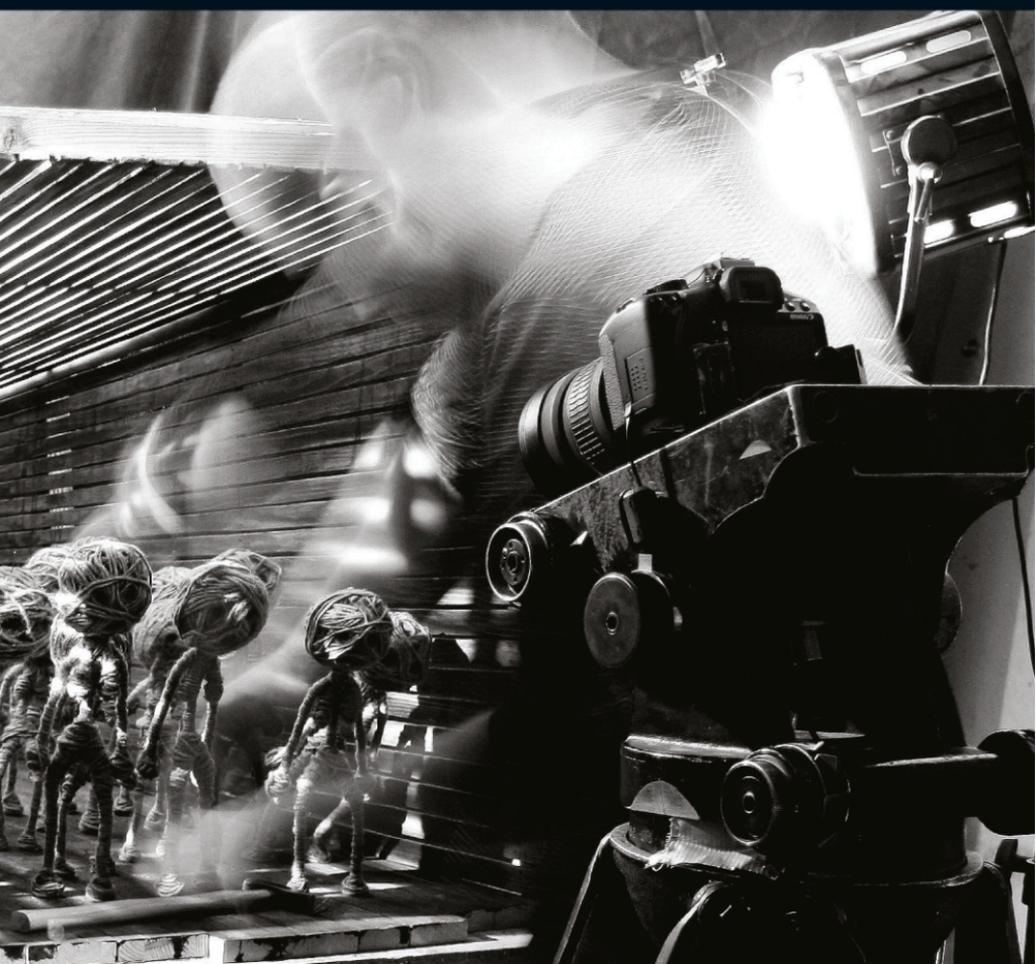


Ü L O P I K K O V

ANIMASOPHY
THEORETICAL WRITINGS ON THE
ANIMATED FILM



ANIMASOPHY



ESTONIAN
ACADEMY OF ARTS

ÜLO PIKKOV

ANIMASOPHY

Theoretical Writings on the Animated Film



ESTONIAN
ACADEMY OF ARTS

2010

Ülo Pikkov

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I have found myself asking: How could film be art,
since all the major arts arise in some way out of religion?
Now I can answer: Because movies arise out of magic.

– *Stanley Cavell* (1979)

+ DVD

- 1 Ülo Pikkov, *Gone with the Wind* (Silmviburlane, 2009)
- 2 Kristjan Holm, *Little House* (Estonian Academy of Arts, 2009)
- 3 Märt Kivi, *Laika* (Nukufilm, 2007)
- 4 Martinus Daane Klemet, *In the Air* (Joonisfilm, 2009)
- 5 Ülo Pikkov, *Dialogos* (Joonisfilm, 2008)
- 6 Priit and Olga Pärn, *Divers in the Rain* (Joonisfilm, 2009)
- 7 Kaspar Jancis, *Crocodile* (Joonisfilm, 2009)
- 8 Priit Tender, *Kitchen Dimensions* (Joonisfilm, 2008)

P	Contents
9	Introduction
12	1 Defining Animation
24	2 Tracing the Ancestry of the Animated Film
34	3 Animation (Film) as Communication
46	4 On Time in the Animated Film Case Study: Ülo Pikkov, <i>Gone with the Wind</i> (2009)
58	5 On Structure in the Animated Film Case Study: Kristjan Holm, <i>Little House</i> (2009)
78	6 On the Credibility of Animated Characters Case Study: Märt Kivi, <i>Laika</i> (2007)
92	7 On Realism in the Animated Film Case Study: Martinus Daane Klemet, <i>In the Air</i> (2009)
110	8 On Storytelling in the Animated Film Case Study: Ülo Pikkov, <i>Dialogos</i> (2008)
126	9 On Space in the Animated Film Case Study: Priit and Olga Pärn, <i>Divers in the Rain</i> (2009)
142	10 On Characters in the Animated Film Case Study: Kaspar Jancis, <i>Crocodile</i> (2009)
160	11 On Sound in the Animated Film Case Study: Priit Tender, <i>Kitchen Dimensions</i> (2008)
178	Milestones of Animation
196	References



Introduction



Ülo Pikkov in the process of creating the animated film Dialogos.

I have chosen to treat my subject in the format of a traditional textbook – thus this volume begins by defining the nature of animation, then proceeds to a short historical overview and an analysis of different components of the animated film. In retrospect, it seems that the first chapter, *Defining Animation*, might just as well be the last one. In any case, the reader might want to re-read it upon finishing the rest of the book, as the essence of this chapter is truly clear only after the different aspects and examples of the animated film have been discussed. The book is accompanied by a DVD containing films that have been analysed as case studies of particular topics covered in the volume.

The title, *Animasophy*, was coined by my students at the Estonian Academy of Arts, to whom I have taught animation since 2006. The word has an intrinsic connection with the concept of philosophy, referring also to the approach applied in this textbook. ‘Animasophy’ is derived from two words: the Latin *anima*, standing for ‘soul’ or ‘the breath of life’, and the Greek *sophia* (Σοφία), meaning ‘wisdom’. Just as the Greek *philosophia* (φιλοσοφία) can be translated as ‘love of wisdom’ or ‘search for knowledge’, ‘animasophy’ should be understood as love of the soul or yearning for the breath of life or, in other words, as love of animation. It is true that the title is rather ambitious and even provocative, but this was a conscious intention, constituting an invitation for readers to think along, discuss, question and propose their own theories and views, in order to expand the still rather scarce library of animation theory.

As a film-maker, teacher, member of numerous festival juries, or merely a lover of animation, I have repeatedly caught myself wondering if a perfect concept of the animated film exists at all, one that could be applied as a model or an example in making and evaluating animated films. I am fully aware that this is a slightly naive pursuit, but hopefully this book will take a small step towards creating a recipe for the perfect animated

film and will assist other lovers, researchers and makers of animation in the search for their perfect recipes.

First and foremost, I would like to thank my students, for the foundations of this book were laid in the course of teaching them. I am also grateful to Eva Närepea, the translator and editor of this volume, to Priit Pärn, my teacher and colleague who showed me the way to animation, and to the studios Eesti Joonisfilm, Nukufilm and Silmviburlane for their kind permission to use their films. Finally, I thank my wife Heilika for her patience in sharing the life of an animasopher.

Ülo Pikkov

Tallinn, July 2010



1. Defining Animation



An animation in Tallinn by an anonymous author. An illusion of a man rolling his eyes is produced by passing the images painted on the bridge supports at a speed of 50 km/h.

Since ancient times, humankind has employed animation for religious, scientific, educational and entertainment purposes. Many symbols of the modern visual culture, such as Mickey Mouse or the small hourglass on a PC screen, stem from animation. Most people become fascinated by cartoons in their childhood (many of them retaining that fascination even as adults) and in all probability this has had a considerable impact on our vocabulary and common behavioural models. The term 'animation' occurs widely, both in professional jargon and everyday language, but what do we really mean by it?

Animation essentially involves the presentation of still images in a manner that creates an illusion of motion in viewers' minds. The fact that the illusion of motion is located inside the viewers' minds and not in outside reality is of fundamental importance here. The movement of marionettes in a puppet theatre does not constitute animation because the audience sees real-life motion, while a moving puppet in an animated film is animation because the audience is actually presented with still images of the puppet, which, when presented in a certain manner, lead to an illusion of motion. Thus the movement in animation does not take place on the screen but in the viewer's mind. The human eye is capable of retaining an after-image for a fraction of a second, which allows for the perception of motion if a sequence of slightly different pictures is shown at a certain rate.

A filmed recording of a puppet theatre's show entails only recognition of the initial movements that are being re-presented on the screen. In the animated film, however, no initial movement occurs; the film has been shot one frame at a time (this is a distinctive technical characteristic of the animated film). This is equally true in all animation techniques: a hand-drawn animation consists of a series of drawings, and the pixilation technique uses still photographs. In principle, live action fiction films and documentaries can also be seen as sequences of still images,

but this is true only in purely technical terms. By nature, live action cinema captures real motion and physical transformations, which due to the specific filming technology have been divided into a series of still frames that are stitched together in viewers' minds during projection. In animation, on the other hand, no 'initial' movement exists; animators create and line up still pictures, which form an illusion of motion only in viewers' minds. Instead of *reproducing* an illusion of motion, animation *creates* it (Latin *anima* translates as 'the breath of life', 'vital principle' or 'soul'). The Encyclopaedia Britannica defines animation as 'the art of making inanimate objects appear to move.' According to ASIFA (Association Internationale du Film d'Animation), '[t]he art of animation is the creation of moving images through the manipulation of all varieties of techniques apart from live action methods' (<http://asifa.net/asifa-wp/about/asifa-statutes>). Norman McLaren, the noted animation director and theoretician proposed that '[a]nimation is not the art of drawings that move but the art of movements that are drawn; what happens between each frame is much more important than what exists on each frame' (cited in Furniss 1998: 5). The semiotician Yuri Lotman has drawn particular attention to animation as a specific system: '[T]he animated cartoon is not a variety of the feature cinema but represents a quite independent form of art, with its own artistic language, opposed in many ways to the language of the feature cinema or the documentary.' According to Lotman, '[t]he basic property of the language of animation is that it operates with a sign of a sign' (Lotman 1981: 36–37).



Norman McLaren.

A number of historical technical devices are based on the essential properties of animation – the inception of an illusion of motion in the viewer's mind. Many optical toys from the pre-cinematic era employ this principle, including Praxinoscope, Thaumatrope, Phenakistoscope,

Zoetrope etc. All of them are based on a certain phenomenon of human physiology – the persistence of vision. An after-image is thought to persist for a fraction of a second on the retina and, when visible objects change at a certain rate, an illusion of continuity and motion of the object is brought about in the human mind. Nevertheless, the illusion of motion in the human mind cannot be explained merely by certain physiological peculiarities – it is an extremely complex phenomenon involving the intricate co-operation of the eye and brain.

In the 19th century, the magic lantern shows, or phantasmagorias, became increasingly popular. Even though, to a certain extent, they resembled the later screenings of animated films, the magic lantern show was essentially not an animation – the illusion of motion was not created in viewers' minds; instead, the movements blown up on a wall were mechanical in nature, much like in shadow plays. The first public performance of an animated moving picture show, called *Théâtre Optique*, was presented by Charles-Émile Reynaud in 1892 at the Musée Grévin in Paris. The audience was presented with a series of cartoons, projected with Reynaud's invention, a device constructed of multiple glass plates and rotating drums. The show consisted of three cartoons, *A Good Beer* (*Un bon bock*, 1892), *The Clown and His Dogs* (*Le Clown et ses chiens*, 1892) and *Poor Pete* (*Pauvre Pierrot*, 1892), each slightly over ten minutes in length, accompanied by fragments of synchronous sound (e.g. the



Charles-Émile Reynaud.



Praxinoscope.

beating of Pete by his master was illustrated with the crack of a stick) (Wells 2005: 2). In addition to organizing the first screening of animated films, Reynaud can also be considered the founder of the movie theatre, as he was the first to screen visual narratives in dark auditoriums for large audiences. It is especially noteworthy that the concept of cinema was still unknown, emerging ‘officially’ only three years later, in 1895, when the brothers Auguste and Louis Lumière presented their newest invention – the Cinematograph – to the public. In commemoration of Reynaud’s 1892 screening, ASIFA has established the International Animation Day, celebrated annually on 28 October (www.asifa.org).

As a technological and creative means of expression, animation became more widespread only after the birth of cinema. It is difficult to pinpoint a single individual as the first animation-maker, since this field was discovered simultaneously by a number of enthusiasts. Some of the earliest experiments in the animated film in the context of live action cinema were conducted by the French director Georges Méliès and by the American producer James Stuart Blackton, who employed animation techniques in their movies. Animated film received its ‘voice’ in 1928, when Walter Elias Disney, after having completed a series of silent cartoons, decided to make Mickey Mouse speak. *Steamboat Willie*, the first sound animation (or, rather, singing animation), opened the way for the rapid growth and development of animation, which has now reached almost every aspect of modern media. Today, animation and the animated film are, to a large extent, understood as synonymous terms.



Walter Elias Disney.

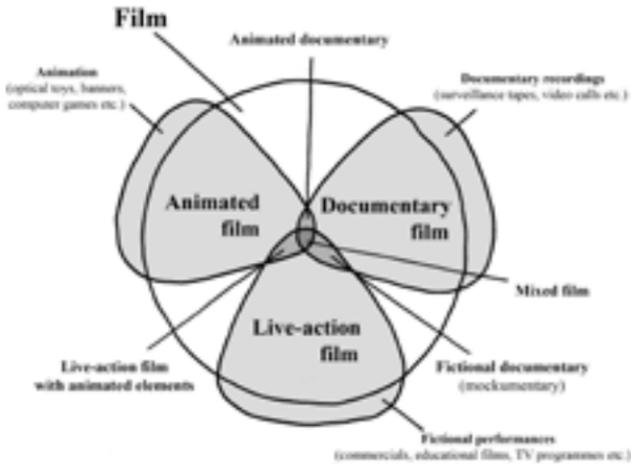
According to the ‘classic’ definition, as stated by Edward S. Small and Eugene Levinson, animation is perceived as ‘the technique of single-frame cinematography’ (Small and Levinson 1989: 73). Semantically,

the word 'film' refers to film aesthetics or at least to film stock, which has now been partly substituted with video tapes, DVDs, computer hard drives etc. Thus the animated film corresponds aesthetically, or at least formally, to the classic concept of film. Therefore, the category of animated film does not include animated postcards, moving screen graphics, cell phone visuals, emoticons etc. All of these are animation, deriving from essentially the same sources as the animated film, yet lacking specifically filmic aesthetics.

Animation has maintained its basic nature, despite technological progress and the appearance of new technical solutions throughout the optical, electronic and digital eras – it is still all about presenting immobile objects in a manner that induces the illusion of motion in viewers' minds.

Types and techniques of animation

The animated film is one category or type of animation. On the most general level, there are two types of animated film: two-dimensional (2D) and three-dimensional (3D). 2D animation, in turn, includes such techniques as hand-drawn animation, cut-outs or silhouettes, sand animation, direct animation (animated films drawn directly on film) etc. 3D animation is comprised of such techniques as model or puppet animation, 3D computer animation, pixilation, time-lapse etc. By no means is this a comprehensive list of animation techniques, as various combinations of these types are frequently used and new technical solutions are constantly developed. The following catalogue stems from visual, rather than technical, aspects, because the large majority of modern animated films use, to a smaller or greater degree, computer imaging and can thus be labelled computer animation.



Interrelations of animation, documentary and live-action narrative cinema.

Hand-drawn animation

This is the most widespread type of animation. The animator draws a series of cartoon characters on paper, which are subsequently scanned into a computer, coloured and joined with backgrounds. Before the computer age, characters were drawn on clear sheets of celluloid – cels. Walt Disney's *Snow White and the Seven Dwarfs* (1937) is one of the most famous animated cartoons.



Walt Disney, Snow White and the Seven Dwarfs (1937).

Rotoscoping

This animation technique involves the copying (tracing over) of movement filmed as live action. It is mainly used in films that strive for the utmost realism of motion. Rotoscoping was invented and patented in 1915 by Max Fleischer, one of the pioneers of the ani-



Max and Dave Fleischer, Gulliver's Travels (1939).

mated film. This technique was widely used in early Soviet animation because it corresponded very well with the aesthetics of socialist realism. *Gulliver's Travels* (1939), by Max and Dave Fleischer, is a good example of rotoscoping.



Yuri Norshtein, *Tale of Tales* (1979).

Cut-out (silhouette) animation

Characters with movable parts are cut out of paper and they are manipulated frame by frame against a background in front of a camera. Today, most cut-out animation is produced using computers: the moving parts are cut out of drawings and moved digitally as needed. Yuri Norshtein's *Tale of Tales* (*Skazka skazok*, 1979) is a cut-out animation.



Ferenc Cakó, *Touch* (2009).

Sand animation

Images and motion are created using sand that has been applied to a sheet of mat glass in front of a camera. Light is directed through the glass and the sand towards the camera and the partially transparent sand makes it possible to create interesting images. The images and their motion are filmed frame by frame. Sand animation is an umbrella term for this technique, as also salt, pigmented powders etc. are used. Ferenc Cakó's *Ashes* (*Hamu*, 1994) is a sand animation.



Caroline Leaf, *Two Sisters* (1991).

Direct animation (drawn on film animation)

Characters and their movements are drawn, scratched with a needle or stamped directly on film. This is technically one of the easiest, yet also one of

the most time-consuming types of animation. Caroline Leaf's *Two Sisters* (1991) was etched onto tinted 70 mm film.

Puppet or model animation

This is the second most widespread type of animation, after hand-drawn animation. Figures with wire skeletons can be moved and fixed into different positions. The movements are filmed frame by frame, creating an illusion of moving puppets. In puppet animation, the cinematographer and gaffer play a central role. Nick Park's *Wallace & Gromit in The Wrong Trousers* (1993) is an example of stop-motion puppet (clay) animation. In addition to stop-motion, go-motion technique is sometimes employed. The main difference between the two is that, while in stop-motion the object is moved in small increments between individually photographed frames, in go-motion the frames are images of the object taken while it is moving. In the latter, the puppet is moved during the exposure of frames, thus producing a realistic motion blur. A chase episode in Nick Park's *The Wrong Trousers* employs go-motion animation.



Nick Park, *Wallace & Gromit in The Wrong Trousers* (1993).

Computer animation

This is very similar to puppet animation, only the puppets and the entire visual universe of the film is created on a computer, using different programmes. Andrew Adamson and Vicky Jensen's *Shrek* (2001) is a computer animation.



Andrew Adamson and Vicky Jensen, *Shrek* (2001).



Norman McLaren, *Neighbours* (1952).

Pixilation

Pixilation is a stop-motion technique, like puppet animation but, instead of puppets, live actors are used. While in puppet animation puppets stand in for live actors, in pixilation live actors have been turned into puppet-like characters or human puppets. ‘Pixie’ signifies a mischievous fairy or sprite and thus ‘pixilated’ literally means ‘touched by an elf’. In American slang, the word also denotes ‘being soft in the head’ or ‘tipsy’. Thus, the term has no relation to pixels, a widespread phenomenon of the digital age. Norman McLaren’s *Neighbours* (1952) is an example of pixilation.



Heilika Pikkov, *Man in the Crowd* (2009).

Time-lapse cinematography

A camera’s shutter system is equipped with a device that allows the camera to capture each film frame at a rate much slower than it will be played back. This technique is usually employed to portray real-life phenomena, such as opening flowers, changing light etc. Heilika Pikkov’s *Man in the Crowd* (*Inimene rahva hulgas(t)*, 2009) employs time-lapse cinematography.

Summary

In conclusion, I would like to draw attention to the fact that nowadays the borders between different technologies grow progressively more blurry. This is mainly the result of an increasing reliance on digital technologies in film production. Thus, on some occasions, it is nearly impossible to differentiate puppet animation from computer animation, because in postproduction the images are digitally processed to such an extent that computer animation (digital processing of images) becomes dominant.

The borders between live action cinema and animated film are also increasingly more blurry, as live action filming is often mixed with animation. Elements of animation and computer-generated imagery (GSI) can be found in almost every major Hollywood production.

The understanding of the concept of animation itself has also changed over time. As the animation historian Giannalberto Bendazzi notes, ‘between about 1895 and 1910 the term *animated* was applied to things that today are called *live action*, which we often group in a distinctly different category. At that time, “animated photography” was the common term, and a little later the equally rudimentary phrases *moving picture* or *motion picture* came into use’ (Bendazzi 2007).

Therefore, in addition to technological developments, the terminology has also gone through considerable changes. As the field of film relentlessly expands, as the role of animated elements in other types of films constantly grows and as animation literally takes over most modern electronic media, it seems appropriate to suggest that the term ‘animation’ should once again be applied to all moving pictures. At the very least, it is clear that, in the age of rapid technological advancement, the traditional division of filmic phenomena into live action cinema and animated film, as well as the former classification of animation techniques, has become obsolete.

2. Tracing the Ancestry of the Animated Film



A photo series by Eadweard J. Muybridge.

Animated film as an art form has no individual inventor, only a vast number of progenitors: artists and thinkers whose discoveries were built on their forerunners' efforts and experiments. Technical solutions and ideas have spread freely and improved continuously.



Georges Méliès.

First and foremost, animation is the inheritor of ancient rituals, totemic cults, old mystics and magicians, their secrets of sudden appearance and disappearance, and of giving life to inanimate objects. For example, the German word for cartoon is *trickfilm*, evoking a strong sense of magic and illusionism. Thus, Georges Méliès, one of the greatest experimenters of early cinema, considered himself a magician, rather than a film-maker. Norman McLaren,

a legendary animator and animation theorist, who contributed to an extensive booklet accompanying the DVD release by Flicker Alley of more than 170 of Méliès' films, has also declared Méliès a magician who held in his hands the powers and limits of the physical world.



James Stuart Blackton.

An 'aura' of magic and mysticism also surrounds several of the earliest animated films: the title of arguably the first animation ever, directed by James Stuart in 1900, is *The Enchanted Drawing*. In the opening sequence of Winsor McCay's *Little Nemo* (1911), a short film combining live action with some animation, the cartoonist McCay makes a bet that he can **revive** his characters etc.

Animated film also maintains the traditions of wandering minstrels, travelling entertainers (mimes) and storytellers, who were always welcomed everywhere as merry performers and poets. Many storytellers relied on *Laterna Magicas* (magic lanterns), the early precursors of mod-



A travelling storyteller with a magic lantern.



Magic lantern.

ern slide projectors. Athanasius Kircher, a German-Italian scholar used a magic lantern as early as 1671 to show successive scenes from Christ's life (Montagu 1964: 34).

Inspired by the magic lantern and Praxinoscope, Charles-Émile Reynaud came up with an entirely novel device for exhibiting animated films, an invention which culminated in the presentation of his Théâtre Optique in 1892. Émile Cohl's *Fantasmagorie* (1908) is considered the first fully animated film. It avoided live action altogether, unlike the majority of other early animations. The title refers to the 'phantasmagorias' of the 19th century, which employed magic lanterns to project images



Lotte Reiniger, The Adventures of Prince Achmed (1926).



The Quay brothers.



Émile Cohl.



Lotte Reiniger.



Jiří Trnka.

on walls and thus enhance the impact of the story told. Telling stories (myths) is an important part of animated film, as only a small portion of animations are abstract, without any structured narrative. Most animated films are based on stories – narratives. Several animations are direct adaptations of ancient myths, such as Disney's *Hercules* (1997) or Barry Purves's *Achilles* (1995).

The traditions of theatre have also had a great impact on the animated film. The vulgar laugh induced by the exaggerated comedy of the 16th century Italian *Commedia dell'arte* echoes in the audiences of contemporary animated film. Especially strong, however, has been the influence of puppet and shadow theatre, as many of the first animators came from theatre or had a theatrical background. For example, Lotte Reiniger, the author of the first European full-length animated film, *The Adventures of Prince Achmed* (*Die Abenteuer des Prinzen Achmed*, 1926), first worked in theatre. Reiniger's films were also directly influenced by the principles of Chinese shadow plays, imitating their visual appearance and applying similar technical solutions. Jiří Trnka's works similarly demonstrate obvious references to theatre, as he also started out in theatre. Many animators have operated in both fields, designing sets for stage plays. Such directors as Jan Švankmajer, Barry Purves and the Quay brothers continue to approach animated film as a collage of theatre and cinema.

Furthermore, the study of rhythm (speech, music and dance) has carried over to animation and profoundly influenced its development. Keen interest in rhythmical phenomena is a characteristic trait of humankind: people like to watch and listen to ocean waves, burning fire, the laughter of their companions etc. Rhythmic movements and repetition are an essential part of animation. According to Brian Ashbee, 'McLaren himself believed that every animated film, whether it involved moving people or objects or drawings, was itself a kind of dance' (Ashbee 2003: 9). Animation is a universal language of a sort, resembling natural language in its rhythm and sign system, yet it is even more universal than natural language, and more like dancing. It is remarkable that several efforts of numerous scientists to train animals to knock, peck or move to a presented rhythm have never been successful (Patel 2008: 409). Thus, the perception of particular rhythms and responding to them can be seen as something unique to humankind.

In addition, the traditions of illustration and caricature have had a significant impact on the development of animated film. Numerous illustrations of ancient manuscripts are very close to sketches and storyboards of contemporary animation, even though chronologically it is actually the other way around: the design of contemporary animated film has received strong impulses from illuminated manuscripts, which date back to the distant past. The Heidelberg University Library in Germany, which has preserved the treasures of the *Bibliotheca Palatina*, the most important Renaissance



Illustrations from the medieval chivalric epic Sigenet.

library in Germany, holds a great collection of medieval book illustrations. A closer look at these manuscripts reveals that the aesthetic principles of the visual representation of the animated film are actually, to a great extent, rooted in the European Middle Ages. For example, the text of *Sigenot*, a chivalric epic from 1558, is illustrated on every page. The pictures are connected by a continuous illusion of motion; the relationships between different episodes might be compared with present-day methods of editing; within a scene consisting of multiple pictures, the 'frame' of the image remains constant (the manuscript can be browsed at <http://digi.ub.uni-heidelberg.de/diglit/cpg67/0001>). Leafing through the pages of the manuscript produces a certain illusion of motion, although there is no evidence that this was the original intention.

The introduction of Johannes Gutenberg's printing press in the 15th century made books available to common people, although initially the ability to read was a skill of the privileged few. As a result, flip-books – essentially a printed form of animation – became immensely popular. Users could change the pace at which they turned the pages and thus increase or decrease the speed of animated motion. Flip-books depend on the same principles as cinema and have therefore also been called 'pocket cinema' in German (*Taschenkinematograph*) and 'thumb cinema' in French (*cinema de poche*). Flip-books remained attractive after the advent of cinema, and we know that Thomas Alva Edison published flip-book versions of his short films. Such companies as Disney, Gillette, McDonald's etc. have also created flip-books for purposes of marketing and advertising.

