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**Studio Ghibli's Landscapes and animation: Design, Characteristics and
Process**

By

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I, James Peter Joseph Linghorn, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

This dissertation joins the vibrant discussion in the animation and art industry about the impact of digital technology on culture and older more traditional hand drawn techniques, which are still used by art houses such as Studio Ghibli. It explores the visionary presence that digital techniques have had mainly in Japanese animation culture. From the perspective of someone who has been closely following the main animation houses for a long time, the mix of an auto-ethnographic and theory-based approach helped give clarity to the changing field and its impact on culture. Looking at key thinkers such as Blaire(2015) and Sullivans(2005) dissection of the research method, allowed me to combine my thoughts on digital evolution in animation while linking it to a theoretical framework. By analysing concrete narrative studies used by Theorists such as Bigelow(2009) and Wells(2002) and then combining that with industry artists of both traditional and modern techniques, I demonstrate that late 20th century aesthetics of art and design in Japanese anime can be pushed to new heights with use of digital technology but also explore the possible drawbacks to traditional styles it would have. Breaking down modern stereotypes of Japanese animation as viewed by western culture was a fundamental point in this research and was achieved by analysing the artistic differences using case studies between different art directors including Hayao Miyazaki and Makoto Shinkai.

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Meta Statement

This submission is presented as work under the Practice Based Research mode. The submission is made up of two parts, the Portfolio titled 'James Linghorn Masters Practical work', within the main folder are four separate sub folders detailing my progress throughout the process. The sketches sub folder features all my sketches, the adding colour section which showcases the midpoint of my work, the 'Animated Landscapes and stills' which includes animation as well as landscape stills and the folder titled "Scene Breakdown" featuring stills and animated footage from a host of Studio Ghibli's work. This is then described in more detail within the "work breakdown" section which details the workflow for my animations and landscapes, breaking most of the scenes down in great detail. The written part of the submission aims to contextualize the practice, exploring in more detail the methods used to create the finished pieces.

The introduction explains my reasoning for choosing this path of inquiry into this field and what I hope to achieve by the end of the project, this section is intended to act as a platform for my research from which the rest of my critical analysis and portfolio can build upon. The literature review consists of my research into the history of Studio Ghibli along with landscape animation and how other Scholars views coincide with that of Hayao Miyazaki's beliefs.

The main body of writing aims to link my research with other practitioners in the same field, studying the animators in modern day animation and comparing the contrasting style of their work with the Studio Ghibli style I am striving to achieve. The goal here was to find out specifically how digital animation has evolved from traditional methods and whether the positives outweigh the negatives, my portfolio along with my theory work should add to the ever-ongoing discussion in the animation industry between these two methods.

The two chapters titled, The Process: Sketching, and The Process: Traditional Animation directly correspond to the portfolio folders mentioned earlier.

The Process: Sketching

This section directly relates and is based upon my sketches sub folder, the written work here describes in great detail my advancement in the learning process of how to sketch, researching Studio Ghibli's original tools was a key component of this section and gave me the foundation to achieve the artistic style I was hoping for after some time.

The Process: Traditional Animation

The last part of my project was arguably the hardest, this section combined all my previous sections into the final pieces which are contained in my Animated Landscape and stills folder. The written work goes hand in hand with the learning curve I experienced, due to having never used the software before. The critical reflections in this chapter relate specifically to my animations and link the practice to the research which has been built upon during this evaluation. The final stills are based upon my learnings in each one of the chapters mentioned, my critical evaluations of each stage of the digital creative process outlines and supports the personal practice.

Work Breakdown: This word document is key to understand the amount of work put into this project, some of the animations are not included within it, however, the most time-consuming animations and art designs are listed here breaking down each and every concept used to create them. I advise reading that first before looking at all the animations or reading the thesis.

Introduction

Studio Ghibli's detailed backgrounds have fascinated me since I was a child, the hand drawn animation and frame by frame painted stills from his movies really drew me into the stories of fantasy worlds. The hand drawn stills of picturesque landscape were extremely unique at the time and differed greatly in aesthetic style and flow to the faster paced anime which dominated the Japanese animation industry at the time.

Recreating Ghibli's works using modern digital technology and the discovering the process behind creating the same mood, design and aesthetics is the goal of my research this thesis. This question can be broken down into more specific areas such as, is digital technology as good as traditional methods? and what characteristics differ between the two art forms? How does the pipeline change between the two forms when trying to achieve the same goal? and what does this new digital medium have on the culture of art and animation?

Due to the nature of the research question it was key to break it down into different sections in order to get a more theoretical understanding of the topic and areas of interest. The research problem required me to delve into various concepts created by previous practitioners to get a different perspective on the theory behind Ghibli's designs and the digital process used.

Using an autoethnographic approach to the research framework was a fundamental part of laying out the ground work, by helping me identify and layout where my practice based research fits in with current theorists who have explored the topic, and if possible, where my work could help push forward new ideas within practical animation theory. Since my practical process is very trial and error, this new approach allowed me to develop the research in a way that related directly to the theory side of my work, which I have explained in more detail within the methodology section.

Splitting the research question into different sections made the process a lot easier to breakdown and understand in relations to my art. Exploring how digital techniques have changed hand drawn animation and the industry in Japan acted as a base for my study. Looking at what art theorists such as Brais D. Outes-León(2009) and Francois Jullien(2007) studied in relation to the theory and aesthetics of sketch gave me a far deeper understanding of the tools needed and qualities that the traditional art form has.

Studying what key theorists such as Jullien have to say about the aesthetics of sketch helped create a framework which will develop a well detailed solution for these questions since my work does not only exist as exploration but also an addition to the research field, filling in the small details of the boundaries by which art is created digitally and traditionally.

However, due to the nature of my research including a lot of trial and error as the art pipeline is very new to me, I can't take the theory as a given, meaning I have to find the truths for myself and investigate where a certain theory might mislead the reader. Discovering with my own practice what works and what doesn't will help my research develop in a way which is unique to pre-existing material surrounding the topic.

Animation is a reflective practice. The artistry of creating moving images cannot be divided from the original artist who created them, self-reflection on the practice of creating landscapes or animation has proved to be a very rewarding part of my process.

Landscape creation and animation should be a means of exploration and connections of ideas. A wealth of knowledge and skill are contained within the artistic process of making animation. By integrating the making and writing process, the story contained within the animation is told. I realised

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there was a gap in landscape animation research that was not being captured by the current traditions of the academia, having recognized this discrepancy, I wanted to contribute to an art form that I believe does not enough recognition.

Literature review

Founded in Tokyo by Toshio Suzuki, Isao Takahata and Hayao Miyazaki, Studio Ghibli has been at the forefront of Japanese animation for the past 30 years. Before forming Ghibli, Miyazaki directed *Nausicaa of the Valley of the Wind* (Miyazaki, 1984), which Suzuki produced, Ghibli continued to produce multiple box office hits directed by either Takahata or Miyazaki throughout the next few decades creating masterpieces such as *Princess Mononoke* (1997), *Spirited Away* (2001) and *Kiki's Delivery Service* (1989). Most Japanese animation companies (Toei Animation, Studio Nue and Fuji TV) during this era were focused on producing TV series rather than feature films, Studio Ghibli broke the mould by focusing solely on creating feature films, and in doing so changed the perception of animated films in Japan which led to other known Japanese animation companies following suit.

Hayao Miyazaki was already recognized as one of Japan's best background scene artists before forming Ghibli due to his previous work on manga and graphic novels including *Nausicaa* (1984), *Animal Treasure Island* (1972) and *People of the Desert* (1969). Miyazaki and Takahata each brought their own aesthetics to Ghibli which helped the company stand out from the other popular Anime's during the same period. Miyazaki developed his style from his experience working on his *Nausicaa* manga series. Takahata's work often differed in tone to Miyazaki's inimitable landscape and animation style, focusing more on the storytelling within the film.

"Each frame is reminiscent of "Japanese watercolour paintings brought to life",

stated Kyle Anderson, a critic from *Nerdist* magazine,' Anderson went on to explain that, "The colours, muted in the way a watercolour painting is, seem to flow and reform like the bodies of water that play such a big part in the narrative. It looks like we're watching a much older film, in a good way. If drawn and animated in the traditional Ghibli style, these stories would absolutely not have the same effect."

