CAPTIVATING BUBBLES: CREATING LASTING
CHILDREN'S STORIES USING ANIMATION, RHYTHM AND LIFE EXPERIENCE

by

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ABSTRACT

This work examines the inclusion of social values in children's stories and the visual and auditory techniques implemented in animation. It explores personal encounters and experiences in my life which shape the content and mission of my story. This work also touches on my role in presenting family and social values to children using rhyme as style and animation as a medium. Furthermore, in discussing my animated film, this work will delve into the decision to incorporate rhythmic poetry, evaluate the composition of the film's score and touch on the purpose of visual devices. Finally, this work will highlight the creative, and technical aspects of developing visual elements contained in the film.

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INTRODUCTION

Animation has always served as an integral part of my life. As a child I would spend much of my free time watching cartoon classics like *Fat Albert and the Cosby Kids*, *Popeye* and *Bugs Bunny*. These cartoons did not simply offer humor and escape from the everyday routine, they also helped build character and shaped my personal identity. In the case of *Popeye*, the forearm-bulged sailor's affinity to eating spinach offered children guidance to eating healthy. Through the early part of my childhood, Bill Cosby's *Fat Albert and the Cosby Kids* gave voice to an underrepresented culture, poor Black youth. Featuring a cast of disparate urban kids, *Fat Albert and the Cosby Kids* focused on connecting with children from disadvantaged environments to discuss universal topics from a familiar perspective using music and humor. This not only offered Black children a relatable animation, but valuable lessons to help guide them in their everyday situations where pitfalls were commonplace and often thought unavoidable. Progressive messaging to the Black populace through animation did not end with Cosby's band of junkyard musicians. A few decades later, in 2001, Disney showcased *Proud Family*, an animation about a Black teenage girl, Penny Proud, and her lovable family, which included her oft-embarrassing father. Similar to Bill Cosby's sitcom *The Cosby Show*, *Proud Family* depicted a middle-class family in the suburbs. This was a rebranding of Black representation in animation, a stark contrast to Cosby's previous animation *Fat Albert and the*

Cosby Kids which depicted the impoverished view of Black America. Around the same time Nick Jr. debuted Cosby's most recent creation, *Little Bill*, a 2D animation which featured a 5-year-old Black child always seeking to do what he believed to be morally right; an ideal character for children to emulate.

Most of the animations generate feelings of nostalgia because they were highly entertaining. What I later noticed which I was unaware of at the time, was the messaging they offered. Appealing story depicting moral conflict with characters and situations I found relatable always held my attention. And while I spent plenty of time watching cartoons, it wasn't a requirement that the story be animated to find value. The works of Dr. Seuss were also comforting in my childhood. In his story *Yertle the Turtle,* children are introduced to a community of turtles dealing with the issue of fairness – a subject children might want to explore.

CHAPTER 1: STORY

A Bubble of Bobles is a 3D animated film targeted for children from preschool to first grade. The story features two intergalactic siblings floating steadily in a bubble as they explore an unknown planet. The duo struggle with choosing whether to follow their parents' rule to remain in the bubble and continue their journey of exploring the planet's environment or help an old lady stranded in the flood waters below them. The film's theme directly relates to individual comfort zones and the reluctance to deviate from this familiarity, even to do what many might consider morally right. The film features a poetic narrator that rhythmically guides the audience as if they, too, were floating in the bubble with the protagonists. Specific attention to detail was considered to make characters and elements move in concert with the audio to create direction and flow in the action of the film. The film's intent is to provide an entertaining children's story that combines rhythm and repetition with exciting visual composition and vocabulary cues while aiding memory retention in younger audiences.

<u>Motivation</u>

While the style of the characters can be the most engaging aspect of a successful film, the story itself often serves as the driving force. Story is important. Stories are everywhere. I try to encapsulate moments most people forget and transform them to deliver useful yet entertaining messages. *A Bubble of Bobles* is no exception. The idea of siblings floating in a bubble searching

for answers was a personal choice reflective of my experiences and the valuable, accompanying lessons I wanted to convey to my toddlers. When I was in third grade, I remember attending school in Newark, New Jersey. In the 1980's the surroundings were perilous, and chances of escape were bleak, but I had a close friend, Dennis, who had lived downstairs from me. My family considered Dennis and his mother as my family. The six-block walk to school felt endless and dangerous, but Dennis and I stuck together. I recall one day a small group of about seven kids attempted to take a book from Dennis, claiming he had stolen it from one of their sisters. I quickly realized they were looking for trouble when the boy's sister appeared from behind him bearing a devilish smile. A sizable crowd began to form on the playground where we would usually have recess. When I came to Dennis' defense, I was shoved to the ground and the group began kicking me. The kids were not trying to put me in the hospital or anything but just trying to bruise and embarrass me. For what seemed like a minute I took kick after kick, looking through the wall of legs for Dennis, the one guy who would be loyal, or grateful enough to tough this out with me. When I was finally able to identify him through the crowd of legs, I was shocked to find him running away. Dennis abandoned me. I was not expecting him to be in the center of the melee, swinging with all forty pounds of his might. I hoped that he would have stuck around until I had received the last of an ambush intended for him, and I never imagined he would disappear. I thought I had lost my closest friend that day. When the onslaught ended, I gathered my things and started to walk home, seething that Dennis left me there. I had gotten two blocks into the trek home when I saw Dennis running back to me with my mother running in tow, breathless and barely keeping up. I began to well up as they approached, overcome with

emotion that Dennis went for help and did not leave me in a fight meant for him. Moreover, I had never been as happy to see my mother rushing to my defense like only family could. That neighborhood, that event and that long journey to and back from school, stayed with me my entire life not simply for the trauma, but for the support.