The characters of the earliest animated films frequently migrated from newspaper comic strips: '[S]ome of the earliest characters to be featured in animated series were based on human figures found in print media. Perhaps the first animated stars of American animation were the characters of "The Newlyweds", a series animated by Emile Cohl begin-

ning in January 1913 that was based on a well-known comic strip by George McManus. Other human-like characters of popular animated series, such as those in the ‘Mutt and Jeff’ (Pathé Frères, beg. 1913) and ‘Colonel Heeza Liar’ (Bray, beg. 1913) series, also were derived from comic strips, as were many others ... [such as] *Will*, *Tintin*, the *Smurfs*, and *Lucky Luke*’ (Furniss 1998: 67). Many animation-makers, too, have launched their artistic careers as cartoonists (McCay, Disney, Fleischer, Terry, Miyazaki, Pärn, Groening etc.).

As Pavel Marozau, a Belorussian animation director who made mocking films about the Belorussian dictator-president, has confessed in numerous interviews that he was forced to flee his homeland as a fugitive in fear of incarceration. This provides an example of how, as in other art forms, the investigations into the essence of animated film have always had certain ideological implications, being closely related to different philosophical ideas and understandings of art. The world’s first animation theorist – or animasopher – was Plato, whose *Allegory of the Cave* captures perfectly the crux of animation. Animation was also later dealt with by, among others, the film theorists André Bazin and Rudolf Arnheim, and the semiotician Yuri Lotman. Sigmund Freud deserves some credit, too, as his studies certainly were among the most influential theories of the 20th century, and have significantly shaped modern philosophy and art. According to Freud, the world is determined by an inescapable causality, which makes everything rationally explainable. As in dreams, every element in an animated film has a particular, detectable and analysable justification. In terms of its nature and interpretative potential, animated film bears a strong resemblance to dream and fantasy.

The desire to bring puppets and drawings to life is directly connected with the tradition and challenge of building moving mechanisms (automatons). Puppets with moving eyes are the oldest and most rudimentary examples, yet we also know of creatures that are able to per-



Scientist Eadweard J. Muybridge.



The Lumière brothers.

form extremely complex movements. The Frenchman Jacques de Vaucanson, for instance, designed in 1737 a life-size hydraulic figure that could play a flute and had a repertoire of a dozen songs. Next year Vaucanson also invented the ‘Digesting Duck’, consisting of over 400 moving parts, which could flap its wings and drink water (Wood 2002). A little known fact is that Edison, one of the founding fathers of cinema also invented and patented a moving and talking puppet (Furniss 2008: 117). Edison’s entire creative career was deeply affected by a constant urge to bring lifeless objects to life and make them move.

Humankind has always been fascinated by motion and the idea of capturing it. Prior to the invention of the film camera, in the last quarter of the 19th century, Eadweard J. Muybridge conducted pioneering research on human and animal locomotion and his photographic series of movements became extremely popular, still providing helpful assistance to contemporary animation-makers. In the late 19th century, Ottomar Anschütz used multiple cameras – first 24 and later 48 – to photograph objects in motion. Anschütz’s main accomplishment was the development of the first projector – the *Schnellseher* (‘quick viewer’, 1887). Inspired by Muybridge’s snapshot series, the French physiologist Étienne-Jules Marey built, in 1882, a photographic gun which was capable of shooting 12 consecutive frames a second. His former co-worker Georges Demeny connected chronophotography with the Phonoscope, thus both making pictures and recording sound! Demeny hoped that his invention would help to teach deaf-mutes.

Employing photography to examine and capture moving objects soon led to the advent of cinema: on 28 December 1895, the Lumière brothers organized the first screening (with an admission fee) of projected motion pictures, using their own Cinématographe (a device for both filming and projecting motion pictures). This is regarded as the official birth date of cinema. According to Donald Sassoon: 'With the invention of the cinema and its popularisation, a new cultural form, which addressed itself to all social classes, heralded the 'democratic' culture of a democratic age. It is the beginning of genuine mass entertainment. The cinema also marks the end of European near-self-sufficiency in cultural matters, the situation prevailing throughout the nineteenth century. Europeans began to consume, increasingly, cultural products originating in the USA, particularly film and music' (Sassoon 2006: xxiii).

The birth of cinema established favourable conditions for the advancement of animation, both in terms of production and distribution. Thus animated film was born and started its rapid development.

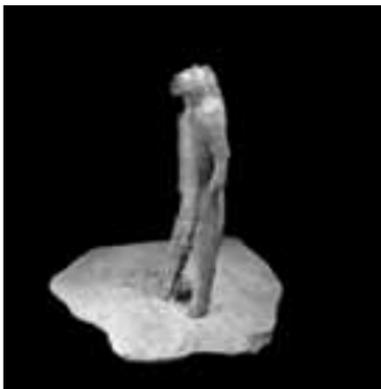


3. Animation (Film) as Communication

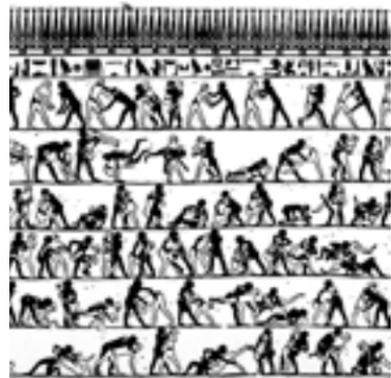


A 5200-year-old Iranian earthen bowl, found in Shahr-e Sūkhté (aka Burnt City), is decorated with five different images of a jumping goat. Urmas Pubkan, Professor of Ceramics at the Estonian Academy of Arts, assisted in reconstructing this ancient goblet, making it spin and thus proving at least theoretically that presenting animation might have been possible as long as 5000 years ago.

It is a well-established fact that animation (film) is made possible by a certain phenomenon of the human eye – the persistence of vision. An after-image persists for a fraction of a second on the human retina, generating inertia of vision, which makes it possible to produce an illusion of motion by projecting a sequence of still images. However, this is only a question of a particular faculty of human physiology which provides the foundation for an illusion of motion; and an appealing animated film should involve so much more! Animation is basically a symbiosis of a certain capacity of human physiology and the animist *Weltanschauung*. People are drawn to animation not because it is technically possible, but because of the basic human need for stories (myths) and inclination towards totemism. Animistic beliefs and the structure of the animist world-view have been shaped in the course of human civilization's long history. According to Karen Armstrong, 'The Neanderthals who buried their companions with such care seem to have imagined that the visible, material world was not the only reality. From a very early date, therefore, it appears that human beings were distinguished by their ability to have ideas that went beyond their everyday experience' (Armstrong 2005: 1–2). From the early stages of its existence, humankind has striven towards fantasy, towards creating imaginary universes, towards endowing lifeless objects with life.



'Lion lady' from Stadel-Höhle im Hohlenstein, Germany.



Narrative graphic art from Egypt.

The oldest anthropomorphic figures, combining animal and human characteristics (which are so widespread in today's animated film) can be traced back to 30,000 BC. A small lion-headed ivory sculpture (ca 30 cm in height) was found in 1939 in Stadel-Höhle im Hohlenstein, Germany. This anthropomorphic creature, half human and half animal, serves as definite proof of the ancient human's ability to create symbols and think in terms of them (Putman 1988: 467).

Some archaeological evidence of the first puppets, from 30,000–21,000 BC, has been found (Blumenthal 2005: 11). The oldest record of 'performing' puppets comes from the Nile Basin: a hieroglyphic text from the 12th century BC chronicles a walking figure portraying a deity (Blumenthal 2005: 12). We can only guess the reasons behind the introduction and use of puppets and drawings at such an early date; perhaps it was for children's play or grown-ups' rituals. It must have been more than the mere joy of creation and playing. 'Human beings are unique in retaining the capacity for play. Unless they are living in the artificial conditions of captivity, other animals lose their early sense of fun when they encounter the harsh realities of life in the wild. Human adults, however, continue to enjoy playing with different possibilities, and, like



Wayang-figure for shadow theatre, Java.



Misha, the mascot of the 1980 Moscow Olympic Games.



Miga, Sumi and Quatchi, the mascots of the 2010 Vancouver Olympic Games.

children, we go on creating imaginary worlds' (Armstrong 2005: 9). It is possible that the creation of puppets (totemic figures) demonstrated a desire and provided an instrument to express the might and omnipotence of the gods: the puppet represented mankind and the mover of the puppet the deity. It is also possible that it was a convenient way of staging didactic plays for the members of the community, the watching and experiencing of which generated a sense of communal spirit, much like the later tragedies in Ancient Greece or modern day rock concerts. Subtly erotic drawings and puppets probably served the purpose of raising testosterone levels and performed an important part in fertility rites. Drawings of hunting scenes most likely functioned in a way analogous to today's tabloids, portraying tribal leaders on cave walls. These pictures also served as depositories of information and as agents of continuity – this was, after all, practically the only way of 'writing a chronicle', as manuscripts were a much later phenomenon. In addition, puppets and drawings were certainly means of childrearing and socialization, used for teaching younger generations and for reconciling foes. Animistic characters are especially useful in the search for reconciliation and harmony, because they make it easier for people from different cultural backgrounds, subscribing to conflicting value systems, to find common ground and communicate with each other. This tradition has continued up to the present – many contemporary international sport-

ing events, including the Olympic Games, cannot do without mascots who act as 'real' hosts of the event. Their purpose is the same – to avoid potential conflicts between organizers and visitors, on political, religious or cultural grounds. According to this interpretation, the 1980 Summer Olympics were hosted not by the communist dictatorship, but by Misha, a merry bear mascot. Furthermore, the 2010 Winter Olympics held in Vancouver presented three mascots inspired by traditional First Nations creatures, thus offering a symbolic reconciliation between the indigenous peoples and later emigrant settlers. Puppets also create a forum for discussing complex and difficult issues. For instance, after the Rwanda and Burundi genocides, UNICEF sponsored pacifist puppet shows in refugee camps (Blumenthal 2005: 189).

Animistic characters have been created on all continents and among all nations. Therefore, they represent an extremely universal phenomenon characteristic of all humankind. Chimpanzees and gorillas – man's closest relatives in the animal kingdom – do not engage in anything similar, precisely because they lack the faculty of symbolic thought, even though they find their food by foraging and using some tools, and even though they could, at least theoretically, draw pictures or model sculptures.

What, then, makes a human human? What distinguishes him/her from other mammals? It is precisely this very question and the ability to ask and discuss it. Human beings are probably the only mammals capable of fantasizing and of symbolic thinking. In order to conceptualize, explain and justify their existence, humans have produced artworks that frame their presence in the eternal totality of the universe. Every artwork includes a commentary on both itself and its author. By means of art, people explore their own inner cosmos, their bodies and physical perceptual mechanisms. Yet an artwork is not merely a material piece of work; it is also an act of communication – between the author and the audience, and among all authors. More broadly, art also communicates its age as a whole.

As already asserted above, people are fascinated by the animated film not only for its technical accessibility, but, first and foremost, because of their essential need for stories (myths) and inclination towards totemism. In this context, totemism should be considered as a wider phenomenon – as a need for self-identification in the framework of a certain sign system. Additionally, audiences experience a whole range of mental states, providing:

1. aesthetic pleasure (i.e. aesthetic experience),
2. curiosity (i.e. experiencing new ideas, their presentation and mode of expression),
3. challenge (i.e. experiencing suspense, a desire to overcome fear and hesitation in facing unfamiliar situations and characters),
4. comparison (i.e. a wish to compare the given film with other works or with the author's personality).

Despite the fact that animation as an art form reached wider audiences and gained mass popularity only after the birth of cinema, many animated films criticize and mock the medium of film. 'Like medieval comedy, the cartoon mocks itself, romping with its audience' (Lindvall and Melton 2009: 63). Thus animation-makers have critically probed the limits of the film frame, the rigidity of the traditional time-line, the abstraction of synchronous sound, apparently drawing attention to the fact that animation is a much older and more expressive art form than live action cinema, although sharing the same basic format. Unlike in other types of film, in the animated film the conflict is often structured around the relationship between characters and the author – therefore not concealing its artificiality, its constructed-ness. For example, in Osamu Tezuka's *Broken Down Film* (1985), the characters struggle with the film print itself. Animation as a medium describes and criticizes both its era and itself. Today, animation has mostly entertainment value for audiences, at the same time providing authors with means of self-expression. Furthermore, it is also employed as a transmitter of information

on phone displays, computer screens etc. Paul Wells, the most noted animation theorist of our time, has aptly asserted that ‘animation is everywhere. It is the omnipresent pictorial form of the modern era’ (Wells 2007a: 1).

Modern culture is mainly text-based, as opposed to the primarily visual nature of earlier eras, when pictures and images played the central role. Johannes Gutenberg’s printing press secured the predominance of written texts in almost every sphere of life. The introduction of modern book printing led to the true heyday of culture and education in Renaissance Europe, gradually establishing them as largely text-based phenomena, which has remained unchanged to the present. Gutenberg’s printing press and the subsequent explosion of written media has also been called the Printing Revolution. Subsequently, the rapid development of digital technologies and their integration into practically every field of life has started to re-visualize contemporary culture once again, thus re-establishing its historical status. For example, emoticons (a portmanteau of the words ‘emotion’ and ‘icon’) – sign-like pictures and images – have become extremely common in casual textual communication. Even though the history of emoticons started long before the ‘digital age’, their wider adoption was initiated in Internet forums, online gaming, text messaging etc., and they spread quickly to other media. The development of emoticons is an ongoing process – the initial simple faces formed of letters and punctuation marks have been replaced by extremely complex short animations symbolizing certain moods or activities. The purpose of emoticons goes far beyond mere textual economy – they make written texts more eloquent and emotional. Emoticons constitute an exceptional universal sign system, capable of crossing the linguistic and cultural barriers in our globalising world. Gutenberg’s printing technique has become digitalized, yet written text has retained its basic core, practically untouched by the changing means of reproduction and distribution. However, the rapid growth of animation and its

increasing invasion of written text provides an opportunity to talk about something entirely new – the Revolution of Animation, the massive dispersal of moving pictures in the globalising world.

Will animation ever become a new universal language? It is possible, yet more probably it is in the process of becoming a part of a new universal language. In Japan, for example, which is among the leading countries of animated film production and where the use of animation in other media is extremely common, the natural language is largely based on pictographs – signs (hieroglyphs) resembling physical objects they signify: for instance, 山 *yama* – ‘mountain’, 大 *dai* – ‘large’, 小 *shō* – ‘small’. The history of the Japanese writing system and its pictographic nature certainly explains, to some extent, why animation is so popular with the Japanese people.

But what are the central topics of the animated film today? Naturally they are similar to those explored in modern live action cinema, books, songs etc. Ecological awareness, in particular, seems to be increasingly relevant in today’s animated film, as in society at large. The number of contemporary animation-makers inspired by the search for balance and harmony between humankind and nature has steadily grown. Several feature-length animated films have concentrated on these issues, such as the Japanese *Princess Mononoke* (*Mononoke-hime*, 1997) or some major American productions, such as *The Simpsons Movie* (2007), *Finding Nemo* (2003), *Happy Feet* (2006), *Wall-E* (2008) etc. *Avatar* (2009) is particularly noteworthy in this respect, having provided the impetus for a whole range of ecological discussion groups and youth movements, among other things for the Home Tree Initiative, an effort to plant one million trees (<http://www.avatarmovie.com/hometree/>).

Animation is a powerful channel for communicating messages and it has always been used with that in mind. Every dictatorship has exploited



Representation of movement in cave paintings in Altamira, Spain, and Chauvet, France.

the effective medium of animated propaganda films, in ways similar to modern-day advertising and PR companies.

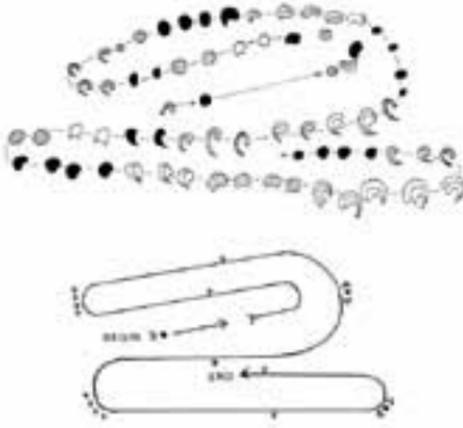
In one way or another, animation has always been a part of human existence. Some series of images in Egyptian art, for example a mural showing wrestlers (ca 2000 BC), are interesting early examples of attempts to depict motion. Upper Paleolithic cave paintings (13,000 BC) in Altamira, Spain demonstrate similar intentions – many images of animals have six or eight legs, suggesting efforts to convey the illusion of movement. In search of the very first piece of animation, some theorists have referred to an Iranian earthen bowl, found in Shahr-e Sūkhté (aka Burnt City) and decorated with images of a jumping goat. This 5200-year-old goblet has five sequential pictures painted along the sides, which, by giving the bowl a spin, create the illusion of the goat leaping (Ball 2008). It remains unknown if and how this type of bowl was made to spin (perhaps with some sort of a rope mechanism), although the shape of the piece suggests that this would not have been a complicated task. Maybe these ‘animated goblets’ were even widespread entertainment articles? I propose that the title of the oldest animation should be given to a Palaeolithic ‘calendar’ from France – a veritable prehistoric iPod! Examining this 30,000-year-old carved bone under a microscope, the archaeologist Alexander Marshack established that it marked moon phases (Marshack 1975: 65–66). Even if these engravings did not rep-



Paleolithic 'calendar' from Blanchard, France.

resent moon phases, as Marshack suggested, a prehistoric man had still depicted a movement of some sort, a changing of something over time, linking transformations of time and image in order to portray motion. True, it is not a proper animation, yet it still reflects the way animators think – in terms of creating animated motion.

Ancient drawings and puppets (totemic figures) constituted the mass culture of their time – an ideology bringing together communities and representing their *Weltanschauung*; they were a means of representation that reached wide audiences. The essence of mass culture has, to a large



Enlarged detail of the Paleolithic 'calendar' by Alexander Marshack.

extent, remained the same; only channels of distribution have been replaced. The ancient traditions of puppets and drawings can be seen as foundations of today's mass culture, which now exists in the form of big-budget animated films. By means of emoticons, animation has also increasingly infiltrated the written text, laying the groundwork for a new universal language of the globalising world. The abstract nature of animation leaves plenty of room for fantasy, preserving and advancing the ancient animist sense of the world. The basic beliefs of humankind have, to a great extent, remained the same throughout the centuries, and the development of science and technology has only managed to transform lifestyles and channels of communication.



Puppet, 3rd century BC, Greece. Puppet, 2nd century, Rome. Puppet, 19th century, England.

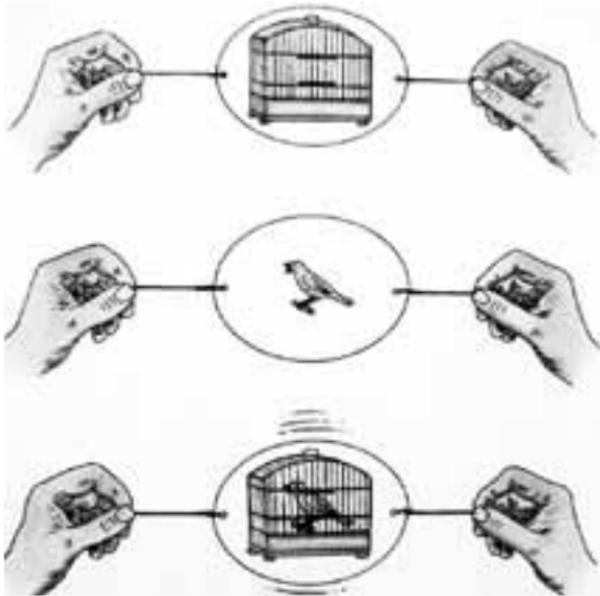


4. On Time in the Animated Film



Making of the animated film Generatio (2005); animator Märt Kivi and puppet-actress Lii Unt.

In human perception, time is a changing and ephemeral phenomenon. Time is essential: it has economic value ('time is money') and is thus a limited resource. In our daily lives, time is one of the most central notions and criteria. Time is synonymous with both life ('beautiful time') and death ('my time is over'). In animation, we see still images – frames – projected in succession at a particular speed, and then something more... something we do not so much actually see as sense. Namely, in the audience's mind, a string of still pictures conjures an illusion of a moving image. Peter Mark Roget was the first to define this phenomenon, in a paper written in 1825, which later came to be known as the theory of 'persistence of vision'. Roget explains how images linger briefly on the human retina, creating an illusion of continuous motion (Wells 2005: 12).



Thaumatrope.

Time of shooting in the animated film

Time is one of the central concepts of cinema because film has a temporal dimension – a particular duration. Animation, unlike other types of film, is not shot in real time. Animated films are made frame by frame and the time spent on creating each frame and sequence can vary greatly. For example, it can take days to develop a segment of a hand-drawn animation from an initial draft into a finished design, while another sequence of the same film might be completed in a matter of hours. The same is also true for other animation techniques: the speed of filming (creating frames and sequences) is irregular and depends on the complexity of the particular picture. The production process of the animated film lacks a smooth and logical time-line; the fleeting moment and eternity stand side by side. Yet the audience is presented with the impression of an uninterrupted flow of re-created time. In reality, however, viewers see only still images produced over periods of time which might differ greatly in length. It is true that audiences of live action fiction films and documentaries also see still images, but the fundamental difference lies in the flux of time: while in live action cinema, time flows evenly (in a shot), in animation time jumps, taking ‘leaps’ of varying length. It is important to stress that here I am talking about the time of production, and not the time of presentation/projection of a film. Time in the animated film resembles a cubist painting, the image of which has been first divided into odd, manipulated pieces and then reassembled as a new totality.

Sebastian Buerkner’s films and installations often employ single frames – the shortest possible visual sequences of time in film. The visual information of a cinematic sequence consisting of a single frame is practically imperceptible to the human eye. In combination, the successive frames can lead to entirely new images: for instance, the human eye perceives



Sebastian Buerkner.



Sebastian Buerkner, Purple Grey (2006). Viewers are presented with different frames, but as they flicker rapidly, their content might not be perceivable.

the rapid alternation of black and white frames as a grey image. This phenomenon was first applied in *Thaumatrope*, where two flickering images merge into one whole in the human mind.

In *Furniture Poetry* (1999) by Paul Bush, the single frames depicting different objects alternate rapidly, creating in viewers' minds fantastic new hybrid images. Time models film according to the speed of projection and in sequence with other images. Several animators have paid special attention to the play of time and space as relative and plastic constants. Directors such as Len Lye, Jules Engel, Norman McLaren and Robert Breer may be regarded as visual poets employing techniques of animation. By nature, animated film is closer to poetry than prose, since in poetry, too, the temporal connections between and sequence of events is not of primary importance.



Paul Bush.

In a paper presented at the Lucerne International Animation Academy in 2009, Paul Bush revealed that, in *His Comedy* (1994), drawn and scratched directly on the film stock, a few frames contained small mistakes but later, watching the whole film, he could not notice these 'errors' at all. Similarly unnoticeable were the frames he had considered very good

during production – the single frames interchange at such a pace that viewers only manage to perceive a certain general whole. A single frame stands out only by omission – when smooth movement is disrupted.

Before Albert Einstein's theory of relativity, time and space were seen as separate phenomena. Einstein's theory tied time and space into a continuous space-time: time can only be understood as a part of space-time. However, the laws of physics are not applicable in animated film, which is metaphysical in nature. John Halas and Joy Batchelor, a married couple of British animators, stated: 'If it is the live action film's job to present physical reality, animated film is concerned with metaphysical reality – not how things look, but what they mean' (Wells 2005: 11).

Time as illusion

'The belief that, under ordinary conditions, we immediately see or perceive the physical object itself is called naive realism. Almost all people are naive realists, victims of naively realistic illusion. [...] In order to induce a sensation of vision, certain neuronal processes must take place in the brain's vision centre. Thus, what we immediately see and what becomes the immediate visual sensation are in fact located in our brains and not in the outside world. This observation becomes especially relevant in the case of dreams and hallucinations. In these cases, all kinds of things are seen, yet the immediate ex-



A sequence from Paul Bush's Furniture Poetry (1999).

perience – that which is immediately seen – is actually not outside the brain’ (Uus 2005).

Thus everything visible and audible to viewers is, in fact, an internal quality, not an external phenomenon. In addition to merely perceiving images and sounds it becomes necessary to interrelate the neuronal processes induced in viewers’ minds. ‘Reading’ a film requires previous cultural experience. During film projection, spectators are presented with a set of different light and sound waves, evoking a certain naively realistic illusion. Similarly, time cannot be ‘seen’ either; it can only be sensed internally and thus time in film is also an illusion of a kind.

Representations of time in the animated film

‘In every art which employs vision and iconic signs there is only one possible artistic time – the present’ (Lotman 1976: 77). Presenting the duration or passing of time in the animated film is a challenge open to an endless number of solutions. Priit Pärn’s *Luncheon on the Grass (Eine murul, 1987)* contains an episode with two different times, parallel temporal orders. First, we see a child pulling a table cloth and, as it moves, the seasons change behind the window. Finally the table cloth and the dishes on it fall to the floor, while a woman sitting at the table sighs, ‘Oh, how time flies by.’ Suddenly, the child has aged considerably. This episode is thus abundant with multiple temporal orders.

Time in animation film is generally compressed and elliptical – events occurring over an extended period of time are compressed and the less important details and story lines are omitted, as filmic events are reduced to the essence of the represented events (and their duration), instead of merely imitating them. Spectators comprehend subconsciously that they are being presented with elliptical cinematic narrative, purified of secondary minutia, and they are able to mentally ‘unwind’ the narrative. In the animated film, moreover, time is also manipulated; its

even flow is disrupted and temporal orders are often multiplied. This self-destructive and forking paradigm of time in the animated film also evokes timeless space. Timeless space, in turn, endows the animated film with great symbolical value.

Time is the most important agent of the animated film, its invisible protagonist. The animated film provides an opportunity to manipulate time, but under no conditions can time be ignored. This leads to a perplexing magic, which gives life to inanimate characters and convinces viewers of the spirituality of things. Achieving harmony between internal and external time is true evidence of artistic mastery in the animated film.



Priit Pärn, Luncheon on the Grass (1987). An example of multiple parallel temporal orders – a unique trait of animated film.



Gone with the Wind

Making animated films essentially involves sculpting time. The flux of time is fragmented and transformed significantly in the process of capturing the imagery. In the assembly stage, the sculpted time goes through another set of shifts and is turned into psychological time. The latter refers to the way we remember past events. In most movies, time does not progress in a linear, but in a fragmented order; it jumps back and forth on the temporal axis by means of flashbacks and flash-forwards. In addition, psychological time encompasses transformations varying in rhythm and pace.

In 1964, Andy Warhol made a film called *Empire* with Jonas Mekas. It consists of continuous footage of the Empire State Building in New York City. The film was shot on the night of 25 July 1964. *Empire* runs eight hours and five minutes and is composed of a single uncut long take. It involves no specifically cinematic manipulations. The viewers see a 'pure' recording. It is one of the rare examples of biological time in film – time that flows in a linear fashion, without being intentionally shaped and fragmented.

Gone with the Wind is a film about Tallinn, or, more precisely, about a house in Tallinn disappearing in the course of one year (2008–2009) – it is demolished. The film does not denounce the surrounding society for dismantling the old and dignified building; its disappearance goes completely unnoticed.

