

PEAT AND PATTY:
PROVIDING A VOICE FOR NATURE THROUGH ANIMATION

by

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ABSTRACT

Peat and Patty is a 3D animated short story of a young scientist, Patty, and her pet parrot Peat, whose goal is to save their world from a dying ecosystem. Ultimately, they inadvertently receive help from a nearby polar bear which leads to the success of Patty's experiment. The purpose of this story is to highlight the dangers of global warming to our own ecosystem thus building eco-consciousness in viewers. Ideally, *Peat and Patty* will inspire viewers to empathize and cogitate how they can be a solution to the temperature crisis on Earth before the effects of global warming are irreversible. We currently have natural disasters increasing in frequency, a rising global temperature, and pollution in our bodies of water (Rossati). By personifying nature, animation can invoke empathy from viewers towards their environmental issues in the real world. In *Peat and Patty*, Polar Bear is one of the personified animals I use to draw emotion from viewers by highlighting the bear in its melting ecosystem.

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INTRODUCTION

The relationship between animation and nature has been strong since the beginning of animation. In the late 1800s Edward Muybridge captured sequential photographs of a running horse and projected them on a screen with his invention the zoopraxiscope thereby making him the father of motion pictures (Hamilton 4). Personification in animation connects its audiences to characters psychologically in turn increasing the docility of its audience (Tam et al 515). In 1899 we saw anthropomorphic matchsticks write on a chalkboard to advertise Bryant and May matches in *Matches an Appeal* by Arther Melbourne. Then in 1910, Russian animator Ladislaw Starewicz personified nature by creating the silent stop motion film *The Beautiful Leukanida*. Starewicz ran armature wire through dead bugs and animated them in a battle for love. It is not a conventional character design using dead beetles to illustrate a love triangle but Starewicz does an exceptional job of telling a story that evokes emotion with the bug carcasses. Pixar's *A Bug's Life*, a 3D film created eighty-eight years later in 1998 by John Lasseter, also tells a story from a bug's perspective. It is a family tale of the territorial battle of ants and grasshoppers. The aesthetically pleasing insects are of human-likeness with eyes full of expression and emotional responses that viewers relate to.

We see eco-consciousness in animation as early as the 1940s with *Bambi*. And Eco-consciousness is still a common theme in animation media to this day. By being eco-conscious it means you do not only care about the environment but also the people living in it. In The American Marketing Association's Journal of Marketing, it is explained how a marketing strategy can revolve around environmentalism. Enviropreneurial marketing is a term created by Dr. Rajan Varadarajan to explain the entrepreneurial approach in combining environmental topics with marketing objectives. By the 90's we see business leaders realize that

social initiatives and business success are hand in hand. In a Procedia article reviewing the enviropreneurial value chain it is stated the term enviropreneurial shows willingness of an entrepreneur to take risk to pursue green initiatives (Azmi et al, 411). In retail, large brands like Patagonia use green branding and NGO support in their marketing to establish themselves as eco-conscious clothing companies. In their work to further combine sports and activism, Patagonia.com's homepage gives you the opportunity to donate to over 1400 environmental grantees. The World Wide Fund for Nature has published The Living Planet Report every two years since 1998. It uses the world's leading environmental information to give a factual report on how our resources are holding up to our human activity. The Living Planet Report 2018 reports we have seen over half our wildlife populations diminish in less than 50 years. This is due to human activity that causes the emission of greenhouse gasses. Carbon Dioxide (CO₂) is the gas responsible for the most warming of the Earth, the loss of forests decrease the Earth's ability to store CO₂, methane is released through landfills, petroleum industries, and agriculture, and the combustion of fossil fuels in cars, power plants and factories. Given this information, environmental conservation is undeniably one of the most impactful topics in the world currently.

Within this paper, I will examine how animation is used in environmental conservation. I will answer the question of how personifying our environment translates to action in the real world by discussing the relationship between conservationists and animation studios. Also, I will address what effects anthropomorphism has on the human mind and how that is incorporated in animation character design. And finally, I will explore the role of digital media in education.

