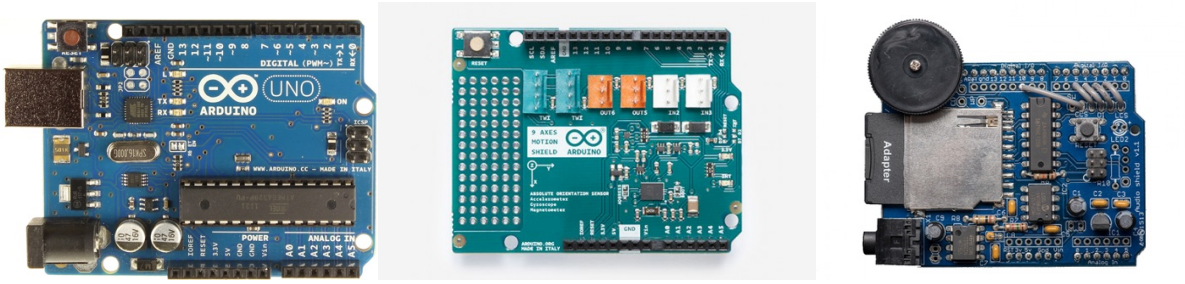

Figure 16. Arduino Shields (arduino.cc, 2018)

The motion axis and sound shield enabled the sound to be triggered when a child is running or dodging. Individual sounds effects were used for starting the run, running, ending the run, and dodging left and right. The level of control given to the child through a combination of sensors

and authentic movie sound effects enriches the experience without interrupting play due to the full control over the toys features by the child.

The final question asked in the prop guidelines is, “Does it have pre-programmed speech?”. The answer is no. By not having pre-programmed speech, the child is able to control the narrative, making it one of the most significant guidelines in the prop category.

The Flash Mask was created using all of the prop category guidelines. By doing so, the child has been given an opportunity to create more in depth stories by being able to simulate the powers and abilities of the character’s origin media. While the prop category is not the only category in the first-person play guidelines, by following the same method a similar story depth potential should result in all categories, resulting in a story rich play period un-interrupted by the toy itself.

4.5 Spiderman Figure: Third-Person

Much like the Flash Mask, in order to develop for the character of Spiderman we must understand the character’s abilities we are trying to portray. Spiderman is extremely flexible, can shoot web from his wrists, has a spider-sense that can detect immediate danger, and the ability to stick to and climb walls. That is a tall order for superpowers in a toy.

The first question to ask in order to discover the category this product should be developed from is; can a child’s existing ability be augmented to achieve the character abilities above? The ability to be flexible and the ability to climb is not easily augmented within a first-person toy. Given that the remaining Spiderman abilities have been attempted in other first-person toys in the past, the decision was made to create a toy that possessed all of the character

abilities of Spiderman. This choice leads to development in the Third-Person, Figure category due to abilities not being able to be replicated in the first-person.

The Spiderman figure was developed from an existing figure created by Hasbro. It was modified to meet the guidelines in the figure design category in order to maintain the aesthetics of the character as closely as possible.

Does the character have an alter ego? Yes, Spiderman's alter ego is Peter Parker, a contract photographer for the Daily Bugle newspaper. Can the toy transition from alter ego and the character? Yes, a head sculpt for Peter Parker is mounted on the action figure; a removable mask allows for the transition between the character and the characters alter ego.

