Dubbing Star Wars:

A Journey to Bridge the Uncanny Valley

–

A Doctoral Thesis by Anthony Esteban
University of Nottingham
2020

"*Begun, this clone war, has.*"
Master Yoda, 22 BBY

Table of Contents

Acknowledgments:

Alex, JAX, Thorsten, Barbara, Karin, Gianluca, Yvonne,
the University of Nottingham, M3C, Andrew, Audioprojects.

George.

Carrie, Peter, Kenny, Alec.

Preliminary

Translation is most often thought of purely in terms of language and words. C.W. Orr, however, takes a different angle when he describes "translating as somewhat equivalent to painting" (Nida, in Venuti, 2000: 132) insofar as "the painter does not reproduce every detail of the landscape" (1941: 318). Translation can at best be an "approximate truth" (Edwards, 1957: 13), a representation of the original. Thomas Francklin adds to this idea the fact that a painter is in a position to add or subtract features from his model, creating in doing so a *jeu d'esprit* (1754), a somehow monstrous representation (Cowper, 1791) of the original. The study of film translation, and in particular dubbing, benefits from approaching the discipline from this mimetic angle too, as it deals with a combination of words, voices, and images, and needs to take into account the potential conflicts that can arise from frictions between these elements. More specifically, there is currently an aspect of Translation Studies that remains largely unexplored, and which pertains to the uncanny effect that dubbing potentially has on viewers. Apart from Charlotte Bosseaux' *Uncanny Encounters* (2015), in which she explores the uncanny effects of dubbing in selected scenes from *Buffy the Vampire Slayer*, there is hardly any research on the topic. At a time where the audiovisual media industry seeks to extend its presence to as many potential viewers as possible (Hollywood is now more than ever relying on the Chinese market for income, and streaming platforms such as Netflix are producing more and more international content that needs to be localised), studying the effects of dubbing on how audiences not only understand audiovisual (AV) products, but also perceive them, is becoming a necessity.

The concept of the uncanny is a powerful and timely lens through which to

explore audiences' perception of dubbing, and Imaginary Fiction (the collection of genres that encompasses various sub-genres of fantasy and science-fiction[1]) a particularly valid genre within which to conduct this research. In recent years, it is within the genres of science-fiction and fantasy films (as well as video games) that the conversation about the uncanny and its effects has been happening. The reason for this is the prevalence of the visual aspect of the uncanny valley, and the fact that Imaginary Fiction (IF) genres are the ones that tend to push the envelope in terms of visual and digital technology.[2] The conversation on the uncanny valley also largely originates from the 1970s, around the time when the original Star Wars was first being devised, before re-emerging in the late 1990s (the time of the second Star Wars trilogy), and is now more lively than ever[3] (just as the third trilogy concludes). The evolution of technology in how to portray characters on screen is intimately linked to the conversation about the uncanny valley, and the diachronic entanglement between the Star Wars series and the conversation around the uncanny valley makes for a strong anchoring system through time.

TThere are currently numerous avenues of academic research focused on the topic of the uncanny, some of which relevant to the present research. However, this conversation about the uncanny valley has also largely happened online and within the "geek" community. For these reasons, I will refer to both academic and popular culture commentary throughout this thesis, whenever one type of source or the other is more relevant. While the legitimacy of pop culture sources cannot be held to the same standard as academic ones, the interest of the present research is mainly centred around audience perception, and as such, audience voices constitute a geat qualitative tool with which to examine the topic.

The research questions addressed in this thesis are the following: First, what are the cognitive mechanisms behind the uncanny valley phenomenon (chapter one)?

---

1 - There are numerous ways to spell science-fiction (with or without upper case for one or both words, with or without a hyphen, a combination of upper case and hyphen, but also "sf", "Sf", or "SF"). I will throughout this thesis use "science-fiction", any other spelling in a quote is the original spelling from the author.

2 - De-aging technology, for instance, originates from IF films such as *X-Men*, and are now used in dramas, the most recent example at the time of writing being Martin Scorcese's *The Irishman*.

3 - According to Google Trends, global online interest in the uncanny valley phenomenon peaked in January 2018, just after the release of *Rogue One: A Star Wars Story* – a film that features a computer-generated Peter Cushing and Carrie Fisher,
(https://trends.google.com/trends/explore?date=today%205-y&geo=US&q=%2Fm%2F027p86).

Second, is Imaginary Fiction more or less susceptible to the uncanny, and what are the strategies used to mitigate its effects (chapters two and three respectively)? Then, what is the connection between dubbing and the uncanny, and how does the intersection between genre and dubbing impacts the uncanny effect on audiences (chapters four and five respectively)? And finally, the conclusion addresses which steps, if any, should be taken in order to make sure audiences across the world have the best experience of a film in their own language. The contents of the conclusion draw from both the latest research in accessibility and the emergence of cutting edge technology. The conclusion offers solutions to the current shortcomings of dubbing practices, that can also be expanded to be applied to a variety of applications such as video games, virtual cross-lingual communications, therapeutic treatments, and other activities that heavily rely on accurate representation of the parties involved.

This thesis stands at the crossroads of Translation Studies, Film Studies, Psychology, Cognitive Sciences and Linguistics. It is this deliberately interdisciplinary approach that will bring originality to my research and attempt to answer these questions.

– Introduction –

HOME

When the first viewers of Star Wars discovered the film in 1977, it was not called *Episode IV – A New Hope*, nor did it open with the very fairy tale-like quote *A long time ago, in a galaxy far, far away….* that has become such a landmark of the series. Those elements were only added to the releases of the film from 1981 onwards, once it was obvious that the success of the original film would allow director George Lucas to fulfil his vision and release his space opera trilogy. Although the "long time ago" element has now become a staple of popular culture (and places the Star Wars series in a peculiar category that combines classic science-fiction elements and universal fantasy tropes), its then absence did not prevent the reviewers of the time to describe the film as "a fairy tale, a fantasy, a legend finding its roots in some of our more popular fictions" (Ebert, 1977), an "eclectic combination of story elements borrowed from such various sources as *Quo Vadis?*, *Buck Rodgers*, *Ivanhoe*, *Superman*, *The Wizard of Oz*, *The Gospel According to St. Matthew*, and *The Legend of King Arthur and the Knights of the Round Rable*" (Canby, 1977)… Since the original 1977 release, the franchise has had eight other films added to its core storyline, as well as several spin-off feature films, and countless novels, comic books, television series, and video games that are forming what is known among the fans as the Extended Universe. To this day, the Star Wars franchise is still a major cultural phenomenon, with each instalment grossing around a billion dollars at the box office,[4] and a ma-

4 - https://www.the-numbers.com/films/franchise/Star-Wars#tab=summary.

jor topic of conversation in the online pop-culture-oriented community. In other words, the Star Wars franchise offers a window into the treatment of science-fiction and fantasy over the past forty years, in a global industry that has changed radically since the release of the first film.

The global popularity of Star Wars, along with the extraordinary variety of the universe, raises challenging questions about diversity, the nature of otherness, and of course of the utilisation of language in the depiction of others. One of the staples of the Star Wars franchise is the variety of its cast, which consists as much of alien characters of all shapes and sizes as it does of human beings. With this variety of protagonists also comes a great diversity in terms of languages (or, rather representation of languages). The characters of the Star Wars films largely represent archetypes, and tend to be immediately recognisable from their appearance (the diminutive frame of Master Yoda comes to mind), as well as from the way they talk (the unmistakable voice and delivery of James Earl Jones' Darth Vader, for instance). Almost every main character in the Star Wars franchise has an idiosyncratic way of speaking (or more generally, communicating), from Yoda's unusual syntax to Gran Moff Tarkin's overexaggerated Received Pronunciation, and from Chewbacca's howls and growls to R2-D2's blips and boops.

Star Wars, almost immediately after its original release, became a global phenomenon, and one that has hardly lost any of its momentum in over forty years (the first film to be released, *A New Hope*, has been subtitled in forty languages). By going global however, the Star Wars franchise has put the teams in charge of translating the films in an odd position. Rarely before had there been such a film, such an audiovisual creation relying on music as much as on dialogue to tell its story, or featuring such a variety of idiolects ("the language or speech pattern of one individual at a particular period of life" (https://www.merriam-webster.com/dictionary/idiolect)) and non-human languages. Star Wars finds itself in a somehow paradoxical position then: its obviously *other* outer-space setting and unspecified time period aim at making the experience as universal as possible, but in doing so, it also puts an emphasis on the importance that contrasting languages have on the story. As such, it particularly shines a light on the practice of dubbing and on the three main aspects that make it up: translation, voice and performance, and synchrony.

In this thesis, I explore the uncanny nature of film dubbing, more specifically the mechanisms behind the occasional sensation of ghostliness that the separation of voice and body can elicit in viewers. The particular focus of this work is on the impact of language and species diversity (as a function of genre) on the way audiences experience characters in the dubbed version of a film, in relation to the adaptation and localisation strategies used. The case studies presented here explore a

variety of situations involving the whole breadth of character diversity that populates the Star Wars universe. This work explores the perceptual connections that exist between voice and body, and the potentially uncanny consequences that arise when this connection is severed. This study brings together Translations Studies and Film Studies, as well as Psychology and Cognitive Studies, with the specific aim of questioning and discussing the extent to which the representation of language variation in Imaginary Fiction films impacts the perception of human and non-human characters by audiences of the dubbed versions of those films.

The Road Ahead

Although it is unclear who came up with the soundbite,[5] it is said that there are only two types of stories: a stranger rides into town, or a man goes on a journey. PhD theses tend to be the second type, as is the case for mine. The Hero's Journey (Campbell, 1949) breaks down the impetus for adventure into three sub-categories – The Call to Adventure, The Refusal of the Call, and the Meeting with the Mentor. For me, the origins of the call go back a long way, since I discovered Star Wars by accident, on TV, one evening in the mid-eighties. I remember seeing the opening sequence for the first time as if it was yesterday, with the Imperial Star Destroyer chasing the Rebel Blockade Cruiser above the desert planet of Tatooine, along with John Williams' powerful score. This was for me the defining moment that placed me on a trajectory that ultimately led me to writing the present thesis. Because of Star Wars, I started lurking the science-fiction and fantasy aisles of my local video store, and soon discovered the fascinating riches that the genres have to offer, from space horror with *Alien* to pure Sci-Fi with *The Terminator*, and Sword and Sorcery genres with *Conan the Barbarian*, *The Dark Crystal*, and later *Willow* and many others. Films from Imaginary Fiction genres soon led the way to fantastic literature, Edgar Allan Poe, H.P. Lovecraft, Michael Moorcock, J.R.R. Tolkien, and then onto the pen-and-paper role-playing games inspired by their writing (*Stormbringer* and *Hawkmoon* for Moorcock, *The Call of Cthulhu* for Lovecraft…). My love for Imaginary Fiction and film kept going through the nineties as the genres grew more popular, and as I became more proficient in English, I gradually turned toward the original versions more and more. In the early 2000s, with the arrival of DVDs, original versions of films became readily available in France (my home country, and a stronghold of dubbing), and the building blocks upon which the present work is based started to come together: science-fiction and fantasy films were now mainstream (and thanks to technological advances, more visually stunning than ever), and available to watch

5 - https://quoteinvestigator.com/2015/05/06/two-plots/

in their original versions as well as their dubbed ones, in a world where internet was starting to emerge and connect enthusiasts from the world over. My conversations about why Han Solo became Yan Solo in the French dub of Star Wars, or why Bilbo Baggins was changed into Bilbon Sacquet in the translation of The Lord of the Rings, go back to those times, before I even knew that my personal interests could be made the topic of a piece of academic work.

At the same time as the digital revolution allowed more vivid recreations of fantasy worlds that would introduce casual audiences to the genre (the Star Wars prequels, The Lord of the Rings and Matrix trilogies, the Harry Potter series), I studied filmmaking and visual effects, and was involved in different capacities in a number of projects, including a short film that I produced entitled *Les Innocents*.[6] This film was also my introduction to both first-hand subtitling (I produced an English subtitled version), and (intralingual) dubbing through sessions of dialogue re-recording. These experiences would become invaluable in the past few years as I researched audio-visual translation.

Film and literature have been intertwined in my background, although the genres involved, and my love for languages, have remained a constant. My interest in translation became concrete in 2010 when I joined Black Library, a science-fiction and fantasy publisher, as French Language Editor and Translation Manager. In this role, which I held for six years, I got the opportunity to engage with the practice of translation of Imaginary Fiction genres, supervise the translation of dozens of novels, and translate two myself[7] (*Talon of Horus*, by Aaron Dembski-Bowden, and *Luthor Huss*, by Chris Wraight) as well as a graphic novel (*Lone Wolves*, by Dan Abnett). This experience as a translator and an editor, as someone engaging with translation problems on a daily basis, in particular with Imaginary Fiction-specific translation problems (character and place names, ranks, neologisms…), was for me the last piece of the puzzle.

With all the pieces in place – cinema, genre, language, translation – the Call for Adventure eventually became too strong to refuse anymore with the Meeting with the Mentor. I was lucky enough to meet in the past few years not one, but two mentors who have encouraged me to finally undertake the journey, to walk the Road of Trials, and hopefully to come back home changed, and a little wiser. My original journey started with Star Wars, and it therefore only seemed fitting that the Star Wars universe would be the place where my personal adventure would unfold.

* * *

6 - https://www.imdb.com/title/tt0760242/

7 - From English into French.

A long time ago, in a galaxy far, far away….

The corpus of this thesis consists of eleven films, all originally released between 1977 and 2019, although this work is, unless otherwise specified, based on the Blu-ray versions of the films as commercially available in the UK. The distinction between the theatrical versions and other subsequent releases is relevant because most of the Star Wars films have been modified in some capacity since their original releases. As of 2019, the Blu-ray versions are considered to be the definitive versions by the right holders, if not by the hardcore fans.

The Star Wars series tells the story of the Skywalker family over three generations. Iconically, the story is set "A long time ago, in a galaxy far, far away", a deictic situation that allows for quasi-absolute freedom for the storytellers. There are a few key elements that must be understood in order to discuss the events of the series. The Star Wars universe is vast, but space travel, including faster-than-light travel, is commonplace. Equally, there is a virtually unlimited amount of alien life forms (including sentient ones) and planets, and it is a given that all characters can live on any planet and communicate with other species without issues (unless required by the story). The political structure of the galaxy is arranged around the Galactic Senate, where representatives of each system of planets discuss and agree on the common law (even though the outer rim of the galaxy is a wild west-like place in which slavery is still commonplace). And finally, The Jedi Order is a group of Force-wielding warrior-monks who act as peacekeepers and negotiators on behalf of the Republic. The Force is "an energy field created by all living things [that] surrounds us and penetrates us; it binds the galaxy together" (Obi-Wan Kenobi to Luke Skywalker, 0 BBY[8]). It is a power that Force-sensitive users can manipulate to perform telekinesis, influence weak-minded individuals, and even look into the future. The Force is said to have a Light and a Dark side, the Jedi being the enforcers of the Light, while the Sith are the custodians of the Dark Side of the Force. The overarching theme of the entire Star Wars saga is the balancing of the Light and Dark sides of the Force.[9]

The saga storyline is rather simple, but the fact that the films have not been released in chronological order complicates things slightly (the order in which to watch the films is hotly debated among fans). Generally speaking, events are arranged around the Battle of Yavin, which is the climax of the original 1977 film *A New Hope*. Since some films were released later, but take place before *A New Hope*,

8 - Before the Battle of Yavin.

9 - Similar to Moorcock's concept of Law and Chaos, the two sides must find a state of balance between complete immobilism and absolute chaos.

fans refer to chronological events within the storyline as either BBY (Before the Battle of Yavin), or ABY (After the Battle of Yavin). The timeline of the saga (including the stand-alone films) goes as follows:

– 32 BBY: Episode I, *The Phantom Menace* – 1999 (Prequel Trilogy (PT), Anakin Skywalker Arc). Also referred to as *Episode I*, *Menace*, and *TPM*.

– 22 BBY: Episode II, *Attack of the Clones* – 2002 (Prequel Trilogy (PT), Anakin Skywalker Arc). Also referred to as *Episode II*, *Clones*, and *AOTC*.

– 19 BBY: Episode III, *Revenge of the Sith* – 2005 (Prequel Trilogy (PT), Anakin Skywalker Arc). Also referred to as *Episode III*, *Sith*, and *ROTS*.

– 13/10 BBY (estimated): *Solo* – 2018

– Year 0: *Rogue One* – 2016. Also referred to as *Rogue,* and *RO*.

– Year 0: Episode IV, *A New Hope* – 1977 (Original Trilogy (OT), Luke Skywalker Arc). Also referred to as *Episode IV*, *Hope*, and *ANH*.

– 3 ABY: Episode V, *The Empire Strikes Back* – 1980 (Original Trilogy (OT), Luke Skywalker Arc). Also referred to as *Episode V*, *Empire*, and *TESB*.

– 4 ABY: Episode VI, *Return of the Jedi* – 1983 (Original Trilogy (OT), Luke Skywalker Arc). Also referred to as *Episode VI*, *Jedi*, and *ROTJ*.

– 9 ABY: *The Mandalorian* – 2020

– 34 ABY: Episode VII, *The Force Awakens* – 2015 (Sequel Trilogy (SQ), Ben Skywalker-Solo / Rey Arc). Also referred to as *Episode VII*, or *TFA*.

– 34 ABY: Episode VIII, *The Last Jedi* – 2017 (Sequel Trilogy (SQ), Ben Skywalker-Solo / Rey Arc). Also referred to as *Episode VIII*, or *TLJ*.

– 35 ABY: Episode IX, *The Rise of Skywalker* – 2019 (Sequel Trilogy (SQ), Ben Skywalker-Solo / Rey Arc). Also referred to as *Episode IX*, or *TROS*.

Unless otherwise specified, I consider in this thesis the story in chronological order of events rather than of release. As pointed out above, each trilogy is focused on a particular character's story arc, although the narrative threads strongly overlap from one arc to the other.

The Prequel Trilogy is centred around the rise of Anakin Skywalker from slave boy to full-grown Jedi, and eventually his fall to the Dark side of the Force. By the end of the arc, Anakin has become Darth Vader, and Shiv Palpatine has become the leader of the Galactic Empire after having manipulated the old Republican Senate into giving him absolute powers. The films are *The Phantom Menace*, *Attack of the Clones*, and *Revenge of the Sith*.

The Original Trilogy follows the adventures of Luke Skywalker, one of Anakin's twins that have been hidden from him at birth. Upon meeting Anakin's old Master

and friend Obi-Wan Kenobi, Luke trains to become a Jedi and to defeat the Empire, which he eventually does alongside the Rebel Alliance led by his sister Leia and his best friend Han Solo. The films that comprise this trilogy are *A New Hope*, *The Empire Strikes Back*, and *Return of the Jedi*.

The Sequel Trilogy focuses on Rey, a Force-sensitive orphan from planet Jakku (who eventually turns out to be the Emperor's granddaughter) and Ben Solo-Skywalker, the son of Han Solo and Leia Skywalker. In this storyline, Ben Solo has fallen to the Dark side of the Force and joined the First Order, a fascist organisation that strives to destroy the New Republic that has been rebuilt after the fall of the Empire. The three films of this trilogy are *The Force Awakens*, *The Last Jedi*, and *The Rise of Skywalker*.

The current two standalone films, *Solo* and *Rogue One,* take place between *Revenge of the Sith* and *A New Hope*, with *Rogue One* leading directly into *A New Hope* (the last scene of *Rogue One* leads into the opening of *A New Hope*). From the point of view of this thesis, *Rogue One* is particularly relevant because it both introduces characters who speak new varieties of English and brings back, with the help of state-of-the-art technology, characters played by actors who have passed away. The film has been at the core of a lot of conversations about the uncanny valley. The latest canon addition to the Star Wars universe is the Disney series *The Mandalorian*, which interestingly seems to be following the conclusions of this thesis in terms of universality by having a main character who wears a helmet all the time (and therefore does not need to be synchronised) and an alien child who cannot speak (once again cutting the need to dub and synchronise, the character's actions define him).

Star Wars, at its core, is best described by its creator, George Lucas, when he says that:

> *"The story being told in 'Star Wars' is a classic one. Every few hundred years, the story is retold because we have a tendency to do the same things over and over again. Power corrupts, and when you're in charge, you start doing things that you think are right, but they're actually not"* (in Wired, 2005).

Lucas is well aware that the Monomyth (Campbell, 1949) he used as a template to create his own saga is the most fundamental story there is, one that can be understood across cultures and generations. With seven of its instalments ranked in the top one hundred grossing films,[10] along with its exceptional longevity, the series has proven its cross-cultural and cross-generational appeal.

* * *

10 - https://www.boxofficemojo.com/alltime/world/?pagenum=1&p=.htm.

Genre

The Star Wars (SW) franchise sits at an intersection of genres, and therefore very much defies classification. The SW universe contains magic-like levels of technology – such as faster-than-light travel, anti-gravity technology aboard ships, swords made of solid light… – assumes in parts a definitely retro-future aspect, and also features magic in the form of the Force. The Star Wars universe is mostly referred to as space opera, an Imaginary Fiction sub-genre defined by Hartwell and Kramer as:

> "*colorful, dramatic, large-scale science fiction adventure, competently and sometimes beautifully written, usually focused on a sympathetic, heroic central character and plot action, and usually set in the relatively distant future, and in space or on other worlds, characteristically optimistic in tone. It often deals with war, piracy, military virtues, and very large-scale action, large stakes.*" (2006, 10-18).

The reason why studying the uncanny effects of dubbing in Star Wars is particularly relevant is that the SW universe contains a wide range of characters, human and alien, which allows for detailed comparison on how much dubbing influences character perception and levels of the uncanny.

The Map

The structure of this thesis – just as the Star Wars franchise – is inspired by classic storytelling narrative arcs, and in particular by the Hero's Journey as described by Joseph Campbell in his seminal book *The Hero with a Thousand Faces* (1949). Simply put, I aim to take the reader on a journey from the familiar into the unknown, where new knowledge is to be gained, before returning, changed, and hopefully a little wiser. This journey also loosely mimics the transformation that film characters undertake through the process of dubbing: they start with one set of identities that define them, are then stripped of their voice and of their words, gain new ones, and return changed for the new audience, sometimes bringing with them the uncanny sensation that things are not exactly as they should be.

The concept of the uncanny is where this journey begins. In the first chapter of this thesis, I explore the notion of the uncanny following a multidisciplinary historical approach. The conceptualisation of the uncanny began at the very beginning of the twentieth century with Ernst Jentsch and Sigmund Freud, re-emerged in the 1970s with Masahiro Mori's uncanny valley theory, and finally gained traction at the end of the twentieth century and beginning of the twenty-first century with the emergence of technological developments that made the concept more relevant than ever. The first chapter not only centralises the current knowledge on the uncanny,

but also proposes a new interpretation of the origins of the phenomenon through the cognitive theory of schema (Barlett, 1932).

Chapter two argues that genres of Imaginary Fiction - such as fantasy or science-fiction - function by re-arranging audiences' expectations to the new norms of the fictional world (estrangement) and asking them to accept the discrepancies between the fictional world and their own "zero" world (through suspension of disbelief). This chapter also explores how storytelling structures rely on pre-conceived cognitive expectations, as demonstrated by the quasi-universal narrative model of the Monomyth, also known as the Hero's Journey.

Chapter three deals with the role that language has in creating worlds and characters that are simultaneously estranging yet familiar. Still using a schematic framework, I explore in this chapter the specificities of the way language is used in genres of Imaginary Fiction as a signifier of estrangement, for instance in the creation of character names or neologisms. Later, using the Sapir-Whorf hypothesis and Conceptual Metaphor Theory (CMT) as special cases of schema, I investigate the ways in which alienness and non-human languages are represented in genres of IF, whether as constructed languages (such as *Game of Thrones*' High Valeryian or *Avatar*'s Na'vi), or through another approach: Language As Sound Design (which is in large part the strategy used throughout the Star Wars Franchise).

In chapter four, I bring together the aforementioned elements to demonstrate that dubbing is a practice that is prone to eliciting uncanny sensations in viewers (Bosseaux, 2015), as well as rupturing their suspension of disbelief. In addition to the conceptual elements that promote a less immersive experience for viewers of dubbed audio-video programmess, I also argue in this chapter that the constraints of synchronisation imposed by dubbing put pressure on translators to work not towards the closest meaning, but towards the closest combination of phonemes (units of sound) and visemes (mouth shapes). An example of this is the translation in the French dub of Star Wars Episode I – *The Phantom Menace* of the word "failure" into "faillite" (bankruptcy) rather than the actual meaning of "échec". This example illustrates the priority given to synchronisation rather than to meaning. In this chapter, I will also make the argument that non-human characters, due to their physical appearance, acoustic qualities, or a combination of these elements, are less susceptible to losing their identity and eliciting uncanny sensations in audiences of their dubbed versions.

The fifth and final chapter of this thesis consists mainly of an introduction to the emerging field of Reception Studies in the field of translation and dubbing, followed by case studies centred around representative interactions involving a variety of characters. I mainly analyse the interactions between Master Yoda – a diminutive,

green-skinned and long-eared alien expressing himself in a very peculiar manner – and other characters across films spanning over forty years, as well as a selection of scenes from *Return of the Jedi*. I have selected these scenes because they involve numerous characters engaging in multilingual conversation, some of these conversations being mediated by an interpreter.

These cases have been selected because of the variety of situations that they represent, a variety only possible in films of science-fiction and fantasy genres, and also because they cover the entire time span of the Star Wars franchise. The *ROTJ* scenes are taken from a 1983 film belonging to the original trilogy, the Yoda scenes are from all three trilogies (1980, 1983, 1999, 2002, 2005, 2017, 2019) and offer a diachronic view on both the representation of Yoda in the films but also on the dubbing philosophy applied.

In the light of the previous chapters, and informed by Charlotte Bosseaux's argument that the process of dubbing is liable to create an uncanny feeling in viewers, these case studies aim to explore the relationships between types of character and the shift in audience perception and uncanny sensation. By analysing characters that are not only humans, but also aliens of different types and speaking different languages, this chapter builds on Bosseaux's study, widens its scope, and offers new insights on the discipline of dubbing and its future.

– First Threshold –

Departure

"*Familiar can turn unfamiliar on a dime.*"
President Francis J. Underwood[11]

Imagine being in the passenger seat of a modern car, a sunny Sunday afternoon, on a beautiful, empty country road. You are comfortable, warm, safe. The asphalt is smooth, the tires are new and grippy. The driver is skilful, and never exceeds the speed limit. Through the windows, you can take in the many shades of green from the hedges, fields and trees, and through the windshield, you have a clear view of the swooping turns in the road, of the smooth climbs and drops of the rolling hills. Everything is fine, everything is under control, you are not even thinking about it. And then, as the car goes over a hill with a slightly steeper than expected drop, you feel, for a fraction of a second, weightless. Adrenaline shoots through your veins to tell you something unexpected has happened and that you should be aware of it. But as quickly as the sensation gripped you, it evaporates. Everything is back to normal, and you are maybe even unsure that anything strange even happened.

This analogy, although imperfect, captures the essence of the uncanny in cinema, or at least one aspect of it (the initial feeling). While watching a film, the audience is being taken on a journey. Hopefully, the production is a well-oiled piece of machinery, the seams do not show, and the director is skilled enough so that the viewer can sit back and enjoy the ride. When something unexpected occurs though, an awkward cut, a bad instance of dialogue synchronisation, or a poor special effect, the illusion is briefly broken, and in certain cases – when the broken illusion has

11 - From *House of Cards,* 2013.

to do with the audience's perception of a character's humanity – a jarring feeling, a sensation of uncanny, can befall the viewer.

The analogy of the travelling car, despite its limitations, has the advantage of simultaneously mapping a physical free-falling sensation to the cognitive phenomenon that is the uncanny sensation, as understood as an unexpected rupture of immersion and to work as a representation of the uncanny valley chart proposed by Masahiro Mori: the uncanny sensation happens as a person goes over the edge of the first peak.

In this chapter, I will explore the concept of the uncanny from a historical and conceptual point of view, starting at the beginning of the twentieth century with intellectual enquiries around the idea of the *unheimlich*, and how following the publication of a landmark Japanese paper in the late 1970s, both pop culture and academia have adopted the concept and have ever since been fascinated by it. I will also push further than research in the field has done so far by linking the uncanny and the currently favoured understandings of the phenomenon to the cognitive theory of language learning known as Schema.

Leaving Home

Un-heimlich. Un-homely. Not of the home. If the origins of the German word for uncanny are unclear, its first conceptual usage is to be attributed not to Sigmund Freud, but to German psychiatrist Ernst Jentsch, who commented on the etymology of the term, stating that "with the word *unheimlich*, the German language seems to have produced a rather fortunate formation. Without a doubt, this word appears to express that "someone to whom something 'uncanny' happens is not quite 'at home' or 'at ease' in the situation concerned, that the thing is or at least seems to be foreign to him." (Jentsch, 1906: 1). In his essay *Zur Psychologie des Unheimlichen* (*On the Psychology of the Uncanny*, 1906), Jentsch is the first thinker to address the feeling of uneasiness that is often elicited by the revelation that something which appeared familiar is not quite what it seemed to be in the first place. Just like Freud a decade later, Jentsch mostly takes the works of fantasy of E.T.A. Hoffman[12] (a writer to whom questions of identity are of primary importance) – in which the author "has repeatedly made use of this psychological artifice with success" (1906: 11) – as examples to illustrate the effects of the *unheimlich*.

In his paper, Jentsch acknowledges that the sensation of *unheimlich* (for which I will from now on use the word uncanny, as per Sellars' translation of the original text) seems to be a highly subjective – and contextual – phenomenon, and therefore

12 - In particular *Der Sandmann* (*The Sandman*, 1817).

one that is difficult to observe or repeat. He also recognises that the same experience does not always result in a feeling of uncanny, even in the same person. He sees it as important, however, to "investigate how the affective excitement of the uncanny arises in psychological terms, how the psychical conditions must be constituted so that the "uncanny" sensation emerges" (3). From the beginning of the interest shown towards the phenomenon, there has been an understanding of its fleeting and difficult to pinpoint nature. This is an issue that is acknowledged and flagged as a caveat in all research on the topic, and one that must also be highlighted here.

An example of potential uncanny given by Jentsch is of a sunrise, which is to most people the most straightforward and familiar thing in the world. However, as one starts to think about what exactly a sunrise is – the immensity of space, the mind-boggling distances, sizes, and time frames that are involved in cosmological events… – a feeling of being overwhelmed can appear. Indeed, in this particular instant, a familiar, inconsequential event is suddenly presented, revealed in a new light, and new unexpected metaphysical awareness with it. Freud's and Jentsch's views are not strictly speaking the same, but they represent different facets of the same phenomenon.

To clarify, the understanding of the uncanny sensation as understood in this work is of a situation in which something that is present – but not considered – unexpectedly becomes noticeable, something that was not thought of that suddenly intrudes in our minds. In a situation of film watching, this is expressed by a sensation of an unexpected interruption from the story and the narrative.

What is particularly striking with Jentsch's take on the phenomenon – contrary to Freud's – is how close to modern interpretations and theory it is. Jentsch links the uncanny to an innate distrust of new things, which he attributes to human beings' dislike of being in a situation in which they lack "intellectual mastery of the new thing" (3). This misoneism – the dislike of novelty and of what represents change – is exacerbated when applied to or connected with which that is seen as being so familiar as to become self-evident. Jentsch here levies the notion of intellectual mastery, as opposed to instinctive knowledge, as well as the notion of a "new thing" (or Novum), which resonates with the definition of the genre of science-fiction such as what is discussed in this thesis.

Jentsch also identifies a potential link to uncertainty as the best way to categorise an event, and how mis-categorisation of a stimulus can lead to a sensation of disorientation. This blurring of categories can lead people to feel uncomfortable when presented with an illusion even if they know they are being fooled. Jentsch presents us with examples, susch a masked ball, in which it is impossible to read others by their facial expressions, for instance. It is striking to see how early

understandings of the phenomenon already map neatly onto cinema, an art form that consists of little more than shadows dancing on the screen for a willingly fooled audience to enjoy. The mention of masks is also strongly reminiscent of the genre of science-fiction, in particular in cinema, which makes extensive use of masks and costumes – whether physical or digital – to create in viewers a sensation of otherness (Vader, *The Mandalorian*…). Of course, the practice of dubbing itself, at the core of this work, can be conceived as a mask (or a prosthetic) used to cover, or alter, the original identity of the character on screen.

Freud (drawing his example from Hoffman) also predicts in his work the conclusions reached more than sixty years later by Masahiro Mori. Indeed, Freud takes the example of an automaton as a potential source of uncanny. Automata are frequently taken as examples when talking about the uncanny, because they can easily elicit uncertainty as to whether a "living being really is animate and, conversely, doubt as to whether a lifeless object may not in fact be animate". The effect is amplified when the feeling of doubt "makes itself felt obscurely in one's consciousness" (8). In other words, when the sensation is so unexpected and fleeting that the victim is not even able to clearly (*felt obscurely*) identify or explain the reasons for their sudden uneasiness. Echoing Mori's future description of the uncanny valley,[13] Jentsch even states that "the finer the mechanism and the truer to nature the formal reproduction, the more strongly the special effect […] makes its appearance" (10). Once again the choice of words is striking, with the notion of the 'finer the mechanism' echoing the uncanny valley notion that proximity to verisimilitude increases the likelihood of uncanniness ; and the description of the uncanny phenomenon as a "special effect", as the concept will, almost a century after being conceptualised, be mainly applied to visual and special effects in the context of science-fiction cinema.

Jentsch concludes his essay by reaffirming his belief that it is a conflict between potential cognitive categories that is likely to be the source of the uncanny, saying that "the human desire for intellectual mastery of one's environment is a strong one", and that "intellectual certainty provides psychical shelter in the struggle for existence" (16). These ideas are remarkably consistent with modern interpretations of the uncanny, which mostly revolve around the concepts of category uncertainty (or ambiguity) and perceptual mismatch: respectively the confusion as to the real nature of a thing and incongruences between various aspects of said thing, and cognitive expressions of a schematic understanding of human/information interaction, as expressed later in the twentieth century.

---

13 - This thesis uses an uncapitalised spelling of "uncanny valley", as per the 2012 translation of the original article. Any other spelling in a quote is the one used by the author.

Jentsch, however, is not really interested in defining "the essence of the uncanny" (1), which he sees as having "little value" (1). He seems more focused on exploring the mechanisms that can elicit the sensation in an audience. It is this lack of willingness to address the origins of the phenomenon that piqued Freud's interest and pushed him to explore and develop the topic.

If Jentsch was the first thinker to theorise the uncanny, which "was not considered as an aesthetic category […] before the turn of the century"[14] (Masschelein, 2012: 3), it is Sigmund Freud who is widely considered as being the "founder of the discourse" (4) on the subject in Western culture. Freud addresses the topic in his 1919 essay *Das Unheimliche* (*The Uncanny*), in which he confesses that considerations of aesthetics are not typical interests of psycho-analysis, but that he finds the topic of the uncanny to be particularly interesting.

Before delving into his own analysis, Freud takes the time to explore how various languages navigate the concept. This is the most interesting of Freud's contributions to the study of the uncanny, a term that indeed seems to be the signifier of a very elusive meaning. It is also this elusiveness, arguably, that makes it such a versatile and resilient concept. The difficulty to agree on a common terminology does make it difficult to obtain consistent results, or even to ensure that various studies and experiments measure (or attempt to measure) the same phenomenon. This is a difficulty that still persists to this day, and of which the present work is very aware. An overview of the translations of the word *unheimlich* in different languages allows for a better understanding of its various and intertwined meanings. In Greek, for instance, the word translates as alien, or xénos, words that elicit negative imageries – at least to the modern reader – of xenophobia and alien (as in undocumented foreign) workers. It also connects the uncanny to science-fiction universes and the aliens that populate them. The English translations put forward by Freud include words like uncomfortable, uneasy, dismal, and repulsive, which are very often utilised when discussing the uncanny. A cursory glance at the French translations for *unheimlich* yields similar results, with words like inquiétant (worrying), sinistre (sinister, grim, eerie), and lugubre (dismal, dreary, bleak and, sharing the same etymology, lugubrious). The semantic versatility of the original German word, *unheimlich*, has awarded it a place in the *Vocabulaire Européen des Philosophies* where it is defined as "l'angoisse que renvoie l'antonyme substantivé de Heimlich", in French: "l'inquiétante étrangeté" (Cassin, 2004: 548).