CHAPTER 1: BROADEN THE SCOPE

There is opportunity in animation for non-governmental organizations to appeal to a broader audience. This is not a new concept; animation studios have been supporting environmental causes for years. *Ferngully* director, Bill Kroyer, worked alongside “the Godfather of Biodiversity” Thomas E. Lovejoy in 1992 to ensure the film was scientifically informed (Good News 5). The Australian film was featured in the United Nations Earth Summit in Rio as an example of what environmentalism for the youth should look like (Smith, Parsons). *Ferngully* is also endorsed by the NGO World Information Transfer, which promotes health and environmental literacy (Smith, Parsons). The animation studio Dreamworks worked with Conservation International to produce animations like *Kungfu Panda* 2008 and *Madagascar* 2005. There is no shortage of real-world environmental issues being used to formulate plots in animated films. Ironically, it is rare to see animated films successfully illustrate real-world solutions to the environmental issues used to drive their plots. When you combine the box office amounts of *Ferngully*, *Kungfu Panda*, and *Madagascar* there are over one billion dollars made in the name of environmental conservation (IMDB). *Madagascar* alone contributed over 550 million dollars (IMDB). Compare that to Disneynature’s *Earth*, which broke records in its respective category in 2007, \$32 million dollars since its release (RottenTomatoes). This is a great accomplishment for the documentary but is trumped by the numbers that some animated features produce.

In the conclusion of *Ferngully*, there is a message “For our children and our children's children”. Environmental marketing towards children is pivotal as they are still forming their beliefs and values. *Ferngully* is about a human man shrinking in size to communicate with the fairies of the forest and understand the world as they see it. After spending time with the

personified rainforest characters he develops a love interest and vows to protect the rainforest upon his return as a normal-sized human being. The film is backed by an NGO, originally written by a conservationist, and supported by Thomas E. Lovejoy who is labeled the “Godfather of Biodiversity”. But I think it is difficult to measure just how effective the animation is in influencing viewers with its rainforest conservation ideology because of scarce resources on the topic. Director Kroyer committed himself to donate five percent of the movie’s net profits to create a fund that will support rainforest and species protection projects (Good News 5). With a budget of twenty-four million dollars and a profit of thirty-two million dollars that means Kroyer would have donated around four hundred thousand dollars to support the rainforest.

In 2008, Dreamworks Animation, a corporate partner of Conservation International, pledged one million to CI’s Giant Panda Survival Plan. Peter Seligmann (CI Chairman and CEO) states “*Kung Fu Panda* has raised international awareness about the Endangered giant panda and we thank DreamWorks Animation for making such a significant commitment to the attempt to secure a future for these majestic creatures by saving their homes and understanding their way of life”. Jeffrey Katzenberg (co-founder and CEO of DreamWorks animation) adds “We are pleased to align *Kung Fu Panda* with CI's efforts to help educate kids and families about the important issues facing the beloved giant panda population. (EurekaAlert!).” According to WWF.panda.org, since 2008 the number of pandas in the wild, as well as in captivity, is steadily progressing. These are real-world results created by films personifying nature to inspire the youth as well as adults to have a better understanding of our environmental footprint.

Large-budget features are not the only forms of animation helping to raise environmental awareness through the personification of nature. *Earth*, by David Andrew Burd is accompanied by a 3D animated music video voiced by over 30 celebrities as animals. Produced by Leonardo

DiCaprio, the subject of the animated video is environmental sustainability. Each animal character is simplified to an aesthetic canon similar to that of *A Bug's Life* with big expressive eyes and humorous personalities. The video on Youtube alone has over two-hundred and nine million views since April 18, 2019, and after watching the video you are directed to welovetheearth.org a website in conjunction with the song production that allows you to donate to the organization and “save the Earth”. Animated videos like *Earth* are contemporary examples of how the personification of nature in animated shorts is an efficient tool for raising environmental awareness globally.