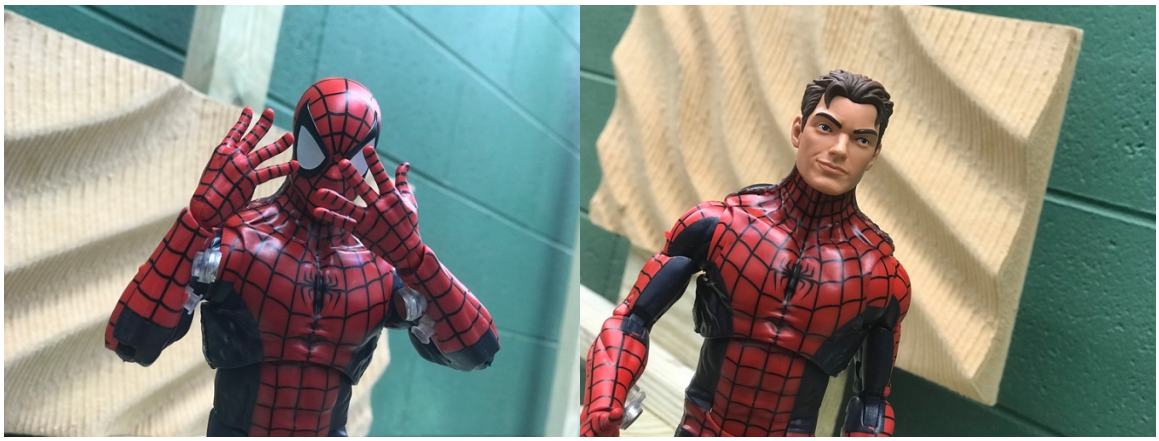

Figure 17. Alter Ego

Does the figure have all character abilities? Yes, the figures flexibility already existed within the figure that Hasbro developed. It had indexed, interior joints in order to maintain the hyper pose-ability.

Figure 18. Flexible Joints

Web is able to be pulled from Spiderman's wrists and retract by having cable run through his arms. The retraction of the web was accomplished by developing a coil spring joint and reel into the shoulder to retract the web. A push button stop was placed in the arm in order to prevent the web from retracting when not desired.

Figure 19. Web Shooter

A haptic motor was placed inside of the figures chest with a button placed on the back of the figure activating Spiderman's spider-sense. Because the spider-sense is a psychological ability and invisible to the eye, having the child feel the vibration through the figure via the haptic motor allowed the child to experience the ability without representing it visually, helping maintain the authenticity of the power.

Figure 20. Haptic Spider Sense

Last but not least is Spiderman's ability to climb walls. Magnets were placed in the feet, buttocks, shoulder blades, and hands giving the figure the ability to stick to metal objects. While this figure does not stick to all surfaces, magnets were the best way to add the ability without

sacrificing the aesthetic of the figure. With metal surfaces existing in most homes, children can still take advantage of the play the magnets provide.

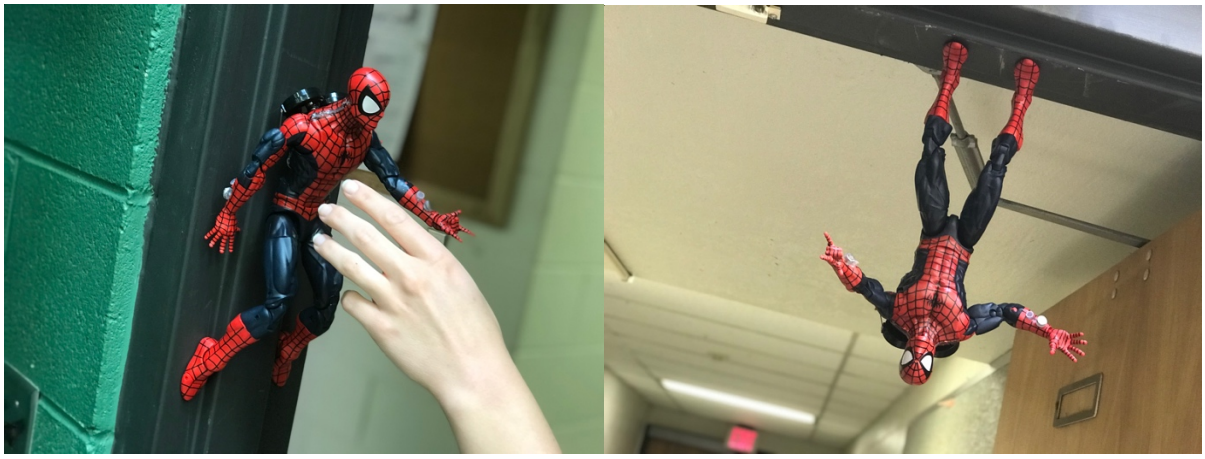

Figure 21. Wall Climbing

Does the child control the abilities? All abilities from how to pose the figure, when the web gets pulled out and when it retracts, the activation of the spider-sense and when to stick it to an object, are all under the childes control the entire time. There are not any random activations or a need to cycle through abilities or sounds to get to the desired result.

