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The Sticks and Stones of Animation

Of all our inventions for mass communication, pictures still speak the most universally understood language. ~Walt Disney

Over the last thirteen years, the American animation landscape has been in an upheaval divided between two very different camps: traditional two-dimensional (2D) and computer graphic (3D) animation. The supporters of each group are very vocal proclaiming their medium to be the best in terms of animated expression. Putting personal feelings aside, economic figures have to be taken into consideration about the success of each medium in regards to the reception it receives by American audiences. Money has played a big part in the dismantling of classic American 2D animation and the rise of computer animated movies. The lack of quality domestic traditional animated films then led American audiences to look outside the United States for 2D movies. This movement led to the emersion of Japanese 2D films. However the commercial success of 3D animation cannot and has not replaced the value of 2D animation as a more natural and communicative storytelling tool in animation.

The main technical difference between 2D and 3D films is on the reliance on computers for animation. Traditional animation uses tangible physical materials to develop a flat two-dimensional world. The tools of the masters' such as perspective are used to give the illusion of depth. Fluid movements are done frame by frame by a human artist. In the past, colors and lines

were done in inks and paints but since Disney's *The Little Mermaid*¹ in 1989, these tools have been replaced by the computer for a more streamlined production. In the realm of 3D films, computers are used for the entirety of production. The film exists not physically on cells drawn by humans but in the arrangement of mathematical formulas generated by a computer. Despite the differences in the tools the production costs remain the same².

Since the invention of 2D animation, there have been two golden ages. The first occurred in the early days spearheaded by Walt Disney and the most recent from 1981 to 1994. Disney's *The Fox and the Hound* led this second era of traditional animation which later ended with *The Lion King*. The beauty of hand-drawn animation was recognized at unprecedented levels when *The Beauty and the Beast* was nominated for Best Picture in 1991.³ This 2D film is still the only animated film to ever be nominated for Best Picture despite the profit margins of 3D films. The second golden age ended due a surge in the demand of more realistic and dazzling special effects as computer technology evolved.

The appeal of 3D as a medium has largely been based on its novelty. Eric Goldberg goes further to express that currently 3D is "more fashionable than the other."⁴ Goldberg's statement illustrates the belief that neither side is truly superior to the other, but whatever is new will get the audience's dollar. The increase in believable special effects reaches a greater target audience thus pushing for the production of more CG films. Since audiences are looking to be entertained and wowed by the movie industry, motion picture studios have put more money and backing into 3D film production. When *Ice Age*, a 3D film, made more money than the live-action Best Picture of the Year, *A Beautiful Mind*,⁵ studios realized that it was the medium of 3D bringing the money in.

The beginning of the current 3D era started in 1995 with the release of *Toy Story*. Its success caused Disney CEO Michael Eisner to direct funds towards creating more CG films while under financing the 2D division. He then pushed for cheap, direct-to-video sequels of Disney classics which Pixar and Apple's Steve Jobs called "embarrassing."⁶ Eisner's lack of direction for quality 2D films resulted in a nosedive in sales so Disney shut down its traditional film division in 2003.⁷ This decision drastically reduced the viability of American 2D animation.

The cultural implications of the dearth of 2D films have caused a rippling effect in both the economy and where Americans get their 2D fix. With The closure of Disney's 2D studios, thousands of jobs were lost as animators were fired. This move was a blow to the 2D animation industry in not only losing these talents and a shockwave went out, discouraging future animators from going to school for 2D animation. America's talent was thus directed to other sources, leaving the country ripe for another country's animation to get a stronghold.

Japanese animation stepped in to seize both the imaginations and wallets of American consumers. Sniffing an opportunity, Japanese 2D animation expanded from its niche in the United States to become a mainstream industry. According to the Society for the Promotion of Japanese Animation, in 2000, Japanese animation took in \$2 billion dollars in America.⁸ That sum of money is being exported back to Japan. If American companies had been continuing to fulfill the love and need of traditional animation, those profits could have been generated solely by domestic companies and spent within American borders. Japanese animation enthusiasts also buy millions in merchandise, go to Japanese animation specific conventions, and have a huge following of fans. Whereas American companies thought that there was no more interest in doing traditional animation, the public has shown them to be incorrect in embracing and finically supporting the 2D animation of another country.

Furthermore, the outlook on what 2D animation is has changed with the advent of Japanese ideals. American audiences are no longer simply satisfied with Wiley E. Coyote falling off cliffs episode after episode for entertainment. Audiences now want a storyline that continues to develop over time. Traditional American cartoons are episodic in comparison. The demand is for well-rounded, complicated characters that have complex motivations instead of merely trying to foil their rival without either side ever ultimately gaining the upper hand. Domestically produced cartoons are slowly beginning to incorporate the lessons of success from Japanese animation into their own shows. The prime example of this would be Nickelodeon's *Avatar: The Last Airbender* which combines both traditional American heroic ideals with Japanese influenced artwork and plot devices.

Tim Hodge⁹ writes that traditional animation involves the audience's imagination to make the lines of 2D into a sensory experience. This experience is created from familiarity of access to drawings at the earliest of ages. The inner imaginative world of anyone can be shared by lines. People are familiar with lines and pencils and no one is barred from producing even the most simplistic of drawings. Cost is generally not a factor preventing a drawing since where there is a lack of paper and pencil, a plot of dirt and a finger can do in communicating an idea. With this easily obtainable capacity of entertainment available literally at everyone's fingertips, drawings are then given the special place of being human-made. Thus the appeal of 2D animation is that drawings can be brought to life. A computer program cannot replace the human component and familiarity of a line drawing.

