



USING ANIMATION TO ILLUSTRATE A STORYBOOK

Iina Kuula

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TAMPEREEN AMMATTIKORKEAKOULU
Tampere University of Applied Sciences

ABSTRACT

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This thesis is about children's storybooks and how the illustrations are changing in the world of ebooks. The goal was to explore the roots of both animation and illustration as well as how they have evolved through the years and can a storybook illustrated with animation stay true to its form? Technology has become a substantial part of our lives and also books have moved onto digital platforms like tablets and ebook readers, which has opened up possibilities for more than just static illustrations.

The work consisted of background research and experimenting with animated illustration through a personal project. Series of illustrations were made for Alice's Adventures in Wonderland to understand the technical process better and analyse the suitability of animation in a book. The technique used was mixed media, putting together digital and real life elements. This meant combining the love for puppetry and stop motion with storybook illustration. Bringing these elements together asked for the knowledge of compositing and editing gained through studying and working in the animation industry.

The final illustrations were put together with the Finnish translation of Lewis Carroll's story Alice's Adventures in Wonderland. The end result was a series of pictures with animated stop motion characters composited into 2D environments. The final work was published online at <http://iltasatu.org/>, which is a website that offers children's bedtime stories digitally in Finnish for free. Through the project and understanding history of illustration and animation, it was possible to draw some conclusions and thoughts on the change in storybook illustration and whether storybooks benefit from animated illustrations.

Key words: Children's book illustration, animation, storybook, stop motion, 2D

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GLOSSARY

Compositing	Compositing is the action of incorporating all of a scene's elements to create the final result prior to rendering. For example, the compositing artist will import all the animation sequences, background, overlays and underlays in the scene and position them correctly. The artist will then set the camera frame and animate it, if needed. Finally, the animator will create all the computer-generated effects for the project.
Emoticon	A representation of a facial expression such as a smile or frown, formed by various combinations of keyboard characters and used in electronic communications to convey the writer's feelings or intended tone.
Frame	An animation frame is a single photographic image in a movie. In traditional animation, the North American standard generally contains 24 frames per second, while in Europe the standard is 25 frames per second.
GIF	A lossless format for image files that supports both animated and static images.
Rendering	The final step when animating by computer. During rendering, the computer takes each pixel that appears on screen and processes all of the components. The process of calculating the final images after the compositing process.
Storyboard	A visual plan of all the scenes and shots in an animation. The storyboard indicates what will happen, when it will happen and how the objects in a scene are laid out.
12 Rules of Animation	Disney's Twelve Basic Principles of Animation is a set of principles of animation introduced by the Disney animators Ollie Johnston and Frank Thomas in their 1981 book <i>The Illusion of Life: Disney Animation</i> .

INTRODUCTION

The objective of this thesis is to find out whether using animation in storybook illustration is possible and useful for the storytelling and supporting the text. Usually children's books are short and illustrated with 2D images that are either classically drawn or digital. However, as the world is changing, stories and illustrations are moving to digital platforms and enabling wider visual experiences.

The thesis explores forms of ebooks that offer stories for children that are spiced up with extra elements like animation or interactive content. More and more content can be found which allows children to not only watch what is happening on the screen but also interact with it.

In my own studies I have learned both illustrating and animation so combining the two felt like a natural thing to experiment with. For the purpose of finding answers to the research questions whether animation in illustration would work, I did my own project to try it out. As I had been illustrating stories before for iltasatu.org, I asked if I could use Alice's Adventures in Wonderland for my experiment. My animations before have usually been 2D or stop motion so for the technique I chose to create actual puppets for some of the characters and composite them in a 2D environment I painted. The whole experience was putting to a test my professional skills and challenged me in things I had never tried before.

This thesis consists of both theory and my own personal experience from the animation and illustration world. For background I felt that covering some of the history of these subjects would be essential and explaining also some practical aspects of creating such a mixed media project. The first part will look into the history of illustration and animation and later in the text I will dig into the production stages of these in my project. The final format of my Alice illustrations was animated GIFs, so I will shortly explain also about the background of GIFs and where they are nowadays mainly used. In this thesis I am always referring to the animated GIF format.

Because of the main emphasis of this thesis is to highlight how storybook illustration has evolved and what it is capable of now, I have covered a chapter on the growing popularity of ebooks and how they are changing the experience of reading and illustrations in E-literature.

1. ANIMATION AND ILLUSTRATION

1.1 What is animation

Animation usually refers to the technique that turns single drawings or images into a moving film when played through quickly. The images can be photographs of characters or pictures drawn on paper or digitally. With the technology today we can even create animations on computer in both 2- and 3-Dimensional worlds.

In his book *Animation* (2013), Andrew Selby explained that

“animation is a compelling and extraordinarily adaptable form of audio-visual expression that is highly effective in fusing moving images and sounds together to tell stories and explain ideas. The medium allows exponents to explore theories and inform audiences, and its flexibility as an artificially constructed form means that it is well suited to a vast range of communication Applications”. (Selby, 2013, 6)

Andrew Selby (2013) wrote about how animation has a profound effect on the daily lives of many of us. Most of us experience animation through animated films and series which are etched to our memories from childhood. It has the potential to bring across messages that could seem impossible with live-action film, because it can communicate with young and old alike, regardless of nationality, gender, religion or ethnicity. (Selby, 2013, 6.)

The usage of animation today is so versatile that not many even come of think of it. We do not only see it on television and in content aimed for children. The medium of animation has spread across platforms and you can see it in commercials, marketing and tv as well as websites, phones, apps and other goods delivering information and entertaining us. According to Andrew Selby (2013), animation can be used to explain concepts, deliver specific engineering data, integrate complex pharmaceutical and clinical procedures and develop research models. No matter how big or small, it can be the central core of an animated feature film or making possible special effects in a live-action film or simply come through as animated applications and navigation on our digital devices. (Selby, 2013, 6.)

According to Chong (2008, 22) Walt Disney has said that animation can explain everything that the human mind can develop. This makes animation the most diverse way of communication which has been developed so far and has quickly gathered the audience's appreciation. (Chong 2008, 22.) With animation a lot can be done that is not possible otherwise. Animation can defy laws of physics and bring alive things that do not exist. It is a way of communicating stories and imagining things hard to explain with words.

1.2 Short history of animation

Animator Ken Priebe says in his book *The Advanced Art of Stop-Motion Animation* that some of the earliest animations were made with devices that create illusions of moving image, such as phenakistoscope (1832), zoetrope (1834) and praxinoscope (1877) and a common flipbook. They all have sequence of drawings which together when played through seem to bring the subject alive (Solomon 1989, 10-11). The zoetrope for example is a drum which has drawings placed inside with equally spaced slits along the outside of it. When the drum is spun and viewer is looking directly through it, the drawings appear to move (Figure 1). (Priebe 2006, 9.)



Figure 1. Zoetrope

Priebe explains that animation started to properly develop after film was invented and became popular. Stop motion animation happened primarily by accident. According to legend it was French stage magician and amateur filmmaker George Méliès who was shooting a street scene when the film got stuck and in the process of fixing the problem and getting the camera running again he was amazed to find that the pedestrians and vehicles had instantly jumped from one side of the street to another on the film. He continued then to experiment the technique by filming multiple subjects and stopping the camera to manipulate what happened in the scene, then continuing filming which would make it appear as changes were happening suddenly, like magic. (Priebe 2006, 9.)

Priebe tells in his book on stop motion that the stopping of the camera led the technique to be called stop-motion, and the term is still widely used today. Méliès's most famous film using the trickery of stop-motion was *A trip to the moon* (Figure 2.) from 1902. It was the world's first film with science-fiction effects in it. (Priebe 2006, 9.)



Figure 2. A trip to the moon

According to Priebe, after cinematography became popular, animation was explored in more depth. A short stop-motion animation was produced in 1908 by Albert E. Smith and J. Stuart

Blackton called *The Humpty Dumpty Circus*. Blackton experimented with stop-motion puppets, clay and objects in his animation *Fun in a Bakery Shop* from 1902, *The Haunted Hotel* (1907) and *Princess Nicotine* (1909). He was also the first person to use drawings on chalkboard in his film *Humorous Phases of Funny Faces* (1906). (Priebe 2006, 9.)

Krasner wrote in his book on motion graphics (2008, 7) that around 1917 Max Fleischer patented the rotoscope technique which allows to create realistic animations by drawing character movements based on originally shot footage. His next invention, the rotograph, allowed to put the animated characters on realistic backgrounds. The background was filmed and then projected on a small piece of glass, on top of which the film with the animated character was placed. Then the whole image with two layers was photographed to create the complete scene one frame at a time. Examples of this technique are for example the early *Betty Boop* (1930) and *Popeye the Sailor Man* animations. (Krasner 2008, 7.)

The history of animation is full of well known names that made it all possible and helped animation develop and grow through time to this day. One of the most well known of these pioneers and still widely recognized studios is Disney. According to Lehtinen (2013, 71) Walt Disney started his own animation studios and aimed to produce better and more realistic animations. That is why he trained his animators and gave them evening lectures on drawing. (Lehtinen 2013, 71.)

Andrew Selby (2013) points out that Disney's first cartoon with synchronized sound was *Steamboat Willie*, starring Mickey Mouse (1928), but their first full feature film was *Snow White and the Seven Dwarfs* in 1937. According to Lehtinen (2013, 72) Disney had big goals with their first film. They started using specific vocabulary while working on the film and slowly they developed a comprehensive motion theory: the 12 rules of animation. (Lehtinen 2013, 71.)

Howard Beckerman (2003, 61) explained that few years after the colour television was introduced in 1951 appeared on screen the first full animated cartoon called *Huckleberry Hound*. *Tom Terrific* was released the same year and in 1960 came *The Flintstones* which was the first animated series in prime time tv.

In 1965, a Czech adult puppet film was created by Jiří Trnka called *The Hand*. Trnka was an animator and film director but also had an extensive career as an illustrator. His movies were aimed for an adult audience and were often adaptations of literary works. Because of his influence in the animation world, he was called “the Walt Disney of Eastern Europe”. (Dominik Jůn 2012.)