CHAPTER 2: ANTHROPOMORPHISM

With anthropomorphized animals, subjects that may be too complex to explain can be brought to life (Leah Schnellbach). Issues like political history, racial allegories, class tensions, and environmental warnings can all be addressed without the complexity of the subject deterring audiences. Anthropomorphism is commonly used in children's books to help them better understand concepts. It refers to something nonhuman gaining human attributes or behaving as a human would. *Cars* and *Fantasia* are good examples of anthropomorphism. Often confused with personification, which gives a figurative meaning, anthropomorphism gives a literal meaning. 'Raindrops dancing on my window' is an example of personification while an image of a raindrop with limbs and dancing shoes on would be an example of anthropomorphism. Kim-Pong Tam states in his article Saving Mr. Nature that "anthropomorphism's impact on the way people relate to and behave toward nature has rarely been examined". He examines how anthropomorphism affects people's relation and behavior toward nature. One of the most popular examples of anthropomorphism of nature is the term Mother Nature. And she can be found in animations like *Fantasia*, *Pocahontas*, and *Moana*.

Studies show that anthropomorphism creates empathy through likeliness. In the article "Saving Mr. Nature: Anthropomorphism Enhances Connectedness to and Protectiveness Toward Nature", Kim-Pong Tam proves that anthropomorphism of nature can foster connectedness to nature. In the study, they find that humans have a stronger emotional tie to inanimate objects the stronger their anthropomorphic traits. They found that people are more cautious not to break objects that have stronger characteristics of human likeness. (Tam et al 515)

Captain Planet and the Planeteers, created in 1990, was a TV series created by Ted Turner where a goddess of Earth calls upon five kids from around the world to become

Planeteers and join forces to create Captain Planet. This episodic venture promoted both environmental conservation and diversity. Addressing eco-villains like 'Hoggish Greedly' and 'Captain Pollution', these characters are all anthropomorphized environmental liabilities with Captain Planet serving as a human-like environmental protagonist.

CHAPTER 3: EMPATHY THROUGH CHARACTER DESIGN

According to Rooij, studios like Disney and Dreamworks have created a balance of lifelikeness and abstraction to create empathetic character style design. I alluded to this earlier when comparing the aesthetics of *The Beautiful Leukanida* to *A Bug's Life*. According to Jstor Daily, the horror author Stephen King stated that the killing of Bambi's mom was the thing that frightened him most as a kid. I suspect that even though kids do not look like Bambi physically they can relate to the horror of possibly losing their mom or being left without guidance before adulthood. It is the relativity to human life within the story that allows for emotional evocation.

Many of the canon attributes of the characters we fall in love with are those of newborns: big gazing eyes, large rounded forehead, simplified facial structure, smooth flesh and oversized heads. These attributes can be found in almost all of the Disney princesses. Big production studios benefit from influential characters and the proof is in the merchandise sales. There were over four billion dollars brought in through product merchandise by Disney in 2018. Sequels like *Toy Story*, *Cars*, and *Transformers* calculate more revenue from their retail sales than their box office sales (Shelton). This proves that digital characters can influence audiences just as real celebrity actors can.

Another example of the influential effect of digital characters is the “The Bambi Syndromet”. It is our notion to object to the killing of animals who are perceived as “cute” or “adorable” while showing little or no objection to the suffering of organisms who are perceived as less desirable or repulsive (Yong et al 248). In Point Reyes National Seashore, a 71,028-acre park preserve located on the Point Reyes Peninsula in Marin County, California an invasive species of deer has been accidentally introduced to the environment and over the years has proven to be extremely disruptive to the natural ecosystem in the Seashore. In 2007, the National

Park Service developed a plan to eradicate the species but due to its lethal methods, the plan was met with public scrutiny and political opposition. The local residents could not see the “cute” deers as pests no even though local organisms suffered due to their rapid growth in the park (Slobig).