Their first two films displayed the contrast in their personal styles and ideas, *My Neighbour Totoro* (1988), one of Miyazaki's first masterpieces was a children's fantasy about forest spirits who travel around on a cat bus. Takahata's entry was *Grave of the Fireflies* (1998), which is based upon a semiautobiographical short story by Akiyuki Nosaka a Japanese author at the time, the film is about surviving in Kobe, Japan, during World War 2 which fused some of Takahata's personal memories at the time, it became illustrative of his realistic, individual and humanistic style.

Ghibli's landscapes are used throughout their movies to tell an effective and compelling story to the audience. Miyazaki manages to conjure that sense of simultaneous comfort and danger that losing consciousness has in his films, a transition into the dream landscape that is both enticing and disturbing. the landscape's often take several different forms for each Ghibli film but have similar settings, for example *Spirited Away*(2001), *Princess Monokoke*(1997) and *Totoro*(1988) all feature Japanese villages and forests, however each film's setting plays a different part and has different meaning to each film. *Monokoke*(1997) and *Totoro*(1988) forests have a connection to nature and an underlying connection environmentalism whereas *Spirited Away* cuts between realistic forests and dreamlike forests later in the film.

The process Ghibli use to create their landscapes and stories has been labelled as "World building". I will explore what are the immersive qualities of Studio Ghibli's landscapes and animation are such as musical landscape, aesthetic features unique to the studio and why these different aspects are immersive to the audience. The landscape genre has been largely overlooked with the animation almost always taking centre stage with the thought-provoking significance of the animated landscape becoming an afterthought.

Landscape animation draws on a 'dialogue' between the story contained within the film and the landscape. For Matthew Gandy(2006), "The modern idea of landscape that Raymond Williams

succinctly characterized as one of “separation and observation” has in the cinematic space of Antonioni been reunited within the psycho-geographic realm of his cinematic protagonists” (2006, p.316),

It could be argued that the figures depicted are secondary to the landscape which is pivotal to the story telling and impacts on the human consciousness, possibly being remembered long after the fictional story. “Landscape can convey a feeling of space, fear even disorientation” (Matthew Gandy, 2006) which is why the artistry used as a backdrop to animation is so vital to the telling of a story.

“Antonionian landscape” named after the Italian director Michelangelo Antonioni is famous for how space is represented as an equal or of greater importance than the characters being featured in the films. *Del gente del Po (1943/1947)* one of Antonioni’s earliest works showcased the powerful interactions between human figures and the landscapes, the desolate spaces and eerie shots of the Po estuary in Italy create an unease and unlock deeper emotions during the screenplay.

Similar to Ghibli, *Del gente del Po* featured the use of slow wide tracking shots, cloud and mist over a backdrop and a multitude of natural elements such as rain, snow, wind and waves to add more complexity to the ‘mise en scene’.

Celine Scemama-Heard, author of *ANTONIONI : LE DÉSSERT FIGURÉ* described the layering,

“The mode of expression in the cinema of Antonioni is characterized by a layering of mystery and indeterminacy in which there is a blurring of any distinction between objective and subjective dimensions to visual perception” (1998, p. 114)

Antonioni used the desert as more than a landscape, there was a shift from his neorealist urban deserts which featured heavily in his earlier works towards featuring real deserts which acted as powerful social metaphors in *Zabriskie Point* (1969). The desert was not just a landscape whose only purpose was to serve as an aesthetic backdrop the ongoing story, it was rather a symbolic and metaphorical space through which the viewer can explore the various characteristics of human consciousness. This formulation can be very flawed with its widely controversial conceptions and many universalist views; however, it showcased a deeper meaning behind his landscapes which other films at the time were not doing.

Hayao Miyazaki also views his landscapes as more than just aesthetic creations, similar to Antonioni, Miyazaki puts thought behind each and every frame of background which goes into his works. Ghibli’s films display the stunning secluded forests and tranquil realms which are untouched by human civilization deep in Japan’s wilderness, using these ideologies in his scenery display the subtle yet impactful native religious beliefs that still exist in Japanese culture. Miyazaki explained in an interview

“We don’t subordinate the natural setting to the characters.... That is because we feel that the world is beautiful. Human relationships are not the only thing that is interesting. We think that weather, time, rays of light, plants, water, and wind—what make up the landscape—are all beautiful. That is why we make efforts to incorporate them as much as possible in our work.” (Miyazaki, 1997)

Miyazaki’s films educate the audience about the complexity of over consumption in modern society, environmental conflicts, ecological economics and how people should respect nature as well as each other. It could be argued that ecology is just a recurring theme within his films but specific scenes such as the river spirit being cleansed of all the pollution, he had engulfed from *Spirited Away* (2003). The reaction the forest had to humans trying to control the forest spirit in *Princess Mononoke* (1997) relate to Miyazaki’s past experiences in Japan from when he was a child and now showcase how humanity impacts the landscape around them through disaster and recovery of wildlife.

Sema Mumcu and Serap Yilmaz, both professors of Landscape Architecture at the Technical University of Karadeniz, share the view that by classifying landscapes, the resulting effect adds understanding and influence into the relationship between humans and nature (2010, p.50). They argued that Miyazaki's films depict humans as an inseparable part of nature, contrary to Western view which often has humanity as a superior force to nature. Communities shape their physical environment based on social constructs with nature and landscapes which are a result of that.

Mumcu and Yilmaz classified Miyazaki's landscapes into three separate types based on the power relations between nature and humanity, exploring how different communities form the physical environment based on their own social beliefs towards nature and the landscapes which come because of this.

Studio Ghibli uses landscapes to enlarge upon environmental issues impacting on the fragility of nature. The animated pictorial ideology being drawn from various sources including Shinto, Folklore and Mythology. They present a magical engaging childlike quality to the audience, yet they also highlight the biological and ecological importance of nature.

Nausicaä of the Valley of the Wind (1984) is set 1000 years into the future depicting the ruination of civilization through the release of toxins into the environment, the portrayal of magical majesty replaced by backdrop of inhospitable land and ruined buildings. Although Studio Ghibli animation has its roots in traditional film making, the films present the landscapes not as still images, but as living environments infused with life and the interactions between humans and nature. For example, in *Totoro* (1988), humans and spirits interact freely within the forest. Indeed, environmental animation can create the unimaginable drawing the viewer into a world where anything is possible, life as it has never been seen before. According to Nicole Starosielski, what is significant about animation is that it can create 'imperceptible and imagined worlds' (2011, p. 97)

Hayao Miyazaki has always been known to have a fascination with flight and planes, but a natural element lies at the root of his captivation: 'wind', the most important aspect of aviation features in both Miyazaki's first film with Ghibli *Nausicaä of the Valley of the Wind* (1984) and his last *The Wind Rises* (2013). Both of these titles emphasise 'wind' as it plays a major part in both productions. This can range from subtle movements such as trees gently dancing in the distance, clouds scudding across the sky or blades of grass blowing in the wind, to more featured animation, being flying and the large waves crashing against the rocky shores which were a prominent feature in *Ponyo* (2008). J.D. Ho believes that Miyazaki seems fascinated by the way wind can be transformed from a nonusable form to electricity that powers cities. Turbines derive their power from rotational motion, and it is this idea that drives Miyazaki's stories. It is the idea of turning,' J.D. Ho follows onto say 'He harnesses the wind's power to create stories'. (2017)

Methodology

The purpose of this chapter is to explain my autoethnographical approach to this qualitative research. Combining theory and practice has allowed me to explore new perspectives that were created within the space between what is known and what is not. The challenge here was to find a fine line of balance between artistic urges, initiatives, and high-level research, which was addressed in more detail in "The Process" portion of the dissertation. This was in terms of relating practice and theory in a manner where artistic expectations and institutional one's link.

Jan Svenungsson (2009) explained that integrating both the institutional and artistic research methods was crucial for the framework of this and other research processes in modern art.