<p style="text-align:center">Engineering Story</p>

Since *A Bubble of Bobles* is a fictional representation of a creator's shared wisdom, the importance of keeping an audience engaged to receive the intended message is the central part of a successful story. The recipient must be involved in the activity, in this case an allegory, to fully absorb it. This begins with understanding the audience and having a solid story structure. Engaging story should make effective use of the exposition, conflict, climax, and resolution. First, the exposition details the facts needed to understand the story (Block). Here is where the who, what, where and how are revealed. I present the exposition not just by letting the action develop, but also by allowing the narrator to explicitly relay the information. Next, you present the conflict of the story. In the film, the siblings' struggle with the ideas, expectations and actions, or inactions, of their counterpart. It is once they decide to confront this conflict that the film reaches its climax with the duo struggling for control of the vessel. This creates yet another conflict when their romp causes the bubble to collapse and the two are sent crashing into the flood that they tried to avoid. Finally, the characters band together to rectify the events in the resolution.

CHAPTER 2: PEDAGOGY

The essence of this work was born from my experiences in seeking methods of conveying community and bravery to my children. At an early age I, much like my children, responded positively to sounds, particularly to those that are rhythmic. Taking this into consideration, I drew inspiration from books written by the late Theodore Geisel, better known as Dr. Seuss. Known for his creative characters and unique, swooping illustrations, his most prominent storytelling tool was his use of the poetic rhyme. Having two children at the time, a two-year-old and a newborn, I began to question if merely stating my values would be enough to convince children. I felt the importance of these values was not minimal and it was my responsibility to attempt to provide an additional layer to the messages. So, I created extended poems to implicitly relay values I felt at minimum should be conveyed where explicit direction was missing. As my animation skill set improved, it became a passion to sync this rhythm with color and movement to enhance the experience.

At the time of this research, a growing number of children are spending their days separated from peers and their instructors as distance learning has become necessary due to COVID-19. While this could be temporary, advances in technology and the potential of future mass health occurrences could make distance learning more commonplace. Understandably, this new frontier in teaching and learning can be viewed as an exciting progression, though the potential academic and social impacts have yet to be known. As a content creator for children, recognizing and addressing these potential negatives beforehand serves the audience and the community.

Successful childhood learning relies heavily on intended messages, effective tools, and a skilled messenger. Children in the early stages can have difficulty maintaining focus. The inclusion of rhythm can aid in the development of self-regulating and executive function as early learners. As Kate E. Williams notes,

> It is proposed that activities designed to improve beat synchronization skills, and stimulate the shared neural networks of auditory perception, motor control, and self-regulatory functioning, could, in effect, use the musician advantage for the purpose of supporting self-regulation development in young children (Williams, Kate)

As my work pertains to the combination of visual elements with auditory, rhythmic aspects, I explore the cognitive benefits of poetic meter. Fazio touches on rhyme reciting and its correlation to verbal serial memory in cases related to children with specific language impairment. "…there is clear evidence that rote serial memory plays a critical role in several cognitive domains and there are serious consequences when rote linguistic sequences are inadequately stored or retrieved" (Fazio).

Holding a child's attention can be a challenging task. Music, song, repetition of beat or word is often used to provide children with the feeling of shared learning. I often use rhyme to ensure the audience has a vested interest in the story. This is achieved with repetition through music and meter, holding attention as they anticipate the appropriate rhyme. The goal is that as they correctly predict a rhyme, they anticipate the next and they get caught in the cycle remaining with the story until its end. Adu and Frimpong alluded to this idea stating, "Songs and rhymes are basically compositions made with the intent of lyrics being sung or recited, for the purpose of producing proportionate feelings or emotions in relation to a particular thing" (Adu).

<u>Memory</u>

Although I am working on a visual piece, the auditory aspect plays a significant role. How that auditory element translates to beneficial results is an important consideration. Brower asks an important question worth exploring when she ponders how one detects an unfolding rhythmic pattern in a musical movement. "The answer, of course, is memory. Memory plays an essential, if relatively unrecognized, role in musical perception" (Candace Brower). I took advantage of the existing rhythmic foundation by unfolding poetic patterns alongside a musical score. The expectation is that the repetitious rhythm of the score serves as a complimenting melody to the narration and a memorable component of the film.

Rhyme through narration is the central part of the film intended to relay life lessons to children. This method of storytelling is preferable as it positively impacts the long-term memory of children. A study introduced a group of 4-year-olds and their parents to a poem of the AABB scheme for ten days and later asked them to recall a verse. While the parents were aware of the free-recall and the children were not notified that they were being tested, the children outperformed the adults, with fewer errors by a significant margin. (Király, Ildikó, et al). The benefit in relaying principal information through a poem is that the information can be recalled long term. Rhyme was used to teach children for generations not just in literature but included in music numbers in tv shows such as Sesame Street and even Disney feature films. Ann Browns adds "rhymes, accompanied by music, are readily acquired and can be reproduced exactly even by quite young children… . The efficiency of using musical rhymes as information sources,

while extensively used by media aimed at children, and programs like *Sesame Street*, has not been studied by developmental psychologists" (qtd. in Király, Ildikó, et al). So, while more work is needed in this area, the benefits have been apparent for decades.

It is important to understand the benefits of rhymes for children as early as 4 years old. Gathercole presents a study to assess phonological memory and rhyme awareness's effects on vocabulary development. One of the findings of the study was "rhyme awareness ability was expected to be strongly related to reading achievement" (Gathercole). While I deal with a film rather than written literature, any positive effects on early learners and my contribution to this should be evaluated and considered.

