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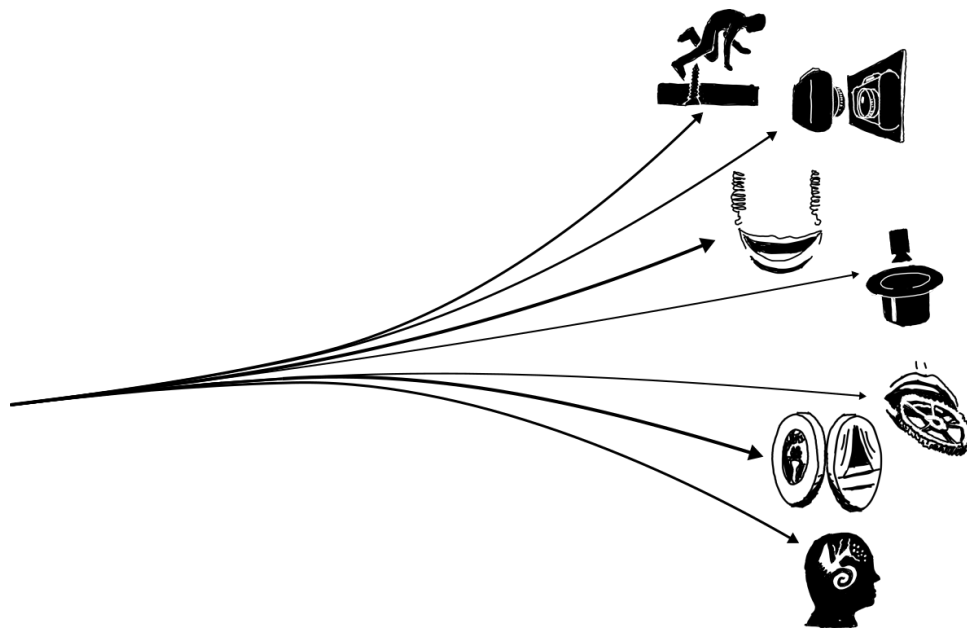
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HOW TECHNIQUE SHAPES NARRATIVE

Master Thesis



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Tallinn 2022

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Abstract

English

Animation is a field that is simultaneously concerned with storytelling and visual technique. The balance between the two is determined at an individual level by each filmmaker and is reflected in the harsh distinction between narrative and experimental animation. However there is a significant field of tension between these labels which this work explores.

I propose two major ways in which animated film deals with technique in the narrative context, either by making it 'transparent', meaning irrelevant to the interpretation of the narrative; or 'opaque', that is a central element to the narrative. I then go on to present examples of narrative animation using 'opaque' technique and with their help identify seven distinct but related methods by which it can be achieved: a reference to the creation of animation itself, a theme that unites technique and story, the expression of an inner world through technique, exploiting the intrinsic funniness of technically "bad" animation, a passing of technical rules into the diegetic realm, illustrating narration by mixing techniques and the unfolding of a metaphor into the technical, narrative and universal dimensions. Suggestions for the use of these methods are given. Finally, the work also goes into detail about the development and usage of a technique for computer-assisted replacement animation.

Estonian

Animatsioon on valdkond, mis tegeleb samaaegselt nii jutustamise kui ka visuaalse tehnikaga. Tasakaalu nende kahe vahel määrab iga filmitegija individuaalsel tasandil ja see kajastub karmis eristuses narratiivse ja eksperimentaalanimatsiooni vahel. Siiski on nende siltide vahel märkimisväärne pingevälja, mida käesolev töö uurib.

Pakun välja kaks peamist viisi, kuidas animafilm käsitleb tehnikat narratiivses kontekstis, kas muutes selle "läbipaistvaks", st narratiivi tõlgendamise seisukohast ebaoluliseks, või "läbipaistmatuks", st narratiivi keskseks elemendiks. Seejärel esitan näiteid narratiivse animatsiooni kohta, milles kasutatakse "läbipaistmatut" tehnikat, ja määratlen nende abil seitse erinevat, kuid omavahel seotud meetodit, mille abil seda saab saavutada: viide animatsiooni loomisele ise, tehnikat ja lugu ühendav teema, sisemaailma väljendamine tehnika kaudu, tehniliselt "halva" animatsiooni sisemise naljakuse ärakasutamine, tehniliste reeglite üleminek diegetilisse valdkonda, jutustuse illustreerimine tehnika segamisega ning metafoori avamine tehnilistesse, narratiivsetesse ja universaalsetesse mõõtmetesse. Antakse soovitusi nende meetodite kasutamiseks. Lõpuks käsitletakse töös üksikasjalikult ka arvuti abil tehtava objektide animatsiooni (replacement animation) tehnika väljatöötamist ja kasutamist.

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Introduction

Filmmaking in general and animation in particular has been on the forefront of technical advance from its inception. It also has been a form of expression for one of the oldest arts of human history – that of telling stories. Some industry professionals would argue that storytelling should be the main goal of animation and technique serve merely as a tool. Yet it can be observed that animation film makers often produce particular types of narratives in which technique and story form an inseparable whole, a realm not accessible if storytelling alone is given priority. The special intrigue of this narrative shaped by technique and how it can be achieved is the subject of examination in this thesis.

What follows is firstly an attempt at identifying and describing all possible ways an animated film's technique can shape and enhance its storytelling with the aid of compelling examples from existing films. In addition to my own analysis, I have conducted interviews with authors of some of those films in order to gain insights into the relationship of technical decisions and

storytelling decisions during their development process. Secondly, I try to distil this information in each category into a set of approaches that can be helpful to myself and other animation authors who seek to find meaning in and express meaning through a technique.

It is important to remember that, although I categorise and generalise, the different approaches do not exist in isolation but overlap and interact to varying degrees in each film discussed, either due to conscious choices of the authors or coincidence. It is therefore not just possible for a film to straddle multiple categories or to switch between them during the course of its duration, but doing so is an art in itself. Before all of that, however, I would like to introduce an even broader categorisation to explain how and why those films were chosen for analysis.

A separate section has been dedicated to my own search and development of a technique for digital replacement animation and the motivations for this work stemming from the theoretical framework of the first part.

A choice: (Fantastic) Realism or recognizing the medium as a message

A lot of contemporary so called 'live action' film, especially big Hollywood productions such as superhero movies, feature a hefty amount of technology that can be described as animation or at least animation-related, namely CGI¹, key-frame animation or motion capture, physics and particle simulations and digital composition. They do so in order to save money or, more

commonly, to portray events or characters that cannot be captured by a live camera.

Nevertheless I want to argue that these films adhere to a certain doctrine of Realism, an idea which is expressed in the fact that these films are called 'live action' despite clearly involving plenty of action that is not happening on set. The 2019 film *Detective Pikachu*, 2020 film *Son-*

¹ 'computer generated imagery', meaning 3D computer graphics

ic the Hedgehog and the 2021 Netflix series of *Pokemon*, with their computer animated main protagonists, have all been dubbed 'live action' at one point or another. That is not because they are just that, but because they are orchestrated by the rules of live action film.

Light behaves like real light. Objects have mass like real objects. Muscles contract like real muscles. At no point do these films want to give the impression that this is not physical space being observed through physical eyes. What we see might be phantastic, but how it is portrayed is realistic. They are moving trompe-l'œils², depicting impossible realities. As such, this is nothing new. It is in long succession to literary genres such as the fantasy novel and science fiction and movements of visual art such as surrealism and magical realism. What these genres have in common is that they try to make the medium disappear in order to immerse their recipient's imagination into their world. Their end goal is the illusion that something is real that cannot be real.

But to reduce one's medium towards invisibility is not a necessity for the transport of meaning. On the other side of the chasm stand poetry and especially Dadaism, abstract art and expressionism, and forms of animation that are the subject of this thesis. The manmadeness³ of these works

is not just obvious through the traces left on the material but essential to their reception.

I would like to distinguish the use of technique in these two groups of artworks by the terms 'transparent' and 'opaque'. 'Transparent technique' entices the viewer to perceive diegetic elements only and forget about technique, whereas 'opaque technique' makes diegetic and technical aspects meet. The difference has been noted and described similarly – albeit only in the context of documentary film – by Annabelle Honess Roe as 'the power [of animation] to make us look at the screen, rather than through the screen'.⁴ Still, the distinction can not only be made between live action film and animation, but also within animation. Walt Disney embodies transparent technique in animation like no one else. The lifelikeness of Disney studios' characters is fabled and Walt famously detested the rough look of the Xerox process that was introduced as a cost-cutting measure but gave rise to the stylized visuals of *One Hundred and One Dalmatians*.⁵ Independent animation on the other hand has always had the freedom (and lack of finances) to explore and embrace technique to the point of making it a central element of storytelling. For this reason – and for their accessibility and scope – the films analysed in this thesis are independent short films.

² French for 'deceive the eye'

³ to avoid the word 'artificiality' and its connotation of necessarily mechanical or technological creation

⁴ 'It is in the very difference between live action and animation, and also in the difference between animated documentary (for the most part, no two look the same) that the power of animation, in the context of animated documentary, lies. The power to make us look at the screen, rather than through the screen and the power to make us doubly consider what we are seeing by encouraging us to think about the relationship between what is represented and how that representing is taking place and who is doing the representing.'

— Gageldonk, Maarten van, et al., editors. *Animation and Memory*. Springer International Publishing, 2020. p. 224

⁵ *Redefining the Line: The Making of One Hundred and One Dalmatians*. Walt Disney Home Entertainment, 2008.




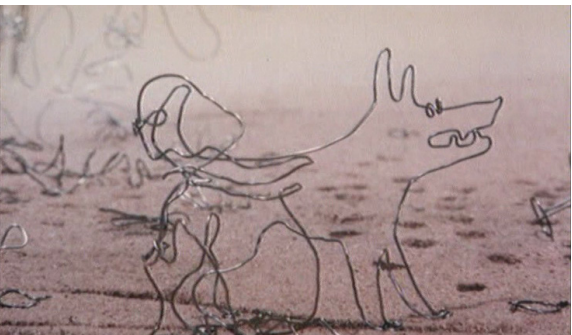
Signs of transparent technique	Signs of opaque technique
trompe-l'œil	Expressionism / Abstraction
Medium is irrelevant	Medium is the message
Immersion	Rationalisation
Making details of a work's creation visible is a mistake that hinders the message	The details of a work's creation are crucial to transporting the message
The world works according to its own rules; the perception of the world works according to rules familiar to the viewer	The world works according to rules of the technique or the two are closely related
Examples of transparent technique	Examples of opaque technique
	
<p>Figure 1: 'Quetzalcoatl' is a mythical creature, yet it seems to come out of this wall in this mural by John Pugh (trompe-l'œil)</p>	<p>Figure 2: The 'Prophet' might have been a real person, but the crude technique is a central element of his characterisation in this woodcut by Emil Nolde</p>
	
<p>Figure 3: Still from <i>Detective Pikachu</i>: Technique adheres to principles of photorealism</p>	<p>Figure 4: Still from <i>Twists and Turns</i> (Garri Bardin): Narrative shaped by the principles of technique</p>

Table 1: Signs and examples of transparent and opaque technique

Methods to connect narrative and technique

So how can we systematise the myriads of ways that animation authors have found towards opaque animation? In my research this has been achieved by taking a close look at films with a strong, unique or prototypical approach to technique, trying to separate story from technique⁶, and by taking note of why it is difficult to describe one in isolation of the other in each instance. The seven clusters of reasons that arose

from this analysis are: a reference to the creation of animation itself, a theme that unites technique and story, the expression of an inner world through technique, exploiting the intrinsic funniness of technically 'bad' animation, a passing of technical rules into the diegetic realm, illustrating narration by mixing techniques and the unfolding of a metaphor into the technical, narrative and universal dimensions.

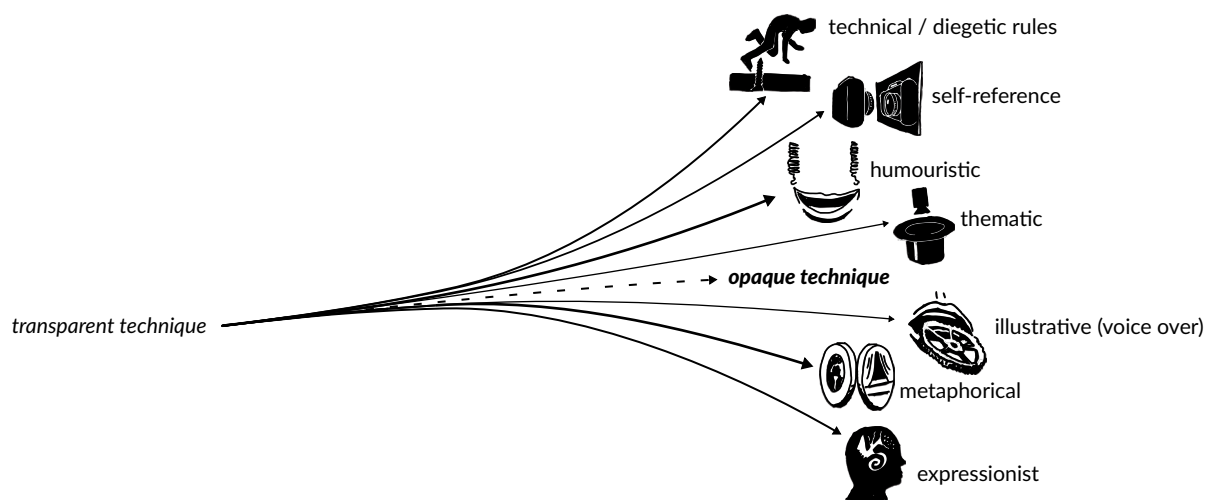


Figure 5: Illustration of the 7 different ways to achieve opaque technique

Self-reference

Animation filmmakers often feel a need to explain what they are doing and why. This might be due to the characterisation of an artform that has the creation of an illusion at its heart, the

relative complexity coupled with obscurity of the trade, or simply in order to justify a slow, gruelling process.^{7 8}

6 Or, in David Bordwell's terms 'syuzhet' from 'style', although my analysis does not attempt to establish a 'fabula' but to identify instances where style interacts with it. See Buckland, Warren, and Edward Branigan, editors. *The Routledge Encyclopedia of Film Theory*. Routledge, 2014. p. 329

7 "But in general I think because animation is such a big process it's always fun to reuse what you have in the background, you know in the behind the scenes, and show, because otherwise it's maybe not valued enough, all the work. If you don't know how hard it was."

— Martinelli, Giulia. *Interview*. Conducted by Lukas Winter, 4 3 2022.

