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<div align="center">Simulating Life: Reimagining Realism in the Art of Animation</div>

Many people remember watching Disney's *The Lion King* as children. With their

recognizable 2D animation style, Disney was able to tell a moving story. Now that the "live

action" remake has come out in 2019, it has made a lot of money for Disney. It has even

surpassed *Frozen*, the previous best-selling Disney movie in the box-office. Yet, despite the large

amount of profit the film has pulled in, it has mixed to low critic and audience scores on Rotten

Tomatoes. One of the complaints about the remake is the animation style, because though it is

often referred to as "live-action", the movie is made up entirely of Computer Generated Images

(CGI). Many people feel that the hyperrealistic style that Disney decided to use was a poor

choice because the characters seem to have less emotion, especially with their facial expressions.

David Ehrlich, a critic on Indie Wire, puts it this way; "Scar used to be a Shakespearian villain

brimming with catty rage and closeted frustration; now, he's just a lion who sounds like Chiwetel

Ejiofor" (Ehrlich, par. 5).

This remake of *The Lion King* was not Disney's first foray into slightly jarring realism.

The film *The Good Dinosaur*, released in 2015, had extremely realistic backgrounds that were

beautiful to look at, but could feel a bit strange when watching very unrealistic looking dinosaurs

roaming around. It is plain to see that advances in animation technology have allowed the

techniques used to render animated films to improve by leaps and bounds. However, the question

becomes not if animators can create realistic animation, but if they should. Just because animation that is almost indistinguishable from real life now exists, it should not be the end goal of animation. Rather, animators and animation companies should be open to utilizing the unique artistic liberties that can be used in animation to serve their storytelling and create something that is visually distinct from real life.

Before discussing what animation looks like today, it is important to know how it got there. Animation began as an offshoot of motion pictures, with the so called "father of animation" J. Stuart Blackton's film *The Enchanted Drawing*, shot in Thomas Edison's New Jersey film studio in 1900. In it, a cartoonist draws a caricature of a man who occasionally changes expression as the cartoonist interacts with it and some props such as a glass and wine bottle that appear to magically come off of the page into the cartoonist's hands after he draws them (Jamie, par. 1-2). This gets the idea of moving drawings in people's minds and imaginations, and experiments with this new type of motion would begin, leading up to 1919, when Otto Messmer created Felix the cat. Felix became the first animated star with his series of short cartoons, and he was able to become a recognizable part of pop culture (Jamie, par. 8-9). Felix helped kick off the iconic "rubber-hose" style of animation, so called because the characters' limbs - and tails - bent and snaked around like rubber hoses, contorting in ways they would never be able to in real life. Not long after Felix's debut, along came *Steamboat Willie* in 1922, which would be the first film to really popularize the iconic character of Mickey Mouse (Jamie, par. 10). This film once again followed the "rubber-hose" style, featuring surreal visuals such as steamboat whistles that act like people, limbs able to contort enough for a character to kick himself in the behind, and more. As the years went on, animation evolved alongside film,

eventually making the transition from black and white to color with Disney's *Flowers and Trees*, which also won the first Academy Award for Best Animated Short in 1932 (Jamie, par.13-14).

Released in 1937, Disney's *Snow White and the Seven Dwarfs* was the very first full length animated feature film, and it still holds up today (Jamie, par. 16). This film's animation style was a departure from the traditional "rubber-hose" style, and indeed, though it seems silly to people who have witnessed present day animation, *Snow White* and later films with a similar style such as *Pinocchio* and *Bambi* were criticized by some as being "too realistic" (Rowley, par. 8-13). Animation studios continued to grow in popularity and continue telling their stories, and they eventually returned to their roots of mixing animation and real life with *Who Framed Roger Rabbit* in 1988. It was the first feature film to have cartoon characters interacting with live-action actors, and it was also able to feature a number of iconic animated characters such as Bugs Bunny of *Looney Toons* fame and the ubiquitous Mickey Mouse (Jamie, par. 24-25). The release of *Jurassic Park* 1993 was able to showcase the magic that can happen when mixing animatronics, stop-motion, and CGI. Though they had already made a name for themselves by this point, Industrial Light and Magic was able to make "the most photo-realistic animated creatures ever before seen on screen," (Jamie, par. 26-27). Two years later, Pixar released *Toy Story*, the first ever completely computer generated feature film. Along with introducing the concept of entirely 3D animated movies, *Toy Story* showed the world that animation has value as a legitimate storytelling medium by winning the first Academy Award for Best Original Screenplay in animation's history (Jamie, par. 27-28).