CHAPTER 3: INFLUENCES

Dr. Seuss

With rhyme being a prominent element of the film, one could surmise that Dr. Seuss is a big influence on my work. His legacy as one of the most beloved children's authors of all time and the impact of his work goes beyond children's books. Seuss' rise to greatness began in college as a writer for his school's humor magazine. After being removed due to a prank, he began writing children's stories only to find much rejection. His luck changed when he published his first book, *And to Think I Saw It on Mulberry Street.* Shortly after his success, Seuss moved to Hollywood and used his art to help the Military during World War II by creating documentaries and films to train American soldiers. It was this experience that helped sharpen his story skills which lead to his creation of his best-selling children's books which spotlighted environmental and cultural issues of the day. Theodore Geisel was able to create alternate worlds that captivated young readers. Seuss obtained a status in life of which most people dream, and he chose to dream a world everyone wanted to visit. From his wonky, curved environments to his sharp, off-kilter font, nonsensical words, and zany creations, Dr. Seuss' work appealed to the child in most people. However, his propensity of creating swooping, exaggerated characters would later become the subject of controversy as a handful of his earlier works contained offensive depictions of people from other ethnic backgrounds. While there is no evidence that Seuss held ill feelings towards other races, much of his literature for children has contributed to promoting advancements in reading, environment awareness and acceptance of others as the

message of *The Sneetches* offers. Thanks in part to Dr. Seuss, rhyme as story has been wildly

successful in shaping social understanding and behavior. Stories like *The Lorax* promoted a

sense of duty towards the planet, while *Horton Hears A Who* appealed to one's sense of

humanity.

The use of rhyme in animation has been proven successful when United Productions of

America (UPA) married its distinctive visual style with Dr. Seuss' unique lyrical, rhythmic

writing to create *Gerald McBoing Boing.* The film's success prompted John Hubley to declare

"We proved with Gerald that a short can cut across the whole of the audience and can be made

attractive and entertaining to both adults and youngsters" (Beck, Jerry). More recently Netflix

featured an animated adaptation of Dr. Seuss' *Green Eggs and Ham* which follows the friendship

of Sam I Am and Guy. The film is completely narrated and while the director chose to use rhyme

in just a fraction of the animation, the story of Guy and Sam goes deeper than Seuss' original.

When discussing rhyme as it relates to the social competence in children, Mullen notes "Because

language play requires interaction between an adult and child or group of children, it can gently

immerse children in the social expectations about how to play and how to follow rules" (Mullen).

<u>Saturday Morning Cartoons</u>

While Seuss was heavily influential in my creation of poetic story with his rhythmic and whimsical wordplay, an educational, animated series laid the groundwork for me to focus on creating animation as a learning tool. As a child raised in the 1980's and 1990's, Saturday morning cartoons were the most anticipated event for children. Signaling the beginning of a break from the rigors of school, children would wake up, grab a trough of their favorite cereal, and let the world of animation soothe them from the early morning to the start of the afternoon. Before the launch of stations dedicated to animation such as Cartoon Network, Disney Channel and Nickelodeon, there were a select few local stations that aired animation blocks. Much of the nation's children would funnel to outlets like American Broadcasting Company, CBS, Public Broadcasting Service (PBS) and Warner Brothers (WB). ABC, which featured a chunk of animation under the program title ABC Kids, showcased an animated educational series called *Schoolhouse Rock!* Created to teach kids academic subjects ranging from English and Science to money and civics, the show originally aired 1973 to 1985 and made a return to network TV as part of the Saturday Morning Cartoon lineup (Engstrom).

SCHOOLHOUSE ROCK!

The significance of *Schoolhouse Rock!* was that it helped educate children when they were no longer in classrooms. With a variety of subject matter to share, memorable songs assisted in providing valuable supplemental lessons on academic subject matter as well as life skills like money management. The creator of *Schoolhouse Rock!* found a successful formula in recognizing an area of deficiency in education and creating a new format to address it. This format of education was animation and music. While vacationing with his son, the chairman of an advertising agency noticed his son was great at memorization of song lyrics. Questioning why his son had trouble remembering class lessons but not lyrics, the idea of creating lessons to music was born (Engstrom).

Fat Albert and the Cosby Kids

There was very little a young Black man could find positive in the depressed city streets. As a protection, I avoided heavily socializing outside of the house, keeping my friends few and time in the streets limited. Security from within a confined space is a recurring idea as it is the main theme of the film. Cartoons emerged as a viable method of receiving social cues from the characters and worldview from situations. The appeal of children's content was a staple in my youth and continued well into adulthood. But while the content grew, the lack of African American creators was minimal. Due to his high profile as a comedian and Emmy winning actor, at the time Bill Cosby was one of the few Black content creators visible to the African

American community with the creation of his cartoon series *Fat Albert and the Cosby Kids.* Cosby elected to return to college, attending the University of Massachusetts of Amherst and obtaining a doctorate of education with his dissertation thesis titled *"An Integration of the Visual Media Via Fat Albert and the Cosby Kids (1972) into the Elementary School Curriculum as a Teaching Aid and Vehicle to Achieve Increased Learning"*.

CHAPTER 4: VISUAL LANGUAGE

Visual Style

My choice for the film's medium was 3D to offer more dynamic movement from the characters. Understanding the inclusion of rhyme gives the story the feel of a children's picture book, I was greatly influenced by Steve Martino's 2015 adaptation of Charles Shultz's comic strip *The Peanuts Movie* due to his ability to flatten space and create the feel of a children's storybook working in a 3D virtual medium. Lighting on the characters create shadows giving the subject depth and distinguishing them from the background. Contrastingly, the background elements lack depth. My film uses affinity to bring the background elements together, while displaying a contrast in the characters to their environment. Contrast means difference where affinity means similar and, as Block explains "The greater the contrast in a visual component, the more visual intensity or dynamic increases. The greater the affinity in a visual component, the more visual intensity or dynamic decreases." (Block, 11). This dynamic of affinity and contrast of tone is also recognizable in the film's climax when the bubble pops and the characters plunge into the flood. This is done to signify the duos departure from comfort to confronting the unfamiliar. Once the siblings become separated from their safe space, the environment shifts from increased tonal affinity to increased tonal contrast creating separation.