8 "My latest films starts with a hand which comes with the sand and starts drawing the island, and then the story starts. [...] I worked with Anu-Laura Tuttelberg and she made with the sand such nice backgrounds which looked like maybe these are photographs with just a filter. [...] It was one of the ideas, also, to point out that it's made by

Therefore it is not uncommon to find animated films that contain references to the creation of animation as part of their narrative. This can be by showing the body of the animator interacting with an animated character, visualising the drawing or construction of a background, a set or a character in the form of a timelapse, involving equipment or materials such as camera, lights, inkwells, light tables or even through dialogue.



Figure 6: Still from 'Boxtrolls' trailer

A common narrative use of self-reference involves the conflict between the will of a character and that of a more powerful antagonist literally controlling their reality, whether this relation-

ship is used as a humoristic device or invoked in order to call into question the existence of free will. In fact this theme can be found outside of independent animation as well. Even though it cannot be considered a complete narrative, the end credits of the stop-motion animated film *The Boxtrolls* (2014) can serve as a very short example that makes these roles obvious: Two characters speak about the possibility of their world and themselves being moved by 'giants' with enormous effort as the camera slowly pulls out to reveal the set they are on and animators moving in time-lapse fashion. One character performs increasingly complex movements and jokes about the amount of work this requires from the animators, exemplifying the reversibility of the power dynamic.⁹

Ekoving a conscious and physical conflict, however, is not the only way to play in this field of tension between controller and controlled, as exemplified by Will Anderson's short film *Betty*. Through the use of a 'director's commentary' he gradually reveals how the choice of story reflects



Figure 7: Still from 'Betty'

hand.”

— Pikkov, Ülo. *Interview*. Conducted by Lukas Winter, 2022, Tallinn.

9 Annable, Graham, and Anthony Stacchi, directors. *The Boxtrolls Behind the Scenes - Time Lapse End Credits*. 2014.

on this fictional character that purports to be the creator of the film.

The story, that is revealed to be embedded in the frame story of the director-character's narration, is a rather simple one: Two anthropomorphic birds, Bobby and Betty, meet, go out and begin a relationship, living together. After 9 months Bobby grows frustrated with some aspects of their shared life, such as hair in the bathtub. He blames a disappearing block of butter on her but realises that she has disappeared from his life as well. Heartbroken his life from then on revolves around finding her as if she were a missing thing. While Betty is at a party she notices a piece of butter disappearing which reappears on Bobby's table and he is able to say 'Goodbye, Betty' for the first time. The 'director's commentary' starts out commenting on technicalities such as the virtual 'rigs' that are used to make characters move and the music, but soon starts to interrupt the flow of the embedded story in what begins to feel like a screencast of an animator at work. At a certain point of Bobby searching for Betty he suddenly stops the playback of the scene and angrily comments on the story as 'pathetic, manipulative nonsense', suggesting that the story about the two birds is influenced by his own lost romantic relationship. Finally he freezes the image and talks about his motivation for making the film after which he allows the last two scenes to play out to his simultaneous narration.¹⁰

While the end credits of *The Boxtrolls* address the physical connection of the filmmaker with their subject, *Betty* plays on the emotional one. The work of the director and animator of a film about a romantic relationship becomes a metaphor for the inferred behaviour of the direc-

tor-character in a relationship, frustrations with the tools of digital animation become images for the everyday frustrations of a relationship and the self-doubts of creativity become conflated with the doubts in love. In short we are dealing with a comparison of relationship with film, life with fiction, and the difference is spelled out for us at the pivotal moment: A partner can leave you whereas a film stays forever, and therefore the act of making that film is a coping mechanism.

It is also a good example of how 'technique' includes the act of creating a story as well, not just the actual production. In that sense computer animation merely functions as the glue between 'narrative technique' and 'narrative' and it would actually be conceivable to recreate *Betty* in pure writing: By including supposed notes of the author, crossed out scenes and rewritten parts with the published story. In fact we cannot stick *Betty* purely into the self-referential category, since voice over, with its literary dimension, interacts in another way with technique which we shall examine in later sections.

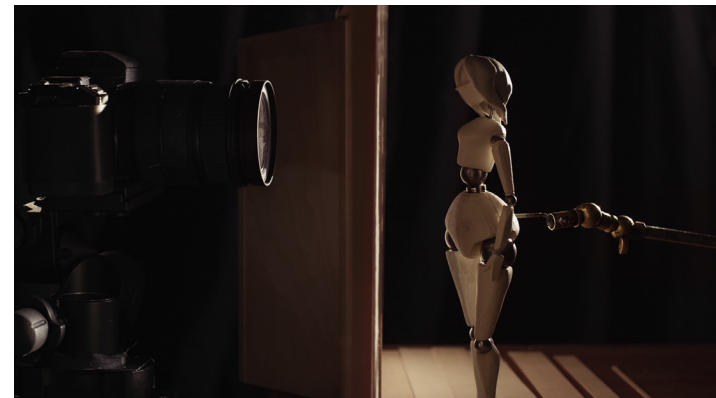


Figure 8: Still from 'Ossa'

For now, however, let us go back to the old principle of 'Show – don't tell' in a different example. In his film *Ossa* (Italian for 'bones'), Dario

¹⁰ Anderson, Will, director. *Betty*. Wanderson Studio, 2020.

Imbrogno pits an visually unstable dancer character against the invisible – and sometimes visible – hand of the filmmaker and his tools: set, props, camera, light. The story, how reduced it might be, can be broadly described as one of the struggle of the individual with the system it is part of.

The dancer is lying with a shattered head on the floor of a miniature room, which disassembles to reveal a plain table and studio lights as she is lifted by an invisible force. She breaks into dance while she is held up by an animation rig. Slowly testing the abilities of her own artificial body, the tools of filmmaking start to serve her will as she gets bolder, but suddenly stumbles and falls. At the other side of a door she suddenly looks into the lens of a camera. As she retreats and breaks down, it starts to rain and lightning strikes. She tries to flee through a door at the top of a flight of stairs, but emerges through another door into the same room. She begins a half-voluntary dance in which the hand of the animator intermittently takes the role of a dance partner. As the dance comes to an end the rig separates from her body, leaving her stumbling backwards and falling onto a surface. Her head hits the floor and shatters once again. In the last scene we see camera and light slowly retreating into darkness.¹¹

Above all *Ossa* uses the tools of filmmaking as a charade, freely mixing contexts in a way that exposes the manipulative power of cinema. One showcase among many is a cut from the running character to an overhead shot of a moving camera. We then cut to the perspective of that camera, seeing the character form again on the ground. This suggests a confusion between

protagonist and camera, which shifts the question of control over one's own movements and ultimately own life from the dancer to the audience. A scene in which the dancer's head changes shape inside the reflection in a camera lens is another example. In *Ossa*, the question of identification of the recipient with the subject of a narrative is spelled out through technical means without giving closure, since the beginning and end portray the same situation. In another scene, the editing becomes a force of external influence on the main character teleporting her into different postures and positions around the set. Narratively the film traces a path from amateur to professional in which technical elements are stumbling blocks and which inevitably ends in failure, as perfection in life and filmmaking is as unattainable as it is dishonest.

Other interesting films exhibiting self-reference include *Bullfighter and Bull* by Witold Giersz, in which the two eponymous adversaries leave their paper arena in the form of inkblots and interact with the filmmaker, *Fast Film* by Virgil Widrich, which utilises print-outs of famous films for the purpose of genre commentary and *Muybridge's Strings*, an animated film by Koji Yamamura about the life of the man whose work has laid the foundations of animation and film as a whole.

If we want to distil these examples down into building blocks for storytelling we arrive at various manners by which technical devices get cast into narrative roles. This list is not necessarily exhaustive or concrete, but it serves as a general example to expand upon, choose from and to lay focus on particular items.

¹¹ Imbrogno, Dario, director. *Ossa*. 2016.

Tool of animation / film-making	Traditional use as stylistic device (non-narrative role)	Possible narrative roles
The camera	Neutral observer, point of view	The watchful eye, invisible presence, expectations of performance
Lights	Recreation of a situation or time of day, atmosphere	A force or tool revealing or hiding things, blinding characters
(Hand of / Voice of) the animator	- (without narrative role, invisible)	Antagonist or helper, creator or destructive force, god, bully or bullied, caring partner, secret protagonist
Editing	(dis-) continuity, (dis-) orientation	Mysterious occurrence, external intervention, magic ability
Set	Recreation of a place	Confines, area of control, fabric of the universe
Off set	- (without narrative role, invisible)	Forbidden place, higher dimension
Non-diegetic sound	Atmosphere, narration	Nuisance, orchestra, judgemental commentary, voice of the animator (see the corresponding row of this table)

Table 2: Comparing possible roles for tools of filmmaking in self-referential and other animation

It is important to remember that these roles are possibilities in addition to, but separate from their use as a stylistic device. The decision to use a tool in a narrative role, as well as to choose and refine it, are the tasks of the scriptwriter whereas their traditional use is within the scope of the

director and other members of a production. As such an auteur filling both roles has an advantage while creating a self-referential film, as familiarity with and the ability to control the tools is the prerequisite for the creation of a self-referential animation script.

Golem – the animator’s obsession with the creation of life

The Golem is a character from Jewish folklore, an artificial being made from clay and imbued with life through written words. I have taken the word to refer to themes of creation of life and artificial life in particular within animated film.

These are not only very common in independent short animation, but I believe that due to the nature of their work and the already mentioned need for self-explanation, animators possess a certain obsession with the topic which

results in common patterns of narration and self-referential film-making.¹² Animation is often a process that starts from scratch, a clean slate or neutral material such as white paper, fresh clay, sand etc., that the act of creation can feel more fundamental than life action film-making, where actors have to be cast and locations found.¹³ So it is only natural to address this theme in narrative as well.



Figure 9: Still from 'Darkness/Light/Darkness'

The theme is also very present in the works of Jan Švankmajer for which *Darkness, Light, Darkness* (1989) shall serve as an example. In it we see a small room with two doors, that is illuminated by a single light as a finger toggles the light switch. The finger belongs to a hand and upper arm, made out of grey clay. One by one different body parts enter the room through the doors. Each time they assemble in various ways depending on the characteristics of each body part. Sometimes conflicts arise between the body parts inside the room and the newcomers,

such as when the arms pull in the reluctant head by the nose. Finally the whole body is assembled, now so big that it barely fits in the room, before it switches off the light again.¹⁴

The parts of Švankmajer's clay man always fulfil their purpose, but there is little room (both physically and metaphorically) for questions about the ultimate goal of this assembly. Just as mysterious is their origin in the black space outside the room, which the viewer can only peer at through one small window. They are simultaneously victims and enablers of the inevitable growth that leads to the cramped situation of the final scene, the only part in which the camera rotates around the completed man like in the proud presentation of a defective product. The two humorous scenes consist in the arrival of the head as a grotesque sniffing trunk of an animal and that of the penis, suggested to be too large to fit in the room which is promptly resolved using a glass of cold water. In its puzzling banality the film feels like an allegory to the search for a life purpose that is ultimately subordinate to basic functions of our physical form and instincts for survival and procreation.

One very clear example of such obsession is Phil Tippett's 2021 stop-motion film *Mad God*. Made over the course of 30 years, it can be seen as the culmination of the special effects veteran's work and a reflection of his decades-long career in creature design and animation. In the context of this thesis it is especially interesting to exam-

12 "I also like the idea that we start from scratch and we will build the whole world. Maybe it is – animator works a bit as a small god, building their own world and also deciding over the lives and deaths of their characters."
— Pikkov, Ülo. *Interview*. 2022.

13 I say 'can', because it is completely possible to create animation with preexisting objects or found footage, as much as it is possible to build life action film sets completely from scratch in the studio. As such it is more of a tendency than a necessity.

14 Švankmajer, Jan, director. *Tma/Svetlo/Tma [Darkness/Light/Darkness]*. 1989.



Figure 10: Still from 'Mad God'

ine the storytelling of a creator whose work has been predominantly technical in nature. The film describes a cycle of a wretched world that is dying only to be reborn again out of the rubble. The plot is presented in a fragmented, enigmatic manner, but the themes of birth and death are present throughout. In particular it features a factory-like environment in which humanoid creatures work on creating workers like themselves, ultimately by grinding them down into raw material which is then cast into a mould forming a new worker and thereby closing the loop.¹⁵ The process closely resembles the way stop-motion puppets are often made, a distorted, dystopian version of the studio process. The creation of life by artificial, technical means is presented as the rule rather than the exception, and it is trapped in a mechanical cycle just as all other characters are trapped in a cycle of fate. The 'Mad God' referenced in the title is clearly the filmmaker himself.

Tik-Tak is one of the films whose author, Ülo Pikkov, I had the chance to interview. It is a stop-motion short film created with watch and

¹⁵ Tippett, Phil, director. *Mad God*. Tippett Studio, 2021.

¹⁶ Pikkov, Ülo, director. *Tik Tak*. Nukufilm, 2014.

¹⁷ Buckland et al. *The Routledge Encyclopedia of Film Theory*. p. 134

clock parts plus pixilation. The story is inspired by the material and thematises its most important association: that of time, but the 'golem' theme also plays a role.

First we see a watchmaker's workshop, in which a mouse is playing mischievous tricks with the clocks and old photographs that fill it. The watchmaker is sitting at his desk examining a model of a mouse made of watch parts. His attempts to repair it are interrupted by the mouse stealing his magnifying glass and he sets up a mouse trap with an old photograph as bait. When he finally manages to catch the mouse and as he returns to his desk, the artificial mouse sitting there comes to life. He tries to examine it further but it bites him and hisses at him and he leaves his workshop. After his departure, all the clocks and watches in the workshop spontaneously assemble on his chair, forming the figure of a full-sized, artificial watchmaker.¹⁶



Figure 11: Still from 'Tik-Tak'

The concept of time and its artificial construction is one of two important high-level building blocks of filmmaking and animation along with space, but also of narratology.¹⁷ We can call the film self-referential in so far as that we see the embodiment of the technical concept 'time'

in form of narrative elements, the characters of mechanical mouse and mechanical watchmaker. At the same time these characters take a physical and therefore technical form that refers to the narrative concept 'time'. Following this kind of circular logic the narrative remains rudimentary, revolving around a theme more than a straight storyline¹⁸, posing questions more than giving answers. Philosophical questions about time are also what led Pikkov to the film as it is.¹⁹ In a way the open nature of the narrative is fitting as the phenomenon of time remains an enigma of physics. In order to demonstrate how a connection between technique and narrative, or in this case theme, can also be a short stab instead of grand gesture, I would like to mention one wonderful small detail in *Tik-Tak*: In one scene the camera revolves around the watchmaker, stepwise and on a circular path like the second hand of a clock.

Turning our attention to the theme of creation of life in *Tik-Tak*, it is interesting to see that the role of creator is not so clearly defined as it may seem at first glance. The watchmaker has the artificial mouse already on his desk in the beginning of the film, only adjusting one screw before its heart, or in this case watch balance, starts ticking. And the mechanical watchmaker forms on its own, hinting at an actual reversal of apparent roles. When in the end he grabs the camera, the question of who is really in control of time suddenly presents itself clearly.