Even if passers-by stop for a moment, they seem indifferent. By nature, *Gone with the Wind* is an animated film (pixilation), which means that it sculpts and fragments time by means of editing. Therefore, it presents psychological time. At the same time, it has an interesting effect on the audience. Because of its documentary content and long shooting period – one year – time undergoes an intriguing transformation in the film: the psychological time is converted into biological time. According to classical film theory, viewers always identify with the protagonist, but as *Gone with the Wind* lacks a protagonist in the classical sense, or any characters for that matter, the audience inevitably relates to its most intense element – time. *Gone with the Wind* is a story about the passing of time, which therefore is its protagonist. The audience gets a sense of the flux of time and of the temporality of their own existence.

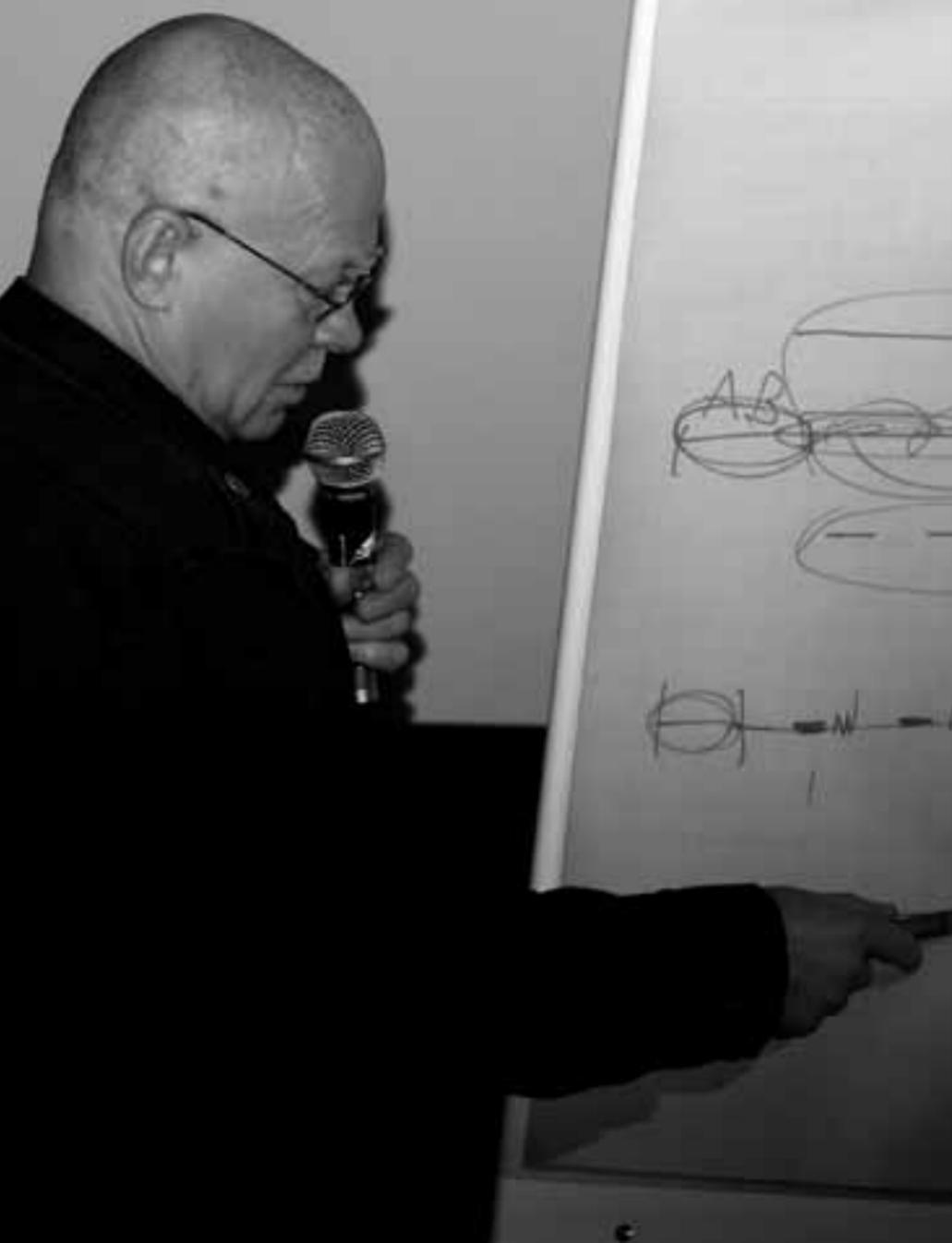


Morten Skallerud's pixilation *A Year Along the Abandoned Road* (*Året gjennom Børnfjord*, 1991) is another interesting example of an animated film featuring different dimensions of time. In the film, the camera traverses the picturesque Norwegian terrain in the course of one year, filming one frame at a time and moving along step by step (in steps of 30 cm). The natural phenomena and changing seasons emphasize the flow of time in a manner uncommon to us. Yet as the camera moves at a pace relatively comparable to the usual speed of human motion (for example, when walking or cycling), a peculiar multitude of parallel times is induced, intertwining the strange

and unfamiliar time patterns with the most habitual ones. The 'natural' rate of camera movements and an entirely otherworldly sense of the changing surroundings are merged to form a coherent whole. The compression of a year into a dozen minutes seems almost natural due to the specific pace of the moving camera, which gives viewers a sense of their own existence as not brief and temporary, but rather as eternal – the passing of a year feels like a short film. A similar effect characterizes Vuk Jevremović's film *Patience of the Memory* (2009), showing the history of the city of Dresden by means of changing architecture and urban environments. It presents an imaginative concentrate of the city's growth and deterioration over the centuries.

The animated film is generally fictional, but certain topics and techniques are capable of turning it into a documentary genre, capturing real, authentic time and events, without fictionalizing them. Despite the fact that the animated film usually sculpts time, many animations also present authentic – biological – time, proving that the animated film may sometimes be more documentary than conventional documentary films.





5. *On Structure in the Animated Film*



*Priit Pärn, a film director and Professor of Animation at the Estonian Academy of Arts, explaining the structure of his *Divers in the Rain* (2009).*

When watching a film, listening to a song or reading a book where some essential part of the work has been forcibly removed, we generally get a sense of an unfinished whole: the structure of the piece has been corrupted. Therefore, for better understanding and analysis of any art work, it is necessary to know the common formal patterns of the particular field.

The word ‘structure’ comes from the Latin *structura* or ‘(inner) build’. Nowadays, this term has become a fundamental philosophical category, defining the links and relations of elements in any given system – in short, its organization. In its modern sense, this concept was first used by Immanuel Kant.

According to Yuri Lotman, ‘[t]he strength of cinema’s effect lies in the variety of constructed, complexly organized and maximally concentrated information. We understand information, here, in the broad, “Wienerian” sense as the totality of various intellectual and emotional structures transmitted to an audience’ (Lotman 1976: 41). Films, as works of art, are patterned in a specific manner. First, all audiovisual works share a common basic structure composed of basic elements, including title, image track, sound track (music and sound effects), story, characters and implied authorship. This basic structure was formed and developed soon after the birth of cinema (with the exception of sound, which came slightly later) and has not changed much over time. It is important to stress that film, by combining a number of independent basic elements (art forms), actually consists of several different structures: we can talk about the structure of story, of image, of sound etc. On closer observation, it is a multi-patterned pattern. However, despite the relative stability of this basic structure, researchers of film have established that successful films share a specific set of approaches and formulas. Fiona Macrae reports that ‘[s]cientists from Cornell University in New York analysed 150 high-grossing Hollywood dramas, comedies and action

films released between 1935 and 2005. They found that many of the more recent movies had shots of a similar length that recurred in a regular pattern throughout the film' (Macrae 2010).

In what follows, I will concentrate on the most general level of structure and will try to avoid delving into substructures. Jaan Einasto, an eminent Estonian astrophysicist who discovered the cellular structure of the Universe, reached his conclusion by examining the evolution and structure of galaxies. In a similar manner, evolution and construction form the foundations of my approach to the question at hand.

Evolution: Modernity and innovation in the animated film

In the early days, films were predominantly produced with the effect of surprise in mind. They were like magic shows, offering audiences unprecedented experiences and impressions by means of a new invention – the cinema. We know of numerous urban legends describing how the audience fled the auditorium when seeing a train coming directly at them on the screen, or how viewers attempted to influence the course of a film by shouting at the characters. The animated film, taking shape soon after the birth of cinema, similarly first relied merely on the element of novelty and surprise, by providing audiences with a chance to see 'living' puppets and drawings. The earliest animated films generally lacked a plot in the classical sense and they were normally geared towards demonstrating motion and the possibility of attaining it. Thus, the American James Stuart Blackton's animated films *The Enchanted Drawing* (1900) and *Humorous Phases of Funny Faces* (1906) consisted mainly of simple movements and funny faces, showing, for example, how a man smoked a cigar. *Fantasmagorie*, (1908) by the Frenchman Émile Cohl, was one of the first European animations. Without a clearly structured narrative, its main purpose was to present viewers with the surprise of hand-drawn characters in motion. Ladislav Starevich (born

Władysław Starewicz), of Lithuanian descent, was one of the first to make narrative animations, as in *The Cameraman's Revenge* (*Mest' kinematograficheskogo operatora*, 1912). The authors of the documentary about Starevich's life and work, *The Bug Trainer*



Ladislav Starevich.

(*Vabzdžių dresuotojas*, 2008) show how Starevich used dead insects in his films, equipping them with new wire legs in order to move them according to his wishes. Impressed by the smooth movements of the animated insects, contemporary critics thought that the director had managed to train them to obey his orders and give organized performances. Winsor McCay was another early animation-maker who realised the importance of narrative, and his animated

cartoon *Gertie the Dinosaur* (1914) established entirely new artistic standards for the field. The works of Georges Méliès also relied heavily on the use of animation techniques, constituting the best examples of the genre, which mainly attempted to present audiences with incredible stories and unrealistic 'trickery'. Gradually, however, as spectators grew used to the novel medium of cinema, curiosity regarding merely moving pictures began to fade. Films became more complex in structure, following a clearly discernible narrative and paying more attention to visual aesthetics. It is interesting, however, that while all this is true for live action cinema, in the animated film the 'novelty effect' has retained its im-



Winsor McCay, *Gertie the Dinosaur* (1914).



Ladislav Starevich, *The Cameraman's Revenge* (1912).

portance, as almost every film still revolves around some sort of technical innovation. Animated films have always been among the leaders in innovation, whether in terms of the introduction of sound films, the appearance of colour cinematography or the first feature-length stereophonic films. Contemporary animation-makers still appeal to their audiences (and advertise themselves) by means of technical innovation. For instance, the media campaign of John Lasseter's *Toy Story* (1995) was built on the message that it was the first feature-length 3D computer animation, and Hironobu Sakaguchi's *Final Fantasy: The Spirits Within* (2001) was advertised as a film starring the first virtual (non-realistic) actor. The increasingly popular 3D cinematography (stereoscopic films) frequently employs animation techniques in order to utilize all dimensions of the 3D picture and emphasize the novelty of the technology (e.g. *Coraline* (2009), *Bolt* (2008), *Up* (2009) and *Monsters vs. Aliens* (2009)). The tag line of James Cameron's *Avatar* (2009), a symbiosis of 3D computer animation and live action, emphasises the novelty aspect by saying 'Movies will never be the same again' (<http://www.avatarmovie.com/index.html>). Thus, while modern live action narrative cinema generally attracts audiences through film stars, animated films have maintained the traditions of early cinema by accentuating innovation and novelty.



John Lasseter, *Toy Story* (1995).

The same is true for *auteur*-animation, where most commonly it relates to polishing a particular technique to perfection. Norman McLaren, for example, developed the concept of 'drawn music' and experimented with the combined effects of image and sound, while the 'trademark' of Aardman Animations is the intricate facial expressions of the characters and the synchronicity of speech and mouth movements. Aleksandr Petrov, at the same time, is famous for his romantic-realist style attained with oil colours. Chris Lavis and Maciek Szcerbowski (*Madame Tutli-*

Putli, 2007) and Suzie Templeton (*Dog*, 2001; *Peter & the Wolf* (*Piotruś i wilk*), 2006) have concentrated on achieving a particular realism of puppets, especially their eyes. Riho Unt and Hardi Volmer have developed a 'telescope system' for animating puppets (*Enchanted Island* (*Nõiutud saar*), 1985; *Primavera*, 1998). Jan Švankmajer is dedicated to investigating the metaphysics of objects. Almost every animation director has developed a particular technique or advanced an existing one. Thus, innovation is essential to the animated film. However, it cannot be regarded as an element of its structure. Authors of animated films frequently strive, consciously or unconsciously, to surpass previous achievements both in technical and artistic terms. Many animated films have been motivated by a need to prove the viability of certain technical solutions: while characters in computer animation were at first very simple, round and covered with smooth 'skin', the advancement of computers and software led to the introduction of hairy creatures, as in *Monsters, Inc.* (2001) or *Ice Age* (2002). This demonstrates a clear link between the advancement of technology and the evolution of the content of animated films: as soon as it was technically possible to create hairy characters (i.e. to render more complex forms) on computers, the larger studios took advantage of the opportunity to show off their technical acumen, and hairy characters became almost compulsory elements of major productions. The ambition of technological and artistic innovation has always laid the foundations for the evolution of the animated film, guaranteeing the continuous development of the field.

Function

Maureen Furniss, the noted animation theorist, emphasizes that '[a]ny analysis of the structural design of a work should consider first its primary function. Is it to entertain a wide audience? Is it to experiment and uncover new techniques or ways of thinking?' (Furniss 1998: 97).

Humankind has told stories for thousands of years and the animated film continues this tradition using different means: the immediate presence of a storyteller has been replaced by the screen and loudspeakers. The modern animated film has, to a large extent, adopted the role of ancient storytellers narrating myths and legends. 'During the last few decades structural analysis has assumed a central role in folkloristic methodology [...] It is possible to distinguish between five different structural patterns, each and every one of them with its own function: the belief legend, the admonitory legend, the amusement legend, the utterance legend and the local legend' (Pentikäinen 1989: 183). Juha Pentikäinen's classification of legends could also be applied to the structure of the animated film, particularly that of shorter *auteur*-animations: the belief (mythological) animation, the admonitory (didactic) animation, the amusement animation, the utterance animation and the local animation. Moreover, clear traces of the folkloric approach can still be detected in major productions, even if modern animated box-office hits usually entail a number of compromises between commercial and artistic ambitions. Big-budget films normally go through test screenings and the reactions of test audiences often result in substantial changes. In commercial animation, conventional narrative is frequently shaped by strategies of promotion and the pursuit of financial gain – but probably the same was true for ancient storytellers, although their expectations were limited to a free meal and accommodation. It is also likely that they modified their stories and legends according to the reactions of their audiences. Finally, nowadays many fairy tales do not reach audiences through traditional folkloric expression; instead, they are mediated by animation, and especially by productions of the Walt Disney studio. Thus, commercial animation has started to play an important role in shaping the popular heritage, and not vice versa.

Animation logic

The structure of the animated film can also be understood in terms of the ability of the audience to comprehend the animated form. Wendy Jackson Hall, an animation artist and educator, has observed children of various age groups in animation workshops and discovered certain patterns in their comprehension, which she has dubbed 'animation logic'. Animation logic 'goes hand in hand with concepts learned at each grade level' and it describes the way children understand animation. According to Jackson Hall, the aspects of animation logic, in connection with other subjects, include:

- » Math: Comprehension of multiplication, division and fractions help children understand that 24 frames are combined to create one second of animation.
- » The Arts: Aesthetic principles of design, composition, contrast and visual symbols; Motor skills, hand-eye coordination and the ability to repeat a drawing are helpful in creating animation.
- » Reading and Writing: Principles of storytelling, story structure, characters and settings help children express themselves beyond the realm of experimentation.
- » Science: Scientific principles of visual perception, cameras and projection technology are extremely high-level and can only be brushed upon before intermediate grade levels of six and up.
- » Physics: Physical laws and limitations of movement, velocity, gravity, transformation and metamorphosis are also complex ideas that come into play when children are having their second or third experience of creating animation. This is when they begin to apply the laws of the natural world to their animation (Jackson Hall 2006).

Length

Animation, as with other film types, can be classified according to length: short and feature films. A feature film normally runs at least 75

minutes. Another type is the series, which is defined as a collection of short films related in terms of the diegetic world (space, characters and story) and designated for presentation in succession.

The Polish director Jerzy Kucia has an interesting approach to duration: every one of his films is a sequel to his previous works, which as a group constitute a single whole. As Kucia explained in a paper presented in 2009 at the Lucerne International Animation Academy, his films are neither shorts nor features; they are segments of an endless totality.



Jerzy Kucia.

Narrative and the three-act structure

‘We can consider a narrative to be a chain of events in cause-effect relationship occurring in time and space’ (Bordwell and Thompson 2004: 69).

The majority of animated films tell a story of (main) characters who have to face challenges and control their emotions in order to reach their goals.

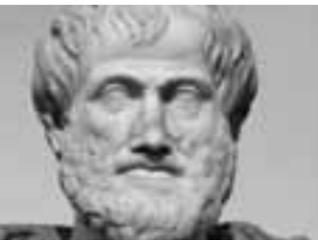
The Russian literary scholar Vladimir Propp analysed folk tales and discovered that the majority present variations of a limited number of narrative elements. He defined eight character types and 31 functions. In folk tales, the stories usually take place in the past (signalled by the frequent opening line of ‘Once upon a time’ etc.), unwind in linear order, without jumping back and forth in time, and are told from the perspective of an outsider or one of the characters. Animated films, on the other hand, typically play with the temporal axis and often include multiple perspectives of narration (those



Vladimir Propp.

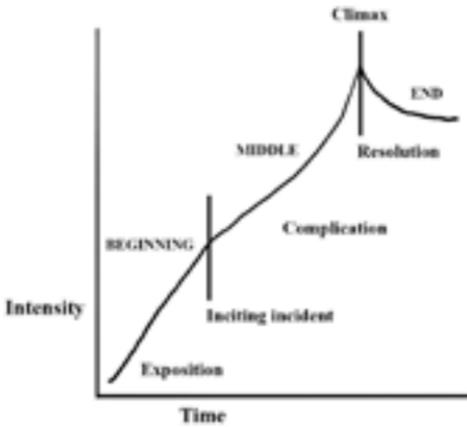
of different characters, of the narrator etc.). Propp's critics have emphasised precisely the point that his analysis relies only on written sources and does not take into account the varied methods and styles of oral presentation. In mapping the structure of the animated film, however, we should consider first and foremost the method (from whose viewpoint the story is told, and in what manner) and style (the dimension of time) of narration. While modern communication is largely based on the chronology of events, the structure of the narrative (plot) of the animated film primarily serves to create suspense, not to establish the particular chronology of events. Therefore viewers often learn only in the end who the murderer or the father of a child is, reversing the temporal order of events.

'There is a general structure that has evolved for most movies that divides a typical story into three acts. The first act introduces the characters and their world and then gets the characters into some dilemma. [...] The second act develops the plot to reveal the motives of the characters and the depth of their relationships. This act ends in a completely unsolvable problem for the hero, and all seems lost. [...] Act three is all about resolution' (Hahn 2008: 22–24).



Aristotle.

The three-act structure was established by Aristotle, who analysed the most important components of a story (a narrative). The following diagram summarizes how Aristotle understood the basic dramatic structure (Cowgill 1999: 2).



This tripartite structure seems to be fundamental to human thought in general, to the way the world is normally described: small–medium–large, cold–neutral–warm etc. Various trichotomic structures are characteristic of different art forms. For example, ‘Zeami [Zeami Motokiyo, the founder of Noh theatre – *Ū. P.*] noticed one of these patterns, a rhythmic structure called Jo, Ha, Kyu. (The word *jo* literally means ‘beginning’ or ‘opening’, *ha* means ‘break’ or ‘development’, and *kyu* has the sense of ‘fast’ or ‘climax’.) In this structure, you start slowly, then gradually and smoothly accelerate towards a very fast peak. After the peak, there is usually a pause and then a recommencement of the acceleration cycle. [---] In Japanese theatre, each play has Jo, Ha, Kyu, each act and scene has Jo, Ha, Kyu, and each individual speech will have its own internal Jo, Ha, Kyu’ (Oida and Marshall 1997: 31).

Composition

In addition to technique, animated films can also be classified according to composition. Aside from a limited number of experimental animations challenging the limits of their field, classical animated films nor-

mally conform to the general epic and dramatic rules, and consist of space(time), characters and story. These three components usually occur in particular animated films with varying degree of intensity. Based on the compositional dominant, animated films can be divided into the following categories: environment animation, character animation and plot animation.

Environment animation and character animation can be described as lyrical types: films without a classical narrative (or at least without a narrative of structural importance), which therefore present a uniform and constant rhythm (suspense) from the beginning to the end. The silent American animations, for instance, are almost without exception



David O'Reilly.

character animations (e.g. series such as *Felix the Cat* (1919–1930), *Out of the Inkwell* (1918–1929), *Alice Comedies* (1923–1927) etc.), composed of a sequence of visual gags and containing no noteworthy plot development. The structure, built on repetition, is monotonous and predictable. David O'Reilly's *Please Say Something* (2009) provides an interesting example of a contemporary character animation. This extremely character-centred film, presenting a relationship drama between a mouse

and a cat, consists of 23 episodes, each running 25 seconds. The relative uniformity of structure is also discernible in environment animation – even though lacking as clear structural repetition in temporal intervals as in character animation, the continuous regularity is still apparent. Settings prevail in environment animation, dominating characters and events (if any exist at all). Classical environment animation includes, for example, 3D architecture animation, screen savers, and therapeutic or meditational animation. The structural pattern of milieu and character animation resembles a regular zigzag or an electrocardiogram of a calm and composed person.



Plot animation (usually animated chains of events) is rooted in narrative and its structural patterns tend to be much more complex. Because of the dominant factor, its structure resembles that of the particular narrative.

Presenting film as a vector on the temporal axis and adopting the classical three-act structure, the following structural models of plot animation can be defined:

Linear structure



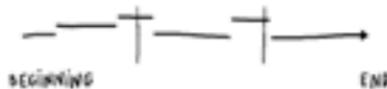
Multi-linear structure



Cyclical structure



Abstract structure





Maya Yonesho.

Structural-materialist animation

In the 1960s and 1970s, a number of American and British directors, including Peter Gidal, Malcolm Le Grice, Michael Snow and Peter Kubelka, founded the movement of structural/materialist film, in which 'the relations of the film structure are primary to any representational content' (Gidal 1976: 1). Animated films in which a technical process or device dictates the content of the film can also be labelled structural/materialist. In Maya Yonesho's work, for instance, notebooks form, on the one hand, the subject matter of the film and, on the other hand, play an important role in the process of defining the contents and rhythm of the film. George Griffin examines in his animated films the creation of illusion, calling his works 'anti-cartoons' (Griffin 2009: 191). His *Trickfilm 3* (1973) and *Head* (1975) concentrate on the process of creating animation, showing the director's hands etc., thus deconstructing and emphasising the illusion of motion. Direct animation (drawn or scratched directly on film stock) might also be thought of as a structural/materialist technique, as both the achieved illusion (of motion, space etc.) and film stock (material) become objects of the film. Direct animation is the only film technique that intentionally emphasises and presents the materiality of film stock, drawing attention to its properties



George Griffin, Head (1975).



George Griffin, Trickfilm 3 (1973).

(e.g. the chemicals used for processing it, different layers of emulsion and colour etc.).

Structure as the abstraction of system

The animated film as a system has an extremely complex structure, comprised of different subsystems that are in a constant state of change and development. The structure changes with the animated film itself: every new film leads to the development and perfection of the structure of the entire field.

It is difficult to position interactive (haptic) films in the framework of the above-described structural models. Peter Greenaway, the celebrated film director and visionary, has announced the death of classical cinema and designated the particular date of this event – 31 September 1983, when the television remote control was introduced; in Greenaway's opinion, the same moment also marks the birth of interactive cinema (<http://www.youtube.com/watch?v=-t-9qxqdVm4>).



Peter Greenaway.

In interactive cinema, narrative in the traditional sense has been replaced by the controlled movement of characters. The most famous director of interactive animated films is Han Hoogerbrugge, whose work can mainly be found online and in art galleries, as the screening of haptic films in theatres or on television is problematic due to the lack of a technical device that would permit the audience to 'touch' the screen. Viewers always have the opportunity to intervene and influence the course of the film: to control the pace, direct or prevent the actions of characters, jump to the next episode or setting, elicit repetition etc. Watching – or, rather, experiencing – such films implies active and personal connection with the film, as well as a chance to control it with a mouse, a remote control or some other similar device. Interac-

tive films escape the traditional three-act narrative structure; instead, the audience controls the characters and browses the filmic space.

It is also difficult to adapt previously described models to the increasingly popular machinima ('machine' + 'cinema'): the use of real-time 3D graphics engines from pre-existing video games to generate independent computer animations, based on the characters of such video games as *Quake 2*, *Unreal Tournament*, *Half-Life* etc. In principle, machinima is a recording of interactive film. At the moment, its range of influence is limited to a small group of fans. However, with the continuous advancement of technologies, such phenomena – e.g. rejecting the classical three-act narrative structure – will certainly gain more ground. Even though interactive cinema is still a territory of isolated and random experimentation, the accounts of the structure of the animated film should take into account these and other potential new styles and techniques. Most probably, these investigations can no longer concentrate on narrative properties and the three-act structure.

Little House

Kristjan Holm's debut film, the hand-drawn animation *Little House* (*Väike maja*, 2009) has an interesting structure: it consists of two parallel stories that intersect only at the end. In one of these, a man is trying to fall asleep, but remembers, every time he switches off the light, an undone task and is forced to get up, over and over again. The other storyline presents a captain who is craving sleep yet is forced to steer his ship. The yawning captain holds the course to a blinking lighthouse. The ship is full of merry, spirited people who sing karaoke. Suddenly, however, it becomes apparent that the beacon of the captain's navigation is not a lighthouse after all, but the dwelling of the sleepy man from the first story, where lights are switched on and off in a lighthouse-like pattern. The collision is inevitable, bringing together two men and stories: the large passenger ship crashes into the small house on the coast. *Little House*, thus, presents a multi-linear narrative – two parallel stories. The audience realises only at the very end (and perhaps some sharper viewers even slightly before) that the captain has mistaken the constant twinkle for a lighthouse and that catastrophe is inescapable.

In Holm's film, everything is connected with everything else, as in any ecosystem. Classical narrative always entails a conflict – something that seems to be missing in *Little House*. The characters' actions appear to have a certain motivation, yet there is no



Kristjan Holm.



triggering conflict. In *Little House*, the conflict – suspense – develops gradually. In the beginning, the audience feels increasingly lost by the apparent lack of a coherent story, becoming more and more puzzled as the narrative unrolls. This is Holm's way of sparking a conflict between the film and the spectators, solving it ultimately with a grand finale. Watching any film or reading any book primarily requires the recipients to reconstruct the presented story – to recreate it by means of mentally interconnecting episodes and details. Holm is an excellent storyteller and his narration is enjoyable, but initially the viewers are confused because they are looking for a single consistent narrative.

From a certain perspective, *Little House* can be interpreted as a joke, preparing the spectators, inch by inch, for the concluding punch line. Some of the information is withheld, and the events unroll in a precisely calculated manner, thus keeping up the suspense and carefully timing the grand finale. The conclusion is the apex of the film, not only providing the culmination of events but also presenting an element of surprise: the audience realizes that the flickering lights have turned a regular dwelling into a lighthouse, causing the collision with the passenger ship. Unlike Charlie Chaplin, whose comedies rely on a pattern of multifarious gags, Holm has built his comedy on a single gag, turning *Little House* into a bizarre no-joke-comedy or act of absurdity. The latter is, after all, an integral part of life. Yet in real life, in a similar situation, we can only participate in a

single linear story (the one surrounding us) and enjoy the consequent punch line. We usually do not see the other, parallel, stories that might cross our path at a certain point. We just run into 'an unexpected visitor' and wonder where it came from.