Since the 1960’s more and more animated films were made and eventually in the 1980’s also computer generated content found its way to movies and animation. Andrew Selby explains that *Star Trek: The Wrath of Khan* from 1982 became the first film ever to have a completely computer-generated sequence. In the 1980's, also the first personal computer came on the market and later Disney as well as other studios started to prepare for the inevitable demands of the CGI animation. (Selby 2013.)



Figure 3. The Pixar lamp

Probably many recognize the lamp character that appears in beginning of Pixar films (Figure 3.). Andrew Selby notes in his book that it appeared first in short from 1986 called *Luxo Jr.* and became an important marker for CGI animation. Its director-animator John Lasseter later went to direct for Pixar and directed the world's first full length CGI cartoon *Toy Story* in 1995. (Selby 2013.)

Also Asian animation started to gather knowledge around the world as anime series became popular and Hayao Miyazaki's film *Spirited Away* even won an Oscar in 2001 (Selby 2013). Different studios focused in different animation techniques, but even today as 3D has become very popular, Studio Ghibli has kept alive the tradition of hand drawn 2D animation and created many wonderful films.

Since 1982 when Tim Burton used stop motion to create *Vincent*, he has directed or produced few very popular stop motion films such as *The Nightmare Before Christmas* in 1993 and *Corpse Bride* in 2005 (IMDB, Filmography). Aardman animations and Laika studios have also been making many full-length stop-motion films.

Laika studio's first feature film *Coraline* in 2009 was a success and has led to other successful films such as *Paranorman*, *The Boxtrolls* and upcoming film *Kubo and the Two Strings* (Laika 2016). According to Wikipedia, Aardman studios was founded already in 1972 as a low-budget project by Peter Lord and David Sproxton. Starting with animated sequences for BBC series for deaf children, they kept on producing other animated content, such as music video called *Sledgehammer*, the title sequence for *The Great Egg Race* and a number of shorts for Channel 4. *Creature Comforts* was the first Aardman production to win an Oscar and later in 1997 Aardman teamed up with DreamWorks to create their first full-length film *Chicken Run*. Since then they have done many Wallace and Gromit films and *Shaun the Sheep* as well as commercial work. (Wikipedia, History of Aardman Animations.)

The history of animation reaches far back to the early 1800's and has come a long and colourful journey to its many forms today. All these different animation techniques are still being used in one way or another through feature films and commercial work. Techniques are also being mixed together, as can be seen for example in Laika's way of adapting together stop motion and 3D in their work.

1.3 What is illustration

“Even tiny children looking at a picture book are using their imaginations, gleaning clues from the images to understand what is happening, and perhaps using the throwaway details which the illustrator includes to add their own elements to the story.”

- Philip Reeve, Illustrator and author

Illustration is a way to visualize a subject or text by making an image of it. Illustration is not just an art form but a way to support text or story in way or another. Illustration can be in many forms like a drawing, sketch, painting, photograph, infographic or other imagery. They can be images illustrating for example fashion, magazines, poems, stamps or a book to name a few. (Wikipedia, Illustration.) One can often notice that magazines use illustrations to go with an article to either make it look more interesting and catch the attention or to visualize something that is difficult to explain with words. Very often illustration is associated with children’s books as the pictures play a big role in the story and keep the child interested. Illustration can decorate, inform and evoke emotions. It is such a widely used way of presenting things that we do not even always acknowledge it.

1.4 Evolution of storybook illustration

Martin Salisbury and Morag Styles wrote in their book “Children's Picturebooks : The Art of Visual Storytelling“ that a Swiss fable writer Ulrich Boner’s book *Der Edelstein* (1461) is often cited as the first example of a book with text and images printed together. The first children’s picture book is often referred to be *Orbis Pictus* (The Visible World) (Figure 4.) by John Amos Comenius from 1658. The invention of printing in the fifteenth century made books more affordable for everyone and not only the few wealthy ones that could afford hand produced books. Picture books as we know them today came out only much later. (Salisbury & Styles, 2012, 12.)

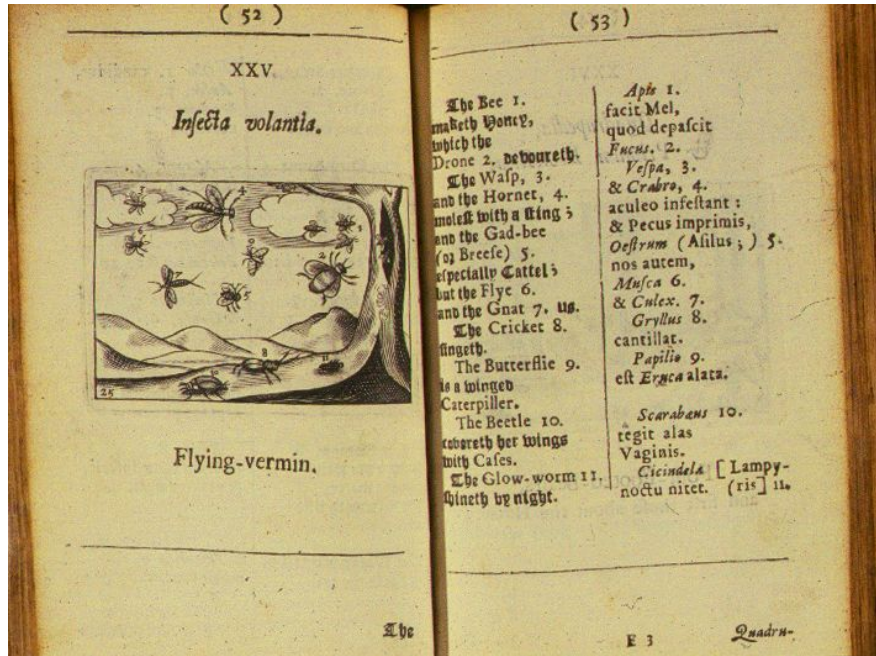


Figure 4. Orbis Pictus (The Visible World)

One of the early forms of picture books in the sixteenth century were called chapbooks, that were made until the nineteenth century. Usually single sheets of paper were folded into books of 8, 12, 16 or 24 pages and illustrated with rough woodcuts. They were sold on the street by “chapmen”, name referred to how cheap the prints were. Topics varied from song and poems to biographies of famous people and last words of murderers. Paper quality was invariably coarse and type used was broken and worn. It was common for the illustrations to be unrelated to the text. (NLS.)

Towards the end of 18th century the relationship between text and image started to develop towards its modern form of colourful big images and fewer text. Inspirational poet and painter William Blake started experimenting with images that go with text, at least in the sense of visual arrangement. In 1789 Blake published his illustrated collection of poems “Songs of Innocence”. His unique style was completely original and different from other visual arts at that time. Around same time period Thomas Bewick emerged and took wood engraving to a whole new level (Figure 5.). His work must be mentioned in relation to the general development of book illustration because of how accomplished his technical skills were. (Salisbury & Styles 2012, 13.) Illustrations were usually only commissioned for already successful books but once the mechanical techniques allowed to print pictures cheaply, illustrated classics like Robinson Crusoe became available and were remembered especially for their pictures (Wikipedia, Illustrated fiction).



Figure 5. Example of Thomas Bewick's detailed engravings, the fox and the crow

Fast forwarding to the late 19th century and beginning of the 20th century, began the so called golden age of illustration. An internet-based guide Artcyclopedia describes that "The Golden Age of Illustration was a period of unprecedented excellence in book and magazine illustration. It developed from advances in technology permitting accurate and inexpensive reproduction of art, combined with a voracious public demand for new graphic art." (Artcyclopedia.) Printing techniques advanced, attitudes towards childhood changed and numerous fantastic artists emerged. This is the time when also Sir John Tenniel created his drawings for Lewis Carroll's *Alice's Adventures in Wonderland* (Macmillan, 1865). (Salisbury & Styles 2012, 18.) He was also a well known cartoonist for Britain's *Punch* magazine for over 50 years (Wikipedia, John Tenniel).

Salisbury and Styles write in their book that images started to play a key role in the experience of books. William Nicholson was known for his work in the poster design with his brother-in-law, but he later started using his skills to pioneer the use of lithography in children's books such as *Clever Bill* (Heinemann, 1926) and *The Pirate Twins* (Faber, 1929). France seemed to be experimenting more with techniques than Britain at that time. While Britain used the letterpress line block up to World War II, France was more widely using lithography and innovative processes such as pochoir which was a technique of hand-colouring through stencils. Edy Legrand's *Macao et Cosmage* (Figure 6.) was produced in this way in 1919; the black line was

printed lithographically and the other colours were stencilled. (Salisbury & Styles 2012, 18.) The technique was also used by artists, for example Pablo Picasso (Britannica).