Despite Freud's insistence that the uncanny has to do with "what arouses fear" (123), the lexical field associated with the word revolves as much around a feeling

14 - Here, the twentieth century.

of uneasiness and eeriness than the actual fear. It is because the feeling of uncanny is a much subtler sensation than fear, and it is this subtlety that makes it so hard to pinpoint exactly. Moreover, according to the 1877 Grimm's dictionary, the boundary between the words *heimlich* and *unheimlich* was becoming very blurry at the end of the nineteenth century. The same entry defines *heimlich* both as "not strange", "familiar", and "tame", but also as "concealed", "kept hidden/secret", "ghostly", "eerie", "uneasy", and even "unheimlich". However, this ambivalence and apparent contradictory undertone to the term actually makes a lot of sense when considering the fact that the phenomenon applies to constantly renegotiated spaces that exist on the edge of what is familiar and unfamiliar to us. Freud offers an explanation to this apparent contradiction, and after citing different types of situations susceptible to creating uncanniness, he states that "an uncanny effect often arises when the boundary between fantasy and reality is blurred, when we are faced with the reality of something that we have until now considered imaginary" (150). Freud strongly implies in his essay that the uncanny effect can go only one way, and from the "considered imaginary" to the "real" and not the other way around. This goes against modern interpretations of the uncanny, and in particular of the notion of the uncanny valley. Modern epistemologies of the uncanny indeed take a diametrically opposite stance to the phenomenon, and see it as an obstacle to immersion, as the breakdown of an illusion whose purpose was to make the audience believe that something not real is actually real. Although not a researched phenomenon, a sort of inverted uncanny valley seems to be at play in some audio-visual texts such as video games, in which, quasi-realistic human characters can suddenly appear perfectly realistic for a few frames and therefore elicit an identical sensation of uncanniness, but moving from the unfamiliar side of the valley to the familiar one rather than the other way around.[15]

In the third section of his article Freud briefly addresses the question of genre, and in particular the fantastic and the fairy-tale, in which he argues the uncanny is less likely to appear because the rules of the story are so lax. He goes so far as to state that "in the world of the fairy-tale, feelings of fear, and therefore of the uncanny, are totally ruled out" (158). This assumption, offered without much supporting

15 - The phenomenon appears mostly in video games featuring human characters, such as sport games. The players in the games are rendered with a high degree of fidelity, but not high enough, especially in the context of an interactive game, to be confused with real footage. However, in some instances, such as replays, in particular when the player is not in control of what is happening on screen, the quality of the rendering can be such that under certain lighting circumstances the digital avatars can look uncannily close to their real-life counterparts.

evidence, will later be challenged by Tzvetan Todorov (in *Introduction à la Littérature Fantastique*, 1970) and his conceptualisation of the fantastic uncanny and fantastic marvellous. The notion of permeability between genres of Imaginary Fiction texts is the subject of an ongoing conversation, and the relations, collisions, and overlaps between fantasy, fantastic, and other sub-genres of the imaginary are, just like the cracks in which the uncanny hides, constantly renegotiated spaces.

After Freud, the concept of *unheimlich* would, except for some role played in the Existentialist movement, lose most of its currency, and enter a "fairly long period of conceptual latency or preconceptualisation until the mid-1960s" (Masschelein 2011: 4) and early 1970s with Todorov's contributions. Anneleen Masschelein, a leading scholar on the topic of the *unheimlich*, also tells us that during this fifty to fifty-five year interlude, interest in the uncanny was "limited to isolated and dispersed interventions, whose influence on the later conceptualization can be gauged only indirectly" (4). It is in Japan then, that the concept re-emerged in the modern form that is presently discussed, in a short paper published in the journal *Enerugi*, that triggered "the actual conceptualization phase of the uncanny[.]" (4).

The Valley as a Threshold

The current modern understanding of the uncanny, the term uncanny valley, and most academic research and pop culture interest on the topic, stem from Masahiro Mori's 1970 article *Bukimi no tani* (*The Uncanny Valley*). Mori is a roboticist, and in his contribution to the *Energy Journal* (*Enerugi*), he states that he has "noticed that, as robots appear more humanlike, our sense of familiarity increases until we come to a valley" (Mori 1970:1) into which our empathy tumbles. He calls this relation the uncanny valley. This comment mirrors Jentsch's intuition mentioned earlier that the finer the line, the stronger the effect.

Before delving deeper into Mori's article, it is important to understand the nature of his claim. At no point in his article (or ever since) does Mori put forward any quantifiable scientific basis for his claim. He is perfectly content to admit that his concept of the uncanny valley comes purely from his own experience as a roboticist and a designer, and that he considers his idea to be "more of a piece of advice from [him] to people who design robots rather than a scientific statement" (Mori, 2012). It would only be much later that studies would be undertaken to try and verify the accuracy of Mori's claims. As it stands, and as it has stood since 1970, the phenomenon of the uncanny valley seems to hold somehow true, regardless of scientific proof (it is comparable to Moore's law,[16] in the sense that is simply seems to accurately describe real-

16 - A prediction made by Gordon Moore in 1965 that the number of transistors on a computer chip

ity, at least for some time, regardless of the lack of theoretical background to support it). Of course, Mori's take on the topic confirms that the concept of the uncanny is a volatile one, which makes it difficult to study with precision. Additionally, as made clear by Sigmund Freud in his remarks concerning the transition from German to English (and other languages), language and translation issues plague the study of the phenomenon, and the addition of Japanese to the conversation complicates things even further (bukimi can be translated as weird, ominous, eerie, which are synonyms of, or at least share some semantic similarities to the term uncanny). Indeed, although the term "uncanny valley" is the generally accepted term for the phenomenon, ambiguity remains about the original meaning of Mori's idea, and some, like Bartneck et al. (2009: 270) have argued that part of it might have been lost in translation. It is crucial to keep these limitations in mind as we discuss the uncanny valley, in order to make proportionate claims concerning its effects and influence.

In his article, Mori proposed a chart (reproduced page 34) as a visual representation of his theory.

In this chart, the horizontal axis represents human likeness, with at its extreme left an industrial robot and at its extreme right a healthy human being. At the top of the first peak (the design target suggested by Mori) are avatars sharing characteristics with human beings while not being so similar as to potentially be mistaken for one (in Star Wars, characters like Jar Jar Binks or Yoda). Right after this first peak however, the sensation of uncanny threatens to appear and to send the avatar tumbling down a steep cliff leading into the uncanny valley, where Mori places creatures such as animated corpses, otherwise known as zombies (In Star Wars, the digital recreations of Peter Cushing and Carrie Fisher).

The vertical axis, for linguistic reasons, is a little more controversial and difficult to label. The term used by Mori to qualify this axis is shinwakan, which is commonly translated as familiarity. This is, however, an imperfect translation. The word shinwakan (親和感) is a compound word built from the root shinwa (親和, which is itself built from the kanji for intimacy/relationship (親) and harmony (和), and can be translated as friendship, or fellowship) and the suffix kan (感, feeling, sensation, impression). According to MacDorman, who translated Mori's paper in 2005[17] (a rushed job, from his own admission) before revising his translation in 2012, the word familiarity was chosen because it has an antonym (unfamiliarity) that fits the

would double every year. It was later revised to every eighteen months, and it seems that the validity of the prediction is now coming to an end (after fifty years).

17 - The term uncanny valley, however, was first translated and mention in the 1978 book *Robots: Facts, Fiction, and Predictions*, by Jasia Reichardt.

translation for bukimi (which equates to negative shinwakan). The problem with the word familiarity, however, is that it conflates the shinwakan meaning with the notion of something that is familiar in the sense of a well-known, everyday and possibly anthropomorphic occurrence. The word familiarity, then, might be confusing, in particular when experimenting with English-speaking subjects. It has been suggested by Bartneck et al. (2009) that the word likeability might be closer to what Mori originally meant. Indeed, Bartneck and his team claim that their translation of Shinwa-kan[18] is "different from the more popular translation of familiarity" and that it "is closer to Mori's original intention" (275). The team also recognises that using different translations across studies could lead to some inconsistencies in the results, but that "the correlation of likeability to familiarity is high enough to allow for comparison with other studies" (275). They also suggest that the original term, shinwakan, could be used in lieu of either translation, but that implementing this solution would not solve the issue of having to explain the meaning of the word to the participants in the experiments. After consulting with Japanese speakers, my conclusion is that no single one-to-one translation of shinwakan can be perfectly satisfactory. It has been suggested, however, that the notions of connectedness and kinship are deeply embedded in the term, and are to be kept in mind when using the uncanny valley theory as a critical tool. The suggestion that the word familiarity is not a perfect equivalent to shinwakan has, however, emboldened researchers to expand the scope of their work to include terms such as affinity, attractiveness, humanness and warmth to their work, suggesting that these terms could be "more reliable indicators […] to capture the essence of the uncanny in experiments" (Chin-Chang and MacDorman, 2010: 1517). The term empathy also maps elegantly onto the notion of shinwakan, and I would like to emphasise that even if familiarity will be used throughout this thesis to describe the vertical axis of Mori's diagram, the notion of empathy cannot be dissociated from it, and plays a crucial role in the phenomenon of the uncanny valley as we understand it. Familiarity is the term that is used in this thesis when attempting to measure instances of uncanniness.

Mori's chart bears striking similarities – albeit in visual form – to Jentsch's and Freud's description of the site in which the uncanny materialises. Indeed, the sharp decline of the curve thematically matches the notion of edges, frontiers, or borders between what is familiar and what is not, and of the uncertainty that can occur in such locales. The accuracy of Mori's chart – a representation of his personal intuition – is debatable, but if taken as a metaphor, or a general guideline to the concept he tries to impart to us, it remains a very efficient tool in terms of visually representing the parameters of the phenomenon.

The main example taken by Mori to illustrate his point is one of an artificial hand.

18 - As spelled in the article.

Prosthetic hands, in the 1970s, had made great progress in realism with, according to Mori, levels of verisimilitude almost on par with that of fake teeth.[19] In the case of a perfectly realistic looking prosthetic hand, it is impossible to differentiate it from a real one by just looking at it. However, "if we shake the hand, we are surprised by the lack of soft tissue and [by the] cold temperature" (Mori, 1970: 2). To Mori, "this kind of prosthetic is too real and when we notice it is prosthetic, we have a sense of strangeness" (2). He therefore places the prosthetic hand at the bottom of his uncanny valley. In other words, the high level of visual verisimilitude is the reason for the uncanny sensation because the expectations set by the visual appearance of the hand and the sensation to the touch do not match.

The chart devised by Mori comprises of not one, but two curves, and the reason for this is that Mori's theory accounts for a difference between objects that are static and objects that are in motion. Movement, Mori tells us, is generally a sign of life, and he argues that motion can potentially exaggerate the uncanny effect. He expresses this idea in his graph by drawing a second curve similar to the first one, but of greater amplitude. This observation also stands true with audiovisual texts,

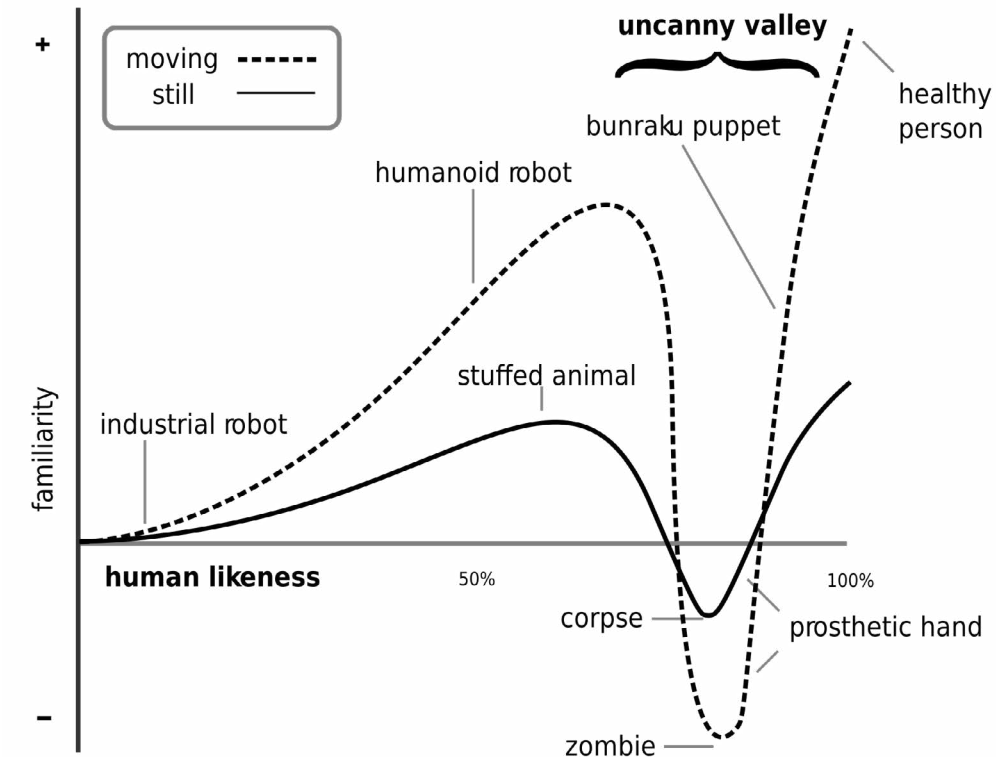

Figure 1 - The uncanny valley chart

19 - Teeth are less susceptible to eliciting uncanniness because we only have a visual connection to them, therefore no conflicting stimuli can give rise to the uncanny. Teeth, however, are a major issue in film visual effects and in video games, which supports the idea of the uncanny as a multi-dimensional phenomenon.

where one still frame can pass as believable, but once in motion, believability breaks down.[20]

The logic behind Mori's thinking is that human beings are so attuned to the slightest movements and micro facial expressions in other living things that any discrepancy is immediately off-putting to them. This is also the reason why wax statues can appear creepy, because of their perfect, unhuman stillness. Mori uses the example of an industrial robot – like a simple articulated arm – which he places at the very bottom left of his graph. This robot is seen by people as nothing but a machine, no empathy, no shinwakan or familiarity is felt towards it, and there is therefore no sense of anything being out of place if the motion of the arm is jerky, or even if it stops moving altogether.

In the case of a realistic looking prosthetic hand, however, with which we have a high level of familiarity, nothing but perfection in the way it moves is acceptable. This argument falls in line with one of Freud's when he links epileptic fits with the potential triggering of an uncanny sensation "because they arouse in the onlooker vague notions of automatic – mechanical – processes that may lie hidden behind the familiar image of a living person" (Freud, 1919: 135). In other words, not only the appearance, but also the motion, play a role in the triggering of the uncanny.

Mori then suggests that if the effects of the uncanny valley can be felt by looking at a single artificial limb, then they must be amplified when observed in an entire humanoid robot. To illustrate his point, Mori asks his readers to "imagine going to work to a place where there are many mannequins", and says that "if the mannequins started to move, you might be shocked" (Mori, 1970: 3), because this is simply not something they do. What he tells us in this here case is that when our expectations are not matched, or when they are challenged, we can be gripped by a sensation of uneasiness, or, in other words, of uncanny. This fits squarely with the notion that it is the realisation that something we took for granted - or that we accepted as being what it appeared to be – is actually something else, that triggers the uncanny sensation.

Mori concludes his argument by saying that an accurate and appropriate speed of motion is essential to avoid the sensation of uncanny. In his experience, "if we cut the speed [of a realistic robot's facial expressions] in half, laughing becomes unnatural" (3), which he says "illustrates how slight variations in movement can cause a robot, puppet, or a prosthetic hand to tumble down into the uncanny valley" (3).

---

20 - It is no coincidence that media that rely on the fidelity of their visuals as a commercial selling point, such as video games, often release very impressive still images long before any animated footage is made available.

When I will discuss dubbing, the speed of pronunciation compared to mouth movement will be pointed out as a source of uncanniness.

Overcoming the uncanny valley, then, is a difficult endeavour, one that can suffer no compromise. Mori, in his article, makes a strong statement in the name of his entire field when he states that "human beings themselves lie at the final goal of robotics" (2). Human beings also lie at the ultimate goal of computer-generated imagery (extensively used in some of the films of this study's corpus), a technology that shares many of the same challenges – and workarounds – with the field of robotics. One of these workarounds, which can be seen all over Star Wars' imagery, is to apply a method Mori baptised *escape by design*.

The main goal in creating artificial characters, whether robots (as per Mori's preoccupations), or alien creatures (puppets or computer-generated characters) is, according to Mori, to avoid the uncanny valley at all costs. Optimal results, according to the uncanny valley chart, lie at the top of the second peak, where Mori places healthy humans. This position, however, is incredibly difficult to reach because, as demonstrated, nothing short of perfection will be tolerated by other humans when it comes to human likeness. To summarise, the second peak stands higher, but reaching it bears great risks of falling into the valley. This is why Mori, quite logically, "recommend[s] designers take the first peak as the goal in building robots rather than the second" (3). He comes back to his example of a prosthetic hand and suggests that rather than aiming at a perfect level of realism, or verisimilitude, a more artistic approach can be extremely beneficial. He also offers as a potential design cue for an artificial hand that would use wood as a material. In such a configuration, he says, even if "the hand has no fingerprints, and it assumes the color of wood […] we feel it is beautiful and there is no sense of uncanny" (4).[21] What the wooden hand design does, as opposed to the realistic looking one, is set expectations of a feeling of touch that is consistent with the appearance of the prosthetic. The hand looks like wood and feels like wood to the touch, expectations are matched, and no uncanny feeling appears.

It is on this piece of advice that Mori concludes his article, but despite pointing out that "the uncanny valley relates to many disciplines, including philosophy, psychology and design" (Mori, 2012), it is not before the dawn of the present century, with the technological advances that it brought, that the phenomenon became of interest to both the general public and academia.

* * *

21 - This is the approach taken by many modern prosthetic limb manufacturers, thanks mostly to the rising availability of 3D printers.

A Larger World

In her 2014 book *The Uncanny Valley in Games and Animation* – the most up to date and exhaustive repository of information on the topic to date – Angela Tinwell explains that "research on […] the uncanny valley had laid dormant since Masahiro Mori's seminal theory in 1970, but [that] the increase of human-like characters in animation and games has sparked a renewed curiosity in the phenomenon" (25, drawing from Green et al., 2008; Pollick, 2010; Steckenfinger and Ghazanfar, 2009). Even though the phenomenon was mentioned in English as early as 1978 by Jasia Reichardt, there was, by Mori's own admission, virtually no response from anyone – in the field of robotics of any other – before the 2005 Humanoids' conference.[22] Most academic work on the topic has indeed been conducted after 2005, although the beginning of the trend in general interest can be traced further back, to the beginning of the twenty-first century, when the first "photorealistic" characters were introduced on screen.

The term photorealistic, in the world of computer-generated images and video games, refers to a style of rendering 3D[23] images that aim at reproducing reality. Photorealism, then, is different from stylised methods of rendering, such as cell shading, which aims at rendering three-dimensional elements as if they were drawn on a piece of celluloid (hence the name cell shading). It is important not to confuse in this instance the design style (which can be realistic or stylised) with the rendering method (which can also aim at reproducing the ways the real world works, or on the contrary aim at giving a more fantasy, or cartoonish, interpretation of it). To illustrate, a modern Pixar film such as *Coco* presents a stylised design, but uses highly realistic rendering methods (Ray-tracing, sub-surface scattering, radiosity, global illumination… as listed on Pixar's website[24]).

Tinwell shows that media accounts of the uncanny valley seem to have first appeared with the release of the film *Final Fantasy: The Spirits Within*. The film, which ended up being a financial disaster (the cost spiralled out of control and totalled around 137 million dollars for a domestic box office revenue of 85), aimed to portray believable digital human characters on screen for the first time. The director, Hironobu Sakaguchi, declared in an interview at the time that he felt his team had "created characters that no longer [felt] blatantly computer-generated", and that it was "something people [had] never seen before" (Taylor, 2000). Things did not go down as well as the filmmakers had hoped though, with audience finding it difficult

22 - IEEE Robotics and Automation Society International Conference on Humanoid Robots.

23 - Images rendered in a 3D space, not stereoscopic 3D.

24 - https://www.pixar.com/renderman.

to identify with characters they considered creepy and strange. In 2007, Peter Plantec, an artist and designer specialised in the topic of the uncanny valley, attributed the reasons why Dr Aki Ross – the main character of the film – appeared rude and unapproachable to "a stoic, awkward demeanour, […] caused by anomalies in her facial expression and speech" (Tinwell, 2014: 12), going as far as calling her "a cartoon masquerading as a human" (Plantec).

Here again, the clash between the categories of human and cartoon are the cause of the rupture of believability. Now, more than fifteen years later, *The Spirits Within* is still widely regarded as a typical example of a film attempting but ultimately being unable to escape from the uncanny valley.[25] Another frequently cited example of an uncanny character is the Scorpion King, from the 2001 film *The Mummy Returns*. In this sequel to the 1999 hit *The Mummy*, Dwayne "The Rock" Johnson, who portrays the Scorpion King, finds himself transformed in a creature that is part human, part giant predatory arachnid.[26]

In this film, however, it is not the nature of the monster that shocked audience the world over, but rather the creepy plastic doll look of the computer-generated human half of the creature. The failure of this sequel to create an engaging monster contrasts with the success of the previous film in doing so. In the first *The Mummy* film (1999), some antagonists are decrepit and dried out mummies, but their appearance does not appear uncanny because their design is not an attempt at reproducing humanity: they are clearly dead creatures returned to life. The film does use a version of induced uncanny (a voluntary creation of the uncanny sensation designed to create aversion towards a character or scene) however, with its main villain Imothep (Arnold Vosloo). The living dead Imothep is played by a flesh and bone actor, a strategy that grounds the character in reality. But this character is not quite human, and it performs extraordinary and magical feats that remind us of its true nature. It is in these instances, when the character disproportionately opens its mouth for example, that a disturbing sensation appears in the viewer. But this sensation is voluntarily induced to audiences by means of exaggeration of a physical aspect of the character, as opposed to the poor recreation of reality that is the sequel's villain, the Scorpion King.

---

25 - Another Final Fantasy CGI film, *FFXV Kingsglaive* was released in 2016 alongside the video game *Final Fantasy XV*. The film features vastly improved visuals over *The Spirits Within*, but mostly, it avoids falling into the uncanny valley by embracing its science-fantasy setting rather than attempting to compete with reality.

26 - Some of the effects were re-done in 2019 with the use of deep learning technology: https://www.youtube.com/watch?v=KH1V6CHO1Jk.

Since then, numerous films and video games (the two media have in many ways gotten closer and closer over time, to the point that they today share a lot of technology, including 3D modelling and rendering engines[27]) have attempted to convince audiences that the artificial characters presented to them on the screen were real. A testament to the timeliness of the topic is that in between the beginning of the work on the current thesis and its completion, enormous progress has been made in the attempt to bridge the uncanny valley, some of them successful.

Video games, films and TV series, and even online avatars are now part of our daily lives, whereas robots – or at least humanoid robots – are not. In November 2018, Xinhua, China's staterun press agency, unveiled a photorealistic news anchor, that uses "footage of human anchors as a base layer, and then animat[es] part of the mouth and face to turn the speaker into a virtual puppet" (Vincent, 2018).[28] This kind of instance is most certainly why interest in the topic has shifted from its application to robotics to pop culture and digital technology. The main focus of the present work, however, is on the possibility of the uncanny in film.

There are two categories of films that can potentially fall victim to the effects of the uncanny valley: animated films, and live action films featuring photorealistic digital human characters. These two categories differ in the way they allow the uncanny to express itself to the audience. As a reminder, this work is not focused on the voluntary use of disturbing narrative or visual devices or elements (induced uncanny) with the explicit goal to elicit a sensation of uncanny in the viewer. This application of the uncanny is the remit of horror and is not directly relevant here. The uncanny as understood in this work is the unintended phenomenon that emerges from images and sound and that elicit an eerie (though often difficult to pinpoint) sensation in an audience.

Final Fantasy: The Spirit Within and *The Mummy Returns* neatly fall into each of the categories. In the case of *The Spirits Within*, the entirety of what is shown on screen was built digitally, and this includes not only the human and alien (or ghost) characters, but also the vehicles, buildings, landscapes, weapons, clothes, equipment, skies, lights, particles, and everything else. It is, however, only the human characters that appear uncanny.

This, by itself, tells us how much more difficult human beings are to recreate artificially, and how much more demanding humans are when it comes to the

---

27 - The newest canon addition to the Star Wars franchise – *The Mandalorian* – uses Unreal Engine, a computer game rendering engine, to display scenery in real time on LED screens that replace the traditional green screens on set.

28 - https://www.youtube.com/watch?v=Jm68C12QXV4. Keywords: Xinhua anchor A.I.

representation of their likeness, on screen or otherwise (robotics, puppetry…). In *The Mummy Returns*, the creature of the Scorpion King is not strictly speaking a dig-

Figure 2 - The Scorpion King

ital human, but its torso, face and hair belong to one. And in this case, audiences and critics did not comment on the rendering of the non-human parts of the creature, it was the human sections (and regardless of the type of shot used) that were off-putting to viewers (Corridor Crew, 2019[29]). Mixed footage films, the category to which the Star Wars films belong, face a different challenge than purely animated ones. In live action cinema, the "effect" elements of the shot have to integrate with what is filmed in camera and match them perfectly in order to be believable. "Effects"[30] are therefore juxtaposed with real elements, and can be directly compared to them by the audience, adding another level of complexity to the scene. This requires the artists responsible to dedicate an even greater amount of care in terms of integration, lighting, film grain and colour between what has been shot and what is virtually created. This type of situation is commonplace in science-fiction or fantasy films (but also in some comedies like *Bruce Almighty* and *The Mask*), and when digital characters are involved – in particular human characters – approximative execution can easily lead the way to a sensation of uncanny. A striking example of the phenomenon is the nightmare-inducing baby in the *Twilight* films (which succeeds in being equally uncanny as a digital creature and as an animatronic doll).

---

29 - https://www.youtube.com/watch?v=KH1V6CHO1Jk&t=571s.

30 - Effects can be anything from the content of a computer screen to pieces of set, landscapes or animated characters.

There is an area of filmmaking and visual effects in which digital humans have thrived for almost twenty years now: digital stunt doubles (or digitally enhanced stunt doubles, where the face of the stunt person is replaced with the face of the actor portraying the character) have been in use in action films since at least *Jurassic Park* in 1993, although with varying degrees of success.[31] In the case of digital stunt doubles, since the shots tend to be wider (and shorter), it is very often the motion rather than the facial expressions that is problematic.

Some instances of the utilisation of digital stunt doubles go unnoticed, in particular with the more outrageous scenes, where an audience's suspension of disbelief is high (Anakin Skywalker freefalling among Coruscant's skyscrapers in *AOTC*), and it is often in less exotic sequences, when we are supposed to believe that what we see is an accurate depiction of reality, that the illusion breaks down. Some fight sequences in 2002's *Blade II*, or 2003's *The Matrix Revolution*, with their rubber like digital stunt doubles, or even Legolas' gravity-defying abilities in the Lord of the Rings trilogy offer a perfect illustration of the phenomenon. The particular discipline of acrobatics presents its own flavour of uncanny, because we are used to witnessing real-world outrageous feats of acrobatics (in gymnastics for instance), so even as we are used to apparently physic bending manoeuvres in the real world, we are extremely sensitive to the lack of realism in film stunts.

Another use of digital technology that is quite fashionable and likely to induce uncanniness is the rejuvenation of actors. The first utilisation of the technique is found in 2006's *X-Men: The Last Stand*. In a flashback sequence, young versions of Charles Xavier (Professor X) and Max Eisenhardt (Magneto), respectively played by Sirs Patrick Stewart and Ian McKellen, visit a pupil they wish to recruit. The effect is uncanny, not only because the audience knows that the actors are not young men, but also because the execution is not up to the draconian standards required to escape the valley. The effects in this sequence have been called the worst the series have ever seen, with characters looking like "they've been wrapped in cling film and developed a bad case of dead eye".[32] The same technique has since been used quite extensively in Hollywood, with varying levels of success. Arnold Schwarzenegger received the treatment with some degree of success in both *Terminator Salvation* and *Terminator Genisys*, but *Tron Legacy*'s Jeff Bridges, and *Captain America: Civil*

---

31 - There is an amusing moment in the making of *AOTC* where the visual effects supervisors are unsure if they are dealing with a real or a digital stuntman during a shot review (From Puppets to Pixels, min. 32).

32 - https://whatculture.com/film/9-almost-great-movie-moments-ruined-by-shoddy-cgi, accessed on July 9th 2020.

War's Robert Downey Jr. were not so lucky. In the words of Journalist Jenna Bush, Downey Jr., in *Civil War*, looks "uncanny" and "almost eerie" (2016). Even the more successful attempts, like the young Kurt Russell featuring in the opening sequence of 2017's *Guardians of the Galaxy Vol. 2*, despite being technically faultless, cannot make the audience forget that the very famous actor playing the role is much older (as seen in the rest of the film), and thus while strictly speaking not in the valley, the uncanny sensation still persists. The famousness of the actor thus also plays a role into how much audiences are willing, or able, to buy into the trick. The character of Rachel, in *Blade Runner 2049*, is brought back to life using similar techniques of digital rejuvenation, but the lower public profile of Sean Young, the actress who portrayed the character in the original film and served as a model for the digital replacement, means that the final result is much more believable. Certainly, most audience members not familiar with the original *Blade Runner* would have missed the subterfuge alltogether. It also helped that *Blade Runner 2049*'s director Denis Villeneuve clearly told his visual effects team that other similar recreations of young versions of actors were not to his liking (Rougeau, 2017).

Other films have also portrayed young versions of some of their characters using lookalikes and makeup only, with much a greater degree of success (although often in non-speaking parts). Such examples include David Duffield standing in as a young Bruce Willis in *Unbreakable* (in a flashback), and Wayne Pygram playing a

Figure 3 - The uncanny baby in *Twilight*

younger Wilhuff Tarkin (portrayed by Peter Cushing in the Original Star Wars, *A New Hope*, in 1977) at the end of Star Wars: *Revenge of the Sith*. These two examples, even if the likeness of the character is not absolutely identical to the originals, did not create any reports of unease from the audience. This acceptance from the audience can be attributed to the fact that in both cases, the scenes in which the young versions of the characters appear are situated around twenty years away from the

main story line, enough time for the characters to undergo significant changes in their appearance. However, research on this audience acceptance of cast changes for a character would prove useful to understanding the phenomenon in more detail.

Digital technology has also been used in the past couple of decades to make up for tragic occurrences, for instance the passing of actors either on set or during the production of a film. Such a process, which involves a variety of techniques (from the use of body doubles, unused footage from other scenes or films, visual and audio manipulations or simply creative editing…) was first used in 1994's *The Crow*, when Brandon Lee, the star of the film, was killed by a prop accident just days before the end of production. Other notorious examples include some of Oliver Reed's scenes in *Gladiator*, and most recently *Furious 7*, during which production Paul Walker died.

The most extreme version of the digital resurrection capabilities of major visual effects companies can be seen at work in *Rogue One: A Star Wars Story*, and has once again been used to recreate the character of Tarkin. There is one major difference between the two appearances of Tarkin in *Revenge of the Sith* (*ROTS*) and *Rogue One* (*RO*), and it is the fact that *ROTS* is set nineteen years before the original Star Wars, while *Rogue One* in set mere hours before *A New Hope* (*ANH*). The result of this timeline difference is that the Tarkin portrayed in *RO* is supposed to be identical to the one in *A New Hope*, while the Tarkin that appears in *ROTS* is much younger. Another difference is that the character of Tarkin only makes a brief appearance in *Revenge of the Sith* and does not have any line of dialogue, while he has a speaking part in *Rogue One*, and appears in several scenes. A key piece of information to understanding the importance of 2016's Tarkin is that Peter Cushing – the actor who originally played the character and who, in the eyes of many fans perfectly embodies the Imperial Commander – passed away in 1994. Tarkin's resurrection then, in *Rogue One*, raises many ethical and technological questions (Sargeant, 2017). Despite the high quality of the work produced by the visual effects artists at Industrial Light & Magic, neither 2017's Peter Cushing nor Carrie Fisher (whose young avatar also appears, although much more briefly, in the film) do completely make it out of the uncanny valley[33] (Firth-Godbehere, 2016 ; Althoff, 2016).

The second category of films prone to falling into the uncanny valley is, as stated earlier, animation. More specifically, 3D animation (animation created in three dimensions in a computer, not stereoscopic 3D) featuring realistic looking human characters. We have already mentioned *Final Fantasy: The Spirits Within* earlier, but

33 - As a point of reference, December 2016 was the highest ever peak in the search of the term uncanny valley, according to Google trends.

many other attempts have been made since 2001, the public and critical reception of which has been quite homogenous.

In the first decade of the twenty-first century, one director – Robert Zemeckis – championed the style of photorealistic looking animation. Zemeckis is known for pushing visual boundaries in his films, as he has proven with *Death Becomes Her* (extensive digital makeup on actors), *Forrest Gump* (digital manipulation of footage to insert the film's main character in historical events), but also *What Lies Beneath* and *Cast Away* (in which he used digital technology to create camera moves impossible to achieve physically). Zemeckis also made a name for himself in the domain of animation with *Who Framed Roger Rabbit* in 1988, a film that extensively featured the use of mixed footage (traditional 2D animation mixed with live-action plates). But even though *Death Becomes Her* surely flirts with the uncanny valley, the fact that the characters undergoing digital manipulations are dead bodies, and that said manipulations are quite outrageous, endow quite an amusing tone to the film (it works because it is over the top). But with *The Polar Express* (2004), *Beowulf* (2007), and *A Christmas Carol* (2009), Zemeckis' art direction took a decidedly uncanny turn. The particularity of these films is that they use the likeness of real actors, not just their voice as was the case in *The Spirits Within*. In the case of *Polar Express*, critics voiced their incomprehension towards the goal of the filming style, for if the likeliness of the actors was going to be used, filming the real person would surely be the best solution. In a review of the film entitled *A Virtual Train Wreck* (2004), Ward Jenkins describes the characters as "bizarre and unconvincing" and asks "why, with all the millions pumped into the production of this technological 'masterpiece', do all the children still look so creepy?". On the topic, Angela Tinwell echoes Hoggins and goes so far as to calling the film "the harbinger of the uncanny valley in children's animation" (12, building on Beck et al., 2012; Jenkins, 2004; Pollick, 2010). Despite mixed reviews and numerous mentions of the film's characters being creepy and uninviting, the film did rather well financially (the novelty of the technology without a doubt played a big part in this success), and Robert Zemeckis went on to direct two more animated films using performance capture technology. In 2007, *Beowulf* was released and despite using even more advanced capture technology, was met with similar criticism to which *The Polar Express* had been subjected to. As had been the case with its predecessor, the lack of subtlety in performance (despite, or perhaps because of, the presence in the cast of seasoned actors Angelina Jolie and Anthony Hopkins) meant that "the audience was left to fill the blanks for […] missing nonverbal information" (Tinwell, 2014: 13). In the end, "the film failed to suspend disbelief for the audience, and the characters were perceived as odd and lifeless" (13). Two years later, *A Christmas Carol* (featuring a digital Jim Carrey)

received a similar treatment, with online criticism stating that in this case, "the uncanny valley is ever present, with characters who are too exaggerated to seem like real humans, and too realistic to have the outsized plausibility of […] cartoon character[s]" (Bloom, 2014). In the end, the film was a commercial disappointment (Barnes, 2011), and even led to the demise of the company ImageMovers Digital, which was run by Zemeckis. It has been reported by the *New York Times* and other outlets that the decision to shut down the animation studio was taken by Disney executive Rich Ross during the production of the film *Mars Needs Moms* (2011) partly because he thought the market was getting saturated with animation-heavy family-oriented films, and partly because the early footage he saw was, to put it mildly, unconvincing. The fiasco of *Mars Needs Moms*, added to the mixed reception of Zemeckis' previous films meant that Disney would, from 2011, not be in the "corpse-animating business anymore" (Palvus, 2011). Somehow ironically, Disney would just a few years later be at the forefront of uncanny valley bridging technological development with the films of the Marvel Franchise.

Since the early 2010s then, cinema (or at least Hollywood, but also largely Asian cinema) has been wary of a technology that seems doomed to produce uncanny results, despite the massive increase in computing power and the advances in software available to the visual effects companies (production companies like Pixar, by willingly aiming for more cartoonish art styles, have not run into the same kind of issues). In truth, improvements available to visual effects creators have for some time been the victim of the law of diminishing returns and, if we accept the fact that the closer we get to perfection when it comes to creating believable avatars, the more difficult it is to improve the results, the lack of apparent progress in this field makes a lot of sense. A field that has seen incredible progress in computing power and software efficiency in the last ten years, however, is video games. It is therefore no accident that most of the academic research interested in the phenomenon of the uncanny valley has focused on this medium.

From Valley to Landscape

Anecdotal feedback from the press and the gaming and design communities tells us that the uncanny valley is indeed real, but researchers in the field (Bartneck et al., 2009; Brenton et al., 2005; MacDorman and Ishiguro, 2006;Pollick, 2010) suggest that the concept still requires empirical validation.

More recent interpretations and studies, such as Kätsyri et al. (2015), suggest that there might be not just one, but several uncanny valleys. This is a sentiment that is shared by others, including Tinwell, who supports the idea that the uncanny valley is a more complex phenomenon than originally suggested by Mori, and that

there may be "multiple valleys with a plethora of factors contributing to the valley dips" (Tinwell, 2015: 31, building on Hanson, 2006; MacDorman, 2006; Bartneck et al., 2009; Tinwell and Grimshaw, 2009; and Pollick, 2010). This is an interpretation that deserves to be expanded and explored further. This is why I would like to put forward the idea that the uncanny phenomenon does not so much live in a series of valleys as much as along the topography of an uncanny landscape.