6. *On the Credibility of Animated Characters*



Grigory Shvets danced with his wife for decades. In 2008, Grigory's wife passed away. After 40 days had passed since the death of his late wife, Grigory made a life-size puppet, clad it in her clothes and continued to attend dances with it.

Chuck Jones, the legendary animator of Warner Bros. and the author of probably the most famous bunny in the world, once introduced himself to a young Bugs Bunny fan as ‘the man who drew Bugs Bunny’, correcting himself immediately by saying that he is ‘the man who drew pictures of Bugs Bunny’ (Wells 2002: 157).



Chuck Jones.

This charming episode sheds some light on the dual nature of animated characters: although they are inanimate objects, they still tend to come across as real individuals. And as the case of Chuck Jones demonstrated above, their creators are not always sure whether they have created a particular character or just drawn pictures of him/her.

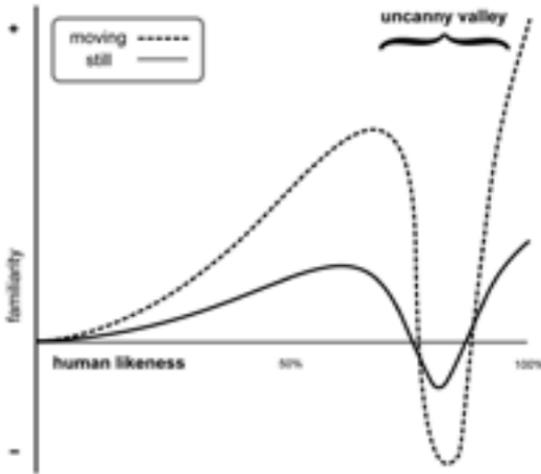


Professor Masahiro Mori.

Masahiro Mori, a Japanese roboticist, published an article in 1970 presenting the concept of the ‘uncanny valley’ (*bukimi no tani* in Japanese). Mori proposed that the more realistic or human-like ‘living’ artificial bodies (i.e. of robots, animated characters etc.) appear, the more emphatic they seem to real human beings (who consider them credible), up to the point where artificial creatures become too human-like and suddenly evoke eeriness instead of empathy. Thus it is natural to relate to and identify with anthropomorphic artificial creatures, to regard them as ‘animated’ or spiritualised. This is equally true of animals and other living souls surrounding people in everyday conditions: it is easier to have animist attitudes towards a rocking horse than a stuffed real horse.

Several animation studios have consciously avoided falling into the uncanny valley and refrained from using human characters. ‘Toys, dolls,

insects, monsters and fish have been the heroes of Pixar's unbroken series of hits,' asserts John Canemaker (2004).



Spectators identify with film characters on an unconscious level, sharing their interests, feelings and perceptions and encountering in characters reflections of themselves. The more realistic an animated character, the more lifelike the audience expects its behaviour to be. Thus a rudimentary geometric figure in motion might seem much more attractive and 'animated' than a clumsily moving realistic human character. It is precisely moving characters (the dotted line in Mori's graph) that make a stronger emotional impact than those who stand still. As people are most familiar with their own behavioural patterns, it is extremely difficult to create realistic human characters in animated film. Even if we cannot pinpoint what exactly is wrong with a virtually modelled human character, we still sense a certain eeriness and refuse to believe in its truthfulness. This might have something to do with the human fear of death: an extremely realistic, yet still not real human character reminds us of a dead body and we want to get as far away as possible from it. In



Hironobu Sakaguchi, *Final Fantasy: The Spirit Within* (2001).



Andrew Adamson and Vicky Jensen, *Shrek* (2001).

Freudian thought, the concept of the Uncanny (*das Unheimliche* in German) describes an instance where something is familiar, yet foreign at the same time, resulting in a feeling of it being uncomfortably strange. This explains why cinema is often populated with virtual characters, such as dinosaurs, aliens, monsters etc.: as these creatures do not exist in real life, viewers are unable to verify the fidelity of their design and movements.

Perplexing contradictions of credibility can occur in the framework of a single film or even a scene: the poise and movements of the dwarfs in Walt Disney's *Snow White and the Seven Dwarfs* (1937) make them seem much more alive than Snow White, whose appearance was designed to be as lifelike as possible, yet whose behaviour and movements still feel rigid. Similarly, Shrek, the ogre in *Shrek* (2001), leaves a much more dynamic impression than the King and the Queen, two human characters who look awkward compared to Shrek.

Ancient Greeks and several Renaissance masters strove in their sculpture and painting for the greatest possible degree of realism in the representation of the human figure. At the beginning of the 2000s, the advanced technology of animation finally created suitable conditions for producing feature-length animated films cast with virtual human characters, which at times were difficult or even impossible to tell apart from real



Peter Jackson, *The Lord of the Rings* (2001–2003). John Lasseter, *Tin Toy* (1998).

human actors. Examples of such productions include Hironobu Sakaguchi's *Final Fantasy: The Spirit Within* (2001) and Robert Zemeckis's *The Polar Express* (2004). This is an interesting phase of animated film, which provides exciting material for researchers of animation, but in economic terms both of these films were complete failures. This happened because the audiences did not accept the films or, more precisely, the characters seemed too realistic, too human-like, without being actual humans, thus falling into the uncanny valley.

Final Fantasy: The Spirit Within made history by presenting the first virtual (not actually existing) actor, Aki Ross. Upon the premiere of the film, Ross became a true media star, who, for example, appeared in various men's magazines, as is typical of real human stars. *The Polar Express* is a 3D computer animation where the movements and figures of virtual characters have been modelled after popular human actors. It is an interesting example of an attempt to make a technologically innovative film, which still uses film stars to attract audiences: the virtual characters have adopted the actors' appearance, characteristic movements (created with motion capture technique) and voices.

As Richard Rickitt maintains, '[o]ne of the greatest barriers to creating convincing computer-generated characters has been the ability to synthesize natural-looking skin' (Rickitt 2007: 204). The problem is that

human skin contains a large amount of water and other organic matter, which causes its surface to not reflect light totally, but instead to absorb some of it and change the colour of the reflected light. Nowadays, the design of virtual characters applies a new type of mathematical formula for directing light, which recognizes a character's skin as organic matter. One of the first virtual characters with 'organic skin' was Gollum in Peter Jackson's *The Lord of the Rings* trilogy (2001–2003), created by Weta Digital studio (Rickitt 2007: 204).

Photo-realist environments and extremely human-like animated characters have come to dominate the advertising industry, computer games and television. To advertise their new cars, the Ford Motor Company, for instance, has developed virtual models designed according to the target customers of particular car models. Thus, Ford Fiesta's target group underwent thorough demographic research, the results of which provided the basis for inventing the imaginary model Antonella, who, in addition to a carefully crafted appearance, also possesses a fully developed personality with her own *curriculum vitae* and street address (Patton 2009).

Judging by photos of contemporary virtual human characters, it is indeed difficult to tell them apart from real people. However, there is definitely something not quite right about their behaviour and movements, which throws these characters once again into the uncanny valley. At the same time, films like *Ice Age* (2002), *Beowulf* (2007) and *Wall-E* (2008) were extremely successful, even though they, too, were intended to present 'lifelike' characters. Yet their casts of either animals or mystical and metaphysical heroes were more acceptable to audiences. *The Incredibles* (2004) provides an interesting example of animated human characters: the protagonists are indeed of the human race, but realism was not among the goals of their creators; instead, they are manifestly caricature-like and their movements resemble Chuck Jones's hyperac-

tive creatures, rather than true human beings. The characters of Chris Landreth's *Ryan* (2004) and Tarik Saleh's *Metropia* (2009) similarly leave a very truthful impression, precisely because their features have been intentionally distorted and their movements stylized. Andy Huang's short animation *Doll Face* (2005) provides another fascinating example of life-like character: its protagonist has a robotic, carcass-like metal body, yet absolutely photo-realist face. Despite, or perhaps due to, this combination of inorganic artificial body and photo-realist face, the character's performance seems very convincing – a photo-realist virtual actor could not have achieved a similar effect. This is confirmed by John Lasseter's short film *Tin Toy* (1998), where the overly human-like virtual baby is entirely unpersuasive. James Cameron's *Avatar* (2009) is the first feature-length film where the advanced level of technical execution of virtual characters manages to completely avoid the uncanny valley. *Avatar* combines elements of live action cinema and animation with remarkable success, raising live action film-making to an entirely new level, where virtual characters become inseparable agents of live action cinema.

Several contemporary puppet animators, such as Chris Lavis and Maciek Szczerbowski (*Madame Tutli-Putli*, 2007) and Suzie Templeton (*Dog*, 2001; *Peter & the Wolf* (*Piotruś i wilk*), 2006), have also concentrated on creating extremely realistic puppets but, unlike in 3D computer animation, the technique of puppet animation itself renders the puppet characters somewhat abstract and thus more credible.

Numerous media labs and animation studios continue to make serious efforts to transcend the uncanny valley. The birth of photography and cinematography created firm foundations for maximally realistic representations of human beings, and the introduction of lifelike virtual humans does not constitute a new artistic paradigm. However, investigations of relationships between virtual and real human beings, and observation of human behaviour and attitudes towards virtual human



Suzie Templeton, Peter & the Wolf (2006).



Andy Huang, Doll Face (2005).



Tarik Saleh, Metropia (2002).

characters might lead to new discoveries in terms of human nature itself. The study of the concept of the uncanny valley might, for example, reveal why some people feel uncomfortable around their handicapped peers. Or why, in certain social situations, members of a minority tend to fall victim to persecution.

Among contemporary institutions, the most dedicated to the project of developing photo-realistic virtual human beings is Image Metrics, a studio established in London and now also operating in the American market, catering mainly to Hollywood studios and video game companies. One of its leaders, Mike Starckenburg, has asserted that '[t]he subtlety of the timing of eye movements is a big one. People also have a natural asymmetry – for instance, in the muscles in the sides of their faces. Those types of imperfections aren't that significant but they are what make people look real' (Richards 2008).

Weta Digital studio in New Zealand, which specialises in digital visual effects, and the American studios Rhythm + Hues and Industrial Light & Magic have also shown remarkable results in their efforts to overcome the uncanny valley. The latest technical developments in the creation of virtual universes and characters are usually introduced to the general public at annual conferences of SIGGRAPH (Special Interest Group on GRAPHics and Interactive Techniques). These meetings,

which have taken place in the United States since 1974 and bring together thousands of computer professionals, rarely conclude without discussing the problem of the uncanny valley.

It is difficult to predict where and how far the development of realistic virtual characters will go, yet undoubtedly several attempts to overcome the uncanny valley have been successful and continuously advancing technologies open new opportunities for even more intensive work in this area. Even now it is clear that the characters of modern media are like flowers on tables of street cafés – you never know if they are real. Yet, as Masahiro Mori's concept of the uncanny valley has proved, photo-realism does not guarantee the credibility of characters; it may, in fact, do the opposite.



Märt Kivi.

Invisible Laika

A dog called Laika became, as far as we know, the first living thing to orbit the Earth. Laika's journey into deep space occurred in 1957, signifying the beginning of an entirely new epoch – the space era. Everybody knew Laika – she was widely discussed in newspapers and magazines, on radio and television; picture postcards and posters with her image were much sought after items. Precisely half a century later, in 2007, Märt Kivi completed his animated film *Laika*. Interestingly enough, the Nukufilm studio, where Kivi works, was also founded in 1957, and has been orbiting the world of animation ever since, just as Laika still orbits the Earth. Kivi's stop-motion animation actually never shows Laika, who, judging by the film's title, should be its protagonist, even though she is constantly present. The film is presented through her eyes. The subjective camera (i.e. Laika) adopts dog-like movements, accompanied by the hound's huffing and puffing.

The film begins by showing a curious man, dressed in a smart suit, moving steadily in one direction. He is followed by the camera – Laika. The film is set in what seems to be a strange abandoned industrial environment, scattered with empty containers and construction debris. Perhaps it is the backyard of a scientific research facility and the man is a scientist. His systematic roaming forms a symbol of its own. In the end, Laika seems to be moving away from the man, as the music and mood of the film change. We

see the moon and starry sky. A new era dawns for Laika and all humankind. Although her life in the back yard was not exactly a bed of roses, the one-way ticket to outer space, accompanied by a limited supply of oxygen and food, constitutes a true tragedy. We can imagine how Laika screeches in the distance, paraphrasing Neil Armstrong, the first man on the moon: ‘That’s one small experiment for science, one giant tragedy for a laboratory animal.’

Indigenous peoples are often afraid of cameras – they fear that having their pictures taken deprives them of their souls, that their souls are captured by the photographic image. Westerners have always found this slightly amusing and primitive, but perhaps we have become so used to taking pictures that we overlook the magic of photography – its power to preserve more than just an image. Things are precisely the other way around in animation: the photographic image, or a sequence of them, endows the lifeless character with a soul. The inanimate is animated. The animated film animates (spiritualizes) lifeless characters, and vitalizes matter, giving it a soul. Laika, on the other hand, did not get a soul because there was no matter to vitalize. The protagonist of *Laika* exists beyond the limits of the frame/screen and her existence is only referred to indirectly, by means of sound, camera movements and the behaviour of other characters. While normally the making of animated films leaves behind certain traces – drawings, puppets etc., Laika’s existence cannot be proved by anything tangible. Can we, then, still contend that





the character, whose existence is beyond doubt yet who remains invisible, is in fact animated? I suggest that *Laika* is not animated; she is alive!

Laika constitutes an interesting example of a living character, in addition to being an animated character proper, who is made possible due to her invisibility. *Laika* lives beyond the limits of the frame/screen, and her body and soul materialize only in the viewer's mind. Animation is essentially all about inducing the illusion of motion in the minds of the audience, yet Kivi has pursued this characteristic even further by making a film where not only the illusion of motion but also the character is basically a mental phenomenon. Thus *Laika* expands the limits of the animated film and suggests a new perspective for understanding the concept of the animated character.





7. On Realism in the Animated Film



Cinematographer Raivo Möllits shooting the animated film Body Memory (2011).

During the days of the early cinematic experiments, at least two conventional and contradictory styles emerged: the realist style of the Lumière brothers and the fantastic style of Georges Méliès. Animation has customarily been seen as a follower of Méliès's tradition, where the authors create their own fantasy worlds; the effects of realism, on the other hand, have been considered the realm of live action fiction films and documentaries.

The perception of animation as a genre far from realism has been determined – among other things – by the fact that historically it has been dominantly connected with children's entertainment: many animated films are based on fairy tales and use puppets or drawn characters for storytelling. Today, when animation is more popular than ever and has long surpassed the limits of puerile amusement, the relationship with realism needs to be studied in order to better comprehend the nature of animated films. In philosophical terms, realism usually refers to acknowledging the real existence of certain things. Indeed, for an adult it is difficult to conceive of fairy tale creatures shaped by the artistic mind as something really existing. For the purposes of this paper, I interpret realism as a maximally accurate representation of reality, or as an attempt to re-present the real world as close to the original as possible.

Returning to the relationship between animation and the fantastic style of Méliès, one has to admit that the earliest animations indeed belonged to the Méliès school. They did not lay any claim to a documental quality, and the film-makers opposed their work to depictions of the real world. One reason for doing so might have been excitement over new and potentially wider means of self-expression. Thus, it became possible in animation to associate the figures of fine art with the aesthetics of the moving image, which, contrary to live action fiction films and documentaries, escaped the laws of gravity and overcame the anatomical limits of characters.

Pioneers of animation, such as Émile Cohl, Ladislav Starevich, Oskar Fischinger and Lotte Reiniger, earned world-wide recognition as creators of visual narratives full of fantasy, and concentrated on the invention of non-realistic stories, characters and movements.

Yet rare exceptions can also be found: for instance, Winsor McCay's *The Sinking of the Lusitania* (1918) re-creates the tragic wreck of the passenger liner Lusitania on the Atlantic Ocean in 1915. It is probably the first widely known animated film based on a true story (Ashbee 2003: 38). The liner fell victim to an attack by a German submarine and sank in fifteen minutes after a direct hit from a torpedo. 1198 people perished in the accident. The attack of a civilian ocean-liner was a critical factor in the US declaring war on Germany. No authentic photographic or cinematographic recordings survived the incident. According to Brian Ashbee, 'McCay studied news reports and eyewitness accounts, then visualized the scene from a number of dramatic viewpoints' (Ashbee 2003: 38). Giannalberto Bendazzi further maintains that 'McCay created a dramatic, extremely detailed, gripping movie which maintained the rhythm and style of contemporary documentaries or newsreels' (Bendazzi 1994: 17). Thus, *The Sinking of the Lusitania* is an animation in terms of cinematic technique, yet a documentary in generic terms, or, on the whole, an animated documentary. Steve Reinke has defined this concept of 'animated documentary' as follows: 'When we say that Win-



Winsor McCay, *The Sinking of the Lusitania* (1918).

sor McCay's *The Sinking of the Lusitania* (1918) is an animated documentary, we mean something like: if the same images were live action, we would have a documentary' (Reinke 2005: 20). Or, in other words, the animated documentary uses animation techniques and documentary aesthetics.

The documentary is widely considered to be the most powerful film genre in terms of generating the effect of realism. Yet a look at the process of making a documentary convinces us rather quickly that we are dealing only with a film-maker's vision or opinion, and not with a representation of the real world. The music, editing and camera angles alone can change the meaning of the filmed material. Ashbee argues that the 'camera cannot be a neutral recording device because it influences its subject; people behave differently in front of it' (Ashbee 2003: 40). Animated documentaries, on the other hand, do not use the camera to immediately describe the world, but to mediate it through drawings, puppets, computer graphics etc. Therefore, it can be argued – at least theoretically – that in a sense animations depict their subjects even more objectively than conventional documentaries, because they recreate the essence of the subject through an application of an appropriate animation technique without actually filming, and thus influencing, it.

As the film scholar Jean Mitry has argued, 'information, even the most trivial, *inevitably* becomes a kind of personal discourse', when rendered by a camera (Mitry 2000: 36). Every documentary is subjective by nature, since it entails conscious or subconscious selection and presentation of material by the film-maker. Martin Heidegger has used the notion *in-der-Welt-sein* in order to explain the essence of being in the world. Humans and the world are integrally intertwined and, hence, cinema cannot portray the world without film-makers simultaneously depicting themselves with it.

If we accept film-makers' subjectivity in documentaries as realism, then realism should also be found in animations, despite the fact that everything we see and hear on the screen is consciously created by film-makers and reflects their subjective vision of the world.

Yuri Lotman has made an interesting point in his *Semiotics of Cinema*, which concerns our understanding of representing reality by means of photography and fine arts: 'We all know how distorting and unconvincing photographs can be. The better we know a person, the less resemblance we find in photographs of him. For each person whose face is truly familiar to us we prefer a portrait by a competent artist to a photograph of equal artistry. We find more resemblance in the painting. But if we are shown a portrait and a photograph of a person whom we do not know, and are asked to select the one most clearly resembling him, we pick the photograph without hesitation' (Lotman 1976: 12). Elaborating his statement further, it could be argued that a skilfully executed animation based on a familiar subject matter or field might be considered highly realistic. In fact, with an approach like this, conventional animation techniques, which contrary to live action films are not based on the mechanical reproduction of photo-realistic images, even have a certain advantage in representing reality.

Chris Landreth's *Ryan* (2004) has been generically classified as an animated documentary. The film is based on a story about the legendary Canadian animator Ryan Larkin, who became an alcoholic and a tramp. The protagonist's representation in three-dimensional computer animation emphasizes his personal features and manner. 'Ryan sometimes appears to be modified 'live action'', but everything was conceived and executed on the computer and all character movement was created by hand and did not use motion



Chris Landreth.



Chris Landreth, Ryan (2004).

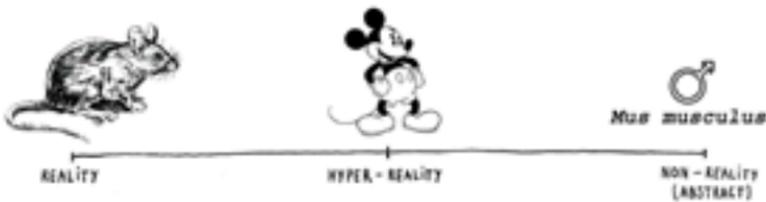
capture' (Wells 2006: 130). The film is tremendously true to life due to the computer-animated exaggerated effects of, and additions to, reality. *Ryan's* documentary qualities and its deep dimension of realism owe a great deal to the skilful application of animation techniques.

In *Creature Comforts* (1989), Nick Park has combined documental interviews with animated animals. Creatures at a zoo – modelled in Plasticine – tell stories about people's living environment. Park has managed to create a perfect correspondence between personalized human voices and animated characters. The discussion of human problems by the animals imprisoned in cages certainly communicates the text in a much more convincing (and amusing) way. 'Art requires a *twofold* experience – simultaneously forgetting that you are confronted by an imaginary event and not forgetting it. Only in art can we both be horrified by the evil of an event and appreciate the mastery of the actor' (Lotman 1976: 17).

The investigation of realism in animation creates a fairly schizophrenic situation: on one hand, we have to admit that the space (world) constructed in animation is entirely artificial and exists independently of the real world; on the other hand, this space (world) represents reality. According to the animation theorist Paul Wells, the illusion of realism in animation can be called hyper-realism. The concept of hyper-realism was first conceived by the semiotician Umberto Eco. Eco employed it to

describe Disneyland, where absolutely everything is artificial, yet simultaneously somehow more real than reality. In *Understanding Animation* (2005), Wells attempts to map the essence of realism in animated films. As a central point of reference in the study of realism, he proposes Disney's animations, which according to him are hyper-real (Wells 2005: 25).

Thus, following Wells, we should move along an axis which has realist films on one end, non-realist (abstract) films on the other end and hyper-real Disney's films in the middle. On the diagram below I have depicted the scale of realism suggested by Wells.



Wells introduces four features to be taken into account when measuring the degree of realism in animated films:

- » design
- » characters
- » sound
- » movement

The animation theorist Stephen Rowley follows a different approach, suggesting that, instead of evaluating certain objects, particular versions of realist representation should be studied. According to Rowley one should observe:

- » visual realism
- » aural realism

- » realism of motion
- » narrative and character realism
- » social realism

Additionally, he indicates that the examination of realism in animation should proceed, not from physical features, but rather from experiences of the spectators. Or in other words, it is not important how closely an animated film resembles the physical parameters existing in the real world, but how faithful to reality it seems to the spectators (Rowley 2005: 70).

However, both Wells and Rowley neglect, in their respective discussions, to pay proper attention to the director's relationship with film or, more widely, to the question of genre. Consequently, a peculiar situation develops where, for example, an animated film – extremely realistic according to all the criteria – could at the same time be conceived as a complete parody. Is it still a realist animation?

Returning to the two examples given above – *Ryan* and *Creature Comforts* – one has to ask which one of them is more realistic; according to both Wells's and Rowley's criteria, the films are fairly similar, yet *Ryan* is essentially serious, while *Creature Comforts* mocks various TV talk shows. Hence it is difficult to evaluate the relations of animation with realism without taking into account the director's generic intentions.

The study of representations of reality in animated films entails one more aspect which is essentially different from its use in a conventional documentary – that of credibility. Unlike a documentary, an animation striving for a maximally truthful representation of reality must be credible to the audience. The issue of credibility brings animation closer to live action fiction films, where the performance of an actor may or may not carry conviction.



Mike Gabriel and Eric Goldberg, *Pocahontas* (1995).



Steven Spielberg, *Jurassic Park* (1993).

Jeffrey Katzenberg, the former head of the Disney studio, has pondered the effect of realism in the feature length animation *Pocahontas* (1995), maintaining that ‘the real possibility of Pocahontas diving 100 feet from a cliff into a pool of water may be made be more spectacular if she were to appear to dive 300 feet, a feat enacted in entire safety, and with persuasive plausibility, in the animated form. At one and the same time ‘the very conditions of rationality’ have been challenged but made to comply to a different, yet convincing, realist rationale. It may still be the case that this perspective on realism will ultimately be unsatisfying. [...] Importantly, though, in the case of *Pocahontas*, The Disney Studios felt a strong commitment to depict its lead characters as believably as possible because, for the first time in a Disney animated feature, the story was based on real-life people and events’ (Wells 2005: 26). The studio’s aim was to represent as truthfully as possible both the main characters and the whole world of the film. The film’s press release states that ‘at various stages of the production, the creative team consulted with Native American historians and storytellers to incorporate authentic aspects of the Powhatan culture into the film’ (Byrne and McQuillan 1999: 112).

The issue of credibility becomes especially topical when dealing with symbiotic relations between animation and live action. Steven Spiel-

berg's *Jurassic Park* (1993) is one of the first live action features to use computer animation throughout the film. The performances of human actors intertwine with the actions of virtual dinosaurs. The animated dinosaurs of *Jurassic Park* exemplify, tellingly, the issue of credibility in animation, both in this particular case and in the wider sense. None of us has had a personal immediate contact with living and moving dinosaurs, yet the computer animated creatures of *Jurassic Park* are extremely convincing and realistic. Thus, it can be inferred that the credibility of an animated character results mostly from dynamic movement, and the character's photo-realist similarity with its prototype is only secondary. Credibility does not spring from the photographic imitation of objects, but rather from certain coded features of behaviour.

When talking about realism in animated films, I primarily mean the creation of the illusion of the real world. On a philosophical level, one could, of course, argue that we see real puppets, actually existing drawings or some other kind of substance in animations, and that's what creates the bridge between spectators and reality. Paradoxically, however, the utter illusion of realism has been reached in 3D animation, where the film's whole world is created virtually, and the spectators lack any direct connection with the real world. 'With three dimensional computer graphics, reality itself has to be constructed from scratch before it can be photographed by a virtual camera' (Manovich 1997: 11). Computer animation has advanced to a stage where often it is no longer possible to distinguish the virtually created image from documentary footage. The best examples, in this respect, are provided by big-budget Hollywood productions, as well as by the computer simulators used for training pilots and in the war industry. Technological advances have created a situation in animation, or, more precisely, in computer animation, where representation of realism is easily attainable, to the extent that people cannot see any difference between an artificially created world and its natural antecedent. One could ask what the next level of develop-

ment for animation is. Will it ultimately merge with live action fiction films and documentaries, or will it stand as a separate genre? A closer look at other creative disciplines proves that, beyond 'realism', a rapid withdrawal from descriptions of the real world begins, and the modernist stage is reached. In the evolution of painting, realism was followed by impressionism, emphasizing the artist's vision instead of the realistic representation of objects. Cubism, replacing impressionism, in turn liberated artists from the need to represent the natural world altogether. Thus, after reaching 'realism', painting rapidly moved beyond the fidelity of representation; instead, the author's vision gained dominant importance. Similarly, a prompt detachment from realism also occurred in literature, theatre and fine art. Animation is, by nature, a symbiosis of many creative disciplines, but as an independent genre it has only over the last decade been capable of representing the artificial world in a way which for the human eye is indistinguishable from documentary images.

It seems that the ideology of mainstream animation (computer and also some hand-drawn animations produced by major studios) has reached the era of realism-naturalism, where the execution of maximally realistic waves, rain showers or hair is the main object of competition. At the same time, simultaneously with realist computer animation, films opposing 'the perfection provided by computers' have gained a great deal of importance. Exemplified by productions such as *Beavis and Butt-head*



Mike Judge, *Beavis and Butt-head* (1993–1997).



Trey Parker and Matt Stone, *South Park* (1997–2007).