These films employing the 'golem' theme are advised for further watching: *The Subject* by Patrick Bouchard, in which the animator performs an autopsy of his own body, other films by Jan Svankmajer, such as *The Death of Stalinism in Bohemia*, in which workers are manufactured out of clay and turned back to clay after fulfilling their purpose and *Adam* by Evelyn Jane Ross for its sensitive portrayal of the connection between birth, sexuality and the material clay.

Narrative ideas arise from the 'golem' theme through the different steps involved in giving life to our characters.

In a drawn or sculptural medium, it can be the order in which we draw or sculpt: body part by body part? Starting with basic shapes? Gradually correcting while adding details? What conflicts arise from the stepwise process? For example, how do the body parts react to each other? Other aspects arise from the combination of different materials: What physical or character trait of the final creature do they each stand for? What are the natural characteristics of each material and what does it mean for the character that is made from it?

The most important questions pertain to the maker of the creature: Are they visible? What relationship do they have to their creation? Does the creature make itself, either alone (as in *Darkness, Light, Darkness*) or collectively (as in *Mad God*)?

18 Lukas: "But for you personally the theme of time was more important than to have a storyline."

Ülo: "Yes, to play with time." — Pikkov, Ülo. *Interview*. 2022.

19 "[...] my own father passed away at the same time and it also had a lot of philosophical questions that – because if you work with clocks there is always the time, time is limited and how much time do we have and if our time ends is...? Lots of these questions, I remember I was discussing with myself, and watching and planning the film with clocks." — Pikkov, Ülo. *Interview*. 2022.

Finally, what happens after the creation of the golem can also be an interesting story point. Is there a specific purpose to the creation and what is it? What does the destruction of the golem look like and what is the reason (violence, decay, fate, etc.)? Is it a more or less complex process than the creation? Do we present creation and destruction as a cycle?

The thematic relationship

One very basic and flexible relationship the technical execution in animation can have with its story, is a thematic one. What I mean by that is when an underlying narrative theme is represented in the choice of material or process. As an example, we might want to tell a story about coal mining in charcoal drawings. In a purely thematic relationship, the inherent flexibility of the technique is preserved and the story does not need to adapt to the technique either, as long as it stays within the theme. It is therefore a rather loose relationship. Nevertheless it can give additional weight to a story when it is visible to the audience.

Inevitably the answers to these questions become an allegory to our own life and practice as creators as well as that of the audience. Thus they will be perceived as an expression of the values that the filmmaker holds in regards to human (or animal) life.

I would like to start with a very short and simple example: *G-AAAH* by Elizabeth Hobbs. It was created on a typewriter, using the available letters and symbols to create pictures and tells the real story of how Amy Johnson became the first woman to fly a plane²⁰ from England to Australia in the 1930s.

G-AAAH starts with a view of hands typing out a short description of the situation. Then we see more letters being typed in, arranged to form more or less abstract images. The paper fills the entire screen and we begin to hear the sound of a cheering crowd. The propeller rotates, the pilot is sitting in her plane and it takes off. It flies over water, through and above clouds, in rain, at day and night and over mountains before Amy Johnson lands to another cheering crowd.²¹

The thematic relationship is not obvious without a piece of background information: Amy Johnson also worked as a typist for a firm of solicitors before her flight. The context given by the technique helps to create greater appreciation for the character, even though the connection to the story is very loose. But the apparent challenges of animating using only font type strengthen the expression of the challenges a

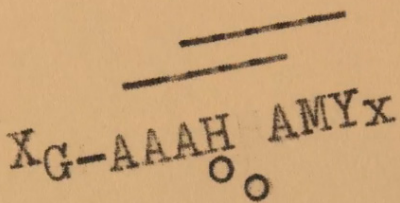


Figure 12: Still from 'G-AAAH'

20 'G-AAAH' was the registration mark of Amy Johnson's first plane — "Amy Johnson." Wikipedia, https://en.wikipedia.org/wiki/Amy_Johnson. Accessed 26 April 2022.

21 Hobbs, Elizabeth, director. *G-AAAH*. 2016. Vimeo, <https://vimeo.com/168314107>.



Figure 13: Still from 'I'd Rather Eat a Child'

woman might have faced in the 1930s to leave a typical job in order to pursue that of a pilot. At just 1:22 minutes the film does not stretch, however, the expressiveness of the technique to undue lengths.

Because of the looseness and simplicity of a thematic relationship, it is also suitable to be used in a lighthearted context and for children's films. In Anne-Marie Balay's film *I'd rather eat a child*, adapted from Sylviane Donnio's book of the same title, a young crocodile is told by its parents to eat bananas for lunch, but it insists on having a human child instead. Because the crocodile parents refuse to provide that, the youngling goes out to find a child on its own. But the child it tries to prey on is much larger and uses the small crocodile as a toy. In the end it runs home to the parents and eats its bananas in order to grow strong enough to eventually eat a child.²²

In order to portray this story the author uses various foodstuffs such as different lentils, pasta and grains under the multiplane camera to form all backgrounds and characters. Here the

thematic relationship between a story about eating habits of children and the apparent misuse of food for the purpose of animation works well to set a playful atmosphere. While the story is ultimately a moral tale for children about being picky about food and overconfidence with a catchy and transgressive title (at least for children) and the main conflict is between the young crocodile and its parents, the execution in animation adds another layer of transgression against parents (don't play with food) that, consciously or subconsciously, adds to the appeal to the target audience.

Of course there are more examples of films in which the technique has a thematic connection to the story. *The chimney swift* directed by Frédéric Schuld uses a claustrophobic square aspect ratio and messy pencil drawings set to the description of the cruel work of chimney sweeps in the 19th century.

Since the thematic relationship is such a loose one it does not offer much concrete storytelling lessons beyond the abstract idea of 'a story about ...'. It seems to me that authors more often go in search of a thematically fitting technique after they have already imagined or found a story or they go with a minimal story after being fascinated and inspired by a technique.²³ In either case it cannot hurt to meditate on one's technique of choice by surrounding oneself with the material in question and using it as much as possible to get acquainted with its nature, in order to sharpen the eye for another kind of relationship between technique and narrative. It

22 Balay, Anne-Marie, director. *I'd Rather Eat a Child*. École Émile Cohl, 2016.

23 Ülo Pikkov about the inspiration for Tik-Tak: 'That – to be honest, the starting moment was just a big pile of old clocks I saw, and then I started to construct and put extra. I am not sure if everything is understandable, readable there I was, let's say, planning. But yes, for example there was no story, just objects, and I was, you know, starting with the film. [...] I think with other films it has been a story.'

— Pikkov, Ülo. *Interview*. 2022.

is obvious that a thematic relationship can be especially powerful in documentary animation and for the adaptation of true events, when ma-

Parallel symbolism

So far we have not talked too much about the symbolic content of the technique or material used for animation. It can form, however, an important aspect for the choice of narrative: If we can match the associations viewers have with the material we are showing with the grand, overarching theme of our story, it will allow us to drive our point home more powerfully. I call this 'parallel symbolism', in the sense that the symbolism of the material parallels that of the narrative.



Figure 14: Still from 'RIDE'

As an example we can have a look at Paul Bush's short *RIDE*. We see a young man who is taking care of his motorcycle – cleaning the various parts, adjusting screws. He then gets on it and rides it out of the shed, through a village and over small countryside roads. Finally, we see an older man holding and looking at a toy motor-

materials with a physical relationship to the source of the story can be used.²⁴

cycle, apparently reminiscing about his days as a young motorcyclist.²⁵

Paul Bush's material in this film are mainly vintage motorcycles (plus some bicycles in the beginning) of various shapes and sizes, that are continuously being replaced frame by frame as the described action takes place. Of course the motorcycle is an object that carries associations with concepts such as speed, daring, locomotion for fun but most of all is often considered a symbol for personal freedom. The other side of the coin is the story and it revolves around much of the same theme: The freedom of leaving any time, freedom from life in civilisation and the freedom of being young.

This admittedly very obvious example can nevertheless guide us in what kind of story to construct based on a choice of material: We think of what the material represents for us and use this concept as a central motivating factor or general theme. If we say that we have figured out a technique that uses candle wax for animation and candles represent the cozyness of a home for us, it would be natural to try and come up with a story about finding one's place in life. This, again, is a very broad space of possibilities, but can serve as an example of how to start developing a purely technical idea into the space of storytelling.

24 Ülo Pikkov: 'There should be a connection between story and material. For example, in [*Taaskohtumine*] it's a geographical connection, I took the material, everything, all the objects you see in the film from the same island it happened, the story came from.'

— Pikkov, Ülo. *Interview*. 2022.

25 Bush, Paul, director. *RIDE*. 2018.

Expressionism and technique – representations of mental state

It should be no surprise that the masters of expressionist cinema were also masters of the technical aspects of filmmaking – elaborate set-building, forced perspective, optical distortion and particular lighting being what this early 20th century school of filmmaking that flourished in Weimar republic Germany is known for.²⁶ Likewise, there is a large catalogue of static visual art from expressionist artists of the same period, that used techniques such as woodcuts in a stark, raw manner in order to express subjective feelings and states of mind. As a medium that incorporates both visual art and filmmaking, animation is capable of using much of the same approaches and combining them into another type of storytelling device. This led me to term all approaches that express the emotional or mental state of characters through technique 'expressionist' relationship between storytelling and technique.



Figure 15: Still from 'Memorable'

Memorable by Bruno Collet is a stop-motion short film about the neurodegenerative disease of a painter and his relationship with his wife inspired by the life of William Utermohlen. We see moments of his life that illustrate his growing forgetfulness. Apart from being left in charge of all his affairs, his wife is further frustrated by his inability to recognize the severity of his own state. Finally he paints her portrait one last time (with his fingers, as he has forgotten how to use the brush), not recognizing her, but acknowledging his feelings for her.²⁷

The interesting technical angle is that the puppet of the main character is sculpted in an increasingly coarse manner, as his disease progresses.²⁸ Furthermore objects and characters also get transformed according to the painter's hallucinations, such as the doctor resembling more to a giant chess piece than a person. In the final scene his figure begins to dissolve entirely into a few floating brush strokes, which is solved using CGI, symbolising the dissolution of his consciousness. The expressionist angle is clearly intentional: 'My movie had to place the spectator in the patient's head.'²⁹

Regarding the relationship between the narrative and the technique, Collet firmly stresses the importance of putting technique at the service of storytelling. His own style of treating puppets as a single volume derives from being a trained

26 Thompson, Kristin, and David Bordwell. *Film history : an introduction*. McGraw-Hill, 2003.

27 Collet, Bruno, director. *Memorable*. Vivement Lundi, 2019.

28 "To follow the evolution of the disease, his face becomes more and more crude. But in order to prevent it from transforming into a disturbing monster, the colours become more and more vivid and shimmering." — Collet, Bruno. *Interview*. Conducted and translated by Lukas Winter. 2022.

29 Collet, Bruno. *Interview*. 2022.

sculptor, but he sees a natural connection to the themes of his narratives.³⁰



Figure 16: Still from 'Facing It'

Indeed it seems to me that the portrayal of emotions gravitates towards the most moldable media, as their transformative power mirrors the wide range of feelings that the human mind is capable of, whereas the natural materials we spoke of earlier often impose restrictions that allow only the expression of a limited array of moods. Evidence of this tendency can be seen in Sam Gainsborough's short *Facing It*, which takes a very literal approach to the topic. The film deals with the social anxiety of a young man who attends a party with his peers. While they all seem to enjoy themselves, the main character is unable to feel comfortable in conversation. Instead he is tormented by visions of his cold and overly sheltered childhood as the only child of his uncommunicative parents. When he sees his parents at a table in the bar, he is first shocked and angry, but eventually realises that they are afflicted by the same social anxiety and are just as in need of his care and attention as he is of theirs. After a (real or imagined) talk and game of cards with them he is able to slowly join the other guests, who are, as he realises

now, all dealing with their own individual awkwardness.³¹

The film is mostly shot as live action, but all actor's faces are overlaid with animated plasticine sculpts, that are an exaggerated, often symbolic representation of what is going on in the characters' minds or the main character's interpretation thereof. The feeling of discomfort is expressed through flowing streaks of pushed clay resembling profuse sweating, the inability to speak by an emerging hand cupping the mouth, liveliness by colourful geometric shapes, inner brokenness by cracks and grey colour. A repeated theme is the melting of the face onto the table in front of the character, covering the set before transitioning to a flashback to his childhood. This supports the interpretation that his current mental state is a result of earlier experiences in his parents' household. Scenes in which the entire frame is animated in clay are like a deep dive into the character's mind aided by the association of emotion with a body of water. Here the technique enables a framing that goes one step beyond the intimacy of a close-up of the face and a transition between outer and inner world much smoother and more believable than what traditional editing allows.

Drawn media are also examples of extremely malleable materials, especially those that readily take control of the entire frame such as (digital) paint. *En parties* (French for 'in parts') by Hugo Bravo is about the dynamics of the relationship between a young man and woman, which seems to turn from acquaintances over mutual flirtation and growing attachment to rejection from

30 "I think with my scripts which mainly deal with the passing time and memory, this sculpted character technique will henceforth be part of my style." — Collet, Bruno. *Interview*. 2022.

31 Gainsborough, Sam, director. *Facing It*. Written by Louisa Wood, 2018.

one side, heartbreak, anger and abuse from the other, and finally to its dramatic end.³²



Figure 17: Still from 'En parties'

The film is drawn digitally with figures composed of geometric shapes of full colour. The main shift in technique that is reflection of the characters' composure occurs in how connected or fragmented these shapes are: The male character's change from playful suitor to abusive stalker is accompanied by a transition of his form from a dense cluster of relatively complex shapes to individual, widely dispersed, simple triangles and quadrilaterals. The visual instruments of this film – straight lines and flat colours – are easily and quickly achievable using the technique of digital drawn animation and it is as such a good example of translating the strengths of the medium into effective storytelling through expressionism.

Other expressionist animated shorts include *Love me, fear me* by Veronica Solomon, in which four different moods are represented in unique colours and shapes of a plasticine char-

acter, *Porozmawiaj z nim* by Agata Pretka, a typographical meditation on how environment and interpersonal relationships interact with one's inner world in daily life and *The Diver* by Iulia Voitova, which apart from strong contrasts in character size and framing reflects physical exhaustion by the use of wrinkled and straight paper.

The generation of narrative ideas from a chosen technique can start with an overview of the emotional states it is apt at expressing. This can be achieved through tests and style studies, judging how convincingly emotions come across. Of course technique must be adapted to the feelings that are most important to the author. Transitions between emotions and how they occur in real life are also something that can be mirrored in technique. A malleable material is more capable of capturing these fast transitions: The stop-motion puppets in *Memorable* get replaced in stages for practical reasons – as such it is good that the story deals with a slow, gradual change of character whereas the clay in *Facing It* facilitates fast and drastic changes in mood. These are things to consider in the construction of a script for a specific technique.