The original iteration of the uncanny valley idea contains the notion that all instances of uncanniness are not identical. Furthermore, the variety of fields to which the uncanny valley theory seems to be relevant also reinforces this interpretation. And even when limited to the field of audio-visual studies, many aspects of the uncanny valley can be considered, dubbing being only one of the most recently explored of those aspects (Bosseaux, 2015). I suggest that the concept of the uncanny valley, which was never meant to be taken literally in the first place, be expanded to encompass a wider variety of independent and interconnected situations. Research on the topic points towards a multi-dimensional phenomenon, and thinking about the uncanny as a landscape composed of multiple different valleys rather than as a monolithic phenomenon allows for a better and more subtle understanding of the mechanics at play.

Over time, and even though Mori's idea stemmed from his own experience in the field of robotics, the interest in the concept of the uncanny valley has shifted towards the representation of digital human-like avatars, as frequently encountered in film and video games, already creating a split in the potential understanding of the phenomenon, a situation that supports the landscape representation of the concept. Because of the real-world implications of the uncanny valley and its impact on audiences, there exists a close relationship between the research conducted in the field and the industry.

According to the latest studies on the phenomenon, the existence and effects of the uncanny valley are "widely acknowledged both in popular media and scientific research" (Kätsyri et al., 2015: 1). In their 2015 metastudy, Jari Kätsyri and colleagues have reviewed the current state of research in the field and identified trends and weaknesses (while pointing out that the lack of a common and established methodology and naming conventions) makes it difficult to draw definitive conclusions across studies. Another difficulty that stands in the way of studying the uncanny comes from the elusive nature of the phenomenon, the fact that the same stimuli do not affect everybody the same way (Jentsch, 1906; Tinwell, 2015), that the term shinwakan does not have a completely satisfactory English equivalent, and that as the unfamiliar tends with to become familiar with repeated exposure

(for instance during an experiment),[34] the space for the uncanny to occur tends to shrink (Bosseaux, 2015). For reasons of consistency then, the following review of the current body of academic knowledge on the effects and origins of the uncanny valley focuses on the work of a small group of researchers who are at the forefront of the discipline. Tinwell, in particular, has reviewed in her book *The Uncanny Valley in Games and Animation* over a decade of research in the field, from a variety of perspectives going from the visual and audio impact of the uncanny to the potential psychological underpinnings of the phenomenon. The following section offers an overview of the current state of academic research on the uncanny valley.

Communication relies on more than just sound to happen. Facial expressions, micro-movements of the eyes, the brow, the mouth, can play as important a role as the actual words that are being uttered. In human-like digital characters, these almost imperceptible occurrences (or lack thereof) appear as valid triggers to the emergence of uncanny feelings. Human beings "rely on the effective communication of facial expressions […] as part of social interaction on a daily basis" (Tinwell, 2015: xiii). This constant exposure to other human faces, and the need to be able to accurately read others makes people experts in deciphering facial expressions. It would seem to correlate then, that recreating those expressions and behaviours in digital characters would be "a straightforward, intuitive process" (xiii). Despite that, creators and animators do struggle to achieve the goal of a virtual human-like character that can pass what could be described as an uncanniness Turing test, a Mori Test of sort.

Alan Turing was a British scientist who became famous for building a device capable of cracking the German Enigma machine during the Second World War (a breakthrough that tremendously helped the allies win the war), and he is generally considered to be the father of the field of computer science, and the inventor of the modern computer. Turing first put forward the idea of the test in a 1950 paper entitled Computing Machinery and Intelligence. Very simply put, Turing suggested that if, during a conversation that would happen via text on a screen, a human being was not able to identify that he was talking to a machine, said machine would pass the Turing test. This Turing test served as an inspiration to the Voight-Kampff test portrayed in the film Blade Runner, which is used to identify the artificial humans known as replicants. Fittingly, the Voight-Kampff test is in the film just like in the original short story[35] from which it is inspired used to measure the subject's levels of empathy, and therefore humanity. In the field of audiovisual entertainment, I suggest

34 - Similarly, people who are used to dubbing are less likely to experience the uncanny feeling.

35 - *Do Androids Dream of Electric Sheep?* (Philip K. Dick, 1968).

that if a virtual human-like character cannot be told apart from a real human being, then the avatar would pass the Mori test.

The difficulty of recreating the human face digitally is directly related to our expertise in reading emotions on our fellow homo sapiens. Faces are complex things, the physiology of which "allows for different emotions to be portrayed independently in different areas of the face at the same time" (xiii-xiv) and to morph into one another in what Tinwell calls an expression choreography. Obtaining a satisfactory result, it follows, is difficult, and our imperfect understanding of how to define and represent facial expressions needs to be improved if the uncanny valley is to be consistently overcome (xiv). The overarching goal, it is important to keep in mind, is to facilitate immersion and to increase the emotional bond between the audience and the characters in order to lead to a state of heightened engagement (Doerr, 2007; Hoggins, 2010; Ravaja et al., 2008). In short, creating artificial human-like characters is supposed to create a link between the audience of a game or a film, a bond that facilitates emotional connection. But audiences, rather than being accepting of these characters, are largely critical of them (Crigger, 2010; Doerr, 2007; Hoggins, 2010). One of the landmark moments that raised awareness of the problematic nature of the uncanny valley for the general public and the industry – and that is frequently cited as a moment of failure to match expectations – is the reveal in 2006 of the character of Mary Smith in the technological demo *The Casting*.[36]

Mary Smith was the hero character of a tech demo presented by the company Quantic Dream at the Electronic Entertainment Expo (E3) of 2006, held in Los Angeles. Quantic Dream's ambitions were clear: they wanted to revolutionise the representation of virtual human-like characters in such a way that "not only would the viewer be able to understand and relate to the character's emotion, but [that] he […], too, may be able to evoke similar emotions evoked by the character" (Tinwell, 2015: xv). At the end of the presentation, however, "the silence that fell upon the audience […] was more of shock and dismay than awe" (xv). The demo setting showed a female character being interviewed for a casting and reciting her lines for a scene, going through a variety of emotions. The result did not impress, showed unconvincing facial expression and poorly synchronised lip movements, and Mary Smith was subsequently criticised as squarely falling into the uncanny valley, and even of arguably being "the harbinger of the uncanny valley in games" (Hoggings, 2010). The demo was for an upcoming game entitled *Heavy Rain*, but even if the developers did improve their technology for the release of the game in 2010 (a whole

36 - https://www.youtube.com/watch?v=DKnvfEL0n5c – Keywords: Heavy Rain + Casting Mary Smith.

four years after *The Casting*), "awkward and strange facial expressions and a distinct lack of synchrony of lip movement with speech left some players uninspired and disengaged with the game" (Hoggins, 2010). Twelve years later, the company is still pursuing a similar goal of featuring believable digital humans in their games. They even seem to have embraced the very nature of the uncanny valley and the themes of humanity and its meaning with their most recent game *Detroit: Become Human*, whose subject matter is the treatment of artificial beings in the near future. But despite spectacular progress in the technology between the unveiling of Mary Smith and the release of *Detroit*, the general impression of the game is that it is largely "ruined by the uncanny valley" (D'Argenio, 2018).

Mary Smith[37] may be the most high-profile example of a character failing to cross the uncanny valley, but she is not the only one, and her failure in public and the reactions it elicited have at least allowed for a better understanding of what bothers the general audience and of what constitutes an uncanny character. One type of criticism in particular seems to be coming back over and over again, and it can be summarised by the word disconnect. Disconnect between the emotions of a character and their facial expressions, disconnect between the tone of their voice and the feelings they are expressing, and also disconnect between the movement of their lips and the words they are uttering.

This is a phenomenon that proves important when considering the relation of the uncanny with dubbing. Researchers like Angela Tinwell and her colleagues have produced extensive research on the topic, aiming to "identify visual and auditory stimulus features that currently affect uncanniness in visual characters and […] work toward a model based on a perceived lack of empathy […] due a character's inauthentic physical characteristics" (Tinwell, 2015: xvii). In attempting to reach this goal, research in many areas of knowledge needs to be, and is indeed being conducted. Not all of it is relevant to the study of the uncanny in the fields of dubbing and science-fiction films. There are key concepts, however, that are likely to play a direct role in the emergence of the uncanny in dubbing. The relation between visual and audio stimuli – voice – and how this relation can alter identity perception, is the main interest of the present work. This cross-modal factor has also been identified by researchers, who closely looked at the issue and concluded that a mismatch in the human realism of face and voice produces an uncanny valley (Mitchell et al., 2011; Tinwell, Grimshaw and Williams, 2010).

The role of sound in the emergence of uncanniness is an idea that has been

37 - Mary Smith went on to be one of the characters used by Angela Tinwell to measure familiarity in her experiments.

explored only recently, but one that does not solely apply to modern computer-generated avatars. In fact, Robert Spadoni (2007) argues that the success of some (now) classic horror films from the early days of sound cinema is at least in part due to "technical limitations in sound recording and production [that] produced sound that may have been perceived as unnatural and strange" (in Tinwell, 2015: 49). This theory does at least partially fit with the current body of knowledge, and has led researchers to explore it further, and to look for evidence of the fact that discrepancies between audio and visual stimuli create a fertile environment for the arising of the uncanny. Taking the early sound era horror films as a baseline, Tinwell and Spadoni argue that the success of films like *Dracula* (1931) and *Frankenstein* (1931) is – besides the qualities of the plot, prosthetics, makeup and actors' performances – due to the eerie quality of recording and broadcasting of the time. Spadoni goes so far as to argue that these elements result in the presence of an "uncanny body modality of early sound films" (2007: 11). Angela Tinwell sides with this point of view when she states that a clash "occurred between the visual and auditory modalities in the early stages of sound cinema, and [that] it was the particular characteristics of the uncanny sound that contributed to the success of these two films" (Tinwell, 2015: 49). Simply put, there were technical limitations to the films of the beginning of the sound era that individually were susceptible to giving rise to the uncanny, but that when put together mutually reinforced each other. The visual aspect is not discussed much in Spadoni's *Uncanny Bodies*, but elements like the frame rate (24 frames per second, or FPS), the aspect ratio, the black and white picture, and the unrealistic amount of light necessary to expose old film stock also come into play into creating an uncanny experience. Viewers at the time might have been used to the presentation standards available to them, but it is the addition of sound that upset the established status quo that existed between viewers and film by adding another, albeit imperfect, dimension to the media. This fact alone can be held responsible for some amount of uncanniness experienced by audiences at the time, especially considering the fact that early sound processing resulted in a low quality, thin, and crackling sound. To summarise, in the 1930s, neither picture nor sound were of a high enough quality to accurately portray reality (or rather a believable version of reality), but it is the juxtaposition between the two modalities that was most likely responsible for the uncanny quality of horror films at the time.

It was not just the addition of sound that impeded immersion, the rest of the industry was also challenged, in particular actors, who had to tone down their exaggerated performances from the silent era, lest they be accused of overacting. This transition to voiced acting for the cinema, however, happened quite smoothly, and as soon as the early to mid-1930s, natural sounding performance can be found in

films from both sides of the Atlantic (for instance *The 39 Steps* (Hitchcock, 1935) and Fritz Lang's *M* (1931)).

The issue of performance is of prime importance to the characterisation of film protagonists, and plays a crucial part in an audience's acceptance of the story. Dubbing, as a consequence, can easily be affected by the same issues early sound films were faced with, and for all the technical progress that has been made in other areas of filmmaking and presentation, the dubbing techniques employed today are essentially the same as three quarters of a century ago (although the current impact of Covid 19 is changing the dubbing process workflow, with many voice talents currently working from home) .

According to Spadoni, "the introduction of sound resensitized viewers to the artificial nature of cinema, and the resulting resurrection of the forgotten phantoms of an earlier time haunted the sound film screen for long enough to shape the beginnings of a Hollywood genre" (Spadoni, 2007: 121), and certainly, directors at the time were quick to use the phenomenon to their advantage and to utilise induced uncanny to instigate fear and tension in their films. But recent academic studies on the mechanisms underlying the perception of the uncanny are still elusive, even though some research is conducted in the field.

To test the effects of the uncanny on speech, Angela Tinwell and colleagues set an experiment featuring a variety of characters including some zombies, some human characters from the video game *Left 4 Dead*, a chatbot (an avatar controlled by A.I.), Mary Smith (from the demo *The Casting* mentioned earlier, a real human being, and finally a virtual character named Emily.[38]

The quest to create a character able to pass the Mori test has been a long and difficult one, which still continues to this day, at least partially. But in 2007, animator and writer Peter Plantec publicly stated that he believed it would not be more than two years before the uncanny valley would be crossed. In his own words: "let's all hope we get it right in the near future and move beyond that nasty deep uncanny gully. […] I figure two more years with luck" (1). Twelve months later, the visual effects company Image Metrics unveiled the Emily project as a proof of concept, and Plantec announced that they had "finally built a bridge across the uncanny valley and brought us to the other side". This declaration today sounds painfully naïve, but there is no point in denying the incredible achievement that Emily[39] was, even

38 - https://www.youtube.com/watch?v=HJSw5gGYW6A. Key words: The Emily Project – What is Image Metrics.

39 - Emily did have over Mary Smith the advantage of being a pre-rendered character, meaning that the computing power dedicated to rendering the character was an order of magnitude superior to

though watching her ten years later makes it obvious that she did not quite make it to the other side.

When presented with the characters, the participants in the Tinwell experiment had to judge them and to give them a grade on their level of familiarity. Except for one inconsistency with a zombie character, the results were in line with expectations: less human characters were ranked lower in familiarity, video game characters (including Mary Smith) scored in the middle, and Emily and the real human scored at the top. However, the photorealistic Emily still scored a whole point less than the real human actor, confirming the fact that she did not quite pass the Mori test. The characters that were judged were also given voices, and the conjunction of visual and audio stimuli allowed the team to draw conclusions regarding different aspects of their visual and audio presentation. These findings are encouraging and suggest that similar phenomena might be at play in the practice of dubbing and reception of dubbed AV texts.

The first category that was judged was the quality, or realism, of the characters' facial expressions and of the expression choreography that occurs during performances. As expected, the accuracy of facial expressions was key in expressing emotional states, and characters lacking the ability to emote through their facial features were deemed least familiar. Some new information even arose from the test, during which "characters were judged as significantly less human-like and familiar when there was a perceived lack of facial expression in the middle or upper regions of the face, such as the eyes and cheeks, but especially in the forehead" (Tinwell, 2015: 54). The emphasis on the upper part of the face is somewhat surprising, as during speech, it is quite obviously the area around the mouth that is most active. However, the upper part of the face, brow, eyebrows, and eyes, do add an unspoken dimension and subtlety to the message that is being conveyed. The conclusions of this aspect of the experiment was that the lack of expressivity in a virtual character's face makes it difficult for audiences to read their emotional state, and therefore to emotionally connect with them. This can be interpreted as a lack of definite certainty as to what the nature of the character is, in the sense that the inability to connect at an emotional level may push the participant to doubt if the character they are dealing with is really human or not, or even really alive or not. Moreover, Tinwell rightly points out that this situation can be used by creators to increase the level of uncanniness in antipathetic characters through induced uncanniness. The ability to tune the uncanny up and down is referred to by Tinwell as the uncanny modality, and the experiment is named after the concept.

---

what was available to the Playstation hardware that ran the *Casting* demo.

More relevant to the uncanny dimension of dubbing, however, is the relationship between visual and audio stimuli, which is in the uncanny modality experiment studied along three different axes: speech qualities, articulation of speech, and lip synchronisation.

Concerning speech qualities (delivery, tone, pitch), "the results of the […] study revealed that a slow delivery style of speech significantly increased how non-human and strange a character was perceived to be", and that "speech that was judged to be of the wrong pitch and intonation and monotone speech […] were also factors that increased the uncanny for a character" (55). The study also identified a strong relationship between ratings of qualities "like the voice belongs to the character" and "speech and intonation sound correct". The team then suggested that "the overall believability of a character may be reduced" (55) if elements like intonation and pitch are judged to not match – or fit – their appearance, their actions, or the context in which they are placed. This observation stands true regardless of the level of familiarity of a character, and characters judged very low on human likeness but expressing themselves in a manner that fit their appearance were well accepted by the participants. Perceived congruence between appearance and speech qualities, then, is of particular importance. To rephrase, the emergence of the uncanny sensation does not appear to necessarily be connected to the level of familiarity of a stimulus in itself, but rather to the lack of consistency between associated stimuli (such as appearance and voice).

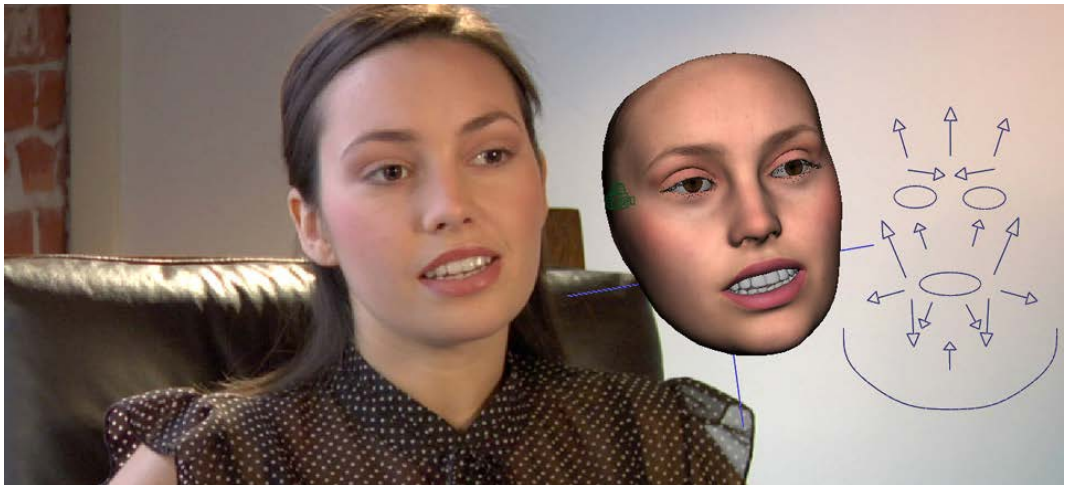

Figure 4 - Emily

Characters that were designed to feel sympathetic to the audience, on the other hand, did not fare well when coupled with peculiar speech. In the case of the now infamous Mary Smith, Tinwell and her colleagues point out that "the increased quality achieved in [the] demo negated [her] believability to the extent that she was perceived as unnatural and odd" (56). The agreed explanation for these results was that even though the audio depicted sorrow and fear, it was difficult to find or read

these emotions in the facial expressions of the character. This outcome matches the result of other experiments that have showed that "incongruence in the human realism of a character's face and voice can elicit feelings of eeriness" (Mitchell et al., 2011; 2). Matching the speech qualities of a character therefore becomes a key element of character design, and of great importance in trying to alleviate the "discord between the emotive values of […] speech with […] appearance and behaviour" (Tinwell 2015: 57).

Articulation of speech is also a crucial element to the way emotions are transmitted and perceived, and, as it will become clear when addressing lip synchronisation, one that relies as much on visual information as it does on the sounds being produced. Peter Plantec points out that the human mouth is a difficult part of the face to model, be it in a robot or in a virtual character. A lot of effort is generally poured into rendering the complexities of skin and its interaction with muscles and bones, and into the realism of the eyes, with all its translucence and capillary vessels. By contrast, mouths do not appear to offer the same type of challenge. According to Plantec, this is a false assumption, in particular because the inside of the mouth – the tongue, teeth, saliva… – is as important as the outside, and animators should focus more of their energy on this area if they are to create avatars that are able to remove themselves from the uncanny valley. Another important aspect of the articulation of speech is that natural speech does not abide to discreet phonemes or visemes (a viseme is the visual shape of the mouth that is associated with a phoneme), and that the same words or sentences will not use exactly the same phonemes and visemes depending on the performance of the character (sad, angry, whispering…). Natural language does not adhere to discrete units, contrary to a theatrical performance in which each sound and word is (typically) uttered clearly. Natural speech (or the impression of natural speech) such as what is used in cinema relies on sounds and phonemes to merge into one another, with some sounds sometimes even being ignored or skipped. Visemes are equally difficult to identify individually during speech, especially if a character is mumbling. Famously, Marlon Brando is said to have used this to his advantage on the set of *The Godfather,* during whose principal photography he mumbled his lines in order to have more artistic freedom in shaping his character's identity in post-production. For these reasons, over-articulation like what was prevalent during the pre-talkie era can often lead to unnatural and even comic effects when coupled with sound. Indeed, according to the uncanny modality experiment, characters were "rated significantly stranger when they were judged to have an overexaggeration of mouth movements" (58). Tinwell continues by arguing that disproportionate amounts of articulation can be linked to "a lack of motor skill control […] often associated with possible mental dysfunction" (50), like traumatic head injury, strokes, or degenerative disorders

such as Parkinson's disease, and in so doing echoes Sigmund Freud's interpretation of almost a century earlier. This perceived disconnection between mouth movements and the speech that is uttered can also be found in the other aspect of the audio-visual modal relationship analysed in the uncanny modality study as well as for the practice of dubbing: lip synchronisation.

Lip synchronisation (or lip sync[40]) in audio-visual media is the matching of mouth and lips (but also, to some extent, tongue) movements with the speech a character is uttering. This explanation clearly identifies issues that can potentially stem from dubbing footage in another language in which, by definition, speech phonemes will not match the visemes in the image. In film, just as in video games, the absence of proper lip sync leads to an impression of disembodiment similar to one of the symptoms identified in the early twentieth century by Jentsch and Freud when they attributed uncanny qualities to ghostly voices. Indeed, Spadoni ascribed much of the uncanny in the 1931 *Dracula* to the lack of convincing lip sync, in particular in instances where "laughter filled the scene and reverberated throughout the cinema" (60) even though Dracula's lips remained sealed. Tinwell and colleagues' uncanny modality experiment, in 2010, "provided the first empirical evidence to show that an asynchrony of speech was directly related to how strange or non-humanlike a character was perceived to be" (60). These findings correlate with the concepts of synchresis and synchrony put forward by respectively Michel Chion (1994) and Joseph D. Anderson (1996).

The concept of synchresis states that a film (or any other audio-visual media) audience assumes that the images and the soundtrack of the film belong to one another. In other words, when someone fires a gun in the film and the sound of a gunshot is heard, the assumption from the audience is that the weapon produced the sound. Equally, when a character speaks on screen and a voice is heard, it only makes sense that the voice belongs to the character. More generally, there is an assumption with audio-visual products that "the source of the sound is usually what is seen" (Chion in Bosseaux, 2015: 78). This of course is only an illusion, as large portions of film sound effects and dialogue are re-recorded post photography. Maybe the most famous example of sound reutilisation is the Wilhelm scream, a stock piece of audio footage of a man screaming that has been used in hundreds of films and television programmes, and that has for a long time acted as a private joke among filmmakers and sound engineers.[41] The Wilhelm scream was, incidentally, named by Star Wars sound engineer Ben Burt, who has inserted the sound effect in every Star Wars film he has worked on (Carlin, 2016).

---

40 - Sometimes spelled lip-sync.

41 - https://www.youtube.com/watch?v=SzITADosISk. Key words: The Wilhelm Scream Explained.

Of course, the concept of synchresis seems obvious for realistic features, but it also holds completely true even when applied to science-fiction universes. When watching films like the Star Wars films, audiences are more than happy to accept that lightsabers produce a buzzing and crashing sound, or that the Imperial TIE Fighters[42] fly screaming through the void, even though sound cannot propagate in space. Furthermore, synchresis still seems to work when audiences are shown extra-terrestrial species speaking alien (or portrayed as alien) languages (or representations of languages).

To summarise then, synchresis is the impression that image and sound belong together, but synchrony is the fact that they happen simultaneously. And according to the uncanny modality experiment, the presence of "asynchrony increase[s] how strange, nonhuman-like and eerie [characters] [are] perceived to be". These results align with the previous understanding that "asynchrony errors can cause great annoyance for the viewer and interrupt their enjoyment of a particular programme" (Reeves and Voelker, 1993). Working mainly with video game characters, the team behind the uncanny modality experiment concludes that technical limitations in video game technology are at least partially responsible for the presence of the uncanny in the media. In particular, Tinwell and her colleagues point to the lack of variety in available visemes in real time rendering technology, which makes it impossible to accurately match the subtlety of a real actor's voice performance. These findings, of course, also directly apply to film dubbing in other languages, as the technical hurdles faced by dubbing studios, voice actors, and translators and adapters are identical to those present in the voicing of video games. One of the questions that this thesis will aim to answer is how this situation affects alien characters, regardless of the language they speak (whether an alien language, or any of the real-world ones the films are dubbed into), and how much of a shift in character perception it creates.

Synchrony then, is crucial to an audience's suspension of disbelief and enjoyment of an audio-visual piece of entertainment. There is, however, some leeway in this respect, and some research indicates that sound and image do not have to happen precisely at the same time in order to convince viewers that they are linked together (Stein and Meredith, 1993; Conrey and Pisoni, 2006).

Indeed, according to Tinwell, "there is some leverage in our sensitivity to asynchrony to achieve temporal coordination of multisensory signals such as speech and lip movement as a singular event" (2015: 61). To put it simply, there exists a

42 - TIE stands for Twin Ion Engine, which is supposed to be the ship's method of propulsion. The French name for the fighters is "chasseur TIE", and completely ignores the meaning of the acronym.

synchrony window during which audiences are not able to detect a temporal offset between image and sound (Dixon and Spitz, 1980; Lewkowics, 1996; Grant and Greenberg, 2001; Grant, Wassenhove and Poeppel, 2004). Tolerance to asynchronicity, however, is not symmetrical, and audiences are significantly more tolerant of an audio stimulus lagging behind the image than preceding it. As a matter of fact, and in accordance with experimental results, the International Telecommunication Union official recommendations, issued in 1998, stipulate that the sound signal of television broadcasts should not precede the image by more than 45 milliseconds (-45ms) or lag behind it by more than 125 milliseconds (+125ms). Synchrony is especially important for speech when the mouth of the speaker is visible in the image, as even for hearing people, some measure of lip reading takes place when listening to others. Studies have found that asynchrony of sound and images when lip reading do have stressful and confusing consequences, and that visual information plays a role in the interpretation of speech (Mattys et al., 2000; Munhall and Vatikiotis-Bateson, 2004; Macaluso et al., 2004; Murray et al., 2005; Conrey and Pisoni, 2006). This stems from the association between phonemes and visemes that I have addressed earlier, as lip reading is (at least for hearing people) the art or technique of deducing phonemes from visemes. If the sound is produced and heard before the lips form the appropriate viseme, the ability to read from lip movements can be impeded, and the voice that is perceived can once again appear ghostly, and as not really belonging to the physical representation of the speaker.[43] A good example of the eeriness that can arise from the lack of sound synchrony can be found at the end of the film *Tomorrowland*. When the character of Athena (Raffey Cassidy), an audio-animatronic (a robot that definitely passes the Mori test) young girl, is fatally wounded, she offers to use her self-destruct mechanism to destroy the doomsday machine the protagonists have been trying to stop. As she lies dying in the arms of Frank Walker (George Clooney), her programmes shut down one by one and her speech becomes more and more robotic, and less and less synchronised with her mouth movements. The result, in line with the predictions of the uncanny modality theory, are certainly unsettling.

But asynchrony of speech, and in particular negative asynchrony, can lead to issues beyond uncomfortable viewing experience, and lead to straight up misinterpretation

43 - This issue can appear even in small rooms, and most consumer audio receiver manufacturers build into their product the ability to set compensating delay values for each of the speaker of a home cinema set up, as each speaker will be positioned at a different distance from the ideal listening position. Individual volume settings are also available in order to ensure balance between the speakers, as sound volume decreases following the inverse square law of sound.

(McGurk and MacDonald, 1976). Indeed, if the sound is perceived before the image (the mouth movement), the audio stimulus can take precedence over the visual stimulus, and the disparity between the two can lead to interpretative conflict, in such a way that "neither the sound nor the image is interpreted correctly" (Tinwell, 2015; 62). Furthermore, the disparity between visual and audio stimuli has the potential to create in the mind of an audience a sound that is neither the one that is pronounced nor the one inferred by the viseme. An example of this type of situation is that if the sound *ba* is matched with the viseme *ga*, the asynchronous pair might be understood, or interpreted, as a da sound. This is known as the McGurk effect, from experiments ran by Harry McGurk and John MacDonald in 1976, and which demonstrated that "auditory and visual information is merged into a unified, integrated percept" (Tiipana, 2014; 1). This effect, of course, can be felt with asynchrony of sound and image (in the situation of a technical fault), but also in the voicing of virtual characters (something as subtle as a poorly animated tongue can create confusion), and of course, foreign language dubbing. Asynchrony, then, can be confusing for an audience, and "this confusion may abruptly remind the viewer of being presented with a man-made, synthetic object" (Tinwell, 2015; 63), which in turn can undermine and even destroy the believability of a character or a story. Tinwell, building on a previous experiment (with Grimshaw and Abdel Nabi, 2011) draws the conclusion that "the uncanny may be exaggerated as the viewer perceives that the voice is disembodied from the character, rising suspicion that an unpredictable, ghostly or supernatural force is controlling the actions of that character" (64). In accordance with the uncanny modality study, peculiar speech, exaggerated dialogue, and asynchrony of sounds are valid and powerful tools for video game creators and filmmakers to create an uncanny sensation in their audiences and to dehumanise characters. But when it comes to the international versions of audiovisual products – especially the dubbed versions – these are factors that get in the way of immersion and that act as a constant threat to an audience's fragile state of suspension of disbelief.

When it comes to dubbing in foreign languages, the uncanny is always "crouching, ready to spring" (Bosseaux, 2015: 79), even if the high degree of exposure of audiences to the practice makes the viewers somehow desensitised to its eerie potential. To Bosseaux, the potential for the emergence of uncanniness is embedded in the practice of dubbing, which "creates an intellectual uncertainty in the viewers, who may find themselves wondering whose voice they are actually hearing" (80). Bosseaux's intuition aligns squarely with Tinwell's in the way that both scholars identify animation as a particularly fertile ground for the uncanny to appear because of an obvious disjuncture between voice and body. It is photorealistic animation

that is discussed here, not stylised, or cartoonish animation, which by nature is less susceptible to the uncanny, because it does not set expectations of realism. Taking things further, one could argue that studios' obsessions with hiring famous actors to voice animated characters might in many cases be culpable for breakdowns of immersion, because audiences might be pulled out of the experience of watching the film on recognising a voice but not being immediately capable of placing it. Interestingly, it could be argued that contrary to feature films, animated films might not suffer from a degradation in immersion when experienced by foreign audiences, because the lip sync in this type of films is less accurate, but also because different territories call upon local celebrities to voice the characters, putting them in doing so on equal footing with their 'original' voice.

With live action or mixed footage films, the situation is different, as the disconnect between image and sound is more obvious and leads the audience to wonder "what body this voice normally inhabits" (80). Voices then, in the context of foreign language dubbing, acquire a spectral quality and tend to "act like [ghosts] inhabiting or haunting the body of the foreign actor" (80). This disturbing idea has other implications too, as voice performers regularly dub more than one actor. This can lead to even more strange situations as for foreign audiences, actors' voices can seem to be not only disconnected from their physical bodies, but also able to move from body to body and in a way to possess said bodies.[44,45] This field of study, however, is currently underdeveloped, and as Charlotte Bosseaux puts it, "voice and characterisation have yet to be researched in Audiovisual Translation" (81). This thesis aims to address this lack of interest, and contributions to the field are to be found in chapter four.

Uncanny Origins

Situations that are susceptible to creating a sensation of uncanniness then, are quite well understood and theorised on. The reasons why human beings are susceptible to falling victim to the uncanny, however, are still elusive. These underlying mechanisms are important to the present research, because the mechanics at play in the emergence of the uncanny sensation appear to work using similar cognitive patterns to the ones at work in the creation of estrangement in science-fiction, audience immersion, and of course, the acceptance of dubbing.

---

44 - This is the premise of the film *Fallen*, in which a demon is able to jump from body to body, making it almost absolutely elusive.

45 - In France, some dubbed voices are extremely famous (the French voices for Bruce Willis and Matthew Perry for instance) and recognisable, potentially leading to confusion in viewers.

One of the explanations for the propensity of humans to feel the uncanny (as offered by Mori in his original paper) is that we are equipped with an innate instinct to stay away and protect ourselves from potential proximal dangers, such as the presence of corpses, or even out-group individuals (rival Other tribes, but also predators). This set of ideas – dubbed the Morbity Hypothesis – has thus far been tested in only one study (Flach et al. 2012), and has been included in Kätsyri et al.'s 2015 meta-analysis. The conclusions of the analysis, however, lacked a statistical dimension and only used computer-generated (CG) characters.

Another perspective, proposed by Catrin Misselhorn in 2009, is that uncanniness can arise based on our inability to empathise with synthetic agents (or agents perceived as synthetic). Misselhorn suggests in her work that the arousal of the uncanny feeling when confronted with such agents may be due to our lack of empathy towards characters that do not match our expectations of humanness. Tinwell wishes to take things one step further as she proposes that the lack of perceived empathy from a human-like agent is also a factor. To clarify, Tinwell argues that if we sense that a character is incapable of feeling empathy towards us (for any of the reasons discussed earlier), we also fail to show empathy, or feel familiarity (shinwakan), toward the character (lack of reciprocity). According to Blair (2005), cognitive empathy requires the ability to understand other people's emotions and internal states. Granted this premise, any imperfection in the emotional expression of a human-like agent – whether a robot or a virtual avatar – can jeopardise our ability to read their internal state and therefore to empathise with them in return.

A lot of conditions that seem to be propitious to uncanniness in human-like characters correlate with typical antisocial or psychopathic traits. Qualities like coldness, callousness, or the lack of facial mimicry for instance, belong to both uncanny characters and psychopaths. Other traits are found in both categories too, like the lack of some micro-expressions associated with the startle reflex – dilation of the pupils, widening of the eyes, lifting of the eyebrows – when confronted with surprising events. The facial expressions associated with the startle reflex, incidentally, tend to be concentrated in the upper part of the face, and the lack of these emotional signifiers, as discussed earlier, are linked to the triggering of uncanny sensations. In previous experiments, Tinwell and her team "did confirm that the perception of psychopathic traits in a character was driving the perception of the uncanny" (Tinwell, 2015: 109 – drawing from Tinwell et al., 2013). This interpretation also falls thematically in line with Mori's intuition, as an instinct to stay away from – or to be repulsed by – individuals that do not share our sense of humanity can be seen as a powerful survival tool. The body of knowledge on this dimension of the issue is small though, and more research needs to be conducted in order to get more definitive results.

More likely candidates for the triggering of the uncanny feeling are the notions of categorisation ambiguity (or category uncertainty) and perceptual mismatch. Both interpretations are popular, and closely related to one another. The idea of categorisation ambiguity is based on the psychological principle that "categories possessed by an observer influence the observer's perceptions (Goldstone and Hendrickson, 2010: 1). In other words, pre-defined categories exist in the mind of the viewer, and stimuli are directed to the appropriate category in order for the brain to make sense of them. This hypothesis is reminiscent of the Sapir-Whorf hypothesis, which suggests that one's language structure informs one's perception of the world. For instance, the image of a house belongs to the category 'buildings in which people live'. Accordingly, speech is directed to the appropriate part of the brain in order to be decoded and meaning to be extracted. There are instances however, where the process fails and the stimulus experienced is miscategorised. These are illusions, they can be optical or auditory, and they are sometimes referred to as brain failures[46] (deGrasse Tyson, 2015). Of course, illusions are not necessarily a bad thing, and cinema is nothing but a controlled illusion in which audience partake willingly. It is the fissuring of the illusion that can potentially create the uncanny, the precise moment when the familiar (the illusion that we have agreed to play along with) turns unfamiliar. In the context of the uncanny, categorisation ambiguity is understood as an expression of our evolutionarily inherited flight-or-fight reflex that pushes us to feel threatened when uncertain about the meaning of external stimuli. In other words, when a viewer is unsure of the true nature of a character, a feeling of uneasiness appears as a self-preservation mechanism. Despite how seducing the categorisation ambiguity theory is however, there is little conclusive evidence for its validity, at least according to Kätsyri et al.'s 2015 meta-analysis. The very same study, however, has found supportive evidence for the perceptual mismatch hypothesis.

The perceptual mismatch theory "suggests that negative affinity would be caused by an inconsistency between the human-likeness levels of specific sensory cues" (Kätsyri et al., 2015: 7). In other words, it is the presence in human-like characters of unexpected or seemingly incongruous features that is thought to be the trigger for the uncanny sensation. Examples of mismatch include features that are too small or too large (eyes as in *Alita: Battle Angel*, ears…), absent (Lord Voldemort's nose in the Harry Potter films), or even unexpected (feline-like vertical-slit pupilled eyes on a human face). Those are extreme examples, but considering how attuned we are to reading other people's faces, even slight incongruences like eyes that look like they

46 - Hearing voices in the wind, for instance, is the result of our brains trying to make sense of a stimulus that does not fit a pre-determined category.

do not belong to a living person can produce a kind of "free-floating anxiety that cannot attach itself to any particular cause" but that "enables us to maintain vigilance in the face of uncertainty" (MacDorman in an interview with Spinney, 2016: 3). Vigilance is the enemy of immersion, and an opposite state to the relaxed attitude that is required to give in to suspension of disbelief. The perceptual mismatch hypothesis also happens to fit very naturally on the dubbing problematic, with its emphasis on the disconnection that exists between the actor's physical body and the voice actor's performance.