<center>Character Traits</center>

A Bubble of Bobles style borrows characteristics of my life to make the story interesting and authentic. Presented as aliens in the film, the characters are designed to spark interest in young audiences. Beyond the alien façade, every other aspect of the Bobles draws characteristics of my children, Brooke and Shawn from the skin being a mix of red and yellow producing an orange hue representing their multi-racial background, to their personalities, implied gender and age.
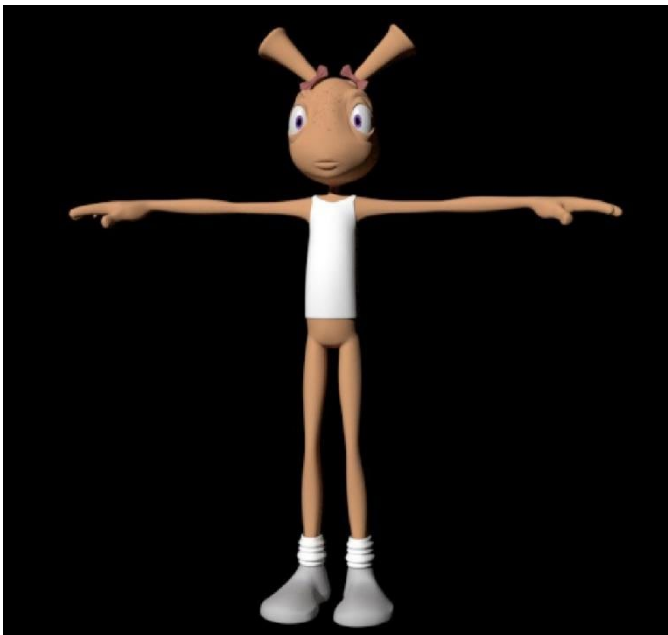
Figure 1 The older of the siblings, Brooke. Created by author 2021.

With characters introduced that are generally relatable to children, it is essential that the personality of these characters is identifiable and meaningful to the viewer. The importance of design should not be underestimated. It can be the difference between creating a connection that

encourages the audience to follow a story to its conclusion or refusing to invest time at all.

When we look at the Bobles' character design, there are features that both distinguish them from

one another and speak to their respective personas. Brooke's character is not only tall, as she is

the older sibling, but her lines are straight because she is solid, stable, and guiding.
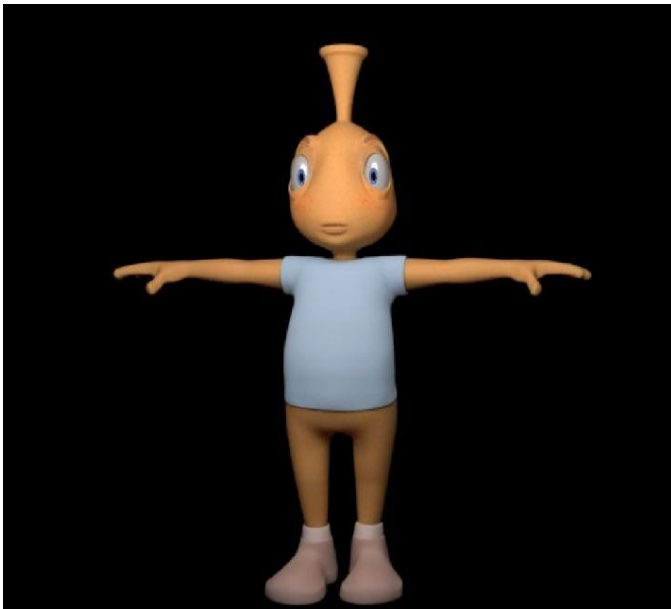
Figure 2 The younger Brother, Shawn. Created by author 2021.

In contrast, Shawn is depicted as round (Figure 2) and is younger, shorter, and more carefree.

While these shapes do not directly correlate with my children physically, they draw striking

parallels to their personalities. Tim Hauser chronicles similar techniques used to create the feel

of the movie *UP*. He details how each character of the film encompasses the "simplicity of

shape" associated with the "Nine Old Men" of Walt Disney and the stylings of UPA. This

simplistic style, termed "Simplexity", was summed up by Peter Docter stating "We chose to

caricature and heighten the sense of shape. We missed that sort of abstraction in animation"

(Hauser, Tim).

      With this information presented in the characters, the audience gets an accurate glimpse

into my family with visually relatable subjects. Even with the tale containing multiple heroes, the

foundation of "*A Bubble of Bobles"* is built on the framework of Joseph Campbell's *Hero's*

Journey. I deviated from Campbell's blueprint by omitting the villain archetype from the story,

instead implementing the anti-villain. My film uses the siblings' doubt and mistrust of one

another's decision as the story's villain. The feeling of doubt as the "villain" was introduced

because neither child in the story has ill intentions. Without an archetypal villain, young

audiences are given the opportunity to recognize that not all bad results stem from bad

objectives, making them aware of good intentions rather than bad people.

<div align="center">Environment</div>

      The process of creating the planet Weez was like that of the characters. Children would

need to recognize the location as an unknown planet without distracting them from the events of

the subjects. While the planet is not earth, the decision was made to keep the physics and most

elements familiar to children with minimal deviation to the environment. And with most of the

film taking place in a bubble, setting the environment was as easy as keeping it familiar to the

audience. Ultimately, an endless cloud filled sky was the choice. With few visual depth cues

given in the sky, this can create a potential issue called ambiguous space. Bruce Block explains

Ambiguous space as it occurs "when the viewer is unable to understand the actual size or spatial relationship of the objects in the picture" (Block, 55). Contrasting the character from the background environment through tone and lighting creates an increase in visual intensity.