The final two major milestones in animated history were the releases of *Lord of the Rings: The Two Towers* in 2002, and *Avatar* in 2009. *Lord of the Rings* showcased the relatively

new technology of motion capture, which allowed animators to drastically change a live actor's appearance while retaining their realistic movements, as shown with the character of Gollum who would be the first character to be made fully out of CGI, effectively bringing him out of the shadows he hid behind in the first movie (Jamie, par. 29-30). On the other side of the coin, James Cameron's *Avatar* showed off real actors in environments formed entirely of CGI. The world of Pandora captivated audiences by looking real without being real, along with motion capture allowing actors to look alien without having to wear lots of makeup and prosthetics (Jamie, par. 31-32). There is so much more to the history of animation, but these are most of the major high points that serve to show off how the art of animation has evolved over time. It is easy to see the bent towards realism in animation as it has made the jumps from "rubber-hose", to stylized 2D, to fully 3D, to CGI environments for real people.

At this point, it may be useful to define what realism as it pertains to animation really means. In his article for Animation Journal vol. 13, Stephen Rowley identifies five types of realism, though he says there could be others, as well as overlap between the categories. These are Visual Realism, how much environments and characters resemble the real world, Aural Realism, how much the sound effects and dialogue sound like real life, Realism of Motion, how the movements of characters and objects through space matches with real life, Narrative/ Character Realism, the ability of the story and actions of the characters to make the audience perceive the events as real, and Social Realism, how well the world the animation takes place in is able to seem as complex and lived in as the real world (Rowley, par. 17). Here, the primary focus will be on Visual Realism and Realism of Motion, with the others referenced if needed. There are generally two main parts that go into Visual Realism, the characters and the

background. The standard of realism for both of these is generally measured by how much a still image from the animation resembles a photograph (Rowley, par. 20). Characters and backgrounds generally have different degrees of realism because of the technical aspects that go into each. Because a character is generally moving, in the traditional 2D style they must be redrawn for every frame in which they are moving. This causes their designs to often be simplified for easier and faster animation (Rowley, par. 20). On the other hand, backgrounds almost always remain static, and as such can often be rendered with a greater degree of realism. However, it is important to remember that in order to not appear jarring, the realism of the backgrounds should not stray too far away from the style of the characters. Unless it is important to the story, the background is meant to simply be an environment for the characters to exist in, and should not draw attention away from the characters by virtue of its realism (Rowley, par. 20-21). As previously stated, *The Good Dinosaur* can be viewed as an example of clashing characters and backgrounds. In the end, the amount of realism of both visual and motion set the boundaries of how imaginative an animator can be with how they present the characters and their movements, as well as the environments they exist in.

Because animations fall under the umbrella of motion pictures, it is important to discuss Realism of Motion. When early critics called *Snow White* and *Bambi* "hyperrealistic", they were not necessarily referring to how the characters were drawn, but rather how they moved (Rowley, par. 32). *Snow White* featured some of the first use of rotoscoping, which is the action of tracing over live action footage. This is in direct contrast to the "rubber-hose" style, which put fluidity of movement before realistic motions. Disney chose to go the realistic route because of "emerging emphasis on telling coherent cartoon stories that would engage an audience," (Rowley, par.