"The outcome of this inquiry must, at the same time, introduce some sort of knowledge having been gained, while simultaneously activating the reader and trigger in her a further quest for knowledge-

just in the way a good artwork does. If this does not happen, the research process will not have served the purpose of art, and it will hurt the artist. It's a heavy demand being laid upon the artistic researcher, but I believe this field can only be successful if it accepts its contradictions and meet them with the highest ambitions possible"

Similar to Svenungssons view that the inquiry must introduce knowledge having been gained, my understanding of the inquiry as a method was similar and proved extremely vital in my research framework. Creating the art was thought provoking but displaying my mistakes and contextualizing them in a more theorized structure, enabled myself and the reader to get a better understanding of my research while also improving the relationship of both my practical and theoretical work.

More than half of my time during this project, had been spent on animating and creating art pieces where I displayed my process in relation to the traditional methods previously used by Studio Ghibli, where I realized an autoethnographic approach is key in connecting the theorists and literature with the art. Although it is critical to present art practice as research for this project, it certainly came with its struggles. Due to the nature of artwork having underlying assumptions that it has many forms and interpretations, the practical work needed to be articulated differently than I would normally do and broken down into more comprehensive formats giving a more step by step explanation. However, Graeme Sullivan, argued that institutional constraints are only an impediment if they cannot be used to advantage, and to do so requires knowledge of the culture of research to be able to claim a place within it.

Sullivan, who visited the Venice Biennale in 2007 during the international art exposition, discussed how the artistic director of the venue, Robert Storr, described the late Felix Gonzalez-Torres's work. Storr listed a few compliments of the late artists' works such as "formal rightness, contextual aptness, economy of means and intellectual courage". Sullivan, in addition, broke this down by explaining that "contemporary art deals with complex forms and content that includes visual qualities, ways of making meaning, thinking capacities, personal and public interests and the need to communicate with others".

This proved true for drawing and animating Studio Ghibli's unique aesthetic during this project, the artistic expression and impression which resides in the paintings is hard to express in words, which makes showing the technique through practical work far more intuitive as a method of research. Animation is a direct and accessible form of expression and has all the tools needed to open for new forms of research.

In my experience, the medium of animation has the ability to inspire today's students to create works and express elements of self that may not be easily expressed through other mediums (Blair, 2014)

"animation is filled with opportunities to reflect and change and take risks"(Blair, 2014 p.30)

Approaching this thesis with the idea that animation can be used as a distinctive language with the ability to be used as an art educator which operates on both technical and creative levels gives the learner a far deeper comprehensive understanding of the research being carried out.

The challenge of the thesis was not the actual creative portion, although more time consuming, it was the challenge of the art theorist linking and describing art research as a matter of serious inquiry through my mistakes and learning experience. This process required in depth research into art theory and literature to help me achieve the critical and creative outcomes I had to produce.

Practice Based Research

The concept of practice-based research was challenging because it took me a while to understand the difference between scientific inquiry and the inquiry involved in making was an area which I had not explored before. After changing my ideas early on in the study process due to my struggles of linking effective research to my practical work I learnt that the difference between pure practice and practice based research was to seek out information and apply it to an already existing body of knowledge instead of following individual goals. It wasn't that my ideas and animation work couldn't function originally in a more research-based approach, but rather, my work was more suited to an arts informative research approach. Over time, with the help of my tutors I was made to become far more self-aware of my work, the importance of critical reflection and analysis would help validate my creative practice and link it to research.

Purpose Statement

Throughout my research I have become aware of the lack of academic dialogue regarding practice led research in animation. It has not, in my opinion, been given sufficient accolade from academia. By collecting various practitioners' opinions on related topics as well as presenting my own creative research methods and findings, I hope to contribute to the animation field and build a retrospective case study. Due to the large number of styles, approaches and conflicting opinions investigated when researching the Studio Ghibli animations style as well as the shift towards digital technology it became apparent that I could not simply have a defined methodology for practice-based animation research. Behind animation there is a methodology which spans the spectrum from art to design, and the animators producing their unique intricate styles should be recognised in their field in the same way as portrait artists.

There has been a restrictive view of animation since the inception of Disney films. Had a survey been carried out of audience participation, the resultant outcome would probably have been 80% viewing the animation as being directed towards children and only 20% being of the opinion it was viewed by a wider audience. This reflects on the popular notion that animation is 'cartoon' dominated whereas, in reality, if viewed as a versatile medium capable of usage in an educational format, for example in documentaries, this leads to the tendency for the general population to view animation as a genre rather than a medium of expression. Animation is self-reflective of its artist, in frame by frame animation such as Studio Ghibli, the animators control the scene entirely and map out every form of expression, this opens up a much wider concept allowing for endless expansion.

By the end of this project, I hope to have learned about the positives and negatives of traditional animation compared to the modern equivalents and painting techniques to fill out a composition and the ability to envision the finished result of a painting when in the early stages of production.

Defining the Style and Weightlessness

Although every related creative work or theoretical work in a specific field has its own unique aspects to it, the research done below explores the various components which I am using to understand the process of digitising the Studio Ghibli style.

Thomas Lamarre explored the different 'anime-ic' animation and design forms, looking at what people would generally associate with animes and the subtle differences between different animation art

studios and directors. When looking specifically at Hayao Miyazaki, Lamarre argued Miyazaki's films have a pronounced tension in them between being cinematic and 'anime-ic'.

"There are a couple reasons for this choice. Because Miyazaki's are often deemed to be the most cinematic of anime, they allow further exploration of the problematic of an anime-ic recoding/decoding of cinema. Not only does Miyazaki show a marked preference for producing anime for theatrical release (rather than for television or video release), but his anime films are usually deemed to be very cinematic in style. Moreover, the budgets for his productions are large enough to allow full animation. Finally, Miyazaki is involved at every level of production: he not only writes and directs but also oversees and works directly on animation and storyboards. He thus introduces an overall continuity in style and story – a cinematic sort of auteur effect. This differs from many anime directors who prefer to let the styles of individual animators show, to allow for a visual play between diverse styles. Thus, in many respects, Miyazaki appears to be the least anime-ic and most cinematic of animator-writer-directors. Nevertheless, there are profoundly anime-ic tendencies in his films as well."(2002, p. 341)

Defining whether Miyazaki's work is anime-ic is important to my visual process because Miyazaki's films and landscapes are the basis for my study essentially defining my final aesthetic and how I proceed along the design process. Comparing past anime's such as *Naruto* (2002) and *Dragon Ball Z*(1986). It became apparent that the animators placed a huge emphasis on the most visually emotional poses which lasted over many frames without actual movement, focusing on areas such as a close up shot of the characters face with heavily repetitive movements such as the jaw twitching or eye brows raising in anger. The suppressive movements, generally resulted in awkward and jerky movement due to the gap in key frames, this consisted of unnatural actions, uncontained transitions and explosive movements which only really suit heavy action. This completely altered the conventions of classic full cel animation, there was also a tendency to move the drawing instead of draw the movement, by which I mean, instead of drawing each frame of a character crossing a background, the figure which featured less overall animation could be pulled across the background in half the frames. With the new digital technology allowing animators to create full scenes in a matter of days, this process became even simpler.

My artwork should help define the differences between the anime-ic styles and manga styles which are so commonly mistaken in today's age. Identifying the key aesthetic differences between skipping keyframes and following a more traditional full cell approach through digital software such as Toon Boom harmony will demonstrate the qualities of Miyazaki's style to better effect. Learning the process of connecting keyframes to give a better flow of movement in scenes can help further my understanding of the anime processes, allowing me to correctly identify the subtleties which the average person would not differentiate from a more manga style animation such as Studio Ghibli's or Makoto Shinkai's works.

During my learning process of creating the Studio Ghibli animation and art 'style', I gained a new level of respect for the level of detail which goes into Miyazaki's art boards and animation. Getting the cinematic flow of his animations correct digitally was incredibly challenging, as Lamarre(2002) mentioned, Miyazaki keeps his own consistent animation style throughout his entire production unlike other Anime's, this meant recreating a consistent style throughout my animations was an important area of focus. Changing something as small as the frame length between each movement could be enough to alter the intended look of the animation, resulting in it resembling a more *Astro Boy* (1963)

esque style which Lamarre described as “limited” due to the movement being jerky and non-fluid(2002 p.60).