To distinguish how the use of character design generates emotion from the audience I will compare the films *Joe's Apartment* and *A Bugs Life*. Both of these films use insects as personified storytellers. *Joe's Apartment* was the very first film that featured the animation studio Blue Sky. Created in 1996, the film is about a man relocating from Iowa to New York City while short of cash. The apartment he moves into is grotesque and infested with roaches. Even though Joe's apartment setting evokes an emotion of disgust, his digital co-actors, designed as realistic roaches, create likeliness through their humorous voices and choreographed dancing. By reading viewers' reviews you can see a pattern of audiences not attracted to the roach characters. One viewer stated they “still want to reach for the Raid” (RottenTomatoes). Despite MTV's support, the film bombed with a budget of thirteen million and gross revenue of 4.62 million. Pixar's *A Bug's Life*, created in 1998, had a budget of around one hundred twenty million and was able to gross three hundred sixty-three million. Pixar made its digital bugs aesthetically pleasing and in human-likeness. Their characters have big emotional eyes and cute faces with rounded cheeks. Their bugs blink and appear to think just as humans would. And they interact with their environment in dynamic ways that evoke extreme emotion. Like a young ant in the film, Dot, who flies across dry terrain by way of a dandelion while a predator bird occupies the sky in the same vicinity. She is the young daughter of the Queen and one of the most adorable bugs in the movie. As a parent, you are thinking of your child in need of your help. And as a child, you think

of your little sister or friend in danger. Emotions are drawn through sequences of events like these when you have main characters that the audience can tie themselves to.

Likeliness should not be confused with realism. When animated characters are designed to be more realistic than stylistic, we have to be conscious not to venture into the uncanny valley. Masahiro Mori's Uncanny Valley theory states that the combination of realism and abstraction plays a vital role in empathetic potential. If your characters fall into the uncanny valley due to their visual and/or motion design then you decrease your opportunity to draw empathy from your viewers (Rooij 191). The uncanny valley in digital media occurs when a realistic human character neglects to abstract from reality but does not successfully mirror reality (Rooij 199). Robots are often anthropomorphized to appear empathetic to human users. When robots are created to look like humans but still move like robots it creates a feeling of rejection for humans psychologically, this is the uncanny valley (Riek et al 2). Movies like *Beowulf* and *Final Fantasy* are victims of the uncanny valley. *Final Fantasy* had a budget of one hundred thirty-seven million dollars and a box office of eighty-five million dollars. *Beowulf* had a budget of one hundred fifty million dollars and grossed one hundred ninety-six million dollars.

CHAPTER 4: EDUCATION THROUGH DIGITAL MEDIA

Animation is an effective educational tool and is already being integrated into the classrooms of our youth. Research shows that kids primarily 5th – 7th graders who are placed in a digital environment while learning show a heightened interest in education (Rosen 17). The results of Rosen’s experiment even show that students have a different perception of science and technology learning when the lessons are integrated with animations. Working closely with BrainPOP, an animation-based online learning environment that includes a variety of animation videos and accessory tools for teachers and learners, Rosen was able to get the results of four hundred eighteen students for the study. Learning in a computer-based animation environment enhances the understanding of complex concepts and systems compared with traditional learning environments that concentrate on verbal explanations (Rosen 3). Also, computer animation is highly effective in demonstrating the processes that cannot be viewed naturally or that are difficult to demonstrate in the classroom or laboratory.

Katy Marriner an English teacher at St, Columbia’s College in Essendon, Victoria writes in her article “Earth in Balance – *Ferngully: The Last Rainforest*” that she presents the movie *Ferngully* to her students to enable them to question why the world is the way it is and reflect their relationship with the world. With animation already growing as an educational tool the link between environmental conservation and creating an informed audience grows more applicable. Science is limited in value compared to the entertainment industry on a large scale. Animation is much more welcomed by the average person than science because it is a form of entertainment..