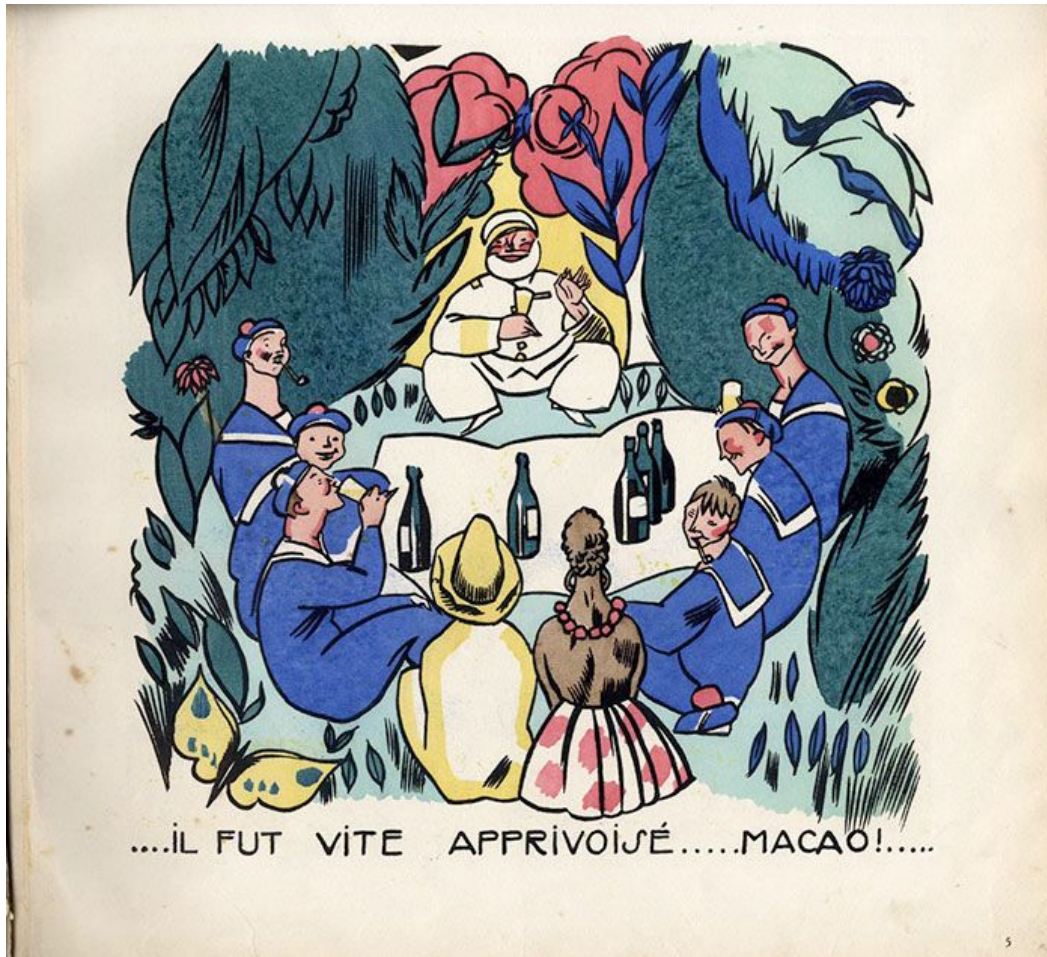


Figure 6. Edy Legrand's Macao et Cosmage

In 1931, Babar the elephant made his first appearance. The story was written by Cécile de Brunhoff for her children and illustrated by her painter husband Jean de Brunhoff. Eventually the story got published in France by Condé Nast. The story of Babar (Figure 7.) has big colourful pictures and handwritten text which was something like never seen before. Jean de Brunhoff continued creating Babar stories and after his death his work was continued by his son. Maurice Sendak commented in the introduction to Babar's Anniversary Album (Random House, 1981) that, 'Babar is at the very heart of my conception of what turns a picture book into a work of art'. The world of Babar has since been published as several books and also turned into tv series and movies. (Wikipedia, Jean de Brunhoff.)

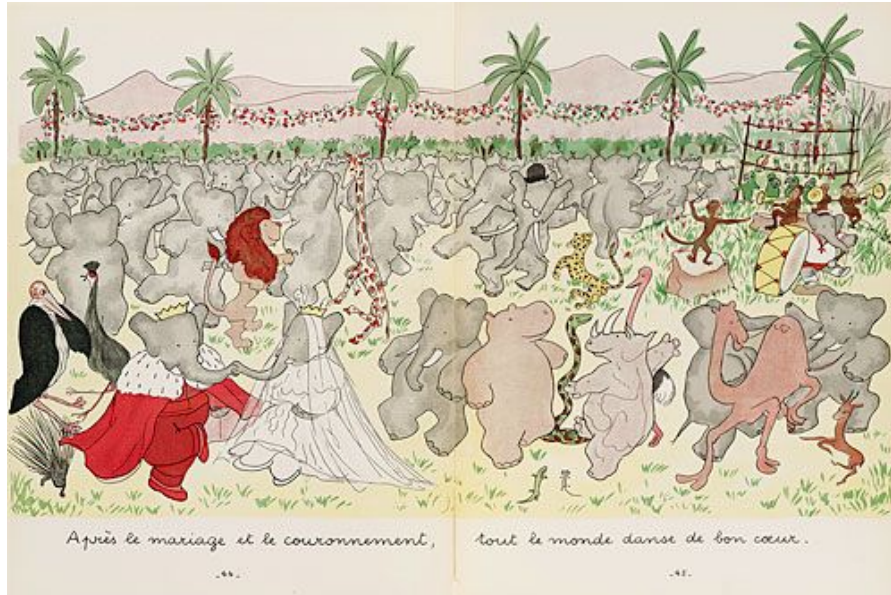


Figure 7. The Story of Babar by Jean de Brunhoff and Cécile de Brunhoff

In 1939 Mervyn Peake wrote and illustrated his first picture book *Captain Slaughterboard Drops Anchor*. It was criticised for not being suitable for children because of its world with pirates and aliens. *Punch* magazine declared it to be 'quite unsuitable for sensitive children'. *Captain Slaughterboard Drops Anchor* went on sale for two shillings and sixpence. Because this happened right before the outbreak of World War II, unfortunately the whole stock of the book was destroyed by fire when bombed by Luftwaffe. A first edition piece of the book is now one of the most expensive collectables of children's books. It got reprinted in 1945 after the war and it has been said to be ahead of its time because of the interaction between imagery and text. (Salisbury & Styles 2012, 22.)

One of the most popular characters in American picture books, *Curious George*, was first published in 1941. The manuscript was created by a German couple Margaret and H.A. Rey. They had to leave their home in Paris after Nazis started taking over, so they traveled all the way to New York to start a new life as children's book authors. *Curious George*, a mix of monkey, ape and a child, became a popular character and led to eight books published across the globe. (Houghton Mifflin Books.)

Salisbury & Styles write in their book that a well known publisher and editor in London, Noel Carrington, had an idea in the 1930's to start producing high quality educational picture books for

mass production. He spoke about his ideas to Allen Lane who had launched Penguin Books series. Carrington's idea was to drastically cut down the costs of picture book production by having the artists draw straight on the lithographic plates, therefore creating a separate drawing for each of the colours to be printed which would save money from photographic colour separation. The technique was called autolithography and it asked for the artist and printer work directly together. The puffin picture books was born and produced a big deal of picture books through 1940's to the 1960's. Carrington's passion for great illustrations and talent led him to find Kathleen Hale, illustrator who taught herself the mastery of autolithography. She was one of the first ones to understand the importance of appealing to also adult audience, who will keep reading the stories over and over. That is why she started adding little bit of humour to the visual and verbal side of stories clearly aimed for the adults (Figure 8). (Salisbury & Styles 2012, 23.)

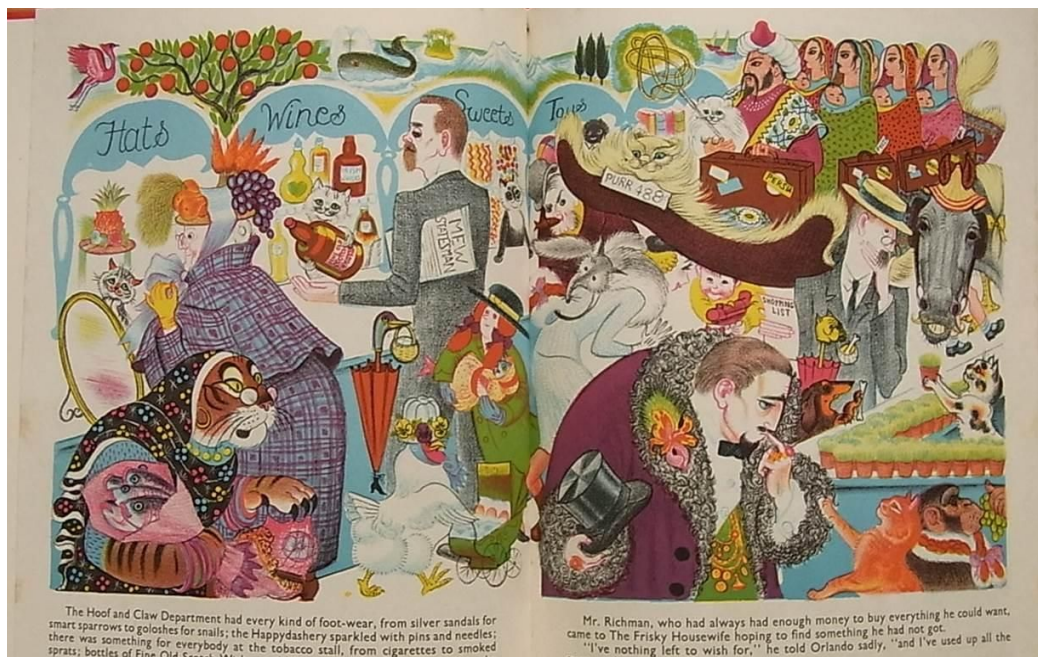


Figure 8. Orlando (The marmalade cat): The frisky housewife by Kathleen Hale

From the 1950's storybooks began to truly evolve through design and composition. More and more graphic designers were drawn into the industry and have been taught about both art and typography, resolved into unified books with good design and readability. Many designers looking for a change in their career began making storybooks, one of the first ones to do this was Paul Rand with a book he illustrated and was written by his wife Ann Rand called "I know a lot of things". (Salisbury & Styles 2012, 29.)

Time passed and storybooks continued to progress towards an easy to read and colourful form. Words dropped out as images took over the pages. In the 1960's new artists brought more personal style in illustration. Many artists such as Brian Wildsmith, Charles Keeping, Raymond Briggs and John Burningham had long and successful careers in the children's book industry and made their impact to the picture book genre. Brian Wildsmith won the Kate Greenaway Medal in Britain and the Carnegie Medal in the United States for his book ABC (Figure 9.) that was full of colour, paint and texture unlike kid's books before. (Salisbury & Styles 2012, 30.)