33-35). However, unlike with modern motion capture technology, the movements of the live actors were not translated into animation one to one. Rather, the movements were exaggerated slightly in order to achieve not realism, but believability (Rowley, par. 36-38). An article on the site Animation Mentor, a website where aspiring animators can seek tips from industry professionals, references exaggeration as one of the 12 Basic Principles of Animation. These 12 principles were put forth by two Disney animators in a book titled *The Illusion of Life*, and are widely accepted by the animation community as solid pillars of base animation. According to the article, exaggerating movement by pushing it beyond what would be found in real life serves to add energy and life to animation (Boadway-Masson, par. 5). For example, the author talks about the importance of exaggerating how a character's movement arcs through space is very important, because "If you look at unedited motion capture, or rotoscope animation, it lacks weight and substance. If you exaggerate those arcs, the character will become much more grounded," (Boadway-Masson, par. 10). In other words, because animation is by definition not real, subtle movements need to be exaggerated in order for the characters' actions to read clearly and capture the imagination of the audience.

A major pitfall that can sometimes occur when trying to achieve too much Visual Realism and/or Realism of Motion is an effect known as the uncanny valley. The uncanny valley is a phenomenon where a computer generated human or animal that is almost photorealistic, but not quite, can cause feelings of unease and disgust in the viewer. One film that can be cited by some as being in the uncanny valley is *The Polar Express*. Laura Wilkens, a senior art director and designer, discusses why this particular movie can be perceived as unsettling. This is primarily because of the method of animation used; *The Polar Express* is the first feature film to be shot

entirely through motion capture (Wilkens, par. 7). In other words, footage of real actors was used as the foundation of the movie's characters, but no real people ever appear in the film. The movie's director wanted the characters to be as close to human as possible, because he felt that traditional animation would fall short of depicting the real human characters and emotions he wanted to be present in the film (Wilkens, par. 4-5). In retrospect, it is obvious that this failed. *The Polar Express* was instead plunged solidly into the uncanny valley, because there comes a certain point in the human mind when observing an animated piece where if the characters look almost human and move exactly like humans, our brains expect to see real humans. If instead we are able to distinguish some differences between the animation and real life, it can cause a disconnect in our minds that causes the revulsion elicited by the uncanny valley effect.

An interesting side note is that the uncanny valley effect can also be caused by inconsistent realism in a character, for example, if photorealistic eyes are paired with computer generated looking skin, or a stylized nose is set above more real looking lips, and any other combination thereof. A study conducted by two students from the University of Illinois and Indiana University studies this in depth, testing how subjects respond to realism inconsistency in computer generated objects, animals, and humans (Chattopadhyay and Macdorman, par. 1). It was found that the more human like a CG image is, the easier it was to elicit the eerie feeling of the uncanny valley by manipulating the consistency of realism (Chattopadhyay and Macdorman, par. 75). In their words, "For both humans and animals, the familiarity of representations along the consistency-reduced transitions was significantly lower than for paired representations along the control transition. This effect was not found in perceiving objects," (Chattopadhyay and Macdorman, par. 77). This harkens back to an earlier point that characters and backgrounds in

animation can have different degrees of Visual Realism. Because backgrounds are inanimate, they do not elicit the uncanny valley effect when rendered realistically, whereas animated characters can easily fall into it if pushed too far.

With the combination of the desire to tell stories with more recognizable human emotions than can be achieved by the surreal "rubber-hose" style, and not wanting to fall into the pit of the uncanny valley, it can be hard to determine how realistic to make animation. Thus, we turn to the last of the 12 Basic Principles of Animation, appeal. The Animation Mentor site once again has an article on the subject. The article states that there is a reason that appeal is at the end of the list. How appealing an animation is is very subjective, so appeal is explained as the bringing together of the other 11 principles "plus something extra," (Hurd, par. 5-6). That something extra is achieved after the other principles have been studied and mastered. Appeal is about being willing to break the rules, because "if, as animators, we are so focused on re-creating reality, we can often overlook appeal. If we do that, it doesn't matter how accurate our animation is because no one will care," (Hurd, par. 9). Appeal is about finding the balance between the surreal and the realistic in order to create characters to tell stories with without losing the visual interest inherent to the medium. In the simplest of terms, appeal is about being willing to bend the rules of reality in order to draw the viewer in.