Semiotics

One of the last tools I implemented in the film was the inclusion of semiotics to help nudge the message and encapsulate the overarching idea. To effectively achieve this, symbols are represented both implicitly and explicitly as objects, and the use of semiotics are applied to the layout. Scale and space were presented throughout the film, representing different ideas. For its part in the bubble, the distance between the two siblings serves symbolically how far apart the duo are philosophically. The opposing direction the two face indicates they are opposites while the space reflects the wide margin. It also encapsulates how disjointed the two are as a family. The scale of an environment can be used to capture the tone or the mood of a scene. The large sky the siblings wander through is used as an indexical signifier of the vast world they find themselves in, and how alone the two are within it. The two are suspended high with no safety net below, on a planet not their own with nothing but clouds along their path. Similarly, the opening shot of the film presents a vast void of outer space moments before the planet and subject come into focus. Keeping with scale, an establishing shot from within the old lady's small, organized dwelling reflects the mood of comfort and safety moments before a barrage of waves crash into the home. The rushing turbulence of the waves emphasizes the chaotic nature

water plays initially in the film. In subsequent scenes, the flood maintains its intimidating presence when scaling is featured despite the flood's relative calm. Scaling down the characters relative to their environment cues the audience of a vast, empty, or frightening environment.

Objects as symbols are a common device used in the story. The inclusion of the bubble is an iconic representation of their comfort zone and the lack of urgency in exiting it as they float through this overwhelming sky. Other devices are the three separate spaces in the film to symbolize our perception of feelings and dimension. The bubble in which the siblings float symbolizes a familiar, safe, protective barrier to the protagonists. The second and third are the sky and the flood which both represent the potentially dangerous unknown but in two different ways. Both the sky and the flood are vast, unpredictable, potentially volatile spaces representing the world, its scale, and the potential dangers they present.

Finally, the inclusion of symbolic signifiers in the form of onomatopoeia are employed in the film. Since my film *A Bubble of Bobles* is a work created to introduce children to social situations, the use of semiotics is necessary to connect the audience to key aspects of the story without explicitly stating its meaning. Children typically engage in interesting stories, but they may not notice objects and devices outside of the main character(s) if the author neglects to give them the necessary attention. As storytellers, the objects we include need to have purpose and meaning, and it is the responsibility of the creators to include objects that link the story to overarching messages with these devices. The addition of such devices further reinforces the creator's message. Onomatopoeia to bring actions into focus is one device I selected. This can

be observed as the word "POP" appears signifying a dangerous shift at the film's climax. Another symbol can be found in the phrase, "Views are meant to be explored" on the sign the old lady cherishes. The significance of this sign serves as a lesson to both the old lady, who remained in her house until the flood, and the siblings who refused to leave the bubble, to step out of their comfort zones.

Layout, Movement, and Tone

In film, one of the fundamental rules observed when working with cameras and subjects is the 180-degree rule. Simply put, when filming two elements, the camera should stay within a 180-degree field and not "cross the line" (Cassidy). Every time you break the rules, you take the viewer outside of the viewing experience to puzzle over what just happened instead of simply enjoying the story (Cassidy). Maintaining this character/line continuity presented a challenge since the siblings are in constant motion and the film is a continuous conversation between the two characters. Keeping Shawn camera left, and Brooke camera right always helps prevent confusion from the audience. There is one exception to the 180 rule and that is when there is a character transformation or arc. This occurs when the character changes over the course of the story. I take advantage of this 180-line break in the film's final shot to emphasize the shift in both siblings' opposing points of view.

While the brother and sister wobble in the sky, the need to ensure the viewer can follow the direction of moment within the story becomes necessary. Since there are multiple objects,

moving at times in opposing directions, sound continuum of movement and care in avoiding

contrast in this movement is needed. Affinity of continuum occurs when the moving objects hold

the viewer's attention (Block, 185). There are four ways movement can be created; actual

movement, apparent movement, induced movement, and relative movement (Block, 168).

Figure 3 Example of the use of relative movement. The background remains stationary as the bubble travels. Created by author 2021.

When we consider the background of the images in Figure 3, we see the bubble begins to the

right of the screen (first image) and travels to the left of the screen (second image). This is an

example of relative movement. Relative movement is apparent "when the movement of one

object can be gauged by its changing position relative to a secondary stationary object" (Block,

170). The bubble is in motion while the background remains unmoved from its position. This

differs from much of the other shots where the camera resides inside the bubble. Those shots rely

on the background slowly while the subjects remain stationary.

Figure 4 Example of induced movement. Though the background is the manipulated object, the viewer recognizes the characters as the objects in motion and the background stationary. Created by author 2021.

Conversely, induced movement occurs "when a moving object transfers its movement to a nearby stationary object. The stationary object then appears to move, and the moving object appears stationary" (Block, 169).

CHAPTER 5: AURAL CONSIDERATIONS

<u>Sound Development</u>

When I first began this project, I devoted 100% of the audio to narrative rhyme. The story had already been created and with the animation following the narration, everything had seemingly taken shape nicely. It was not until the animatic was presented with the narration that keen outside eyes and ears helped me realize its inclusion made the animation redundant. To bring animation to life, the animator should let the elements of the scene convince the audience that the work lives. This meant that more than 50% of the narration would end up on the cutting room floor and music along with Foley would have to fill the gaps. In the opening scene, the viewer is presented with the vast emptiness of outer space. I elected to add foley here and omit music to reflect the void of space. This audio silence, and some introductory narration lay the groundwork of suspense until halfway into the second shot. It is here where orchestral music is introduced. As the spaceship thrusts a bubble containing the protagonists into the scene, a forte of string instruments serve to introduce the characters to the audience.

Figure 5 The word "Pop" is displayed to compliment the burst action and the physical sound that accompanies. Created by author 2021.

One added element is the visual sound that appears onscreen in the form of a "Doink " onomatopoeia. To add to the whimsical personality of the characters, and to accentuate the journey before them, flutes were added to the orchestration. I allow this playful audio to continue even as the flood scene unfolds to reflect that our protagonists are unaware that danger is ahead. Like the Cave of Wonders magic carpet introduction in Disney's *Aladdin*, instruments like the French horn, clarinet and strings are used to speak for the characters and to complement their actions. As the film progresses, a continuation of silence, orchestration, and onomatopoeia mix to create a complimenting and balanced score for the film.