(1993–1997) and *South Park* (1997–2008), these films intentionally emphasize the imperfection which could be easily avoided with contemporary technologies. Thus, the aspiration towards more and more faithful portrayals of reality has been complemented by a quest for an alternative to this fascination with realism by the major studios.

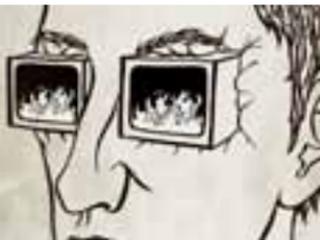
Naturally, this is an extremely streamlined approach to the current situation in animation. Yet, undoubtedly, similarities can be found with the development of other creative fields. The evolution of animated film is influenced by many aspects, most importantly the advancement of technologies and of other art forms in general; however, this development should not be perceived as a linear progression, but rather as a constant active challenging of limits. The investigation of relations between animation and realism must continue, in order to better comprehend animation and to anticipate its future trends.

Things in the Air

Martinus Daane Klemet's animated film *In the Air* (*Öhus*, 2009) opens with a scene in a zoo, where a crazy scientist (an Albert Einstein look-alike) is determined to produce evidence of the contagious effects of media. He places a television set transmitting an image of a grass-munching cow in the cage of a wolf, which reacts by starting to eat grass, too, first reluctantly but then with increasing gusto. In all probability, the scientist is attempting to convince the surrounding crowd of the media's contagious effect, of its tendency to manipulate. Unfortunately, the witnesses of the experiment are not aware of being manipulated; they don't realize that all of them are controlled by the media. The zoo keeper – whether motivated by his compassion for the wolf or a sense of rebellion against the system – decides to set the beast free. Later, most likely as a result of this decision, we see him imprisoned. In the prison, the inmates are also glued to television screens, testimony to the fact that the charms of media are even stronger than the walls of the penitentiary. The former zoo keeper makes an attempt to escape, yet once again the media casts its spell on him, catching his attention on his way through the prison gates, and the police bring him back to his cell. After having served his time, the zoo keeper returns to the world outside entirely commanded and controlled by the media. The media, in turn, is controlled and manipulated by the wolf from the zoo.



Martinus Daane Klemet.



The atmosphere of the film closely resembles that of George Orwell's novel *Nineteen Eighty-Four* (1949), in which the world is controlled and dominated by means of screens. While the Orwellian chain of control and command is topped by a human dictator, in Klemet's story this position is filled by the wolf (as a symbol of the blood-thirsty tyrant). The motivations of the wolf remain somewhat obscure, but it appears that, by manipulating media, the wolf has decided to finish off all humankind. His plans fail, however, after the zoo keeper and the wolf are reunited: the wolf is determined to save his benefactor and, thanks to him, mankind is also left unharmed. Thus, in a society where people treat each other like wolves, the wolf develops humane instincts. The conclusion is idealistic: the wolves are fed, and the (human) sheep are safe. Or, is this harmonic solution merely another media manipulation?

As far as I know, Orwell's *Nineteen Eighty-Four* has not been adapted for the screen in the form of animation, yet the feature-length animated version of his *Animal Farm* (1945), made in 1954 by John Halas and Joy Batchelor, has become truly legendary. This film introduced an entirely new paradigm of animal characters: while previously animals had been normally depicted as carefree and comical, after *Animal Farm* animated animals occasionally were represented as intelligent and introspective creatures. Klemet's wolf belongs to this tradition: he is an intelligent, contemplative and extremely self-conscious beast.

Instead of traditional dialogue, Klemet relies heavily on word-play: the wolf behaves humanely, the people turn into beasts etc. In a sense, *In the Air* also has a certain typographic quality: the visual design, which is to a large extent created by Gerda Märtens, is carried out in the sharp contrasts of black and white, much like a printed text. The film deals with several social issues and is set in a particular spatio-temporal situation – the contemporary Estonian Republic. This lends a somewhat documentary aura to the film. Klemet, however, has not made an animated documentary; rather, his work is a part of the abstract paradigm of animated film which actively ‘flirts’ with realism. Animation film is generally ruled by the ‘hyperbole of reality’: the more detailed, the higher the level of realism. Klemet’s film, on the other hand, disobeys this rule. Its visual design is extremely realistic, yet only in terms of the contours of characters and background elements. On a conceptual level, Klemet subscribes to a certain kind of postmodern approach to documentary film-making, which is convinced of the relativity of ‘truth’ and ‘realism’. The term ‘reality’ comes from the Latin word *realitas* (*res*), meaning ‘object’. Indeed, there are a surprising number of objects in Klemet’s film, and their outlines are very realistic. In terms of outlines (silhouettes), the film’s design can be considered highly realistic. But the outlines are filled with and surrounded by pure white emptiness, nearly without any half tones and textures. The contour lines representing the outlines of a photo-realist world stand, to some extent, in contrast with the vast empty surfaces



between them. Empty surfaces, a lack of detail, appear strange at first glance, but the narrative content and the visual design actually result in a motivated harmony. After all, everyone is born as a *tabula rasa* – a blank slate – gradually filled in by the effects of the surrounding environment. Nowadays, however, *tabula rasa* could also be translated as a blank screen, upon which the media projects its flux of information. *In the Air* is the story of the effects of and dependence on the media and the white empty surfaces of the animated characters stand for their lack of substance. The emptier the people, the better they yield to the media's manipulations and domination. Klemet's two-dimensional hand-drawn characters are empty inside, and that's what makes them so easy to manipulate.

Realism in the animated film is not only about the photographic imitation of objects; it is also about following a particular audiovisual code. Realism in animation can take diametrically different forms: all the spectators of and all the characters in the animated film belong to their own worlds, shaped by their individual experiences. Klemet and Märten express the world of their film by means of outer contours – just as a key can open a lock only if the contours of the key match the lock. Describing the outlines and remaining on the surface is one of the most characteristic features of today's media: problems are only dealt with superficially, the outlines are sketched but there isn't enough time to dig more deeply into the marrow of issues. Klemet's film is a post-modern work, referring to and mocking the essence of contemporary media by means of an animation technique. Irony and social criticism stand side by side with a mere play of images. Historically, humanity has been considered the highest among the species, but in Klemet's film humankind has been cornered as a result of its own experiments, and has lost control to a runaway wolf. In Klemet's film, man has become an *animal idiota* who has brought destruction upon himself but still manages to feel contentment. *In the Air* skilfully employs the devices

and techniques of animation to highlight the essence and madness of the postmodern world, where all people and animals remain prisoners, whether in a zoo, in a prison or in 'freedom'. They are convicts controlled by the all-encompassing media.



8. On Storytelling in the Animated Film



The main character of the animated film Taste of Life (2006).

Storytelling has been a significant part of human activities for thousands of years. Stories can appear in many shapes: as fairy tales, legends, songs, drawings, prayers etc. The human race has recorded in stories its most important knowledge and all its experiences. In this chapter I will examine storytelling in the animated film, its different narrative forms and specific characteristics.

The story is fundamental to any film. Every film – whether live action fiction film, documentary or animation – is always based on a story. In some cases, it might be a voluminous literary work, in others simply a short anecdote. The style of narration might be either realistic or abstract; even apparently arbitrarily connected shots can be shaped into a story in the viewer's mind, as the Soviet film-maker Lev Kuleshov demonstrated in the 1920s.

When discussing storytelling or narration in the animated film, one has to take into account the fact that not only conventional forms of animation but also interactive computer games and other audio-visual works involving animation rely heavily on attractive stories. While in the early days of computer and video games people were attracted merely by the novelty of the technology and by the nature of virtual reality itself, now it is impossible to attain popularity without an excellent story (plot). This also explains why several big-budget animations have not been successful, while others have enjoyed immense recognition, despite their modest production value. Indeed, the story and the way it is told is probably the only aspect of competition where small production companies are on an equal footing with large-scale producers; in every other aspect, the major companies have the financial advantage of creating more spectacular special effects, using more sophisticated animation techniques and more popular music and, through promotion, making their films even more appealing to spectators.

The distinctive nature of the story in animation is determined by the essence of the animated film: vitalizing, or animating, motionless elements. While in other genres the story, first and foremost, entails an enticing plot, in animation it is most crucial to first depict the characters so that they come to life, and only then to communicate the plot. It is impossible in an animated film to tell a story without making the audience believe that the characters have come to life. Lifeless characters cannot convey a lively, credible story. Thus, the primary function of the narrative in animation is to animate the characters, and through them to communicate the story to the viewers.

Animated films and computer games share the same technologies, to a great extent; the rise in their popularity has appeared concurrently with, and largely due to, the development of digital technologies. Until the 1980s, animated films for wider adult audiences were virtually non-existent. Although a variety of *auteur* animation existed, mainly produced for the festival circuit, animation was still chiefly identified as a children's genre. The first animated television series for adult audiences, such as *The Simpsons* (since 1989), *Beavis and Butt-head* (1993–1997), *King of the Hill* (1997–2009), *Futurama* (1999–2003 and since 2008) etc. were launched – and met great success – only about a decade or two ago, simultaneously with rapid progress in digital technologies and massive marketing of desktop computers. The world-famous Walt Disney studio still represents an utterly conservative and traditional branch of animation, having produced, during its existence, more than fifty feature-length animated films, all aimed at children.

The advanced level of today's technologies makes it possible to conjure up anything one might wish on the screen with the help of computers. Computer animation makes it possible to create virtual characters and worlds, which the human eye fails to distinguish from their real-life counterparts. Incredible special effects, lighting schemes and camera

movements can be produced, but the spectacle of effects and technologies is not the crucial basis for a good movie. The human eye can be easily deceived, tricked into believing in the virtual world and attracted with visual fireworks, but it is much more difficult to mislead or fool the human heart – this takes a good and enchanting story.

‘By its very nature cinematography is a story, a narration,’ claims Yuri Lotman (Lotman 1976: 36), and continues: ‘But cinematic narration is narration using cinema. Therefore, it reflects not only the general laws of all story-telling, but also the specific features inherent in narration through the cinema’ (Lotman 1976: 68). Narrowing down Lotman’s idea of narration in film, we can argue that narration in animation is narration with devices of animation, where features characteristic to animated films appear. Turning once again to the essence of animation – bringing to life lifeless objects – we can conclude that animation film is narration with devices of animation and, in addition to creating a narrative, the animation must also bring its characters to life. But to tell a story, one has to speak a language.

Lev Manovich, a professor and theorist of new media, proposes the concept of ‘cinematography’ to indicate language based on a style which has resulted from mixing different techniques of today’s audiovisual media (Manovich 2001: 312). Nevertheless, it certainly seems that, to understand animation in its great variety and difference from classical cinema, a language of its own is required, that of animation – a dialect of the filmic language. But as with any language, communicating in filmic language demands a knowledge of rules and theory. To both appreciate and create intelligible animations, one needs to be aware of not only classical film theory but also of animation film theory and philosophy, or in other words, of ‘animasophy’ – a term coined by the students of animation at the Estonian Academy of Arts.

Motivation

People are always controlled by motivation: our every action or move is caused by a certain incentive. Its source can be external: we go to work to earn money, we give flowers to please etc. Most frequently, our external and internal motivations are balanced, but people can also act contrary to their external motivation. Even so, their actions are still motivated – by internal stimuli. This involves a number of factors beyond our direct control, which nevertheless influence our behaviour. Broadly speaking, internal motivation is the instinct of self-preservation (and the need to avoid pain).

Philosophers have devoted a great deal of discussion to matters of determinism and the existence or lack of free will, but that issue falls outside the scope of this paper. Nonetheless, we have to admit that in certain situations people's behaviour is determined – if only for physiological reasons – independently of their free will: a shortage of air leads to suffocation and excessive heat causes perspiration.

Motivation is also connected with the characters in live action fiction films and documentaries. External motivation stems from the features of a particular role, while internal motivation is brought about by being mortal. In the case of living characters inhabiting the real world, they undoubtedly have internal motivation. In nature films, for instance, we can observe how animals act on internal instincts – hunger, fear or libido.

In terms of animated films, where the screen is occupied by inanimate drawings, puppets or visualisations, we come to realise that the inevitable internal motivation of characters in live action fiction films and documentaries is absent in the characters of animation. The internal motivation needs to be created for them, in order, through it, to also enact the external motivation. A character in an animated film without in-

ternal motivation does not represent a filmic character intertwined with storytelling, but is only an illustration of a character. An animated film devoid of character(s) with internal motivation resembles an illustrated book rather than a classical film. The former conveys a story entirely through text and the pictures of the characters have only an illustrative function, while in the latter the characters mediate the entire narrative.

Constructing the internal motivation of a character in an animated film does not necessarily entail imitating the internal drives of the human world, although it does remain the prevalent option. Indeed, the majority of characters in Disney's feature-length animations, e.g. *Snow White and the Seven Dwarfs* (1937), *Pinocchio* (1940) or *Bambi* (1942), are based on a simulation of internal motivation in the human world. However, the characters in animated films can also have an internal motivation completely their own, although it does have to remain constantly in synch with the external motivation throughout the film. A good example of presenting internal motivation in a way not imitative of the human world is *Kizi Mizi* (2007) by Mariusz Wilczyński. The characters in *Kizi Mizi* are conceived in a very simple, even primitive style, yet due to the bizarre patterns of behaviour of the characters, who ignore the normal rules of conduct, the author has managed to create a very playful and entertaining narrative without attempting to mimic human manners or physiology. The characters in *Kizi Mizi* – a cat and a mouse – are animated by their spontaneity.

Spontaneity

In terms of spontaneity, the animated film is an extremely controlled and carefully pre-planned genre. Its characters can be compared with robots lacking any spontaneity rather than with characters from documentaries or live action fiction films, who more or less improvise, i.e. construct, their conduct in front of the camera according to their inner instincts.



Mariusz Wilczyński, *Kizi Mizi* (2007).



Pjotr Sapegin, *Aria* (2001).

One has to keep in mind that animated film is an umbrella term encompassing a whole range of films created in many diverse techniques: e.g. hand-drawn animation (cels), stop-motion animation, computer animation, pixilation etc. Some techniques involve almost no spontaneity; for instance, in hand-drawn animation the movements of characters have been line-tested and improved several times before becoming suitable for the completed product. In computer animation, the figures move along a pre-determined grid; the animator first establishes the beginning and end of a scene, and only then creates the movement in between. In traditional stop-motion animation, on the other hand, the characters have a relatively large amount of room for spontaneity: in most cases, the animator begins the scene having no clue where or in what position exactly the puppet will end up. The character's every move stems from its previous position and is to an extent conditioned by the materials used, as well as by the animator's technical abilities. The animated character must have a degree of spontaneity in order to be plausible. How alive animated characters are is enhanced by spontaneity and also by having them obey rules of time and gravity, just as people do.

Pjotr Sapegin, a director of animated films based in Norway, presented a paper at the international colloquium *The Soul of Voodoo* (2007) in



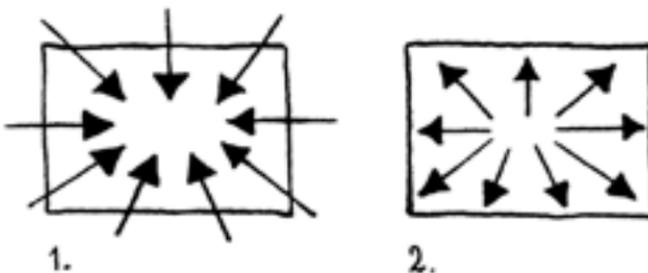
Pjotr Sapegin.

Tallinn on one way to ‘give soul’ to a puppet: he shot the scenes of his *Aria* (2001) in chronological order and slightly changed the face of the protagonist in every successive scene, emphasizing change and ageing over time. *Aria* is a unique adaptation of Giacomo Puccini’s opera *Madame Butterfly*, which is structured around the character of the protagonist, Madame Butterfly. Despite the roughness of its style and the low budget of the production, the protagonist,

and thus the whole film, tells an extremely touching and credible story.

Creating a narration

Compared to other film genres, narration – i.e. the way an existing story is presented on the screen in a particular film – is fundamentally different in animated films. In live action films, a shot assembles the already existing space, characters and relationships (Fig. 1). Classical animation, on the other hand, is constructed in an ‘empty frame’: i.e. the particular space, characters and relationships are created for a particular film (Fig. 2). In live action films the necessary elements are assembled in the frame, while in animation they are dispersed, scattered across the frame.



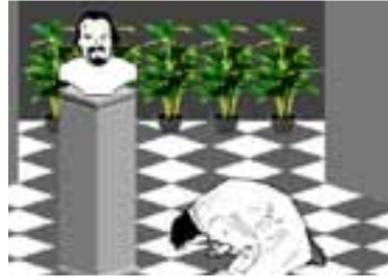
Telling a story in film is complicated because of film's nature as a tremendously complex medium. A book, for example, presents a story through words, and a song through lyrics and melody, but a film includes several narrative devices.

‘[T]here types of narration are simultaneously present in contemporary films: visual, verbal and musical (audial). Interrelations of great complexity can arise among them. Moreover, if one type of narration is represented by its meaningful absence (e.g., a film without musical accompaniment), this does not simplify, but still more complicates the construction of meanings’ (Lotman 1976: 69).

The technology has advanced immensely since the days Yuri Lotman studied cinema and wrote about it, and today we can argue that, in addition to the graphic, verbal and musical type of narrative, a fourth type – haptic – exists in films. Predominantly, the haptic type of narrative can be found in computer games and in some animations. By haptic, I mean the opportunity for a viewer to interactively intervene and make choices, select and block etc. the progress of narration. Han Hoogerbrugge, a Dutch film-maker, has created several animations of the haptic type. In a sense, Hoogerbrugge operates on the margins of film-making, hence the main exhibitors of his work are art galleries, but he has also been popular at film festivals and has received attention through special screenings. The screening of his haptic animations in traditional cinemas is complicated by the lack of a technical device – e.g. a mouse – which would permit the audience to ‘touch’ the screen. Hoogerbrugge’s films, such as *Neurotica* (1998–2001), *Hotel* (2004–2006) etc. grant the audience an opportunity to intervene and influence the development of the narrative. Viewers of Hoogerbrugge’s films can, for example, affect the pace of the film, make characters perform or prevent them from performing certain acts, rapidly change the setting or move along to the next episode, provoke repetitions etc. The spectatorship of films such



Han Hoogerbrugge, Neurotica (1998–2001).



Han Hoogerbrugge, Hotel (2004–2006).

as these implies – just as in computer games – active and personal connection with the film, as well as a chance to control it with a mouse or some other similar device. In fact, some critics are prone to argue that haptic films are precisely computer games, which evoke immediate personal experiences, rather than films in the conventional sense. Perhaps Hoogerbrugge's work cannot be regarded as cinema in the conventional sense; on the other hand, cinema is still an ever-evolving art form and, admittedly, due to the dizzying advance of technology, the classical cinema as a place of exhibition has already been far surpassed in popularity by computers, mobile phones, iPods etc. – that is, devices generating a more personal link between films and their viewers.

Choice of characters

After a film's story is written down as a screenplay, the characters are selected. This process is referred to as casting in live action film-making and as character design in animation. In some cases the screenplay is written with a particular performer or character in mind; mostly, however, the script precedes the selection of players. This order of procedure occurs both in live action and animation film-making.

The difference between the two stems from the fact that in live action film-making the actors can help the director during rehearsals and shooting. To make the acting seem more natural, the actors can propose

their own suggestions in terms of action and dialogue – specifically those that seem natural and appropriate to the players themselves.

Since the characters in animation do not communicate with the director, the whole ‘acting’ aspect, its details and nuances, are the director’s responsibility. Because the director is also engaged in many other tasks, often also serving as a producer, the sad fact is that in many animated films the characters have been denied sufficient attention and thus often whole films remain somewhat superficial. If the characters have not been credibly presented, then the whole film tends to result in unconvincing narration.

Characters and space are the main mediators of narrative (plot) in animation films, yet the story cannot be told without making viewers believe that the characters are alive. Thus, the primary responsibility of the director (i.e. the storyteller) in animation is to animate, to bring to life the characters of the film, in order to narrate the story to the audience.



Ülo Pikkov.

Dialogos

The animated film *Dialogos* (2008) was hand-drawn directly on film stock. This technique, direct animation, gives the author a chance to create the visual universe of the film without relying on cameras or scanners. While other animation techniques are essentially recordings or reproductions, direct animation is, by definition, a direct presentation. Both the achieved illusion (of motion, space etc.) and the film stock (or material) itself become objects of film. The technique of direct animation has fascinated a whole array of directors, among them Norman McLaren, Len Lye, Steven Woloshen and Boris Kazakov. The spontaneous nature of this technique brings it closer to 'swinging' than filming. The work of an author reaches audiences in the most immediate manner and this can be extremely inspiring.

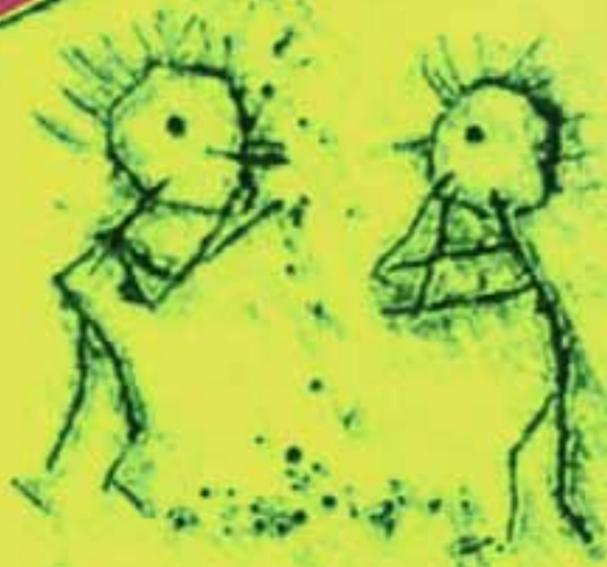
The driving force behind *Dialogos* was my intention of investigating the relationship between animated film and music. Everybody has their favourite tunes and songs. And everybody has their beloved movies. Yet when it comes to listening or watching these favourites repeatedly, things become less straightforward. In all likelihood, we have devoured our favourite melodies hundreds of times and if given a chance would do it again with pleasure. For example, if while driving a car one of our favourite songs happens to be on the radio, we automatically turn the volume up and start following the beat with delight and recognition. We enjoy listening to our favourite music (or just any music) over and over again. Yet films

are entirely different in this respect. Only a handful of fanatics are entertained by repeated screenings of the same movie, and most people do not watch a film more than once. I have many favourite films, yet if any of them are broadcast on television I prefer not to watch because I do not want to spoil the emotion and experience of the first viewing. I do not want to watch films over and over again, even if I consider them very good! Why is it that we enjoy listening to the same music almost endlessly, while we agree to watch a movie only a limited number of times? Our attitude to fictional literature is similar: usually we read a novel or a story only once, while a poem tends not to become boring even after several readings. Why? Most probably these different attitudes are motivated by the lack or presence of narrative. Both film and fictional literature are based on stories – narratives – and if we have already encountered a particular story and have become familiar with its content, e.g. having learned who the murderer is or that the protagonists will get married, it is no longer exciting and thus we do not want to watch or read it again. Music and poetry, on the other hand, are often much more abstract and lack a continuous narrative. Music does not so much tell us particular stories as it creates certain moods, which people are willing to experience repeatedly. This explains why the soundtracks of movies are so easily marketable as independent products: unlike movies, the soundtracks are susceptible to repeated presentation and after watching a particular film many people tend to buy a CD with the soundtrack rather than a copy of the film itself. The soundtrack re-evokes the emotions brought about by watching a film. Even



though music plays a major role in movies, viewers still tend to see films as fictional narratives rather than musical pieces.

The immediate and spontaneous nature of direct animation, in comparison with other animation techniques, brings it closer to the creation and performance of music. With *Dialogos*, I attempted to make a film that would be as abstract as music, without narrative, and where elements of design would change and vary according to the inner logic of music, rather than that of narrative. At the same time, I also wanted to avoid a completely abstract visual style of vague moving images. *Dialogos* is populated by distinct characters as in a narrative film, yet it lacks a narrated story; rather, it is a sequence of sketches without cause-effect relationships. A cast of particular characters appears again and again in different situations, yet the visual images do not narrate a story, but constitute a visual rhythm. The image track follows the inner logic of reggae music, in which repetition becomes a part of the composition, and a certain theme is repeated in different variations throughout the film. The visual images reoccur and vary in synch with musical composition. As the author of the film, I can say that *Dialogos* lacks a (narrated) story. Meanwhile, it seems that spectators still always try to construct a story while watching *Dialogos*, which leads to rather peculiar and immensely varied interpretations of its contents. This testifies to the fact that even though the film-maker has not implanted a particular story in a film, the audience still recognizes one – their own story. Usually, entirely abstract films do not evoke stories, just as people do not look for stories in music, which is by nature an abstract art form. Yet if a film's visual sign system transcends the principles of typical abstract cinema (by presenting well-defined characters, particular images, details etc., as in *Dialogos*), the audience automatically attempts to decipher its story. Apparently, it is impossible to make a story-less film based on distinct images, as people tend to look for a story in every picture. This is especially true in the animated film, which is composed of many pictures. Even if the film-maker has consciously refused to narrate a story, the spectators still project their own stories onto the film.





9. On Space in the Animated Film



Riho Unt and Hardi Volmer on the set of the animated film Spring Fly (1986).

The concept of animation originates from the Latin word *anima* ('animation' or 'to animate'). Regrettably, this notion is sometimes defined in rather simplistic terms: if something is moved in front of the camera, then that something gets automatically animated on the screen. This might well happen, yet true animation of characters occurs through film's spatial features.

Settings and characters presented to spectators in live action fiction films and documentaries are commonly selected by directors, whereas in animation they are generally created. Whether drawn (2D) or modelled (3D), the characters and space of a film is designed on paper, on a computer or in a studio workshop with that particular film in mind. Visible and audible space is composed by the animators 'from scratch'. In classical animation, the element of randomness – in terms of what we perceive on the screen – is minimized, and everything seen and heard is consciously and intentionally presented to the audience by film-makers. Therefore, every element should have a meaning or reason for being created and presented to viewers. It is because of this property of animation that we can discuss the use of space in animated films – the animated space – as something uniquely characteristic to them.

Animated space emerges through a film's visual environment, the dramaturgy of characters and sound design. Music alone does not suggest space, which is more particularly linked to added sound effects (for example echo). The design of characters does not have apparent spatial features either; yet very broad conclusions can be drawn from the design about the space the characters are supposed to inhabit: for instance, characters with legs similar to those of people are likely to occupy an environment where the law of gravity applies and legs are used for walking around. Nonetheless, this is just speculation based on our prior experience, and does not necessarily describe the actual nature of the film's space.

The famous film theorist Béla Balázs argues in his *Der sichtbare Mensch, oder, Die Kultur des Films* (Leipzig, 1924) that ‘in film every sign is a bearer of meaning, everything becomes symbolic in film’ (cited in Lukkarila 1991: 163). Or, as Yuri Lotman puts it: ‘Every image on the screen is a sign, that is, *it has meaning*, it carries information’ (Lotman 1976: 31). Thus, everything perceived by spectators has meaning in one way or another. Since animated space is typically first created on a blank sheet of paper (or an empty grid) one can assume that all spatial elements in animation are designed consciously and with the purpose of presenting particular information.



Béla Balázs.

‘The first animation film theorist in the world’, Plato, gives a wonderfully simple explanation of the nature of animation in his Allegory of the Cave: people live as if in a cave where they only see shadows cast on the walls and perceive them as real things. However, the real things (or ideas, according to Plato) actually exist outside the cave, unavailable to human sight. The ideas form their own world and can only



Plato.