Despite the lack of definitive conclusions, the Kätsyri et al. metastudy concludes by suggesting that "inconsistent realism levels and atypical features could represent different conditions leading to the uncanny valley" (2015: 12) and that there might be a link between the categorisation uncertainty and perceptual mismatch hypotheses, considered to not be "necessarily dependant from each other" (12). The study also emphasises the need for research in the field to develop unified methods and metrics, as "the heterogeneity of previous studies has significantly reduced the value of comparing their results with one another" (13).

What studies so far have neglected is to attempt to reconciliate, or to unify, the mechanics that govern the emergence of uncanny sensations with theories from other fields. In particular, Kätsyri et al. (2015) do identify cognitive categorisation mechanics as a strong candidate to explain how uncanny sensations can arise in the brain, but fail to connect this explanation with existing cognitive theories. The discipline of Learning Theory, specifically, offers a theoretical framework that maps onto the uncanny phenomenon with a remarkable degree of fidelity. The theory in question is called the Schema Theory of Knowledge, as presented below.

Schema Theory

The origins of schema theory can be traced back to the seminal book *Remembering* (1932) by Frederic C. Bartlett, in which he laid down his "key assumption that previous knowledge affect[s] the processing of new stimuli" (Carbon and Albrecht, 2012: 1). Since then, schema has become "an important part of the classic theories of cognitive psychology" (ibid). In cognitive psychology, a schema is a mental representation of knowledge, "the assumption […] that people's knowledge is organized" and that this knowledge "does not consist of a list of unconnected facts, but coheres in specifiable ways" (Mandler, 1984: ix).

Knowledge, schema theory suggests, is organised in units, or schemas, that are individual pieces of information related to a topic or concept, as well as the relationship they have with other objects. In other words, "all of our knowledge is embedded in schemas" (Rumelhart, 1978: 41). Schemas, in other words, are the way we

familiarise ourselves with our environment through categorisation of information.

Schema theory has applications and ramifications that do impact our perception of reality, and Rumelhart's Interactive Model, as developed in 1994, suggests that information from several knowledge sources are considered simultaneously, and that when information from one source is deficient, the reader will rely on information from another source. This has been dubbed to be an interactive-compensatory process, according to Keith E. Stanovich because "the reader […] compensates for deficiencies in one or more of the knowledge sources by using information from remaining knowledge sources" (1980). As such, the phenomenon is also related to synchresis, during which audiences rely on multi-sensory inputs to build a coherent mental representation.

Schemas are often represented in visual form as conceptual maps (maps that link conceptually related words and themes), which can interact together in the form of Venn diagrams (or different knowledge sources). This is particularly relevant because the creation of constructed languages (a staple of Imaginary Fiction genres) and translation (especially the translation of science-fiction), also heavily relies on conceptual maps, as will be shown in chapter four.

The connection between schema and the arousal of the uncanny stems from the fact that, according to schema, the human brain processes information according to pre-constructed patterns in an effort to simplify the way we navigate the world so the overwhelming amount of stimuli that we are constantly exposed to is manageable. In other words, schema theory allows us to interact with the world while being in a state of mindlessness, most of our tasks and actions are conducted on autopilot (walking, breathing, but even talking, or flicking a light switch). When schemas are disturbed, we are susceptible to entering a state of unexpected mindfulness, and the transition potentially brings with it this uncertainty that is characteristic of the uncanny. An example of this uncertainty that most people would be familiar with is the situation of waking up for the first time in a hotel room during a holiday, and to be looking for the light switch. Most people would instinctively look for the switch, especially in a half-awake state, where it is in their own bedroom. The absence of this familiar element might trigger a transition from a state of sleepy mindlessness to a sudden state of anxious mindfulness: the uncertainty of the new situation, and the brief inability to explain what this situation is. Of course, this sensation dissipates almost immediately, but this is the fleeting nature of the uncanny. These notions of mindlessness and mindfulness are also powerful tools that enable immersion, a phenomenon equally important to science-fiction and to the practice of dubbing.
Schema theory understood, I will later proceed to demonstrate how it applies to both the concepts of estrangement and suspension of disbelief, two staples of

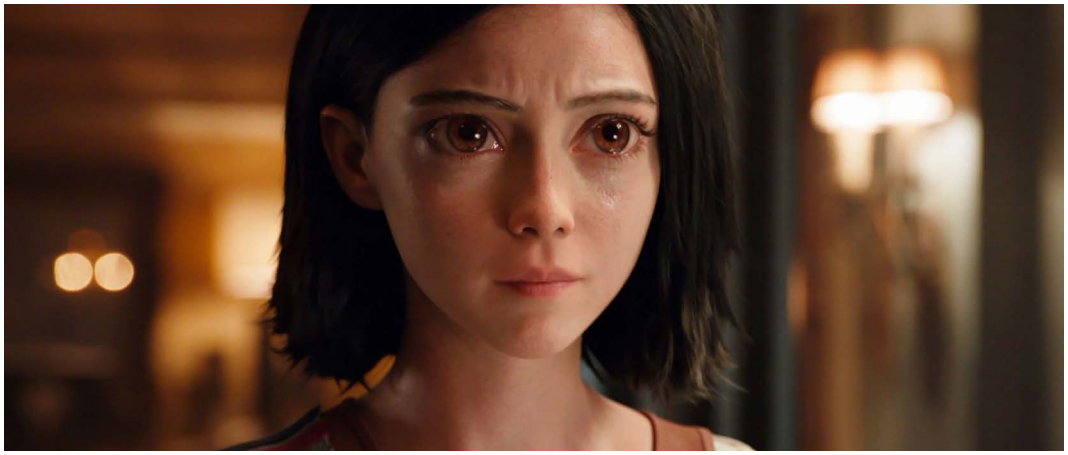

Figure 5 - Alita

Imaginary Fiction genres, and then to the structures of stories and our expectations in storytelling.

Bridging the Valleys?

An uncanny landscape theory allows for more refined and relevant answers to the question of whether the (undesired) uncanny sensation can be overcome. Opinions on the question of the feasibility of such a goal are varied, with some thinking that technological advances will eventually allow digital characters to climb up the other side or that we simply will become perfectly accustomed to them, while others consider that as avatars become more life-like, our ability to detect imperfections will improve, and the status quo will be maintained. There is little doubt that improvements in computing power as well as in the quality of the software available to artists has allowed for the uncanny to be pushed further and further away (Burke, 2011; Kain, 2011; Perry, 2014; Talbot, 2014). It is only necessary to look at recent computer-generated characters such as Carrie Fisher's Leia Organa in *Rogue One*, Wolverine from *Logan*, or Rachel from *Blade Runner 2049* and to compare them to what was done ten or fifteen years ago to see that improvements are constantly being made. There is no guarantee that technology alone will help human-like characters escape whatever uncanny valley they find themselves in, but the tools are certainly being developed to move forward in this direction. Some argue that we will eventually overcome the phenomenon simply by becoming so used to the presence of human-like artificial characters that we will become more accepting of them (Brenton et al., 2005; Pollick, 2010; Saygin et al., 2012). About this theory, Harry Brenton and his team have argued that the uncanny reaction is not fixed, but dynamic, and that people can become used to characters previously considered uncanny so much that they stop seeing them as eerie (the 24/7 presence of a digital news anchor on Chinese TV since 2018, as well as the recent influx of photorealistic characters in apps

or photo to video technology[47]) would make a great case study to see how much people get used to such ubiquitous digital characters). This point of view amounts to saying that there is not one, but many ways in which the uncanny can manifest itself, and supports the categorisation uncertainty theory by essentially stating that a new cognitive category – a new schema – can be created, therefore eliminating the uncertainty factor and thus the uncanny feeling. In other words, "as human-like artificial agents become more commonplace, […] our perceptual systems will be retuned to accommodate these new social partners" (Saygin et al., 2012: 420).

Others take an opposite approach, even arguing that as we become more used to dealing with human-like artificial beings, we will also become better at recognising their shortcomings. Tinwell questions whether or not it is therefore possible to overcome the uncanny, and stipulates the existence of a "dynamic, unscalable uncanny wall" (2015: 182). Tinwell takes the virtual character Emily (mentioned earlier) as an example of a state-of-the-art agent that was still unable to leave its uncanniness behind during experiments. She also points out that, contrary to what some have stipulated (Brenton et al., 2015; Pollick, 2010; Saygin et al., 2012), more exposure to virtual human-like agents does not necessarily equate with more tolerance of them. In defence of the uncanny wall theory, Tinwell and her colleagues argue that "technological discernment on the part of the audience keeps pace with the technological developments used in the attempt to create realistic human-like characters such that, ultimately, the perception of uncanniness in such characters is inevitable" (Tinwell and Grimshaw, 2009: 72). It does stand to reason that as one increases one's level of expertise in a field, the ability to notice minor imperfections also increases. This argument, however, could prove to be offset by the following reasons.

First of all, the technological argument, and the trajectory of improvements in terms of fidelity in the past twenty-five to thirty years in the field of 3D rendering and animation is very telling of what to expect in the future. Almost every other aspect of reality that was once thought to be impossible to render with absolute fidelity – or in a photorealistic manner – has turned out to be possible. Elements like water, or hair, were once touted to be too complex for computers to accurately model, but as mentioned earlier, improvements in raw computing power and the writing of better software have made these things not only possible, but commonplace (and scenes that were once only thought possible with the huge budgets reserved for cinema productions are now even commonplace in TV programmes). By stating that

47 - Chinese state news agency Xinhua has been rolling out several new TV anchors since 2018 (including a Russian speaking one), Unreal Engine will in 2021 release the MetaHumans plug-in, and MyHeritage released an app that can animate faces from old family pictures.

human beings are an exception, what the uncanny wall theory actually states is that there is something special about humans that cannot be simulated, and there simply is not any argument supporting that claim. Additionally, the uncanny wall theory fails to recognise the multi-dimensional nature of the uncanny phenomenon,

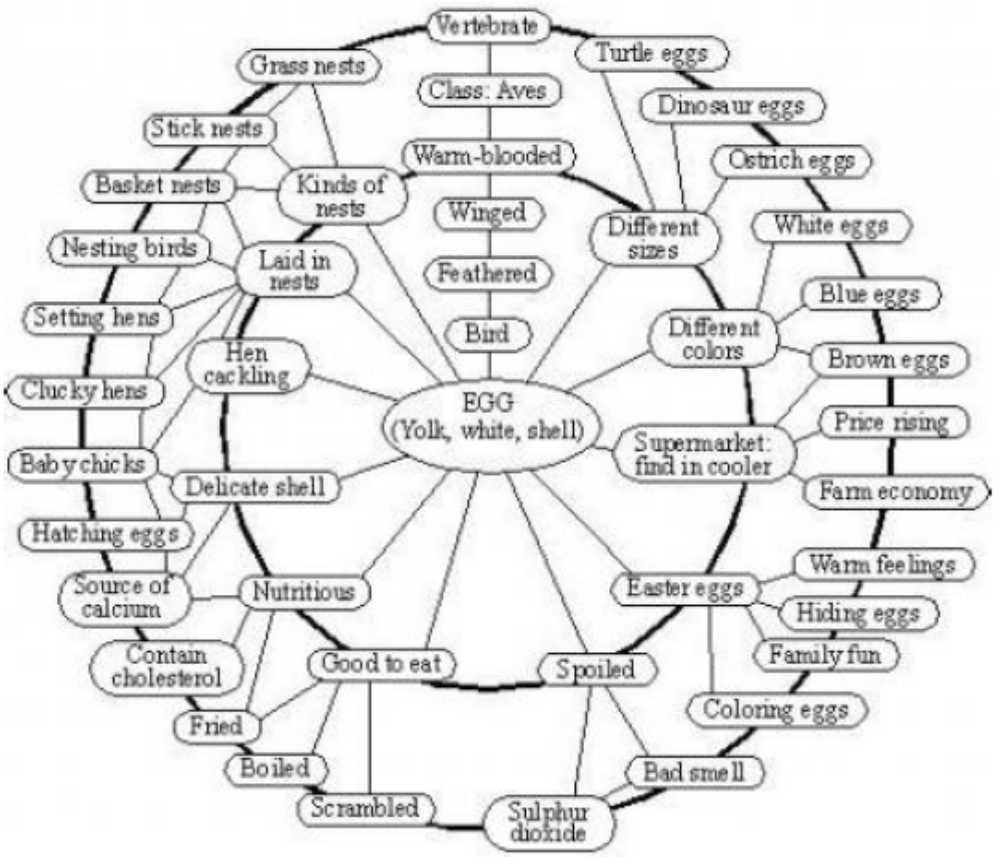

Figure 6 - Schema map of the concept of "Egg", from *Learning Theories*.

and that uncanniness has already been conquered, at least in some regions of the uncanny landscape.

The question 'will we ever overcome the uncanny valley?', in the perspective of the uncanny landscape, becomes a moot one, for even after a bridge has been built, the ravine it crosses is still there, and bridges have been known to collapse. In reality, not all valleys are the same. Some are shallow, and some are deep, and some might share common characteristics, but not all of them have to. For instance, film and video game characters do face some overlapping issues (realistic rendering and animation), but not others (interactivity). Will we overcome these multiple valleys then? Even when focussing on the representation of human-like characters, which is currently the main angle of research in the field, the answer is clear: we already have, just not all of them. But it is undeniable that some of the shallower valleys have been conquered. Digital crowds once looked artificial but are now so commonplace that no one pays attention to them, and as mentioned earlier, digital stunt doubles have almost completely

replaced actual stunt people. Equally, some lighting conditions are more susceptible to revealing details that can elicit uncanniness, while others have the potential to keep it at bay. For instance, the success of the visual effects in *The Curious Case of Benjamin Button*, and the fact that it is widely thought to have overcome the uncanny valley, lies at least partially in the highly stylised and unrealistic photography of the film, while the success in the field of *Logan* might be attributed to the highly dynamic nature of the sequences using a digital Hugh Jackman that take the focus away from the character (the most uncanny sequences in *Logan* are the ones in which Wolverine fights a younger clone of himself, because it is obvious that something is going on, but a digital double of the actor is also used extensively throughout the film and is completely invisible). Little by little, then, the audio-visual industries are conquering the uncanny landscape. One area that is still very much uncharted territory is dubbing, in particular for the foreign language versions of films. The present work aims to alleviate some of the issues this industry is currently confronted with.

Other Side

In this chapter, I have explored the notion of the uncanny, from its original conceptualisation by German psychologists in the early twentieth century to its most up to date understanding using the cognitive framework of schema theory.

The concept of the uncanny and the notion of the uncanny valley, as demonstrated by the works cited in this chapter, are closely linked to non-realistic genres such as supernatural horror (*The Sandman*, *The Haunting of Hill House)*, fantasy (The Lord of the Rings…), and various strands of science-fiction (Star Wars, X-Men, *Blade Runner*). The reason for this connection is that Imaginary Fiction genres often deal with themes related to technology, humanity and identity. They also frequently play with, or at least have to navigate between different spaces in order to achieve their goals of estrangement while respecting their readers' capacity and willingness to suspend their disbelief for the time of the experience.

In their visual iterations, in particular cinema, these genres are also consistently at the forefront of what is technologically possible in matters of representing a believable version of their altered reality to their audiences. Indeed, no other genre puts so much effort into representing alternative versions of reality on screen with the goal of convincing audiences that what they are seeing is real, at least for the duration of the filmic experience.

In the next chapter, I will explore the tenets of Imaginary Fiction, in particular the way the notions of cognitive estrangement and suspension of disbelief work together to create immersion. I will also explain how these mechanisms function within a schematic structure, and how the schema framework allows for fantastic

stories to resonate with audiences across cultures – both historically and geographically – through universal narrative structures such as what is found in the Monomyth and the Hero's Journey. These notions will later on be applied in a similar fashion to the field of dubbing.

– Second Threshold –

The Road of Trials

"[…] *Where we had thought to be alone, we shall be with all the world.*"
Joseph Campbell, 1988

Making Something New

All creative fiction, whether literary or on film, is imaginary. However, even if all fiction is imaginary, not all fiction is Imaginary Fiction, or a narrative art relying on estrangement as one of its main qualities.

In *Les Maîtres de la Science-Fiction*, Lorris Murail jokingly states that one could probably find nine billion different definitions of the genre of science-fiction (1993: 7). This statement is quite obviously exaggerated, but it is also a good indication of the wild variety of opinions that exist about what does, and what does not, constitute science-fiction. Science-fiction, that much is evident, can be a difficult genre to pin down (Johnston, 2011; Wozniak, 2014), one that "resists easy definition" (Roberts, 2006: 1).

One of the main reasons why the genre seems to be so resistant to categorisation, is that it shares a number of its characteristics with other genres, such as the fantastic, fairy and folk tales, as well as myths and legends. This is a theme that becomes obvious when researching the topic, and that is present in all the later cited authors' works. The terms certainly are often used as if they were interchangeable. Lin Carter – author of the seminal book *Imaginary Worlds* – explains that the term fantasy is often used "so loosely as to include everything from *Dracula* to *2001: A Space Odyssey*" (1973: 5). She continues by stating that the fantasy genre encompasses "any kind of fiction that is fantastic, that is, fiction that is not realistic" (ibid.) In her eyes, "since neither ghost stories nor space operas are true to everyday life, they come under the term 'fantasy'" (ibid.). For instance, the Star Wars universe (perhaps the

most famous representative of the space opera sub-genre) resists any attempts to be forced into any definition of what science-fiction is, or ought to be. The pertinence of the present research extends not only to science-fiction or fantasy, but rather to an umbrella genre that I call Imaginary Fiction.

Science-fiction is a genre that provides escapism and estrangement to the reader or viewer, and most scholars agree that this is achieved by telling stories that happen outside of the reader's and the writer's empirical world (Tolkien, 1939; Suvin, 1972; Suvin, 1979; Scholes, 1975; Prucher, 2006). This notion of estrangement, as it is commonly called, constitutes half of the requirements of science-fiction.

The role the science-fiction author sets for himself is of the creator of a world that will transport his reader to a different and estranging fictional place in which his stories occur. But all is for nothing if the readers, or the viewers, do not at least in a "make-believe" way buy into the premises. A certain amount of suspension of disbelief – the other half of the recipe – it will be argued, is necessary for audiences to truly enjoy works of Imaginary Fiction.

Together with estrangement, suspension of disbelief creates a delicate balancing act that, when successful, makes audience immersion in fictional worlds and stories possible. This immersion is the result of a constant tug of war between those elements that transport audiences away, and those that connect the fictional worlds to understood and familiar mental frameworks.

These relations, just like the panoramas offered by the uncanny landscape, can be understood in schematic terms.

The genre of science-fiction, not unlike the phenomenon of the uncanny, is fluid and difficult to place clear boundaries around. And the Star Wars series itself, in many ways, is a textbook example of creation that defies easy classification. The saga borrows from so many different genres that putting a definitive label on it seems pointless. Indeed, a variety of pop culture articles can be found debating if Star Wars is really science-fiction, fairy tale, fantasy, science-fantasy, or even a more niche sub-genre such as space opera (Hill, 2018; Berlasky, 2017; Hooper, 2017; Dillon, 2014; Gordon, 1978). What it does very clearly do, however, is replicate well-known schematic narrative structures that help the story feel familiar, even though the universe in which it happens is alien to us. The fourth and final section of this chapter will explain how Star Wars borrows from the Monomyth and the Hero's Journey, and thus appeals to our collective expectations of storytelling. This chapter will also explore how the concept of used universe - a concept that also ties in with schematic theory - helps the films be grounded in reality while simultaneously offering fantastical and alien imagery.

The first step to understanding how science-fiction creates estrangement is to

return to the origin of the conceptualisation of the idea, in the middle of the twentieth century.

New Rules: (Cognitive) Estrangement

Darko Suvin's idea of science-fiction as a literature of estrangement finds its origin in an article by Bertolt Brecht entitled *A Short Organum for the Theatre*, published in 1948, in which Brecht argues for "a theatre for the scientific age" (1). While structuring his argument, Suvin suggests that one of the main aspects of science-fiction is the setting of "a new set of norms", a process known in literary theory as estrangement, and a concept "most successfully underpinned [by] Bertolt Brecht" (Suvin, 1972: 374).

In his article, Brecht "sets out to define an aesthetic drawn from a particular kind of theatrical performance which has been worked out in practice over the past few decades" (Brecht, 1948: 1), in which audiences are exposed to stories and characters from other places in space and time, and are expected to still be able to enjoy them. Even though Brecht does not address or mention science-fiction (which is a genre at least partially defined by taking place somewhere and some time else, for instance a long time ago in a galaxy far, far away), his article does discuss the pleasure felt by audiences. Audience pleasure, he points out, seems to "hardly ever depend on the representation's likeness to the thing portrayed" (ibid.). As a matter of fact, in his personal experience, "incorrectness, or considerable improbability even, [is] hardly or not at all disturbing, so long as the incorrectness had certain consistency and the improbability remained of a constant kind" (3). Clearly, Brecht is interested in what intertextual elements allow for audience immersion, or pleasure, regardless of their fidelity to reality. He argues, then, that for audiences to enjoy a performance, all that matters is "the illusion of momentum in the story told", which is "created by all sorts of poetic and theatrical means" (ibid). Poetic and theatrical means of course refers to narrative devices, as well as costumes, masks, props… Those things, and stories from other times and places alien to current audiences, can be accepted and enjoyed by said audiences because of their capacity to feel empathy for the characters and events presented, regardless of any first-hand experience of them, or how different the norms from the setting are from the norms of their own environment. In other words, modern audiences have the capacity to enjoy Greek tragedies because people have the ability to put themselves in the position of other characters with which they have almost nothing in common. Another way to formulate the idea – as expressed in a review of the very un-immersive 2018 *Robin Hood* – is that even though audiences "aren't interested in the minutiae of hovel life, […] they can cope with films set in the past, where values are different" (Rockall-Schmidt, 2018). The emphasis on

the notion of empathy is remarkable, as it corresponds to the concept of shinwakan as presented in the previous chapter. The ability to feel empathy for characters, to cognitively put themselves in their position, is partially what allows audiences to feel immersed in a story, although this empathy can be disturbed and result in either loss of immersion, or in certain cases the uncanny feeling.

Reading Brecht's article through the lens of science-fiction offers surprising results, as he seems to perfectly describe the type of pleasure and emotions that are typically associated with the genre. In particular, Brecht compares the typical spectator to a child, who "wants to be put in possession of definite sensations", as he would while "climb[ing] on to one of the horses on a roundabout" (6). "The degree to which the wooden seat resembles a horse counts little", suggests Brecht, "nor does it matter that the ride is confined to a small circle" (6). This argument certainly seems to explain why older films, with outdated special and visual effects, still hold up to this day. Certainly, the space battles from the original Star Wars film, *A New Hope*, look less like the aforementioned horse than the more recent ones, but they still provide a similar amount of estrangement and enjoyment. Brecht, of course, talks about theatrical representations, but his words also ring true when thinking about science-fiction. Taking Star Wars as an example, it is true that, as long as the rules of the universe are consistent, audiences do accept the new set of rules that drive the fictional universe, and as a child enjoying the roundabout, audiences are willing to come along for the ride.

The way information is presented to the audience – readers or viewers – is important for them to buy into the illusion. Here, we see the intra-textual nature of estrangement at work. As much as suspension of disbelief is about priming an audience's mind to accept the validity of a new set of rules within the context of a performance (extra-textual), estrangement is all about presenting a performance that is consistent, meaning a performance that "leaves the spectator's intellect free and highly mobile" (7). Unknowingly, Brecht appeals to schema theory, in particular the notions of mindfulness and mindlessness, states of mind that are tightly intertwined with the cognitive emergence of the uncanny, but also to suspension of disbelief (Ferry, 2012). When Brecht suggests that to achieve immersion, the images presented to a spectator should leave his intellect free and unencumbered (8), he effectively argues for creating a situation in which audiences are kept in a state of mindlessness, a cognitive state that does not require conscious information processing, and therefore promotes acceptance of what is read or seen on screen.

Furthermore, Brecht proposes that viewers, when experiencing a theatrical representation, which they know is not an accurate representation of reality, make "hypothetical adjustments to [their] structures, by mentally switching off the motive

forces of [their] society or substituting others for them" (8). In other words, he suggests that fictional representation functions by hijacking existing and familiar cognitive structures (what we call schemas) and by replacing, or substituting, some elements by others (via the interactive-compensatory nature of the schematic cognitive process (Stanovich, 1980)) while maintaining the overall structure. To return to the earlier example of the Greek tragedy, enjoyment is possible because (in conjunction with empathy) the narrative structure and historical setting are somehow familiar to audiences, allowing spectators to fill in the blanks unconsciously, and accept differences as part of the new set of rules that applies to the story. The sum of these elements, Brecht calls the *Verfremdungseffekt* (alienation effect, or A-effect, distancing effect), "a representation […] which allows us to recognise [the] subject, but at the same time make it seem unfamiliar" (8).

The A-effect, as understood by Brecht, is a foreignising effect. Unlike the way it is used in Imaginary Fiction however, Brecht identifies the phenomenon and defends the idea of using it to break immersion, to encourage the audience to reflect and ponder on what they are witnessing. Essentially, Brecht promotes the idea of a form of fantasy that eschews the second part of the equation: suspension of disbelief.

Bertolt Brecht formulated the usefulness of estrangement and hinted at ways to create it, for instance with props, masks, or the representation of historical settings, but it is Darko Suvin, in the 1970s, who made it the core value of his own understanding of science-fiction.

Suvin, as early as 1972, recognised that "the importance of science fiction [was] on the increase" (1), and that it had been so for the past hundred years in the leading industrial nations (which he identified as being the USA, USSR, UK, and Japan). The success of the Star Wars films a few years later proved him right. Although he was mainly interested in literature, the genre of science-fiction was in Suvin's eyes "a significant cultural effect" (ibid.), deserving of being theorised upon.

Of course, just like anybody who has attempted to define science-fiction, Suvin ends up with an unsatisfying and somehow contradictory definition of the genre (in particular, he desperately tries to disentangle it from other genres like fantasy and myth), but his contribution comes from the coining of the terms *cognitive estrangement* and *novum*.[48] These two elements relate to the present work due to their connection to the uncanny, especially because they make it possible to link the emergence of the uncanny sensation with cognitively and schematically understandable triggers. Estrangement, to Suvin, is the result in a story of the presence

48 - There are no mentions of Jentsch in Suvin's writings, but the notion of a novum is a clear and direct callback to the German's connection of new things with the uncanny, see chapter one.

of a novum (a new thing). Audience immersion is understood as a state of balance between the spectator's state of willing suspension of disbelief and the story's capacity to elicit estrangement. When those two elements start to misalign, the uncanny feeling appears. For this reason, it is imperative to be able to categorise them within one single framework.

Suvin's idea of cognitive estrangement is inspired by the literary concept of estrangement and Brecht's writings, and in its more basic form describes a genre that relies on the creation of "a new set of norms" in the setting where the science-fiction stories happen (although Brecht promoted the use of the effect to distance audiences from the story). This is not sufficient to set science-fiction apart from other genres. Suvin, indeed, recognises that science-fiction is "found to have an interesting and close kinship with other literary sub-genres" and that it "shares with myth, fantasy, fairy tale and pastoral an opposition to naturalistic or empiricist genres" (Suvin, 1972: 372). Suvin, however, is fiercely opposed to the conflation between the genre of science-fiction and other genres, even though he acknowledges that "the use of estrangement both as underlying attitude and formal device is found also in the myth" (375). Indeed, he sees science-fiction, as a literary genre, as being "as opposed to supernatural estrangement as it is to empiricism" (375). The main formal device that separates science-fiction from other related genres, at least in Suvin's eyes, is the presence of a novum that is introduced in the fictional world and is technological (cognitive) in nature. These conditions lead to a definition of science-fiction that goes as follows: "*SF is* […] a *literary genre whose necessary and sufficient conditions are the presence and interaction of estrangement and cognition, and whose main formal device is an imaginative framework alternative to the author's empirical environment*."[49]

Unpacking this definition, three main ideas stand out: the science-fiction world is different from the world the author lives in, it contains at least one novum which is a source of estrangement, and the novum is of a cognitive nature.

To elaborate, the author's empirical world is defined as the zero world as in a set of coordinates. This point of view is not particularly original, and echoes the position of most science-fiction scholars and authors (Prucher, 2006; Scholes, 1975). J.R.R. Tolkien weighs in on the topic when he qualifies story-makers as "sub-creator[s]" who "make […] secondary world[s] which [the] mind can enter" (1939: 37), and the real world (Suvin's zero world) as "primary world" (ibid.). Fantasy, Tolkien also

49 - Science-fiction, then, is not only difficult to define, but also subject to the criteria of the era and culture of the viewer/reader. Or as the saying goes: "I'll stop calling the administration 'Orwellian' when they stop using 1984 as an instruction manual".

argues, is "not a lower but a higher form of Art, indeed the most nearly pure form, and so […] the most potent" (ibid.)

In the interest of clarity, this work will use Suvin's denomination, and refer to "our" (the author's and reader's) world as the zero world and to fictional worlds as non-zero worlds.

Thinking in terms of spatial coordinates allows us to distinguish different types of non-zero worlds in terms of the amount of estrangement that they produce and/or contain, but also to separate (or rather identify) the fantasy and science-fiction elements in a clear way. For instance, the world of the Terminator films, or of *Inception*, are closer to the zero world than, for example, the films from the Marvel Cinematic Universe. The films from the MCU are, in turn, closer to the zero world than the Star Wars films are (although the MCU films do not all occupy the same space on the chart). This is because the world in which the Terminator films take place is a plausible representation of our zero world (a specific time period, with recognisable car models, weapon types…), whereas the world in the MCU, while still being a representation of our world, involves wildly implausible technology, and even magic (*Iron Man* and *Ant-Man* are located close to the pure science-fiction axis, while *Doctor Strange* features sorcerers performing magic). This wide variety of fantasy and science-fiction flavours in the MCU makes achievements like the Avengers film all the more impressive, as juggling and mixing together so many subtly different sub-genres is an incredible balancing act.

The Star Wars universe is even more distant from the zero world: it is not a representation of our world at all, and therefore does not have to comply with any of the rules of the zero world. As a matter of fact, deictically speaking, the Star Wars stories are a fairy tale / mythology set of stories told in another universe, from a future point in this universe (A long time ago…). I suggest that Imaginary Fiction stories can be mapped on a diagram as follows:

On this particular estrangement scale from 0/0 to 5/5 (the first number being how far on the fantasy axis a story fits, and the second number how far on the science-fiction axis), *Jurassic Park* and *Gattaca* might score a 0/1 (genetic manipulation is not far fetched anymore[50]), *The Terminator* a 0/2 (the humanoid cyborg technology is becoming closer to reality every day,[51] but the time travelling aspect is at least so far still considered unrealistic), *Avengers: Infinity War* a 3/3 (our world, but

50 - The technology used in these pieces might have been pure science-fiction when the story was written, but the editing of genetic material is now a reality (https://www.nature.com/articles/d41586-018-07607-3).

51 - https://www.youtube.com/user/BostonDynamics/videos, YouTube key words: Boston Dynamics.

with magic on one side, including the mystical Infinity Stones, very high-tech elements like Tony Stark's nano-technology, and pseudo-technological elements such as a space forge powered by a dying neutron star on the other), the Star Trek series a 0/4 (still our world but in the very distant future, so distant that a lot of liberties can be taken by the authors, in particular in terms of technology, i.e FTL travel and teleportation), and Star Wars a 5/5.

A five on both axes indicates a fictional world like the ones portrayed in Star Wars or Akira Toriyama's Dragon Ball universe, in which technology and magic are almost entirely interchangeable, and used to explain away almost anything. These types of universes are so varied that they intensely challenge the boundaries between genres. For instance, space travel limitations are very often considered more as plot devices than being dictated by any internally consistent logic. In other words, regardless of the actual distances, transportation takes only as long as the story requires for another strand of the story to follow its course. Equally, every planet has the same gravity (unless, for eample, a planet's extraordinary gravity is used to explain a character's strength in *Dragon Ball*), the same atmosphere, and the universe is populated by creatures that are at least able to speak the same language (unless, like in *Return of the Jedi*, the story calls for linguistic incomprehension). In terms of the magic versus technology paradigm, the balance can tilt either way at any given moment, but when it comes to acrobatics for instance, the Force in Star Wars can explain superhuman feats of agility similar to what other characters can achieve with the help of technology (Jango and Bobba Fett's jetpack, or General Grievous' lightsaber mastery). In *Dragon Ball*, the energy blasts created by the characters are of the same nature, and therefore can compete toe to toe with the canons with which androids and cyborgs are equipped.

Paradoxically – but not surprisingly when viewing the phenomenon through the lens of the uncanny and within a schematic framework – in this type of universe, less information means more consistency. *Dragon Ball,* for instance, in its earlier story arcs, used to track characters' power levels, as a way to compare their fighting capabilities. This was of course used as both a way to get the fans of the series talking (characters would get more powerful in turn, giving their fans temporary bragging rights[52]), but also mostly as a storytelling device (similar approaches are used with the superheroes from Marvel.[53]

Over time, and with the addition of enemies more and more powerful, and

52 - Son Goku's power at the beginning of *Dragon Ball* is estimated at 42, by the end of the Universe Survival arc, it has gone to an estimated 25,000,000,000,000,000,000,000,000,000 (https://dragonball.neoseeker.com/wiki/Official_Power_Levels#Universal_Survival_2).

53 - http://marvel.wikia.com/wiki/Strength_Scale.

capable of destroying planets in the blink of an eye, this kind of power level comparison started to become counterproductive and unrealistic, even within the confines of the non-zero world that hosts the story.

Star Wars has been undergoing a similarly difficult transition since it was acquired by Disney in 2012. Since then, notions of fuel consumption for spaceships have for instance been introduced. Such new notions could be considered anchoring elements, as they act as a connection with our understanding of how vehicles work, but they end up being rather disruptive, as they tend to limit the imaginary scope of the series. The plot of *The Last Jedi*, for instance, is little more than a straight-line space chase in which the villains wait for the heroes to run out of fuel. Equally, by insisting on showing events that were previously only mentioned in passing, the most recent films do not expand the scope of the universe and of the story, but actually shrink it.

A perfect example would be the Kessel run featured in the film *Solo*, which narrates the adventures of young Han Solo before he is introduced in *A New Hope*. *Solo*, regardless of its own entertainment value as a film, creates several problems that actually dilute the value of some characters and events and make the estrangement value of the franchise a little less convincing (Han Solo's own Hero's Journey for instance, is compromised).

The most iconic – and canon disrupting – event showed in *Solo* is the famous Kessel run, and the visit of the Kessel mines. Kessel, in the original 1977 film, was used as an estranging device. The Kessel mines are originally mentioned by C-3PO after he and Artoo have been acquired by the Jawas on Tatooine, as the golden protocol droid worries that he and his companion might get "sent to the spice mines of Kessel or smashed into who knows what". This statement from Threepio serves a double purpose: it first of all expands the scope of the fictional world the audience is being introduced to (so far in the film, we have only seen a couple of starships and some sandy landscapes on a desert planet), and it establishes the dangers of the place (being sent there is equivalent to being smashed to bits). Later on, when Han Solo claims that his ship, the Millennium Falcon, made the Kessel run in less than twelve parsecs, he solidifies the existence of Kessel as an actual place in the imaginary world, one that different characters can independently relate to, he links it to the world of outlaws, and he re-emphasises the danger associated with the mining world. Kessel, in the original Star Wars, is used as a part of a strategy to make the world feel bigger than it actually is possible to show on screen. When it is actually shown in *Solo* then, it cancels out the goals of the original idea. First, it puts actual images on a place that was so far only imagined by audiences, a place of danger to be avoided at all cost, because visiting the place was equivalent to a death sentence. Doing the Kessel run in less than twelve parsecs, a quasi-

mythological feat of piloting in the Star Wars universe, turns out to not be as exciting when committed to film that it was in the minds of the viewers. Worse even, is the fact that these exact same elements could have been presented as not being the Kessel run, but some unrelated adventure, and would therefore have served as world expanding elements, not world shrinking elements. *The Force Awakens*, it turns out, is so obsessed with callbacks to the original trilogy that fans can understand that it becomes almost a parody of itself, and that rather than being estranging, it attracts the attention on its nature as a construct. Similarly, the *Rogue One* storyline, by focusing on showing elements audiences know have happened, and also know the outcome of, mostly deprives itself of any estranging qualities by instead insisting on being familiar to viewers. These stories, or this type of stories, almost forgo the idea of a novum in order to settle into familiarity.

The novum, to Suvin, is the new element that is introduced to the story, that makes it transition from the zero world to the non-zero world. Other related imaginary genres can also contain novums. For instance, Arthurian legends are set in our world, with the addition of magic, and the same goes for fairy tales and folk tales (with the difference for folk and legend stories being that they might be interpreted as true by the audiences, not unlike religious parables). The difference, for Suvin, is that in order to qualify as science-fiction, a novum has to be of a cognitively plausible nature, or "perceived as not impossible within the cognitive […] norms of the author's epoch" (Suvin, 1979: viii).