When looking at the aspects that can draw a viewer in, such as exaggeration and appeal, and what can drive a viewer away, like the uncanny valley, it can be hard to understand why animation companies such as Disney keep pushing towards animation that looks almost indistinguishable from real life. One reason may be because of the stigma present in American society that stylized, unrealistic looking cartoons are predominantly for children. Andrew Meyer

goes in depth into this topic in his paper for Seattle Pacific University's Scholars Program, titled *Animation or Cartoons: An American Dilemma*. One of his first points is that so called "adult cartoons" almost exclusively utilize satire and lowbrow humor, which he traces back to early 18th and 19th century political cartoons (Meyer, par. 11, 13). In contrast, Meyer makes the point that part of the reason that American cartoons are still primarily marketed towards children because of the success of Disney's adaptations of fairy tales, which are stories primarily told to children (Meyers, par. 37). Disney was, and still is, a trendsetter for animation, and so it was inevitable that other animation companies would follow in its footsteps, creating animated shorts and full length films that are almost exclusively marketed towards children. However, the choice to choose children as the primary target audience was not exclusively a voluntary one. With the advent of the Hays Code, explicitly adult content in film was prohibited, and this helped to convince animation companies in particular that children's content was the safer choice in the long run (Meyer, par.47).

Even after the Hays Code was ended, movies such as *Who Framed Roger Rabbit* that were intended for more mature audiences remained as outliers, restricting the imaginative lengths that animators can go to. Animation for adults and children still remained at opposite ends of a scale, with adult cartoons mainly being relegated to satirical tv shows, and children's cartoons dominating both tv and film animation with more sanitized stories (Meyer, par. 129). Meyers contrasts this with Japanese animation, which has managed to have works that represent the full spectrum from content for specifically adults or children, and content that blurs the line and could be considered appealing for all ages (Meyers, par. 128). This shows that there is a whole untapped realm of stories for animation companies to access, where they can go to the

limits of their imaginations without having to conform to the categories of "for adults" or "for children".

It can be argued that many of the "children's movies" put forward by Disney and others often contain jokes or themes that can go over a child's head but make the adults in the audience laugh, and thus they can be considered movies for all ages. This is true, but the fact still remains that even though an adult can enjoy a children's movie, it is still being referred to as a children's movie. The same goes for a good number of tv shows. Therefore, the issue becomes not one of content, but of marketing. Will Burns, a veteran of the advertising industry, gives some insight into how Disney in particular markets its products. He says "where most brands start with a physical product and then build a story around it in the form of "content marketing," companies like Disney do exactly the opposite. They create a brand story - a movie - and then build products around that story," (Burns, par. 7). He talks about how Disney's brand identity is wrapped up in making merchandise based on their properties. And therein lies the heart of this issue. Because Disney is making movies for children and marketing towards children, they are able to sell products for children such as toys, coloring books, backpacks, and so much more.

However, Disney is not content with making profit off of its child audience. How, then, will it reach the audience of adults? The simple answer is to use nostalgia. Referring back to the previously mentioned remake of *the Lion King*, this may explain why it has done so well in the box office. Since the original was released in 1994, the people who were able to see it as children have grown up. With the remake, Disney had to find a balance between appealing to younger audiences and drawing in the adults who had the original movie as a part of their childhood. Their solution appears to be telling the same story intended for children with style more befitting