Plato's Allegory of the Cave.

be ‘seen’ through intellectual reasoning. As explained by Indrek Meos: ‘The cave with shadows is the symbol of the sensual world. Everything outside the cave, on the other hand, represents true being, that is, the world of ideas’ (Meos 2000: 54).

Essentially, animated film is the inversion of the Allegory of the Cave. People see and hear the world of ideas on the screen because every element of the film is an idea of something (‘bearer of meaning’ according to Balázs, or ‘sign’ according to Lotman). This is the world outside Plato’s cave. Moreover, our mind attaches experiences to the ideas presented in animation. Thus, different experiences of the world can result in different interpretations of a film; for example, adults and children can arrive at contrasting readings of the same film since their experiences of the world are dissimilar.

‘World is not a mere collection of the things – countable and uncountable, known and unknown – that are present at hand. Neither is world merely imaginary framework added by our representation to the sum of things that are present. *World worlds*, and is more fully in being than all those tangible and perceptible things in the midst of which we take ourselves to be at home’ (Heidegger 2002: 23).

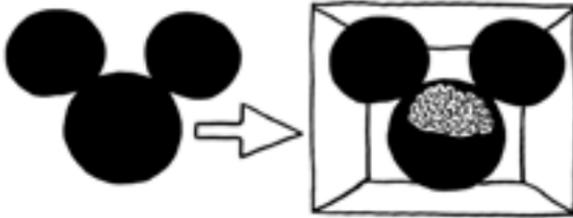
The discussion of space in animated films thus entails discussion of the world existing in and through a film. It is a world created for one particular film, with a distinguishable beginning and end. This world fitted inside the rectangle of the screen, framed by a particular beginning and end, should, contrary to the rest of the world, lend itself to thorough description. And since this world is consciously created by film-makers, it should also be possible to describe why this particular kind of world (space) is presented. ‘No one of us, looking at a stone or a pine tree in a natural landscape, would ask: “What does it mean, what did they intend to say?” [...] But as soon as such a landscape is portrayed in a painting

this question becomes not only possible, but entirely natural' (Lotman 1976: 14).

Animated films portray a veritable cornucopia of signs-symbols-ideas, embracing, in addition to film language, the idiosyncratic language of respective animation techniques derived from fine art. In this tremendous abundance of ideas one could ask if it is worthwhile at all to interpret and decode the animated space. Indeed, it can be argued that animated space functions as a filler of the screen and a source of aesthetic illusion. Or maybe, nonetheless, a general idea or concept of some sort exists, the understanding of which necessarily entails comprehension of animated space?

According to Gaston Bachelard, 'the house is one of the greatest powers of integration for the thoughts, memories and dreams of mankind' (Bachelard 1997: 88). The inanimate characters of animation – drawings and puppets – lack any thoughts, memories and dreams outside the film; they are without what is called a collective consciousness. Collective consciousness, inevitably existing both in and outside the film for the corporeal characters in live action fiction films and documentaries, is nonsense in animation. Animated characters exist as subjects only in particular films, outside of which they are merely inanimate collectables. In animation, space represents the characters' thoughts, memories and dreams, reflecting their collective consciousness. Everything inside the four margins of the screen is the 'house' inhabited by animated characters. The entire animated space, every element seen and heard, constitutes the collective consciousness of the film's characters. Animated space is like a mirror, reflecting – through the animators' work – the collective consciousness and shared cultural space of the film's characters.

Therefore, in addition to the material world, animated space presents the characters' collective consciousness and shared cultural space, ulti-



In the animated film, space describes the story world and the way in which characters perceive it, referring also to the collective consciousness of the characters and to their general cultural setting.

mately animating the lifeless drawings and puppets. It is precisely space, not motion, which establishes the dynamic and vigorous world of animation. Let me give you a simple example: viewers perceive a motionless background – a forest – as a living entity, yet the credits, moving from one edge to the other of the screen, remain lifeless objects in their eyes. Thus, not the motion of an object, but the space surrounding it, creates prerequisites for a truly animated world.

The harmonic relationship between the characters and space requires that both the characters and space be conceived according to the same concept and related to each other by coherent stylistic means; otherwise, the characters and space collide. I am always puzzled by animations where, for example, the characters and the setting have been designed in contrasting techniques, or where one of them is produced in 2D and the other in 3D. Indeed, one cannot even begin to imagine that a two-dimensional character would understand the world in three dimensions, or vice versa. In that case, the space does not support the character, and the character – and thus the whole film – remains superficial. Space distances itself from the characters and we only see mechanical movement without any vibrancy.



Roger Allers and Rob Minkoff, *The Lion King* (1994).

In Roger Allers's and Rob Minkoff's *The Lion King* (1994), the landscapes and sky are sometimes represented with photograph-like realism, while the design of the characters does not correspond at all to their prototypes in the savanna. The filmic environment and characters of *The Lion King* have been conceived according to two different concepts: the setting strives for the maximum effect of realism, while the characters resemble imaginary plush animals. The lack of an integral design concept results, therefore, in a dissonance between the space and the characters. Viewers get the impression of the characters and the space coming from two totally different worlds.

On the other hand, Robert Zemeckis's *Who Framed Roger Rabbit* (1988) is entirely constructed upon the juxtaposition of animated space and a live action environment. The human performers and drawn characters



Robert Zemeckis, *Who Framed Roger Rabbit* (1988).

are presented side by side, and in this case the combination of spaces, following disparate design schemes, seems completely acceptable.

Ülo Sooster, a distinguished Estonian artist and innovator in Soviet animation, describes his 'fundamental understanding of a painting as an integral whole, as an object-space, understood as a unified object, as an energy field with a vividly expressed polarized structure, with channeled power currents in it' (cited in Kabakov 1996: 197). Animated films should be discussed under similar principles: the object-space or character-space form an integral unit – filmic space. This unit of shared elements directs viewers' interpretations, whether consciously or intuitively.

In animation, after all, we consider the animation, the bringing-to-life of lifeless objects. And if we recognize that, under certain conditions, lifeless objects can be 'brought to life' in films, then we also have to recognize the ability of these vitalized objects to perceive their surroundings in one way or another. 'The stone is world-less. Similarly, plants and animals have no world; they belong, rather, to the hidden throng of an environment into which they have been put. The peasant woman, by contrast, possesses a world, since she stays in the openness of beings. [...] By the opening of a world, all things gain their lingering and hastening, their distance and proximity, their breath and their limits,' asserts Martin Heidegger in *The Origin of the Work of Art* (Heidegger 2002: 23). All living things have a world, and they belong to it. Animated, vitalized characters of animation belong to the animated space and the animated space constitutes their world. It is precisely the animated space which lends the film its lingering and hastening, its distance and proximity, its breath and limits. But how do the animated characters perceive their world? On the philosophical level, accepting imagination as an essential talent of the mind, we can argue as Schopenhauer did: 'The world is my imagination.' Or, in other words, our world is just as we imagine it. Naturally, we have no idea how animated characters imagine their world, yet

we have no other alternative besides the film's general world. Animated characters imagine their world exactly the way the team of animators has conceived the film's space. Hence, the animated space presents us with both the film's general world and the animated character's image of the world, which simultaneously reflects their collective consciousness.

In addition to bringing the animated film to 'life', space also has an important function in presenting the plot or narrative. Spokesmen in ancient Greece applied the technique of memorizing a speech which entailed mentally locating the parts of the speech in different rooms of a building complex, and moving around in this building while giving the speech. Animated space has a function similar to this building, assisting spectators on the horizontal line of the narrative in following the film's narration. However, filmic space organizes information not only horizontally but also vertically. A film's action always takes place in the present. At the same time, all the reminiscences, recollections and future dreams can only exist in a film as immediately perceived images and sounds, that is, in the present time. Yet spatial features can also convey to viewers information from the past and about the future. On the vertical axis, every shot communicates a vast amount of information about time and events occurring before or after that precise moment. For instance, the image of cracked, dust-dry earth describes a preceding drought, whereas a passive volcano appears as a ticking time-bomb waiting to explode sooner or later.

Hence, besides simply positioning the characters geographically along the horizontal line of the narrative, space also functions as a mediator of the vertical relations between the past and the future. Space and spatial elements surrounding the animated characters refer to the location of the characters, simultaneously indicating to viewers the distinctive features of the era and the location, as well as the mood of the situation. In terms of the latter, the design of a film's sonic space has proved to be especially significant.

In sum, animated space, expressed both by image and sound, serves an extremely important and central purpose in understanding a film's meaning. Space is the key which should unlock the essence of an animated film, and usually this 'opening' occurs intuitively in viewers' minds. Spatial features provide no text for explaining a film, but a structure for understanding it. Space operates to connect a film's plot with visual and sonic elements, and to create a structure which invigorates the filmic world. It is precisely animated space which brings lifeless objects to life, persuades us to believe in their having a soul and, hence, to sympathize and identify with them.

In addition to the purely aesthetic function of creating the illusion of an animated world, space in an animated film also serves certain supplementary purposes stemming from specific generic elements. Therefore, animated space suggests the characters' collective consciousness and shared cultural conditions, and portrays not only the filmic world itself, but also the characters' understanding, their imagination of the world. Furthermore, the animated space, together with the animated characters, present the film's narrative or plot, thus allowing spectators to communicate primarily with the animated film as an agent of storytelling.

Contemporary animation is in endless flux, brought about by technological advances and theoretical innovation. Animation is the most important platform for experiments with interactive films, entailing viewers' greater involvement in and control over the film's narrative progress. The number of experimental animated films not based on narrative stories and not designed according to traditional aesthetic principles, and instead approaching more and more the principles of new video and media art, is constantly rising. Despite all these developments and changes, animated space remains an important subject matter.

Gone with the Rain

Divers in the Rain (*Tuukrid vihmas*, 2009), a short animated film by Priit and Olga Pärn, is the story of a man and a woman who share a life but only rarely meet face to face. The man works as a diver during the day and the woman as a dentist on night shift. Their paths cross only briefly in the morning, as the woman returns home and the man is ready to leave for work. The couple have a quick cup of coffee, exchange a light kiss and part in a rush. One would expect to see them reunited in the evening, but instead the man returns to an empty apartment...

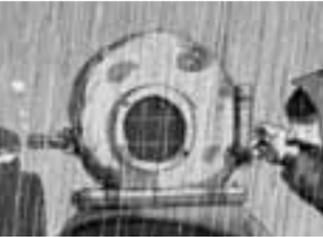
Divers in the Rain depicts a day in the life of the man and the woman – a day when the woman finds it difficult to fall asleep after her night shift and decides to take a boat trip, while the man prepares for a diving operation with his colleagues. The spectators are left to wonder whether the woman is merely suffering from insomnia or has decided to leave her husband for good. Or maybe she is only dreaming about her sleeplessness and about the boat trip taken in an attempt to overcome it. In the framework of Sigmund Freud's psychoanalysis, the woman's dream could be read in the light of her longing for the man: the lack of attention in their relationship makes her dream about entering her husband's workstation – the sinking ship. In *The Interpretation of Dreams* (*Die Traumdeutung*, 1900), Freud proposes that every dream fulfils a wish suppressed in or banished from the consciousness. To put it briefly, Freud's theory



Olga and Priit Pärn.



proposes that every dream is a 'wish-fulfilment', usually caused by suppressed sexuality. Many artists have been inspired by Freudian thought, especially the Surrealists – André Breton, Salvador Dalí, René Magritte and Max Ernst, an artistic lineage to which Priit Pärn belongs as both a print- and film-maker.



The morning encounter between the man and the woman in *Divers in the Rain* is indeed emotionally cold and distanced. On the whole, the man comes across as extremely reserved and self-centred, being only interested in lighting another cigarette. His occupation as a diver and his usual work attire – the diver's suit – enforce this impression, powerfully symbolizing his closed and highly restricted universe. Space and spatiality play an extremely important role in *Divers in the Rain*, despite it being a two-dimensional hand-drawn animation. The film evokes a whole array of different spheres: real space and dream space; man's space and woman's space; intimate private space and public open space; space above the ground and underwater space etc. The sound (by Horret Kruus) is crucial in conceiving these different spaces. The film's acoustic design is almost entirely composed of natural sounds. There is almost no music, except a piano piece by Erik Satie in the first and last episode. The various environments are skilfully differentiated: outside, an acoustic harmony arises from the sound of rain and the roaring city (vehicles, car horns and fragments of conversations) and the domestic sphere is filled with intimate household noises. The texture

of these natural sounds creates a music of a kind. While the visuals of the film give few clues about the woman's destiny, the sound is more revealing. As the woman tries to fall asleep (in her dream?), the sound evokes a disquieting underwater space (low pitch and echo), suggesting that the woman indeed drowned in the sinking ship. This is confirmed by the fact that the man comes home to an empty house. He seems unsurprised, however, as if he had already known or sensed that he will be alone with his nightly cup of coffee. For a moment, he imagines seeing the woman in the room, but this turns out to be a hallucination. A sense of sadness radiates from his movements and he looks deeply depressed while submerging beneath the water while taking a bath. Secluded in a closed private universe, he has failed to save his wife from drowning in a sea of boredom.

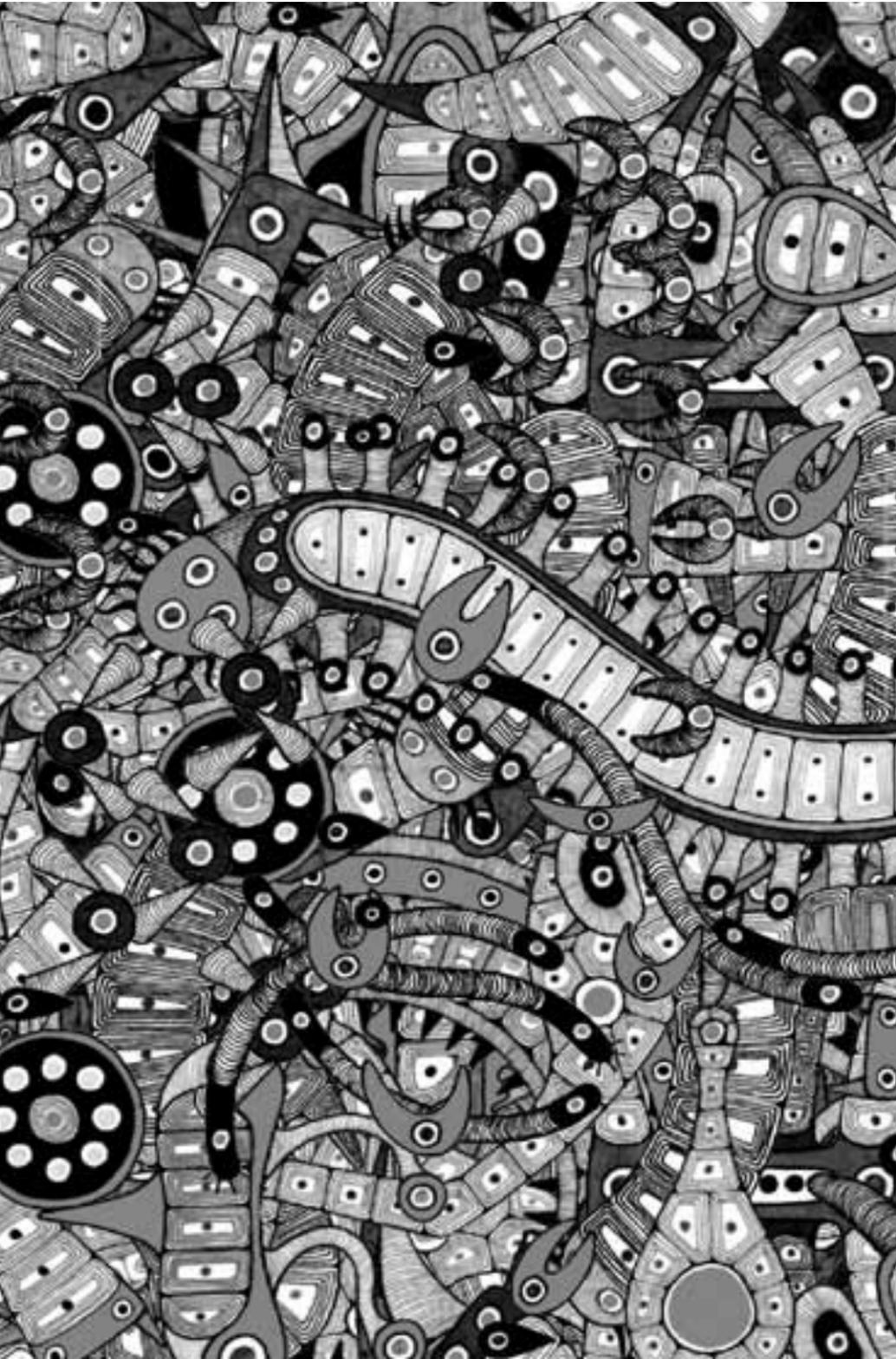


In hand-drawn animation, film-makers create the spaces and characters from scratch, quite similarly to how printmakers and painters start their work. The entire space of a hand-drawn animation, its every visible element, has been created either intentionally or unconsciously (intuitively) and thus contains, in addition to mere spatiality, a certain amount of additional information. In the animation film, space sculpts the personalities and emotional states of the characters. In this respect, the space of animation film resembles a dream, in which, from a psychoanalytic perspective, the events are never fortuitous. Even the most insignificant elements have hidden foundations, which can be excavated through skilful

analysis. Freud was convinced that the idea of 'free will' is an illusion, meant to deceive and comfort people. In *The Psychopathology of Everyday Life* (*Zur Psychopathologie des Alltagslebens*, 1901), he wrote that even if a person says the first name or number crossing his/her mind, that person is not exercising free will. Even total nonsense has certain implications. The same is true for animated films, where every element and technical solution is motivated by the personalities of their authors or characters. By their nature and the mechanisms of interpretation, animated films closely resemble dreams. *Divers in the Rain* by Priit and Olga Pärn is an interesting example of an animated film as a dream containing another dream.

There is a lot of water in *Divers in the Rain*. Even the title suggests two kinds of water: one that is large and deep (divers and their work sphere) and another that is light and airy (rain). Rain and streams of water have always been considered symbols of the flow of time. While the film concentrates on a single day of the couple's life, the monotonous (routine) rain symbolically refers to the wider temporal dimension of the characters – the man and the woman have probably been partners for a long time, their relationship has fallen into a rut and time keeps passing (as the rain keeps pouring)... Is it still possible to break the routine? The man has found a solution in mental withdrawal and chain-smoking, the woman in escape, at least in her dreams. The constantly pouring rain also alludes to eternal themes of inevitability, such as human existence, ageing, solitude, the role of chance in life etc. Water as an element is introduced at the very beginning of the film, in parallel with the characters: the man wakes, a picture of the woman hangs on a wall, a squeaky tap releases a flow of water from the shower. While the characters have their morning coffee, another hint of what is about to happen appears: rain is pouring endlessly outside the window and a piece of sugar falls onto the table, instead of into the cup, suddenly turning the table into a large 'ocean' where one can easily drown. The man notices this bizarre

anomaly, even attempts to control it with his hand, yet only the woman is able to dive into the water. Thus the safe situation of having morning coffee suddenly becomes a dangerous adventure. Next, a car comes to pick up the man and takes him to work. Every outdoors episode of the film takes place in ceaselessly pouring rain. After work, the woman lies on a bed and tries to get some rest, but she is disturbed by water dripping from the ceiling – the world outside invades the interior of her home. After that, the visual style and rhythm of the film changes to some extent (which can be interpreted as referring to the woman's dream); she gets dressed again amidst the sound of dripping water and leaves home. We also see a large passenger boat sinking into a jelly-like ocean and, at the end of the film, the man, who never made it into the water as a diver, takes a bath, as if redeeming or washing off his sins and failures. Water is the leitmotif of the film, both as an element and a symbol, or perhaps even the central image of the film. In Christian mythology, for example, water stands for both death and life. God punished mankind with a worldwide flood, yet at the same time people are christened (saved) in the water. In *Divers in the Rain*, water seems to have multiple meanings, referring to the emotional states of the characters by means of its states and rhythms (monotonous rain, jelly-like ocean, squeaky shower and dirty water in the bathtub) rather than communicating a particular subtext. Water becomes the third hero of the film, besides the man and the woman, helping to shape the roles of the characters and bringing, with its changing states and rhythms, an additional dimension to the personalities of the human protagonists.



*10. On Characters
in the Animated Film*



André Bazin has compared the screen to a mask: ‘The screen is not a frame like that of a picture but a mask which allows only a part of the action to be seen. When a character moves off screen, we accept the fact that he is out of sight, but he continues to exist in his own capacity at some other place in the decor which is hidden from us’ (Bazin 1967: 105).

The semiotician Yuri Lotman explains this by the fact that we have gotten accustomed to the cinema and can, without much effort, imagine the action beyond the edges of the frame. He maintains that ‘[s]patially the shot has as a boundary the edge of the film (for the authors), and the edge of the screen (for the audience). It is as though everything beyond these limits did not exist. [...] Only our familiarity with cinematography keeps us from noticing how the visible world which we know is transformed because all its unbounded limitlessness is put into a flat, rectangular surface on the screen’ (Lotman 1976: 27).

Both Bazin and Lotman have drawn our attention to the widely recognized phenomenon that normally spectators do not perceive film as a space enclosed by the edges of a frame, but rather as a view from a window, without spatial constraints. Equally accurate is also the fact that, both in live action fiction films and documentaries, the character, when ‘exiting the screen’, is still existent in a space unseen by the audience. But what about animation?

A character in hand-drawn animation no longer exists upon leaving the limits of the frame. However, when a puppet moves off the screen in model animation, it continues to exist in its material form, although only as an inanimate object and not as an animated character. Yet the audience of an animated film retains an impression that the characters not seen on the screen still survive somewhere in the filmic space hidden from their gaze.

The above-described effect of a mask, or the expansion of the filmic space beyond the limits of the frame, is an essential part of cinema's nature, characteristic of both live action fiction films and documentaries, and animation film-making.

Due to the nature and techniques of animation, the characters in animated films are usually inanimate objects. Certain techniques, such as pixilation or time-lapse, may also involve live action characters, but they are filmed frame by frame and thus, similarly to inanimate objects, gain their vitality only through animation. Applying Bazin's effect of a mask to the animated film, we can claim, at least theoretically, that the animated-enlivened (Latin *anima* means 'life' or 'soul') character in animation is 'alive' or 'animate' when it has left the limits of the screen and, thus, the audience's field of vision, and upon returning to the screen it becomes 'animated'. That is, the animated character is more 'alive' when it exists in the space beyond the screen than in the visible field of the frame.

In this respect Märt Kivi's *Laika* (2007), which introduced a film camera as one of the characters, is an extremely interesting example. The whole film is presented from the subjective point of view; viewers see the film through Laika's eyes. We never see Laika, but hear – presumably – her voice. The camera (or Laika) usually moves close to the ground and in a dog-like manner. *Laika* is an interesting example of an animated film which includes 'living' characters in addition to 'animated' ones, and this becomes possible precisely due to the fact that the character is hidden behind the screen. She exists beyond the visible field of the frame.

A somewhat comparable approach is also distinctive to *Zero Degree* (*Serf Darajeh*, 2005), an Iranian animation directed by Omid Khoshnazar, where a camera, together with all its technical capacities, is one of the

film's characters. The camera's viewfinder, its 'eye', witnesses a soldier violently executing a civilian and initiates its own mission of retaliation. Nevertheless, the film lacks the effect that exists in Kivi's *Laika*, which in addition to an 'animated' character includes a 'living' character, whose point of view is used to present the story. In *Zero Degree* the camera as a character remains only an inanimate, lifeless mechanism, symbolizing the essence of modern media rather than functioning as an individualized character.

The plausible existence of the characters outside the space of the screen is also one of the features clearly distinguishing the animated film from a mere animation. Although several forms of screen graphics (e.g. film credits, smilies, animated postcards, visuals of cell phones etc.) fulfil formal and technological requirements of animation, i.e. the movement created frame by frame in stop-motion, they cannot be identified as animated films because of the peculiarities of their spatial relationships. In animated film, the frame is like a window: the view visible to spectators is only a slice of a much wider, perceived space; in screen graphics, the frame is like an aquarium: the spectator does not recognize the space beyond its constraints.

Cinema has always been influenced by many different art forms, including theatre. For example, Yuri Lotman has asserted that '[h]istorically,

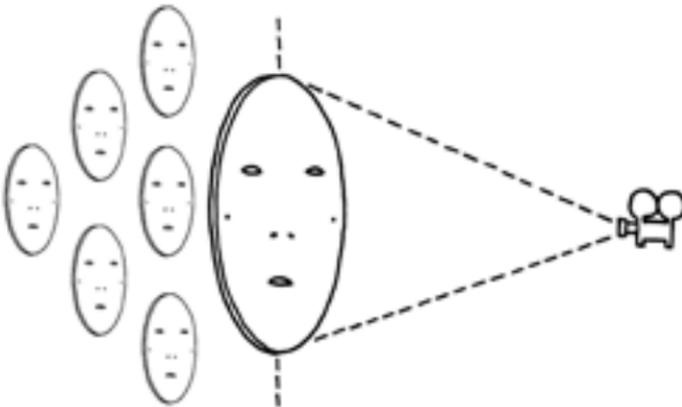


Omid Khoshmazar, Zero Degree (2005).

cinema art was created at the intersection of two traditions. One derived from the tradition of the non-artistic film documentary, and the other from the theater' (Lotman 1976: 84). Leaving aside certain experimental animated films, one could argue that classical animated films, which present a narrative, continue the theatrical tradition – similarly to live action fiction films, doing this first and foremost through representation of characters.

Ed Hooks, who teaches directing and acting classes to animators, proposes the fundamental difference between actors' and animators' work: '[A]ctors actually, for real *do* it when they are acting. [...] Animators actually, for real *describe* it when they are acting' (Hooks 2000: 6).

Let us return to Bazin's association of screen and mask, which hides from us part of the film's action (world) and allows us to perceive only an incomplete section of it. Furthermore, the animated character can also be compared to a mask, which functions as a mediator for animators to describe acting and conceal – mask – their own identity.



Mask effect.

Whereas the mask effect related to the screen is typical of all film genres, the mask effect related to character is distinctive only of animated film and is closer, by its nature, to puppet theatre. A character in an animated film is its creator's mask, through and under cover of which the author(s) transmit(s) their message, as though a shaman who, wearing a mask, is animating a mystical deity, the soul of an ancient ancestor or a game. A mask is static by its nature and functions according to expectations during the ceremonies: it hides the performer's personality and emotions, thus providing a plausible performance.

In children's programmes, the animated characters generally act as anticipated and therefore have a calming effect on children. To the contrary, even if human performers also normally act according to expectations in children's programmes, their behaviour cannot be extended to all the people surrounding children; hence the performance of human actors does not create a sense of security and comfort in children. This explains why children almost always prefer programmes with animated characters to programmes with human performers. Yuri Lotman also refers to the connection between minor and archaic spectatorship, differentiating two kinds of audience: the 'adult' audience and the 'children's', 'folkloric' or 'archaic' audience (Lotman 1991: 387).

The analysis of animated characters should also include the investigation of 'archaic thinking', or what Claude Lévi-Strauss refers to as 'savage mind' since the attitude towards animated characters seems to have traits similar to the totem cult and magic. Lévi-Strauss has pointed out that if different primitive societies shared the same totem, they tended to think that they were related by blood, even if they originated from different tribes or villages. 'The ties of the totem were considered so strong that if a quarrel should happen between a person with the same totem as a bystander and a cousin or other near relative of the latter but with a different mark, the by-

stander would side with the person with the same totem whom perhaps he had never seen before' (Kinietz in Lévi-Strauss 1967: 167).