Informational shows like *Dora the Explorer* and *Magic School Bus* are episodic animations that are aligned with this assumption. These animations were targeted toward the youth to help educate the young population. Through shows like these, we see that the learning

experience is heightened through fun. Studies show that if you can link an extreme emotion to an experience then you are more likely to remember that experience (Lee, Sternthal). When kids have a great time with Dora it is easier for them to respond to her with an answer than in a classroom setting where the environment may be more intimidating and less entertaining.

With the rise of virtual reality, animation can provide a new and more interactive way of teaching the youth. Sony's game and network services division sales are 1/5 VR products and the division brought in 14.7 billion in revenue in fiscal 2017 (Hoiium). Virtual Reality would allow kids who are more visual learners to have an equal opportunity of understanding the knowledge they are bombarded with in grade school. For example, it is more complicated to describe and understand the movement of an atom through literature but through animation, the motion can be visualized. Which increases a person's ability to memorize the movement (Rosen 3). Tying in VR with this example, a student could interact with the atom's movements making the lesson even more significant.

CHAPTER 5: WHERE WE CAN IMPROVE

Critics are skeptical at the thought of putting the well-being of our environment in the hands of animation (Yong et al). They see the harm in creating too much fantasy within real environmental issues. When the environmental facts are overshadowed by a fictional narrative it decreases the ability to feed the audience realistic solutions to environmental issues. Confusion can occur due to misrepresentation of an environmental issue. This pertains to characters and landscapes alike. The film *Avatar* directed by James Cameron in 2009 constantly faced scrutiny from conservationists for their abstraction of environmental issues (Yong et al). The film's metaphorical fantasy world and oversimplified solution of the real-world environmental issue its story is based upon, deforestation, undermines its environmental effect. Contrarily, fantasy or fictional elements are necessary at times to push a story forward. In *Bambi*, there's a friendly relationship between the rabbit thumper and a supporting character, Friend Owl. In reality, Friend Owl would be a natural predator to Thumper and their relationship would not be as it is in *Bambi*. I understand the need to abstract an environmental issue in order to fit into your animated story. In *Peat and Patty*, Patty's experiment revolves around a fictional technology to illustrate the concept that her environmental issue is so severe an extreme solution such as a technology that could turn ice into water instantly is necessary in order to save her environment.

Another flaw in eco-friendly animation is the inability to control the amount of influence a character or film can have on its audiences. For example, Jason Goldman's article on big screen environmental animations states that *Finding Nemo*'s plot revolved around fish being caught illegally yet the movie caused a spike in demand for clownfish in the pet trade. The belief that *Finding Nemo* affected clownfish sales is hard to prove. How do you connect animated films to the black market? Conservationists must have taken the scenario seriously because there was a

lot of precaution upon the release of Finding Dory. We saw no peak in blue-tang fish sales upon the film's release. (Goldman)

CHAPTER 6: PEAT AND PATTY

We have reviewed how animation plays a vital role in creating awareness for environmental issues. And what can be done to increase its influence on viewers to become more eco-conscious. In this chapter, we will focus on *Peat and Patty* and how I use this research to create an eco-conscious short film.



*Figure 1: Peat
Autodesk Maya render of Peat model*

Peat is an endangered species of parrot originally from Central Africa called the African Grey. Often in extreme weather changes, you will find species populating different areas that they usually would not inhabit. It is implied that Peat was brought to Alaska by way of Patty since he is her companion. But I chose a parrot, as opposed to a penguin for instance, to create a juxtaposition between Peat and the environment that pushes the theme of the story forward. I named the parrot Peat because he repeats everything he hears. And African Greys are very vocal which fits Peat's personality. They are one of the most advanced speakers out of all parrot breeds

according to Marcia Kwargsick. Kwargsick is the owner of Einstein, an African Grey parrot who is arguably the smartest parrot in the world. Peat's large eyes can be animated to show an abundance of emotions due to the blendshapes on the model. His abstracted design brings his eyes closer to the center of his head while parrots in reality have eyes set further apart. They generally view objects from the side since their eyes are placed on either side of their head. Peat's eyes, along with his beak blendshapes, are designed to be in human likeness. Peat's beak can smile, pucker, roll, and widen. These are all characteristics not of bird beaks but of human lips to create more empathy towards Peat when he is expressing emotion.