The final question asked in the figure category is; *does the figure have pre-programmed speech?* The figure developed does not have pre-programmed speech. The spoken narrative is entirely up to the child, maintaining the integrity of their story.

The Spiderman Figure was created using all of the figure category guidelines. By doing so, the child has been given an opportunity to create more in depth stories by being able to simulate the powers and abilities of the character's origin media. While the figure category is not the only category in the third-person play guidelines, by following the same method, a similar story depth potential should result in all categories, resulting in a story rich play period un-interrupted by the toy itself.

4.6 Comparative Product Analysis

Mattel's Flash Mask Vs. Guidelines Developed Flash Mask

Prop Comparative Product Analysis

	Question	Response	Action	Mattel's Electronic Hero Mask	Guidline Developed Flash Mask
1	**Is it in universe?**	Yes	10	10	10
2	**Can you augment a childs natural ability?**	Yes	6		6
3	**Does it use light, sound, or perform and action?**	Yes	4	4	4
4	**Does the child control the light, sound, or perform an action?**	Yes	4		4
5	**Does the prop have pre-programmed speech?**	No	8		8
	TOTAL:			14	32

Figure 22. Prop Comparative Product Analysis

While Mattel's Electronic Hero Mask is in universe, it begins to fail by the standards set in this thesis because it does nothing to augment a child's existing ability. It simply attaches to the face and produces lights and sounds. The mask does receive points for using lights and sound, but does not gain more points due to the lights and sound being randomly activated by a button. The sound and lighting effects must be cycled through in order to activate the desired effect. Ultimately, its final failure is the pre-programmed speech included in the toy. Fully removing control from the child and allowing the toy to drive the story. The side of package on this product touts "10+ sounds & phrases". This product scored lower when evaluated with the guidelines. What this means is that the product developed from the guidelines has a greater story telling potential than the Electronic Hero Mask released by Mattel.

Hasbro's Spiderman Vs. Guidelines Modified Spiderman

FIGURE

	Question	Response		Hasbros's Spiderman	Guidlines Developed Spiderman
1A	**Can you transition between the character and alter ego?**	Yes	2	2	2
1B	**Does your figure have all character abilities?**	Yes	6		6
2	**Does the child control the abilities?**	Yes	4	4	4
3	**Does the figure have pre programmed speech?**	No	8	8	8
TOTAL:				14	20

Figure 23. Figure Comparative Product Analysis

Hasbro's Marvel Legends Spiderman figure gained points due to its ability to change between the character identity and alter ego by switching heads from Peter Parker to Spiderman. It does not gain points because it does not have all character abilities. The only ability it had was the hyper possibility which met the necessity of flexibility for Spiderman's powers. It gains points again because while the figure does not have all character abilities, the one it does have can be controlled and manipulated by the child. The figure also gains points for not having pre-programmed speech and leaving the story development to the child. This figure scored lower than the guidelines modified figure, the figure has some story telling potential but does not achieve the level of the guidelines modified figure. Meaning the guidelines modified figure reached the maximum story depth potential.

Chapter 5

Summary, Conclusions, and Extension

5.1 Summary and Conclusions

There is currently little attention given to the development of story through toys in fantasy play category of toy design. While much thought is given to toys for children from infant to six little directed thought is given to the seven to twelve demographic. This focus on younger ages is largely due to the need to educate children with basic knowledge and skills such as shapes, colors letters, etc. Toy designs for ages seven to twelve lack direction because there is no a perceivable educational value to the fantasy toys on the market today. The lesson that needs to taught to this older age group is how to tell stories. The guidelines developed in this thesis aims to create guidelines for memetic fantasy toy development in order to help children tell stories of their own. The guidelines and methods developed in this thesis embraces media as the teacher in an effort to use media as a starting point for story development in children. By following the guidelines in this thesis, a toy design will have greater story depth potential.

5.2 Extension

While this thesis was based off of information from various child psychology, play, story, and child development books, very little updated information on toy development in this category is available. Due to the high level of secrecy in toy companies, most large toy companies do their own extensive research and keep it internal do it its proprietary nature and the

competitiveness of the field. More university research on toy design for older age demographics will be necessary to give access to information for researchers outside of these toys companies.

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