The speed at which you are able to work in your medium and the size of your work area may play a role in the emotions you want to express – intense, stormy feelings ask for a faster pace of work and more space. As an animator, this might be the closest you can get to 'method acting'.

³² Bravo, Hugo, director. *En parties [Pieces]*. École Émile Cohl, 2011.

Broken animation – humour through dilettantism

Animation is associated with comedy like no other genre. The cartoon is what many people think of as the only possibility for an animated film, the world of artistic animated shorts with its sometimes more sombre tones being a niche far off the mainstream. The reasons behind this association of a whole family of techniques with a single genre are certainly manifold and not subject of this thesis. However I want to pinpoint one method with which a humorous narrative can be reinforced by the use of technique. It is closely related to the way the character of a bumbling fool or the type of clown known as 'Auguste' is portrayed on the circus stage and in slapstick film: As someone so inept at any task given that laughter is the inevitable reaction. While the actor appears to make one mistake after the other they are actually all deliberate acts and skill is required to execute them to the desired effect. The same way animation can be executed in a deliberately amateurish manner. The comical effect of the dilettantism in technique transfers to the narrative in making characters appear ridiculous just by their crude movements or settings absurd by the childish way they are drawn.

Nikita Diakur for example makes every mistake that can be made in the use of 3D software in his film *Fest*. It portrays a scene of partying people during the day in between and on top of a group of high-rise apartment buildings. They dance awkwardly to loud techno music, possibly drunk, eating hotdogs and ice cream from near-by food trucks. One person is using a quadcop-

ter drone. Meanwhile one person performs a dangerous stunt assisted by a group of people on top of one of the buildings: Tethered to a rope he swings in the gap between the apartment blocks, hitting a large transparent hung over the scene of the party and one of the food trucks. The setting draws heavily from videos that have appeared online of Russian teenagers engaged in extreme stunts³³ and drunken parties, some of which are staged for comedic purposes.³⁴



Figure 18: Still from 'Fest'

Fest uses CGI and computer simulations, but embraces all problems and mistakes that can be encountered during the use of 3D software when it is used sloppily: Joints of characters distort grossly when bent, internal lines of 3D models are visible, textures applied unevenly, distorted and in low resolution, one character's model dissolves into a tangled heap of lines and triangles, physics simulations appear poorly controlled, controls that are usually only visible during animation appear in the film. As with the narrative setting, which is accessible to people familiar with internet culture, the technique can be understood as a cultural reference by those more or less vaguely aware of 3D graphics, such

33 Зеленодольская 23.07.2011 - Али Ска. 2012. YouTube.

34 Вечеринка "ТОП FM" [Party "GOP FM"]. 2011. YouTube.

as players of video games but especially animators. The obvious brokenness of the technique corresponds with the apparent brokenness of the characters' lives: For the attendants of the *Fest* having fun goes over sobriety, safety and property, or in short what is considered 'proper' behaviour, and the animator likewise abstains from all 'proper' usage of the software. The humour therefore derives from transgressions of boundaries in the technical and narrative dimension alike. If we think back to the earlier example of *Betty*, where rigs are also visible, we recognize that they serve a different purpose than in *Fest*. The deliberate imperfections in *Betty* exist to shift focus from the embedded story to that of the commenting animator and have only momentary comedic value.

Vanamehe multikas is a series of short, stop-motion animated videos by Peeter Ritso and Mikk Magi first published on YouTube. They revolve around the life of an elderly farmer who is inventive but generally unintelligent, irresponsible, vulgar and frequently drunk. The first clip, *Mul šündis laudaš vašikaš* (I gave birth to a calf in the barn), was created as part of a puppet animation class at the Estonian Academy of Arts and quickly became an internet sensation in Estonia.

In this episode, 'Vanamees', the 'old man', wakes up from his bed at night because his cow is giving birth. He runs through the snow to his barn, sees the half-born calf and pulls it out. He feels cold and approaches the cow, eventually climbing into her womb and falls asleep inside his



Figure 19: Still from the episode 'Mul šündis laudaš vašikaš'

cow. When he wakes up in the morning he feels cold, climbs out and realises his cow has died.

The puppet for 'Vanamees' is done in an amateurish style: In the first episode the head is made of plasticine, hands are made of foam that is not covered in any fabric or flexible resin, clothing frays at the edges. Likewise the animation often feels clumsy, the character is frequently out of balance and lip sync and a change of facial expressions is nonexistent. The supporting human characters are done in a similar fashion, while farm animals are completely made of plasticine and often deform grossly.

All of these imperfections however do not detract from the story, but are strongly supportive of the outlandish, vulgar humour that is presented. The character 'Vanamees' existed in the form of crude jokes before it was made into animation and Peeter Ritso chose to use him for the school's mandatory puppet film project because of his initial dislike for the look of stop-motion.³⁵ While they did not try to make characters and sets in an unprofessional way, their unfamiliarity with the material produced

35 "I never liked this technique at all and maybe still, I think, it is quite ugly. These older ones at least are quite ugly. So I thought that this joke is so rough and rude and stupid that this puppet film technique is perfect for it." — Ritso, Peeter. *Interview*. Conducted by Lukas Winter, 14 4 2022.

a fitting visual result.³⁶ In my opinion this way of working quickly without a great deal of preparation or training works in favour of comedy, which is also more effective when delivered instantaneously. For Ritso, who is currently planning another comedic animated short, the choice of technique is secondary as long as it is quick to produce.³⁷

In both examples the humour is expressed in a gross exaggeration of traits and stereotypes already regarded as extreme, that of the 'gopnik' and that of the vulgar country dweller. In *Fest* the characters do not just dance to extreme techno music, their feet explode. In *Vanamees* the countryside is not just a place with organic materials but soft, greasy plasticine forms whole characters. Thus the ridicule of narrative elements is settled by technical means.

Diegetic rules of technique

We have seen how often tension in animation arises from the discrepancies between the fictional reality of the narrative (diegesis) and the representation thereof visible during production (creatorial level) and on screen (film-ophanic).³⁹ In the approach of 'transparent technique' the makers try to convince the audience of the non-existence of this discrepancy

In order to create effective 'broken animation' such an 'exploitable' characteristic has to be found in an aspect of the real world, a connection made with the characteristic of a technique which is then taken to an extreme. For example a film poking fun at the sports scene could exploit the fact that it is possible to bend animated characters' joints over their natural limits in order to portray exaggerations of extreme exercises.

On the other hand it is possible to freely experiment with techniques that are hard to master, to take note of the biggest, most common and characteristic mistakes and contemplate on what real-world phenomenon they are reminiscent of.³⁸ As with so many things, the impulse can come from either side.

through a mixture of perfectionistic imitation (mimesis), inducing of immersion and reliance on the pre-established language of signs⁴⁰. Other approaches use this tension to a certain effect or justify it in a certain way: to refer to their own process, create atmosphere, address the inner world of characters or ridicule the represented.

In this chapter I would like to introduce another

36 “[...] there was very little of this intentional making. Because things tend to look shittier when you don’t plan them through properly.” — Ritso, Peeter. *Interview*. 2022.

37 “You know, many people care about this natural look. But I don’t really care about that much. 3D is ok for me also. And Vanamees in 3D I think it would work as well, the same way. Because this Harra Keeberniit showed that it really doesn’t matter, the joke matters more. [...] I would like to find things which are fast. And 3D has actually become my favourite, because it could be the fastest.” — Ritso, Peeter. *Interview*. 2022.

38 A viewer who sees a technique for the first time has probably not formed specific expectations or associations with it. It might not be possible to make the misuse of an obscure technique funny to the average person precisely for the reason that humour relies on a divergence between expectation and outcome. Distorting an established technique is much easier.

39 For a distinction between the terms see Souriau’s structure of the filmic universe described in Buckland et al. *The Routledge Encyclopedia of Film Theory*, pp. 133 – 134

40 That is filmic conventions such as editing and signs in the semiotic sense, that also exist in afilmic reality. See Pietarinen, Ahti-Veikko. “Signs systematically studied: Invitation to Peirce’s theory.” *Sign Systems Studies*, vol. 43, no. 4, 2015, pp. 372–398

er effective way to connect your technique to storytelling: Make the relationship between the diegesis and the frame an explicit story point.⁴¹ This can be achieved by having the characters become aware of the rules or limitations that are imposed on them by the choice of medium by the filmmaker, or by making the audience aware of them and showing their possibly tragic impact on the character's path. In that case we can speak of dramatic irony achieved by means of technique.



Figure 20: Still from 'Merlot'

In *Merlot* by Marta Gennari and Giulia Martinielli this central fact is that the characters share a space in which distances and therefore the effects of actions are not governed by a conventional fictional, three-dimensional space, but instead by the arbitrary and changing arrangement of rectangular tiles on screen, which are inhabited by the characters.

After coming home from grocery shopping an old woman wants to rest in her rocking chair in front of her house in the forest. Meanwhile

a little girl is chasing a cat from the town into the woods, a man is headed there to pick mushrooms and a wolf is awoken from his sleep by its hungry stomach. As the kid continues noisily through the woods it disturbs birds which startle the peaceful forager and the wolf's attempt at catching one is foiled. The birds settle next to the old woman and disturb her peace. The child finds wine lost earlier by the old woman and begins to drink it as the man is knocked unconscious while trying to flee from the wolf. The old woman tries to disperse the birds by shooting her hunting rifle into the air which shakes everyone except for the birds. Frustrated, she throws away the gun, which knocks out the wolf about to eat the man. The drunk kid dresses up as Little Red Riding Hood with a piece of laundry and the man's basket which it finds in the forest. Chaos ensues as the wolf and man both gain consciousness again and the wolf accidentally falls onto the old woman and swallows her. The child finds it sitting in her armchair and offers it a drink.

The story is full of interactions between characters which are facilitated by arranging rectangular panels into a spatial relationship on screen such that an action in one panel causes a reaction in another. The dramatic irony arises because characters are only aware of the diegetic space around them and not the screen space visible to the audience. Giulia Martinielli explains the technique of multiple simultaneous panels as a result of the wish for a narrative structure with interconnected elements.⁴² One inspiration for the use of multiple panels on the screen was Paul Driessen's *The End of the World in Four Seasons*,

41 Buckland et al. *The Routledge Encyclopedia of Film Theory*, pp. 113 – 114

42 Giulia Martinielli: 'So for that particular story, the approach was very much focused on the structure. And we liked this idea [...] of domino effects and [that] all the elements are connected. For this reason [...] it was very important to show multiple situations at the same time.' — Martinielli, Giulia. *Interview*. Conducted by Lukas Winter, 2022.

but Gennari and Martinelli go further in tying them together into a single narrative by guiding the viewer's attention. When action is focused on one panel, characters in other regions of the frame perform unintrusive loops. This motif of cyclical actions was also inspiration for the character of the wolf: 'Loop' and 'lupo' (Italian for wolf) sound similar⁴³, an example how inspiration for narrative elements can arise from technique in the most unlikely ways. The narrative resolution in *Merlot* ultimately does not derive from the goals of the characters but from arriving at a parody of the end-state of the well known fairy tale of Red Riding Hood.

For more games with the diegetic rules of technique watch *Philosophie non-pluviale* by Fran Gondi, in which light, water and sand become conceptually and physically interchangeable.

Disconnected worlds

So far we have explored instances in which there is a single technique or technical detail that becomes a story point. However in animation we are always confronted with the possibility and need to combine multiple techniques. Thus it is also the contrast between different ways to create film that can be made into a story point. This can be through a difference in materiality between characters, that reflects differences in their physical traits and abilities or mentality, or the different techniques can define two or more distinct realms within the narrative, the borders of which present a challenge or conflict to the characters. The most common types of worlds that are pitted against each other are two-di-

One way to build a story based on the diegetic rules of technique is to ask what rules it would impose on characters created using or consisting of the material in question or living in a world created in this technique. There are also inherent limitations in the medium film such as the frame, the fourth wall, two-dimensionality, temporal linearity, beginning and end that might inspire to create limitations that the characters cannot break by their own will. Another decision is whether to leave the characters in the dark about these rules or make them become aware of them. On the other hand a story can also not be about limitations but what a certain technique allows characters to do. A conflict can arise from differing levels of awareness of this possibility between characters.



Figure 21: Still from 'Rabbit and Deer'

mensional on one hand and three-dimensional on the other.

Rabbit and Deer by Peter Vacz is a very typical example, that at the same time manages to avoid simplistic stereotypes by telling a story of

43 Giulia Martinelli: 'So, we started like that and we were very much in this fairy tale mood and as I said before it was a word game, because in Italian the word 'wolf' is like 'loop', the same sound, and so we were thinking of making the 'loop of this lupo'.' — Martinelli, Giulia. *Interview*. 2022.

friendship in the face of the challenges, but ultimately also advantages, of being different.

It begins with the daily life of a (drawn) rabbit and a deer who live a human-like life together, playing games, cooking and eating, riding a car and bike etc. One day, after rabbit and deer have a fight, an electric shock causes the deer to be transported into the third dimension. For the rabbit it looks as though he has disappeared until she turns her head sideways. However, she cannot leave the paper plane she inhabits. The deer resolves their separation by cutting out the paper around the rabbit's shape. Together they explore the other side of the plane where there is a beautiful garden full of apple trees. When a sudden storm starts the deer is able to rescue the rabbit at the last minute from being taken away by the wind and her lines being dissolved by rain. He dries the wrinkled paper and fixes the spread ink on her surface. When he puts her back into the hole that was left when she was cut out, the cut begins to heal. She is safe, but it seems the two friends must live with the fact that they inhabit separate worlds. The deer sets up his new home adjacent to the paper plane and they start using the advantages of living in each world to help one another.⁴⁴

The two (or actually, three) worlds in this film are executed in digital 2D animation and stop motion respectively. Both feature a minimalistic style with as many visual similarities as possible, however the three-dimensional world is split in two: an empty, sterile place in front of the two-dimensional plane and a more naturalistic part behind it. From the perspective of storytelling, the film makes use of very typical structures and antipodes: the inciting incident, choice between safety and adventure, a challenge for a

relationship and its resolution. What makes them interesting here is not that they are especially remarkable narrative implementations, but how they are demarcated through the use of different techniques and looks. For example the place in front of the plane represents safety, while the one behind stands for adventure and danger. The main conflict is the choice the deer has to make of how to spend his life after his transition into the 3D world – the inciting incident: stay together with the rabbit in front of the plane (making occasional excursions behind the plane) or to abandon the rabbit who is not safe alone behind the plane. By not allowing the deer to return back into the flat plane, the author signals that personal change can be irrevocable but a friendship can adapt through compromise and become more rewarding in the process.