The use of line in 2D film leaves the characters open to the imagination. The viewer is not restricted to the current limitations of computers to see what a character looks like. In *Aladdin*, a Disney traditionally animated film, Princess Jasmine's black hair is voluminous but

each individual audience member gets to make their own decisions about the texture of Jasmine's hair. Thus she enters the imagination and can be personalized by the viewer. To one person, Jasmine may have shiny, thick hair which shows up itself in the tremendous amount of it shown on the screen. Yet to another, Jasmine's hair may absorb all light but be soft and fuzzy to the touch. Or maybe Jasmine's hair is simply a black blob of color on the screen. Hence no one's internal image of Jasmine is more or less correct than anyone else's perception of her. However when a character is created with 3D graphics, the viewer is deprived of this important imaginative tool and instead is forced to accept the computer rendering of her hair that can only be seen one way and one way alone.

Mark Oakley, in his 2004 essay addressing Disney's dismantling of its 2D productions, gives voice to what is unsettling about 3D animation in comparison to the traditional 2D medium. He writes that computers are unable to step away from the "overly-bright, fuzzy feeling"¹⁰ that is an inherent by product of computer animation. Humans in 3D films look like plastic toys which is distracting to the viewer because people do not glow or shine. Neither is the viewer left with the visual freedom to imagine the softness of a character's skin. Computer generated human skin is hard and still too unrealistic to bring true believability that the character is a real, breathing person, thus removing the element of life from the film.

Modern three-dimensional animation fails in that it is unable to capture the subtle characteristics of human expressions. The computer generated face is restricted to the key points where it has been allowed to move. Even if an animator was allowed to give a character all the hundreds of muscles available in the human face to make every kind of expression, current technology is still too cumbersome to render all the points without bogging down the entire production process. A contributing editor at the Spawn website describes the benefit of 2D

animation in “that it allows you to capture the smaller more intimate details of human emotion.”¹¹ In 2D form, a character can freely have any caricature expression the animator can dream up with no technology-limiting boundaries. Hand-drawn facial expressions can be as realistic or outlandish without looking gruesome, unlike CG forms, as Oakley points out. Furthermore, animated human beings are “not as realistic as they are when created in 2D -- there tends to be "stiffness" when it comes to facial expressions and the intricacies of the human mouth during speech”.¹³ The emotions and thought processes of a character can be conveyed without relying on the capabilities of generated pixels to make communication real.

Oakley explains that the movements of drawn characters are “smoothly convincing without seeming strange.” The freedom of 2D is that there are no limitations in regards to movement, facial expressions, nor will the character’s hand suddenly go through the table when reaching for the spoon unless the animator makes it so. Computer programs on the other hand do not realize that according to physics, hands do not normally pass through solid objects. With a human animator controlling all elements of a drawing, strange quirks like this do not appear. The computer program is fully fallible and still requires a human to keep the hand from going through the table unbidden. Finally the death knoll on the lack of beauty in CG is expressed by Disney animator, Glen Keane. When asked his opinion on the 3D animation of *Shrek*, he said, “Every frame of that film was a bad drawing to me.”¹² The novelty of computer generated special effects cannot replace traditional medium when it is thoughtlessly pushed through production without the same care and dedication to detail as in a 2D film.

Traditionally animated films will not disappear because of the rejection of American studios. Audiences are still willing and interested in the traditional medium where the human touch; the human expression cannot be replaced by a computer program. However this is not to

say that the 2D and the 3D cannot mingle. A happy midpoint may be where both mediums are used together to take the burden of repetition of patterns off the animators but still leave the characters to the humans to bring to life. The only clear conclusion is that whatever the medium, an audience can be found.

¹ Angie Jones and Jamie Oliff, *Thinking Animation: Bridging the Gap Between 2D and 3D*, (Boston: Thomson Course Technology, 2007) 20.

² Jones 16.

³ Nomination information obtained from <http://www.imdb.com/title/tt0101414/awards>.

⁴ Jones 16.

⁵ Jones 25.

⁶ Holson, Laura M. "Disney Moves Away from Hand-Drawn Animation" *New York Times* online. September 18, 2005.

<http://www.nytimes.com/2005/09/18/business/media/18disney.html?pagewanted=1&r=2>

⁷ Jones 27.

⁸ Gardiner, Debbi. "Anime in America: Japan's animated movies have risen from cult status to cultural force in the US. Next up for the moviemakers: winning approval from Mom and Dad"

Bnet Business Network online. January 2003.

http://findarticles.com/p/articles/mi_m0NTN/is_2003_Jan/ai_104732914

⁹ Hodge, Tim. "Animation Essay: "2D vs 3D" *Bald Melon*. December 9, 2005.

<http://timothyhodge.blogspot.com/2005/12/animation-essay-2d-vs-3d.html>

¹⁰ Oakley, Mark. "3D Versus 2D Animation" *I Box Publishing* online. January 25, 2004.

<http://www.iboxpublishing.com/NEWSjan25,2004.htm>

¹¹ "2D Versus 3D Animation" *Spawn.com* Online. September 16, 2005.

<http://www.spawn.com/news/news3.aspx?id=12688>

¹² Holson, Laura M.

¹³ "2D Versus 3D Animation"