After developing the foreground and background elements of my digital art, it became evident that there was a form of ‘weightlessness’, meaning, the characters and foreground I studied to recreate seemed to be buoyant and not fixed into their environment. This problem also arose during the early sketching process when I was erasing lines to get cleaner sketches. There always appeared to be a gap between the figure and the background, this became more obvious when the object or character is moving. This problem was an unsolvable component of hand drawn animation since combining hand painted landscapes with composited foreground will always stand out. However, the ‘problem’ with blending movement with a painted landscape was not viewed as an issue by Miyazaki, it was an artistic choice, it added a sense of freedom to his films, not being bound by the realistic constraints of Cinema allowed for far more creativity.

Lamarre addresses the issues of weightlessness in hand drawn animation, stating,

“The consequent weightlessness creates another problem, a problem with depth. For seeing simplified characters against detailed back- grounds works in two directions. On the one hand, it could suggest depth, especially if the colours and lines of the background cel are more subdued than those of the character cel. On the other hand, the characters may seem to float, to come unmoored from their environment”

“That is, depth is implied but remains incipient if the relation between foreground and background is not smoothed out, not well composited. Backgrounds may be painted using art techniques that impart a sense of depth, but then the simplified characters still look flat with their solid outlines and scant modelling. One is aware of a gap or difference between the foreground and background layers. It is as if foreground and background constituted different dimensional layers rather than aspects of a single three-dimensional world” (2002, p. 359)

Using digital software gave me a better opportunity to mask the depth issues in my work by altering the viewing position in relation to the layers, ideally the outcome here would be to make the landscape and animation appear more cinematic. However it actually added no more depth than doing it in a more traditional manner, it simply gave a greater illusion of what real depth should look like to the viewer. Therefore, I believe it is not a problem in this animation form, it can be addressed differently when compared to something as different as live action cinema, depth is of lesser importance with the Anime art form as opposed to the more pronounced Western animations.

Miyazaki tends to avoid situations in his films which combine movement with depth, opting for panoramic establishing shots instead, concealing the ‘lack of depth’. The backgrounds themselves are drawn with the suggestions of depth but they are not that noticeable when compared to the foreground and main characters. By Miyazaki putting the foreground layer into motion he has found a way to evade the possible awareness of a gap between the background and foreground layers.

In a response to French comic artist Jean Giraud, Miyazaki stated that “technique is perception” (2009, p. 68). Susan J Bigelow who wrote *Technologies of Perception: Miyazaki in Theory and Practice*, explained that Miyazaki’s art is able to speak the narrative, “through a ‘contrived’ reality that captures the essence of reality better than reality itself” (2009, p 68). The perception of technique in animation can be broken down into the trio of Mind(ideas), Technology (animation tools and drawing) and Medium(images). However, comparing digital methods with traditional animation, the mouse, keyboard, and computer monitor shrink everything down into one medium, David Rodowick, author of *The Virtual Life of Film*, shared his definition for medium, stating,

“A medium, then, is nothing more nor less than a set of potentialities from which creative acts may unfold. These potentialities, the powers of the medium as it were, are conditioned by multiple elements or components that can be material, instrumental, and/or formal.” (2007, p.85)

Furthermore, Rodowick expressed that the idea of these potentialities give life to the idea. However, he alluded to the notion that these potentialities are conditioned by technological advances such as shutters, lenses and projections which encompasses this medium. Wells, in relation to animation reassured this viewpoint, stating,

“animation has expressed the continuing tension between a medium in which innovation and creativity can continually take place while aligning with and depicting the most human needs, desires, thoughts and feelings”. (2002, p.9)

Digital technology can give an artist more options to transpose the images in their mind when compared with traditional animation. The viewers perception of landscape can dramatically change with the insertion of CG water or land objects, the aesthetic change can alter the mood and storyline of a scene by giving the scene depth.

Figure 1. CGI water (*Spirited Away*, 2001)



Figure 2. Kiki riding across the sea (*Kiki's delivery service*, 1989)



Figure 1 represents a water scene from *Spirited Away* (2001) and Figure 2 is from *Kiki's Delivery Service* (1989), the contrast in the visual presentation between the two is very different. However, I would argue that the difference in appearance that separates the two is not because of the time difference between the makings of the two films and technological advances that come with that, but rather, Miyazaki chose to present the animation in this manner for the viewer to interpret.

Mary Ann Doane, Professor of Film and Media at Berkley pushed forward the idea that, a medium is a medium by ideals of its positive characteristics and furthermore its restrictions, holes and deficiencies (2007, pg. 130). The visibility, texture of the paint are the positive qualities and the flaws

would generally be limited to the flatness and the frame. Doane, supports the viewpoint that Hayao Miyazaki's emphasis on artwork is material instead of being a simple form of data in a digital space.

Digital technology might suffer in regard to having a lesser sense of materiality in the animation when compared to pure traditionally hand drawn animation, for example one could argue that as Ghibli's films have advanced from their roots to their more recent work such as *Ponyo*(2008). The materiality of the work becomes questionable due to the artwork being scanned for digital treatment and it slightly altering the overall aesthetic in the film. However, the signature style of the artist is still present with or without digital technology being implemented heavily in the production process. This leads me to believe that the digital imprint left on artwork does not necessarily mean that the work has 'less' materiality to it, but rather, alters the viewers perception of the animation as the artist intended. Thomas Elsaesser followed on this point in 'The Virtual Life of Film',

"as a graphic mode, digital cinema joins painting also in another respect: it requires a new kind of individual input, indeed manual application of craft and skill, which is to say, it marks the return of the 'artist' as source and origin of the image. In this respect, the digital image should be regarded as an expressive, rather than reproductive medium, with both the software and the 'effects' it produces bearing the imprint and signature of the creator." (2007, pg. 105)

Superflat

Murakami Takashi a Japanese contemporary artist, known for blurring the lines between 'high' and 'low' art, coined the term 'superflat'. The theory argues that there is a legacy of two-dimensional imagery in manga and anime from Japanese art history. This art form differentiates itself from other cultures approaches in its attention to detail on surfaces and the application of flat planes of colour. Takashi signals for instance, a kind of visual organization in early modern Japanese art that serves to draw the eye across images in specific ways. And it is this movement that serves to define anime for him as a distinctive form of expression. Murakami also mentioned that Japanese consumers in the 1970s were the first to become distinctively aware of the new 'anime aesthetic'. However, the association he makes of animation with gallery art has certain pitfalls. 'Stills' could be legitimately mass produced as commodities, thus undermining the magical aesthetic qualities of traditional Japanese art.

Although traditionalists may still favour the hand drawn style of Ghibli, digital technology is evolving rapidly, and it could well be that the thought process linking Japanese culture and art is shifting and the last remaining frontiers are disappearing as digital comes to the forefront of modern Japanese. Culture

The Digital vs Traditional Method

Makoto Shinkai, a modern-day Japanese animator, first became recognised when he created *Voices of a Distant Star* (2002) using only a Power Mac G4. Previously Shinkai worked at a video game company and no experience in combining narrative and animation. Shinkai credited his success to the digital tools that had become available at that time, he mentioned in an email interview discussing the evolving landscape of 2D and 3D animation,

"If I had been born 10 years earlier, I don't think I would be an animator, I might have drawn some things, but I doubt I would have been able to do it for a living. When I became obsessed, in my twenties, with the need to express myself, it was just at the point when computers and digital tools had matured enough to make that possible."(Fenlon 2012,p.48)

Shinkai is clearly of the opinion, that digital animation has a foothold in the Japanese animation industry. However, it is being held back by an emphasis on recreating the traditional techniques of hand drawn animation, recreating the flow of water colours and the subtle blemishes of hand drawn work has proved extremely hard to match using digital software. Shinkai stated that the core of digital art hasn't changed in 10 years, RAM has got faster, resolutions have improved and CPUs have sped up, yet the key essentials have not really progressed.

The transition from Studio Ghibli's traditional hand drawn animation that produced a soft whimsical effect, to digital, where although the latest computerised technology is readily available, it would take twice as long to achieve the same desired aesthetic effect. While there maybe benefits with using programs such as Adobe Photoshop and After effects to create beautiful lighting and colour schemes, the visual style is still slightly different to Miyazaki's.