Comparable attitudes endure even in today's world, where, for example, teenagers sharing the same taste in music feel a strong sense of solidarity with each other and may express deep suspicion towards close relatives who have different sonic preferences. Film production companies have wasted no time in exploiting this idea by flooding the market with enormous amounts of film- and character-related merchandise: T-shirts, hats, bags, toys, electronic games, food, drinks etc. All these provide a good chance to publicly demonstrate one's cinematographic leanings.

In the usually very character-centred animated film, the animated characters take on the role of modern-day totems. Hence, the immense popularity of collecting puppets and other merchandise of different animated films, downloading images of favourite characters on computers and cell phones etc. One has to emphasize that this kind of totemistic approach to animated characters is not only found among children – dedicated fans also exist among adult audiences. The Japanese anime characters have attained the status of veritable cult objects, particularly attracting the attention of grown-up spectators. The fans of anime (*otaku* is the Japanese term used to indicate the devoted admirers of anime and manga) have established numerous clubs, societies, Internet chat rooms, conventions and festivals in order to bring the community together. Anime societies and clubs have even infiltrated conservative academic institutions (www.yale.edu/anime; www.hcs.harvard.edu/~anime).

North American and European animated film originally emanates from comic books; the first well-known animated characters were actually comic book heroes brought to life, whose identities were already familiar to the audiences. Likewise in Japan, the style and characters of anime

stem from manga-comics, and anime has, in turn, started to influence the style of the comics.

The tradition of comics and other pictorial narratives goes back thousands of years, being directly associated with the time when literacy was not widespread and the picture was the main device for recording information.

Watching a film might be considered a ritual in itself, accompanied by particular procedures: focusing attention on the screen, following the plot, disengaging from everyday concerns etc. ‘The function of ritual, everywhere, is to relieve anxiety about the unknown,’ maintain the authors of *Sociology* (Hess *et al.* 1988: 67–68).

Animated films for toddlers attract their target group with primary colours and soothing music, thus creating a sense of security and comfort in the little spectators. Animations for teenagers, on the other hand, present familiar surroundings, being normally set in schools, on streets or in some other everyday environments the teenagers inhabit. Just as in rituals in archaic societies, the experience of watching films today serves the purpose of socializing individuals, in addition to fulfilling purely



Human figure wearing a bear mask, cave painting (Sakha, ca 4000–3000 BC) (Hoppál 2003: 46). Many ancient cave paintings, in addition to images of animals, also depict people wearing animal masks. Nowadays, characters with human bodies and animal heads are particularly common in animated films.



Nicolaes Witsen, a Dutch diplomat, travelled to Siberia in the mid-17th century. His travelogue is illustrated with several fine engravings, one of which portrays a 'pagan priest' – a shaman with mighty horns and claws. The picture reveals that the traveller still considers the shaman only half human and half animal (Hoppál 2003: 54).

entertainment functions. The output of Disney studio, the leading animation production company, is deeply ritualistic, according to the animation theorist Luca Raffaelli, who emphasizes that the ritualistic effect requires a critical mass of viewers collectively experiencing emotions brought about by a film (Raffaelli 1997: 120).

'Often we speak of the culture of the simpler farming societies ... as the Culture of the Masks, an indication that the mask worn during their rites and performances is the all-important factor in their lives. In the mask performances the mask is the hero of the play, not the person who wears it. The mask *is* the character it represents, not its likeness. The mask *is* actually the spirit of the dead, the ancestor, the animal, and this conception contributes to the awe the play inspires' (Lips 1949: 269).

Hence, the mask is the character.



Janno Põldma and Heiki Ernits, Lotte from Gadgetville (2006). Contemporary examples of animated characters with human bodies and animal heads.

The shamanic masks of the Transbaikalian Buryats and their neighbouring tribes of Evenks had a particular spirit who was worshipped and whose help was called for (Hoppál 2003: 111).

Therefore, it can be argued that our relationship with animated films, and particularly with animated characters, dates back to the beginning of archaic thinking and has a direct connection with ritual and the culture of the mask. Shamanic masks frequently combine elements from the images of humans, animals, birds or fish. A comparable approach is manifested in the design of characters in animated films, which often mix elements of human and animal features. Children's animations presenting characters with animal heads and human bodies have become true classics.

The formal correspondence between an animated character and a mask as a simplified image (of a face or a creature) is a result, to a certain extent, of animation techniques. In animated films, limitations on techno-



Mirai Mizue's Jam lacks the classical design of the animated film, divided into characters and background – everything visible is the characters.

logical facilities inevitably lead to simplification of characters and their appearances and movements. Precisely for this reason, the animators of the very first feature length computer animation, *Toy Story* (1995), opted for toys as the characters, so that their stiff expressions and mechanical movements would still give a plausible impression.

Mechanical characters – robots and giant machines whose mechanical movements are easier to animate (simulate) – are a regular feature of the animated film. In anime, people are often clothed in inflexible spacesuits, a fact which consequently makes the animation of characters' robot-like movement much simpler.

Images become signs in film, and may signify much more than the mere visible reflection of themselves, thus entering the semiotic sphere. In animated films, images gain even more significant meaning because of their simplification and the stylization resulting from the animation techniques.

Scott McCloud stresses that iconic images – those with a high level of abstraction – allow spectators to interpret the image more loosely than a realistic representation of the same motif would permit (McCloud 1993).

Hence, it can be claimed that animated characters embody a wider and more complex sign system than just the particular characters themselves. The implicit abstraction of animation produces animated characters whose signifiatory power goes beyond the plain representation of characters as performing agents. Accordingly, Homer Simpson is not only Homer Simpson but also symbolizes the modern American or, even more broadly, the typical man of a welfare society. Similarly, Disney's Snow White stands for the more general image of a sincere and warm-hearted young lady.

Human performers also permit the viewers to identify, to a certain extent, with the character at hand, and the performer's role has a signifying meaning. Yet the paradox of human actors stems from simultaneously assuming the position of the creator and the creation – they become 'semioticized' entities, who at once represent themselves and their characters. In classical theatre and live action fiction film, the characters are inseparable from the personalities of their performers. In animated film, on the other hand, the character is like a mask – we do not see the creator behind the character. Similarly to the protocols of archaic societies, the hero of the show is the mask in and of itself, and not the performer (animator or film-maker) wearing it.

Animated Theatre in Kaspar Jancis's *Crocodile*

Crocodile (*Krokodill*, 2009) is the fifth animated film by Kaspar Jancis, building partly on the central topics of his previous works: melancholy, broken hearts and the little joys of little people. Jancis might be considered the Aki Kaurismäki of the world of animation, finding inspiration in the everyday milieu of small back-streets, where the ill-fated untangle their messy affairs.



Kaspar Jancis.

Briefly, the story of *Crocodile* is about a successful opera star whose stage charm dwindles, resulting in his dismissal from the theatre. The sudden disappearance of admiring audiences turns him into a complete wreck, leading to alcoholism and total loss of self-esteem. He lives alone, accompanied only by a meat-eating pot plant that becomes his drinking buddy. The former soloist's misfortune also has an unfortunate effect on the plant: while during the good times it had been fed caviar, now the man can only stuff its jaws with de-gutted sprats. Life is depressing and, as if all this is still not enough, the ex-singer is forced to take up a job at a shopping mall, entertaining children in a crocodile costume. The children are cruel and take every opportunity to humiliate and debase him. One day, on his way to the shopping centre, he runs into a woman dragging large bags, looking as depressed as himself. The eyes of these two lonesome souls meet and a mutual interest sparks immediately (this spark of sympathy, on the woman's part, may well be caused by the crocodile costume peeking out of the man's bag). Their hearts are filled with love and soon enough the opera singer and his meat-eating plant move in with the lady. Life seems rosy at first, the ex-soloist carries the woman's heavy shopping bags, filled with meat, home from the grocery store, and she keeps sewing on his button (which he then rips off, so that the woman can sew it on over and over again). One day, the



button-sewing idyll is suddenly disrupted by a loud noise from the bathroom, making the man wonder if they really are alone in her apartment, if his lover is actually cheating on him. Later, after the woman has fallen deeply asleep under the influence of a sleeping pill, the man decides to investigate the secrets of the bathroom and determine what is behind these noises, and where all the meat is going. Slightly opening the bathroom door, the man is startled to discover that a crocodile inhabits the tiny room. In shock, he fetches the meat-eating plant and tiptoes out of the house. The man cannot put up with the rival crocodile and another meat-eating creature besides his pot plant...

Crocodyl is an extremely theatrical film: the characters are tragic and their performances grotesquely exaggerated, the protagonist first works in an opera house, is later cast as a crocodile in a shopping centre and the film is partly set in a theatre (an opera house). The whole film is full of contrasts: successful singer *versus* degenerate alcoholic, disheartened housewife *versus* happy mistress, merry and colourful amusement park *versus* grey street etc. In short, theatre to the bone, only animated.

There are two approaches to character-construction in the classical animated film. Most generally, the characters are based on real-life prototypes, which means the main task is to create convincing (realistic) environments, movements, body language and facial expressions. The majority of feature-length animated films, for example, subscribe to this method (even if the characters appear to be rather unconventional or

otherworldly, as in *Up* (2009), *Ice Age I-III* (2002, 2006 and 2009), *Shrek I-IV* (2001, 2004, 2007 and 2010), *Ratatouille* (2007), *Monster House* (2006) etc.)

The second approach treats characters as signs: instead of particular creatures, the characters represent these creatures as signs. Even if everything in a film is part of the signification process, the sign-like characters are much more static or 'logo-like', and far less attention is paid to developing facial expressions. Characters-as-signs are typical of *auteur*-animation and, among others, Priit Pärn, Jancis's professor at the Turku Arts Academy in Finland, relies on this type.

Jancis, however, has developed yet another approach to characters, that of animated actors. His characters seem to be portraying the film's characters in a theatrical and pretentious fashion. In particular, the scenes of the unemployed opera soloist making his living in the crocodile costume, performing pathetically, clumsily and hesitantly, have been executed with an outstanding mastery. An interesting detail is that some of the characters in *Crocodile* have made previous appearances in Jancis's earlier films. Thus, he has created an animated cast which performs, with occasional guest actors, in a whole array of his films. Both the hand-drawn actors and the director of this animated theatre strive to follow Stanislavski's system of acting techniques, according to which the actors do not *play* a role, but *play with* a role. Hence, the animated actors play with their roles, emphasizing nuances that turn a tragic episode into a comic one and induce tears and despair in comic situations.



The evolution of cinema (and especially fictional cinema) has been thoroughly shaped by theatre, especially in terms of performance and the structuring of episodes. After all, many of the first film directors and actors came from theatre. The animated film, on the other hand, is mostly rooted in fine arts, illustration and partly in puppet and shadow theatre. Jancis, however, has modelled his animated film on the traditions of early narrative cinema, which tended to employ theatre actors and theatre-based approaches to acting. In his animated films, Jancis is the successor of the masters of silent cinema, such as Robert Wiene, F. W. Murnau and Fritz Lang, who expected pompous performances from their actors. The performers in silent films relied on overacting in order to unambiguously convey emotions and directorial intentions to the audience without the use of sound. In the animated film, too, overacting and over-dramatizing are typical (as in the 'Disney style' with its 'squash and stretch' principle), which, however, has mostly to do with mechanical alteration of the objects' physical parameters in order to make movements smoother and more playful. Jancis's animated world resembles live action cinema in that the physical parameters of the objects are stable. However, he intensifies and broadens the scope of the characters' style of performance. The visual design of *Crocodile* belongs more to the 1950s than to the contemporary digital age of abundant special effects. The design, too, has a theatrical feel: carefully composed backgrounds that always embody certain clear and specific objects, lacking any accidental or ambiguous elements. It is like a cardboard backdrop mapping the space of the stage for the actors. In this way, Jancis has managed to create a delightful animated film, which is also theatre: animated theatre.





11. On Sound in the Animated Film



Until the birth of cinema, music was the only creative medium directly connected to the particular duration and time defined by the performer. Whether in a choral or in a shepherd's whistle tune, the performer dictated the rhythm of the piece and duration of the performance. In other media, it was the 'consumer' who imposed the time and rhythm of reception: for instance, how much time to spend on watching a painting or reading a book.

When cinema came along, first in silent form, it quickly became the most directly temporal medium. Neither the cries of the audience nor their rapturous applause could interfere with the projection of a film at a certain number of frames per second. Soon, in a peculiar, yet entirely logical manner, cinema and sound joined forces in sound cinema. *The Jazz Singer* (1927) is regarded as the first full-length sound film. Yet experiments in visualizing sound date back to much earlier days. In 1725, the Frenchman Louis Bertrand Castel constructed the ocular harpsichord (*clavecin pour les yeux*) for the performance of 'colour-music'. The German composer Georg Philipp Telemann became fascinated with Castel's theories of colours and music, and composed several pieces for his novel instrument. In 1893, the British inventor Alexander Rimington, inspired by Newton's discovery that music and colour are both essentially vibrations, patented a 'colour-organ'. Rimington thus combined an organ with light sources and attributed particular colours to particular notes. Several painters have also attempted to create visual (painted) music. Among the most persistent and devoted experimenters in painted music was the Lithuanian composer and painter Mikalojus Konstantinas Čiurlionis. Wassily Kandinsky, Paul Klee, František Kupka and others have also tried to capture music by means of painting techniques. Nowadays, a number of computer programmes exist for turning music into colours. The first in this long line of software was Kevin 'Zaph' Burfitt's programme Cthugha (1994). Visual music created with Cthugha became immensely popular in 'decorating' discotheques and



*Mikalojus Konstantinas Čiurlionis, Andante (1908),
from the cycle Sonata of the Stars.*

clubs. Additionally, VJs, essentially video artists who create visuals for music in real time, have firmly established their presence in the club scene.

The efforts to visualize music have been complemented by several composers looking for inspiration from visual arts and turning images into music. For example, Franz Liszt's suite *Years of Pilgrimage (Années de pèlerinage)* contains a piece inspired by a Raphael painting. The musicologist Monika Fink lists 711 musical works of this kind in her *Musik nach Bildern* (1988)!

Thus music and fine arts shared a close relationship long before the advent of cinema, searching for interconnections and mutual forms of expression, even though they were conclusively united only with the birth of sound cinema.

Essentially, the use of music in documentaries, narrative cinema and animated films is subject to the same general theories of film and music.

Due to the abstract nature of music, audiences perceive music and visual elements of a film not as a whole but as separate, although mutually complementary phenomena. At the same time, synchronous sound and sound effects are understood as intertwined with visual images. Documentary and live action narrative cinema always strive to create the illusion of realism, and thus synchronous sound should convince audiences of the total unity of image and sound, as well as of the authenticity of the particular combination. In animated films, however, the situation is diametrically different. Instead of representations of characters and objects producing real sounds, animation constructs abstract universes. Animated characters do not generate any sounds, at least not in any way comparable to characters in documentaries or live action fiction films. Furthermore, with a few exceptions in the field of experimental animation, animated films usually lack authentic synchronous sound. In live action narrative cinema, synchronous sound is only created in post-production, whether partly or entirely, mainly for technical reasons, for example when the recording of original synchronous sound has failed or proved technically impossible, but the ultimate objective is still to achieve the utmost fidelity ('life-likeness') of sounds. In animated films, on the other hand, all synchronous sounds are created in postproduction, resulting in fiction without any real physical connection with the visually rendered action. As Paul Wells has maintained, '[i]t is crucial to remember that the animated film soundtrack is completely artificial. It



Walt Disney, Steamboat Willie (1928).



Walt Disney, Fantasia (1940).

has to be completely constructed, must accommodate all facets of a live action track, and be made highly specific to the animated image' (Wells 2007b: 37). The creation of sound effects in postproduction is called the Foley process, named for Jack Donovan Foley, a pioneering sound editor, who started to add music and effect tracks to previously silent movies (Place-Verghnes 2006: 13).

Animated film is essentially a visualized idea. Thus synchronous sound and sound effects are significantly more abstract and 'animation-like' than in live action cinema. Fidelity in animation does not rely so much on the authenticity of synchronous sound compared to real-world sounds as on the harmony between the sound and the abstract visual universe of the animated film.

It can be argued that the wide popularity of animation in general (and Disney's production in particular) is greatly indebted to the early introduction of music in this genre. Namely, the fledging animator Walt Disney decided in 1928 to add music to his newest animated short *Steamboat Willie*, with Mickey Mouse as the protagonist. This cartoon became the cornerstone of both Mickey's glory and Disney's empire of animation. It was one of the first sound films in the world, establishing Disney's reputation as an innovator. It is worth recalling that not all film directors of that time were keen on adding music to their films. For example, Charlie Chaplin 'strongly disapproved of sound in the cinema' (Lotman 1976: 15). Disney also made the first commercial film released in multi-channel sound – *Fantasia* (1940). While in the early days of sound cinema live action film-makers often struggled to achieve the synchronicity of sound and image, animated film was, by nature, better equipped to tackle these issues, for as Esther Leslie has argued, '[m]usic and film both move through time, but in cartooning, with its frame-by-frame fully controllable structure, the links between sound and image could be drawn so tightly that a symbiosis, a perfect rhythmic synchro-

nization, could occur' (Leslie 2002: 26–27). The idiosyncratic frame-by-frame structure of animation made it possible to use sound and moving images in a totally integrated fashion: Disney's cartoons started to employ a method whereby music was recorded in advance of the image track (movements of characters), which followed the rhythm of the music. This has come to be known as Mickey Mousing: movement (action) of characters in complete synchronization with the rhythms of music (Bordwell and Thompson 2004: 360). Yet this image of a modern and innovative spirit did not remain long with Disney. In 1941, 'rebellions' of directors broke out in Disney's studio, and many young animators left. The reasons behind this discord were certainly varied, among others the onset of World War II and the concurrent economic crisis in the Hollywood film industry, but a number of film historians have seen this as a generation conflict between the clashing musical tastes of the older and younger ranks of Disney employees. Thus, by 1941, Walt Disney and his older peers constituted the conservative wing, whose tastes were limited to classical romantic music. The younger generation, on the other hand, was fascinated by jazz, yet without the support and understanding of their senior colleagues they were unable to utilize it.

United Productions of America (UPA, 1944) is the most well-known among the studios established by the directors who left Disney. UPA had a significant impact on general trends in animated films: instead of



Robert Cannon, Gerald McBoing-Boing (1950). John Hubley, Rooty Toot Toot (1951).

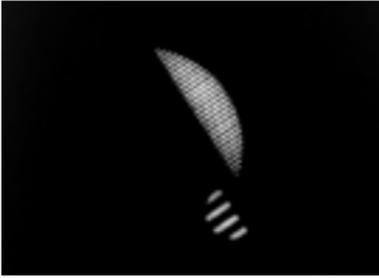
romantic fairy tales, audiences gradually came to prefer everyday situation comedies. The best examples of this revamped style include Robert Cannon's *Gerald McBoing-Boing* (1950) and John Hubley's *Rooty Toot Toot* (1951).

Other major studios, such as Warner Bros. and MGM, also attempted to provide viable competition for Disney's productions. In the early 1940s, MGM realized that copying Disney's style was no longer technically feasible and decided instead to consciously seek alternatives to Disney's harmonious animations (Place-Verghnes 2006: 31). In 1942, after Tex Avery (aka Frederick Bean Avery), a talented animator and director, joined MGM, the studio's style took a decisive turn towards a violent, rebellious and masculine approach. Another way to distinguish films from Disney's was to adopt a different viewpoint on synchronous sound: while Disney aimed for the effect of utmost realism and harmony, Tex Avery chose to use exaggerated sound effects that were far from anything in the real world. Yet they were perfectly appropriate for the animated film, sounding extremely convincing and accurate. Today, the Tex-Averyesque approach to film sound has come to be known as 'cartoon sound'.

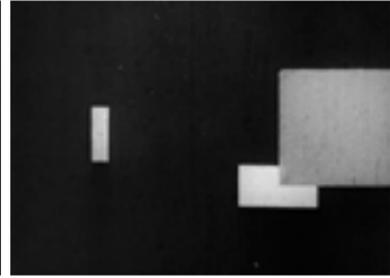


Tex Avery.

Although animation was also produced in Europe prior to World War II, its adherents worked on their own or in the framework of different art movements, rather than under the auspices of larger studios. For instance, a group of Dadaists tried to create visual music by means of animation, relying more on musical canons than on the traditional mode of storytelling. This tendency to compose and edit animated films according to musical principles is especially noticeable if one considers the titles of these productions, which are predominantly derived from musical terminology: Viking Eggeling's *Symphonie diagonale* (1924), Hans



Viking Eggeling, *Symphonic diagonale* (1924).



Hans Richter, *Rhythmus 21* (1921).

Richter's series *Rhythmus* (1921, 1923, 1925), Walter Ruttmann's series *Lichtspiel: Opus I–IV* (1921, 1923–1925) etc. The attempts of these early European pioneers to create visual music laid the foundations for the later European *auteur*-animation. Their legacy has been revived and fostered by a number of subsequent animation-makers, such as Géza Tóth, whose animated shorts and visualizations draw from Béla Bartók's compositions, Miloš Tomić, Priit Tender, Max Hattler *et al.* Canada-based Steven Woloshen's oeuvre is especially remarkable for his exploration of the combined effects of direct animation and (jazz) music.

World War II froze the development of the European animated film for a couple of decades, establishing the United States as the leading agent



Géza Tóth, *Ergo* (2008).



*a-ha's 'Take on Me' (1985), a music video combining animated material with live action sequences.
Animated by Steve Barron.*

of animation, as well as of cinema in general. By the mid-20th century, animated film had become, under the direction of its American advocates, a branch of the film industry targeted mainly at young audiences and catering largely to television. Even though a few lone wolves, such as Norman McLaren, Len Lye, Caroline Leaf and Stan Brakhage, struggled to move against the tide, the animated film was, by and large, synonymous with the children's film.

Beginning in the 1960s, the interplay of music and visual arts intensified considerably: with the emergence of the rock-and-roll age, pop music had an increasingly strong effect on works of visual artists, and vice versa: pop musicians have continuously drawn fresh ideas from visual media. By 1981, the American music industry had reached a stage where Music Television (MTV), the first cable television channel broadcasting exclusively music videos, was launched. This, in effect, naturally created a growing market for music videos. At first, the music industry was not

particularly interested in using animation in music videos, as it was still considered a children's medium. Nevertheless, MTV provided a seedbed for several aspiring animation makers, who laid the foundations of their future success with short animated clips for MTV. In 1985, an entirely unknown pop group, a-ha, shot to fame with the single 'Take on Me', in no small part due to the appearance of its largely animated video (director Steve Barron, animator Michael Patterson) on MTV. This video brought wide acclaim to the hitherto obscure Norwegian pop band, and changed the attitude of the entire industry towards using animation in music videos. After the immense success of a-ha's video, animation became a staple of music videos. Some of the most memorable animated music videos have been made for Peter Gabriel's 'Sledgehammer' (1986), by Aardman Animations, and by the Quay brothers, for Prince's 'Sign 'Ø' the Times' (1987) and for Softlightes's 'Heart Made of Sound' (2006). MTV thus obliterated the dogma of animated film being a children's medium. MTV was also the channel that aired *Beavis and Butt-head* (1993–1997), an animated series that became exceptionally popular with adult audiences, encouraging other channels to produce animated television series for grown-ups. Today it is nearly impossible to think of a visual medium entirely untouched by animation. To a greater or lesser extent, animation can be found everywhere: on television, computers, phones, displays etc.

The contemporary entertainment industry has also turned independent soundtracks (i.e. separate from films) into significant commodities, which are often more successful than regular albums: for example, in 1994 one of the best-selling albums of the year was the soundtrack of *The Lion King*, with over seven million copies sold.

The animation theorist Paul Wells lists some sound elements which can be found in any type of film (Wells 2005: 97–98):

1. voiceover [omnipotent narrator] (non-diegetic)

2. character monologue (diegetic)
3. character monologue (non-diegetic)
4. character dialogue (diegetic)
5. character dialogue (non-diegetic)
6. instrumental music (diegetic)
7. instrumental music (non-diegetic)
8. song [music with lyrics] (diegetic)
9. song [music with lyrics] (non-diegetic)
10. sound effects (diegetic)
11. sound effects (non-diegetic)
12. atmosphere tracks



Norman Roger, the most famous composer of animated films, has created original scores for more than 200 animated films, collaborating with Frederick Back, Paul Driessen, Michaël Dudok de Wit, Caroline Leaf, Wendy Tilby and Vladimir Leschiou.

Generally these categories of sound occur in some sort of combination and are only rarely individually discernible. Nevertheless, the analysis of film sound includes a full range of possible sound elements. This classification is based on the physical source of sound and on the relationship of sound with filmic space (the story world). Sound that has a source in the story world is called diegetic sound. Diegetic images of a film are visible objects in the frame, or objects whose existence in filmic space is indisputable. Non-diegetic sound lacks a clear source in filmic space and it is only ‘audible’ to the audience and not to the characters.

The inventory above lists the possible elements of film sound. Besides this, film sound has three additional dimensions: rhythm, spatiality and fidelity (Bordwell and Thompson 2004: 359ff). Precisely these supplementary dimensions play an important part in creating a masterly and imaginative animated film. Nearly everything, both material and immaterial phenomena, has a rhythm – every person, and their speech and movement, has a characteristic rhythm, but also, for instance, particular feelings and situations are sonically patterned. The rhythm represented by film sound helps to convey a film’s atmosphere, the nature of its

characters and the suspense of situations. On the other hand, a director can also intentionally go against the rhythm of visual narration and thus establish a new, counter-rhythm. Spatial dimensions of sound describe the perceptible filmic space. Sound turns a two-dimensional picture into a three-dimensional space. It is extremely important to emphasise that this spatial dimension also encompasses the fourth dimension – that of time. Film sound can describe bygone events, memories and dreams, even in situations where images simultaneously represent a different temporal dimension.

Uzi Geffenbald, the famous animation director, has asserted that the most important function of sound in the animated film is to make the spectators believe in what they see (Wells 2007b: 153). In the case of animated film, fidelity of sound is, in a way, the most important aspect, as animation always visualizes the fantasies of film-makers. Thus film sound – synchronous sound and sound effects – is the key to the credibility of the film as a whole. However, sound does not have to be naturalistic in order to achieve the utmost fidelity in the whole film; rather, it has to correspond to the visual abstraction of the film. The harmonious relationship between the visual design and sound of the animated film is the foundation of its fidelity and the measure of its artistic quality.

Kitchen Dimensions

In terms of genre, Priit Tender's *Kitchen Dimensions* (*Köögi dimensioonid*, 2008) can be classified as an animated musical, as the whole film is dominated by music and the image track comes across as an illustration of the sound track. The film combines two story-lines marked by different approaches: on the one hand, there is an abstract style, where actions and movements are determined by musical rhythms (without synchronous sound in its classical sense) and, on the other hand, a realist style, which is based on the interrelationship between actions and synchronous sound (without music).

At first glance, there seems to be no immediate link between the two story-lines: in the realistic sequence a man cooks in a kitchen and, in the following abstract sequence, the screen is filled with floating geometrical figures. The film contains three abstract sequences. The first one is the longest, dominated by low-pitched tonality; in the second and third, the music is rapid and higher-pitched. The opening sequence is realistic in style, depicting a man in the kitchen, his back turned to the viewers, apparently getting ready to prepare a meal for himself. Suddenly the kitchen table comes to life and the images transform into abstract geometric figures as the music commences. There is no obvious connection between the two story-lines (the realistic and the abstract), yet transitions between the two are always indicated in some way. The three abstract sequences



Priit Tender.



can be loosely interpreted as (1) memories of the table (the beginning of the sequence is marked by the kitchen table coming to life), (2) the essence of news (marked by a newspaper coming to life), and (3) the metaphysics of water (marked by the animation of coffee).