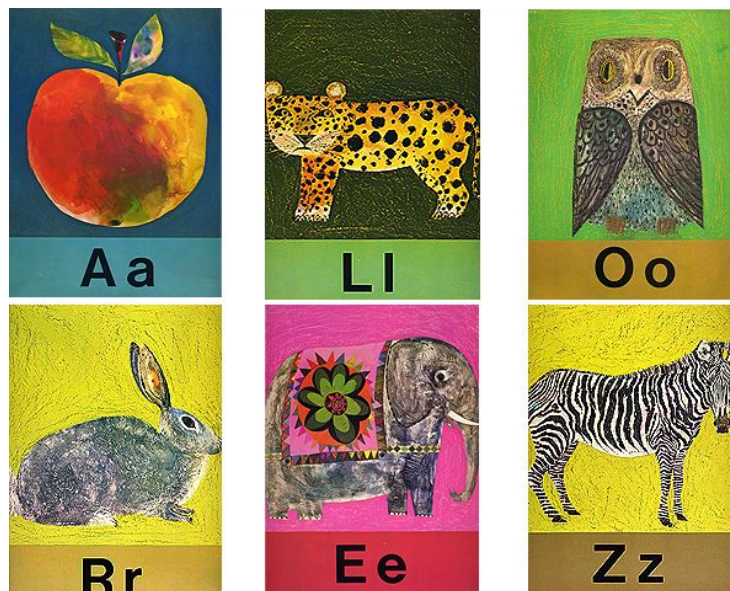


Figure 9. Brian Wildsmith's colourful work in ABC book

John Burningham was not a gifted drawer like others, in fact he was laughed at in his student days. But after his graduation he had a successful career as illustrator. Deborah Orr observed '... clearly creative artefacts rather than commercial propositions, brought into being, above all, as an artist's expression of his own desire to create.'. His first book, *Borka: The Adventures of a Goose With No Feathers*, was published in 1963 and won the Kate Greenaway Medal. That was quite a phenomenal achievement for a first publication. He continued experimenting and challenging himself with also difficult topics like illness and death. (Telegraph 2009, John Burningham.)

Maurice Sendak, the writer of the famous "Where the wild things are" (Figure 10.), has possibly made the biggest impression on children and adults of all kind. His book was published in 1963 by Harper & Row and became a massive success selling over 19 million copies worldwide. It deals

with wide range of topics from anger and hate to security and relationship between adults and children. “Where the wild things are” was also adapted into a movie back in 2009. (Los Angeles Times 2009, Where the Wild Things Are.)

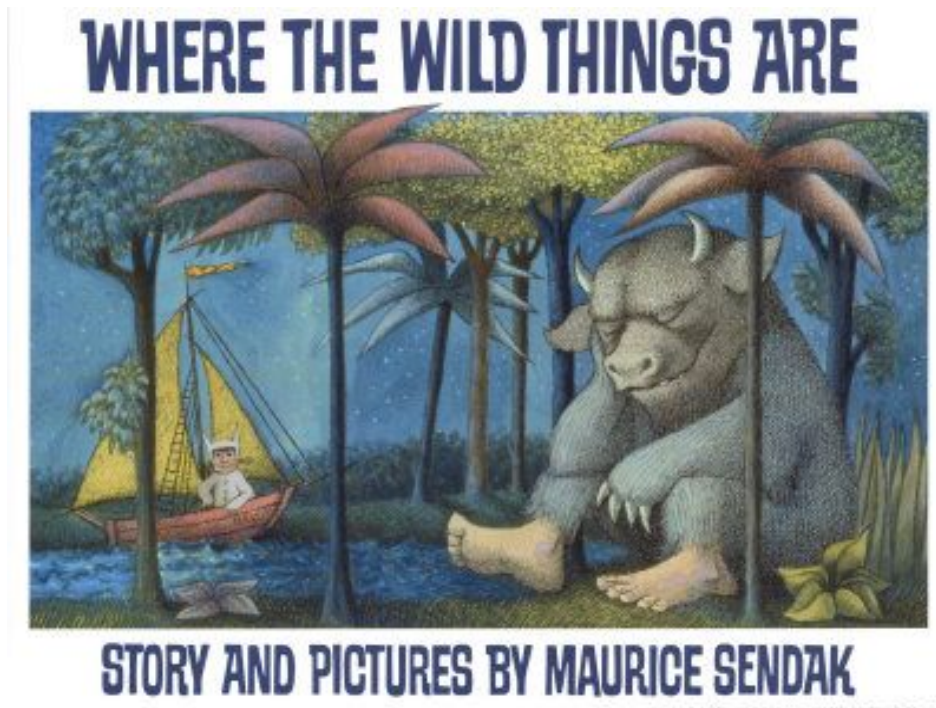


Figure 10. “Where the Wild Things Are” by Maurice Sendak

From the 1970’s to this day we have had many talented illustrators with different styles. Roy Gerrard left his job as an art teacher and started creating historic illustrations with a surreal twist that amuse both kids and adults. He created books such as *The Favershams* (Victor Gollancz, 1982) and *Jocasta Carr, Movie Star* (Farrar, 1992). Anthony Browne’s books have been praised for their great visual metaphors which have made the stories full of meaning and detail to be discovered again and again by both old and young readers. (Salisbury & Styles 2012, 41.)

In the 21st century picture books have spread even more across the world and been translated to different languages. The birth of ebooks has possibly made this even little easier. Today we have so many wonderful artists making illustrated storybooks of all kinds. Just to name a few, Julia Donaldson’s book “*The Gruffalo*” illustrated by Axel Scheffler published in 1999 was UK’s best-selling book in 2000 with already over 13 million copies sold by now. (Wikipedia, *The Gruffalo*.)

Mini Grey is a British author and illustrator who has been working on theatre scenery, as a teacher and eventually took classes in illustration and ended up publishing picture books. Her third book, *Biscuit Bear*, won Nestle Smarties Gold Prize in 2004 and *The Adventures of the Dish and the Spoon* won Nestle Bronze in 2006 and the Greenaway Award in 2007. (Mini Grey 2016, *About Mini Grey*.) Australian Shaun Tan's influence in the world of picture book is spectacular. He is an excellent storyteller and has taken the imagery to a next level. Not only is he a writer and an artist he is also a filmmaker and directed the short film based on his picture book *The Lost Thing*, which won an academy award. (shauntan.net.)

Modern storybook illustrations are colourful and full of life and serve an important role for the child to understand the story. In an article by Charles Elster and Herbert D. Simons called "How Important Are Illustrations in Children's Readers?" they emphasize the significance of images saying that children's attention must be divided between looking at the illustrations and getting meaning from the words. Pictures motivate children to read and may also help them to read better by decoding words and helping with the comprehension of sentences as well. (Charles Elster & Herbert D. Simons 1985, 148.) In an article by Andrea Follmer Greenhoot, Alisa M. Beyer and Jennifer Curtis on how illustrations affect the reading situations, they wrote that they might influence the parent-child reading interactions, and thus children's story comprehension and recall of the story (Andrea Follmer Greenhoot, Alisa M. Beyer & Jennifer Curtis 2014).

Linda Morris wrote an article for *The Sydney Morning Herald* called "A peek into the future of storybooks", in which she described how modern illustrators are experimenting and pushing the boundaries of storybook illustration. She wrote about children's author Sarah Davis and the illustrations she made for her book *Sounds Spooky*, by photographing clay dolls on a handmade set. Digital technology is broadening the possibilities of what can be done with illustrations, Lauren Child used a mixture of wonky magazine cuttings, collage, photography and traditional watercolours to create humorous illustrations. (Linda Morris 2011.) Digital tools allow to mix and match techniques as well as create digitally drawings that mimic the hand drawn style and textures. Possibilities for styles are endless.

2. GIFS

2.1 What is GIF format

The Graphic Interchange Format is a bitmap image format first published back in 1987 by CompuServe, which was the first big commercial online service in the USA (Graphics interchange format, 1987). Being a largely supported and portable format, it has spread across websites mainly for entertainment purposes on social media and blogs.

GIFs support up to 8 bits per pixel which adds up to 256 different colours for each image. It can display animations as well and since the 1989 enhanced version it supports transparent backgrounds. Because of the colour limitations it is not a very accurate format for high detail and photographs, but works well for simpler things like logos and graphics. (Wikipedia, GIF.)

GIF was one of the two first formats online that supported colour. The images loaded relatively fast even on slow modems, hence the popularity of the format. GIFs are still widely used around the web and Facebook started supporting them since may 2015, despite originally rejecting its support. (Wikipedia, GIF.)

2.2 Use of GIFs

Regardless of being nowadays widely known for its comical value as a pointless thing usually added for fun to chats and posts, GIF format is used for various purposes online. Mostly GIFs can be found on social media sites such as Facebook, Twitter and Tumblr. Many post them as reactions or to describe their mood, similarly as one would use emoticons. GIFs are often created from videos and films to briefly portray the main action of a funny scene. Making them online or in Photoshop is easy and there are also several online libraries to choose from for ready GIFs.

The format is flexible and can easily serve other purposes than just pure entertainment. The MakeUseOf website listed a few other options for GIFs. Their article shows that the format can be beneficial and practical even if it is thought to be useless. One classic usage for GIFs would be

product illustrations. Portraying an idea can be difficult with just a still image, but little animation can instantly show a machine on the move or simple turnaround of a product. Simple and effective when, for example, pitching an idea for a client. Another use of GIFs would be visual instructions. Video can be replaced with short animations along with a text aid to break down a process step by step. This can be sometimes easier to follow and does not require audio or heavy video files. (MakeUseOf, 5 uses for animated GIFs other...)

Occasionally one might also find mystical photos online with one element moving. These are called cinemagraphs, still photographs with a minor movement creating a short videoclip that usually repeats itself seamlessly. New York based photographer Jamie Beck and Web designer Kevin Burg came up with the term when working on a set of cinemagraphs for Fashion Week in New York back in 2011 (The Washington Post, Cinemagraphs: What it looks like when a photo moves). In the interview by Weburbanist, Beck and Burg explain that their work is just a little more than photographs and a bit less than video (Figure 11.). Many of the movements are so subtle that you do not notice them at first. The creation of each GIF takes from hours to a whole day to create, but the result is very different from the annoying GIFs many of us remember from the early days of the internet. Cinemagraphs have in fact turned GIFs into a mesmerizing form of art. (Weburbanist, Moving Pictures: Stunning Photographs Brought to Life.)