Figure 22: Still from 'Son of the Sea'

Another example of using two techniques to create two parallel worlds within one film is Abbas Jalali Yekta's *Son of the Sea*. It deals with the way a couple copes with the recent loss of their young son. His father seems to be affected more by grief and the inability to let go: As he performs daily actions such as having dinner, he constantly does things as though his son were

44 Vác, Péter, director. *Nyuszi és Öz [Rabbit and Deer]*. 2012.

still with him in the flat, in the form of a drawing on the wall. He even gives his dead son his own plate and water during the meal, still performs the same bedtime rituals and pretends to play a game of ball with him. This leads to a conflict with his wife, who wants the family to move on from the loss and get rid of their son's toys, even though she also seems to have a hard time parting with them. As the audience, we also see the son's reactions to his parents' actions: Playful and overjoyed at his father's interactions, frightened and saddened by his mother's inability to see him. As the husband celebrates his deceased son's birthday, his wife waits for him to leave their house. Finally she leaves, her husband reluctantly follows but their son gets angry as he is left alone. When the couple returns, the mother is finally willing to interact with the memory of her son on the wall, beginning to understand the state of mind of her husband. He, in turn, decides to let go of the memory haunting him and wipes away the moving drawing of his son who reacts first frightened, but finally with acceptance. In the final scene we see a child sitting on a chair observing the couple as a drawing on the wall cradling a newborn baby.

It is difficult to recount this story without reference to its technical realisation. The parents, except in the last scene, are filmed live action, while their son is overlaid onto the walls as drawn digital animation. While the film makes use of classical filmmaking techniques such as subjective point of view to clarify that the son is a figment of mainly his father's imagination, it generally seeks solutions in animation and there are moments when the drawn world is completely independent of his presence, such as when the son observes his mother clear away his toys. In my reading the film tells, therefore,

just as much the story of the memory of a boy interacting with his parents as it tells that of parents interacting with the memory of their child. While this could be achieved entirely through the use of filmic devices, the use of a second technique gives the author the obvious but powerful plot device of physically 'wiping away' the crippling attachment, lending credibility to the idea that the simplest acts are the hardest to perform. The final scene, in which the roles of drawing and actors are inverted, was necessary to clarify that the erasure concerns only the impeding aspect of remembrance and that the lost child lives on in a now separate world, thus ending the film on a hopeful note.

Other films which portray disconnected worlds through technique include *Flatworld* by Daniel Greaves, a chase between a thief and other characters across a two-dimensional and a three-dimensional world connected by bodies of water, the first part of *Dimensions of Dialogue* by Jan Svankmajer, in which food, kitchen utensils and office equipment embody different standpoints and which shows the miscommunication as a violent clash between those materials.

When making a film of disconnected worlds we do not just have to think about two techniques but primarily about the interface between them, since it is what produces the main conflict of the story. As such two techniques that naturally form antipodes are more suitable: flat and volumetric, soft and hard, monochrome and colourful. This contrast can raise the stakes, but it is important that they remain in communication with each other through a commonality. It can be achieved through careful coordination, as in *Son of the Sea*, where actors had to interact with an invisible character and the character had to

be animated according to and composited into the footage. But two techniques could also be interoperable by themselves. For example the two materials clay and stones form an opposite pair of soft and hard, but as two tangible, volumetric materials they can be animated on the same set. The following diagram can serve as an example of techniques that have commonalities while also forming opposite pairs.

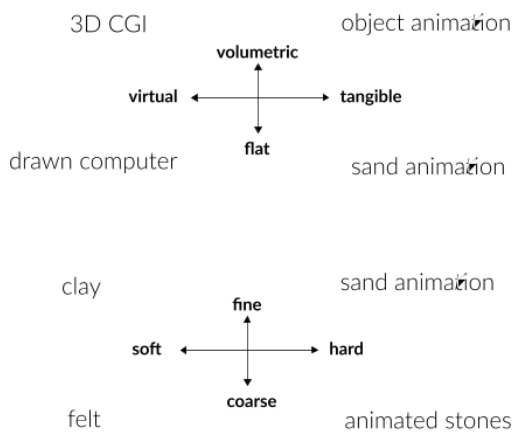


Figure 36: Example of opposites and commonalities between different techniques

The next question of course is how this difference between techniques can be overcome, or in other words that of narrative resolution. This can either be a compromise between them, as in *Rabbit and Deer*, or one winning over the other, as in *Son of the Sea*. Other possibilities include the permanent closing of the connection between the two worlds, making them the same or finding a third hybrid technique that uses both materials or approaches. Care must be taken to choose the form of resolution that matches the metaphorical qualities of the techniques with the intended messaging of the story: What are the gaps we deem bridgeable or insurmountable in life and which qualities deserve erasure or preservation?

Compromise	Overwinning	Separation	Assimilation	Hybridisation
Connection kept intact but confrontation ends through coexistence	One world ceases to exist in its original form	The individual worlds continue to exist, but their connection ends	The differences between worlds shrink, resulting in a new, third technique	A new world arises incorporating aspects of both original techniques
		Related to overwinning or compromise: which side makes the choice?	Can be related to varying degrees to compromise and overwinning	Related to compromise and assimilation

Table 3: Possible resolutions in films with 'disconnected worlds'

The role of voice over – or illustrative use of technique

Throughout the previous sections we have assumed that the story of a film is mainly told by visual means – in the same manner that animation technique is conveyed to the audience. Voice Over, however, may absolve the visual of some of its narrative function, which is taken over by the narrator's speech. Since it is no longer needed to have characters and environments that are continuous from scene to scene (that is taken care of by the recognisability of one or more voices), the transformative power of animation techniques may come to full display. Metamorphosis, a feature unique to and defining of animation technique, allows for visual continuity in the absence of continuity of space or time.⁴⁵ In this relationship technique serves mostly illustrative purposes for the story or statements told by the narration.

We can find an example of such illustrative technique to voice over in *Destiny* by Minori Matsuoka. The story is about a young woman's emotional trouble whose boyfriend has lost interest in her. It is told through voice over with a narrator and individual characters' voices.

It begins on the birthday of the protagonist Yui as she is waiting in vain for her boyfriend's congratulatory call. Instead, her best friend Aya advises her in a phone conversation to seek the help of a psychic. He tells her based on her birth date that the relationship with her boyfriend is doomed to fail and that she should break up

with him. As it turns out however, the supposed psychic is merely a coworker of Aya who is pushing him to be even more direct in his advice. Two days after her birthday, her boyfriend finally calls Yui and invites her to a picnic. It seems like the relationship is mended, but after he takes a phone call from another girl whom he also gave flowers for her birthday, the protagonist finally breaks up with him. In another phone call with Aya her friend seems content that Yui's ex-boyfriend is single now. But things are not so dire for Yui herself: She is smitten by the young psychic.

The animation is done in stop motion with objects of daily life shot from overhead: The birthday cake, a personal calendar, plates and cutlery, food, playing cards etc. The characters however are not portrayed by one of these objects alone, but their avatar⁴⁶ changes depending on the context. Yui is embodied by a plush bunny in one scene, a drawing of a plush bunny in another, a playing card, a drink, a sandwich and more. In some cases we see indexical signs⁴⁷ of the characters actions, such as when Yui's crying is represented as crystals dropping on a plate. Other times the character's are represented directly by an object chosen in a way that supports a metaphor, such as when Yui 'breaks her boyfriend's heart': The soft white-bread bun is torn open and the red jam filling spills out. These are typical examples of illustrative use of technique, where visual continuity is replaced by a *con-*

45 For Paul Wells metamorphosis 'achieves the highest degree of narrative economy' and 'legitimises the process of connecting apparently unrelated images'. — Wells, Paul. *Understanding Animation*. Routledge, 1998. p. 69

46 I am using the term 'avatar' in the sense it has been used for computer games: the virtual representation of a physical person, or in our case, the technical representation of a story character.

47 Pietarinen, Ahti-Veikko. "Signs systematically studied..." pp. 385-386

stantly changing thematic, expressionist or metaphorical relationship between the technique and story. This could serve as another definition of the illustrative use of technique and leads us

to the key questions of its use for a filmmaker: When to use which technique and how to transition between them.

Illustrating memory – use of technique in documentary animation

One genre of film that can almost never dispense with voice over is documentary, especially when it deals with factual events of the past and memories of those events. In this case original footage is often unavailable and while filmed documentary can resort to interview situations, reenactments and B-roll footage (illustrative in its own right), the choice of illustrating voice over is more pressing. The visuals become 'physical mementoes or placeholders of memory'. Especially stop motion has that quality because it exploits the roots of memories in objects, materials and textures.⁴⁸ The aforementioned visual discontinuity has been described in the context of filmed documentary as a form of editing different from fictional film: evidentiary instead of continuity editing, that is editing by following a logic (presented by voice over or implicit) instead of strict temporal succession.⁴⁹ In animation this concept is supplemented by the possibilities of metamorphosis (essentially a gradual edit).

In her 'life-sized animated short film' *Mend and Make Do*, Bexie Bush lets Lyn Schofield, an older British woman who never appears as a person on screen, tell the story of her romantic life as a young woman, of her marriage and of growing old through voice over. She begins by describing



Figure 23: Still from 'Mend & Make Do'

the differences of modern dating to how it used to be when she was young. The narrator lists the ways in which she would try to appear attractive to men and her interactions with them until her parents present her with a man she is supposed to marry. After first rejecting him she admits to finally falling in love with him before he leaves to fight in a war. After the war, they marry and have children of their own as well as adopted children. As their children grow up, the couple grows older. Ultimately she recounts how she experienced the death of her husband and concludes with her philosophy of life to 'accept and enjoy whatever comes'.⁵⁰

The film uses a broad number of techniques that are all centred around materials from a flat of the period that is being remembered by the nar-

48 Gageldonk, Maarten van, et al. *Animation and Memory*. 2020. p. 23

49 Nichols, Bill. *Introduction to Documentary*. 2nd ed., Indiana University Press, 2010. pp. 25 – 26

50 Bush, Bexie, director. *Mend and Make Do*. 2014.

rator respectively, which also serves as a set. Most frequently textiles and clothing are used to represent the main character as a dress over a wire mannequin, but also in other ways such as: Her mother's mouth as a horizontal tear in a curtain, her many children as various clothes on a washing line, her son as a suit. As in 'Destiny', none of the characters have a stable avatar, since they are recognizable by the context given by the narration. The characters also take the form of chalk drawings, a woman in a painting on the wall, a clay figurine on a record disc, shadows of actors, flickering light and invisible forces acting on props. On the other hand illustrative technique does not mean that every thought expressed in the voice over is accompanied by a simultaneous visual phrase but merely that there is a cooperation. The time between the moving out of her children and the death of her husband is not described by Lyn Schofield in *Mend and Make Do*. Instead the pause in the voice over is filled with imagery that suggests the passing of time and romantic affection.



Figure 24: Still from 'Guaxuma'

If we apply that concept not to the content but to the qualities of recollection, that is the fresh-

ness or faintness of a memory, its associated emotions, its origin in the waking or sleeping world etc., we arrive at a variation of the illustrative use of technique. Nara Normande's *Guaxuma* uses voice over to speak to the audience about her memories of growing up. She spent her childhood in Guaxuma in a free-spirited home by the seaside together with many other children and her best friend Tayra. After some years she moves away to a city, but her friendship with Tayra stays strong and is rekindled with each visit. At some point Tayra gets injured in an accident and despite the emotional support by her friends and family eventually passes away. Nara tells about the effects of these events on her psyche and dreams. The narration closes with the recollection of a dream in which Nara and Tayra meet again on the beach of Guaxuma.⁵¹

The film uses three different main techniques: Sand on backlit glass, frontlit sand sculpted as a relief, and sand-coloured puppets in real outdoor settings (mainly on a beach). Interspersed and mixed with these are childhood photographs and folded paper as well as some filmed sequences. One shot also uses coloured sand on glass instead of the natural beige sand used in others.

I spoke to Nara Normande about her decisions during the planning and making of *Guaxuma*. She told me that the film started with writing the voice over narration, but the use of sand had been part of the idea from the beginning.⁵² While the thematic relationship was a given, the details came later as did excluding the utilisation of a wider array of techniques such as

⁵¹ Normande, Nara, director. *Guaxuma*. 2018.

⁵² "It was always with voice over because it was really a personal narration, because it had to be. So I just wrote it like a kind of letter." — Normande, Nara. *Interview*. Conducted by Lukas Winter, 23 2 2022.

direct animation. The choice of using multiple techniques was based on the idea of nonlinearity of memory.⁵³ After settling on the three main techniques and segments of the voice over, she would assign scenes to techniques.⁵⁴ For many scenes, this assignment was very clear. For example, about one scene that is based on faint memory, Nara states: 'I wanted this as a lighter scene, you know with this memory, that it was like [inaudible] really thin sand and... to portray a little bit of this feeling, soft, you know.'⁵⁵ For some scenes, however, production practicalities were the deciding factor. It is notable that Nara is also conscious of the intensifying effect that the switch itself can have on the audience. She used it for the final scene, because it is the culmination as well as main turning point of the narrative.⁵⁶

Other films that illustrate narrated memories include Frank Mouris's aptly named *Frank Film*, in which he uses cutouts of collected images to create an ever-moving collage to two simultaneous soundtracks reflecting on various phases of his life, *Mom's Clothes* by Jordan Wong, which sets replacements of textile patterns against reflections of a young queer man's reflection on his own life and social relationships and *I Bleed*⁵⁷ by Tiago Minamisawa with the voice and reflections of Caio Deroci, who is living with HIV, told through drawn animation over books, medical illustrations and Hieronymus Bosch's *Garden of Delights*.