an "adult's" movie. An article on the Observer website published just a few weeks before the remake's release talks about how the sheer number of people who have nostalgia for the movie may both help and harm the movie. Shubi Arun writes about how the movie was already being criticized on social media for its strangely realistic visuals that look nothing like the lovable, and most of all familiar, characters from the original *the Lion King* (Arun, par. 5). However he also grants that "a certain number of preexisting fans are basically guaranteed to buy tickets whether it's good, or simply to pass judgment on how the property has been destroyed," (Arun, par. 8). It seems that was the case, as *The Lion King (2019)* grossed a worldwide total of $1.655 billion in the box office. This shows the unsettling truth of how compelling nostalgia really is, and it brings up the worrisome possibility that both Disney and other companies following its example will turn to photorealistic animation as the way to make money, abandoning more imaginative projects along the way.

To get the viewpoint of a professional in the field of animation, I contacted Brookes Eggleston. He is a character designer that primarily works with indie game and animation studios to create characters for their products, as well as teaching character design online for his YouTube channel "Character Design Forge". He has absolutely seen the trend towards realism with CGI animation, and recognizes the rising demand driven by nostalgia. He attributes the absurdly high ticket sales for movies like *The Lion King (2019)* to the fact that "adults see live action as a legitimizer or excuse to see something "from their childhood", made ok for adults, since animation is sometimes only seen as 'for kids'" (Eggleston). When asked about how animation style allows for communication of emotion, he again refers to *The Lion King* as an example. The style of the original movie allowed for a level of abstraction that provided leeway

in how expressive the characters could be, while in the case of the remake, they are now limited to the emotions that real lions are capable of expressing. He says that this is also true of the environments, that when stylized can be pushed in order to heighten the mood of a scene, while realistic backgrounds must again be limited to what can occur in a real environment. When asked about how much room there is for individual expression when working with a client or company, Eggleston notes that big animated projects are the efforts of a team, and as such, the ability to collaborate effectively with others on the project is essential. While individuals working on a project can add some imaginative ideas and personal flair, "there's still no room for ego" (Eggleston). Finally, when asked about how the style of animation is meant to serve the story it is telling, he talks about the importance of reaching an audience. While people may have big ideas about telling stories in a completely unique style that subverts expectations, Eggleston says that "success comes from communicating well to an audience that may not be paying as much attention, may not be as invested, and may not be as literate in story telling as we may be" (Eggleston). In the end, Eggleston puts forward that communicating with an audience is key, and working from the baseline of what already exists is the starting point, which can be the springboard from which new, imaginative directions can be taken.

Not all hope is lost for the future of animation, however. Hyperrealism has not taken over completely just yet, and one of the best recent examples of using animation in an imaginative, exciting way while still working from the clear baseline of communication that Eggleston speaks about is Sony's *Spider-Man: Into the Spider-Verse*. It combined use of colorful halftone dots, combinations of 2D and 3D art, and different art styles like Japanese anime and a Looney Tunes-esque pig to create a beautiful, unique visual language that pays homage to the comics that

Spider-Man originates from (Snyder, par. 25-31). When attempting to categorize *Spider-Verse*

purely based on looks, it seems to fall into the category of children's cartoons. After all, it has

bright, poppy colors and cartoony visuals, right? However, examining the content of the story the

movie is telling is important as well. *Spider-Verse* deals with heavy topics such as death,

complicated family relationships, and more. Though it does avoid explicitly adult things such as

gore, sex, and swearing, the movie still walks a thin line between specifically marketing to

children, and being appealing to all ages. Though this seems a difficult line to walk, I would

argue that it is a line that should be walked and explored to the fullest extent. If we as a society

want to move past judging animation by its appearance, animators and companies should be

open to using their imaginations and telling stories that are appealing to all audiences in any

style.