To go back to the examples of *The Terminator* and *Jurassic Park*, those films' novums would respectively be the presence of time travel and cybernetic beings for *Terminator*, and of DNA reconstruction and the presence of dinosaurs for *Jurassic Park*. The stories are set in a world resembling ours, but the elements that turn the story into science-fiction are plausible, believable, and more or less in line with what is expected from science in a near future (except maybe time travel).

Estrangement is a condition of any non-realistic fiction and just like the uncanny, it can be induced, and thought of as a modality. The corollary, then, is that where there is estrangement (and/or the methods used to produce it), we are likely to be dealing with non-realistic, or imaginary, fiction.

The nature of the word estrangement itself can be examined in order to further the implications and ramifications of the use of the concept in the context of science-fiction.

Estrangement is the process of making strange, or, in relationship terms, to turn someone into a stranger. French translations of estrangement include terms like *éloignement* (remoteness), *séparation* (separation), and *détachement* (detachment). The word *éloignement* addresses the notion of distance that is integral to

estrangement, as imaginary worlds are narratively more distant to audiences than realist ones (as represented in the chart). Distance has also very often a very literal meaning, physically and "historically". The adventures that we witness in the Star Wars films, for instance, take place both "in a galaxy far, far away" and "a long time ago". As a matter of fact, the themes of interplanetary (or even intergalactic) travel, as well as time travel, are very common in science-fiction. As a side note, although these themes are common in science-fiction, they are almost never treated from a scientific point of view, as doing so would imply opening a giant narrative can of worms. Just like the portrayal of languages, the portrayal of time and interstellar, faster than light travel (which is, from a scientific point of view, inextricably linked) are often treated as narrative devices rather than academic ones, a strategy that eschews all need for scientific of linguistic rigour. And when such themes are treated with a semblance of rigour, the complexity that it entails means that they tend to be the very topic of the story, and not just a narrative piece of it. In terms of space travel, *Interstellar* is a perfect example, as the film heavily focuses on the representation of general relativity. As to *Arrival*, the film takes linguistics, translation, and interspecies communication as its core theme, and develops it with some measure of seriousness.

Estrangement also contains relations to the idea of *étrange*, strange, weird, but more importantly *étranger*, as in "stranger", "foreign(er) or *l'étranger*, "abroad". This double meaning of the French word *étranger* allows one to think about estrangement as something that is other both in terms of familiarity and of place. *L'étranger*, in French, is not only someone who comes to a place from his homeland, but also the homeland of the foreigner itself.[54] A traveller would go *à l'étranger* (abroad), the place where things are different, other. To add to the theme of distance and distancing, it is common for the characters in a science-fiction or fantasy story to have to leave their home behind (a universal theme identified in the Monomyth) and to travel into the unknown. In *The Fellowship of the Ring*, the Hobbits leave the Shire and step into the outside world (they cross the "edge of the old forest" and have to be saved from danger by a god-like being in the person of Tom Bombadil, discovering the fantastical nature of the world that lies outside of their known environment), and in *A New Hope*, Luke is forced to leave Tatooine, a physical departure, but he also learns about the Force, and by doing so, he takes his "first step into a larger world", in the words of Obi-Wan Kenobi. In doing so, hero characters (with whom

54 - The consequences of the semantic elusiveness of the word can be found in the fact that Albert Camus' seminal novel *L'Étranger* has been translated both as *The Outsider* in the UK and *The Stranger* in the USA.

the audience identifies) transition from their mundane world into the larger, outside, fantastical world. It is this sensation that estrangement aims at eliciting in viewers or readers of Imaginary Fictions, a sense of difference, but a sense of difference to which members of the audience can relate. A perfectly strange place, after all, would not even be recognisable as such (a perfectly *strange* place can be understood as a schema for which each piece of the map has been either replaced or removed until the schema itself is unrecognisable).[55]

Estrangement, then, is not only the act of making things strange, different, and foreign to audiences; it is also the act of making them recognisable in their difference. Indeed, there is – not unlike what can be found with the uncanny – a paradoxical dimension to the process of estrangement. In practice, by presenting audience with settings, events, and characters that are different, it also promotes the consideration of those elements as being the new normal. To clarify, the difference (estrangement) is achieved by replacing elements within the schema in a way that they remain recognisable (normal) although they had been modified. Just as the uncanny depends on high levels of familiarity to manifest themself, high levels of estrangement create a new reality that is easier to accept for the audience. In other words, as high verisimilitude facilitates the emergence of uncanniness because it exists in this space between the almost real and the perfectly real, high estrangement makes it easier, not harder, for audiences to accept the new setting, the new baseline world.

Real World Schema	Star Wars Schema
Cars	Speeders
Swords	Lightsabers
Samurai / Knights	The Jedi
Vietnam War / Guerilla Fighting	Battle of Endor / Ewoks
F1 / Nascar	Pod Racing
Racial Segregation	Species / Droid Segregation
...	...

Figure 8 - Schema replacement pattern example in Star Wars

Estrangement then, is what is provided within a text to identify it and its content as Imaginary Fiction (science-fiction, fantasy…). It works by adjusting preconceived

55 - Writers occasionally play with the audience with this idea. For instance, in *Demolition Man*, the hero (who awakes 45 years in the future), is made fun of by other characters because he does not know how to use the three sea-shells in the toilet. No explanation is ever given as to their uses, but the substitution is clearly nonsensical, and designed to make the audience empathise with the strangeness of the protagonist's situation.

schemas and replacing some of the schemas that comprise them with new (novum) ones. But a text can only be accepted as such if audiences are willing to engage with these estranging elements and do not reject them. Samuel Coleridge addresses this issue by invoking another phenomenon he called suspension of disbelief.

Supernatural Aid: (Willing) Suspension of Disbelief

In this section, I will focus on the concept of suspension of disbelief, as put forward by Samuel Coleridge in the early nineteenth century. I will explore the historical context that gave rise to the idea and to Coleridge's drive to formalise it, but I will also look into the inner workings of the notion, the reasons of its lasting popularity in academia, and how, using schema theory, it aligns with and complement the notions of estrangement and of the uncanny as used in the present work. Suspension of disbelief is very much a notion that is based on the reading dynamics that exists between the author and his audience. It can also manifest in a variety of ways: for instance, when audiences experience the dubbed version of a film, they have to suspend their disbelief as to the relation between the actors' lip movement they see and the sounds they hear.

The relationship between author and reader was of great importance to the English poet Samuel T. Coleridge, who in his is 1817 opus *Bibliographia Literaria* put forward the idea of willing suspension of disbelief as a mediating concept between author and reader. It was with his project Lyrical Ballads, in which he decided that his "endeavours should be directed to persons and characters supernatural […]" (Coleridge, 1817: 6), that Coleridge started to engage with the idea of suspension of disbelief. By choosing subject characters and stories that are not grounded in a representation of reality as his audience knew and understood it (outside of their zero world), Coleridge realised that his role as an author was to ease his readers into his non-realistic settings, and to give them the tools to put themselves in a state of mind that would be conducive to their immersion, the acceptance of the estranging elements of the story, and, ultimately, enjoyment of his tales.

In order to engage meaningfully with the concept, that has since its inception "transcended time and place" (Ferri, 2007: xi), knowledge of Coleridge's original quote is necessary:

> "*It was agreed, that my endeavours should be directed to persons and characters supernatural, or at least romantic, yet so as to transfer from our inward nature a human interest and a semblance of truth sufficient to procure for these shadows of imagination that willing suspension of disbelief for the moment, which constitutes poetic faith.*" (Coleridge, 1817: 5).

In this section, I will explore various interpretations of the concept of suspension of disbelief, in particular with regard to cinema, and I will link suspension of disbelief to the concept of schema as a connective element to the notion of the uncanny and the uncanny valley.

Meeting the Mentor

After Yoda has used his Force powers to extirpate Luke's X-Wing fighter from the Dagobah swamp he had crashed it into, Skywalker's reaction is that he "cannot believe it". To which the nine hundred years old Jedi master answers: "that, is why you fail". In this exchange, Yoda expresses precisely the sentiment conveyed by Coleridge's suspension of disbelief idea: one needs to open one's mind a little, or willingly loosen one's grip on reality, in order to be able to buy into the extraordinary stories and heroic feats featured in Imaginary Fiction worlds.

The idea of willing suspension of disbelief, very much like the concept of the uncanny, is "a difficult term" that bears "rhetorical weight, poetic construction", and that "seems at once amorphous and very true" (Brown, 2012: 3). The reason why it has endured for more than two centuries is undoubtedly that "it describes very well what we *feel*[56] is happening in a lot of situations that Coleridge could never have imagined" (Holland, 2009: 61). And even though the term has been criticised as being "a simplistic 'toggle-theory of engagement'" as well as "too broad and encompassing" (Gerrig, 1998; Ferri, 2007), there is "a wide consensus that something is happening" in the reception of fiction (Brown, 2012: 63), and in particular in our ability to accept and get immersed in what we cognitively recognise as non-zero worlds and stories such as those featured in science-fiction and other related genres.

The formulation of the concept originates from an anxiety of Coleridge to not lose his audience when writing about topics or situations that do not strictly adhere to their understanding of reality. The time period during which Coleridge formalised his idea was propitious to the emergence of a paradigm shift in the understanding of what constitutes Imaginary Fiction and of what it can achieve or at least aim for. Indeed, only six years separate Coleridge's expression of his need to address this issue and the publication of Mary Shelley's *Frankenstein*, which is widely recognised as one of the first examples of modern science-fiction literature (Rose, 1976: 2; Luckhurst, 2005: 5; Wolfe, 2012). What is striking about this time frame is that it speaks of a common idea, a symptom of the time, a shared zeitgeist.

---

56 - Emphasis in the original.

For modern science-fiction to even exist, there needs to be the presence, influence, and recognition of science in the author's and audience's zero world. And science, of which the scientific method is the most central incarnation, is the by-product of the scientific revolution that began in the West in the sixteenth century, and that led to the period of the Enlightenment. There were examples of fiction involving the supernatural before this period, mostly in the form of gothic literature, but they could not be understood as strictly supernatural without the notion that the world functions according to a set of natural rules (whether these rules are understood or not). With this rise in popularity of the notion that the supernatural is what operates outside of the natural, and by understanding that the rules of the natural world can be mastered and used for the benefit of mankind, events like the writing of Frankenstein and the conceptualisation of the notion of suspension of disbelief logically happened. Frankenstein describes the creation by science of an artificial man. It is a story that is predicated on some knowledge of biology and the mastery of electricity, where the necessity to formalise suspension of disbelief stems from a realisation that audiences might not be willing anymore to simply take for granted any supernatural phenomenon like they might have done in a more superstitious past. It is a piece of work that acts as a transitional fossil between the gothic style – more interested in emotions and horror – and a more modern, proto-scientific approach based on the values of the Enlightenment.

Since the formulation of the idea of suspension of disbelief by Coleridge, it has become immensely popular, and even though it was originally expressed with the intention to contextualise a particular flavour of poetry, it "now serves to describe audience captivation in any medium, whether poem, novel, or film" (Ferri, 2007: ix).[57]

It is arguable that Coleridge's concern was that, in the light of their new-found critical capacities in the more scientifically aware climate of his time, readers might express some resistance to the idea of engaging with irrational or "supernatural" stories. In this type of situation, the onus is on the writer to provide a resemblance of truth to the reader who agrees to suspend disbelief for the sake of entertainment. Coleridge, according to Brown (2012), is worried that his audience might fail to get captivated by his stories if they feel that they fall outside the realm of the natural. That is why, in *Lyrical Ballads*, Coleridge decided to write prefaces to his poems, to make sure that his readers would be in "the perfect frame of mind for the reception of each poem" (Brown, 2012: 58). This could be understood in terms of re-tuning or re-adjusting the readers' schemas in order to facilitate immersion. These prefaces,

57 - Video games can now be added to the list.

Browns argues, "act as poetic devices outside the poem, a kind of launch pad or bridging structure devoted to the creation of the cherished 'poetic faith'" (ibid: 59). In other words, Coleridge's prefaces serve as a gateway, or a segue from the zero world into the non-zero world in which the story takes place, signifying the reader that everything that comes behind this transitional phase is not to be judged by the rules of the zero world, but according to the new set of self-consistent laws that govern the fantasy world. Here be Monsters.

Films do not generally have prefaces, but that does not mean that there is no paratext surrounding them. All the Star Wars films open with a single silent title card that reads "A long time ago, in a galaxy far, far away….",[58] a narrative and deictic move that immediately informs the audience that what they are about to witness is akin to a fairy tale, and that the events of the story took place (if at all) in a different place, and at a different time. The callback to the fairy tale's *once upon a time* convention is relevant because fairy tales are mainly intended for children and their wild imagination, and seems to encourage the audience to look at the film through children's eyes, or to relax their expectations of realism. Equally, from Lucas' own admission (2017[59]), Star Wars is mainly directed at children and young adults and meant as a metaphor for the transition from childhood into adult life (the main theme and message of the Hero's Journey). The goal of the once upon a time-like stylistic device is to (partially) simultaneously anchor the text into the fairy tale category, while deictically placing it in the same universe as the viewer, just somewhere else and someplace else. By doing so, the opening title card grounds the audiovisual text to follow in some kind of relatable reality while, by using the fairy tale-style formula, opening the door to fantastical elements.

The second thing that viewers are exposed to when watching a Star Wars film,[60] after the main title card that appears to the sound of John Williams' iconic score, is an opening crawl – the closest thing to a preface a film can have. And in this case, the opening crawl serves the same purpose as Coleridge's prefaces: to ease the audience's transition from the real world – their world – to the self-contained and self-consistent world of the film. Each opening crawl, more specifically, presents the individual film as an episode[61] of a wider story, and, on top of giving context for the two-hour slice of story to come, promotes the idea that the universe of Star Wars does not stop

---

58 - There are four full stops in the ellipsis in the title card.

59 - https://www.youtube.com/watch?v=THKzwzieF40. Keywords: Star Wars 12 year-olds.

60 - I am referring to the numbered entries in the series. *Rogue One*, the first Star Wars stand-alone spin off film does not have an opening crawl, although it starts with A long time ago….

61 - Although the word "episode" and the numbering (IV) were not present until the 1981 re-release of *A New Hope*.

at the limits of the frame, but that other events unfold across the galaxy in which the story we are following takes place, even where and when we, the audience, are not looking. In other words, the opening crawl in Star Wars mirrors Coleridge's prefaces with which he "sutures reality into the fantastic" (Brown, 2012: 58). The opening crawls, which were incidentally inspired by the television serial *Flash Gordon* (1937), also share other aspects with Coleridge's world of poetry. "You have to be careful that you're not using too many words that people do not understand. It's like a poem", confided George Lucas in 2005 (Pearlman). He even originally wrote the crawl as "six paragraphs with four sentences each" (ibid.) before editing it with the help of Brian De Palma to its final three-paragraph and roughly 80 word form. The relation of Star Wars to poetry does not stop there. The structure of the films themselves, inspired by the narrative structure of myths and legends as they are, also borrows from the formalism of epic poems, and is designed to narratively and visually rhyme (as illustrated by this video montage[62]), creating throughout the series a self-contained and self-referential narrative frame on which audiences can rely to feel at home.

Coleridge, then, uses his prefaces to ease the transition from the real world to the fantasy world, to prime his audience and induce in them a sort of dream-like state, in which the dreamer accepts the narrative content he is experiencing regardless of how illogical it appears to be (Brown, 2012). This approach and consideration of the reader closely mirror Kracauer's when he compares watching a film to being in a sort of "dream-like state" (1960, 303), an impression "conveyed by sudden displacements of time and space" – temporal and spatial deixi – and "shots comprising 'of another dimension'" (337) – or in Suvin's terms portraying a non-zero world. Kracauer also raises the question of "what elements of film may be sufficiently dream-like to send the audience into reveries" (334). In Coleridge's paratextual understanding of the phenomenon, these elements are what surrounds the experience of a text.

This dream-like state audiences are encouraged to experience while watching a film has a lot to do with the ceremonial aspect of the act of going to the movies. The experience of going to the theatre to watch a film is an important part of priming suspension of disbelief. It involves walking into a dedicated venue – very much like stepping into a different world – whose walls are covered in film posters, and a smell of popcorn in the air. The purchase of the ticket is a transaction that signifies the transition from the outside world to the inside one, and it leads to a walk to the theatre proper. And when the film is ready to start, the lights go out, and the curtain is pulled to the sides. All these elements, so mundane at first glance, can

62 - https://www.youtube.com/watch?v=k7ZW1gtCljs.

and should be interpreted as external factors that facilitate the spectator's ability to suspend their disbelief for the next two hours, to induce a state of mindlessness that will make believing the events portrayed on screen easier. In other words, audiences are encouraged for the duration of the film to follow the same piece of advice given by Qui-Gon Jin to Anakin Skywalker before the Boonta Eve pod race: "feel, don't think". The end credits, together with the turning back on of the lights, can be seen as playing the opposite role, a transitional signifier that the show is over and that the return to the real world is imminent.[63]

But the reader, or viewer, has to be, at least for Coleridge, willing to be part of the experience, and to be willing to participate in their own immersion. This particular part of the expression is often "skipped over in the shorthand" (Brown, 2012: 62), mostly because it seems contradictory with the sentiment of the sentence. It is telling that Brown picks up on the frequent omission of the word "willing" in scholarly conversations about Coleridge's concept, before almost immediately moving on himself to another topic. It is unclear what Coleridge exactly means by the word "willing" in this context, but he seems to be thinking that there is a sort of arms race going on between author and reader when it comes to accepting the content of supernatural stories. The role of the author, he considers, is to overcome the reader's potential unwillingness, or resistance, to immerse himself in the story, by providing compelling reasons for him to let go of his real-world reference points and to embrace the fictional ones. To rephrase the point, Coleridge encourages authors to provide anchor points into the fictional world in order to convince readers to engage, be drawn to, and stabilised willingly with the non-realistic material. This is still, to this day, a problem that works of Imaginary Fiction have to contend with, in particular sub-genres like science-fiction, which tend to carry with them a reputation of childishness and immaturity. This vision encourages authors of non-realistic texts to provide their readers with extratextual material, such as maps, appendices, genealogical trees, and other technical schematics, which serve as "transitional artefact[s] imbued with the fiction of the world [they are] describing" (Brown, 2012: 87).

This practice has since become omnipresent in science-fiction and fantasy literature, a fact that testifies to the validity of Coleridge's intuition. These paratextual elements (as present in The Lord of the Rings, A Song of Ice and Fire, or again the Honor Harrigton series), work because they fit cognitive functions that readers possess and use to infer things about the real world, and therefore are able to use as fictional anchor points to infer things about the fictional world. This outlook on the topic of reader acceptance is best understood through the conceptual lens of schema.

---

63 - Home media consumption is somewhat different.

The idea of using the concept of schema to think about suspension of disbelief originates from Richard J. Gerrig, who refers to the concept as a shared representation of things between the artist and the audience, which allows communication between the two. The definition of schema as given by Fiske and Taylor in their 1991 seminal book Social Cognition is of "a cognitive structure that represents knowledge about a concept or a type of stimulus, including attributes and the relations to those attributes" (98). Attributes, in this context, can be anything physical or cognitive that can be framed in terms of a priori knowledge that is in a position to be compared with the actual nature of the thing. For instance, with the verisimilar prosthetic hand Mori uses as an example, the attributes of the limb would be its appearance, its sensation to the touch, and its motion. On sight, the hand would evoke the ideas associated with a real hand, and more importantly would not raise any concerns or worries. In other words, a verisimilar prosthetic hand would call upon the same visual pre-conceived expectations as a real hand, and therefore prime secondary expectations of touch, drawn from and associated with the visual inputs experienced. The expectations of warm, soft flesh on touch are therefore anticipated from prior experience of the relation between other visually similar hands and their attributes to the touch.

This definition maps on almost perfectly with the definition of the uncanny, which arises from conflicts between what is expected (knowledge about a concept or a type of stimulus) and what is experienced. In uncanny valley theory, this fits with the conditions of perceptual mismatch (attributes and the relations to those attributes are mismatched on a particular stimulus).

Schemas, Ferri argues, "are used to categorize and interpret information" (2005: 23), and are built on "conceptual expectations about people, situations, and ourselves" (ibid.). This aspect of schema theory aligns with the category uncertainty explanation of uncanny valley theory, which suggests that uncanny feelings can arise when the brain is unable to properly categorise and therefore interpret a stimulus. The conceptual aspect referred to by Ferri also applies to the creation of constructed languages as frequently used in works of Imaginary Fiction, and to the way the translation of such works is strategised.

But the parallels do not stop there, in particular when exploring the limits of the phenomena. Suspension of disbelief, within the "artistic canon of film[,] requires the framing of recognisable schemas" (23). These conventions (of the recognisable sort) can be played and tampered with, but a complete rejection of schemas might be confusing for the viewer. This type of situation relates to obviously *other* situations, and addresses the issue of suspension of disbelief not happening at all (equally, our finely ornamented wooden prosthetic hand does not try to pass as a real one, and

is therefore not concerned by the uncanny). It is in the fringe areas of cognitions that uncertainty lies in wait. Indeed, "when given unclear, or what happens to be unstructured or unfamiliar information, humans compare such unclear information to what is clear and familiar" (Ferri, 2005: 23). The vocabulary used by Gerrig and Ferri is strikingly similar to the one used when discussing the uncanny, and their conclusion is similar too.

Ferri points to the opposed states of mind that Ellen J. Langer calls mindlessness and mindfulness. Routine tasks, Ferri argues, are encoded in our cognitive software, compressed in such a way that they require little to no brain processing power to be carried out. Mindlessness, he continues, involves "minimal processing" and "over reliance [on] existing categories" (Ferri, 2005: 25), while mindfulness is a state "in which the individual actively processes information" (ibid.), of "alertness" (Langer, 1989: 138) and "active information processing" (ibid.). Accepted, or familiar, elements, are unconsciously processed by our brains. As long as this situation remains undisturbed, suspension of disbelief and immersion are unaffected. It is only "when confronted with information or cues that are inconsistent with our schemas [that] our encoding becomes strained, focused, or more involved" (Ferri, 2012: 22-23, Fiske and Taylor, 1991: 124). Then again, this upset of status quo and the transition from one state of mind to the other is consistent with what is observed and understood about the uncanny.

There are two main categories of elements that are used in the immersion process: disrupting elements, which create estrangement by challenging the reader or viewer; and anchoring elements, which help them suspend their disbelief by giving points of reference to which to relate.

Schema theory, as it has just been shown, can be expressed as a visual map of the various concepts, real or metaphorical, that are associated with a particular idea. This type of cognitive maps, I will demonstrate in chapter three, is also used in translation with the use of conceptual metaphors, a practice that is particularly appropriate for the translation of science-fiction language and imagery.

Anchoring and Disrupting – Tug of War

Schemas are frameworks through which we experience the world, they are the way we organise the multitude of individual elements that make up our reality, and they are the way we make sense of new experiences. One reason why works of science-fiction and other Imaginary Fiction genres connect with audiences and are accepted by them is that the worlds they describe can be understood and made sense of through the same mental maps we use to navigate our zero world. This is also true of narrative structure, as will be demonstrated in the third part of this chapter.

Objects, ideas and experiences can therefore essentially be split into two categories: those that are inside a particular schema, and those that are outside. The ideas and concepts that belong to a pre-determined schema, along with all the other elements in their group, form a preconceived and familiar experience. These elements are anchoring points we use to navigate reality. The elements that are outside the confines of a particular schema, while still existing within a comparable conceptual realm, can be used to disrupt said reality.

Anchoring points, as their name suggests, maintain a concept or schema in a balanced, ordered state, one that promotes a state of mindlessness in the reader of the text. Anchoring elements, in terms of expressions of the uncanny feeling, are the custodians of familiarity and mindlessness. They are the domesticating elements of a story or an imaginary world. In narrative terms, they can be expressed through classical storytelling features consistent with the text's genre. For instance, the heroes of a romantic comedy will fall in love, encounter an obstacle that will drive them away from one another, and eventually end up together. Indeed, from *When Harry Met Sally* to *Notting Hill*, the narrative structure remains almost identical. All genres are bound by a similar set of rules and narrative devices that define them as a genre: the detectives go from clue to clue until they catch the murderer (thriller, murder mystery), the characters die one by one until the main protagonist defeats the serial killer (horror, thriller), the hero saves the day by disarming the bomb at the last second (espionage…). Indeed, groups of schemas can be understood as forming motifs that will be recognisable as such as long as enough of their individual elements are present.

Disrupting elements, on the other hand, are things that disturb the viewer or reader's state of immersion by not fitting with the parts that surround it. In uncanny terms, disruptors can be thought of as perceptual mismatches, elements that should not be where they are, or at least not in the quantity they appear in, and that make the overarching element with which they are interacting suddenly unrecognisable. In other words, they are potentially foreignising, and a source of mindfulness that could break immersion.

These elements are not necessarily damaging to the piece they are interacting with. Indeed, they are indispensable to the creation of estrangement, but also surprise, and often humour. When well done and introduced properly, disruptive aspects can be used to the benefit of a storyline. Jokes, for instance, often offer unexpected punchlines that make sense because they rely on a secondary potential reading of the premises ("My grand-father has the heart of a lion, and a life-time ban from the zoo"), and plot twists please us because of the same reasons, because we enjoy being fooled, as long of course at it is willingly. *The Prestige* (2006) is a perfect

embodiment of this principle, and the film goes as far as explaining to the audience the three components of a magic trick: the Pledge, where "the magician shows you something ordinary" (Cutter, played by Michael Cain), the Turn; where "the magician takes something ordinary and makes it do something extraordinary" (ibid.), and the Prestige, which is the surprise third act. Christopher Nolan, the director of *The Prestige*, then proceeds to tell a story that follows exactly those principles, while being itself centred around this very theme, before revealing to the unsuspecting audience that the film itself was a magic trick designed to fool it. The twist, indeed, is a popular storytelling device because when well executed, it satisfies our desire to be surprised, temporarily thrown off balance from our stable and predictable mental patterns. This is at least partially why films such as *The Usual Suspects* (Verbal Kint is Kayser Söze) or *Fight Club* (Jack is Tyler Durden) are so satisfying to watch, and are the objects of so many discussions.

Disrupting elements can also be used to subvert audiences' expectations, for better or worse. In David Fincher's seminal thriller *Zodiac*, the killer is never apprehended for instance, a denouement that goes against the detective story schema ingrained in our collective understanding by works like Agatha Christie's Poirot stories or each and every episode of *Columbo*. An ending like the one in *Zodiac* is unsettling, almost uncanny, because it is unexpected, because it does not scratch this itch that the detective story schema we are familiar with unconsciously triggered in our psyche.

The Star Wars franchise recently made its own attempt at subverting its own myth (by setting up events in one film only to ignore them in the following instalment), with disastrous consequences, showing how fine a line there is between surprise and disappointment not unlike the line between the familiar and the uncanny.

In terms of character design, anchoring and disrupting elements can take the form of various visual and physical attributes - size, number of limbs or eyes, skin texture, method of locomotion – but also auditory ones – voice, language, speech patterns. For instance, a creature like Jabba the Hutt is designed to be obviously alien – the character is frequently referred to as a disgusting giant slug – but it is still understood as a character, not just a monster. Despite his non-humanoid body, Jabba is still relatively human-sized (or at least, his eyes are level with those of human-sized creatures, which allows for comprehensible eye contact patterns), and is equipped with two arms and hands, two eyes, and a mouth. And although Jabba does not speak Galactic Basic, his Huttese speech patterns and sounds are understood as language (more on the topic in chapter three). In terms of schema, anchors, and disruptors, Jabba's design could be understood as follows: the creature fits the schema of a sentient character, its anchoring qualities are his humanoid-like

facial features, upper limbs, and conversational powers, as well as a deep voice that matches our expectations of sounds being produced by the large chest area, while its disrupting qualities are its slug-like body, oversized yellow reptilian eyes, and alien language.

The character is still recognisable as such because some of the character schema elements have been substituted by others. We are able to understand that characters, just like real-life people, can speak languages we do not understand, and that those languages can be comprised of sonorities that are alien to us. Equally, we know to accept that others can have different physical attributes from ours. The slug like body of Jabba, for instance, calls upon a different schema that we possess, which evokes disgust. All together, these substitutions keep the overall character schema recognisable, but it now contains enough disrupting element so that we accept Jabba as a character while immediately recognising him as other – alien – and negatively connotated. In other words, the work of world building has shifted our expectations of what characters can be: by modifying the universe's rules, it has made us accept-ant of its modified inhabitants.

Similar readings can be made for other alien characters, but also every estranging element of Star Wars and science-fiction in general. For instance, speeders replace cars (individual modes of transportation with seats, steering, the equivalent of a bonnet, lights – but the wheels are replaced by anti-gravity fields), blasters replace guns (gun-like design – but bullets are replaced by bolts of energy), and spaceships replace airplanes and boats. The opening sequence of *Revenge of the Sith* is largely presented as a naval battle in space, in which rows of canons being manned by soldiers along the flanks of the ships fire at a similarly equipped enemy.

Immersion, in worlds and stories of science-fiction or fantasy, is a balancing act between estrangement and suspension of disbelief, between disrupting elements and anchoring elements in the world building and the storytelling. The storytelling aspect of immersion, in particular in the Star Wars franchise, occupies a place of great importance because it has been consciously thought of by George Lucas to a very large extent as a schematic, structuralist narrative with a particular goal in mind: being a myth for our times.

The Hero's Journey

This chapter has up until now focused on explaining how immersion – the fact that audiences "buy into" stories of Imaginary Fiction – is a factor of audiences' willingness to suspend their disbelief for the duration of the performance and of the narrative devices employed by the author to sell his work as believable through a form of estrangement. Those two phenomena work in conjunction, and are possible

because they use preconceived cognitive maps (schemas) and substitute elements from those maps that they replace by novums[64] (new things) that set the fictional setting of the story apart from the zero world. The main formal device, or in Brecht's words, the "poetic and theatrical means", employed by the Star Wars films to create estrangement is commonly referred to as the used universe, which is also the entire novum of the series, and the final section of this chapter is dedicated to exploring the ways the used universe functions, the ways it is successful, and how it sometimes falls short. But first, I will explain to what extent the story of the Star Wars saga itself, in particular the original trilogy, fits the concept of schema.

The Monomyth

As has been shown earlier, schemas consist of groups of interconnected concepts related to an overall idea or narrative. Stories, in particular folk stories, myths and legends, are comprised of schemas. And the idea of schema, I argue, can be connected to the concepts presented by Carl Jung in *Archetypes and the Collective Unconscious*. In *Archetypes*, Jung defines the collective unconscious as a set of "contents and modes of behaviour that are more or less the same everywhere and in all individuals" (1959: 14), and archetypes as "primordial types", or "universal images" (1959: 15) recognisable by our collective unconscious. Myths and fairy tales, he argues, are perfect examples of "expressions of the archetypes". Jung himself found inspiration in the work of mythologists and anthropologists such as Edward Taylor and Lucien Lévy-Bruhl at the end of the nineteenth and beginning of the twentieth century.

It is Joseph Campbell, however, in *The Hero with a Thousand Faces* (1949) who popularised the idea with modern audiences. In *Hero*, a piece of work that looks at and analyses the structure and content of myths and legends from all around the world and from all eras, Campbell argues "that there is a common underlying, unconscious structure behind all religion and myth" (cited in Mann, 2008). This common structure, Campbell calls the Monomyth (a word borrowed from James Joyce's Finnegans Wake (1939)), or the Hero's Journey.

Campbell's interpretation of the Monomyth comprises of seventeen stages, separated in three main arcs: Departure, Initiation, and Return. These are in turn split into sub-acts.

> "*Departure*": The Call to Adventure, the Refusal of the Call, Meeting the Mentor, The Crossing [of] the First Threshold, The Belly of the Whale,

64 - Can also be spelled *nova*.

"*Initiation*": The Road of Trials, The Meeting with the Goddess, The Woman as Temptress, The Atonement with the Father/Abyss, The Apotheosis, The Ultimate Boon,

"*Return*": The Refusal of the Return, The Magic Flight, The Rescue from Without, The Crossing of the Return Threshold, Master of Two Worlds, and finally Freedom to Live.

It is easy to see how we intuitively recognise most of the steps described by Campbell as accurate representations of various popular stories we are familiar with. In LOTR, Frodo is given the responsibility of being the ringbearer, his Call to Adventure, the mission to carry the ring to a safe place, is imposed onto him by his Mentor, Gandalf. Then Frodo and his companions cross the edge of the old forest, their First Threshold, and get saved from the willow-tree (their Belly of the Whale). They later embark on a Road of Trials on their way to meet Galadriel (the Goddess). The other elements are there too: the One Ring is the Temptress, as well as the Ultimate Boon; the characters are Saved from Without by the Eagles, who take them into a Magic Flight. And finally, they return to the Shire, Cross the Return Threshold, now Masters of Two Worlds (the world outside and the world inside), and enjoy the Freedom to Live their lives. The Lord of the Rings saga fits the template almost to a tee, but numerous other stories follow the structure more or less faithfully, including Greek myths like *Jason and the Golden Fleece* and the journey of Odysseus (whether the hero of *The Iliad* or of *O Brother, Where Art Thou?*, or on a smaller scale *Ulysses*' Leopold Bloom), the legend of King Arthur (Excalibur as the boon, Merlin as the mentor, Genevieve as the temptress…), as well as "the ancient Sumerian epic of *Gilgamesh*, the Irish legends of *Finn McCool*, even in the story of the Buddha (not to mention hundreds of tribal myths from all over the world)" (Mann, 2008). As reference, Douglas Mann gives us in his book *Understanding Society* (2008) a table identifying both the archetypes and the various stages of the Hero's Journey in different stories:

Character / stage in the Hero's Journey	Star Wars 1977	The Matrix (1999)	O Brother, Where Art Though? (2000)
Hero	Luke Skywalker	Neo	Ulysses Everett McGill
Mentor (Magician)	Obi-Wan (later Yoda)	Morpheus	Blind railwayman
Goddess	Princess Leia	Trinity	McGill

Villain (the Dragon)	Darth Vader	Agent Smith	Sheriff Cooley
Rogue	Han Solo	Tank or Cypher	Pete Hogwaller
Jesters & Tricksters	Chewbacca, droids	Mouse	Delmar O'Donnell
Magical power	The Force (dark & light)	Control of the Matrix	Music
Stages in the Hero's Journey			
I. Departure			
I.1. Call to Adventure	Luke watches holo-recording from Princess Leia asking for help	Trinity hacks into Neo's computer with warning: "Wake up Neo"	Everett, Pete and Delmar escape from the chain gang
I.2. Refusal of the Call	Luke feels he has to help with the harvest	Neo reluctant to go with his friends to the club	/
I.3. Supernatural Aid	Obi-Wan rescues Luke from the sandpeople	Morpheus' magic phone call, later tells Neo his world is an illusion	Blind railwayman offers them a prophecy (=Tireseas in Homer)
I.4. Crossing the Threshold	Luke's aunt and uncle killed, Luke leaves Tatooine	Neo takes the red pill, leaves the Matrix	Trio visits cousin Washington's farm
I.5. The Belly of the Whale	Trio trapped in the garbage compactor	Neo captured by agents OR Neo ejected into underground wet cavern	Trio trapped in burning barn by sheriff
II. Initiation			
II.6. Road of Trials	Lightsaber practice, rescue of Leia	Neo undergoes training, meets Oracle, battles three agents	Encounters with Big Dan (=Cyclops in Homer) and Baby Face Nelson
II.7. Meeting with the Goddess	Luke meets Princess Leia	Neo meets Trinity in dance club	The meeting with Penny (Penelope), Everett's wife, later in the film

II.8. Woman as Temptress	Not literal: Luke is tempted by the dark side in *TESB*	[Cypher tempted by the promise of oblivious pleasure in the Matrix]	The sirens tempt our heroes, turn Pete into a frog? (=Circe in Homer)
I.I9. Atonement with the Father	"I am your father" in *TESB*	Neo returns to the Matrix to save Morpheus from the agents	/
I.10. Apotheosis	Luke becomes a Jedi in *ROTJ*	Neo killed by agents, resurrected by Trinity's love, now invincible	Trio record song Man of Constant Sorrow as the Soggy Bottom Boys
II.11. The Ultimate Boon	The Death Star is Destroyed	Vaguely, the destruction of the Matrix (not resolved in the first film)	Supposedly bank heist money, but really Penny and 7 Wharvey gals
III. Return			
III.12. The Refusal of the Return	Luke wants to stay to avenge Obi-Wan during the docking bay shoot-out	Neo stays in the virtual subway station to battle Agent Smith	/
III.13. The Magic Flight	The Millennium Falcon escapes the Death Star, pursued by fighters	Vaguely, Neo's running battle with the agents in last third of the film OR literally, "superman flight" to save Morpheus in Reloaded	The rescue of Tommy from the Klan, escape from angry Klansmen
III.14. Rescue from Without	The Millennium Falcon shows up during the battle, saves Luke	Perhaps Neo being resurrected by Trinity's kiss	Governor Menelaus "Pappy" O'Daniel pardons trio after song

III.15. Crossing the Final Threshold	The Millennium Falcon fights a running battle with TIE fighters	Neo "kills" the three agents after his apotheosis	Caught by sheriff, about to be hung, saved by the Great Flood (cow on the roof)
III.16. Master of Both Worlds	Luke destroys the Death Star; the Force is with him	Trinity's love has saved the physical Neo, and he has become the "One" OR, blinded Neo now has powers outside of the Matrix as well as inside	"Ulysses" freed from prison and gets his family back
III. 17. Freedom to Live	Victory ceremony at the end of *ANH* (or defeat of the Empire in *ROTJ*)	Neo back in the Matrix, his phone call prophesises revolution	"Ulysses" is free to live a normal life

Figure 9 - The Hero's Journey - reproduced with permission

George Lucas was a student and admirer of Joseph Campbell's work, whom he even once affectionally called his "Yoda", and even though Campbell did not see the Star Wars films until the original trilogy was complete, he did approve of it (the cantina scene is said to have been his favourite). It is George Lucas, incidentally, who pushed for the series *The Power of Myth* to be made, and the TV programme turned Campbell into a minor celebrity. Before that, "most audience members […] were not aware of the age-old archetypes at work in [Star Wars]" (Seastrom, 2015: 1), even though when it comes to storytelling, "the power resides in the experience equally as much as the understanding" (John Williams, in Seastrom, 2015-1). In other words, it is not necessary to understand the mechanics at work in order to be able to fully appreciate the result.