*Figure 2: Polar Bear
Autodesk Maya render of polar bear model.*

The polar bear, native to Alaska, pushes the story forward through its design as well. The suntan on the polar bear illustrates the heat in its environment. Evident in the very first scene, we see the tan lines exposed as the bear is awakened by Peat from its nap. Also, my decision to make the bear anthropomorphic fits my thesis of personifying nature to build empathy for the

environment. Like Peat, Polar Bear can smile, pucker lips, and express human emotion through its eyes and eyebrows. The bear's attitude and movement are all personified to maximize the audience's ability to relate to it.



*Figure 3: Patty
Autodesk Maya render of Patty model*

Aside from its environmental value, *Peat and Patty* is important to me because of its inclusiveness. Films like *Soul* (2021), *Moana* (2016), and *Coco* (2017) are recent films that include diverse stories and perspectives. There is a demand for more minority representation in animation and as an African American filmmaker I created *Peat and Patty* I cater to that audience. This is why I made Patty an African American female environmental scientist. When it comes to U.S. scientists, engineers and healthcare professionals black citizens, let alone black females, are severely underrepresented (Ladyzhets). African Americans make up just over 12% of the U.S. population and out of the U.S. population black citizens are 8.4% of the country's bachelor's graduates, 8.3 percent of master's graduates and 5.5% of doctoral graduates

(Ladyzhets). Patty creates a productive image for females of color. Her turtleneck tucked into her dress pants gives her a sense of professionalism, in addition to her lab coat and safety glasses. Her hair is up into a bun because she is working hard in her laboratory. Furthermore, climate change is most harmful to disadvantaged communities and those who face socioeconomic inequalities (Ballew et al). Within those two groups of individuals many are people of color. According to the article “Which Racial/Ethnic Groups Care Most About Climate Change?” published by Yale, Hispanics and African Americans are most likely to be alarmed or concerned about global warming news. In turn they are less doubtful of global warming news being that they have first hand experiences with the consequences of global warming.



*Figure 4: Exterior Environment
Autodesk Maya render of exterior environment*

The exterior environment of Peat and Patty takes place in Alaska. It displays Patty’s lab on top of broken ice, dry land under patchy snow, high water levels, and a lack of animals to show the effects of global warming. The exterior is displayed in the beginning to give visual

background information to the viewer of what Peat and Patty are striving to solve. As you dolly through the environment to Patty's front door you pass a street sign partly submerged under the rising sea level, a parked vehicle which referenced the electric Cyber Truck by Tesla, and a bright warm sun lights up the scene. Blue Sky's *Ice Age* was a large influence on the 3D look of the exterior environment. *Ice Age: Melt Down* provided a great amount of visual reference for creating a melting icescape.



Figure 5: Interior Environment
Autodesk Maya render of interior environment

The interior environment is a busy portable laboratory filled with lab equipment and technology. The overall low poly look of the modeling in the interior and exterior environments was a stylistic choice put forth to simplify the crowded environments. High-quality textures were put on the models so the environment ties in with the high-quality of the characters. The high-quality textures also create an appealing look for the low poly style modeling.

The TV inside of the lab serves as a narrator in the beginning of the film. When we reach the point in the film where the TV changes channel the role of the TV changes as well. The TV transforms from a professional informative voice to an excited fun tone to indicate a turning point in the film that pushes the plot into place. The animation changes within the two different channels of the TV as well. While the news plays on the TV, a calm motion graphic image of the newscaster loops as he announces factual information on global warming. When the channel changes the audio is now an upbeat salesman with a fictional sales pitch and the animation is hand-drawn and explosive. If we analyze the dynamic between the TV, Peat, the Polar Bear, and Patty we find that the TV represents the media. The media can control your understanding and contribution towards global warming. The media has the power to downplay the legitimacy of global warming or promote facts toward the subject. The media can manipulate you into believing your everyday actions have no effect on the warming of our planet or it can provide you with the knowledge needed to be an eco-conscious citizen. In all, Peat represents the general public influenced by the media. The bear is a personification of global warming. Patty is an ally to her environment. Although distracted by technology, she is not affected by the media and her goal to save her planet was the focus of her actions throughout the film.