In conclusion, animation as an art form has gone through a lot of evolution. Beginning as

simple drawings coming to life, it has changed into something that can be almost

indistinguishable from real life. Though this may seem like a miracle, it also feels almost

unnecessary with the existence of live action film, and it stifles the soul of what animation

should be. Animation has relied for a long time on principles of exaggeration and appeal, among

others, and without these principles the animation has a tendency to fall flat, or worse, slide

straight into the uncanny valley. Instead of looking for ways to make animation even more

hyperrealistic, animators and companies should take a step back and take a look at what really

draws people in. Through my research, I have come to the conclusion that the reason the original

The Lion King is so beloved is not because of a groundbreaking artistic style, but because of its

emotional storytelling and the ability of the stylized characters to express those emotions to the

audience. On the other hand, hyperrealistic animation can be more of a hindrance than a help when trying to express these same ideas and emotions. Instead of going ever towards the realm of the hyperreal, animators should reimagine what it means to be real, and be open to leaning into unreal visuals in order to tell a real, emotional story.

Works Cited

Arun, Shubi. "Nostalgic Remakes Like 'The Lion King' Keep Letting Fans Down-Why Studios

Are Making Them Anyway." *Observer*, Observer, 7 July 2019, https://observer.com/

2019/07/the-lion-king-nostalgic-remakes-studio-strategy-disney/.

Boadway-Masson, Dana. "Exaggeration: The 12 Basic Principles of Animation: Animation

Mentor Blog." *AM Blog*, Animation Mentor Blog, 12 Feb. 2019, https://

blog.animationmentor.com/exaggeration-the-12-basic-principles-of-animation/.

Burns, Will. "Disney Proves That Profitable Marketing Is About Brand Stories." *Forbes*, Forbes

Magazine, 15 June 2015, https://www.forbes.com/sites/willburns/2015/06/09/disney-

proves-that-profitable-marketing-is-about-brand-stories/#4265dc27227b.

Chattopadhyay, Debaleena, and Karl F. MacDorman. "Familiar Faces Rendered Strange: Why

Inconsistent Realism Drives Characters into the Uncanny Valley." *Journal of Vision*, The

Association for Research in Vision and Ophthalmology, 1 Sept. 2016, https://

jov.arvojournals.org/article.aspx?articleid=2552688.

Eggleston, Brookes. "Re: Form Submission - Basic Contact - Research Paper Questions."

Received by Sarah Greer, 25 Nov. 2019. Email Interview.

Ehrlich, David. "'The Lion King' Review: Disney's Remake Is a Disastrous Plunge into the

   Uncanny Valley." *IndieWire*, IndieWire, 11 July 2019, https://www.indiewire.com/

   2019/07/the-lion-king-review-2019-1202157153/.

Hurd, Ethan. "Appeal: The 12 Basic Principles of Animation: Animation Mentor Blog." *AM*

   Blog, Animation Mentor Blog, 12 Feb. 2019, https://blog.animationmentor.com/appeal-

   the-12-basic-principles-of-animation/.

Jamie. "The Evolution of Animation - a Timeline." *Fudge Animation*, 7 Aug. 2019, https://

   www.fudgeanimation.com/2018/11/the-evolution-of-animation-a-timeline/.

Meyer, Andrew. "Animation or Cartoons: An American Dilemma." Honors Projects. 2016. 40.

   https://digitalcommons.spu.edu/honorsprojects/40

Rowley, Stephen. "Life Reproduced in Drawings: Realism in Animation." *Sterow*, 1 Nov. 2006,

   http://www.sterow.com/?p=797#.XZxt8y2ZNYg.

Snyder, Chris. "How Oscar-Winning 'Spider-Man: Into the Spider-Verse' Changed Comic Book

   Movies Forever." *Business Insider*, Business Insider, 25 Feb. 2019, https://

   www.businessinsider.com/spiderman-spider-man-into-spider-verse-animated-frame-rate-

   marvel-stan-lee-2019-2.

Wilkens, Laura. "Lets Talk About: The Polar Express." *Laura Wilkens*, Laura Wilkens, 21 Dec.

2015, http://laurawilkens.com/thoughts/2015/12/14/lets-talk-about-the-polar-express.