All three Star Wars trilogies (as well as the stand-alone films) do contain all those elements, albeit not necessarily in the order presented by Campbell. The heroes, originally, are reluctant to leave their situation: Luke has to help with the harvest, Anakin does not want to leave his mother behind, Rey is waiting for her family to return, Jyn has no desire to join the rebellion, and in *Solo*, Han is forced into joining the Imperial Army. They will all, however, meet a mentor (Obi-Wan and Yoda for Luke, Qui-Gon Jin and Obi-Wan for Anakin, Han and Luke for Rey, Beckett for

Han) and have to leave their situation behind and cross the threshold of its normality. In Star Wars, this typically means leaving one's planet behind and joining a cause. Luke leaves Tatooine and joins the Rebellion, Anakin joins the Jedi Order, Rey the Resistance… They then embark on a journey full of trials, fighting the Empire or the First Order, meeting the goddess (Leia, Padme, Qi'ra), and often having to escape the belly of the beast. In *A New Hope*, *Jedi*, and *The Force Awakens*, this means escaping the villain's battle station before it is destroyed (and even at a more granular level in *ANH*, the heroes get caught and have to escape a trash compactor inside the Death Star). But Han Solo has to escape his own belly of the beast quite literally at least twice (in *Empire* when he escapes the Exogorth, and the Purrgil in *Solo*). The atonement with the father step is also often quite straightforward and either literal (Luke facing his father Anakin), quasi-literal (Anakin facing his father figure in the person or Obi-Wan), or metaphorical (Han and Beckett). The woman as a temptress step is perhaps a little less obvious in some respects. In *Solo*, it is clearly Qi'ra, his love interest, but for the rest of the series, the temptation is represented by the dark side of the Force.

The other steps of the journey are also present in most Star Wars films. The ultimate boon/apotheosis is for Luke becoming a full-fledged Jedi at the end of *ROTJ*, although Anakin fails in the prequel trilogy and falls to the dark side, his ultimate boon is to become a powerful Sith Lord. In *Solo*, Han acquires the Millennium Falcon. The ultimate boon step is one of the topics in which the most recent trilogy attempts to subvert the dramatic structure of the story. Unfortunately, by presenting a main character who is already an expert at pretty much everything (from close combat to spaceship flying and repairing security systems, using the Force and fighting with a lightsaber), the narrative arc for the character is rather uninspiring and does not promote immersion from audiences. This is a tribute to the efficacy of the Hero's Journey structure that it frames our desire for character development so well.

Other aspects of the journey are also of course represented, although maybe less directly so. The rescue from without can be mapped onto the Falcon escaping the second Death Star or the Kessel gravity well, or again Anakin and Obi-Wan escaping General Grievous' ship. The master of two worlds and freedom to live stages are Luke being free from the Empire and to start a new Jedi Order, while Han Solo is free from his past connections and to live his life the way he chooses to (which is how we discover him in *ANH*).

Narratively then, even though it shapes it into a variety of unique stories, the Star Wars saga very much works according to predefined story motifs, or schemas. This is because, like many stories divided into larger chapters, each chapter has to have its own journey, while following a larger narrative arc. Although Campbell does not

refer to structuralist theory, of which schema is an expression, "the Monomyth is a clear attempt to find an underlying structure beneath the many surface manifestations of the story of the great quest found throughout the world" (Mann, 2008: 1). And structuralism, as it turns out, "is big box office" (Mann, 2008: 2). The narrative aspect of Star Wars, then is designed to be familiar to audience, to comply with viewers' pre-existing schemas.

Conclusion

Star Wars is more than a series of films, it is a universe, and an aesthetic. The reason it connects with audiences the ways it does is because for the most part it succeeds in achieving very high levels of estrangement – it transports audiences to a very other place – while showing great skill in facilitating suspension of disbelief in the viewers, and therefore making this strange place recognisable and familiar. The ways it achieves such immersion is by maintaining a balance between all the necessary ingredients that promote audiences' desire to relinquish some of their critical faculties for the duration of the experience. One of the main ways the saga achieves this is by presenting to its viewers story elements that fit preconceived classic schemas (although to some extent modified) along with a credible world that also functions, at least on the surface, according to what audiences' expectations of reality are. By asking the audience to somehow recalibrate their expectations, genres of Imaginary Fiction also tend to reduce the space in which the uncanny can arise.

There is one more dimension to estrangement that is typical of science-fiction and Imaginary Fiction in general, however, and that has not been mentioned up until now. This dimension is the way genres of Imaginary Fiction use language to create estrangement – both the way they utilise language, and the way they portray the use of languages.

Language being at the core of this thesis, which focuses on the effects of language on the reader/viewer/listener, the next chapter will be dedicated to the uses and portrayals of language in Imaginary Fiction literature and cinema, and how the uncanny and schema can be used as critical tools to explore the strategies employed by authors to provide their readers estrangement through language.

– Third Threshold –

Encounters

"Unless you own a protocol droid programmed to speak over six million languages, you are going to need some help to make yourself understood in your travels through the galaxy" (Burtt, 2001: 4). Even on Earth, visits from other species more often than not revolve around issues of communication. When the visitors' intentions are hostile, like in *Independence Day*, the key to understanding the attackers' strategy is to break down the code they use to synchronise their attack. In Robert Zemeckis' *Contact* (adapted from Carl Sagan's book), humans have to learn how to think like aliens in order to decrypt their instructions, and how to function on "multiple levels and multiple dimensions". It is rarely linguists or translators, however, who are called upon to deal with issues of interspecies communication. In *Star Trek: The Next Generation*, it is the captain of the ship who, when confronted with a species whose language is based on metaphors, solves the linguistic conundrum he and his crew have found themselves into (leading Monika Wozniak to ask, in her articl *Future Imperfect*, why the USS Enterprise would travel the galaxy with a barber and a bartender on board, but not a single linguist). And in *Avatar*, it is the mission's chief botanist who is in charge of communicating with the natives and of training the rest of the personnel to do so as well. And it is a soldier – of all people – who will end up "going native".

There are two main avenues through which genres of Imaginary Fiction offer an original approach to language: the way language is used to create the fictional world's identity and estrangement for the reader, and the ways languages are portrayed

diegetically within the storytelling. In other words, I differentiate the way authors of IF use language to tell the story to the reader (by using devices such as neologisms) and the way the characters in the stories express themselves (the vocabulary they use, as well as their idiolects and non-natural languages.) There is a level of overlap between the two categories, since the characters inhabiting the IF worlds and the storyteller do share the same lexicon (author: "it was his lightsaber" / character: "this is my lightsaber"). In the following sections of this chapter, I will explore both avenues in detail.

The Language of Science-Fiction

In *The Empire Talks Back*, Michael Cronin suggests that in science-fiction, "journeying to other planets is more often like return than departure" (2009: 108). By this, Cronin means that the use of estrangement in science-fiction storylines also serves as a reinforcement of the audiences' suspension of disbelief. It is a way to make viewers feel at home – just like the characters – in the alien new environment. Of the many tools creators have at their disposal to elicit a sense of otherness in their readers and viewers, the use of language as both an anchor and a tool of estrangement is one of the most efficient. There are a variety of ways writers of Imaginary Fiction can use language to convey otherness, including giving characters accents, making them speak an alien language, or even more simply by having those characters use a lexicon that is different from the viewers', while still being contextually recognisable. Just as Suvin emphasises the importance of a novum in stories of science-fiction, new words – neologisms – "are a particular feature of science fiction […] and fantasy" (Stockwell, 2006: 4). Stockwell identifies a secondary type of neologisms he coins "neosemes", which are neologisms whose meaning has been absorbed in language and have become part of common usage, such as "utopia/utopian", originally mentioned in Thomas More's work in 1516 (Stockwell, 2006: 5). Neologisms are used in various ways such as character or place names, military or nobility ranks, or everyday tools and objects. Peter Stockwell offers in his 2000 book *The Poetics of Science Fiction* an exhaustive typology of neologisms (115-138).

World Building through Language

– Indicating otherness

When the on-board computer of your spaceship tells you that "the power coupling on the negative axis has been polarised", you'd better think about grabbing a hydrospanner and fix your hyperdrive motivator before a Dark Lord of the Sith manages to lock his navicomputer on your location. One aspect of science-fiction storytelling, whether written or for the screen, is the creative use of language that it affords

writers. This is often conveyed through the use of "formulaic and abstract jargon" (Wozniak, 2014: 5) that is "coolly functional and essential to quick and clear communication" (Sobchack, 1997: 151-152). The purpose of such a utilisation of language is to signify to the audience yet again, but from a different angle, that the events they are witnessing take place in a different time and place (by the use of estranging words), but one that they can relate to. In this sense, the vocabulary that is used is strange in a way that specialised vocabulary in the real world can be, for instance when taking one's car to the garage. What difference is there, after all, between Han Solo's aforementioned power coupling issues, and a car mechanic stoically announcing that he needs access to the cam-BUS because the EML has lit up? Imaginary Fiction stories can contain many estranging terms – signifying as many novums. The way the information is presented to audiences is also important. In *Anthem*, for instance, game developer Bioware has been criticised for doing "a horrible job of easing [the audience] into their lingo", because mere minutes into the game, "we've been introduced to ciphers, the Heart of Rage, cataclysms, Striders, Shapers, Freelancers, amplifiers, the Anthem, and the Cenotaph", without having any idea "what any of this is and [why we] should care" (GamingSins: 2019). In other words, good storytelling, in particular in estranging genres, often require expositions to be woven "into the narrative, not hand the audience a fucking glossary as they walk into the theatre" (Croshaw, 2011).

A good place to start looking at the ways language is used in IF, and why we should care, is the way the characters populating the stories tend to be named.

– *What's in a Name?*

What's in a name? asks the Bard through the character of Juliet. Albus Dumbledore and Lord Voldemort, Mithrandir and Sauron, Anakin Skywalker and Shive Palpatine… Characters are often the first connection audiences have to a story, they are the ones who perform the actions and move the plot forward, they are who we, as audiences, care about, love, hate, root for or against. In her article *Possible Worlds in Recent Literary Theory* (1992), Marie-Laure Ryan broadly defines a fictional character as "a referent to a proper name, pronoun, or definite description to which the text attributes certain human-like properties such as a mind and agency" (545). This is accurate: a fictional character has a name by which he or she can be referred to, and a personality that differentiates him or her from the other protagonists of the story and motivates his or her actions. In Star Wars, the characters loosely follow Campbell's (1949) Monomyth archetypes (as inspired by Jung's notion of cultural archetypes), which corresponds to Margolin's (1990) fifth character position: the plot-functional approach. This type of characters "are linked to the plot and retain

their identity" across the various narrative forms they are portrayed in, and are likely to be found in "adventure thrillers and fairy tales" (Ryan, 1992: 547). In other words, just as "we cannot think of Cinderella apart from her plot" (ibid), we cannot think of Luke Skywalker, Darth Vader, or Yoda apart from Star Wars. In this interpretation of what a fictional character is, they are defined by their function (subject, object, helper… or in Campbell's terms hero, mentor, goddess, dragon…), and therefore by what they do in the story.

Characters in a story then – in particular in a story that follows the Hero's Journey – have a function in the narration, but so have their names. The field of onomastics is "one of the major branches of name study" (Algeo, 1982: 1). Most of the work in onomastics is dedicated to charactonyms (also referred to as characternyms, label names, attributive names, characterising names), which relates to the attribution of qualities to characters through the way they are named, or "trait name" (Berry, 1949). This plays a role into dubbing because character names can be inspired by a variety of origins in a particular language (historical, mythological...), with the phonemes that are attached to this. If translated, through the practice of dubbing, finding equivalences in the target language often runs the risk of using different phonemes, therefore creating synchronisation issues. The case of the name Skywalker is examplary: the name is broken down in two parts, "sky" and "walker", and the last name is meant to infer qualities to the hero, as a high flyer, a dreamer, an adventurer. Following onomastic principles, the French equivalent would be something like "marcheleciel" or, as it was credited in the very original release ending credit roll: "courtleciel". This departure from the original name would pose a lot of synchronisation problems (not to mention a reduction in estrangement), especially considering the fact that most of the characters in the Star Wars franchise have names that follow onomastic principles.

A rose by any other name might smell as sweet, but in worlds of Imaginary Fiction, names serve a role other than simply identifying characters. Indeed, "something as packed full of clues as a name tends to lead to all sorts of assumptions and expectations about a person" (Delistraty, 2014). There is power in names, and in the 40th millennium (The Horus Heresy) just like in the fantasy world of Earthsea (Le Guin, *A Wizard of Earthsea*) a character's true name can be used as a weapon against them (Scrivner, 2005: 551).

"To be part of a strange world […]", then, "[…] a character needs a strange name" (Scrivner, 2005: 553). It becomes evident that when dealing with Imaginary Fiction genres, genres that are partly identifiable by the estranging elements that comprise them, character names ought to contribute to estrangement by evoking some level of otherness. The author's decisions in terms of naming conventions function in a

similar way to the uncanny modality theory put forward by Angela Tinwell, and do form an estrangement modality tool. In other words, authors can populate their worlds with characters whose name are more or less estranging, either on an individual or collective basis. A prime example of estrangement modality via naming conventions at work can be found in a comparison between Game of Thrones (A Song of Ice and Fire) and The Lord of the Rings.

Both universes depict a comparable medieval-fantasy world which is separate from our own, with comparable novums such as giant beasts, low-key magic, and of course fire-breathing dragons. Game of Thrones, however, is unmistakably more grounded in reality – at least until the later seasons and the emergence of the undead army – while LOTR is clearly more on the high fantasy end of the spectrum. Part of the more "realistic" quality of GoT is due to its costume and set designs, which play on historical schemas, but an important aspect of the estrangement modality is fine-tuned by the contrasting use of character names. Some characters' names are fairly consistent with Anglo-Saxon names. Some of the characters are named Robert, Jaime, or Joffrey, which carry with them very little estranging power. Other characters have names that do sound familiar, but are spelled in a non-conventional way (Robb (Rob), Catelyn (Cathelin(e), Margeary (Marjorie) Jon (John)). Others again are called by diminutive versions of their name, for example Ned Stark, whose actual first name (never heard in the show), is actually Eddard. This may very well evoke estrangement in the readers of the novels (they have access to the spelling of the names), but not to the viewers of the TV show. Finally, there are characters in Westeros that are clearly estranging, such as Cersei, Arya, Tywin, Tyrion, or Qyburn. These are only names worn by characters of the continent of Westeros, which is the closest territory to medieval Western Europe, and thus the less estranging place to Western audiences. Even within the fictional world of GoT, exotic places are portrayed as even more other partly through the utilisation of clearly estranging characters names such as Daenerys (also Aegon, Aerys, Rhaegar…) Targaryen, Tycho Nestoris, Illyrio Mopatis, or Jaquen H'gar.

As demonstrated by the numerous names I have used as examples, there are several ways authors of Imaginary Fiction create and utilise characters names in their work, all of them working following schematic principles. The most obvious is the utilisation of familiar names, such as GoT's Robert and Joffrey, that completely fit pre-existing schemas and therefore maintain in the audience a state of mindlessness. As soon as names become more exotic, however, schematic principles are challenged, and the line between mindlessness and mindfulness starts being crossed,

with potential uncanny consequences. All names, however, function in relations to schemas.

As previously shown, the simplest way to appeal to existing schemas while instilling some measure of estrangement is to change the spelling of a familiar name (Robb). Similarly, fictional characters' last names can be built in ways that rely on pre-existing names, but modified in a certain way. From an Anglophone standpoint, common last names that are immediately recognisable include names that are based on past occupations (Miller, Baker, Smith), colours (Grey, Green, White), descendance (Johnson, Henderson, Robinson). In line with these name types, a common method is to modify these types of names with estranging, or dramatic elements. It is after this method that Star Wars names such as Luke Skywalker, or Biggs Darklighter are created. These names immediately bring familiarity and anchoring to audiences, and it is not an accident that the main character of the Star Wars franchise is named Skywalker,[65,66] a word that is simultaneously at the low end of the estranging modality curve, but also a typical charactonym.

Another very popular way to create estrangement with character names, although on the softer end of the estrangement modality curve, is to modify an existing name by adding or subtracting letters, and sometimes changing the spelling. Michael Moorcock uses this technique profusely in the Elric series. Elric himself, the titular character, has a name that is inspired by the common name Eric. Elric is a Melnibonean – Moorcock's version of elves, although they are morally twisted and evil, and the addition of the "l" to the name Elric plays into the convention of soft elvish sonorities set since Tolkien, according to the Law of Alien Names,[67] Elric's name sees a liquid vowel added to his name, signifying his elvishness, but Moorcock did not replace the "c" at the end of the name by a "k", as villains are often "given names with hard consonants and guttural sounds. Sounds such as /k/c/ç/t/z/ and sometimes /x/ are favored, /k/ especially as the last consonant, if not the last letter" (ibid.) (Elric's brother and antagonist is named Yrkoon, but other examples include Klingons,

---

65 - According to the canon, a "skywalker" is a Force-sensitive person who is able to pilot a ship through otherwise impossible navigate sectors, by using the Force (Bacon, 2018).

66 - As for Luke, it is a reference to Lucas, and a reference to light, or luminous, according to the Hitchcock dictionary of Bible names.

67 - That states that "elves will virtually always have names and a language that sounds Tolkien-esque, full of soft sounds such as Th, Dh, D, L, R, M, N, and V. Doubled-up vowels are popular, and names often as not end with the letter L or N." (https://tvtropes.org/pmwiki/pmwiki.php/Main/LawOfAlienNames)

Orks…). Equally, Elric's love interest's name does follow typical fantasy character names patterns. She is called Emeralda, and the removal of the "s" sound makes her name even leaner, and just as elvish, not to mention the "emerald" reference, she is after all Elric's jewel, and precious to him.

Moorcock is not, far from it, the only author to use this type of techniques. They are to be found everywhere in the science-fiction and fantasy genres, from Doctor Who (Anicca/Anika, Balazar/Balthazar) to Game of Thrones (Mircella/Marcella, Selyse/Elise, Olenna/Helena, Lysa/Lisa), all the way through Star Wars (Ryoo/Ryu, Meena/Mina).

Depending on what the subtext of a name is supposed to achieve, other strategies are also available. In some cases, the characters names are straightforward representations of their archetype. For instance, in *The Matrix*, Morpheus is the one who wakes up the main character from his dream-state. Equally, Neo, the hero's name, is a direct indication that he will bring change to the status quo, or a new situation, but it is also an anagram of "one", or The One. As for the antagonist, agent Smith, his (their?) name is as dehumanising as they get: not only does he not have a first name, but his last name is Smith, the most common name in America at least since 1957.[68] When authors want to make names sound at the same time exotic but ancient, calling upon mythology appears to be a winning strategy. Frank Herbert, in his Dune series, frequently names characters after mythological heroes (Ajax, Beowulf), and whole comic book series rely on pop-culture mythology. For instance, the Thor storyline and world is based on Norse mythology, or at least a pop-culture understanding of it (including Asgard, the frost giants, Loki, the Bifröst…), while the Mummy series relies on a mixture of historical and mythological references (with characters such as Anck-su-Namun and Imothep, or the city of Hamunaptra). In some cases, the names are real, but in others, they simply sound as if they were. Once authors decide to use estranging names, and the exotic sonorities and spellings that they entail, they open a door for themselves into even more estranging forms, and the creation of even stranger names, both in terms of sonority, but also spelling.

In a similar fashion, simply using foreign, or foreign sounding, names is also an efficient way to exoticise a character. This is for instance the basis of the Space Marine characters naming conventions in Warhammer 40,000. In the 41st Millennium, Space Marine Chapters derive their identity and individuality from a few key characteristics. The Ultramarines, for instance, are inspired by the Roman civilisation, while the Space Wolves are inspired by old Norse mythology. Accordingly,

68 - https://www.census.gov/library/publications/1957/dec/common-names.html.

Ultramarine characters have names like Marius, Valentus, or Atreus, while Space Wolves soldiers have names like Bjorn, Varald, or Grimnir.

Spelling, and the pronunciation patterns that spelling create, are a way to express otherness. Once again, the strangeness of spellings, cadences and sonorities is dependent on the reference point of the audience, which is their own culture and language. For English-language Imaginary Fiction, estrangement can be created by combining rare sonorities and using punctuation in an unusual way. H.P. Lovecraft, whom Stephen King calls "the father of modern horror" (Sagliani, 2015), has left us with many examples of estranging (even uncanny in the context of his writings) names. One method favoured by Lovecraft and other writers in order to create estrangement is the juxtaposition of several consonants that make names unintuitive and difficult to pronounce. Lovecraft's universe is created around one creature sporting such alien name: Cthulhu, but other creatures in the Great Old Ones pantheon have similar names (Cthugha, Nyogtha, Cthylla, Cynothoglys, Nyarlathotep…). Others rely on what is known as the "punctuation shaker"[69] in popular culture. The punctuation shaker is a trope that states that "one of the easiest ways to give an exotic or alien spin to words intended to have originated from an exotic language is to sprinkle them liberally with unexpected punctuation marks" (TV Tropes). Such names can frequently be found in the Star Trek series, with such characters as Boq'ta (in Deep Space Nine), or Brok'Tan (Voyager). This particular method of naming people is not very popular in the Star Wars galaxy, as the only character named using this technique is C'ai Threnalli in *The Force Awakens*.

The names of the inhabitants of the Star Wars universe reflect its immensity and variety. One of the trademarks of the Star Wars saga is that each new entry tends to expand on previous ones, while making callbacks to older films, therefore progressively growing the universe while keeping it consistent and connected. Indeed, seeing the same species of aliens on more than one planet gives viewers a sense that individuals do travel across the galaxy.

For this reason, almost the entire spectrum of techniques available to world creators is used to create character names. An important point to emphasise is the fact that even though the names used in the Star Wars universe are meant to be estranging, they are also designed to be recognisable as names, and therefore almost always composed of a first and last name, and capitalised, regardless of their origin (Jar Jar Binks, Bail Organa, Jyn Erso).

The first category consists of familiar names to at least Western audiences, such as

69 - https://tvtropes.org/pmwiki/pmwiki.php/Main/PunctuationShaker.

Luke, Rose, Tobias Becket (in *Solo*), Paige, Jan, Wes, or even Sabine… These names, however, are reserved for humans. They do act as anchoring points for viewers and help audiences connect with the fictional world. The next step in terms of estrangement is the use of non-standard spelling, or phonetic spelling, of familiar names (Ryoo for Ryu, Meena for Mina), as well as letter substitutions or additions (Janson for Johnson, Harter for Harper, Jessika for Jessica…). Although some human characters also have estranging names (Qi'ra, Shmi, Qui-Gon Jin), it is alien characters who tend to have more exotic and estranging names.[70]

Illustrative of how varied names can get in the Star Wars universe is the Jedi High Council on the city planet of Coruscant as it is constituted in *The Phantom Menace*. The Jedi High Council is formed of "12 of the wisest Jedi Masters" (Veekhoven, 2014). Jedi can come from any species in the galaxy, and are generally recruited very young, but old enough that they have been named already, which offers a good variety of examples to analyse. In *TPM*, the members of the council are: Plo Koon (a Kel Dor from Dorin), Mace Windu (Human), Yoda and Yaddle (unknown origin), Ki-Adi-Mundi (a Cerean from Cerea), Sasee Tiin (an Iktotchi), Even Piell, Oppo Rancisis (a Thisspiasian), Adi Gallia (a Tholothian), Yarel Poof (a Quermian), Eeth Koth (a Zabrak), and Depa Billaba (a Chalactan). Other Jedi who appear on the council include Shaak Ti, Kit Fisto (a Nautolan from Glee Anselm), Stass Allie, Anakin Skywalker and Obi-Wan Kenobi. This paints a very diverse, and very estranging picture indeed, although except for Yoda and Yaddle, who belong to the same species and have similar sounding names, other characters' names do not give a lot of information as to their species or individual personalities. The ways the names are built, however, utilise a lot of the methods highlighted earlier, with some names being quite familiar (Adi, Kit), some variation on familiar names (Stass), some using highly percussive sounds and double vowels (Plo Koon, Eeth Koth), and others again following the bouba/kiki effect (Depa Billaba and Shaak Ti).

Droids have their own naming conventions. R2-D2[71] and C-3PO[72] (D2-R2 and Z-6PO in French, or yet C1-P8 and D-3BO in Italian) might be the most famous astromech and protocol droids respectively, but they are not the only ones featured in the series, although their names give us a clue as to the general way droids are named in the Star Wars universe, and a character whose name is a series of numbers and letters is almost guaranteed to be a droid. The pattern of the digits and letters even gives audiences an indication as to the type of droid that is being mentioned.

---

70 - It is the rule to which there are a few exceptions, like the four-armed restaurant owner Dex.

71 - Also referred to as R2, Artoo, Erdeu (in French)...

72 - Also referred to as 3PO, Threepeo, Troipéo (in French)...

Droids are not the only characters being named with numbers and letters, it is also the case for the clone troopers that first appear in *Attack of the Clones*, and later at least some stormtroopers. There is a gap in knowledge surrounding the original trilogy as to how imperial stormtroopers were recruited and called, as none of them is ever called by his name, and the films strongly suggest that they are regular enlisted humans (the only conversation stormtroopers are heard to have in *A New Hope* certainly suggests so). In the prequel trilogy, however, clone troopers have registration numbers, although most of the soldiers who have narrative arcs (in the extended universe) tend to be given nicknames, partially to humanise them, and partially out of convenience (it is not easy to call your squad mate CT-282-SD00001-983725138[73] for backup when underfire). In the third trilogy, stormtroopers are understood to be kidnapped children trained and brainwashed to fulfil their duties. One such character is FN-2187, who is later renamed Finn (from FN) when he joins the resistance. This is a callback to George Lucas' first film *THX 1138*, in which all humans are assigned a matricula number in order to dehumanise them. The main character of the film, THX 1138, is called Tex by other characters, and the female lead is called LUH 3417, or Lou.

Names, in Star Wars like in many other works of Imaginary Fiction, are important, because they participate in the construction of the secondary world's identity.

In the first chapter of this thesis, I framed the emergence of the uncanny as a mismatch between what is expected and what is experienced, Schematic Theory, and the tension between states of mindlessness and mindfulness. I must emphasise here that the uncanny is not tied to any particular norm (schema), but exists as potential between any given norm and elements that enter in conflict with said norm. This is the reason why strange sounding names can easily be accepted by audiences in stories of Imaginary Fiction: the norms have been shifted, and names that would be unfamiliar in the zero world now become perfectly acceptable. Of course, the other side of the coin is that by redefining audiences' schematic cognitive space, worlds of Imaginary Fiction push part of the pre-existing schemas out of the new norm. In other words, when an author of IF pushes the estrangement modality to includes names such as Zarozinia, Jagreen and Cymoril (from Michael Moorcock's Elric stories), they also de facto increase the uncanny potential of names such as Kevin, Billy, or Karen. This can be used to add a grounded quality to the world (as mentioned earlier, the use of the name Robert in GoT, although his last name is an unmistakably estranging Baratheon), or to be played as a humorous touch (Elvis and Costello in *Arrival*, or Birdperson, Krombopulos Michael,[74] and Blim Blam the Klorblock in *Rick & Morty*).

---

73 - A list of all the named clone troopers can be found here: https://clonetrooper.fandom.com/wiki/List_of_clone_troopers.

74 - Here, the comic effect comes from the juxtaposition of an alien name with an extremely common

The same can be said of other types of names, such as place names, where appropriate sounding names - such as Minas Tirith – can help the world sound old and majestic, and others (*Thor Ragnarok*'s Devil's Anus) can break immersion by clashing with the world's naming convention and tone.

– Places, Ranks, and Things

Fictional characters tend to inhabit fictional worlds. Apart from hard science-fiction, which aims to describe an almost zero world (*The Andromeda Strain* (1971), *2001* (1968) and *2010* (1984), *Moon* (2009), *Europa Report* (2013)). Some aspects of those worlds, their topography, fauna and flora, and indigenous populations, contribute to estrangement through their visual design, but even what is not seen, only discussed, can have a profound estranging effect on audiences: this is where the importance of names is highlighted. Place names aim at giving "some idea of the size and/or identity of a place" (Burelbach, 1982: 6). Additionally, the type of estranging world depicted by the author "will largely determine the principles of nomenclature that are being used" (ibid.: 5). Incidentally, the same techniques of spelling and callbacks to known names are often used in the naming of fictional places.

Even in the real world, some places sound exotic to us, whether they are remote in terms of time, geography, or both. From a Western point of view, and in particular an English speaking point of view, the names of some places on earth sound exotic, and conjure images and sensations of different places. We do possess schemas that regulate our perception and pre-conception of places, based on our conscious knowledge of such places, but also on the typical sonorities that we associate with places that we know or know of. For instance, a name like Huancayo (Peru), or Achocalla (Bolivia), with their Spanish sonorities, evoke a certain feeling of warm weather, rainforest, and a certain type of fauna and flora (insects…). On the contrary, names like Voldograd or Krasnoyarsk (both in Russia), evoke cold, snow, and an unmistakably Soviet feel. Creators of Imaginary Fiction can, and do, use these pre-conceived ideas to flavour their world building, and to evoke in their audience a sense of what a fictional place is like only by its name.

For universes such as Star Wars, which have become so vast and rich over decades, it is difficult to determine a pattern of intentions in the way that places are named, other than a concern for internal consistency within a system. An obstacle to easy recognition of the qualities of a specific place is that people in the Star Wars universe travel. As a consequence, a wide variety of alien species can be found on most planets that are depicted in the films. Some planets are very consistent (the inhabitants of the

---

Western first name.

water planet Kamino are called Lama Su, Taun We, and Nala Se), while others offer a mixture of names, due to the high level of diversity that they present (Tatooine is a melting pot of species, and the names of the characters that inhabit the place are very varied, from Watto the Toydarian to Sebulba the Dug and Bib Fortuna the Twi'lek).

In other words, in the case of Star Wars, the names themselves might not directly evoke the nature of a place and its people, but the consistency in the sonorities and conventions used do help build a strong sense of identity. For instance, on planet Naboo, names for people and places have soft sonorities that give them a sense of shared identity: people might be called Padme, Neeyuthnee, or Soruna; and places be named Parrlay, Moenia, or Ferentina. Consistency is of primary importance in order to maintain immersion and avoid uncanniness, and creators of Imaginary Fiction, although this is not always the case, often lean towards telling stories of adventure and action (if box office is any indicator of popularity, most people's first thoughts when asked about science-fiction would arguably go to Star Wars, Star Trek, *Stargate*, or *Starship Troopers* rather than *Solaris* or *Moon*).

This in turn leads to frequent representations of some fictionalised versions of army hierarchies, or of royal and imperial dynasties. The presence of these types of structures typically give creators an opportunity to infuse estrangement into their world building. At the most basic level, authors can choose to utilise existing titles like king when it comes to linages, or general for army ranks, but to link those titles to imaginary places or families.

As a matter of fact, feudal structures are often used even in science fiction, as a signifier of power and gravitas (Queen Amidala in SW, Queen Mara in *Destiny*…), they are often, however, modified and renamed in the process of creating estrangement. In GoT, the leader of the Dothraki is named the Khal, in Middle Earth, Thain is a title, and in the world of *Destiny*, the Fallen are led in combat by Kells… Star Wars takes a mixed approach to this issue, and titles for characters are either the direct corresponding names to familiar titles (Queen Amidala, Viceroy Gunray, Admiral Ackbar…) or created (Grand Moff Tarkin, and of course, the Jedi)). Additionally, rank names are not attached to alien species: the Gungans use ranks such as sergeant and general, while the title of Moff is an Imperial rank (and the Empire is exclusively composed of humans). This contributes to making the alien more familiar while adding a level of strangeness to what is closer to us and more recognisable.

The way things are called in Imaginary Fiction worlds is generally a way to convey the difference between the imaginary world and the zero world. Estranging naming conventions extend to all objects, names, and places in Imaginary Fiction worlds, although they also tend to follow similar sets of rules in order to preserve schematic meaning: lightsaber, hydrospanner, navicomputer… the list goes on. The

words used by the characters of Imaginary Fiction help define the worlds they live in, but so do the languages they speak.

The words that characters who live in Imaginary Fiction worlds use, whether for everyday objects, to describe the world around them, or to acknowledge hierarchical relationships, are embedded in the overall language that they speak. Traditionally, it is assumed that regardless of the language the characters speak in the book or film that tells their story, said story and dialogues will be conveyed to the audience in their language (or rather, originally, in the author's language). This is why everybody in Middle Earth ad in the Star Wars Universe uses English as a lingua franca. It is an untold agreement between the audience and the IF world that the characters do not actually speak English (or any other natural language), but that English replaces the language they ought to speak. With that being said, all characters in IF worlds do express themselves through representations of language, and the genre and sub-genres of IF are particularly fond of using representations of language to simultaneously create estrangement while maintaining familiarity.

The Languages of Science-Fiction

"We seem to be taking it for granted now", explains Star Wars sound designer Ben Burtt, "but back [in the 1970s] there were genuine fears that this whole idea of talking aliens and creatures would never work" (2001: 128). Indeed, the fact that "the very first dialogue in *A New Hope* is between two talking droids, without mouths", one of them only beeping "was a very bold way to set the stage" (ibid.) of the story. One of the defining characteristics of our primary – zero – world is the variety not only of cultures, architectures, physical differences in the people and civilisations that it contains, but also the variety of languages that are, and have been spoken throughout history. Foreign languages, by which I mean languages that are different from the main language of a story, just like accents, can be and are frequently used to signify otherness. In other words, our schematic representation of a fully-fledged world does contain the idea that languages are multiple, and fits with the multiplicity of cultures the world contains. In their attempts to build believable non-zero worlds, creators of Imaginary Fiction heavily rely on this pre-conceived mental structure to simultaneously create familiarity (a world in which many languages coexist) and estrangement (those languages are not directly accessible to us, and relate to cultures we do not have any direct experience of). In the words of Peter Stockwell, the primary function of non-natural languages in this type of fiction "is to delineate the distance and connections between the reader's world and the world imagined in the text" (2006: 3). To understand how this type of estrangement works, it is necessary to explore further our relation to language itself.

* * *

Can Chewie Speak?

The Sapir-Whorf hypothesis or Linguistic Relativity Theory has long been simultaneously fascinating and troubling to linguists. The idea that language might shape thought was for a long time considered "untestable at best and more often simply crazy and wrong" (Boroditsky, 2010), and is still not unanimously agreed on (Fogarty and Whitman, 2018). However, recent research indicates that there is more validity to the concept than was previously thought. According to leading researcher Lera Boroditsky and her colleagues at MIT, "a flurry of new cognitive science research is showing that in fact, language does profoundly influence how we see the world" (2010). The Sapir-Whorf hypothesis "refers to the proposal that the particular language one speaks influences the way one thinks about reality" (Lucy, 2015: 903). The idea originates from American linguists Edward Sapir (1884-1939) and Benjamin Whorf (1897-1941). The Sapir-Whorf hypothesis (SWh) has been described to relate to the way "language influenc[es] habitual patterns of thought, especially at the conceptual level" (Lucy, 2015: 903). The key words to pay close attention to in this definition are habitual and conceptual. Both terms directly connect with the schematic interpretation of knowledge, and therefore allow for a connection between language, estrangement, and the uncanny. There are two mainly accepted versions of the SWh: strong and weak. The strong version, also known as linguistic determinism, is an interpretation to which "no serious scholar […] has subscribed" (Caldwell-Harris, 2019). The American linguist and psychologist John A. Lucy, in his 2015 seminal article on SWh, explains that "when speakers interpret an experience in terms of categories available in their language, they unwittingly involve other language-specific meanings implicit in that particular category and in overall configurations of categories in which it is embedded". This description is what is generally agreed on by scholars as being the weak version, or linguistic relativity theory (LRT). The term linguistic relativity theory is much more appropriate, and discards the potentially negative connotation that the word "weak" could have on the credibility of the idea. The idea behind LRT is that, considering that different languages have different structures, the languages that we speak might shape the way we think (Boroditsky, 2018).