CHAPTER 7: TECHNICAL ISSUES AND PROCESSES

To create the 3D short I used Maya, Photoshop, Substance Painter, After Effects, Premiere, and iMovie. I chose the website Fiverr.com to communicate with different artists. On Fiverr I developed a collaboration of 3D artists who I could contact for assistance with tasks I wanted to delegate. My general rule was to always work with people who I thought were better or more experienced than me. Using this technique you can obtain results that are better than you initially imagined. The downside of using Fiverr is that a large population of artists on the site does not reside in the U.S. which can affect communication efficiency because of language barriers and time differences.

After the creation of the story, script, and storyboard one of the first tasks was to model Peat. The overall process of creating a winged character is time-consuming. Once the character was modeled, I faced the dilemma of creating feathers. Initially I planned to use Xgen for the body and geometry cards for the wings. But I found that using Xgen on the body made Peat look too furry and were not recognizable as feathers. Geometric cards were needed on both the model's wings and body to accurately reference an African Grey parrot. I created alpha cards to use as feathers by taking images of real African Grey wing feathers and using them to create masks on different geometric planes in Maya. I was able to produce realistic-looking feathers with variation for Peat's wings. This process was influenced by Blue Sky's *Rio*. The characters of *Rio* were the biggest influence in Peat's character design. The feathers on Peat's body were created in the same fashion but differ from the wing feathers in size. The body feathers, which I created in photoshop, are shorter in length than the wing feathers. Changing the size and orientation of each feather I can copy the same feather without them looking repetitive. After each feather is placed, I divided them into 3 (top, middle, bottom) making the top the darkest and

bottom the lightest and also placing a gradient map on each feather using the common African Grey feather pattern as reference. The Xgen hair remains on Peat's body under his feathers to cover certain areas of Peat's geometry that are not covered by the alpha cards. Peat's arms, for example, are thin noodles that do not allow for the space needed to place feathers so the Xgen covers the geometry and the texture of the Xgen blends into the feathers. To push the textures even farther I created realistic textures for the beak and legs. The legs and feet have scales and the beak has some scratches consistent with that of real parrots.

Creating Patty was not as complicated as Peat but one issue I ran into was bringing the characters and environment to scale. Before I created Peat I was oblivious to the difficulty you face in Maya when scaling Xgen hair up and down. After creating Patty, I used her as a scale for creating the other characters and the environment resulting in having to recreate Peat's Xgen hair once I established the correct scale for him. The biggest obstacle creating Patty's character was her lab coat. The issue of interpolation as well as computer ability to compute the motion of the coat tail's dynamic joint chains was difficult to animate around at first. Using the dynamic joint chains in collaboration with nCloth creates a more organic look for the coat but raises her render time.

Lastly, Polar Bear was the last character to be complete. I ran into another issue with scale after the modeling of the polar bear. After researching the height ratio of a Polar bear to a human, the Polar Bear was modeled in proportion to Patty. But given that Polar Bears are so big compared to humans a problem arises when fitting the Polar Bear into Patty's lab. My solution was to scale the Polar Bear down so that it is slightly smaller than a full-grown Polar Bear. It is big enough to tower over Patty but small enough to move around in Patty's lab. Savannah, art director of "Tiffany", modeled the polar bear. After she modeled the bear, the Xgen hair was

created and then the shaders. The shader for the polar bear was important because it was pertinent that the bear looked sun-tanned to fit the theme of the film.