Makoto Shinkai has mastered the art of replicating traditional techniques towards painting and animation with digital software. Shading CG models to look like they are part of the original cel, which usually involves making the colour appear flatter and giving the object a black outline, this technique works extremely well in Shinkai's films because the animation does not appear unnatural and has a lack of smoothness to it which adds to the immersion of the scene.

One could argue the use of drawing tablets in digital animation will continue the legacy of hand drawn animation, however the precise nature of pen and paper will always be more accurate than using a touch pen and screen, David B Levy, award winning independent film maker and animator went as far to say,

“I think the traditional skills of drawing, timing, and acting will be essential no matter where the technology takes us. Yet I think, at this point, it's a waste of time for students to have to shoot on film or go through that version of a traditional animation process. To do so is not preparing students for a place in the current industry” (2009, p.57)

The argument of digital vs traditional in the animation industry seems to generally consist of two arguments. One being that traditional is becoming far less practical and you can achieve similar effects using digital software in a far shorter time and the alternative being that digital animation and design will never have the roughness that traditional methods provide, the beauty of traditional art is in the subtle mistakes that are made giving the art character. Cavallaro who had written 'The Late Works of Hayao Miyazaki: A Critical Study, (2004-2013)' mentioned that Miyazaki's reason for struggling to move away from traditional techniques was that when Studio Ghibli started incorporating digital techniques in their landscapes and animation, Miyazaki noticed that the digital technology started 'entering their heads', their drawings lost most of their original spontaneity, and started emulating the look of 'computer

images' (2014). Hayao Miyazaki's aversion to digital methods stemmed from his conviction realism and reality do not have the same boundaries, because the less realistic styles can prove to be far more fitting than more photo realistic ones to capture reality's essence.

In Figures 3 and 4 below, both of which depict cloud formations, Shinkai's innovative use of flares adds a new dimension to landscape art, similar to JJ Abrams Hollywood style of visual effects, Shinkai's films are renowned for their colourful visual flares in scenes. Doing this digitally allowed him to achieve a more 'photo realistic style' to his landscapes, the combination of these digital flares and unique use of CG and cel style artwork has made his style of work easily recognisable due to having a unique aesthetic. Makoto Shinkai mentioned in the same interview,

“I think about how environmental and reflected light will apply to a character, how to match that light to the color of the background, and then create the image as a whole.

If a character is in a green forest below a blue sky, I'll adjust the color of the character's shadow to be green or blue. Lens flares are the same. Rather than just placing a flare in a cool way above the picture, I keep in mind what kind of flare would be created and how as I draw."(Fenlon, 2012, p.50)

It is noticeable that the Studio Ghibli hand drawn clouds (figure 4), appear 'solid' compared to the enhanced cg clouds in figure 5, however there appears to be quite a different contrast between the use of colours in both scenes. Studio Ghibli seem to prefer mixing colours in their clouds whereas Shinkai opts for the flares to hold the colour and use the clouds as a backdrop for them. These methods of practice are both extremely subjective in terms of declaring one a better method than the other because one is more of a fantasy landscape (Ghibli) and the other is trying to be more realistic(Shinkai). Personally I believe that both methods have their positives and negatives, Ghibli's use of colours give for a more vibrant and classic scene, almost like a fine art painting, Shinkai's feel like you are actually there looking up into the sky at the passing clouds shielding the sun rays.

Similarly, in fig 5, the scene has the appearance of illumination by the skilful use of lighting identifying it as the work of Makoto Shinkai, the dynamic lighting and vivid colour contrast of the surrounding lake is a digital giveaway. The lake still (figure 6) from Princess Mononoke (1997), even though depicted with the sun rays piercing through the trees has a dark mysterious aura

Figure 3. cloud scene demonstrating light use and shadows (*Your Name*, 2016)



Figure 4. Plane scene approaching thunder storm(*The Wind Rises*, 2015)



Figure 5. Protagonists next to lake(*The Garden of Words*, 2013)



Figure 6. *Princess Mononoke* concept art(Kazou, 1996)



Studio Ghibli's traditional process and colour characteristics

Since 1985 Studio Ghibli has maintained a relatively unchanged animation artwork process, using simple tools that can be purchased at art supply stores instead of relying on digital technology. Most of the animation industry at that time used watercolours for their landscapes consisting of poster colours instead of acrylic paints. The characteristics of poster colours are unique because they can be highly transparent, opaque or be mixed with each other to create faded versions of base colours which helps a great deal with shading.

Due to the poster colours unique blend, Studio Ghibli films often had a very interesting colour palette which consisted of multiple hues of the same base colour giving the landscapes a subtle realism, in contrast to the brightly coloured, lively animation which was added later after the backgrounds were finished in post-production.

Princess Mononoke (1997) one of Ghibli's best-known productions, had an interesting colour palette which altered throughout the story of the film due to the changing situations, settings and mood of the film. From the dark greens to the faded blues of the lake and rivers of the forest, there is a clear intention to let the environment take the centre stage of the film. *Princess Mononoke* feels bold and eye catching with the primary focus being on the environment but without detracting from the story or the main characters.



Figure 7. Colour Palette based on the Forest Scene(*Princess Mononoke*, 1997)

Figure 8. Scene and concept art from *Princess Mononoke*(Kazuo, 1997)

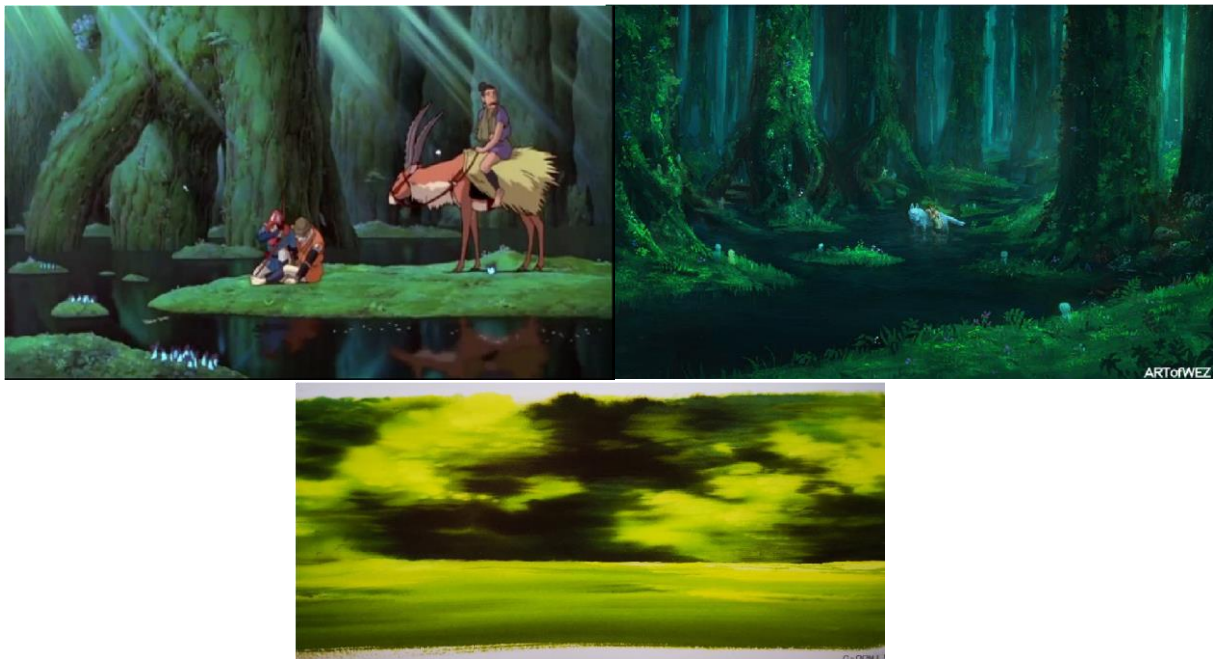


Figure 9. Blurred scene from *Princess Mononoke* to demonstrate movement(Kazuo, O., 2005. *Oga Kazuo Animation Studio Ghibli Artworks II.*)

This composition captures the scenery moving past Ashitaka as he runs at high speed through a forest scene. The colours have a strong contrast between light and shadow (brightness difference) and are well expressed. The scene was separated into two distinct parts with the foreground(grass) and background(trees) to give it a slight parallax effect. A great deal of colour mixing has gone on to create the almost blurred look to give the appearance of fast movement, olive green, black and light green have been mixed to help saturate the lighter parts of the image away from the darker parts. Since the sun is a strong scene, the warm green colour is the centre of the screen, this gives the screen more

lustre than light-dark contrast while maintaining high saturation. If there was a considerable difference in the lightness of the image it could become cloudy, that is why Miyazaki decided to have a simple colour development throughout the scenes in this film.