The most straightforward way to understand linguistic relativity is to look at the examples that are often used as ways to identify the phenomenon. The most common example of linguistic relativity is "there are more than fifty words for snow in Eskimo". Ignoring the problematic nature of the word Eskimo itself, Jacobson counts in a 1984 article fifteen snow-related lexemes (a lexeme being an independent vocabulary item or dictionary entry (Woodbury, 1991) in the Yup'ik dialect. This does not mean that the concepts that are discussed cannot be understood by non-speakers of Yup'ik,

but rather that the conceptual notions of some snow phenomena have to be deconstructed by the non-speaker and reconstructed in a fashion that fits his own schematic cognitive structure. According to leading researcher Lera Boroditsky, there is now strong evidence to support its claim to truth, at least to some extent. Her research on Kuuk Thayorre – the language spoken by a tribe of Australian Aboriginals living in Pormpuraaw – gives surprinsing results. Most notably, the language system in Kuuk Thayorre is largely based on cardinal directions, and does not have words for the concepts of "left" and "right". Rather, every directional utterance is structured around a north/south/east/west schematic framework. According to Boroditsky, interactions resemble something like "there is an ant on your southwest leg", or "move your cup to the north-northeast a bit" (2017). Even the greeting system of Kuuk Thayorre is based on cardinal points and navigation. In this system, the way to say "hello" is "which way are you going", to which one might answer "north-northeast in the far distance". This radically different type of schematic thinking is in and on itself surprising and fascinating, but its consequences go even deeper. Since in Kuuk Thayorre "you literally couldn't get past 'hello' if you did not know where you were going […,] people who speak languages like this stay oriented pretty well" (ibid.). Indeed, members of the Kuuk Thayorre tribe manage to stay oriented not only better than people whose navigation schemas are not cardinally structured, but even "better than we used to think humans could" (ibid.).

Languages are also different in the ways they divide the colour spectrum, and the most popular example (as well as one of the most researched (Boroditsky, 2017; Caldwell-Harris, 2019)) is of the "Russian blues". The specificity of this example stems from the fact that the Russian language has two word for blue where English has one ("blue"), which has to be qualified with an adjective. In practice, the words "goluboy for light blue and siniy for dark blue […] are considered 'basic level' terms, like green and purple, since no adjective is needed to distinguish them" (Caldwell-Harris, 2019).[75] In 2010, an experiment conducted by a team at Stanford University demonstrated that Russian native speakers are significantly more sensitive to the substitution of one of the colours with the other, adding weight to the idea that "linguistic codes affect color discrimination" (Witthoft et al., 2010: 1) performance at least on certain tasks. Colours, evidence suggests, "are often named how they are because of social constructs" (Ewbank, 2018). This is also true of other phenomena such as measuring units.

Closer to speakers of English as a second language who have or have had to interact with native speakers of English is the cognitive and schematic rift that separates

75 - Conversely, "in ancient China and Japan, a fixed term for blue did not exist: instead, the term was qing, which could refer to either green or blue" (Ewbank, 2018).

users of imperial and metric measurements. Although individuals can be talking about the same phenomenon (height, weight, distance), the fact that they think in terms of different units (pounds or stones versus grams and kilograms, inches, feet and yards versus centimetres and metres, miles versus kilometres…) can affect thought patterns.

Cognitive categories then (or schemas and schemas), largely organised around and by language, influence the way individuals navigate the world, the ways they react to what is familiar and what is estranging. This state of affairs is routinely exploited by Imaginary Fiction texts, in particular when it comes to the portrayal of fictional languages, the way they sound, and what they convey.

If, as linguist Steven Pinker puts it, "language is a window into human nature" (2008), what about the languages non-human species speak in other worlds and universes, languages that are not simply modified versions of existing languages, but languages constructed from the ground up for the purpose of providing estrangement?

Accents and Spoken Languages

I identify three dimensions any individual has in relation to language. This idea of linguistic distance is comparable to the notion of the distance between the zero world and fictional universe, or the distance to familiarity and life-likeness plotted along the uncanny valley chart. Languages and their representations can be close to us or far from us in terms of time, variety, and social position, in the real world just like in fictional ones.

Given any period of time and any specific locale, a person is mainly exposed to the language of the time and space they occupy and experience. Concordantly, any other form of language across time and space is likely to be different, alien to some extent, and to be recognised as such until of course the difference becomes so great that it is not recognised as a language at all anymore. For instance, to a native British speaker from a middle-class London family, hearing a character speaking with a cockney accent is likely to evoke the London working class (social, spatial), while a character in a historical film speaking with a Shakespearean style is likely to evoke sixteenth century England (temporal relation). Going back further in time, however, and vocabulary and grammar start to become less and less recognisable, until all commonality with the language of the speaker is lost.

Of course, the utilisation of accents (defined in the Cambridge dictionary as "the way in which people in a particular area, country, or social group pronounce words"[76]) as a shortcut to characterisation has now become so omnipresent that

76 - https://dictionary.cambridge.org/dictionary/english/accent.

audiences' perceptions of them are by no means necessarily connected to their original or "real" environments (an American Italian accent as a shortcut for the mafia for instance).

These foreignising (for languages of other places) and archaising (for forms borrowed or influenced by past usages) characteristics are not used only by Imaginary Fiction. Contemporary realistic fiction can very well use accents, sociolects, or archaic forms to signify otherness in characters. In Imaginary Fiction, "the cultural capital of a particular accent can be used to alert listeners to the fact that […] translation may be taking place" (Cronin, 2009: 121). The Other is signified by the leftovers of his native language that transpire into his second language. the pop culture community-built website tvtropes.org, which specialises in listing and explaining tropes used in films, video games and TV series, lists close to thirty different tropes related to the use of accents on screen for characterisation purposes. Some such tropes include the Just a Stupid Accent, "Where characters who are not English speakers are portrayed as speaking English, but with a heavy accent, to remind viewers that they're foreign",[77] the Simpleton Voice, "where you can tell a character is dumb just by the sound of his voice",[78] or the Everything Sounds Sexier in French, in which "the same sentence said in a different language can give over different impressions".[79] More to the point of alien characterisation, some common tropes include the Aliens of London[80] trope, which involve giving aliens familiar accents in order to evoke (often cliché) personality traits. A prime example can be found in the Men In Black franchise with four worm aliens (Neeble, Geeble, Sleeble, and Mannix) who are addicted to coffee and constantly code switch between their mother tongue and a very Earth-sounding Brooklyn accent.

There is an extensive use of accents in Star Wars, in particular but not exclusively with alien species. Every film adds to the scope of languages and representations that exist in the Star Wars universe, and the most recent films have begun to acknowledge more diversity even in the way human characters speak. In *The Phantom Menace* for instance, the antagonists are the Neimoidians from the Trade Federation, who speak with a heavy Thai accent, the junkyard trader Watto speaks with a "mafia/Italianesque" (Secombe: 2017[81]) accent, while Chirrut Îmwe and Cassian Andor respectively speak with a Chinese and Mexican accent). This diversity

77 - https://tvtropes.org/pmwiki/pmwiki.php/Main/AccentTropes.

78 - https://tvtropes.org/pmwiki/pmwiki.php/Main/AccentTropes.

79 - https://tvtropes.org/pmwiki/pmwiki.php/Main/AccentTropes.

80 - https://tvtropes.org/pmwiki/pmwiki.php/Main/AliensOfLondon.

81 - https://www.youtube.com/watch?v=KeG5-XU1zgI.

of accents raises well-researched issues when it comes to the field of dubbing, with some uncanny implications (see chapter four).

More than the simple use of accented varieties to point at otherness and alienness, the next step in linguistic manipulation is dialectal extrapolation. Dialectal extrapolation is understood as being a stage of language use that is "more extensive than neologistic invention, but falling short of a full invented language" (Stockwell, 2006: 5). It is a way to flavour a fictional universe or character, frequently achieved by a utilisation of language that contains a "high density of neologisms and neosemes", often "drawn from a source lexis that is reasonably easy to recognise" (ibid.). This flavouring is done in a way that "allows the texture of difference to be established while not making undue demands on the reader to engage in detailed decoding" (ibid.). In other words, dialectal extrapolation functions by following existing schemas, while substituting pre-existing schemas with new ones in order to create a sense of estrangement, without overloading the viewer or reader's cognitive capacity in such a way that they move from a comfortable state of mindlessness to a potentially uncanny inducing state of mindfulness. Dialectal extrapolation can be weaved into the narration:

> "*He turned on the tensor beside the Hosaka. The crisp circle of light fell directly on the Flatline's construct. He slotted some ice, connected the construct, and jacked in*" (Gibson, 1984: 99)

This passage from *Neuromancer*, a neologism built from "neuro" and "necromancer", illustrates how the succession of pseudo-technological terms can paint a potent image of a different world. In cinema, however, where the strangeness of the environment can be conveyed visually (characters do not constantly point and name things, which would be detrimental to immersion), dialectal extrapolation is used as the next step after the use of accents (or sometimes in conjunction with them). Famous examples of such a utilisation of language include Nadsat (*A Clockwork Orange*), a slang borrowing words from Russian (droog, the Russian word for friend, is used in lieu of "friend"), Newspeak (George Orwell's *1984*), "an altered form of Regular English designed and controlled by the state in order to suppress free thought, individualism, and happiness ", and Ursula Le Guin's Pravic (*The Dispossessed*, 1974), a language variation whose "most telling feature […] is its aversion to singular possessive pronouns" (Bruhn, 2005: 3-4).

The next step up after dialectal extrapolation is the construction of artificial languages, or languages that do not occur naturally in the zero world. There are two main avenues available to showrunners when it comes to the portrayal of

non-natural languages on screen: Constructed Languages, and Languages as Sound Design, or, in the words of constructed languages expert David Peterson, systematic and gibberish (2017).

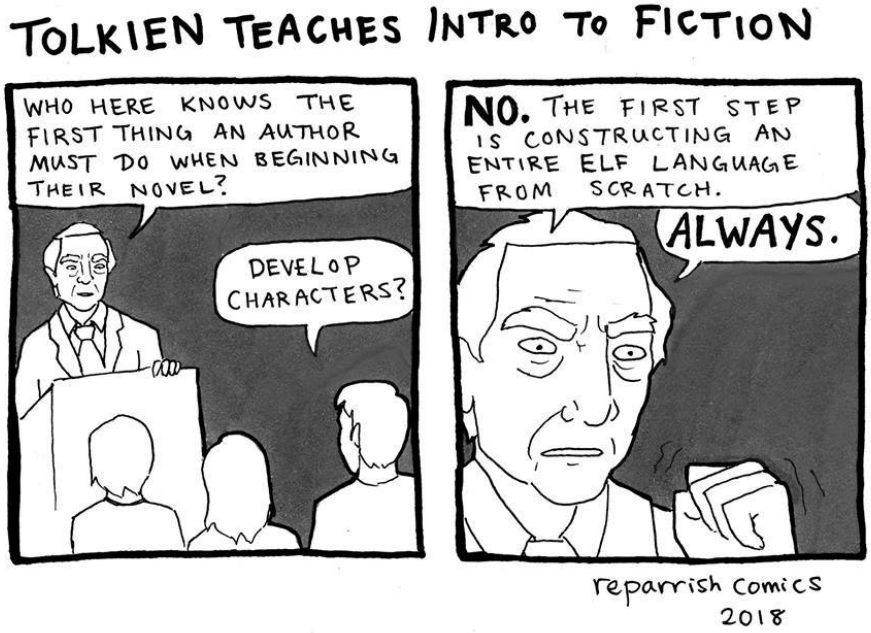

Figure 10 - Tolkien teaches intro to fiction

Constructed Languages

In *Behind the Sounds*, in which he details a lot of the original strategies to create non-human languages in the original Star Wars films, Ben Burtt reminisces on the fact that although "we seem to be taking it for granted now, […] back then there were genuine fears that this whole idea of talking aliens and creatures would never work". This is a strange idea from today's point of view, in a time where non-human languages are, if not omnipresent, at least very well represented in popular culture, whether it is cinema (*Avatar*), television (*Defiance*), or video games (The *Mass Effect* Series). The original strategy to represent non-human languages in Star Wars (one that is still upheld today) was to convey the impression of language to the audience through clever sound design tricks. However, in recent years, more ambitious strategies have been put into place, and it is not rare to see functional language systems being created for a particular franchise.

There are about 7000 languages spoken around planet Earth, all of which have evolved organically over time to reflect the needs of their users. On the other hand, "conlangs are languages that have been made up by a person rather than being a naturally occurring language that's evolved over time" (Singer, 2017). In the conlang community, they are often considered in contrast with "natlangs" – for natural languages. Conlangs are "more than codes like Pig Latin", and "not just a collection of fabricated

slang like the Nadsat lingo" (Emry, Fink and Peterson, 2009; McWhorter, 2013), and they are not the exclusive remit of fantasy worlds. Indeed, there are several conlangs currently being used, the most famous of which is Esperanto. The first recorded attempt at a conlang is often considered to be Jean-Francois Sudre's Solresol, a "universal language based in music" (Thayer, 2018) in the nineteenth century, although some specialists trace the concept to the Ancient Greeks, and identify the twelth century Lingua Ignota as "the earliest working conlang" (Sai, Fink and Peterson, 2009; Okrent, 2010). Languages like Esperanto are commonly understood to belong to the *auxlang* subcategory, auxlangs being designed to create "a neutral bridge between speakers of different languages" (Sai, Fink and Peterson, 2009). The Language Creation Society – an organisation dedicated to the study, creation, and promotion of conlangs – does not differentiate between zero and non-zero world conlangs (its homepage lists indiscriminately Esperanto, Lojban, and Klingon together[82]). Fink and Peterson argue that conlanging (the discipline of creating conlangs) "is to linguistics what painting is to art history, or hacking to computer science" (2009), it is a way to explore the mechanics of language in a lab-like environment, "and sometimes to test out a new theory on how language works with the mind" (ibid.).

Conlangs are designed to be functional, so they have to be understandable. To be understandable and recognisable, they have to fit our cognitive schematic representation of language, and that creates peculiar phenomena. For instance, a lot of conlangs apply grammatical rules from existing languages (for instance cases such as those found in German), and also conserve other categories present in human language, such as subjects, verbs, and objects, tenses, and punctuation.

Klingon, for instance, has an OVS (Object/Verb/Subject) structure, Na'vi is a free word order language, and it uses a question mark structure for questions that is reminiscent of romance languages. It is difficult to even imagine a language that could completely do without such categories, or mechanisms that could replace them, but when languages are mentioned that dramatically diverge from those norms, they can hardly be called conlangs anymore. Examples of such alien languages include Entish in LOTR, which is "slow, sonorous, agglomerated, repetitive, indeed long-winded; formed of a multiplicity of vowel shades and distinctions of tone and quantity which even the loremasters of the Eldar had not attempted to represent in writing" (LOTR, appendix F). Equally, in *Solaris* and *Arrival*, the alien languages the characters are dealing with are so different from the way the human mind works (schematically) that they are either not intuitively understandable (*Arrival*), or not understandable at all (*Solaris*).

82 - https://conlang.org/.

Conlangs, when they are designed to achieve a high level of verisimilitude, often borrow from natural languages not only in their structures, but in the way natural languages evolve through time. "To create an authentic sounding language, one need to employ an authentic methodology", argues David Peterson (2017).

Peterson (creator of the languages used in Game of Thrones, *Defiance*, *Bright* and *Doctor Strange*) also emphases the importance of Conceptual Metaphor Theory in creating convincing conlangs. In Dothraki for instance, he explains that "trees are conceptualised as torsos being buried in the soil" (2017). Following this first principle, the leafy area of the tree is therefore the "head" (nhare), the trunk becomes the "neck" (lenta), the middle or inside of the trunk is the "throat" (fotha), while the root system of the tree is referred to as the "lungs" (gadima).

There are many oeuvres of Imaginary Fiction that feature different levels of and approaches to conlanging. One of the first and most famous worlds featuring conlangs and a historical approach to building them is Tolkien's Middle Earth.

Considered as the "grandfather of the fantasy conlangs" (McWhorter, 2013), "Tolkien charted ancient and newer versions of Elvish" (ibid.). As an example, the original word "kwendi" (people), shifted in to "pendi" in the Teleri flavour of Elvish, and became "kindi" in the Avari version. Tolkien worked out several varieties of Elvish, but focused more on Quenya and Sindarin, which are different "in the same way that French and Spanish are" (McWhorter, 2013). Another aspect of natural languages that is reflected in well fleshed out conlangs is the natural messiness that occurs when languages are spoken in the real world over time. Plenty of exceptions to this are present in Tolkien's Elvish languages, in a way that a speaker does "just [has] to know" (McWhorter, 2013). The Elvish that is spoken in the Lord of the Rings and *Hobbit* films has been recreated based on guesses on what Tolkien would have constructed, since what Tolkien left behind was more a "sketch of a language" (ibid.) than a real functioning language like what modern conlangs aim to achieve. In many respects, then, Tolkien's Elvish languages are more *artlangs* – languages built to convey information about the culture of the speakers through their sonorities – than full-fledged conlangs. Most conlangs are artlangs to some extent, as the set of sonorities chosen appeal to some extent to our schematic understanding of what various languages sound like and the cultural connotations that come with this understanding (the perceived harshness of German, the ancient wisdom associated with Japanese…). The structure and evolution of a conlang can offer valuable insights into a fictional culture.

As conlanging enthusiast Ben Crowle puts it, "it's amazing how much conlanging actually fills out background history for writing fiction. My current conlang, Bashai'lak, has taught me so much about my people it's insane" (Conlangs Facebook group, 09/04/2019). In the modern era of language creation (Peterson, 2017),

although they still rely on aesthetics (and therefore schemas) to passively convey information and meaning about their speakers, conlangs are now taken much more seriously than even until the end of the twentieth century, and often come with fully or almost fully developed grammar systems and extended vocabularies.

Klingon, for instance, is one of the most famous science-fiction conlangs, and one of the most developed ones (with around three thousand words of vocabulary), and there is even a version of *Hamlet* translated in the language (Singer, 2017). Created by Mark Orand in 1979 (McWhorter, 2013), it was originally "based on the warlike culture and snippets of conversation from Klingons in the TV series (Sai, Fink and Peterson, 2009: 1). The language has been described as "harsh and guttural", and it combines "uncommon but natural linguistic features to create an 'alien' aesthetic" (ibid.). Klingon uses an unusual type of sentence structure built with an object / verb / subject[83] set of distributions. Klingon has "a lot of sounds using the back of the vocal tract and the throat" (Singer, 2017), such as uvular affricates,[84] and other rare sounds such as voiceless alveolar lateral affricates.[85] Klingon also uses unvoiced velar fricatives, which can also be found in natural languages such as Scottish (in "loch") and are very popular in conlanging (in appears both in Valyrian and Dothraki). Despite its harsh sonorities, Klingon was designed to be spoken by human actors, and thus comprises of sonorities that are rare in natural languages, but not non-existent. This is a prerequisite for any conlang to be featured on screen, as it contributes to creating estrangement while maintaining a grounded in the real-world quality to the speech. The pronounceability of a conlang is an important aspect of its success, although this is not always the case.

Parseltongue for instance (from the Harry Potter franchise) is an artificial language that occupies a particular and quite unique space on the conlang/Language As Sound Design spectrum. It is not quite the same as Sssnake talk, the mere "tendency of any ssnake or ssnake-like creature/person to sspeak sso that any ssibilant ssound becomes 'ss', presumably to imitate a sssnake hisssing."[86] Parseltongue is a language representation that sits in between conlangs and LASDs. It has been described as an a priori conlang, or a conlang "whose vocabulary is primarily not based on natural language."[87] In other words, even though there is some underlying logic in the language,

---

83 - This is a similar structure to "Yodaspeak".

84 - An example of uvular affricate can be heard in the famous Klingon saying *bortaS blr jablu'DI', reH QaQqu' nay'*, or, *vengeance is a dish best served cold* (When cold vengeance is served, it is always very good).

85 - Voiceless alveolar lateral affricates can be found in Navajo and in Tlingit (Singer, 2017).

86 - https://tvtropes.org/pmwiki/pmwiki.php/Main/SssssnakeTalk?from=Main.SssnakeTalk.

87 - http://www.frathwiki.com/Stilio.

it is largely designed with sonorities as a priority. It is designed to reproduce the sounds a snake may produce, which are different from the sounds human can make because of their different anatomy. Snakes do not have lips, so they cannot produce bilabial sounds (/p/,/m/,/b/), or vocal folds, which means that the sounds they produce are unvoiced. Additionally, because of the hissing they produce, sounds tend to get lengthened. Parseltongue also makes use of pharyngeal fricatives, or sounds produced by constricting the pharynx. This latter feature, according to conlang expert Eric Singer, is present in Parseltongue at least partially because "snakes like to constrict things" (2017). Parseltongue also features a utilisation of vowels inspired by Niger Congo languages, as well as Finnish vowel harmony (Singer, 2017).

Parseltongue, arguably, relies more on sonority that on grammar to give the impression of language. In that sense, it is much closer to another type of approach that is used in Star Wars to create estrangement: Language As Sound Design.

Language As Sound Design

Constructed languages, by their very nature, are an efficient way to convey alienness in a very consistent way. Since the language is functional, it is consistent from scene to scene, episode to episode, or film to film. A functional language is also a way for the fans of a particular universe to engage with it, learn it, speak it, and even help develop it further (like Na'vi or Klingon). But constructing a language is also a resource intensive endeavour, and the advantages in terms of audience immersion are unclear (at the very least, no study has yet been conducted on the topic). Indeed, it appear that when aliens are concerned, "hearing the difference makes all the difference." (Cronin, 2009: 116). In other words, alien languages do not necessarily have to be complete and functional as long as they appear, or sound, convincingly language-like to the ears of an audience.

A much cheaper solution, in terms of time and linguistic investment, is to use sound design as a proxy for other languages, or in other words as a tool to represent language within the fictional universe. The Language As Sound Design (LASD) approach does not look at emulating a functioning language, but rather tries to give audiences the impression of language. Of course, "calling something a language does not mean it actually works as a language" (Grant and Reynolds, 2016: 241), even though there is widespread agreement that "an utterance must have a syntax (or structure) determined by a grammar (or set of rules) in order to be part of a true language" (ibid.). Contrary to conlangs, languages that are built as sound design do not possess (or possess very little) actual vocabulary or grammar. Instead, they rely on the audience's schematic understanding of languages to achieve their function. Ben Burtt, the sound designer who was charged with creating the Star

Wars soundscape, remembers alien language creation as the hardest task he had to accomplish, because "language, or more accurately the sensation of language, has to satisfy the audience's most critical faculties" (2001: 122), exactly in the same way that the second peak on the uncanny chart represents a perfectly healthy human being. Similarly then, LASD can be understood as the process of mapping sounds onto pre-existing schematic structures while still creating a sense of estrangement.

A very extreme example of LASD is the Malkovitch language used in Spike Jonze's *Being John Malkovitch* (1999), which consists of only one word, "Malkovitch", repeated over and over again in various intonations, as if each utterance of the word had a different meaning. Although some languages do have an important tonal aspect to their pronunciation (several Asian languages such as Chinese, Thai and Punjabi, but also a variety of African languages such as Yorùbá, Igbo, Ewe, and Zulu), the Malkovitch language is widely exaggerated. This is a version of LASD pushed to absurd levels, but in the context of a film, it still gives the impression of language, throughout intonation only, and the fact that the characters on screen seem to understand each other.

A next step in terms of sound design-based language can be found in *District 9*. In this allegory of apartheid, an insectoid alien species called the Poleepkwa (derogatorily called prawns by the humans) live in slums around Johannesburg and have to interact with humans. In the film, human/alien interaction and communication is done through mutually passive bilingualism: each speak their own language but understand the other. Poleepkwa, however (the language of the aliens), is almost purely based on sound design (almost, because a handful of sounds are repeated and can be connected to English language words, for instance "kau" for "no", or "jek" for "quiet"[88]), and comprises of squeaks and clicks. From an estrangement perspective, the sonorities utilised in *D9* are reminiscent of insect noises, and very distant from what a Western audience would associate with language. The sounds also fit very well with the appearance of the aliens, and the lack of clear mouth-to-sound correlation does give the impression that part of the sonorities come from the throat of the aliens, maybe even their thorax. These features are common with another LADS used in the Star War film *Attack of the Clones* by the also insectoid Geonosians. Indeed, contrary to conlangs, LASDs do not need to concern themselves with utterability, especially if the story does not require human characters to speak them. The fact that insectoid-looking creatures tend to be portrayed as communicating with clicks and squeaks speaks to the schematic idea that audiences (or at the very least, Western audiences) associate these types of sounds with this type of creatures.

88 - How to Speak Prawn, https://www.youtube.com/watch?v=Dfbc2RYXPik.

This of course raises the issue of stereotypes, but more importantly to the present work the idea of consistency between physical attributes and the sonorities that are expected to be produced. It is likely that clicks would appear more estranging to a native speaker of English, French or German when coming from a human being, since they would expect a human vocal apparatus to emit the types of sounds they would be capable of producing. In this sense, the sounds produced by either the Poleepkwa or the Geonosians are strange to Western ears, but the fact that these sounds come from strange-looking creatures creates a match that makes the whole consistent and thus acceptable.

Other LASDs are pronounceable by humans, however, even though they are mainly spoken by aliens. Virtually no academic research has been conducted on the representation of non-human languages on screen, but fortunately, just as David Peterson is very public with his thought processes for the creation of his conlangs, Ben Burtt has also spoken quite extensively about his approach to alien languages in Star Wars. There are numerous interviews and extra material that can be found on various DVDs featuring Ben Burtt, but the most complete and formally realised compendium of alien languages in the Star Wars universe is a short book written by Burtt himself. The book is a tongue in cheek phrase book and travel guide attributed to one Ebenn Q3 Baobab[89] (compiled by the Baobab Merchant Council with the generous sponsorship of the widows of the Alderaan Educational Consortium), and it covers the basics of several languages found in the Star Wars universe, such as Huttese, Bocce, Gunganese, and Neimoidian. But Burtt also takes the time in the book to delve in depth into the entire process of conceptualisation and actualisation of the languages he created for the saga.

From a technical point of view, Burtt divides language types in the SW universe into three main categories: "languages that were composed of animal sounds, those that were derived from human-produced sounds, and those that were synthetised from acoustical and electronical sounds" (2001: 123). Languages based on existing languages phonologies include Huttese, Ewokese (a combination of Nepali, Tibetan and Kalmyk), Jawaese (a mix of several African languages, including Zulu) and Sullustese (the language spoken by Nien Nunb in *ROTJ*, based on the Haya and Banta-Kikuyu languages spoken in Tanzania and Kenya). The category of languages built from animal sounds mostly contains Chewbacca's voice (Shriiwook, or Wookiespeak), which is comprised of a combination of bear, dog, lion, and seal recordings blended together. Droids are a big part of the Star Wars universe, and of the main cast of the story. R2-D2 and his companion C-3PO are after all the only characters

89 - An alter ego to Ben Burtt, and portrayed by him *The Phantom Menace*.

to feature in every numbered Star Wars film, and the creation of R2's voice has been described by Burtt as his "biggest challenge" (2001: 134). As a contrast to the seriousness with which estrangement was taken between the original films and the new ones: BB8's voice was done "with an iPad app" plugged into a talk box (Schwartz, 2016, Hader, 2015).

The main non-human language in the Star Wars franchise is Huttese. There are other sound design-based languages in the Star Wars universe, created following different strategies (Bocce, Gunganese, Neimoidian). The upcoming sections address aspects of and influences for some of these languages, but Huttese remains one of the most prominent expressions of LASD in Star Wars. Huttese is the native language of the Hutt, a "massive slug-like species [with] large mouths and stubby arms [,] three lungs [,] leathery skin [,] watery eyes and slack facial expressions."[90] In the Star Wars films, they are mainly represented by Jabba, a kingpin based on planet Tatooine, in the Outer Rim of the galaxy. Jabba is first introduced as a minor antagonist in *A New Hope* before returning as the first act antagonist in *Return of the Jedi*, and even making a cameo appearence in *The Phantom Menace* (where he is accompanied by a female Hutt, Gardulla Besadii). In the films, Jabba only speaks Huttese, but it is described as being "so widespread that to travel and do effective business, [one] must possess some working knowledge of the language" (Burtt, 2001: 31). Jabba may be the only main Hutt character in the films, but he is not the only one speaking Huttese. In *ROTJ*, Jabba's assisatant, the Twi'lek Bib Fortuna, also speaks Huttese, as is the case for Watto and Sebluba in *TPM*, as well as Greedo in *ANH*. Anakin Skywalker is the only human to speak Huttese in the films (as a child in *TPM* and as an adult in *AOTC*), and does so with a very clear Galactic Basic (American) accent.

There are a few set phrases that are repeated throughout the series as staples of the Huttese language, most famously the insult Yo kato Bantha poodoo ("You're Bantha Fodder"[91]), and Koona t'chuta? ("Going somewhere?"). This last sentence, Koona t'chuta, is one of the very first sentences in Huttese created by Burtt for *A New Hope*, and it was not designed with the enormous slug-like creature that is Jabba in mind,[92] but for the Rodian bounty hunter Greedo.

---

90 - https://starwars.fandom.com/wiki/Hutt.

91 - Banthas are large hairy creatures from planet Tatooine (https://starwars.fandom.com/wiki/Bantha).

92 - Although Jabba was in the original script of *A New Hope* and the spatioport scene between him and han Solo was shot, he was then portrayed by a human, and the scene was deleted. It was re-added in 1997 in the Special Edition of the film with a computer-generated Jabba re-inserted in the scene, and then reworked again for the Blu-ray version on which this thesis is based.

Greedo is not the first non-human speaking character to feature in *A New Hope*; there are a few scenes featuring Jawas and R2-D2 before the famous Cantina scene between Solo and the bounty hunter. However, as much as previous interlingual exchanges in the film are presented as mutually passive (the Jawas and uncle Owen understand each other, and 3PO essentially backchannels what R2 says), the conversation between Solo and Greedo is a real one, as is signified by the fact that although it features both mutually passive bilingualism and backchannelling, it is also subtitled. The fact that Huttese is subtitled for the audience emphasises the importance of dialogue in Huttese compared to other languages, and places it higher than Jawaese or Gunganese in the hierarchy of languages in the films and the SW universe. In other words, by subtitling Huttese, the filmmakers insist on the importance of audiences understanding what is said directly rather than only relying on information provided by backchanneling.

How, then, does Huttese achieve to simultaneously create an impression of estrangement while feeling believable as language to audiences' ears? Nothing of the sort had been done at such a scale before Star Wars, but Burtt decided that his previous forays into creating alien dialogue would not prove adequate for Star Wars. He had experimented before when trying to create a language for Martian characters for an audio drama and playing dialogue backwards, but decided against this method because he found it to be neither original (a similar method had been used in *Flash Gordon Conquers the Universe*) nor practical or even very convincing. The goal he set to himself for SW was "to come up with something entertaining, alien, and full of appropriate character" (2001: 131).

The first step to creating the sensation of language is to make sure that the creation has a high degree of verisimilitude, in other words that it feels the same as wich we are used to identifying as language, that it triggers the "language schema" part of our brain. For Burtt, this meant listening to recordings of as many foreign languages as he could in order to find sounds "exotic to [his] ears" (132). The idea of using real-world languages as the basis for non-human ones came from the realisation that "a real language has the style, consistency and unique character that only centuries of cultural evolution can bring", that it would add a "built-in credibility" that would be obviously lacking from "a reworking of the all-too-familiar phonemes of everyday general American speech" (133).

For Huttese, it is Quechua that Burtt chose to use as a basis. Quechua is a language still spoken today by around 8 million people across Peru, Ecuador, Bolivia, Colombia, Argentina and Chile, and can be traced almost 5000 years back as the main language spoken by the Inca. According to Burtt, the language struck him partly because "it had a musical intonation" and featured "sounds and clicks not a

part of the common speech or of any of the familiar Romance languages" (133). The key points in this description are the mention of the clicking sounds that are features of the Quechua language, as well as their absence from the Romance languages that Western audiences might be more familiar with. The reference to the clicking sounds as estranging is reminiscent of the association of clicks and squeezes used as estranging factors for both Poleepkwan and Geonosian, marking the users of these languages as other and unfamiliar. Huttese, in contrast to these LASDs, can be spoken by humans, and is indeed performed by human actors regardless of the species the character belongs to. The voice of Greedo belongs not to the actor performing the part on the set, but a linguistics student from Berkeley University called Larry Ward, who mimicked Quechan sonorities. He and Burtt "invented and derived new sounds based on what [they] liked, and did some free-recording sessions" (134) from which Huttese emerged.

Working out sonorities that simultaneously elicit a sensation of estrangement and of verisimilitude is a first step, but as demonstrated by Tinwell, Grimshaw and Abdel-Nabi (2011, 2015), some measure of synchronisation between the audio and visual stimuli must happen in order to avoid an uncanny effect. Voice, also, must feel like it can realistically be emitted by the character on screen, in terms of tone, volume, and phonology. In order to avoid an uncanny phenomenon, it was therefore imperative to tailor sentences and to time them to Greedo's snout movement. The speech structure and rhythm were matched to the character's mouth in order to create some measure of synchrony. The voice itself also needed to feel different from a standard human voice, and to be credible related to Greedo's morphology. Burtt's solution was to use a phasing effect, or "comb filtering", that "gave the sound a tubular quality that was consistent with a sound generated in [the character's] long snout" (135). Greedo only speaks Huttese, but he speaks it in a way that is consistent with his physiology. This is a characteristic that is reflected in other characters. Jabba, for instance, possesses a very deep voice that is consistent with his enormous frame, while Anakin's accent lets us hear remnants of his own language (English in the original version, French in the French version…).

Other non-human languages in SW are built following the same strategy, only using different source languages as inspiration.

Sound design-based languages such as Huttese, Ewokese, Jawaese, or Neimoidian have been developed since their debut in the films, but the handful of sentences that exist in some of them feel slightly comical, and often betray the influence from their English-speaking creators. A few examples from Neimoidian, a species whose pronunciation is influenced by Eastern languages such as Thai and Japanese, include *Myo vould rike to rie down* ("I would like to lie down"), *Ver iz da ezkapa pud?* (where

is the escape pod?), and *E'ee neet moor tyme cho consider da deel* (I need more time to consider the deal).

Burtt also differentiates in his assessment of language representation in the Star Wars universe between languages derived from animal sounds and other created from acoustical and mechanical sounds. Although these two categories seem at first glance to be quite different, closer inspection reveals that the strategies used to create personality and character are very similar. Prime examples of the similitude of strategy and principles applied by Burtt are the Wookie Chewbacca and the astromech droid R2-D2.

The *Galactic Phrase Book and Travel Guide* teaches us that Shryiiwook, or Wookie-speak, comprises of "a special set of sounds, which are subdivided into the following categories" (65): grunts, barks, waa-waas, moans, whimpers, trills, snarls, and growls. As for droid-speak, its main components are: chirps, whistles, buzzes, and beeps (73). The main difference between languages like Wookie-speak or astromech droid and others like Huttese is the former do not appear to have any palpable grammar, or even vocabulary; they rely on tone, pitch, and emotion. Shryiiwook came to be as Burtt went to record a bear as a starting point to Chewbacca's native tongue. The sounds produced by the bear during the recording session appeared to have emotional connotations, depending on if the animal was angry or happy or inquisitive (126). A similar approach was used to create R2's voice, when Burtt realised that in order to keep character and emotion in the droid's voice, he would have to rely on human performance first and on technology later.

The approach for both Chewbacca's and R2-D2's voice and language is actually remarkably similar, and starts with the recording of actual voice. For Wookie-speak, it is by recording animals in various situations that Burtt managed to gather types of sounds that would correspond to audiences' preconceptions. We are all familiar with the sounds made by animals, and know how to interpret them and the emotions they carry. By recording an actual animal, a bear, as the basis of Shryiiwook, Burtt was able to build the emotional blocks of a make-believe language. He found out that he could "create an intonation envelope by stringing different "shape" sounds together, thus giving an emotional meaning to what was otherwise somewhat random" (126). From these phrases, he could then "create the sensation of short sentences and vocal reactions" (ibid.). Similarly, R2's voice is actually Burtt's voice acting mock dialogues (146-147). During the editing process of *ANH*, it became necessary to have placeholders for R2's lines in order to build the pace of the film. During a conversation between 3PO and R2, Burtt "found that [he] was responding in a kind of baby babble […] to indicate the intonation of a phrase" (142). This is what ended up being the basis for R2's intonations.

The reason why bear sounds and baby talk function as basis for LASDs is that they are familiar and relatable, but familiarity is only half of what is necessary to create alienness. In order to create estrangement, other ingredients are necessary. For Wookie-speak, it is the addition of other animals (seal, lion, dog) sounds that gives the language its estranging quality: we are familiar with the sounds and the intonations, but there is a degree of strangeness to it that makes it believable as alien. Equally, for R2, Burtt had to come up with a system that allowed him to mix and meld his baby babble with electronic sounds without the two sounding separate from one another.