After all three characters were rigged, I shifted my focus to the environments. All my assets and structures are simplistic basic shapes to fit in with the humor of my film.

At this point, we have all characters modeled, textured, and rigged. We have an interior environment and an exterior environment modeled. Our models have realistic textures to match the amount of definition of our character shaders. Next I created test renders to see how all these elements looked together in Maya, I created my cameras and files/folders for each scene. I began to create my lighting and test my rigs. At the same time, I am starting to figure out the personalities of each character. From the information gathered through renders and rig tests, I gain a better idea of the restrictions of each character which in turn helps me determine how each character will act.

Before creating *Peat and Patty* my goal as a 3D artist is to work as a character animator. I was passionate about the process of animating from recording reference footage to painstakingly setting keys to get my motions perfect. But, after creating *Peat and Patty* I aim to create more short films. The process of creating a story, writing scripts, and developing a 3D world to tell a story has intrigued me throughout the undertaking of creating *Peat and Patty*. Depending on how successfully I can market *Peat and Patty*, I can envision creating a series of eco conscious animations and building a brand for myself. With technology and resources like Fiverr creating an independent studio is becoming more and more accessible each year.

CHAPTER 8: HUMOR

Whenever your level of emotion is heightened during a situation you are more likely to remember it (Lee, Stanthal 116). My use of humor serves its purpose of softening the mood while addressing a life-threatening subject like global warming. By adding humor to the serious topic, the film is less a platform to place blame on viewers and more of a tool to share information. One joke can make a certain group of people laugh while simultaneously making another group upset. This characteristic is similar to the topic of global warming itself. Some people want the topic to be addressed more frequently. While others reject the conversation because of the complexity of the issue. With humor as the foundation of a story with a controversial topic, I am cognizant that I do not let the comedy in the story overshadow the facts I want to inform my viewers. I put my audience in an environment that is ravaged by global warming and through Peat, I give comic relief while through Patty and the Polar Bear I provide a solution to their environmental issue. The goal is not to make a joke out of Global Warming but to exaggerate the details of *Peat and Patty's* environmental situation without disturbing my audience. The humor provides the audience with something to latch on to and make the story more memorable. It prevents *Peat and Patty* from becoming a lecture and allows it to remain entertaining.

CHAPTER 9: CONCLUSION

In conclusion, personifying nature and creating environmentally influenced characters promotes eco-consciousness by connecting the audience emotionally and physically to the environment. Animation allows conservationists to appeal to a wider range of audiences. If film studios can take the factual information of environmental documentaries and incorporate them in the entertaining setting of a feature film or animated short then we would result in animation that entertains the viewer as well as provides a scientifically informed narrative on the environment. Anthropomorphism is a huge part of creating empathy for our environment. Characters like Grandmother Willow in *Pocahontas*, Disney *Fantasia*'s Mother Nature, and *Moana*'s Te Fiti are all characters that help the audience see our environment as a living breathing entity that can benefit us from their existence through anthropomorphism. It is already proven that kids can learn from animation. Teachers are starting to introduce complex environmental issues through the use of animation. For the sake of entertainment, environmental issues are sometimes simplified. Facts can be omitted which results in real-world solutions failing to motivate the storyline of some environmental animations. With the help of conservationists and goal-oriented writing, this issue can be solved and the influence of environmental animation can be directed towards solving real-world problems of today.

Within my research, I found animated films using environmental themes to drive their story. Less commonly, we find that these animations provide a direct solution to solving the problem at hand. The animated short *Earth* being a great example of including their proposed solution provides viewers with a link to their organization so viewers can donate and actively be a part of Earth's mission to make our environment better. With new environmental films coming out every year like the highly anticipated *Avatar 2* we hope to see a balance between

environmental information and fantasy so that the millions of people influenced by these films can leave with a factual understanding of the ecosystems we are depleting. In turn, creating an eco-conscious population that has the knowledge needed to turn this global crisis around before it is too late.

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