As it bears such a strong connection with the thematic relationship between technique and narrative, and because voice over represents a layer of narration that is external to the visual

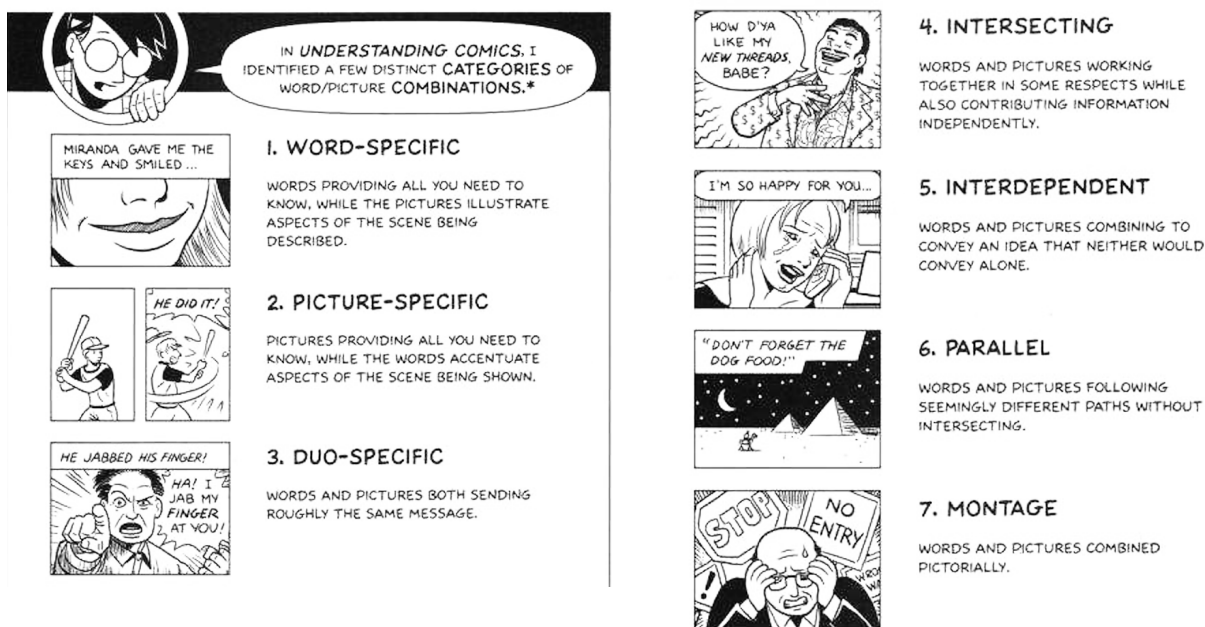


Figure 25: Excerpt from 'Making Comics'

53 "So I really wanted to mix this kind of... the feeling of memory that is not very linear. So you know the story was linear but the technique would bring this breaking, you know, breaking the narrative sometimes." — Normande, Nara. *Interview*. 2022.

54 "I would start to think, which technique would fit better with this specific scene. Because of the emotion also, that I wanted to bring" — Normande, Nara. *Interview*. 2022.

55 Normande, Nara. *Interview*. 2022.

56 "I will try to bring everything just to put the emotion even higher. And I try to resume it, this is it, everything you saw it is resumed here. The technique and this specific action. So, it was important to me to there, only there, bring all three techniques. [...] After this point it's another thing." — Normande, Nara. *Interview*. 2022.

content and therefore the animation technique, in the illustrative relationship starting from a narrative is almost necessary. The close association with the documentary genre however allows us to seek out stories from outside or from our own memories.

The switch between techniques, regardless of what they are, can be used to demarcate and accentuate any kind of change within the narrative. Ordering the parts of narrative material according to their different qualities can serve as a guide to decide which technique to use when. The art of combining speech and image has been explored extensively in filmmaking. How-

ever animation has another artistic sibling that is deeply involved with this art of combination: the comic. Scott McCloud in his series on reading and creating comics identified seven categories of word-picture combinations which can be applied to the animated image and voice over as well: word-specific, picture-specific, duo-specific, intersecting, interdependent, parallel and montage (the last one only if we use writing as part of the image instead of voice over).⁵⁷ These different possibilities in addition to pausing narration temporarily can always be explored while searching for the right relationship between voice over and image.

Animation as fable – metaphorical relationships between technique and narrative

Connecting technique and storytelling is more than anything else a game of analogies: Finding or creating any kind of similarity between a material, medium, visual effect, look or colour on screen and a situation, feeling, character or process in the narrative. If we look at animation in this isolated fashion, solely focusing on story and technique, we might miss a connection to the context in which they are both placed: The circumstances of the reality of filmmaker and audience alike. When the connection between technique and story incorporates commentary on actual or a possible reality I like to speak of a metaphorical relationship or animation as fable. Just like the traditional fable works by projecting a human model onto the characteristics and behaviour of creatures, plants, etc., animation can use the characteristics of shapes, materials, tools of filmmaking to that end.

Many of the categories I have established tend to work with analogies, among others between style and mind, utterances and images, technical diletantism and ridiculousness. The reason for the metaphorical use of technique forming a separate category is not just the ethical angle, but also the presentation of a metaphor as an inner system. In my analysis I like to look for three parallel elements or concepts:

- The non-diegetic or technical element: a material, physical object, way of using a medium, shape, colour, etc.
- The diegetic or narrative element on the level of storytelling: an event, character, atmosphere, feeling, process
- The universal element: a real world entity, concept, event, situation

⁵⁷ McCloud, Scott. *Making Comics*. HarperCollins, 2006. pp. 130 – 139

The relationship between those elements or their respective roles in the metaphor can in my eyes best be described in terms coined by Julian Jaynes: the *metaphier* is the thing or quality that is literally mentioned, or in our case shown on screen, while the *metaphrand* is the thing or quality that it is meant to describe. In contrast to earlier theories that name only two components in a metaphor, Jaynes also establishes *paraphiers*, attributes or associations of the metaphier, which 'project back into' or correspond to attributes of the metaphrand called *paraphrands*.⁵⁸ When applying these terms to our technical, narrative and universal elements, by my definition of a metaphorical relationship, the *metaphrand* always coincides with the universal element. Whether the technical or narrative element constitutes the *metaphier* can be harder to decide and must be judged from case to case. In either case the remaining element takes the role of evoking the *paraphier(s)* and *paraphrand(s)*. This explains why two elements can appear conceptually very close, with the third element further removed, as shown in later examples.

Rather than listing multiple attributes of an increasingly complex metaphier and metaphrand, a metaphor can also be presented or understood as an *extended metaphor*, for example when elements are introduced one by one rather than all at once. In my eyes extending the metaphor over the course of the narrative, if it is possible, is a powerful device to evolve a story, because it fulfils or subverts the recipient's expectations which are formed by observing earlier elements of the metaphor creating associations or paraphiers in the audience's mind before they are

realised in the film. Leaving a possible or even obvious paraphier out of the metaphor in this way constitutes a form of foreshadowing through means of connecting narrative to technique.



Figure 26: Still from 'Canfilm'

One great example of an extended metaphor for real circumstances supported by both technique and storytelling is Zlantin Radev's *Canfilm*. The film tells the story of how violently competing ideologies, enforced indoctrination and mass enthusiasm in a police state cause tragedy and its ultimate downfall.

At the beginning of the story we see the inhabitants of a city, who are portrayed as tin cans with labels with red cherries for clothes, live their normal lives. Suddenly a new policy of 'tomato' is announced and police, dressed in black labels, rush everyone to a square. Dissenters get beaten or taken away to a huge, imposing prison building where they are tortured and destroyed. Meanwhile a huge crowd has gathered on the square listening to a leader dressed in the tomato label. All cans still wearing cherry labels either voluntarily or by force enter a fac-

58 Jaynes, Julian. *The Origin of Consciousness in the Breakdown of the Bicameral Mind*. Houghton Mifflin, 2000. pp. 48-52

tory where everyone is stripped of their labels and filled with peeled tomatoes and pulp. Everyone leaving the factory is vetted by police for remaining cherries. But shortly thereafter there are new announcements and police replace all tomato posters with new ones featuring chilli peppers. A new leader steps up but quickly gets replaced by another and a fight ensues between different leaders: Cherry, tomato, pepper, lemon etc. Bystanders panic about which fruit to display, stuffing themselves with all different kinds of produce. The overconsumption causes them to explode and the main square is turned into a scene of horrific devastation in an abandoned city.⁵⁹

It is obvious that, even though real everyday materials are used in the film, they neither pos-

sess the same narrative function as the real-life object, nor do they refer to themselves in reality. Rather they are part of an extended metaphor in which tin cans stand for people. In Jaynes's terms, 'food can' is the metaphier and 'citizen of a state' is the metaphrand while all the actions that are performed by the can-characters establish the *paraphiers* and *paraphrands* that are important: 'having content' / 'having an opinion', 'having label' / 'showing an opinion', 'correspondence between label and content' / 'truthfulness of presented opinion', 'hard shell, soft inside' / 'physical and emotional vulnerability', 'opened by force' / 'mind susceptible to violence', 'waiting to be used' / 'passivity'.

Technical element	Narrative element	Universal Element
Food can	Character	Citizen of a state, 'you and me'
Label	Outfits and posters that are used to promote a particular fruit and to describe a character	Person's Outward confession, distinguishing feature
Pictures of fruit, real fruit	Type of fruit	Ideology, school of thought, doctrine
Content of the can	Content of the characters	Person's held belief, allegiance
Footage of food production	Can factory	Re-education camp
Gradually flattening can	Police officers beat up a person injuring them severely	Police violence
Can opener	Instrument of police to check inside of a character, torture tool	Interrogation methods, Surveillance
Spraying food, broken metal	Massacre, death of the characters	Catastrophe, failed state, self-destruction of society

Table 4: Analysing the extended metaphor in *Canfilm*

⁵⁹ Radev, Zlatin, director. *Konservfilm*. Boyana Film, 1990.

The last scene of the film takes an interesting role in my eyes, as it works on two levels of analogy. In the extended metaphor in which the contents of a can stand for held belief, the explosions stand for an intellectual failure to reconcile conflicting ideologies. On a visual and narrative level however it means the physical death of the characters and the scene evokes images of war and the slaughter of masses. It is ultimately a way to express in a compressed fashion the idea that war and death is the consequence of conflicting belief systems within a state. As the film was produced during the time of the falling apart of socialist states including Bulgaria and rising tensions in neighbouring Yugoslavia, this interpretation appears evident.

To support my earlier claim about evolving the metaphor as a means to drive a narrative forward, I would like to point out that the first time we see the content of a can is after roughly one third of the film's duration. The audience's familiarity with the material 'tin can' along with the earlier seen parallel of 'label' and 'distinguishing feature' forms an expectation in the audience of what role the content of a can might play in the story, that is satisfied at a later point.

Metaphors can also be used to speak about more individual issues. Dina Velikovskaya's Film *Ties* is about leaving one's childhood home and parents behind to seek out the world and the emotional struggles resulting from this separation for child and parents alike. It is a personal story and a metaphorical one at the same time.⁶⁰

It begins with a young woman who is moving away from her family home. The goodbye is vis-

ibly difficult for the parents. They present her with a curly scarf which she refuses. As she is leaving, a corner of her luggage gets caught on the swing in the family garden. Bit by bit, her movement away causes everything at the parents' house to unravel, beginning with the tree to which the swing is attached over the house itself and finally her father himself. The mother manages to catch the end of the string he was made of and hold on to it. Meanwhile, the daughter, oblivious of the effects of her travels by taxi and plane, arrives in a foreign city. Suddenly the mother's pull on the string that still connects them causes her daughter's clothes to unravel as well until the young woman holds the other end in her hand. After a short tug of war, the connection finally rips. While the mother reassembles everything at her home, beginning with her husband and ending with the garden and swing, her daughter collects the shorter end of the string and forms it into the same kind of scarf that she refused earlier. The film ends with mother and daughter each on a swing, separated by distance but united by their enjoyment of life.⁶¹

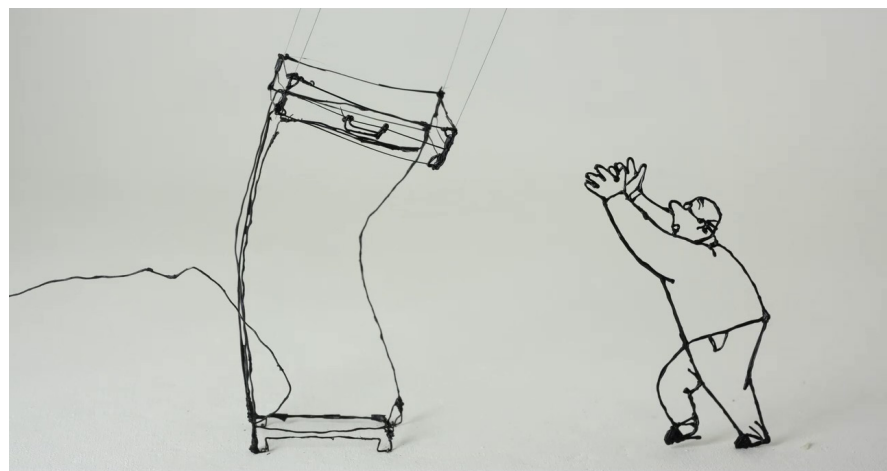


Figure 27: Still from 'Ties'

60 "My way to come up with a story is, I am thinking about my problems. And I get my stories from my personal problems, and usually from places that are painful in my memories."

— Velikovskaya, Dina. *Interview*. Conducted by Lukas Winter. 28 3 2022.

61 Velikovskaya, Dina, director. *y3bi [Ties]*. 2019.

Dina manages to increase the impact of the story through the use of a material that in *Ties* may have been used at a larger scale for the first time in animation: Plastic extruded from a hand-held 3D pen.⁶² While the story was originally written for drawn animation the final execution lends the titular ties a physical form. The main metaphor is clear: On a narrative level, there is a string of clothing connecting the swing and the daughter, on the technical level it is plastic fila-

ment and the universal element is the emotional connection of parents and child. The resolution of the narrative is the replacement of the physical embodiment of the metaphor (the string that connects parents and child) with its more symbolic version in the form of the match cut of the two women on swings and the scarf, or more succinctly the elimination of the technical element from the metaphor.

Metaphier	Metaphrand
Plastic filament	Emotional bond
Paraphier	Paraphrand
Can restrain, bind	Can hold one back from leaving
Can connect, span distances	Emotional communication despite separation
Hard to break	Difficult to overcome
Can lose shape, be straightened	Separation can lead to mental breakdown

Table 5: Picking apart the central metaphor in *Ties*

A fable is mainly a vehicle for its moral message. Likewise, in any metaphor the most important part is the metaphrand and if executed right it is what will stick with the audience as the film's message.⁶³ For that reason choosing a metaphrand is a good starting point for both narrative and technique although certainly this central idea can be sparked by either of them.⁶⁴ If one strong and defining correspondence be-

tween an aspect of technique, a narrative situation and an idea to be expressed can be found, it may form the climactic moment in the film⁶⁵, as in *Ties*. But it might also be satisfying to savour an extended metaphor as in *Canfilm* and not make any one correspondence into the climax. It is ultimately a question of how far a metaphor carries before appearing contrived.

62 Velikovskaya, Dina. "The Making Of An Animation Film In 3D - Interview with Dina Velikovskaya - 3Doodler." 3Doodler, 2018.

63 "For me, animation is a mind game. So I invite the audience to play my game. The game is the packaging of the idea. If after this game my idea is revealed to the viewer, I win. If not, I lose." — Bardin, Garri. *Interview*. Translated by Daria Dementeva. 2022.

64 "So for me, for each film it's always a different story, how I start. But mostly I have an idea, that I want to say. Not a story, but I have this feeling that I want to express. And then I think I am coming from both directions to how it should look like and how the story should work." — Velikovskaya, Dina. *Interview*. 2022.