Figure 11. Example of a cinemagraph by Jamie Beck and Kevin Burg.

GIFs have entered also the field of marketing and can be found on company websites, newsletters and social media. In an article by Magdalena Georgieva of HubSpot she listed many ways to engage possible clients and crowds with GIFs. For example American Apparel has used GIFs to announce new products using a quick photomontage and bit of text to post online (Figure 12). Harry & David amongst many other companies have sent seasonal greetings in a form of GIF attached to their emails for clients. A company called DogFish has used GIFs to showcase the process of their services, which makes it easier to understand than just regular photographs. (HubSpot, The Ultimate Guide to Using Animated GIFs...)



Figure 12. Example of American Apparel ad using a GIF

Christopher Price, also known as topherchris from the famous microblogging platform Tumblr explains in a PBS Studios interview how people are being creative making mashups of existing content like films, series and games but also creating their own like glitch art, pixel art, even content you cannot categorise. He commented that “I think there are other, new arforms, waiting to be discovered in there, that we just have not figured out yet.” (PBS Digital Studios, The Birth of a Medium). This shows how a format that was expected to lose popularity, can after a while spring back and become a versatile tool for marketing, art, demonstration and pure fun.

3. STORYBOOKS IN THE DIGITAL AGE

3.1 The growing popularity of ebooks

As technology and digital content becomes more and more popular and spreads across all virtual platforms, it also changes the way we can experience books and stories. According to Dana Weinberg's article on the popularity of ebooks, she explains that people still want print books but also reading of ebooks is growing. The percentage of American adults who read an ebook was 28% in 2014, up 11% since 2011. Clearly print still dominates the book market, but even if the ebook demand growth is slow, it is happening. (Weinberg 2015.)

Tim Martin writes in his article that what is happening in the ebook market itself seems to be a battle between big online stores that offer ebooks, enhanced books and apps. Some stores like Amazon and Sony focus in offering ebooks, that are basically normal books digitalized for consumer needs. Apple and its competitors seem to be more into book "applications" for the touchscreen market that seek to transform the reading experience. Martin explains that interesting things have been happening in the latter area as publishers and authors have tried to negotiate and balance between the old-fashioned pleasures of reading and the added value that interactive technology can bring. (Martin, Tim 2011.)

The digital age has made also publishing all kinds of books so much easier than before. Earlier people had to bring their text to an agent in order to try get it published or use self-publishing services that can cost a lot. These days self-publishing is even easier than before and turning your work into an ebook is practically a free and fast way to spread it across the web. Getting the work into a readable and shareable format is quick and easy, but getting it noticed can be difficult in the sea of information online. (Cnet, Self-publishing a book.)

3.2 What are enhanced ebooks

To understand what an enhanced ebook is, it is good to start by defining what ebook means. Oxford dictionary defines that ebook is "An electronic version of a printed book that can be read

on a computer or handheld device designed specifically for this purpose.” (Oxford dictionaries 2016). Usually ebooks are in their simplest form just plain text that can be read on digital tablets or phones. Because the files are quite small, one can fit multiple books on one device hence making the format a very easy alternative for a classic print book.

While the market of ebooks has been growing, more formats have been introduced to the audience. An article on “what is an Enhanced book” the writer describes enhanced book being multimedia book that is available on devices like ipad and Kindle Fire, which are designed for watching video and listening to audio. This allows the story to be accompanied by audio, video or interactive content. (What is an enhanced book, The common craft blog 2012.)

An example of an enhanced book would be for example Charlie Girl, ebook adventures of a poodle living in New York (Figure 13.), which is a children’s story with animated illustrations in it (Frogel, Elizabeth 2015). This is a good example how enhancing a classic format of a book can add interest to the story and make characters more lifelike.

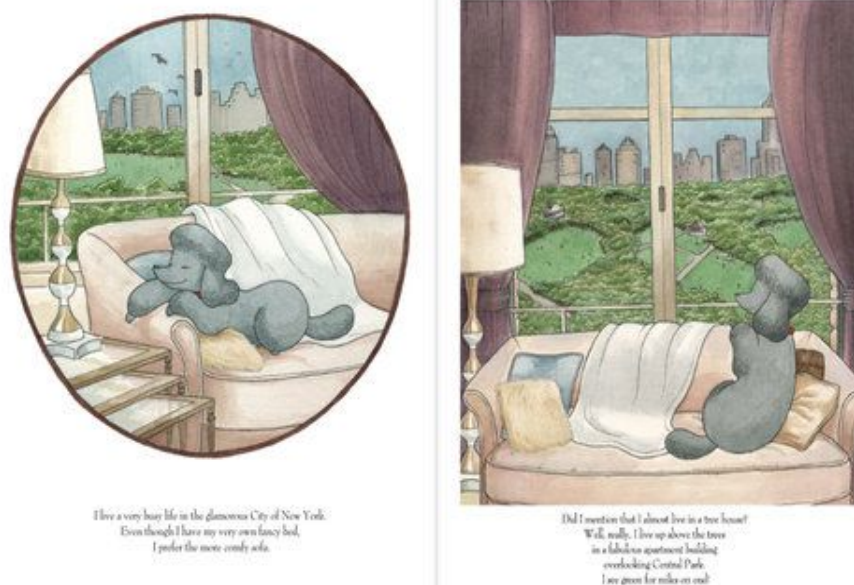


Figure 13. Charlie girl in Nyc

There are some basic features that help to define whether an ebook is enhanced. A former ebook developer’s website, Ebook Architects (2016), remarks what is not considered as enhanced book is for example embedded fonts that are not necessary but possible to help with reading of complex

titles or assist the overall design. Also basic features such as linking within an eBook, linking to outside resources, and implementing good design does not make it an enhanced ebook. Enhancing should make something possible that cannot be done with a regular printed book. (Ebook architects 2016.)

So what can be added to an ebook to describe it enhanced? Ebook Architects explain that elements possible in enhanced ebooks include for example narration, animation, video and interaction (Ebook architects 2016). When looking through online stores that offer ebooks, it is easy to find a lot of this type of content especially aimed for children. These books allow the narrative to even read the story for the child, or let the child interact with the imagery.

Children's book author Beth Bacon states in her article that creating ebooks is fairly easy even for a beginner, but creating enhanced ebooks requires training and a specialist creating the additional media such as animation or audio. Apps are an even more complicated form of ebooks as they need an experienced programmer to add game-like elements and software that enables the interactive parts of the story. (Beth Bacon 2014.)

The availability of enhanced ebooks or apps for young adults is not nearly as wide as it is for children's books. Possibly the most widely known enhanced content for adolescents is offered by Pottermore, which consists of a website and all Harry Potter ebooks published by J. K Rowling herself in order to give the fans more to read and widen the experience of her wizarding world. TIME Magazine wrote in an article how the e-versions of Harry Potter books are different yet focus in the reading experience itself. They have been enhanced with animated elements and visuals that resemble the movies and the website offers access to content that is never been seen before. The website and ebooks give a more personalized experience for anyone who signs up for it. Harry Potter continues to live through the digital world of Pottermore. (van Gilder Cooke 2011.)

3.3 Other similar mixed media content

Children's storybooks are not the only ones evolving in the digital age. Computers have widened many mediums and possibilities are endless how images, videos, sound and text can be modified and mixed.

The tools to mix and express oneself creatively or share their life in the digital world are available for anyone now. "Digital storytelling" is a relatively new term which describes the new practice of ordinary people who use digital tools to tell their 'story'. The term can also cover digital narratives like web-based stories, interactive stories or narrative computer games. The media used may include techniques used in films like video with sound or animation, stills, just audio or any other forms of media. (Information Age Education.)

Classic graphic novels, also known as comics, have developed their digital offshoot, motion comics. They are made by taking the original artwork and animating it plus adding sound effects and voice acting. Text boxes and sound effect bubbles are usually left out. (Wikipedia 2016, Motion Comic.) Adding enhancement to the individual comic panels can make the story feel more dynamic and exciting.

One example of a web comic with animation added to it would be Thunderpaw created by Jen Lee, which takes advantage of its digital platform to spice up the visuals and add more dimension to the story. The story is about two dogs finding their way home while the world around seems to be crashing down on them (Jen Lee, 2016). Even simple animations of fire, walk cycles and reactions seem to add a lot to the story and make it even easier to emphasize for the trials of the main characters.

With ebooks come also the animated ebook covers. Founder of the Ebook Friendly website Piotr Kowalczyk says that more animated book and comic covers have been appearing since major online book stores have been accepting GIF as a book cover format (Piotr Kowalczyk, 2015). And they can be used for just regular static ebooks as well to draw up attention. In her article she presents some covers of novels, like children's book called Chitty Chitty Bang Bang where the

bus flied off (Figure 14.), as well as comic cover art like Batman Vol. 2 #13 (Figure 15.) animated cover of Joker putting on lipstick on designed by ABVH. The Bookseller wrote in their article that the cover of Chitty was designed by Rachel Vale from MCB. Rachel said in the interview "The face of publishing is changing at an ever-increasing pace. With so much emphasis on all things digital I am keen to ensure cover design does not get left behind. The possibilities in animating existing print covers are endless, and we are only at the beginning of a very, very exciting journey." (The Bookseller, 2011.)