During my research, I came across a succinct quote by Oga Kazuo, one of the lead artists at Studio Ghibli, on the use of colour and how it alters perception.

“When I drew a landscape of a forest, I did not thoroughly mix the emerald green and light purple in the forest in the furthest places but used the vivid colours so that they remained little by little, I had been to the forest, however, at that time I wasn't particularly aware of the mix, but when I saw it, Director Miyazaki told me, "It's so beautiful." Because it is a forest, it does not mean it is green, but you can also make it look like it is not monotonous by slightly blurring red and purple. I guess that if you scatter such bright colours well, it will lead to the effect of expressing light.” (2005, p.45)

Colour Blending and the Illusion of Depth

Many of the backgrounds that appear in *Princess Mononoke* have a three-dimensional and deep space to them. There are very few points that you could draw and express on paper to give the impression of depth and space. This illusion is similar to a more modern expression of parallaxing which gives the illusion of depth by placing two separate images on a different axis coordinate, and moving them at different speeds. In addition, in the case of animation, since the picture of the character is often placed on the background drawing, the skill of knowing how to draw the part where the person and the background are in contact is also an important factor.

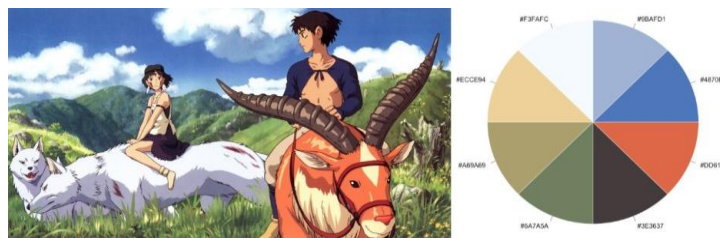


Figure 10. Colour Palette for scene from *Princess Mononoke*(1997)

Since the vast majority of Studio Ghibli's landscapes are hand drawn by various Ghibli artists as well as Miyazaki himself, it was a challenge to try and replicate the brush strokes using Photoshop. This is due to Ghibli using a water colour-based paint called Knicker poster colour which is known for its transparency, as well as its ability to create delicate washes and create complex shading by building upon many different layers of colour.

During my research into Studio Ghibli's landscapes I knew that the biggest challenge I would have to overcome would be recreating the hand painted techniques digitally. For the first few months I struggled with blending colours trying to create the desired bleeding effect with paints which Ghibli has mastered when drawing the bark on trees or the tiles on houses in their landscapes. Kazuo Oga, one of Ghibli's lead artists has decades of painting experience and I had to get as close as possible to achieving this level digitally, if I did not achieve the same level of detail and colour manipulation the landscape would not be complete. My initial attempts were frustrating, it was extremely difficult starting at novice level trying to understand the painting process, adding blocks of colours as a

traditional landscape artist would to build the image was at first daunting, but I could envision the outcome as long as I persevered.

With practice I gradually learned how to sketch using a tablet on Adobe Photoshop, the goal here was to learn the fundamentals before trying to progress into creating a full landscape, I started by drawing simple bushes, trees and clouds before moving up to larger landscapes. The reason for approaching sketching in this way is because originally, I tried to create the landscape paintings in my head without laying the groundwork. This pipeline led to contrasting issues in my intended scenes, I realised sketching small details in the landscape first helped me visualise the finished artwork and maintain the proportions of the scene without going off track.

By mixing the limited number of poster colours then available, Ghibli created most of the colours needed for a scene, this must have been a difficult challenge knowing which colours needed to mix to get the desired effect. The finished landscape/scene would obviously have been 'flat', whereas with today's digital software it is far easier to layer the artwork taking sections out where necessary and inputting new ideas, which was not possible when using water colours on image boards.

While there might be a disadvantage in terms of recreating the original watercolours textures due to the multitude of blending options unique to the physical paint, Photoshop has some distinct advantages. These advantages included the layering tool allowing me to merge together separate layers on top of each other instead of painting over them as well as the brush tool which you can craft into any shape you would like, allowing users to effortlessly draw the outlines and base colours of trees, clouds and shrubbery in one click. Originally for my first attempts at digitally painting a background I tried to keep my entire scene on one or two layers, similar to the traditional method. However, I discovered that keeping it traditional was severely limiting me, breaking up my artwork in to several layers specifically helped me with shading and detailing due to the ability to use the transparency lock tool, allowing me to paint only on the specific layer highlighted without touching the rest of the landscape.

Once I had progressed far enough with learning Photoshop the next step forward was learning the basics of how to animate the landscapes using traditional techniques on digital software, I had never done hand drawn animation before so it was the toughest obstacle I had to get passed on this project. Studio Ghibli's team of animators took 5 years to finish every hand animated scene in *Spirited Away*(2001). By going through in-depth comparisons between the different animation software I eventually decided to use Toon Boom Harmony, my reasoning was that Toon Boom has an easier workspace to understand compared to OpenToonz and Adobe Animate. Toon Boom was also known as one of the best options for key framing due to having the "onion skinning" option allowing me to draw over previous movements. This was arguably one of the most time-consuming activities I had undertaken, however, since my sketching had improved using Photoshop, I did not feel completely out of my depth

The Process: Sketching

In this section, reference to my Sketches sub folder would be advised in order for this method approach to make sense.

Sketching was the groundwork for my animated landscapes and paintings, my goal here was to improve my sketches by starting with very simple objects such as trees and grass as shown in my January folder and progress onto structured landscape with more detail. As I explained earlier, at the beginning of the process I got ahead of myself and tried to paint full landscapes without sketches, this led to me having issues with the scaling of certain objects such as trees and rocks. After researching Studio Ghibli's exact design process for animated landscapes, I discovered that following a specific

design process improved the quality of the outcome. Rough sketches, sketches, block colours and finally adding the details was the most efficient way for me to work. In terms of creating a brush for the sketching, I realised that if part of the scene required animation you would need a completely different brush as line drawing animated figures requires a much more accurate brush when compared to sketching landscape. Hayao Miyazaki used a 2B pencil for his personal sketches in the early stages of the Ghibli process, which gave the drawings a bold like quality with softer edges. This was not too hard to replicate in Photoshop due to the multitude of thickness options available for replicating pencils digitally.

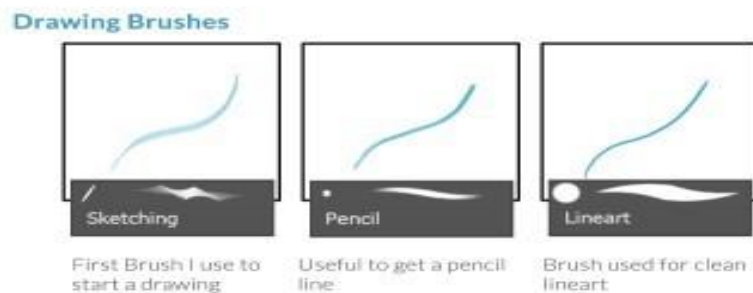


Figure 11. Photoshop Brushes in use (Photoshop, 2019)

Focusing on drawing separate objects before I moved onto combining them during the early stages of the sketching process enabled me to understand and produce the 'Ghibli Style' of design. The reason for this is because Studio Ghibli draws their waves, trees, hills and clouds in a specific style unique only to them. Separating each one of these elements allows me to go into depth about my decisions in creating these, the difficulties each element presents in terms of perspective, drawing and style and what makes the specific elements of each scene unique to other anime or Western style landscape art and animation.