Poetry is an important element in the film's composition. The inclusion of events delivered in Anapestic Tetrameter gives the audience a steady beat when listening to the dialogue of the film. Comprising four metrical Anapests of two unstressed syllables followed by one stressed syllable, this poetic style gives the audience a steady cadence when listening. It is this meter Seuss made famous that produces the rhythmic verse:

You have brains in your head.

You have feet in your shoes.

You can steer yourself

Any direction you choose.

You're on your own. And you know what you know.

And YOU are the guy who'll decide where to go (Seuss).

Managing Aural Elements

Animation provides the opportunity to implement diegetic and non-diegetic sound. Given that the film presents multiple focal aural elements throughout, attention to maintaining a contrast in opposing audio components is necessary. To create unity in overall sound, I had to separate sound whenever possible. While there is no precise formula, Valerio Sbravatti helps prioritize sound noting:

Noises are generally intended for a realistic goal: to denote in an indexical sense an event in the story; the material cause, therefore, prevails in them. Voice has a strong signifying power, given that it is usually, both in everyday communication and in the cinema, used for speech. The conveyed meaning prevails when the voice is a linguistic medium. Music per se is usually perceived as non-semantic, thus the perceptual effect, or the connotation, prevails in it (Valerio).

I chose to place a hierarchical priority to the narration as it provided the most information to the viewer. This was followed by the diegetic foley then the non-sematic score. These sounds were given precedence when present, and all other sounds either suppressed or muted.

CHAPTER 6: BUBBLE MAKING

Trial and Error

With 3D animation, the solutions to many issues can be abundant and complex. Finding the best option was made even more complex given manpower and timeline demands. But finding a method that may not be the most straightforward, one that does not compromise the preferred style while accomplishing the desired result can usually be found. Prior to storyboarding *A Bubble of Bobles*, I created a shorter film featuring three of the same elements; an alien, a bubble and a flood. The purpose of this 2016 experiment, *Floating Bubble, was* to test the visual features of the longer film using 3D software. The short film followed a petrified Boble coming to terms with his existence. The story opens from the audience's point of view, following the raging flood as destroyed homes rush by. As the camera nears the flood's end, it rises to the bubble where a stunned alien Boble stands, staring at the flood. The Boble breaks the third wall as he takes note of the audience. As the viewer climbs higher and higher into the sky, the Boble forces his way up following the viewer only to emerge from a storybook. Realizing he is still floating over a storybook, the Boble carries the bubble off to the side only to have a gust of wind thrust him back over the book where the Bubble pops, and Boble drops.

The Need for Evolution

Created using Autodesk Maya, the assets used in *Floating Bubble* consisted of a partially functional character rigged for basic movement, a series of modeled houses and mountains, a NURBS plane with a customizable ocean shader applied to create the waves needed for the flood, and my first attempt at a bubble. Since the bubble is the vehicle in which the character is carried away, it was necessary that the bubble be the focus of the scene. The bubble had to be organic in its look as well as its movement. In addition to undulating walls, I wanted to add iridescence that moved organically as well. To accomplish this, I needed to make a normally static object dynamic. By creating a sphere, attaching a soft body lattice (Lattice) to deform the object and adding a turbulence field to interact with the lattice's particles. Because the bubble was the focus and detail in the *Floating Bubble*, attention to realistic detail was necessary. In *A Bubble of Bobles,* the characters and vehicle share focus. Also, the characters and environment were given a style makeover, warranting a more simplistic bubble look to integrate with elements in the film.

This new generation bubble got a redesign complete with a floor thus characters were not left floating aimlessly in the bubble. It also became necessary to find and implement non-dynamic visuals since more characters, lights and dynamics were added to scenes. To accomplish this, I moved away from the soft body lattice previously implemented to create the sibling's bubble and made use of two non-linear wave deformers to create subtle wobbles in the

bubble. One deformer is rotated 90 degrees on its x-axis, and both are keyed to rotate 360 degrees with curves set to cycle post infinity to ensure the wobble is continuous. Finally, a standard Renderman shader was added which features a wider selection of attributes out-the-box such as iridescence, clear coat and glass that allow for easier and more detailed fine tuning. The finished product reveals a 2nd generation bubble with a lighter footprint and much friendlier maintenance options.

CHAPTER 7: HAZARDOUS CREATION

Making the flood

In this section I will be focusing on the flood. There were several tools available to me in creating a functional and aesthetically pleasing flood and effects. One of the potential solutions came with Maya's Fluid Effects to simulate liquid effects (Fluid Effects). Maya comes preloaded with examples already configured that you could use and deconstruct right out of the box. With a click on the Ocean option within the Fluids menu, I immediately had access to a NURBS plane which represented the render visible area of the ocean, and a small transformable patch. The patch cannot be rendered, but it can be transformed in x and z, or scaled to get a preview of the ocean's appearance prior to rendering. What made this tool ideal is that its NURBS surface used oceanShaders to simulate water patterns. Because it used a shader, attributes such as color and foam as well as wave customizations came standard. The first change I made was to adjust the Wave Length Min attribute from 0.3 to 3, and the Wave Length Max attribute from 4 to 9, as well as to tweak the Num Frequencies from 3 to 0.9. This modified the look of the water from a turbulent, rippling body of water to a calm pond. Many of the other attributes I left unchanged since they functioned as expected. Some fine tuning to the color gave the flood waters a more appealing look.

Because there would be a bed floating in the water in some scenes and one of the characters dropping into the flood, the need for buoyant objects and object collision was priority.