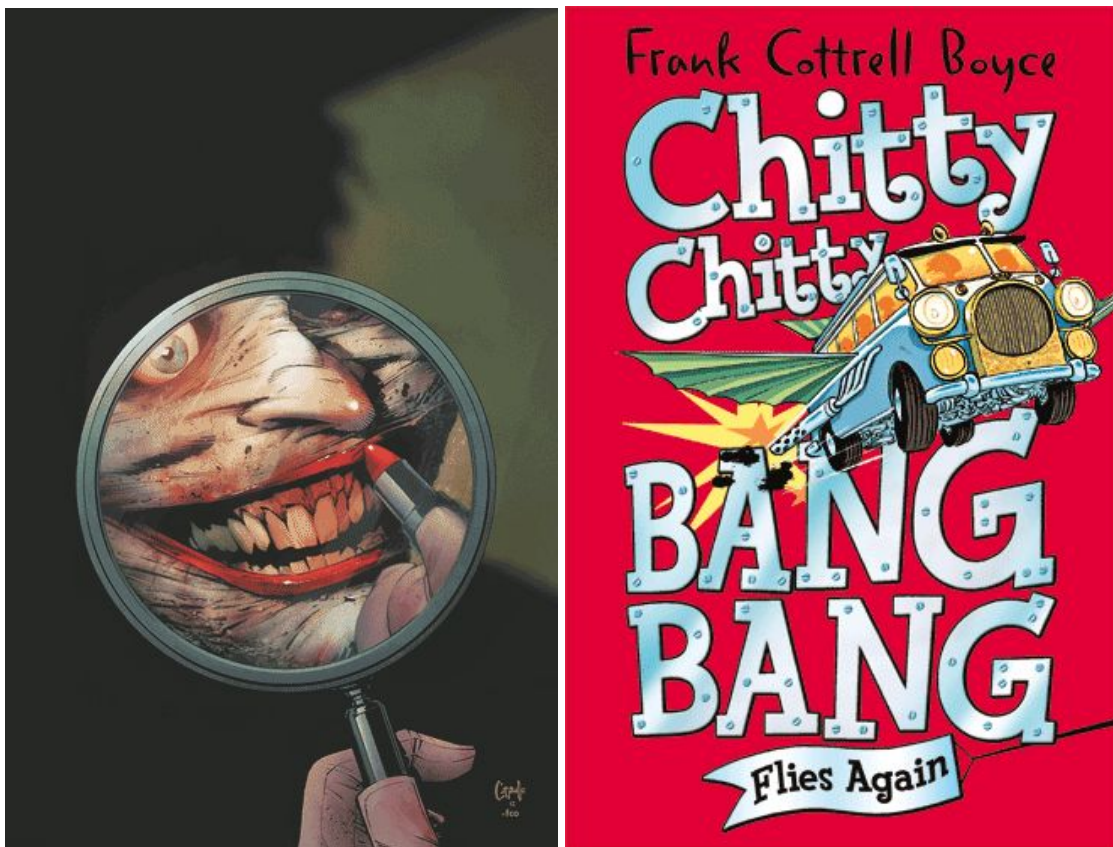


Figure 14. and 15. Joker from the cover of Batman Vol. 2 #13 and cover of children's book Chitty Chitty Bang Bang

4. PRODUCTION OF ANIMATED ILLUSTRATIONS

4.1 Alice's Adventures in Wonderland - From text to images

To understand more about the production aspect of interactive storybooks and how children's storybooks are changing through digitalization, I wanted to create my own set of moving imagery to go with text. The story I chose to experiment with was Alice's Adventures in Wonderland, a classic tale by Lewis Carroll about a girl who fell down a rabbit hole into a magical fantasy world full of crazy things. I have always loved this story as it is a fun adventure with great characters and has been illustrated and turned into movies and merchandise numerous times.

I have earlier illustrated other classics such as The little red riding hood (Figure 16.) and Sleeping Beauty (Figure 17.), so illustrating for children's books was not completely new to me. What I wanted to do was to try a new mixed media technique that would combine digital 2D paintings with stop motion puppets. Thinking of both the animation and illustration aspects seemed interesting and making a puppet fit into a 2D environment can be a challenging task.



Figure 16. and Figure 17. Book covers for the Little Red Riding Hood and Sleeping Beauty by Iina Kuula

My animation background comes from multiple animation projects at the Tampere University of Applied Sciences, such as the stop motion project Onyx (Figure 18.). During the past year I have also started to work professionally on motion graphics and design content. However, when thinking about this type of mixed media production, one does not only need knowledge of illustration and animation. Also the ability of keying green screen footage, compositing and knowledge of other digital tricks are essential.



Figure 18. Stop motion animation piece Onyx by Iina Kuula and Sindy Giraldo

It can be both a good and a bad thing that the novel used has been already produced into images and films before. One can easily find reference and ideas on how to stage the shots or what the characters are like and how they could look like. But it can also limit the creativity as one is set with an idea of what the character's are like and they should be represented fittingly to the storyline.

My goal with this project was to experiment with a style I had not tried before and get to work on multiple, very different stages of the production, from puppet making to compositing and painting. I felt that moving images could work well with the text but wanted to see for myself whether this would work and if I felt it would give the story more value.

In the following chapters the stages of the production are presented, from planning and puppet making to the compositing of the final images and explain about things that I felt had to be considered with this choice of style as well as issues I ran into during the project.

4.2 Earlier adaptations of the story

Alice's Adventures in Wonderland is a story classic that has been turned into movies, series, comics, several books and merchandise. The story is now part of the public domain and not copyrighted so it is free for publishing and interpretation. This chapter will look into some of these Alice's Adventures in Wonderland adaptations and tell little bit of their history.

Alice's Adventures in Wonderland was written in 1865 by English mathematician Charles Lutwidge Dodgson, best known by his pseudonym Lewis Carroll. The Alice books were quickly sold out after publishing and have been translated to over 100 other languages. In 1903 first silent film adaptation of the story came out and in 1931 the first talkie version of it. Since then, there have been several series and movies, even a televised opera. The latest movie from 2010 was directed by Tim Burton and is being followed by a sequel in 2016 called Alice through the looking glass, which follows the storyline of Alice's Adventures in Wonderland book's sequel with a similar title "Through the Looking-Glass, and What Alice Found There" from 1871 (Wikipedia, Alice's Adventures in Wonderland.)

In 1951, Disney made their animation of Alice in Wonderland after his failed attempt to create the animated feature already back in the 1930's and silent film version in 1923. It has been regarded as one of Disney's greatest animated classics and ahead of its time in the 1950's (Disney Wiki). In 1988 Jan Švankmajer adapted the story into a stop motion film, which was less of a fairytale like the other versions earlier. His film won the feature film award at the 1989 Annecy International Animated Film Festival. (Wikipedia, Alice (1988 Film).)

Back in 2000 Electronic Arts published a game about Alice's Adventures in Wonderland. American McGee's Alice was a horror themed psychological game of her adventures and was followed by a sequel called "Alice: Madness Returns" 10 years later. Both games turned out very popular twisted versions of the story. (Comic Con 2010.)

Alice in Wonderland has been published also as various graphic novels, one example of these would be Bryan Talbot's Alice in Sunderland, which explores connections between Lewis Carroll and the Sunderland area in England. It is a mixed piece of history, myths and storytelling. (Wikipedia 2015, Alice in Sunderland.)

Alice's story is still living through film, theatre plays, games, retold books and sequels, poems, art, comics and many other forms of storytelling. That is why I wanted to recreate the scenes with my own vision and take part in the story of Alice's Adventures in Wonderland.

4.4 Storyboarding and puppet design

My first stages of creating the images were to sketch characters and scenes. I would go about it same as with normal illustrations but I had to plan also what movement I would like to add to the images. To make the GIFs work they should be short and loopable, because I felt that having a clear cut would make the animation seem clunky.

I started to roughly storyboard the images. I bought the Finnish translation of the book by Tuomas Nevanlinna as my reference and read it through taking notes of each chapter. I also used illustrations by Helen Oxenbury as a rough guide to which parts of the story I could illustrate. The illustration style was very different but for composition and characters it was a nice resource. I sketched each character based on a combination of my own vision and what I had seen previously in films and illustrations.



Figure 19. Example of character design stages

When I had my sketch for a character done I would head to a fabric store and get materials that best matched my vision of the character. In Mad Hatter's case for example I based details of the outfit on the original illustrations by John Tenniel and Tim Burton's *Alice in Wonderland* film from 2010 where Hatter was played by Johnny Depp. Then I built the armature of the puppet and sewed the clothes for him (Figure 19.).

My next stage was to look at my multiple sketches of possible facial features the Mad Hatter could have. After deciding the look I would go for, I sculpted the head from Sculpey clay, which is a soft sculpting clay that turns hard when baked in an oven. When the head was baked, I added details like shadows and blush to make it more realistic. Also hair was added, made from felt I found in a craft store.

Baking the clay makes it impossible to animate unless it has been planned ahead. What I did with the faces was to create the eyes so that they could be moved. I prebaked eyes before installing them inside the head and made sure during the baking that they can still be moved. The eyeballs have a hole in the pupil area which allows a pin or similar to be inserted into it to position the eye (Figure 20). The same technique is used widely by stop motion animators and studios, for example

the Aardman studios. If you look closely at Shaun the sheep or Wallace and Gromit animations you can see the holes in the character's eyes.



Figure 20. Stages of sculpting Mad Hatter

For some of the characters I added an extra animatable element to experiment with. For Mad Hatter I baked the moustache and eyebrows separately so that I could still move them afterwards. Bluetack did the job well holding them in place during the animating process.



Figure 21. Details of the final puppet

I imagined the Queen to be dressed completely in red and look as mean as possible. After all, in the story she screams “Off with the head!” several times. For the outfit I went with Victorian times inspired dress with a big metal cage giving shape underneath the layers of tulle fabric, lace and velvet. Her hair was similar to Queen of hearts’ hair in Alice in Wonderland film (2010) played by Helena Bonham Carter, but I wanted her face to be even angrier. I was happy with how she turned out, scary and big (Figure 23).

For the Queen I also made several mouths to be able to animate her screaming (Figure 24). This was quite a simple thing to do and I used the technique I had experimented with last year and it worked perfectly giving a comic and fun movement for the mouth.



Figure 22, 23 and 24. Original sketch of the queen and final puppet.

Different mouth options to animate her talking.

Some details I added to the puppets even during the filming when I got hold of the materials. Because of the tight schedule it was necessary to start shooting while finishing off the last puppets, but luckily it was not an issue because everything was composited afterwards.