65 "Most important is the script. The choice of animation techniques and special effects, the aesthetics of the characters and the settings must be at the service of the story and not the opposite. Generally, I favour writing the end of the story before taking care of the rest of the script." — Collet, Bruno. *Interview*. 2022.

The role of minimalism and abstraction

If the purpose of a fable lies in its ethical message, why does it do so through comparison with the animal kingdom instead of employing human metaphors? While the latter is possible and has been done, for example in the parables in the New Testament, there is a certain appeal to the abstraction from reality that animals offer. A subject explicitly unlike the intended recipient (fables are not stories written for animals after all) functions as a prompt to the audience to recognize and apply the metaphor to their reality instead of perceiving the fable merely as a story set in it.⁶⁶ Minimalism in the technique can serve a similar purpose in animation. Use of a single material, a simple colour scheme or a restricted set of tools produces a result in which the metaphor stands out clearly, less muddled by the resemblance to a concrete person, place or event. While the thematic and particularly the illustrative use of technique both aim to be as concrete as possible and to evoke an emotional reaction directly through the material, the metaphorical use needs to prompt an intellectual understanding of the metaphor first.⁶⁷

No other author does this as skillfully as Garri Bardin in his 1987 short film *Twists and Turns* (a number of different translations for the Russian title *Выкрутасы* can be found), a tale about the hubris of man as a creator and defender of material possessions.

We see the main character, a male human figure that spontaneously forms from one end of a coil of wire, starting to plant a garden, creating a house and other possessions, and finally forming a woman for himself by bending them out of the same wire he is made of. However there are disturbances in the form of sounds and lights from unseen creatures and machines that also destroy some of his creations. In his effort to protect what he feels belongs to him by building a watchdog and a fence, he not only uses up all of the original coil of wire but also destroys all of his earlier creations including the living ones, the woman and the dog. His inability to shut out the outside world finally drives him mad and af-



Figure 28: Still from 'Fioritures'

66 "By bringing to the fore the fictitious nature of the story, animal fables entertain and establish that the only possibility of serious meaning is the interpretation; the auditor must listen to the moral and decide if the fable applies." — Lefkowitz, Jeremy. "Listening to Aesop's Animals." *Animals: A History*, 2018.

67 The theories of Siegfried Kracauer and Emmanuel Levinas about film ethics being rooted in 'specific images' that challenge abstractions and 'the encounter' with an irreducible 'Other' appear so rooted in live action and documentary film in particular that they seem hard to apply to animation to me. See Buckland, Warren, and Edward Branigan, editors. *The Routledge Encyclopedia of Film Theory*. Routledge, 2014. pp. 162 – 166

ter the creation of a fortress made of wire he takes the place of the dog on the chain, unceasingly cursing against his surroundings.⁶⁸

Garri Bardin, who came to animation as a former actor turned scriptwriter and after that director of drawn animation, finally arrived at stop motion as a way to make symbolism believable through the use of physical materials.⁶⁹

The story for *Twists and Turns* started from contemplations about animation wire left over from a previous production.⁷⁰ The film is notably reduced in its use of only two materials, wire and a ground plane probably made of foam, in addition to coloured light and shadows. If we look for connections between technique and narrative in this film, we might first think of self-reference, in particular in connection with the theme of man as creator of life. This is certainly true, but it actually feeds into the larger metaphor and characterisation of man as greedy and possessive, not just shaping the environment but being also shaped by it. For the author born in the middle of World War II to Jewish-Ukrainian parents it 'reflects the flawed practice of the Soviet authorities, when the protection of human life ('Iron Curtain') was higher and more important than human life itself.'⁷¹

The construction of the dog marks the turning point at which aggressively defending his possessions becomes more important to the main character than sustaining a livelihood, marked by the first time in which he repurposes wire from one of his previous creations, the scare-

crow and some of his crops, to form a defence mechanism. The second turning point is foreshadowed by the near depletion of the coil of wire after the creation of the woman and flowers to win her over. Instead of going to bed with her, as he originally intended, he responds to sounds and lights he perceives as intrusions and starts to tear down his house and garden to make more fencing. Both of these turning points are facilitated by an aspect of the technique: The wire can be reshaped but there is only a finite length of it. The nature of the material becomes a metaphor for the perception of life as a zero-sum game, in which gain can be only achieved at the expense of the loss of something else (or someone else's loss), even though there are earlier hints that natural growth is possible in form of the fruits that form on the trees of the main character's garden.

Outside of the use of wire as a material, Bardin also uses its one-dimensional nature and relationship to space in a masterful way. Firstly, the perceived threats are generally placed outside of the frame and only their result is shown. This technical detail hints at the ultimate impossibility of the protagonist's drive for control over his surroundings. Under consideration of the self-referential aspect of the film's making we can see it as another manifestation of the idea of 'on set' as the zone of control of the character and 'off set' as the zone of control of the director and the conflict arising from the contact between them. On several occasions the cam-

68 Bardin, Garri, director. *Выкрутасы [Twists and Turns]*. 1987.

69 Bardin, Garri. *И вот наступило потом--*. Rudomino, 2013. p 50)

70 "And my director said – listen, this wire coil is left over, a good wire. Take it home. It would be stolen here. I took it and on the mezzanine I had a coil of this wire. I walked, licked my lips. And sometimes you go from the material, and sometimes from the idea. Here I went from the material." — Bardin, Garri, director. *Выкрутасы Гарри Бардина*, episode 3, 2021. Translated by Daria Dementeva. 21:54 – 22:47

71 Bardin, Garri. *Interview*. 2022.

era angle suggests that the character is trying to shut the audience out of his life as well, placing the fence in front of the 'fourth wall'. Secondly, the camera angles become increasingly dynamic as the film progresses in parallel with the progressing mental instability of the protagonist, beginning from a more or less flat perspective over the rotating camera view during the construction of the first two sides of the fence and ending in the overhead shot of the main character on a leash in his fortress.

The choice of wire as a material does not only possess a great ability to express ideas about the

universal nature of man for being minimalist, but also due to its inherent malleability: It can be freely shaped into a representation of anything and is therefore universal itself: The multipotency of the material parallels a generality of the metaphor behind the narrative.⁷²

It must maybe be accepted that the emergence of a strong metaphor for a relevant idea from a minimalist technique remains a rare and finite exception. When it succeeds, however, in my eyes it exemplifies the power of animation in the most striking form of a connection between technique and storytelling.

72 “As far as minimalism goes, I try to keep my work simple about the complex. The material is secondary. It's more like this: you need the material that's most expressive in each case to express the idea more fully.” — Bardin, Garri. *Interview*. 2022.

Developing an own technique

Based on and in parallel to the thoughts about connections between storytelling and technique I have embarked on a journey to develop my own technical framework. The trigger that sparked the creation of what I call 'crowdoscopying' (a portmanteau of 'Rotoscoping' and 'Crowdsourcing') was the idea to reverse the perception mechanisms that are at play when watching animation by digitally modelling them. The ability to perceive individual, consecutive images as motion stems from the extraordinary capacity of our brain at recognizing and matching visual patterns: It tells us which part of the earlier image corresponds to which part of the later image (movement) as well as when

there is no correspondence in parts of the consecutive images (appearance, cut).

Computer vision is the science of creating such perception mechanisms as computer algorithms, at which it is increasingly successful up to the point of achieving results that are on par or exceeding the performance of humans at certain specialised tasks. My idea was to use these algorithms to find patterns in collections of existing visual material and match them to find similarities between images in the collection. We can then create animation by stringing such similar images together in an appropriate order, in matching alignment and at an appropriate speed. This essentially amounts to computer assisted replacement animation.

Motivation: Malleability and its breaking point

The prerequisite is a collection of images that is sufficiently large, uniform in certain aspects and varied in others which can also be analysed through existing computer vision algorithms, so that we can extract from it images with every necessary shape, colour, pattern, etc.. These attributes must be spaced finely enough for smooth motion as well as go into some extremes. In accordance with physical materials I call this property of an image collection its malleability.

For example a single, immovable block of hardened concrete is not very malleable. Changing it through the use of heavy tools is not a practical technique for animation. Photography, which is

necessary for animation, already makes it more malleable, since we can view it from different angles, under different lighting conditions and different camera settings and films. If we are able to find a sufficiently large number of differently sized and shaped concrete blocks, we could create a collection of photographs that is more malleable than each of the blocks of concrete itself and than a collection of photos of the same block. The malleability would be restricted however if there were for example only three vastly different sizes (not enough inbetweens) or the sizes varied only by a very small factor (not enough extremes).

The malleability of collections is exploited in films such as *Urbanimatio* by Hardi Volmer and Urmas Jõemees, *RIDE* and other films by Paul Bush, *Serial Parallels* by Max Hattler and others. The closest to my approach not to necessarily put the creation of the collection to the service

Finding a material

The search for a film to be animated using this technique began with a search for an image collection exhibiting the property of high malleability for which a computer vision algorithm is available to be able to analyse whatever is visible. The variability of random snapshots of daily life as well as that of shapes in nature sounded promising to me.

Since I was looking for a narrative angle to experimental technique and the technology to analyse human body poses in photographs, I tried to use this property for animation. I considered different sources for the image collection: Frames from live action films, historical or ethnographic collections, self-shot footage and collections used to train artificial intelligence. In the end I settled on Microsoft COCO, a database of pictures of 'common objects' in

of creating animation but to use an existing collection is maybe *283 Frogs* by Genadzi Buto. That film uses photographs of frogs that have been run over by cars, the tragic continuum of poses at their moment of death creating the malleability for them to be re-animated.

context⁷³ that already includes not only detailed annotations that can be directly used for 'crowdscoping' but also covers of a wide range of geographic and occupational backgrounds.

My intrigue for the shapes of nature led me to collect and dry autumn leaves with the vague idea of using them with my replacement technique. On the one hand they possess many interesting and variable visual properties pertaining to colour, shape, texture and size. On the other hand their flat nature lends itself to a two-dimensional process. Even though leaves from different species of trees possess distinctly dissimilar properties there is enough variability within one species to create transitions between them. Lastly there was a computer vision algorithm available to analyse and match the clear shape of a leaf's edges as well as average colour.

73 Lin, T., et al. "Microsoft COCO: Common Objects in Context." ECCV, 2014.

Developing the technology

The software *Crowdoscope* was created in the form of an extension to the open-source computer graphics suite Blender. Blender was chosen because it allows for quick development of a sophisticated user interface in the programming language Python which is widely used for computer vision, and also comes with a video editing workspace that can be adapted for single frame editing which is needed for digital replacement animation. The software extension consists of two main parts: A workspace to extract information from an image collection and save it into a database and another workspace to use this information for the creation of replacement animation.

The extraction workspace uses Blender's node graph editor. Computer vision and image editing operations were encapsulated into nodes that the user can arrange and put into sequence. The input for these operations is a collection of image files or video frames. Their outputs are called 'properties' and get saved into a database. A property in this context is any information

that describes the image or elements in it such as its average colour, its size, the coordinates of points on a face or body, a numeric descriptor of shapes in the picture. A database for an image collection forms the basis for all work with it in the animation workspace.

The animation workspace builds on Blender's video editor. *Crowdoscope* allows to set the properties by which the similarity between frames in a sequence of pictures is determined and to impose restrictions on any property in the database. For example low resolution pictures could be excluded or the dominant colour restricted to a certain range. Afterwards the user can retrieve and switch between pictures from the collection in order of similarity with the previous and next frame, with a drawing or with another sequence, before deciding to insert any of these pictures into the sequence. I chose this incremental approach because it resembles the traditional way of animating and editing and allows for an exploratory work flow guided by the image collection.

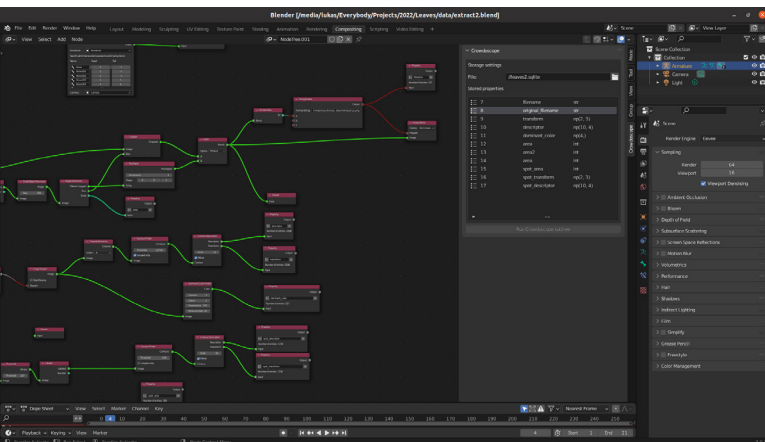


Figure 29: Extraction workspace

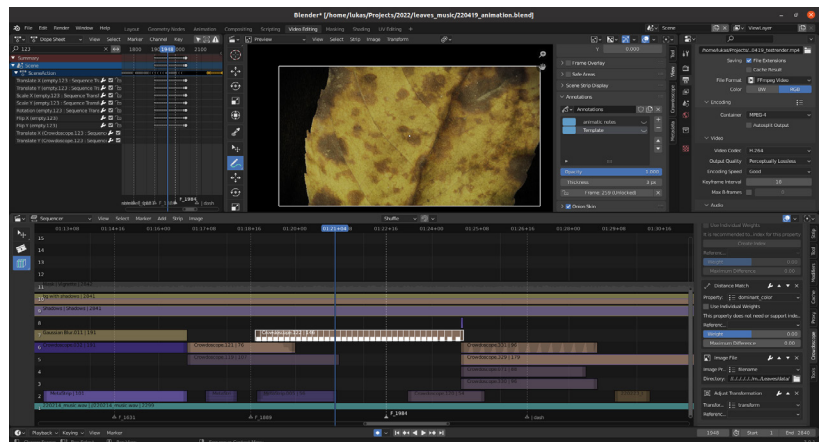


Figure 30: Animation workspace

Observations about the technique in practice

Working with *Crowdoscope* can be very challenging depending on the malleability of the image collection and how well the used algorithms work on it.

I found that the context around the property that is being animated, such as a background or different lighting conditions, creates flicker that tends to overpower the intended motion. Removing the background of pictures around the person or item helps to focus the viewer on the animation and makes space available around it. Making pictures monochrome erases distracting and uncontrolled colour information. Equalising brightness as much as possible reduces flickering. Most importantly a collection with little uncontrollable context is easier to handle, such as my scans of leaves that all possess the same exposure and no background.

In replacement animation I found it helpful and sometimes necessary to use a finely tuned, variable framerate. Because every replacement is a relatively intense visual event compared to animation techniques that emphasise continuity – even when unnecessary context is removed, as described in the previous paragraph – it evokes

an expectancy of equally fast, forceful motion in the viewer. To lower the framerate during slow movements does not just save work but is necessary to convey the feeling of slowness, if it is possible at all. For some movements an image collection is not malleable enough and intermediary or extreme poses have to be avoided or skipped by adapting the timing to the material. This can mean that movements become faster, more exaggerated or go through unintended intermediate stages.