This could be accomplished using Maya Fluids. Selecting the object and the oceanPlane and choosing Create Wake from the Fluids menu placed an oceanWakeEmitter in the scene and parented it to the object (Create wakes for oceans and ponds). Next, the object was placed on the preview patch and the timeline scrubbed to see ripples in the water. Adjusting the Density/Voxel/Sec attribute within the Fluid Attributes allowed me to create a ripple for multiple uses. For a water plunge effect, I set the attribute to a value of -1, which pushed the surface down on impact simulating a plunging downward. In the case of the floating bed, I reversed this by inputting a positive value of 1 which created a wave upward reflecting a ripple pushing off a floating object (in this case the bed). Up to this point, the effect was satisfactory. Problems became apparent starting with the limitation of the effect to circular ripples, which are not useful when working with a rectangular bed. Also discovered was that Renderman could not be applied as it would remove the oceanShader, the shader needed to create the simulated water. This could have been bypassed by rendering in Maya and compositing but not for the ripple problem. Another plan was needed.

An alternative is using Maya's Bifrost because of the excellent job it does running water simulation, but this option was incompatible with Renderman and resource-heavy as well. An adequate alternative was BOSS also known as Bifrost Ocean Simulation System (BOSS - Bifröst Ocean Simulation System). Adding the plugin and setting the workspace to Bifrost Fluids gave me access to the Boss Editor. The Boss Editor has 2 columns. The left side allows you to create and delete both Wave solvers and Spectral solvers (BOSS Wave Solver attributes). To begin the process, I selected the plane and clicked the Create Spectral Waves icon in the Boss Editor.

Maya hid my original mesh in the outliner and created a Boss Output mesh. Applying a

BossSpectralWave and scrubbing through the timeline yielded immediate results in waves.

While the customization was less robust, a Wave Height of .7 gave me a calm water with some

ripples peppered about. Because Boss relied on the Bifrost system and not a shader to generate

waves, applying a Pixar shader was achievable, making it Renderman friendly. Next, selecting

the Boss output and clicking the Create Wave icon in the Boss Editor created a BossWaveSolver.

With Interactive Photorealistic Rendering active, the ocean does not change. The wave solver

was designed to create ripples and wakes but no object was set to initiate the creation of wakes.

To form this interaction, I added an object to the scene. Highlighting the BossWaveSolver in the

Boss Editor, select my newly created object, and selecting "Add geo influence to selected solver"

icon in the right column of the Boss Editor creates a relationship between the Boss wave and the

object and a new BossGeoProperties entry appeared in the right column. Placing the bottom of

the object just below the flood's surface not only generates a ripple, but the ripple correctly

reflects the object's shape. Tweaks in amplitude can be achieved within the BossGeoProperties

tab which affect the ripple's height. Finally, bumping up the resolution of the Boss Output

reflected smoother waves and adjustments to the generator and collider offsets achieved more

realistic ripple effects when colliding with the object's surface.

    While Maya has some nice out of box options in the fluid simulation, many coming with

easy attribute customizations, the flexibility to add a Pixar shader and the lack of generating

organic ripples upon object collision were drawbacks which cannot be ignored. On the other

hand, other than its slightly heavy simulation, Boss could fulfill all aspects of what I needed for a specific task.

<div align="center">Making a Splash</div>

Figure 6 Oncoming flood scene. Created by author 2021.

As I created the environment and characters, rigged the animatable assets and began animating, I started to achieve good results with the completion of each scene. However, with each scene I noticed small touches were needed to bring certain scenes to the point of presentation. With one scene, I recognized that a crucial detail was missing. The scene contains a valley flanked by mountains as a flood rushes in. After adding a plane, including deformers for the waves, and applying the standard Renderman shader whose attributes were adjusted to reflect water, the result contained action, but secondary action was needed. The idea of splashes

immediately came to mind. Throughout the project, consideration of labor and time were at the

forefront as this was a solo project with a hard deadline. There were a few choices at hand –

hybrid animation, 3D fluids or Maya's nParticles. And with each option came a set of positive

results as well as negative.

Hybrid animation was my first choice as it provided the most control. The term hybrid

refers to the combination of 2D and 3D in animation. What makes this approach desirable is it

gives the animator the freedom to focus on animating and fully rendering a 3D scene while also

allowing the flexibility to circle back and add details without re-rendering completed 3D scenes

of the film. The process would involve importing the rendered 3D scene into 2D software and

creating a frame-by-frame splash each time the flood waters pass a mountain. Once the splashes

are rendered out, the file, along with the 3D scene, would be imported into composting software

such as After Effects or Nuke and manipulated to produce a unified scene. While this is the most

time friendly approach, this method can bring undesirable drawbacks such as inconsistencies in

movement or visuals, both being difficult to overcome. In this case I had determined the

potential of reaching the final stages with unfavorable results made this option not worthy of

exploration.

With one option off the table, the remaining methods available can be produced in real-

time within Maya's 3D software with at least one of the previously mentioned issues no longer a

factor – the movement. Because all elements of the scene are born in the same medium, motion

should appear consistent throughout. And while I had the ability to create a wide variety of

organic shapes for my splashes in 2D with frame-by-frame drawings, choosing 3D opens a

dynamic system to simulate real world physics on the fly. This was important to the story because while I've created alien characters that explore an imaginary planet, I had also established an environment like Earth with things like water, clouds, and a floating bubble. This meant physics like velocity, weight and gravity would be believable. Procedural VFX software like Houdini could be a viable solution, but lack of software availability and learning curve conflicted with project timeline. There are two systems within Maya capable of producing the splash effect needed for my scene. The first is Bifrost, a Maya plugin used to create complex effects like fire, explosions, smoke, water, and other procedural effects. Bifrost uses FLIP (fluid implicit particle) solvers to create high-quality liquids (Bifröst Fluids). But while creating a liquid simulation is simple with Bifrost, its lack of support with Renderman at the time of this project, and the desire for consistency throughout, made Bifrost an undesirable choice.