When designing Alice herself I was thinking of making her a mint green dress instead of blue. Jenna wrote in her research in her blog that Alice’s dress or hair color were not mentioned in the story itself, but Lewis Carroll had suggested the Illustrator John Tenniel some blonde girls to model Alice for the illustrations, but he refused to use them. Still Alice turned out to be blonde in the illustrations and in fact she has been also wearing a blue dress since 1893, which can be seen

from the original colour illustrations in cover of *Through the Looking Glass*, which is a sequel for her adventure in Wonderland. (Jenna, 2013.) I wanted to stay true to the original and decided to go with a blue dress as well.

When making the head I had to consider that the puppet would be used for stop motion and needs to be stable between frames. That is why the hair could not really be loose and moving freely. I decided to braid the hair with a piece of wire installed inside to get control over it when making the scene of Alice falling down the rabbit hole. Other than that her look is pretty classic Alice and I really loved the stripy socks that Alice had in the game *Alice; Madness returns*, so I added them to my version as well (Figure 25.).



Figure 25. Finished Alice doll

The rabbit I made was supposed to be white as he is described in the story, but I wanted to add more texture and shades to him. I was originally planning to sew him from fabric but gave it up after considering what a difficult task for a beginner it would be to sew something as small and complicated as him. I did make his waistcoat from fabric and handpainted him after baking the clay in the oven (Figure 26. and 27.).



Figure 26 and 27. Rabbit before and after painting

4.5 Filming and post-production

I was lucky enough to get to take over a studio at my job which has its own professional lighting kit and green screen. Because my puppets are so small I set up a table with green screen fabric at a similar angle as an infinity curve in human size studios. This creates less shadows when lighting, which is essential for post-production when the green screen background will be removed from the footage, or in this case, images.

I also got my boss Steve Garratt to help with lighting set up, as he knows more about how to light up green screen well to minimize the effort of keying later on. We set up two Filmgear tungsten 650 lights on both sides of the set to lit the green background evenly. These were connected to a digital lighting desk called Minidesk 6 which allows full control of the density of lights attached. For the character we set up a Kino Flo Diva Lite and occasionally also an extra light coming from the top to even out some shadows (Figure 28.). The Mad Hatter's dark clothing turned out to absorb a lot of the light so a small Bescor light was also on the set to light up details of the clothes and help with this issue.



Figure 28. Lighting and green screen set up in the studio

The camera I used was my own Canon D1100. The images were quite big in the end, so I had to scale them down a lot. To control the camera I used Dragon Frame, which is an industry standard stop motion software used by well-known companies such as Laika, Disney and Aardman studios (Dragon Frame 2016). I had used it before on two projects so I was familiar with it and its features are quite simple and useful. I cannot imagine working without the software as it makes it so much easier to take full control over the camera and compare frames as well as preview what has been shot.

The first scene I shot was Mad Hatter pouring tea. I took more than 80 frames which I then keyed in Adobe After Effects, and using one of these frames as a guide in Adobe Photoshop painted the background. I then brought the background back to After Effects to composite the animation together. What I was to find though was that not many frames are needed for what I wanted. For the GIF to work best, it should loop as seamlessly as it can and not be too long so it does not slow down. I ended up cutting most of my frames off for this shot and using a ping pong technique to loop the frames, which means playing them first straight forward and then backwards to get seamless motion.

Another problem I ran into was light. I realised that in order to make the scene seem more natural, the light should not be completely flat. For my test shot the main light came straight from the front but I then moved it on one side of the puppet. This makes the face look more three-dimensional. The same principle should be considered when shooting people as well. For a good key though it is essential to have good lighting on the green screen.

When I started to paint the background I understood that it is not completely as straightforward as making an illustration. I had to look at the pictures I had taken and adapt lighting from those to have the shadows make sense in the scene. I first sketched and blocked out the placement of each element and then started adding detail, shadows and light. For most I did colour correction and vignetting in After Effects, but for example with the shot of Alice in the room (Figure 29.) I could add shadow and light also straight on the character to make her blend in better.



Figure 29. Blocking out the scene and building light and shadow on top

Because each of the pictures I was its own individual piece, I was able to smoothly shift between painting, compositing and shooting to work simultaneously on many of them. To make the characters stay in their pose I was using a stop motion rig that can keep them still even mid air (Figure 30.).



Figure 30. and 31. Character rig for stop motion and keyed footage on background

These pictures were then taken to After Effects to key the green screen off and edit the frames to loop the animation. While compositing a background in the scene, I fixed colour issues on the characters and added shadows, but felt it was missing more. To have a sense of balance, some shots needed additional animation done in After Effects. For extra dimension for example in the scene of Alice falling, I painted and animated also the background as well as objects around her.

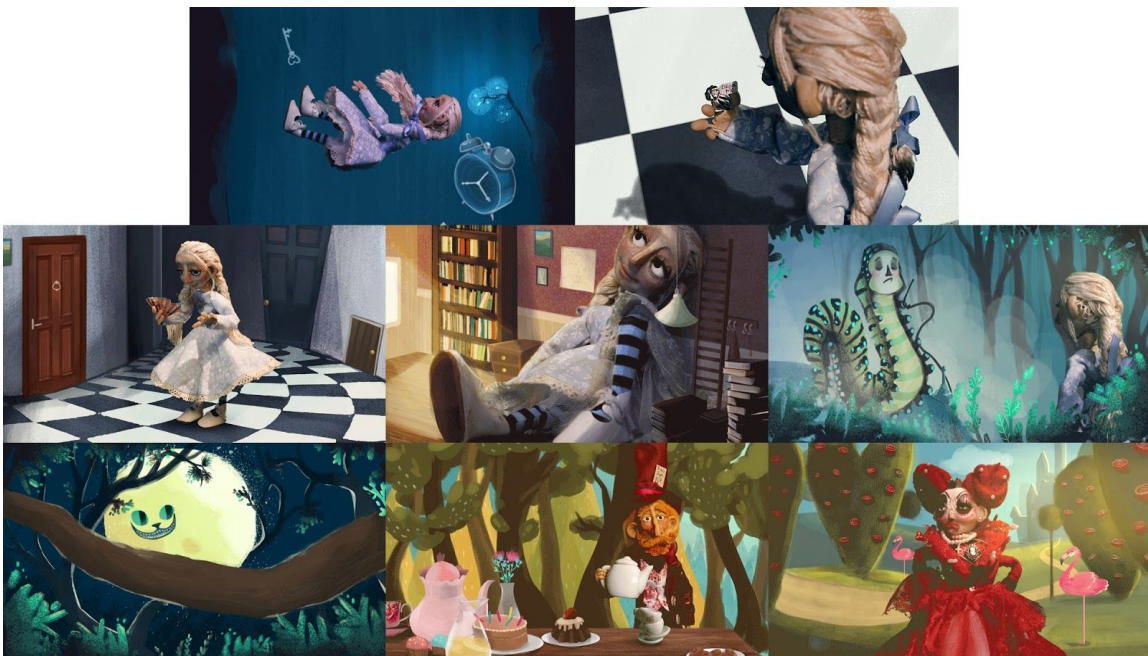


Figure 32. Some of the finished illustrations

After finishing each scene in After Effects I rendered them out as PNG sequences and turned into GIFs in Photoshop. For each one I had to think if the picture can work as a still as well, because GIFs do not always work properly and will in that case usually display only the first frame (Figure 32.). This was another reason to turn them mostly into GIF loops. However for a few scenes I realised that motion is not necessary and does not bring any more value to the image. An example of this is the picture of Alice stuck in the room after she has grown too big. For a viewer it can be enough to explore a static picture and understand how it reflects the events of the story.