On the other hand the repeated visual event of replacement creates a rhythm. When this rhythm is broken it also creates a spike in intensity in the viewer that must be carefully timed. This rhythm is useful when interacting with sound and music⁷⁴. Working with replacements and especially with a finite collection of images therefore requires a balance between the appropriateness of the framerate and the appropriateness of a particular image in a sequence. In contrast to drawn animation, a framerate cannot be decided a priori for the whole shot and without inspecting the available material.

⁷⁴ During the music recording for “Dry Lives” I was careful to instruct the musician to use certain tempi that are compatible with the framerate of film.

Finding a theme

The technology and material inspired two different routes, one of which I ultimately followed to the end.



Figure 31: Image sequence from concept *I am Everybody*: Transition through original image

The partially developed project *I am Everybody* revolves around a protagonist that is characterised by the technique that is used to portray him/her: The cut out photograph of a person that is switched out for every frame of movement. The first idea was to reflect this instability of the picture in the mental instability of the character and their identity. The protagonist was supposed to be an artificial human created by learning from the example of a vast number of people, thus mirroring the process of machine learning by which many computer vision

algorithms are created. The concept of this 'averaging' process gave rise to the second idea of portraying ordinary situations in life smoothly transitioning between each other. While the view stays focused on the central character, the backgrounds and other people are simple line drawings that undergo metamorphosis from scene to scene. One particular transition in which the surroundings of the human figure in the used original picture are revealed was connected to the experience of 'spacing out' and regaining awareness of one's surroundings.

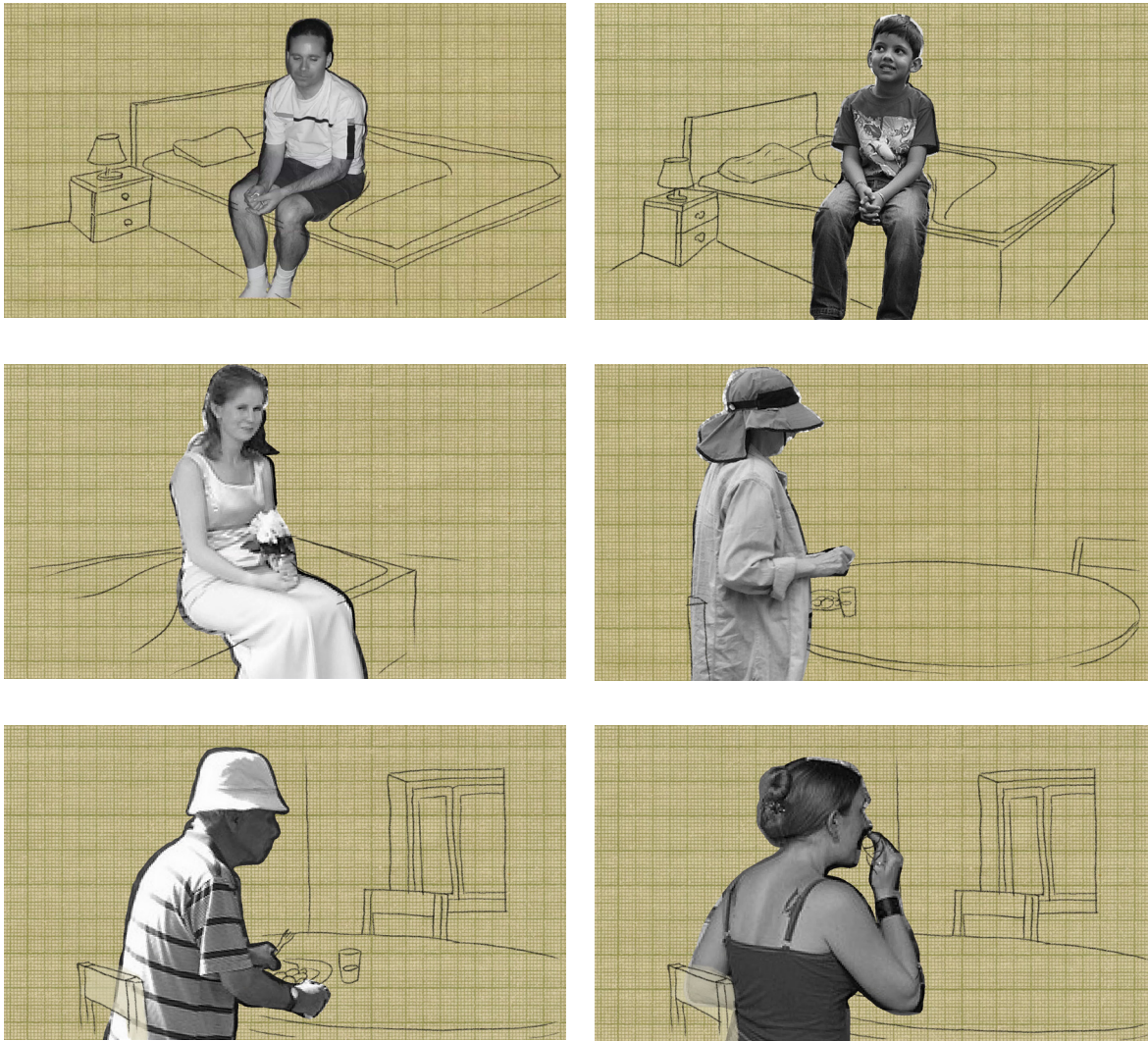


Figure 32: Image sequence from concept *I am Everybody*: Transition through change of background

For my music video *Dry Lives* I used the collected autumn leaves and let myself be inspired by the emotional connection between nature and music. I asked the flamenco musician Jorge Arena to contribute a piece on classical guitar, an instrument very direct and natural in the way sound is produced. The main focus for the visuals was to treat the leaves on the one hand as characters, or more precisely dancers to the mu-

sic, without creating a definitive storyline. The 'dance shots' are on the other hand mixed with 'technique shots' that show details and play with the various properties of leaves that can be animated. The structure of the underlying music piece played an important role in arranging different ideas for the visuals: Each musical phrase encapsulates a visual theme and rising and falling tension each come with scene changes.



Figure 33: A 'dance shot' treating individual leaves as characters

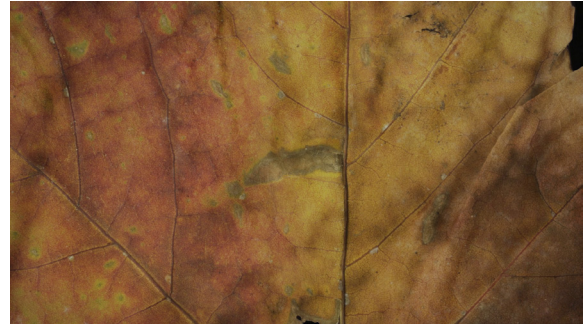


Figure 34: A 'technique shot' focusing on visual intrigue (in this case, the dry spot on the leaf)

Using Crowdoscopy to create *Dry Lives*

Dry Lives can be considered a case study for the use of *Crowdoscope*. The usage of my tool was relatively straightforward as it was not only specifically created for the task at hand but also because leaves are somewhat ideal for the process. Usually for each scene, one leaf was chosen as a starting point by browsing the collection in a random order or by matching its outline against a drawing. The scene was then moved to a preliminary point in the timeline at which the mood of the music inspired a visual development from the leaf and the size and position of the leaf adjusted. Depending on the intended type of motion I either chose keyframes in a similar way as the first or animated straight ahead.

After generating drafts for a number of candidate sequences in this way I decided how they would fit into a dramaturgy for the whole music piece, and moved sequences on the timeline accordingly while discarding some and coming up with new ones. Finally I added inbetweens to sequences that needed them and transitions between some sequences.

Because there is a considerable unpredictable (but not random) element in the source mate-

rial and in the algorithm that matches shapes, many leaves were repeatedly switched out until I achieved the desired result or an entirely new one. I used *Crowdoscope* to explore my collection of leaves in the following ways:

- Randomly
- Match a drawing against the silhouette of a leaf
- Match a silhouette of one leaf against another
- Interpolate between silhouettes and match the result against silhouette of a leaf
- Match a drawing or silhouette against the shape of the spots on a leaf
- Match a chosen colour against the average colour of a leaf
- Match a chosen number against the surface area of a leaf

The final step I started in parallel to the animation was to add atmosphere and space. The introduction sequence, background, overlaid shadows of vegetation and lighting effects were achieved with conventional means of visual effects and 2D computer animation. The intention was to complement but not to distract from the replacements.

Further work

I intend to continue using *Crowdoscope* and to develop it further. One big concern is the usability of the tool for others. Currently the installation and usage are not straightforward or documented. Some shortcomings in usability and performance issues also derive from using Blender as a platform.

Finding the right source material is crucial. The malleability of an image collection mentioned above plays a big role for the practical aspect of animating as does a sufficient resolution and

consistent image quality, but a distinct character and uniqueness is also important.

Finally I would like to implement the vision of the first part of my thesis to use *Crowdoscope* in a narrative film in which the technique adds to the meaning of the story. For this, the two points above play a role: It must become more comfortable to work with *Crowdoscope* and a suitable image collection must coincide with inspiration in storytelling.

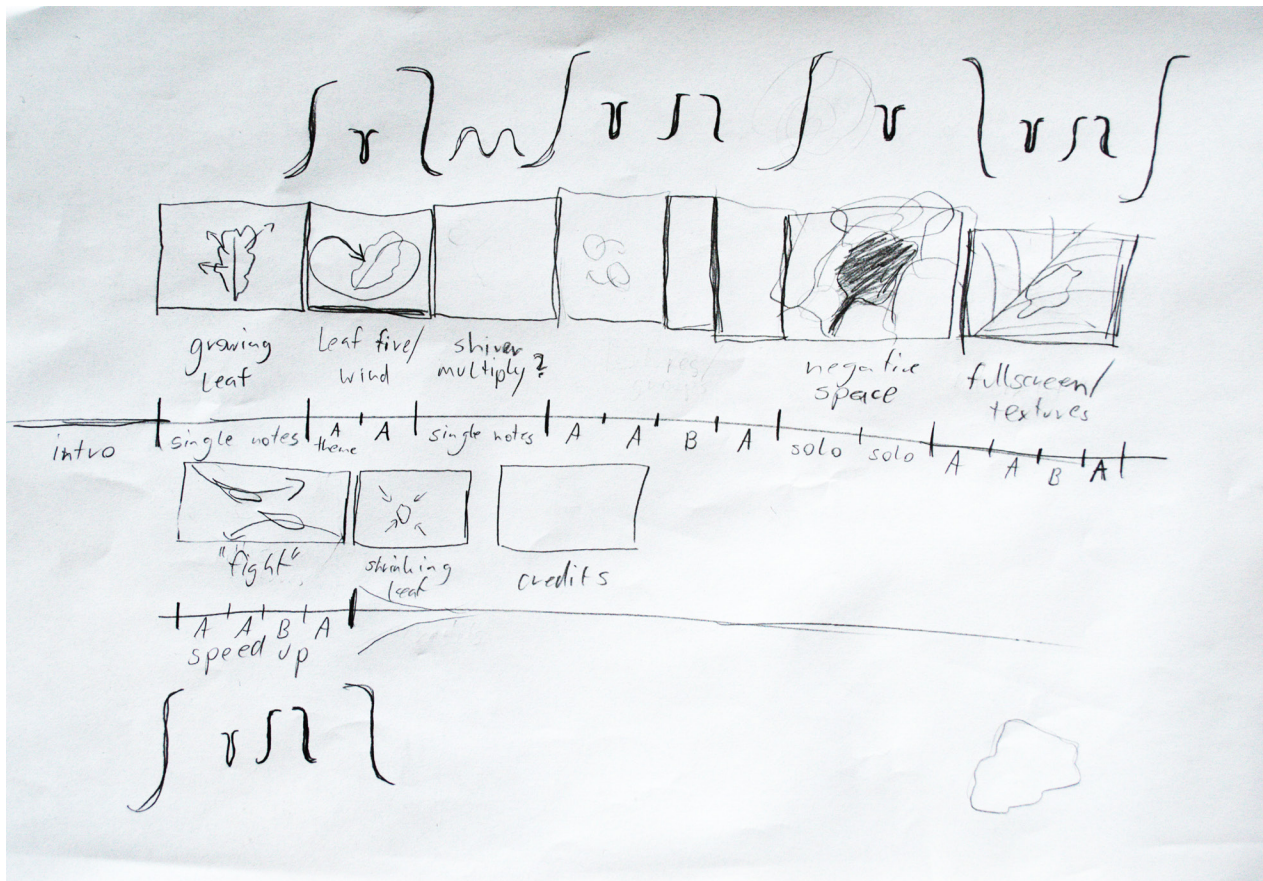


Figure 35: Planning sketch arranging scenes according to themes and musical phrases

Conclusion

Creating animation is a complex process with many steps, requiring many skills, with a result composed of many aspects. Ultimately the audience can be moved and fascinated by any one of them. To focus on an individual one is certainly a worthwhile endeavour for an animation maker, but not the only possibility. What I hope to have found and shown with this thesis are not just examples in which the whole is bigger than the sum of its parts, but approaches specific to animation that assemble those parts into something bigger. This work is also an attempt to understand why some ideas work so well in animation in order to give the reader and myself a method of recognising good ideas.

At the same time the enormous space of possibilities created by the complexity and variability of animation can appear daunting. From that perspective, this thesis is a self-help book for my own future work, one that I also hope will be

inspirational to like-minded animation authors as well. Apart from the last section, this paper is not a documentation of something that I have achieved yet, but instead a letter of motivation from someone who seeks to express meaning in technical innovation. It should serve as encouragement to animators to try and find the best technique for every story and the best story for every technique.

Although my personal intrigue lies most with the notion of animation as fable, I believe that prioritising or ignoring any of the seven ways of connecting storytelling and technique I have discussed can lead to a compelling result. What matters to me is the structure I have introduced into this space of possibilities that every animated film inhabits. To close with a metaphor, that room of creativity now has interior walls and open doors that make it easier to navigate and create within it.

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Thanks

I would like to thank my thesis supervisor Francesco Rosso, whose insights and advice always proved valuable and inspiring, all my interview partners who invested their valuable time into my work: Giulia Martinelli, Ülo Pikkov, Bruno Collet, Nara Normande, Dina Velikovskaya, Peeter Ritso and Garri Bardin; my family who supported my stay in Estonia, former department heads and advisors on my first film Priit & Olga Pärn who welcomed me to the Estonian animation family, Dasha Dementeva for lending me her bottomless treasure trove of films and assisting with communication in Russian, my classmates and friends in Estonia who gave me mental support and new ideas, and all animation makers in the world who continue to innovate on a myriad of fronts.