When moving on to sketching the full landscape, I had to have a clear idea of the composition of a scene, whether the desired outcome depicts fauna, flora, waterfalls, clouds or animal, the background usually makes up a high percentage of the overall visual impact, which is why in my opinion, getting this part of the process as accurate as possible is of the utmost importance, as without this in mind the resultant sketching could easily become inaccurate, out of proportion or lack depth.

Picture mechanics which is a term that heavily applies to the early drafts and concept designs for landscape art encompasses the fundamental design elements of the background and how they play against each other in the frame. For example, is the image chaotic? do the background details match up in line with the subject matter? Is it resonating? And are there ways in which it could be improved upon or altered to resonate more?

The Process: Adding the Colour

In this section, reference to my Adding the Colour sub folder will be necessary

Once the scene had been set, the next stage was the addition of colour, after watching some of Studio Ghibli's best work (*Princess Mononoke*, *Spirited Away* and *Ponyo* to name a few) it became apparent to me how important colour is in terms of balancing a scene and making it engaging for the viewer. Colour matching is extremely important in conveying meaning and is used to reinforce the time or setting of the frame. Hirokatsu Kihara who is an ex Studio Ghibli producer (1985-1989) said in an interview,

“It is often said that using different colours is something that Japanese people are good at,” We use different colours for the same things: colours for morning, sunset and twilight. We create time by changing the colours for the different times of the day. It sounds obvious, but it has almost never been explained with the actual frames.” (Kikara, 2016)

When learning to paint with Photoshop, I had to change my understanding of replicating traditional animation/landscape art as referenced earlier when talking about the differences, I found out that utilizing the infinite amount of layers available to me in Photoshop sped up my timeframe as well as improving my attention to detail. Creating separate layers for trees, houses, hills, clouds and even light rays helped me improve the depth of my paintings which would have been inherently harder if I stuck to traditional methods.

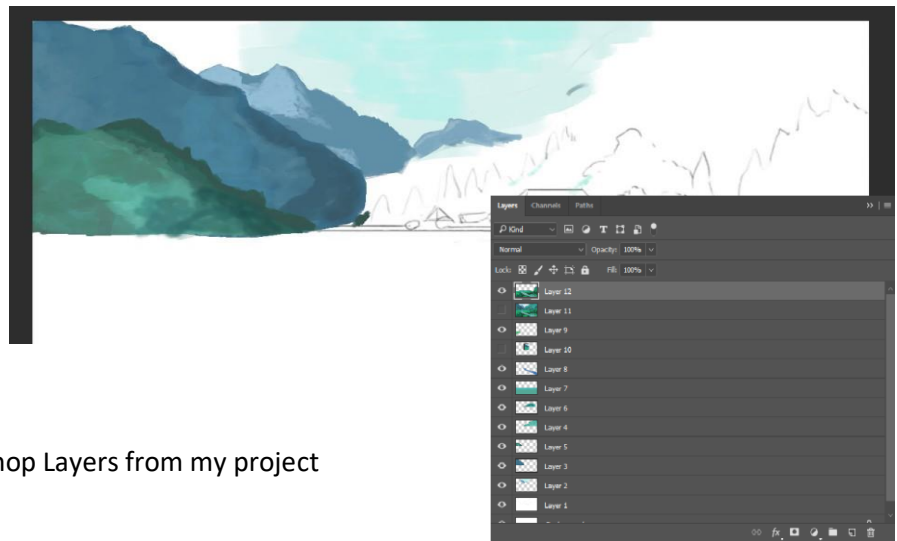


Figure 13. Example of Photoshop Layers from my project

(Linghorn, 2019)

Figure 12. art process for concept art (Linghorn, 2019)

When painting the fauna, it was quite difficult getting the level of detail needed to make the scene seem believable, this meant I had to create a separate file for the leaves and drag them onto the scene, splitting the scene into various sections took pressure off in case I made an error which could completely ruin the dynamic of the painting. Splitting the construction of the landscape into sections also helped me with shading and lighting different parts of each piece depending on where the sun was coming from or setting. As an amateur artist, painting with the ability to quickly fix mistakes gives you the confidence to try new techniques when working, which enabled me to experiment more when drawing and combining different objects such as clouds and sky or trees and buildings.

Referencing previous failures was key to improving my work as a platform to build upon, I often tried to jump into shading too fast, leaving the ground unfinished and the background and trees not even

laid out yet. Nothing was even remotely finished, yet I started jumping in ready to shade up the tree, adding highlights and textures to the leaves, it was just not working for me because it made me lose track of the final image.

After multiple failures early on, I took some time to reflect and figure out how to overcome this persistent issue, I discovered that the picture does not have to start off 100% accurate and in line with the sketches, it would change as I dealt with each part of the image, building up as I went along. Patience is the key word here, as it is imperative at this stage not to overreach without first having the end in sight.



Figure 14. Mid concept for scene from *Only Yesterday*(Linghorn 2019)

Above is one of my early landscapes based on the scene below from *Only Yesterday* (1991), from which it is obvious when doing a comparison that my skills needed to be honed to achieve a level of detail close to Ghibli's. This was my second draft for this background and was made using only 5 layers as I had not yet learned the importance of separating every part of the image, I also did not properly understand how to shade correctly at the time. For example, in the top right the trees should have been shaded since the light is behind them not in the scene, the contrast between light and dark is one of the key areas Ghibli is phenomenal at and is arguably the main reason why their backgrounds convey so much meaning in them. Achieving the textures from the original such as the shading on the tree bark and lighting composure of the road, was always going to be an extremely tough challenge digitally, I was not aware at the time that I could create my own brush to get crisper edges on the rocks and trees.

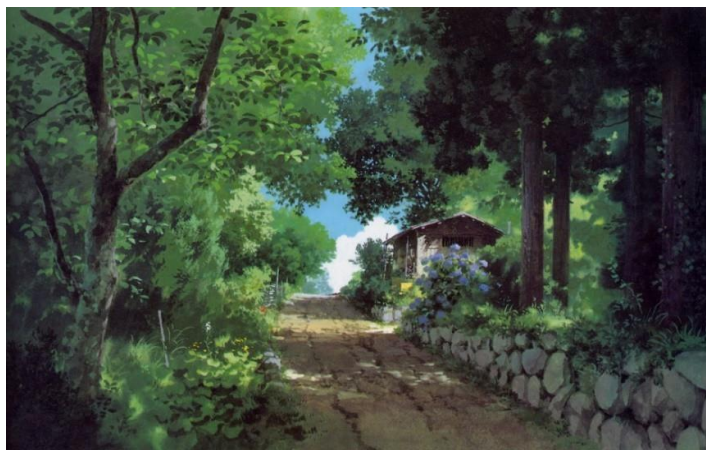


Figure 15. scene from *Only Yesterday*(1991)

One of the key positives I took away from this piece was that I managed to give depth to the image, by which I mean, draw the trees in the background along with the sky in a slightly different shade to the foreground as well as maintain the correct scaling throughout. My main aim with recreating this at the time was to experiment and gain confidence with colours in Photoshop, my brushes, learn how to draw fauna correctly and gather a different perspective on how to draw.

On my third attempt I had enhanced the scene with bursts of colour, still nowhere near the excellence of Ghibli but the embellishment is beginning to capture the spirit of Ghibli. Beginning where I left off in the previous attempt, I focused on trying to improve the shading and contrast between light and shadow in the image. These steps included adding shadows in the top right of the image since the sun is coming from the right behind them, changing the colour of the road to give it a more “dusty” look and adding in some colourful fauna to liven the setting up slightly even though the original chose a slightly different direction. The image is still lacking in detail as this has been one of the toughest issues to recreate digitally, for example, creating the leaves from the tree on the right and shading the vegetation around it was extremely challenging to try and do without natural water colours.



Figure 16. Finished design for *Only Yesterday* scene(Linghorn, 2019)

The Process: Animating traditionally

In this section, reference to my Animated Landscapes and stills sub folder will be helpful.