With a methodical process of elimination behind, Maya nParticles emerged as the most practical option. Maya's nParticles system offers incredible control by leveraging Maya's Nucleus dynamic simulation framework to produce particles that not only self-collide but interact with other Nucleus objects (NParticles). I began the process of placing emitters behind the two mountains where the splash is generated and setting the nParticles Particle Render Type attribute to "Blobby Surface". This setting will generate nParticles displayed as metaballs, or spheres, blended to form surfaces that ultimately make up my splashes. In order to create these organic splashes, I needed to ensure that the nParticles are in close proximity to one another, the threshold is set to a value that will correctly smooth out overlapping blobby surfaces, and enough particles are present to form something usable so, I began by setting the emitter's lifespan to

Random Range to prevent particles from living forever and crashing Maya. At the point where the flood water reached each mountain, I keyed the emitter's rate to 85,000 to produce a burst of particles. The emitter must be dropped to 0 a few frames later or the scene becomes exponentially flooded with particles slowing or crashing the software. When playing the scene, I noted something in the result – the nParticles did not display in Renderman. Fortunately, there was a way around this. I converted the nParticles to Polygons and I could immediately see my geometry and I was given customizable "Output Mesh" attributes for fine tuning (NParticle Output Mesh Attributes). The particle object is no longer displayed in the scene, reducing simulation time, but it still resided in the scene.

At this point, working with the geometry's output mesh attribute became the ideal method of adjustment and a few things were tweaked. I changed the Mesh Method from Triangle Mesh to Quad Mesh to keep it uniform with my project and bump the Triangle resolution and mesh smoothing to further smooth out the geometry. Next, I attempted to fine tune the Blobby Radius Scale and Threshold to achieve an acceptable overall organic shape. Because the nParticle object still existed in the scene, changes to the emitter, and even adjustments to the field solver affect the output geometry, giving me an added layer of customization.
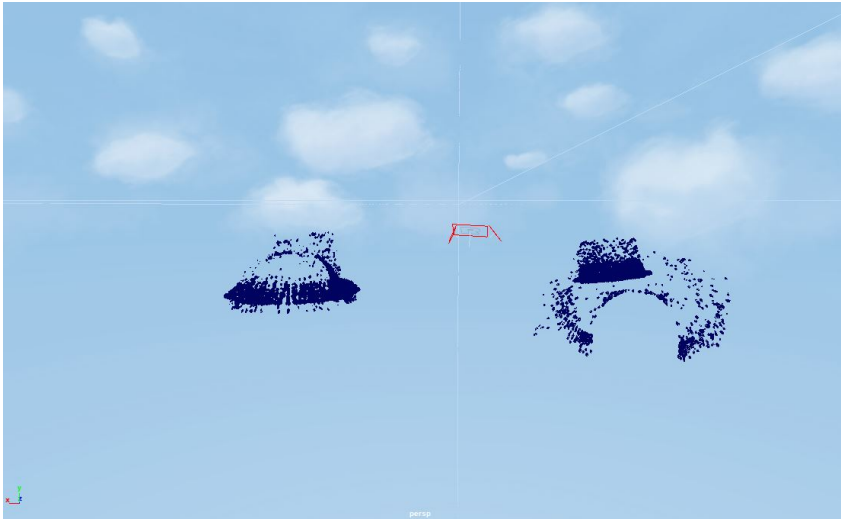
Figure 7 "Blobby" particles help generate splashes. These splash sequences are then composited into the flood scene for added effect. Created by author 2021.

Viewing the original particle object can easily be accomplished by selecting the particle from the outliner and unchecking the Intermediate Object attribute in the nParticles' Object Display section.

CHAPTER 8: CONCLUSION

For generations, the benefits of story have been abundant. In classrooms, storytelling has produced positive results in knowledge retention, increased attention span and improvements in cognitive skills (qtd. in Lockett, Jordan S., and Rose B. Jones). Before bedtime, parents have comforted children to sleep with stories that reflect the morals and values that reflect generations of the past.

Bravery, kindness, and honor are a few common values my friend Dennis and I upheld as children. As traumatic an experience as it was, I never wanted to forget the event and I also wanted to use my joy, pain, triumphs, even embarrassment as a template for kids. While everyone's story is unique, often the struggles, emotions and solutions are universal. By providing a template, they can have a head start to success and properly avoid many pitfalls. My goal was to make sure that the message appealed to my children, remained with them long-term and echoed from memory for future generations. I wanted them to understand the permanent connection of family, and friends, and the responsibility they had to one another. Soon after, a grand story was born from little nuggets. This responsibility to guide children has been the source of my creative inspiration. It is my calling. If not for the guidance of those before me and the support of the people who currently surround me, an African American male escaping the grips of crime and poverty, raising four children and obtaining a B.F.A at the age of 42 and an M.F.A at 45 might not have been possible. Having spent over a decade raising children of my own as a full-time job, I often found stories to be an ideal method of conversation in social

behavior transference. As the years passed, in casually observing children and given the US governments statistical data, most concerning with the Black populace, I was getting the feeling that this was happening less societally. For instance, children living with two married parents was the most common living arrangement for children of all race and origin groups other than Black children (Bureau). Additionally, fewer than two-fifths of Black children were living with two married parents in 2020. These children were most likely to live with their mothers only, with nearly half living in this arrangement in 2020 (Bureau). This data combined with the availability of distracting technology and the busy lives of many parents lead me to creating a story

Regardless of the medium, an effective story for children requires more than just the quality of the story. As it pertains to animation, the story should be strong enough to overcome any potential aural or visual limitations. It should also be interesting enough to hold the attention of young viewers and commit to memory. Though the events in the story and the characters within are fictional, the inspiration and principles of the story are rooted in personal, and relatable, life experiences. This relatable story can later be recalled and applied to comparable situations. Landrum, R.Eric, et al. crystalize this when referencing Shank & Abelson's research quoting "In the end all we have are stories and methods of finding and using those stories. Knowledge, then, is experiences and stories. Intelligence is the apt use of experience, and the creation and telling of stories. Memory is memory for stories, and the major processes of memory are the creation, storage, and retrieval of stories" (qtd. in Landrum, R.Eric, et al.). The goal of storytelling is more than just telling a story, it is making it memorable for later recall.

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