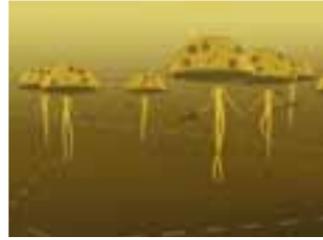


The realistic sequences alternating with the abstract ones demonstrate a strong sense of neutrality: the movements are slow, the character has turned his back to the viewers, hiding his facial expressions, and there is no musical score to suggest a particular mood. That is, the director provides no key for the viewers to make sense of the film's atmosphere. Nevertheless, the dominant ambience of the musically shaped abstract sequences overflows to the following realistic sequences, because, as the famous Soviet film-maker Lev Kuleshov demonstrated in his experiments of the 1920s, the audience inevitably forms associations between consecutive shots. Tender's animated film grants its viewers the ability to see the connections between the real world and metaphysical abstraction, as on a subconscious level the chronology of events alone suggests the presence of a cause-effect chain. In a way, the transitional realist sequences function as pauses, giving the audience some breathing space between spells of intensive musical and visual information.



Unlike many other films striving for a 'visual music', Tender does not associate music with colours in any direct manner. Tender's characteristic approach

to colour is evident in his earlier works, most notably in *A Vegetated Director* (*Taimne direktor*), his contribution to *Black Ceiling* (*Must lagi*, 2007), a collection of short animated films based on Estonian poetry. Several modernist painters, such as Wassily Kandinsky, Paul Klee, Mikalojus Konstantinas Čiurlionis and František Kupka, experimented with the concept of visual music in the early 20th century, but they concentrated on associating music with colour, and to a much lesser extent with forms and shapes. Tender, on the other hand, builds his visual music primarily from forms, by means of moving figures and their metamorphoses. His film is replete with the latter, thus continuing the series of transmutations launched in his previous film, *A Vegetated Director*. At times, the colours and images bring to mind Mati Kütt's paintings, yet Tender's approach is more graphic and relies on a repetition of elements, similar to musical works in general, where variations of a particular theme or phrase are repeated over and over again.



In 1911, Wassily Kandinsky, one of the first fine artists to create visual music, suddenly became interested in modern music. After a concert by Arnold Schönberg, which made an unforgettable impression on him, Kandinsky sent a thank-you note to the composer. In his letter, Kandinsky confessed that he had found in Schönberg's music the exact composition he had been looking for in his paintings. (Interestingly, Märt-Mattias Lill, the author of the score of *Kitchen Dimensions*, serves as the chair of the

Estonian Arnold Schönberg Society.) In his film, Tender has visualized Lill's score, by building the images around his music. Indeed, Tender's film should be analysed in terms of musical canons, rather than from the point of view of classical narrative conventions. His film constitutes a visual equivalent to Lill's musical composition. (By the way, the concept of composition literally means juxtaposition or combination of elements.) To an extent, Lill's oeuvre resembles Schönberg's work, as both of them avoid, in some measure, the rules of functional harmony. In *Kitchen Dimensions*, the harmony between the musical score and the image track is a result of an integral composition. Unlike the way music videos employ images in order to illustrate the music, in *Kitchen Dimensions* the visual information becomes part of the music, almost as if some notes can be perceived only by sight. Cinema is predominantly considered a visual art. Yet, in the case of Tender's films, it is more appropriate to talk about listening – whether one has heard the film, rather than seen it. And in this instance the concept of listening needs to be understood on a broader scale, because Tender has managed to create a truly visual music, where listening also becomes possible on a visual, and not only on an aural level. The superb performers of this excellent (visual) music also deserve proper credit: the NYVD Ensemble, with its conductor Olari Elts, working with the animators of Eesti Joonisfilm.

The approach of *Kitchen Dimensions* is closely related to the avant-garde cinema of the early 20th century. The realist sequences of Tender's film bear a strong resemblance to the city symphonies of the 1920s, celebrating urban culture and metropolitan environments (e.g. Walter Ruttmann's *Berlin: Symphony of a Great City* (*Berlin. Die Sinfonie der Großstadt*, 1927) or Dziga Vertov's *Man with a Movie Camera* (*Chelovek s kino-apparatom*, 1929)). In these films, real city noises dominate as synchronized sounds: the wailing of sirens, the clickety-clack of railway tracks, the whistles of locomotives, and the rattle of cash registers. Both films depict city and quotidian urban life in the course of an ordinary

day, concentrating on everyday routines, rather than singling out particular outstanding events. Urban noises, heretofore seen as mere cacophony, are structured to form a harmonious soundscape, creating a novel symbiosis – a veritable poetry of noise, composed of the very same sounds the film-makers tried so hard to avoid in the early days of sound, considering them too mundane and ordinary. In a similar vein, Tender's goal is not to present extraordinary events; on the contrary, he prefers to describe prosaic processes. Instead of the totality of the urban universe, he is drawn to a single individual. The object of his observation is cooking, in the course of which every movement is carefully accentuated with synchronized sounds of the most realistic nature. As a result, the ordinary sounds of cooking form a poetry of their own, a music to be heard with the eyes and seen with the ears. Perhaps it is a sign of the times that, while a century ago film-makers were fascinated by the hustle and bustle of metropolises, seeing them as organic creatures, now Tender is interested in the culinary enterprises of a single individual. Even if urban surroundings can be vaguely sensed somewhere in the background, this backdrop never gains any prominence. At the same time, every detail of cooking and the emotional states of the chef are spiritualised and mythologised. Abstract images (metaphysics on a molecular level) appear as living notes in Tender's film, describing and creating the music. In contemporary times, food and dietary habits are popular topics of discussion (both in mass media and in private conversations), arising much more frequently than the problem of urbanization did in the period after the industrial revolution. Debates about food, E-numbers, eco-friendliness, fast food, slow food, *Lactobacillus* etc. can be as passionate as the preoccupation of the early 20th century artists with futurism and urbanism. Then, it was said that you are where you live. Nowadays, you are what you eat. In the 2000s, preparing food is as mystical as the new metropolises of Berlin and Moscow were for the film-makers of the 1920s. Every era has its topics.

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Milestones of Animation



Poster of Winsor McCay's Gertie the Dinosaur (1914).

The following list is undoubtedly an incomplete inventory of milestones of animation; it broadly summarizes the path of the animated film to fame, both as an art form and as an essential part of popular culture. Furthermore, it should provide useful orientation in relation to the mass of examples given in previous chapters.

- | | |
|-----------|--|
| C. 380 BC | Plato (424/423–348/347 BC) illustrates his <i>Republic</i> with the Allegory of the Cave, which serves as an interesting theoretical explanation of the essence of animation. |
| C. 335 BC | Aristotle (360–322 BC) examines, in his <i>Poetics</i> (<i>Περὶ ποιητικῆς</i>), the structure and elements of story (narrative) in dramatic works. He is also among the first to describe the optical principle of camera obscura. |
| C. 70 BC | Lucretius (c. 99 – c. 55 BC) describes, in his <i>De rerum natura</i> , a mechanism for projecting moving drawings. |
| 180 AD | Ting Huan (丁緩) invents a device for presenting moving images. |
| 965–1039 | Alhazen (Alī al-Ḥasan ibn al-Ḥasan ibn al-Haytham, (965 – c. 1039) examines several optical phenomena and gives the first clear description of the camera obscura's working principle. |
| 1478–1519 | Leonardo da Vinci's (1452–1519) <i>Codex Atlanticus</i> includes an account of camera obscura. |
| 1645–1646 | Athanasius Kircher's (1602–1680) <i>Ars Magna Lucis et Umbrae</i> explains the principles of the magic lantern (<i>Laterna Magica</i>). |

- 1725 Louis Bertrand Castel (1688–1757) constructs the ocular harpsichord (*clavecin pour les yeux*) for performing ‘colour-music’, inspiring Georg Philipp Telemann (1681–1767) to compose music for it.
- 1825 Peter Mark Roget (1779–1869) publishes a paper describing the theory of ‘persistence of vision’, influencing the development of the Thaumatrope.
- 1826 Joseph Nicéphore Niépce (1765–1833) produces the world’s first photograph.
- 1832 Joseph Plateau (1801–1883) invents the Phenakistoscope.
- 1833 Simon Ritter von Stampfer (1792–1864) patents the Stroboscope.
- 1834 William George Horner (1786–1837) invents the Zoetrope.
- 1839 Louis Daguerre (1787–1851) advances photography by inventing the daguerreotype process.
- 1887 Ottomar Anschütz (1846–1907) invents the Electrotachyscope.
- 1892 Charles-Émile Reynaud (1844–1918) presents the Théâtre Optique at the Musée Grévin in Paris. The first public animation screenings take place, showing Reynaud’s cartoons *A Good Beer* (*Un bon bock*, 1892), *The Clown and His Dogs* (*Le Clown et ses chiens*, 1892) and *Poor Pete* (*Pauve Pierrot*, 1892).

- 1893 Alexander Rimington (1854–1918) patents the ‘colour-organ’.
- 1894 Herman Casler (1867–1939) invents the Mutoscope.
- 1895–1896 Cinema is born. Several authors in a number of countries in parallel create and screen moving pictures. The inventions of the brothers Auguste (1862–1954) and Louis Lumière (1864–1948) (Cinématographe), Thomas Alva Edison (1847–1931) (Kinetoscope and Vitascope) and the brothers Max (1863–1939) and Emil (1866–1945) Skladanowsky (Bioscope) are presented.
- 1900 The American James Stuart Blackton (1875–1941) directs *The Enchanted Drawing*, a short film employing the animation technique. It combines live action with hand-drawn animation: the author draws a face on an easel, which then starts to move.
- 1902 Georges Méliès’s (1861–1938) live action film *The Trip to the Moon* (*Le Voyage dans la lune*) uses the animation technique to create numerous special effects.
- 1906 Blackton’s *Humorous Phases of Funny Faces* is made. The cartoonist draws faces on a blackboard, which then ‘come to life’ by means of the animation technique.
- 1908 The Frenchman Émile Cohl (1857–1938) directs *Fantasmagorie*, one of the first European animated films. Between 1908 and 1921, Cohl makes over 250 short cartoons.

- The Spaniard Segundo de Chomón's (1871–1929) film *The Electric Hotel* (*El hotel eléctrico*) is one of the first experiments with pixilation and puppet animation.
- 1911 The American Winsor McCay (1867–1934) makes the cartoon *Little Nemo*.
- 1912 Ladislav Starevich (born Władysław Starewicz, 1882–1965), the Polish-Lithuanian animator, makes his first animated film, *The Cameraman's Revenge* (*Mest' kinematograficheskogo operatora*). He uses three-dimensional objects in his films and is a pioneer of puppet animation.
Max Wertheimer (1880–1943) publishes a description of the *phi* phenomenon, an alternative theory explaining the illusion of motion.
- 1914 Winsor McCay's animated cartoon *Gertie the Dinosaur* is made, which, due to its high level of artistic and technological quality, is regarded by many historians as the first animated film.
The first animation studios are established: Raoul Barré's (1874–1932) Barré-Nolan Studio (Barré was the first to employ the peg system in hand-drawn animation) and John Randolph Bray's (1879–1978) Bray Production. Bray and Earl Hurd (1880–1940) develop the technique of cel animation, whereby the animated image is composed of drawings on multiple clear sheets of celluloid.
- 1915 Max Fleischer (1883–1972) patents the technique of rotoscoping.

- 1917 Hekoten Shimokawa (1892–1973) makes the first Japanese animation (1892–1973), *The Story of the Concierge Mukuzo Imokawa (Imokawa Mukuz genkanban no maki)*.
- 1918 The premiere of Winsor McCay's *The Sinking Lusitania*, arguably the first animated documentary.
- 1920 Edwin Georg Lutz publishes the book *Animated Cartoons: How They Are Made, Their Origin and Development* (New York), which is the first survey of animation-making.
- 1921 Brothers Max and Dave (1894–1979) Fleischer establish the Fleischer Studios. Before World War II, it is the only studio capable of competing with Disney. Its most famous characters include Betty Boop, Popeye the Sailor and Superman.
Hans Richter (1888–1976), Walter Ruttmann (1887–1941) and Viking Eggeling (1880–1925) launch the era of abstract animation in Europe.
- 1922 The German Oskar Fischinger (1900–1967) makes his first animated films, labelling his unique approach to abstract animation 'absolute animation'.
- 1923 Walter Elias Disney (1901–1966) establishes the Disney Brothers Cartoon Studio, laying the foundations for the Disney animation empire.
- 1925 Harry O. Hoyt's (1885–1961) feature film *The Lost World* is the first to present animated dinosaurs as special effects. The animated effects are created by Wil-

- lis O'Brien (1886–1962), who is best known for his special effects in *King Kong* (1933).
- 1926 The German Lotte Reiniger (1899–1981) completes *The Adventures of Prince Achmed* (*Die Abenteuer des Prinzen Achmed*), the first feature-length silhouette animation (later historians discover that the honour of the first feature animation belongs to an Argentine author, but the film is lost).
- 1928 Walt Disney produces the cartoon *Steamboat Willie*, featuring Mickey Mouse as the protagonist. It becomes immensely successful, turning the animated film into the flagship of popular culture and establishing Mickey Mouse as its icon.
- 1930 Sergei Eisenstein (1898–1948) meets Walt Disney in Hollywood and is fascinated by his work. Eisenstein's writings make him one of the earliest theorists of animation, and one of Disney's keenest admirers and advocates in the Soviet Union.
Max Fleischer's character Betty Boop makes her first screen appearance.
- 1932 Disney produces the first colour cartoon, *Flowers and Trees*. It wins the first Academy Award for cartoons.
Berthold Bartosch's (1893–1968) 30 minute animated film *The Idea* (*L'Idée*) is made in Paris; it is known as the first tragic and socially conscious work of animation.
- 1933 Alexandre Alexeïeff (1901–1982) makes *Night on Bald Mountain* (*Une nuit sur le mont chauve*), the first pinscreen animation.

- Mary Ellen Bute (1906–1983), one of the first female animators to make abstract films and experiment with visual music, debuts with *Synchromy*.
- 1935 Aleksandr Ptushko's (1900–1973) feature animation *The New Gulliver* (*Novyy Gullivyer*) is made in the Soviet Union.
 Len Lye (1901–1980), an animator from New Zealand, makes the first direct animations, *A Colour Box* and *Kaleidoscope*, in England.
 Oskar Fischinger completes *Komposition in Blau*.
 Chuck Jones (1912–2002) starts his career in animation and later becomes a true cult animator and director at Warner Bros.
- 1936 Soyuzmultfilm studio is established in Moscow. The studio produces more than 1500 films during its existence, including *Winnie-the-Pooh* (*Vinni-Puh*, 1969), *Nu, pogodi!* (1969–2006), *Hedgehog in the Fog* (*Jozhik v tumane*, 1975), *The Mystery of the Third Planet* (*Tajna tret'ej planet*, 1981) etc.
- 1937 Ladislav Starevitch's feature-length puppet animation *The Tale of the Fox* (*Reinicke Fuchs*) is made.
 Disney releases *Snow White and the Seven Dwarfs*, the first full-length cel-animated feature; it becomes an immediate box-office hit, thus inspiring the entire animation industry to produce full-length animated films.
- 1939 Fleischer Studios produce their first feature animation, *Gulliver's Travels*.
 Disney releases its second feature animation, *Pinocchio*.

- 1941 Disney's feature animation *Fantasia* is made. Norman McLaren (1914–1987) becomes an employee of the National Film Board of Canada, where soon a department of animation is created. NFBC later becomes one of the world's leading producers of animated films.
- 1943 United Productions of America (UPA) is established by directors and animators who left Disney's employment. In contrast to Disney's romantic style, the UPA directors develop, under John Hubley's (1914–1977) direction, the style of 'modern animation'.
- 1945 Mitsuyo Seo's (b. 1911) *Momotaro, Sacred Sailors* (*Momotarō: Umi no Shinpei*) is released. It is the first Japanese full-length animated film, commissioned as anti-American war propaganda by the Japanese Naval Ministry.
- 1947 Se-ma-for, a Polish animation studio is established. Its most famous productions include *Tango* (1983) and *Peter & the Wolf* (*Piotruś i wilk*, 2006). The Czech author Jiří Trnka (1912–1969) makes his first feature-length puppet animation, *The Czech Year* (*Špaliček*). Trnka is the founder of the poetic school of puppet animation.
- 1949 Jiří Trnka makes the puppet animation *The Emperor's Nightingale* (*Císařův slavík*).
- 1950 A number of small studios merge to form the Shanghai Animation Film Studio.

- Osamu Tezuka's (1928–1989) series *Jungle Emperor*, aka *Kimba the White Lion* (*Janguru taitei*), is launched. Osamu Tezuka is considered the father of anime.
- 1951 John Hubley makes *Rooty Toot Toot*.
- 1952 Norman McLaren makes *Neighbours*.
- 1954 John Halas (1912–1995) and Joy Batchelor (1914–1991) adapt George Orwell's (1903–1950) *Animal Farm* (1945) as a feature animation.
- 1955 Disneyland opens in the United States.
- 1956 The Zagreb Film Studio is established in Yugoslavia, becoming the trendsetter for all of Eastern Europe and later establishing its own distinctive style of animation-making, known as the Zagreb School.
- 1957 Hanna-Barbera Productions is formed in the United States, and later dominates North American television animation.
Elbert Tuganov (1920–2007) initiates the establishment of the forerunner of the later Nukufilm Studio, a department of puppet animation in Tallinnfilm.
- 1960 The Annecy International Animation Film Festival (Festival International du Film d'Animation d'Annecy) is launched. It is now the most important animation film festival in the world.
The International Animated Film Association (Association Internationale du Film d'Animation), ASIFA, is founded.

- 1961 Dušan Vukotić's (1927–1998) *Ersatz (Surogat)* is the first non-American short animated film to win an Oscar. The California Institute of the Arts (CalArts), one of the world's leading animation schools, is founded.
- 1962 Fyodor Khitruk (b. 1917) makes his first animation work, *The Story of a Crime (Istoriya odnogo prestupleniya)*. Khitruk and his films retain pioneering status in Soviet animation for a long time.
- 1963 Japanese Television airs the series *Astro Boy (Tetsuwan Atomu)*, directed by Osamu Tezuka.
- 1964 The Czech Jan Švankmajer (b. 1934) debuts with *The Last Trick (Poslední trik pana Schwarcewalldea a pana Edgara)*. He becomes the most important representative of surrealist animation. Disney's *Mary Poppins* is made. It is a live action fiction film with numerous animated characters.
- 1968 Georg Dunning (1920–1977) makes *Yellow Submarine*.
 Andrei Khrzhanovsky (b. 1939) makes the much-celebrated surrealist animated film *The Glass Harmonica (Steklyannaya garmonika)*.
 Bill Plympton (b. 1946), an important author of American underground animation, debuts with *The Great Turn On*.
- 1969 Marv Newland (b. 1947) makes *Bambi Meets Godzilla*.

- 1970 The Dutchman Paul Driessen (b. 1940) makes his first animation, *The Story of Little John Bailey*. Jules Engel (1909–2003) sets up the Department of Experimental Animation at CalArts.
- 1971 Georges Schwizgebel (b. 1944), a celebrated director of painted animation, debuts with *Patchwork*.
- 1972 The Zagreb World Festival of Animated Films (Animafest Zagreb) is founded, now a ‘category one’ animated film festival. Osvaldo Cavandoli (1920–2007) launches the series of short animated cartoons *The Line (La Linea)*. Jerzy Kucia (b. 1942) debuts with *Return (Powrót)*.
- 1973 The premiere of René Laloux’s (1929–2004) feature-length surrealist animated film *Fantastic Planet (La Planète sauvage)*.
- 1975 Yuri Norshtein (b. 1941) makes *Hedgehog in the Fog*. Ivo Caprino’s (1920–2001) feature-length puppet animation *Pinchcliffe Grand Prix (Flåklypa Grand Prix)* is released. The first Ottawa International Animation Festival is held, an event that today is one of the ‘category one’ animation film festivals.
- 1976 Caroline Leaf (b. 1946) makes the animated short *The Street*. Peter Lord (b. 1953) and David Sproxton (b. 1954) establish the Aardman Animations studio in England, which later develops into the world’s leading producer of puppet animation. Aardman’s most well-known characters are Wallace and Gromit.

- 1977 Priit Pärn (b. 1946) debuts with *Is the Earth Round? (Kas maakera on ümmargune?)*.
- 1978 Zdenko Gašparović (b. 1937) makes *Satiemania*.
- 1979 Yuri Norshtein completes his most famous film, *Tale of Tales (Skazka skazok)*. It receives the title of Greatest Animated Film of all Time in Los Angeles in 1984 and in Zagreb in 2002.
Zlatko Grgić (1931–1988) makes *Dream Doll (Lutka snova)*.
- 1980 Lucasfilm studio establishes a division of computer animation.
Zbigniew Rybczyński (b. 1949), the Polish director, makes *Tango*, the most awarded animated film of all time.
- 1981 MTV (Music Television) is launched in New York City, later becoming one of the most important channels of distribution for experimental short animation.
- 1982 The first animated commercial, 'I want my MTV', appears on MTV.
Walt Disney studio produces *Tron*, a film that includes 15 minutes of computer animation.
- 1985 Jiří Barta (b. 1948) completes an expressionist puppet animation, *The Pied Piper of Hamelin (Krysař)*.
Sayoko (b. 1945) and Renzo (1936–1997) Kinoshita establish the Hiroshima International Animation Festival, another 'category one' animation festival.

- 1986 John Lasseter's (b. 1957) computer animated short *Luxo Jr.* is made, anticipating the subsequent triumph of computer animation.
Street of Crocodiles, by the twin brothers Stephen and Timothy Quay (b. 1947), exemplifies the aesthetic mastery of stop-motion animation.
- 1987 The Simpsons (by Matt Groening, b. 1954) make their first appearance on television.
Bill Plympton makes the Academy Award-nominated animated short *Your Face*.
Priit Pärn completes *The Luncheon on the Grass (Eine murul)*.
The Canadian animator Frédéric Back (b. 1924) makes the Oscar-winning animated short *The Man Who Planted Trees (L'Homme qui plantait des arbres)*.
Stan Brakhage (1933–2003) makes the experimental animated short *Dante Quartet*.
- 1988 Robert Zemekis's (b. 1951) directs *Who Framed Roger Rabbit?*, a film cast with human actors and cartoon characters.
The first private animation studio in the Soviet Union, Pilot, is founded in Moscow.
- 1989 Aleksandr Petrov (b. 1957) makes *The Cow (Korova)*.
Nick Park's (b. 1958) film *A Grand Day Out* is released in England, launching the screen careers of Wallace and Gromit.
Barry J. C. Purves's (b. 1955) *Next: The Infinite Variety Show* is released.
- 1991 John Kricfalusi (b. 1955) creates *The Ren & Stimpy Show*.

- 1992
- Priit Pärn makes *Hotel E*, a film about the repressive effects of a totalitarian society.
- Piotr Dumala (b. 1956) makes *Franz Kafka*.
- Bill Plympton's *The Tune* is released, becoming the first theatrically successful feature animation created by a single author.
- The launch of the The Cartoon Network, a cable television channel featuring round the clock animated programming.
- 1993
- Steven Spielberg's (b. 1946) *Jurassic Park*, a live action film featuring animated dinosaurs, is released to immediate box-office success.
- The British independent animation studio bolex-brothers (founded by Dave Borthwick and Dave Alex Riddett) produces the stop-motion animation *The Secret Adventures of Tom Thumb*.
- Henry Selick (b. 1952) makes *The Nightmare Before Christmas*.
- Beavis and Butt-head*, an American animated television series by Mike Judge (b. 1962), premieres on MTV.
- Nick Park's *Wallace & Gromit in The Wrong Trousers* is completed.
- 1994
- Walt Disney studio produces *The Lion King*.
- Giannalberto Bendazzi's (b. 1946) study *Cartoons: One Hundred Years of Cinema Animation* is published, a book still considered the most comprehensive account of the history of the animated film.
- 1995
- Michaela Pavlatova (b. 1961) makes *Repete*.
- Pixar Animation Studios produces the first feature-length computer animation, *Toy Story*, directed by

- John Lasseter. With this film, an entirely new era dawns in animation, which continues to enjoy unprecedented success. Its popularity is underpinned by the rapid development of the Internet and electronic media. The technical potential of computer animation makes it the most widespread animation technique.
- Mamoru Oshii (b. 1951) completes *Ghost in the Shell (Gōsuto in za sheru)*, a true masterpiece of anime.
- The American underground animator Don Hertzfeldt (b. 1976) debuts with *Ah, L'Amour*.
- 1996 The producer Ron Diamond (b. 1958) launches the Animation World Network, www.awn.com.
- 1997 *Whirlgirl*, the first animated series exclusively distributed online, appears.
- 1999 Aleksandr Petrov makes *The Old Man and the Sea*. Trey Parker's (b. 1969) feature-length cut-out animation *South Park: Bigger, Longer & Uncut*, replete with political incorrectness, is released.
- 2000 Michaël Dudok de Wit (b. 1953) makes the Academy Award winning animated short *Father and Daughter*. Andreas Hykade (b. 1968) completes *Ring of Fire*. Piotr Dumala makes *Crime and Punishment (Zbrodnia i kara)*.
- 2001 Virgil Widrich's (b. 1967) *Copy Shop*.
- 2002 Kōji Yamamura's (b. 1964) *Mt. Head (Atama Yama)*. Mati Kütt's (b. 1947) *Button's Odyssey (Nööbi odüsseia)*.

- 2003 Adam Elliot's (b. 1972) *Harvie Krumpet*.
Virgil Widrich's *Fast Film*.
- 2004 Chris Landreth's (b. 1961) *Ryan*.
- 2005 Kihachirō Kawamoto's (b. 1925) feature-length stop-motion animation *The Book of the Dead (Shisha no sho)*.
Don Hertzfeldt's *The Meaning of Life*.
- 2006 Suzie Templeton's (b. 1967) *Peter & the Wolf (Piotruś i wilk)*.
Andreas Hykade's *The Runt*.
- 2007 Marjane Satrapi (b. 1969) makes the feature-length animation *Persepolis*. It is a classical black-and-white hand-drawn animation, which premieres at the 2007 Cannes Film Festival, winning the Jury Prize. It also reaches wide acclaim outside the film world because of its politically controversial approach.
Dennis Tupicoff's (b. 1951) *Chainsaw*.
- 2008 Bill Plympton's feature-length animated film *Idiots and Angels*.
Tatia Rosenthal's (b. 1971) feature-length stop-motion animation *\$9.99*.
- 2009 Henry Selick's full-length puppet animation *Coraline*.
James Cameron (b. 1954) directs *Avatar*, a film combining elements of live action cinema and animation, which takes film production to an entirely new level. Animation becomes an integral part of live action film-making.

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Ülo Pikkov's *Animasophy: Theoretical Writings on the Animated Film* is a book primarily for professionals and lovers of animation, but it can also be employed as a textbook for other fields of audiovisual media.

Pikkov is a director of animated films who, in addition to creating animated films, teaches in the Department of Animation of the Estonian Academy of Arts.

Animasophy analyses the interrelations of the history, theoretical essence and practical expression of the animated film.

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