Once I had progressed far enough in terms of drawing landscapes and detailing them, I switched my attention to combining animation with them for added effect. Previously I have had no traditional animation experience besides a brief understanding of a couple of basic elements such as squash and stretch, however I had used digital animating software for 3D projects in the past so I was hopeful that learning ToonBoon Harmony’s user interface would not take too long. Another popular animation software I tested out was OpenToonz which was used by Studio Ghibli, the production process of this program to ToonBoons was similar although it relied more on scanning in hand drawn pictures rather than creating them digitally. There were also far less tuition videos or pages available teaching how to correctly use this software when compared with ToonBoon which made the decision of which software to go with rather easy.

Since I was not using the traditional cel animation technique to have a basis for my animation, I resorted to creating my line art digitally, the difference between the line art and sketches for my background it that the line art has to be precise in order for the character to appear “cleaner”, as referenced earlier. When combining hand drawn traditional landscape with animation you are forced to have lines around the animated section, the trick is to not draw attention to it.

Ones, twos and threes in the context of traditional animation refers to the length of time a single image holds on screen in correlation with the frames per second, for example, when referring to using

'two's', this means that the animation holds for two frames, if I were to animate a scene at 24 frames per second purely using twos, there would be a total of 12 individual drawings, 24 individual drawings for "ones" and 8 individual drawings for "threes".

Studio Ghibli was one of the first Japanese animation studios to animate their films mainly using ones, twos and occasionally threes depending on the movement required, this was quite different to the popular 'anime' and 'manga' popular at the same time and far more similar to the Disney process which is based on ones and twos. Richard Williams who is known for his meticulous detail in his craft, was convinced animating on ones was the best method and famously quoted 'Because life happens on ones!'. While animating following this method often gave a great result, it usually led to animations "swimming", for example Roger Rabbits ears tended to do this motion because it was frustrating inbetweening extremely fine movements. Ghibli shared a similar approach to Disney studios because they valued the economy of every drawing.

In attempting to emulate the Studio Ghibli's unique style of hand drawn animation by using modern digital technology, the fundamentals researched have been an essential guide to exploring the limitations I can realistically achieve. The most challenging area I ran into was learning the fundamentals of squash and stretch which applies to all forms of animation, every movement should have a resulting effect. My early stages of work lacked the 'resulting movement' and therefore appeared to move in an unnatural manner regardless if I used ones, twos or threes. By switching my focus to more practical effects in ToonBoon, I was able to find footage in my local surroundings to help me recreate instead of going off pure imagination, this helped tremendously in fixing my original issue. For example, seeing how a water droplet reacts when falling into a cup or how a wave interacts with the water under it as it crashes down

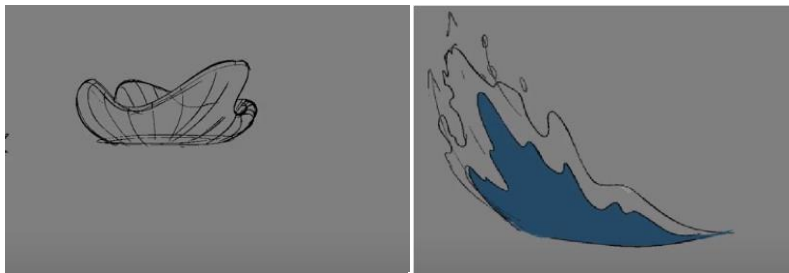


Figure 17. ToonBoon early mock ups of frame animation (Linghorn ,2019)

Above are rough sketches of various elements I practiced making to improve the flow of my animation. These worked great as base layers for my end goal which was to create a tidal wave scene similar to that which can be found in Studio Ghibli's *Ponyo*(2008), the visual scenery in this film was very different to past Ghibli films and appeared more modern in its approach compared to the animation studios previous ventures.

Australian animator Adam Phillips, who is an expert in flash animation, mainly consisting of elemental and particle effects, had some extremely useful insight into the makings of these effects. The series of animation shorts which Phillips narrates through changed my viewpoint on how to animate certain small effects correctly to complement the scene better and I owe a lot of my learning to him.

Elemental Magic by Joseph Gilland(2009), was also an extremely useful resource to further my study, the book featured original illustrations from the author himself which help explain and illuminate the technique, philosophy, and approach behind classical hand drawn animated effects and how to apply these skills to my digital projects. Combining both these resources along with my original understanding of the subject matter, allowed me to grasp various dynamics of how to animate in different styles and merge them into something new.

The creation process for drawing the wave over the space of just under 4 seconds required 96 frames, in retrospect I could have opted to use threes for some motions which would have sped up my production time significantly but I was fearful that it might ruin the flow of the animation and make it 'choppy'.

Conclusion

My research sought to uncover the effect digital technology has had on the traditional animation industry in Japan, with a strong focus on Studio Ghibli.

The questions explored were:

1. Is digital technology as good as traditional methods, and what are the different characteristics between the two art forms
2. How does the pipeline change between the two forms when trying to achieve the same goal?
3. Does this new digital medium have a negative or positive effect on the Japanese animation industry?

In response to these questions, it was clear that the new technology in today's society has drastically impacted the modern culture of animation, it is impossible to define whether or not it has improved Japanese art culture since it's an extremely subjective topic, however, my findings and practices during this thesis point to the fact that digital animation has allowed for more artists and small studios to share their work on the internet while also giving the larger studios such as Studio Ghibli more freedom in terms of animating potential.

The change of style through the past 30 years in terms of design and technique has altered the Japanese animation industry tremendously but this would not have been possible without the fundamental principles of traditional animation and pioneers such as Hayao Miyazaki whose work has inspired countless digital animators to build upon what has already been created.

Moving to the findings, due to the nature of using an autoethnographical approach, I had to explore the art and animation pipeline in a more diverse manner, linking my theoretical research findings and my practical knowledge of the programs I was able to showcase both traditional and digital pipelines, this approach to exploring new research areas helped link the traditional, digital and theory based parts of my work in a trial and error type style.

Looking at key animation directors opinions on the movement towards a more digitally based platform, helped me develop some backing towards the claims that digital work could have a negative influence on the traditional style and turn it into the more generic anime type 'style' which dominates Japanese media currently.

While prominent director Hayao Miyazaki strayed away from using CGI and digital methods for as long as possible, even he came around the fact that it allows his masterpieces to have more magic in them, creating scenes which are not possible with simple traditional hand drawn methods. Makato Shinkai director of "Your Name"(2016) believed that traditional art techniques are ingrained in animation culture and I believe that they will forever have a place in the animation industry as digital technologies get more advanced, the art of hand drawn animation gives the viewer a visual language to encapsulate that which words could never produce.

Shinkai's belief that digital animation, especially in Japan is trying to recreate something that is almost impossible to replicate through digital techniques is a notion that I believe is true, Doane also shared

the same belief, that a medium is a medium by virtue of its positive qualities and also by its incompleteness, gaps and limitations.(2007, pg. 130).

It became clear through my research that a lot of new animation done digitally has been based upon the past, meaning that traditional methods are used as a base layer for new styles to come through. Shinkai holds the belief that 'animation houses like Miyazaki's Studio Ghibli are transitioning to computers after decades of hand drawn animation, and this is because they are still lingering mentally in the cell era,' however he also noted that his films are a direct successor of hand drawn animation, and that Miyazaki is a large influence on his artistic direction and narratives.

Due to the nature of my project and the use of an autoethnographic approach, my research and findings should help form new paths for exploration within digital culture for those to follow using a similar framework, this would not have been possible without using this methodology, as linking practical and theoretical ideologies is extremely tough in this line of inquiry.

A few theorists that helped me develop and explore new routes in my research include Blair(2014) and Graham Sullivan who both helped expand my knowledge of art practice as research and linking it to the theory in a more traditional manner without losing the intended creativity, this in turn greatly improved the unique creative side of my project which will help it stand out and contribute to the already existing research out there covering the digital shift.

In all, the project was entirely successful, The literature review brought some insight into the historical aspect of animation and Studio Ghibli in contrast to the modern day animation studios, this combined with the step by step breakdown of my work creating art pieces as an experimental practice into the heart of Ghibli's uniqueness, gave a personal perspective from someone not experienced with traditional methods, thus removing the possibility of a conflicting opinion on the topic and instead allowed me to go into it open minded, giving some clarity to my research.

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