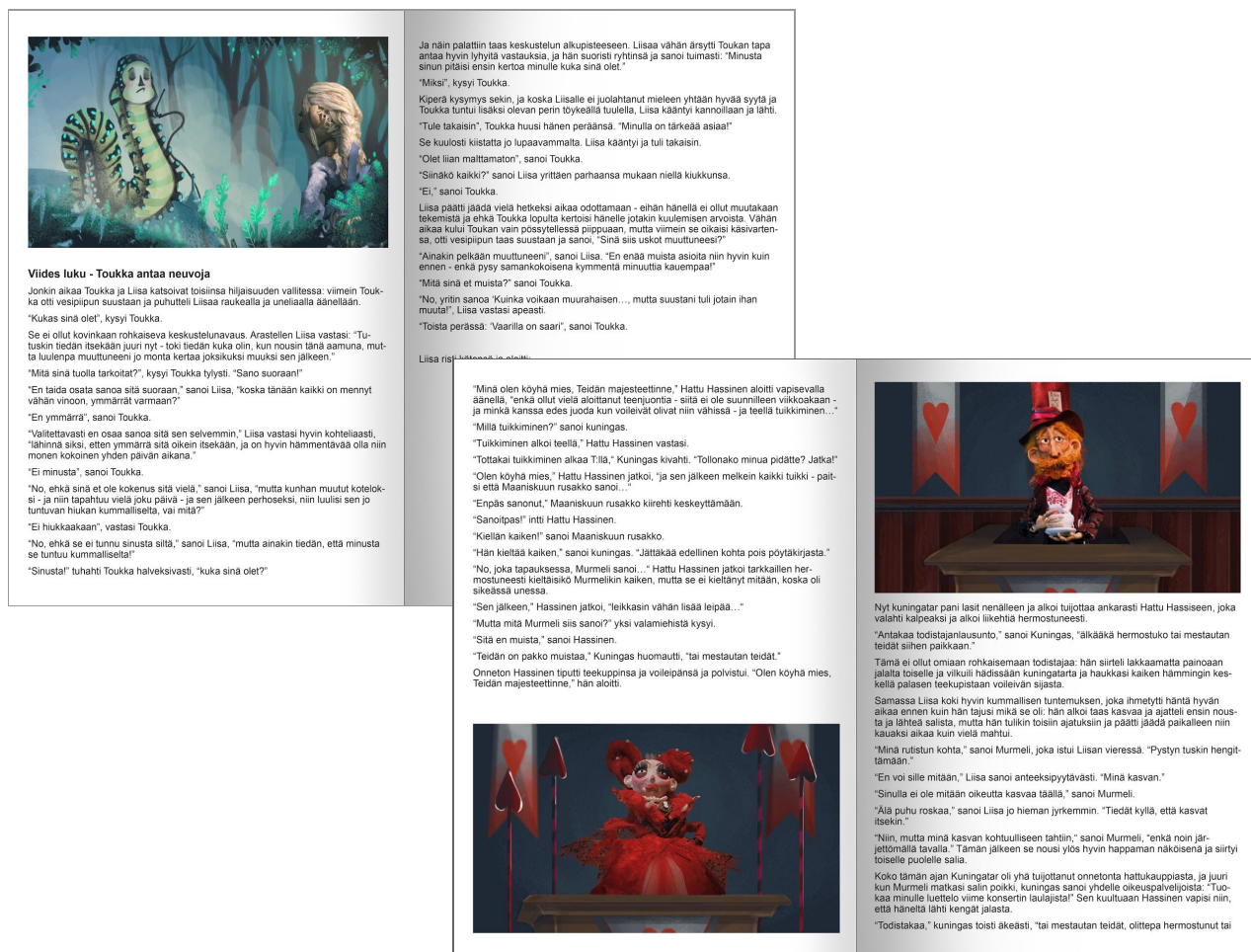


Figure 33. Examples of image and text together

The book itself is quite long and full of illustrations. The translated version by Tuomas Nevanlinna ended up being over 50 pages as plain text, with illustrations by Helen Oxenbury the length reached to 206 pages. So for a full capacity illustration job it would be quite a lot to cover. What I personally ended up doing was to make sure each chapter has at least one image, some

have two or even three. The schedule for shooting and compositing was fast so compromises had to be made, but I am happy how it looks when put together (Figure 33.).

My last task was to create a cover for the story. I went through the pictures and decided to go with the first image of Alice falling down the rabbit hole. I opened the original GIF in Photoshop and created background elements replicating watercolour texture, then added text and little details around it. All the final illustrations can be found through this link:

<https://drive.google.com/folderview?id=0B5lrQwk15s2cYXNvSDRhGE5ZXc&usp=sharing>



Figure 34. Liisa Ihmemaassa (Alice in Wonderland) cover art

5. DISCUSSION

Children's storybook illustration continues to evolve. It started its journey nearly 300 years ago and as the time passed that form became more clear, images spread across the pages and amount of words dropped. Images began flourishing with colour and fun characters. It is not only up to the artists anymore how the imagery evolves, but the digital age has begun to show how stories are capable of so much more, which is guiding the artists to try out new digital techniques.

Through my project I found how challenging it can be to add a new dimension to the illustrations. How it put to test your ability in painting and animating as well as compositing it all together. Not having sound involved like in usual animation has its own limitations, besides the fact that the movement needs to work even if it is as short as two seconds.

While I still have not decided whether I am against or in favour of ebooks, I admire the charisma of traditional books and the possibilities that ebooks have to offer. Nothing can take away the delight of reading a real book, but I enjoy how an ebook can add an extra spark to the characters and bring colours and effects to their best.

Technical things aside, is an enhanced ebook the way to go? Can a storybook be illustrated with animation and still stay true to its form? I think yes and no. My goal with illustrating Alice's adventures in Wonderland was to try my best to keep it as a book, even if the characters were moving. I did not want it to be a full animation and I did not want it to be an app or a game.

Alison Flood's article on The Guardian was about the downsides of enhanced ebooks from parents and kids perspective. She wrote in her article that the Joan Ganz Cooney Center in New York had made research by giving 32 pairs of parents either a basic or enhanced version of the same book to read to their small children. What they found was that while the enhanced book got the kids more interested to engage with a story, it also distracted them from listening. They were too busy with the buttons and other interactive features to actually remember narrative details of the story.

(Alison Flood 2012, The Guardian.)

Researchers Cynthia Chiong, Jinny Ree, Lori Takeuchi and Ingrid Erickson commented that designers should be careful with the enhanced features, especially when they do not directly relate to the story (Alison Flood, *The Guardian*). If it does not add more value to the product, what is the point of having it there? Books should be a way for parent and child to enjoy a story together and help learning and comprehension rather than a distraction.

There are so many distractions around children from a young age and it unfortunately seems to draw children away from reading and other activities. It is worrying how many children have computers, television, phones and tablets with games, apps, YouTube and social media to engage with, rather than books and toys for example. But in *The Guardian*'s article Chiong commented that ebooks "absolutely still have a place. Kids seem to love them. If enhanced books can engage kids who might not be as interested in reading, we will achieve an important goal."(Alison Flood, *The Guardian*).

Like with everything, moderation is the key. I think what I did with Alice's story was the right way to go, because I added extra interest to the images and gave the characters more personality without tempering with the flow of the story. I do not think it is necessary to over entertain the child while they are reading, therefore I agree with the researchers from the Joan Ganz Cooney Center that interactivity can be an element that notably distracts from the narrative.

When reading a motion comic such as *ThunderPaw*, I felt I would take more time exploring the images, both from an animation and an illustration perspective. I was drawn in to continue with the story to see how the images live on the next page, and how the story evolves. Whether the imagery has motion in it or not should not matter for the storytelling, not more than support it. For *ThunderPaw* the motion is important for the storytelling, but the illustrations themselves hold the heart of the story in their characters, backgrounds and colours.

When illustrating *Alice's Adventures in Wonderland* I understood that motion is a little extra something but not a necessity. But through the time as illustrations have evolved, they have come to a format anyway where images work on their own just like the text does. As Maurice Sendak put it in his book of essays, *Caldecott & Co: Notes on Books and Pictures* on how geniously

words and illustration work together: “Words are left out – but the picture says it. Pictures are left out – but the word says it. In short, it is the invention of the picture book.”.

For this type of animated illustrations to work to their full potential, I think it would be good to keep the illustration style in mind while writing the story itself. This can be a luxury of course, usually writers and illustrators do not work intensely together unless the book is written and illustrated by the same person (Joseph Anthony 2014). For my project I had the story ready and it had been written before digital ebooks even existed, so the choice of style could not have been considered back then. But as the old english idiom goes, a picture is worth a thousand words, possibly animation could change what is written on the pages of the book. I think the style has potential to describe movement and action in ways that could be difficult to describe in the text. Usually text explains the story as its own entity and pictures compliment visually the story. Surely images can describe also things that are not mentioned in the text, like how a character looks, what they are wearing or what the environment is like, but what if the image would fluidly grab the story and bring it forward also without the text? Animated illustration could possibly do this and the format could be something between a storybook and motion comic or animation.

This has been a very interesting project and taught me a lot about so many things through the journey. What I love about making visuals is that the same principles, issues and revelations apply throughout different techniques. I can be making illustrations, animations or graphic design and still use same set of skills and knowledge I have. Through one method I find something to apply to my other area of expertise and it is a constant path of learning that never bores you.

Reading about the history of storybooks and illustration made me understand how much they have changed through time and how important the image is. There is a whole “math” behind beautiful and engaging illustration to learn, and every time I get to illustrate something I feel I have revealed something new about it. It has been an amazing thing to explore one my all time favorite stories and also work on puppetry of stop motion which is another art form close to my heart and ever so magical to rediscover through work of my own and others.

7. CONCLUSIONS

The aim of the thesis was to explore the forms of digital storybooks and their illustrations, how illustration and animation have developed and changed through the years and what they are like today. The thesis also sought answers to what it is like to create animated illustrations and does the technique work same as normal static illustrations. The main research question was: Can a storybook be illustrated with animation and still stay true to its form?

The thesis has offered a brief overall look in the history of animation and illustration, which is important to understand to see how far both mediums have come in their time. It also looked at how the storybooks have changed when turned into ebooks and what type of illustrations and interactivity those offer. Lastly the thesis covered step by step one type of a pipeline of creating animated illustrations and what kind of difficulties and results it brought. It was a good project to go through in order to discover what the creation process can be like and to draw conclusions how feasible the style is.

There are a lot of ebooks and apps available for kids of all ages. What was found through this research was that those are often too interactive and complex, resulting that they in fact tend to distract rather than draw attention to the story. When creating illustrations for Alice's adventures in Wonderland, it seemed to be a good idea to keep the motion in the images simple and clear. It never was the goal to create an app, and that turned out to be a good path to go in order to positively respond to the research question whether this type of style can stay true to its original storybook form. By using GIFs as illustrations resulted in images very similar to static ones, but with more depth and lively characters, but did not interfere with the story's flow. Characters can reveal more of their personality through animation and show change of expression, reactions and interaction with other characters. I felt it was important to me that for example in the scene of Mad Hatter in the courtroom I could show with his gestures how nervous he was.

More experiments with GIFs in storybooks would be needed to get better understanding how best take advantage of its possibilities, but simple guide I would give through this research is not to overdo it. Keep the movement simple and do not turn the pages of the book into a game or musical

experience if you want it to still be a book. GIFs are enhancing a book, they can do more but it is important to see when it can go too far and ruin the experience of reading itself.

For anyone attempting with similar techniques, I would say to just experiment and try out what works. With digital media the possibilities are endless. Images, drawings, paintings, real life objects, 3D and animation could be mixed in so many ways. It is of course also possible to take a step further to a more advanced and complicated story form if interested. There are multiple examples online of how storybooks can be a whole interactive world to absorb in for hours.

In today's world the storybooks still keep their tradition of being read to children no matter if they are digital or paper form. Stories are populated with lovely illustrations and full of colour. For anyone trying out illustration they should enjoy the process of creating something and keep experimenting to polish their ideas and style. I loved working on the puppetry and backgrounds for Alice and exploring the characters and Wonderland by creating my own versions of them. And if someone is creating their own stories and illustrations, why not share them with the world and perhaps inspire and brighten someone else's day just like Lewis Carroll has done for so many through Alice's adventures in Wonderland.

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