Estrangement then, in Shryiiwook as well as in astromech language, is achieved by having a grounding in reality and being modified just enough so that it remains recognisable while Other at the same time. In other words, the animal vocalisations and baby babble serve as anchors to our cognition, while the modifying elements (playing the sounds in reverse, sped up or slowed down, electronic filters…) serve as disruptors. An adequate balance between the two elements needs to be achieved in order for estrangement to happen within the parameters of the audience's suspension of disbelief.

There are other elements that come into play as far as the believability of a sound design-based language. As mentioned before, instances of mutually passive bilingualism help to sell the illusion because even if we do not understand the language, we are cognisant of the situation of two or more characters being in a conversation. In this kind of situation, the conversation setting is the anchor, and the LASD is the disruptor.

Finally, the phenomenon of synchresis plays an important role into selling audiences the illusion that what they hear is actual language. Synchresis does function because of the schematic nature of our cognitive makeup, and the fact that we are mentally pre-programmed to associate stimuli together. It is likely that sounds such as the one attributed to Chewbacca would feel strange and uncanny on their own, because of the sounds from different animals that are combined to form them. By simply hearing the sound, we might get confused as to its nature, and experience this uncanny feeling of not being able to associate the audio stimuli experienced with a pre-determined visual schema. But once combined with the image of the tall and feral alien, and synchronised with his jaw movements, the illusion is complete.

Conclusion

There are a multitude of ways in which fantasy and science-fiction genres use language as a tool for estrangement: estranging elements at the vocabulary level, idiolect level, grammatical level, typographical level, or any combination of those

elements (not to mention the visual representations of languages, such as glyphs, runes, logographs[93]…). Why use one approach rather than the other? David Peterson argues that "films and television shows are being analysed by legions of fans the world over [...], and in real time", and that "every single detail of a production is analysed in depth by amateurs and experts alike" (2017). The level of scrutiny of the representation of languages in Imaginary Fiction thus is higher than it has ever been. But the role of language in each story does tend to inform the type of approach to its representation. In Star Trek, for instance, there is some impetus to flesh out the Klingon language because the species and its political relations to others are important to the story and world building. The central theme of *Avatar* is very much about a character going native, and as such, the mastery of the Other's language is an important aspect of the story. In worlds like the Star Wars universe, however, the representations of languages are primarily a source of estrangement, and there are no real stakes attached to the topic apart from that.

There does not seem to be, however (and there is no research on the topic), any direct correlation between the completeness or realism of a language, and the direct effects it has on audiences (apart from small communities of the most hardcore fans). In other words, estrangement is not necessarily connected to the fact that a language is a conlang or an LASD, parseltongue is a conlang after a fashion, but in many respects, it feels more like an LASD than Huttese.

It is clear by now that the uses and representations of language in science-fiction are an immensely important part of an author's arsenal when it comes to transporting his audience into the imaginary universe his stories are taking place in. It is not a one-dimensional arsenal either, and it can touch and utilise every aspect of natural language – or even just the impression of it – to achieve its paradoxical/dual goal of estranging and anchoring element. Language in Imaginary Fiction is an important aspect of world building, it impacts the way authors write their worlds (by informing the words they needs to employ), and it impacts the ways the characters that inhabit those worlds, just like in the real world, by imbuing them with diverse ways of expressing themselves, through through accents, unique and memorable deliveries, or even strange and alien languages.

In our world, one that seems to be getting smaller and smaller by the day (not unlike the way galaxies shrink when faster-than-light ways of travel is available),

93 - The use of visual representations of languages can play an important role in world building, estrangement, and immersion. Just like Chinese or Arabic characters can give out a sense of otherness within the setting of realistic fiction, unfamiliar and strange symbols can promote and reinforce a sense of alienness in Imaginary Fiction.

consistent and informed ways to think about these representations of languages, as well as ways to transfer them to other audiences, are more than ever necessary. The film industry is now more global that it has ever been, most notably because Hollywood is now heavily relying on the vast Chinese market to turn a profit on the more and more expensive films that are being produced. The ways to present those films to global audiences in a way that is immersive to them is therefore of paramount importance, especially in a genre as linguistically diverse as Imaginary Fiction. Traditionally, the two main ways of making films accessible to foreign audiences are subtitling and dubbing. This thesis being primarily interested in the audio mode, in terms of voice, delivery, and performance (and their relation to the uncanny), a deep dive into the practice and art of dubbing is necessary.

– Fourth Threshold –

The Ghost and the Shell

"*Voices aren't just sounds, in a lot of ways, they're auditory faces.*" – Olivia Kang
"*To have a second language is to have a second soul.*" – Charlemagne

Up until now, I have shone a light on the nature and underlying mechanisms of the uncanny phenomenon, and connected it to audiovisual stimuli. The uncanny sensation is likely to occur when the perceptions from two or more senses do not align, thus creating a sensation of cognitive uncertainty regarding the experience we are having. In the second chapter, I explored the nature of Imaginary Fiction – of which Star Wars is a prime example – and demonstrated that it is a genre that relies heavily on the tension between a sense of estrangement and willing suspension of disbelief that allows audiences to accept the strange elements as normal, therefore recalibrating their own expectations (and the potential for uncanniness that accompanies those expectations). Finally, in chapter three, I have explored the role of language in the building of Imaginary Fiction worlds, and how language and representations of language are a powerful tool to create estrangement in audiences while also providing familiar and anchoring elements to them that facilitate suspension of disbelief.

In this chapter, I will connect all those elements to the practice of film dubbing. Dubbing is one of the two main ways (the other being subtitling) in which audiences can experience foreign language films. It is a practice that involves replacing the words that are originally spoken, the voice that is speaking them, and in so doing half the performance given by the original actor. All these changes can potentially act as turbulence in the delicate balance that keeps the uncanny at bay for audiences. Imaginary Fiction, I will demonstrate here, partially allows for a loosening of the potential rupture of immersion the uncanny can have on the film watching experience,

because it reshuffles the rules of expectations from viewers, and heightens their level of suspension of disbelief. To understand the complex relationship that exists between image and sound, I propose that it is necessary to go back to the origins of the medium.

The Not-So-Silent Era

Contrary to what is commonly assumed, there was never a truly silent era of cinema. Indeed, as soon as films became more than just technical curiosities and creators started to use the medium to tell stories, sound became part of the experience. In the early twentieth century, it was not technically possible to record, or directly play, a soundtrack to go along with the images. The typical set up in the theatre then, and what is generally thought of, is of a pianist playing music alongside the moving pictures, emphasising the actions on screen and the mood of the story. For each establishment, the musician, or musical director, had to rely on their collection of sheet music and their ability to improvise to build their own version of a score. Some musicians – such as British composer Meyer DeWolf (Rose, 2009: 194) - saw in the situation a business opportunity and wrote and sold to theatres generic sheet music for different moods that the musical directors could rearrange and reuse at will for various films. A lesser known fact is that it was not uncommon, alongside the music, to have a commentator, or 'spieler' in the United States, "narrating from behind the screen and on occasion even translating the intertitles" (Bosseaux, 2015: 56).

Intertitles themselves appeared as early as 1902, the first recorded instance of the use of what was also referred to as title cards being in *Scrooge, or, Marley's Ghost* (Elliot, 2003: 117). The use of intertitles spread quickly, as directors realised that they were extremely useful to tell more complex stories.

But music accompaniment, narration, and intertitles, common in the so-called silent era, never impeded the universal appeal and reach of the films that were being made. In the early twentieth century, cinema was considered to be a universal medium, aimed at popular audiences. The fact that the actors could not be heard meant that the story had to be conveyed through their actions or through the intertitles, which were easy to translate and replace (Ivarsson, 1992: 15). In that sense, cinema was until the late 1920s seen as a sort of visual Esperanto. The term silent era, is a misleading one, as it fails to separate music from dialogue, a very important distinction when addressing the role of sound in filmmaking. I argue that the term "pre-talkie era" is more appropriate, and that framing this period of film history this way allows for a more constructive analysis of the role of voice and dialogue in characterisation, and therefore of the issues dubbing had and still has to wrestle with.

* * *

"Who the hell wants to hear actors talk anyway?"[94]

The pre-talkie era, which is generally considered to have lasted from around 1885 to 1927 with the release of the part-talkie *The Jazz Singer*, both saw technology improve gradually (better film stocks, more reliable cameras…), and a visual language emerge through the use of different types of shots, camera movements, and editing choices. *The Jazz Singer*, was the first full feature release to include pre-recorded spoken dialogue and music, but it was the result of years of experimentations, usually on short features that acted more as curiosities than anything else. Audiences were thrilled by the new experience, and in 1928, the first full feature sound film, *The Lights of New York,* was released. The reception of sound film was so positive, and the demand so high, that it started "a period of grave instability as well as great creativity in the history of cinema" (Nowell-Smith, 1996: 211). Fritz Lang's silent science-fiction classic *Metropolis* was released the same year as *The Jazz Singer*, and marked the beginning of the end for the silent era of science-fiction cinema. As early as 1930, most American theatres were wired for sound, with Western Europe completing the process around 1935 (Nowell-Smith, 1996: 218). In the early 1930s, according to Nowell-Smith, American actors had started to become recognisable by their unique voices and speech patterns, a "quality that was lost in the countries where voices were dubbed", as well as "enhancing the cultural specificity of a film in a way that could not be repressed by dubbing" (Nowell-Smith, 1996; 218). Sound then, "had interrupted the process of internationalisation that characterised the film industry from its beginnings", but also started "a revival of film production in many countries in response to the sudden demand for talking pictures in native languages" (Nowell-Smith, 1996: 218-219).

The sound revolution, however, was not welcomed by everyone, as many directors and theorists, among whom Sergei Eisenstein (most famous for having directed the film *Battleship Potemkin* in 1925), felt it would destroy "cinema as artistic representation" (*Close Up, The Sound Film: A Statement from the USSR*, 1928). Many arguments were presented in opposition to sound, among which the fact that the extra apparatus necessary to capture sound would restrict directorial freedom, and that talking films would be too much like plays, an entertainment form considered to be aristocratic, when cinema was seen as a popular form of entertainment.

Other voices were however raised in favour of talking films, with the argument that the evolution of the medium would allow for stories to be told differently. Marcel Pagnol, who was a defender of film speech, famously declared that "any talking film which can be shown silent and remain comprehensible is a very bad talking film" (from Bardy, 1983: 91).

---

94 - Sam Warner, 1925.

To this day, and despite the fact that sound indeed took off and became an integral part of the film experience, cinema is still considered mainly a visual medium (filmgoers are referred to as viewers), with dialogue being "just something we have to put up with" (Kozloff, 2000: 4). This sentiment was echoed throughout the twentieth century. In 1964, John Ford declared that "when a motion picture is at its best, it is long on action and short on dialogue", and that when "it tells its story and reveals its characters in a series of simple, beautiful, active pictures, and does it with as little talk as possible, then [the] medium is used to it fullest advantage"(ibid.). David Mamet summarised this very same feeling in 1991 by saying that "basically, the perfect film does not have any dialogue" (Kozloff, 2000:8).

This is certainly a position that is also adopted by Star Wars creator George Lucas, who has repeatedly stated that he envisions the saga as a series of silent films, saying that "[in] most films, the story is carried by the dialogue, [but in] Star Wars films, the music carries the story, so the music is very important, just as it would be on a silent film"[95] (2002). And indeed, the Star Wars films, despite their heavy reliance on the acoustic dimension, use music and sound effects (including the many alien languages heard in the films) as a storytelling tool at least as much as they use actual dialogue. In a 2015 interview with Stephen Colbert, Lucas stated that he "believe[s] half of [a] film is the sound", and that "sound is extremely important, but the dialogue is not". Dialogue in the Star Wars film is known, to Lucas' own admittance, to be "wooden" (Polo, 2015). But George Lucas sees the series as a hybrid of sorts, with "more of a kinship to silent films than more modern film[s]" (Lucas, 1999), which he calls talking heads films. Star Wars' position as a hybrid product, not so much focused on dialogue but more on sound design, allows me to understand the role of voice and performance as part of the soundtrack, and as instruments in the epic song that is the saga rather than as a simple vehicle for exposition.

The advent of sound, in retrospect, was inevitable, as the Hollywood star system that already existed at least in the United States meant that audiences were already familiar with their favourite actors and actresses, and eager to hear them perform. The increase in popularity of the talkies, however, created a number of problems for the American film industry. By the 1920s, international markets were already of great importance to the studios' finances. During this decade, American films accounted for up to seventy percent of the French box office for instance (Andrew, 1978: 94-114), something that was only possible because of the universal qualities of the medium, and the ease with which the language-specific elements could be adapted (the intertitles). Some, among whom Louis B. Mayer, thought that the

95 - https://www.youtube.com/watch?v=OMBYDXbkf3s.

popularity of films meant that audiences would accept English as the universal language of cinema, and by 1929, Metro Goldwyn Mayer (MGM) started exporting films to continental Europe directly in their original English language, without any form of adaptation for local audiences. Audiences responded negatively, and the idea was abandoned. The importance of the international market remained though, and American studios and filmmakers were aware of it. David W. Griffith (*The Birth of a Nation*), is said to have declared that only five percent of the world population spoke English, and that he did not see any reason to lose ninety-five percent of his potential audience. The transition to sound, despite the "great outlays of capital and entail[ed] negotiation between competing technologies" (Kozloff, 2000: 21) it required, was happening, and solutions had to be found in order to satisfy the international market.

The remarkable thing about the transition period to sound and the adaptation strategies that it entailed, is how quickly it happened. The first full sound film was released in 1928 in the United States, by 1929, the market share of talkies was already of forty percent and reached sixty-four percent in 1932 (Crisp, 1997). By 1935, Europe cinemas had mostly completed their transition to sound, and dubbing was common practice. By the late 1930s, most of the audio for films was done during post-production (Hess, 2014). It cannot be emphasised enough that the sound revolution happened extremely quickly, and that it was extremely disruptive to the entire industry.

The 1930s also saw the rise in popularity of the science-fiction serial (an adventure film split into ten to twenty-minute segments and shown weekly), of which the 1936 *Flash Gordon*, a thirteen-part adventure, is one of the most famous examples, and from which George Lucas also drew a lot of his ideas for Star Wars. As a matter of fact, Lucas originally wanted to adapt *Flash Gordon*, but the inability to acquire the rights led him to develop his own original material in Star Wars (although he would borrow from *Flash Gordon* in his own film, in particular the crawling opening text and the wipes for transitions). The success of the genre continued throughout the 1940s, during which "the serial market was one of the few places where genre products continued to thrive, with countless mad scientists, atomic bombs, unusual compounds, jet packs and ray guns" (Benson, 1985).

The first attempts to translate films on a large scale involved the subtitling of American films into other languages. This solution was originally favoured by the studios because of the low cost and ease of production of the subtitles. Mostly, however, audiences did not accept this method of translation. Chaume (2012) attributes the poor reception of subtitled film in Europe to factors like low levels of literacy and linguistic chauvinism. A combination of different factors is certainly the cause

for the general reluctance to watch subtitled films, but only economically successful countries could move on and bear the extra cost associated with dubbing.

Experiments in post-production ADR, or Automated Dialogue Recording, happened in the late 1920s, with the first all-talkie post-synchronised film being, according to Chaume, *Interference*, produced by Paramount. The industry quickly recognised the potential of post-synchronisation (the recording of the soundtrack and the dialogue after the principal photography has ended, and their synchronisation with the edited film) for dubbing and the international market. By 1929, after Radio Pictures had dubbed the film *Rita* into German, French, and Spanish, studios of the like of MGM, United Artists, Paramount Pictures, and 20th Century Fox followed suit (Chaume, 2012: 12).

The first dubs, though, "were technically poor and met with a very icy reception" (2). Just like with the original language talkies, and despite the enthusiasm and desire to hear their favourite actors talk, the first audiences were torn between the novelty of the experience and the uncanny feeling that accompanied it. Indeed, "the noticeably low quality of the first dubbings, together with artistic and aesthetic objections to the separation of face and voice, led to a strong reaction to these first attempts" (12). In other words, "the advent of sound in films made audiences question the credibility and verisimilitude of cinema" (12). Already then, at the dawn of the talkie era, was dubbing confronted with the issue of identity and characterisation. This situation was not helped by the fact that as performers became more comfortable with their voice (and the ones who did not faded into obscurity), they used it to express their own identity, to the point that script writers started to write dialogue accordingly. According to Kozloff (2000: 23), Lenore Coffee, a script writer who wrote for both Bette Davis and Joan Crawford, stated that "the difference [between the two] was entirely in the dialogue. Bette spits out her words, Joan does not", and that she wrote their lines with this in mind.

Dubbing thus, was not quite there yet in the very late 1920s or early 1930s, and subtitling did not seem to satisfy European audiences. Paramount, which had made significant amounts of money in France during the 1920s and was required by French law to re-invest some of its earnings in the country, came up with its own solution to the problem, and opened the Joinville studios just outside Paris.

Babel-by-the-Seine

With subtitles not connecting with audiences and dubbing technology not yet up to the task, executives at Paramount took a drastic decision in opening a studio in Paris in which they could film multi-language versions of their projects.

The idea behind multi-language versions of a film was that directors would

be able to use the same set and shoot the same scenes back to back with different actors, while using the same setup of lighting, camera placements, etc… On the studio premises, films were being shot in up to fourteen languages, with the idea that economies of scale would allow this method of filming to be profitable. Organisation, however proved to be extremely complex, and such an endeavour was extremely difficult to manage, and resulted in "linguistic chaos, with several different directors and a dozen different casts all working in different languages and alternating in identical scenes on an identical set, [which] earned the studio the title Babel-sur-Seine" (Crisp, 1997). At first, the reception seemed to be positive, with market shares for sound films in France increasing from an already impressive 40% in 1929 to 64% in 1932, according to Crisp. Success, however, was short lived. Very quickly, the novelty wore out, and audiences abroad turned out to be eager to see their favourite American stars perform. Additionally, by 1931, the aftermath of the 1929 financial crash caught up with the Joinville studios, and Paramount narrowed its focus down from fourteen languages to just three: German, Spanish, and French. Although Italian did not make the cut at the time, it is now part of what are called the EFIGS[96] countries, which are still in the twenty-first century the territories film studios (and television and videogame production companies) deem it necessary to have voiced versions of their products. This change in focus was not sufficient though, and by 1933, the idea of multi-language films was abandoned as the technology necessary to create convincing dubs became available. The studios were very conscious of the importance of offering quality dubs to their foreign audiences, and of the fact that lip sync inconsistencies can easily break synchresis, and therefore immersion.

On the Complexity of Film Sound

The studios' commitment was such that the role of the sound department was elevated to match the prestige of others, and by 1935, the position of dubbing engineer was of similar importance to the role of film editor. Technicians and engineers had to learn their craft as they went along, as an entire new field of expertise and experimentation was created almost overnight. No academic studies were available to the professionals of the time, and there was no theoretical knowledge about the role and impact of sound on characterisation or storytelling. An anecdote from the post-production of Orson Welles' *The Magnificent Andersons* tells the story behind the re-recording of a scene in which six actors are sitting in a moving car. During the post-production, the sound engineer, James G. Stuart, had the actors perform

96 - EFIGS stands for English, French, Italian, German, and Spanish.

their scene, and then synced the result to the footage. During screenings, it rapidly became evident that the voices on screen did not belong to people having a conversation on a bumpy road. The team therefore brought the actors back into the recording studio, but this time sat them on horse saddles that could be jiggled to simulate the bumpiness of the ride. The influence of the shaking around on the actors' performance was enough to make the recording credible, and the result was approved by Welles.

Sound post-production for film can be divided into three main areas: music, sound effects, and automated dialogue recording (ADR). On a film like *The Force Awakens*, more than seventy artists and technicians formed the sound department (not including the musicians).

Music

Music is self-explanatory: a composer is hired to write and record a score for the film. Up until the democratisation of non-linear digital editing, composers would write their music to the edited final, or close to final, version of the film. Nowadays, editors almost always cut the film to temporary music suggested by the director, very often taken from another film. This practice is very much disliked by composers, who rightly claim that it limits both the artistic choices of the film editors and theirs, as they then have to follow patterns and rhythms set by an already existing piece of music. This practice tends to promote the writing of unoriginal music, sometimes borderlining on copyright infringement. One such instance happened with the film *300* that used the score from *Titus* as temporary music. The final score, however, was so close to the temporary track that Warner had to publicly apologise. Star Wars is at the same time immune to this trend, and a potential perfect victim of it, as the existing amount of music written by John Williams is so vast that there are existing songs that can be used as templates for the editing, but composer John Williams has written music for Star Wars for forty years, and knows how to balance classic themes with old ones. Music in Star Wars plays a crucial role, as George Lucas uses it to tell the story as much as he uses visual elements, but it is also key to characterisation. Characters in Star Wars very often have their own musical theme, which has with time become part of their identity. One the most famous of those themes is the Imperial March, associated with the character of Darth Vader. The powerful, dark music, is impossible to dissociate from the towering figure of Vader, but more importantly, it has been re-worked in *The Phantom Menace* as Anakin Skywalker's theme, foreshadowing the boy's fall to the dark side, and there are hints of it in the song Jedi Steps in 2016's *The Force Awakens*. In fact, George Lucas and John Williams are very straightforward about the rhyming that is built into the

narration on the Star Wars saga, both visually and acoustically.[97] Music also abides to a large extent by schema theory, as music theory largely relies on natural phenomena (frequency, harmony), and the fact that some notes, chord progressions, as well as rhythms (the Imperial March for instance) and even the sound of some instruments, are engrained in culture and evoke certain feelings. The natural component of music theory is best demonstrated by Bobby McFerrin in his TED segment *Watch me play… the audience!* (2009), in which he shows the instinctive nature of the pentatonic scale. Musical patterns also belong to the collective psyche (at least within similar cultures), such as the famous Dies Irae motif, which can be traced to Gregorian monks around the thirteenth century, and which has become a symbol of death and sorrow reprised in classical music (Mozart's *Requiem*, 1791; Berlioz's *Symphonie Fantastique*, 1830; Listz's *Totentanz*, 1849; and Verdi's *Messa de Requiem*, 1874) and film soundtracks (*Metropolis*, *It's a Wonderful Life*, *The Shining*, *The Lion King*). Another example can be found in *A New Hope*, with the theme *Burning Homestead*, according to Alex Ludwig, an assistant professor in Musicology at Berklee College of Music.

Music does not change during dubbing, which can be a problem for adapters when part of the soundtrack is mixed with dialogue, as described by Hollander (2001) in *Natural Born Killers*. The fact that music remains the same, though, generally means that its part in characterisation does not change either in the adapted versions. In the case of Star Wars, where the role of music in storytelling is intensified, this means that even with their original voices taken away from them, characters, at least the main ones (those that have musical themes associated with them), are still in a position to carry part of their personal identity with them even in translation.

Sound Effects, Foley, and the Used Future

The second category of sound found in films is sound effect. This category encompasses everything from footsteps to gunshots, tyres screeching, punching noises, ambient street noises, and falling rain. Sound effects are almost entirely re-recorded in post-production, for on set conditions are rarely conducive to usable recordings. Many elements on set can get in the way of recording clean sound (either dialogue or sound effects). For instance, the scene can be shot on a sound stage, with all the elements of scenery, including the floor, made of wood. Sound recorded in such circumstances would almost never have the necessary quality to be in the final product. Other situations include shooting in conditions where the crew has little control

97 - A fantastic example of rhyming across the original trilogy and the prequel can be found here: https://www.youtube.com/watch?v=k7ZW1gtCljs.

over the acoustic environment (planes flying over the set for instance, or a crowded street), or if special machinery (such as a smoke machine…) is required for the scene. Even if some of the sounds recorded on the set are usable, they rarely tell the whole story, or form the entire acoustic landscape that a director wants for his scene.

The recording of sound effects is divided between the sound effects proper and the foley. Sound effects and foley share the fact that they are re-recorded elements that are inserted in the film's mix, but sound effects can be recorded anywhere and applied to a wide variety of elements, while foley effects are recorded in a studio and tend to be limited to the sounds characters produce. Both sound design disciplines completely rely on synchresis, or the fact that audiences associate the audio and visual elements of a film, and assume that if a sound happens at the same time as a visual cue, then it is the result of that visual cue. Put simply, if a viewer sees someone shoot a gun and hears a gunshot, he will assume that the gun produced the sound. This kind of situation is almost never true in cinema, and in the same way that cars do not explode in a giant ball of fire in real life, film gunshots are only remotely related to their real-life counterparts.

Sound in science-fiction, a genre that sits further away from the zero world than "realistic" fiction, is even more of a lie than regular fiction, and so are the sound effects that come with it. For this reason, almost the entirety of a Star Wars film soundscape is recorded to suit the film's action.

Ben Burtt has been in charge of sound design on the Star Wars saga since the original film. He was also tasked with developing the alien languages heard in the films, as well as the "voice" of R2-D2, the astromech droid that appears in every single film of the series. Burtt, and composer John Williams, are largely responsible for the acoustic identity of the series. Burtt's work is well documented in documentaries and interviews, and the popularity of Star Wars means that the sound design process for the films is quite transparent

The used philosophy is perhaps most obvious in the visual department of the Star Wars films (see chapter two), but it is also applied to all the elements of the soundtrack. The goal Ben Burtt set himself in the sound design of Star Wars was to achieve a balance between worldly and other-worldly qualities. Indeed, Burtt talks about "blending the literal and the non-literal" (2002). In other words, the design challenge of a soundtrack like the one of a Star Wars film is to cause estrangement – to show the audience that the story is taking place, in this case, a long time ago in a galaxy far, far away – but also to ground the narration in reality, to help achieve immersion. This design philosophy is used for all the acoustic elements of the Star Wars films, and typically requires the recording of real-world sounds, whether organic or mechanical – and their processing in order to create something new but grounded

in reality. In fact, one of George Lucas' directives for the soundtrack was that it needed to sound "real, kind of used, [and] very natural" (Burtt, 2010). According to Burtt, Lucas' instructions were to not go to "synthesisers first [to] generate echoing electronic tones," but to "go out in the real world [to] record motors and animals and bring back familiar sounds, which [could be] modif[ied] into something otherworldly" (Burtt, 2010). In the *A New Hope* DVD commentary, Ben Burtt reflects on Lucas instruction for Star Wars' sound design:

> *"George Lucas... wanted the sounds in the film to sound natural. He was not interested in perhaps what was the tradition in science fiction films which was to generate electronic sounds and synthesized sounds that would have an otherworldly quality. He wanted the sounds to have a worldly quality. That they would sound like real objects, real motors, actual places. The doors would be rusty on the spaceships or the places where people lived. The engines would sound like that they were maybe mis-tuned or would backfire once in a while. He wanted a used universe in a sense."*[98]

There are two dimensions to the design style: the world in which the story is taking place needs to feel lived in, and the design elements need to elicit estrangement while being grounded in reality, in the familiar. Voices in Star Wars, in particular those of aliens and droids, are also designed with that in mind. One of the most relevant examples, which encompasses the problematics of identity, dubbing, the uncanny, and sound design, is the Wookie Chewbacca. Chewbacca, Han Solo's friend and co-pilot, is an eight-foot-tall hair-covered Wookie, whose physical performance was given on set by Peter Mayhew.[99] The design of Chewbacca's voice was one of Ben Burtt's first assignments for Episode IV. One of the design constraints that came with the task was that the mask worn by the actor did not have articulated lips, so all the performer could do was to open and close the mouth. The challenge, then was to "create a voice that would be believable from a mouth operating like this" (Burtt, 2014). A solution was to use bear sounds, a species that vocalises from the back of the throat, just like a Wookie would. The bear recordings were mixed with the sounds of other animals, most notably a seal, and thus was created Chewbacca's voice, a voice at the same time grounded in reality, but different from any single thing humans would be able to experience on Earth.

Foley artists, who deal with more subtle and unique sounds, like footsteps, have

98 - Transcription by John Powers, 2008.

99 - Who was replaced in the prequel trilogy by Joonas Suotamo.

to be creative in the way they work, and to come up with credible solutions, and foley tends to be reserved for more intimate, character-related elements, or pieces of sound design so tailor-made that they cannot be pulled from a sound library. A famous example of creativity and of synchresis at work is the utilisation of the sound of frying bacon sound to accompany images of rain. In a TED talk[100] he gave in February 2016, Tasos Frantzolas showed three clips of falling rain and asked the audience which one they thought had its sound replaced with sizzling bacon. He then revealed, to the audience's amusement, that all three clips featured frying sounds. The title of the presentation, fittingly, was *Everything you hear in film is a lie*. Sound effects and foley are difficult to untangle from one another, as there are no clear rules as to what type of sound belongs to one category over another, and they can very often overlap. In Star Wars for instance, the immediately recognisable sound of the lightsabers is the product of the sound effects department, but the actual recording of the lightsaber fights was done by the foley artists who re-enacted the actors' movement in the studio to maintain kinesic synchrony. Regardless of the department that produces its elements, the soundscape of a Star Wars film is something that is immediately recognisable, and sounds like the lightsaber's buzz, the TIE fighters' screech, blaster shots, or Darth Vader's iconic breathing, are inextricably linked to the franchise's identity the world over.

Automated Dialogue Recording

The third main aspect of a film's soundtrack is ADR, or Automated Dialogue Recording. The practice of re-recording dialogue, or intralingual post-synchronisation, very quickly became prominent after the advent of the talkies. In the early days of cinema, a lot of the production was confined to sound stages, where crews had control over the large quantities of light necessary to expose film stock. Without sound to worry about, the noise occasioned by the lights, the running of the camera, or the environment, sets tended to be very noisy places. The arrival and success of the talkies challenged this situation, but the technology of the time, although moving very fast, made it inconvenient to use sound directly captured from the set. The fact that production companies' sound engineers worked on ways to record dialogue in post-production also meant that the dubbing technology for foreign languages greatly improved. By the end of the 1930s, according to Hess (2014), most of the audio for American films was done in post-production.

In practical terms, ADR is the re-recording of dialogue by the physical actors in post-production. In the vast majority of cases, it is the actor who physically

100 - https://www.ted.com/talks/tasos_frantzolas_everything_you_hear_on_film_is_a_lie.

performed the scenes who also lends his voice to the character, but this is not always the case. For films such as Star Wars, it is frequent for on-screen characters to be voiced by actors who are not their physical incarnation. There are a variety of reasons for this to happen. In the case of Darth Maul, the Sith warrior of *The Phantom Menace*, the physical incarnation of the character was provided by martial artist Ray Park, but the voice performance by actor Peter Serafinowicz. Equally, Darth Vader's voice was not provided by David Prowse, but by James Earl Jones, and for some alien characters, the choice of voice can even be made after principal photography is finished. One exception is the case of Jedi Master Yoda, whose puppet was originally animated by Frank Oz, who also lends his voice to the character, although for most recent films, the puppet has been replaced by a computer-generated model.

The main purpose of ADR was originally to be able to record a good clean performance from the actor, but over time, more creative uses of the process have been found. First of all, directors have realised that ADR gave them the opportunity to rewrite lines of dialogue in post-production, with various levels of success. Indeed, just as bad lip synchronisation can break the suspension of disbelief in the dubbed version of a film, a bad instance of ADR can pull out a viewer from the experience when noticed. As a matter of fact, just like in the case of dubbing, the better the synchronisation of the dialogue, the more jarring an instance of poor synchrony appears. But also like in dubbing, the changing of dialogue lines works best, or at least gives the performer more freedom, when a character's mouth is not in the shot, or if the shot is quite wide.

A second way to use ADR is for censorship purposes, in particular for television versions of films containing strong language. Famous examples of such a practice include several scenes of the television version of *Scarface* and, my personal favourite, a scene from *Snakes on a Plane* where Samuel L. Jackson's line "I've had enough of these motherfucking snakes on this motherfucking plane" was replaced by "I've had enough of these monkey-fighting snakes on this Monday to Friday plane."[101] Of course, the fact that in this kind of situation the original actors often do not perform the revised lines is also a potential breaker of immersion.

Another frequent use of ADR is to be found in the genre of the musical. An example, given by Charlotte Bosseaux (2012, 2015) is the film *Gentlemen Prefer Blondes*, in which Marilyn Monroe did not perform all of her songs herself, thereby raising the question of whose performance audiences actually experience. Another example can be found in *The Lion King*, in the song *Be Prepared*, sung by the lion Scar, voiced by Jeremy Irons. During the recording of the song, Irons experienced

101 - A selection of examples can be found here: https://www.youtube.com/watch?v=OZ2GDQ2F_Us.

vocal problems and was unable to finish singing his parts. The producers therefore called upon Jim Cummings, a veteran voice actor, to perform what he calls some stunt singing, and record about a third of the song. This type of stand in is generally reserved for when "the celebrity who was initially hired for the role is not really up to the task" (Hill, 2011) and Cummings mentioned in a 2011 interview with the Huffington Post how he previously had to perform in lieu of other voice actors for *Anastasia* and *Pocahontas*. It is worth noting that, although it is anecdotal, only a couple of results address Irons' truncated performance when doing a Google search, which would suggest that the vast majority of viewers since the film's release have been oblivious to the audio sleight of hand (alternatively, it could also be due to the fact that the film was released in 1994, during the pre-internet era). Of course, the voice-over for an animated film, especially a traditional 2D film, presents its own idiosyncrasies, but this type of situations raises the same questions that the study of dubbing does, which relates to the distance that exists between performer and audience, and the extra layers that consecutive voice replacements contribute to increase further.

The Art of Dubbing

Dubbing, along with subtitling, is "one of the major modes of screen or audiovisual translation carried out all over the world" (Chaume, 2012: 1). The main difference between the two modes, or at the very least the one difference that is most important to the present work, is that contrary to subtitling, dubbing requires the voice of the original actor to be deleted and replaced by a new voice in the target language. The role of performance in the discipline of dubbing is at least part of the reason why dubbing is considered more of an art form than subtitling is. Jorge Díaz-Cintas and Aline Remael have exhaustively covered the discipline of subtitling in their seminal book *Audiovisual Translation: Subtitling*, to which Chaume's *Audiovisual Translation: Dubbing* is the mirror piece. The discussion about which form of audiovisual translation is best has been raging from the origins of localisation of talking films, with the main criticism aimed at dubbing being that while watching a dubbed film, "audiences miss out by not hearing the original actor's interpretation" (Chaume, 2012: vx). Subtitles, as for them, are criticised for adding an extra semiotic dimension to the medium and being potentially distracting to audiences, who could miss out on the on-screen action (including actors' facial expressions) while reading the subtitles. This work is not interested in the debate about which form of AV translation is the "best", but rather in contributing to answering the question: what is the impact of dubbing on performance and audience reception? Very little, in fact virtually nothing outside of *Bosseaux's Uncanny Encounters* and Romero-Fresco's

2020 paper *The Dubbing Effect* has been done on the topic. In chapter five , i will use Bosseaux's multimodal approach to engage in textual analysis too.

Dubbing is at least as much an art form as it is a technical endeavour. This was made abundantly clear to me during my stay at the Audioprojects recording facilities in Barcelona in 2019. As much as there is value in analysing dubs and reverse engineering their creation process, being witness and taking part in[102] the actual boots-on-the-ground process was enlightening. Dubbing is a team effort, and a discipline that involves more improvisation I would have expected. This is a dimension of the practice than I would like to emphasise as I discuss the process on a granular level below: a significant portion of dubbing is improvised on the spot rather than carefully planned in advance. Like any other large scale endeavour, solid and exhaustive planning and preparation is necessary, but when it comes to the actual recording and performance, the flow of the dialogue and the synchronisation with the images, including the breathing spaces, a lot is modified during the recording itself. I have not witnessed the dubbing of high-profile films such as the Star Wars films, and I can only speculate as to the level of restrictions that the dubbing studios have to deal with in those cases. Pointing out this caveat, I feel, is necessary in order to set expectations right as I study examples of dubs in this thesis.

Despite the artistic and human dimensions that are intrinsic to the practice, there is an important technical dimension to it too. In order to identify some of the cracks in which the uncanny can potentially hide, it is necessary to understand the inner workings of the process.

The Technical Aspects of Dubbing

Dubbing is a type of audiovisual translation that is mainly used in Europe, the Americas, some Asian countries and some North African countries (Chaume, 2012: 1). It consists of "replacing the original track of a film's (or any audiovisual text) source language dialogue with another track on which translated dialogues have been recorded in the target language" (1). This definition from Chaume is accurate, but is missing, or rather is quickly glancing over, an important aspect of dubbing. The main problem I have with this definition, and with Chaume's otherwise exhaustive overview of dubbing, is that it rarely, if ever, considers dialogue as anything more than a bunch of words, and almost completely discounts the role of voice and performance, except from a technical perspective. The delivery of the dialogue is one of the main roles of the actor. In other words: a great part of an actor's performance is the way he or she utters the lines of dialogue that have been written. Actors are

102 - I participated in the dubbing of a soap opera, a TV film, and a feature film.

not interchangeable, but this is exactly what happens in dubbing (at least partially). A more accurate definition of dubbing would then be: dubbing is the replacement of the dialogue track as performed in the source language of an audiovisual text by a new track containing the translated dialogue performed by a voice actor in the target language.

There are different types of dubbing, or as it is sometimes also called, revoicing. Voice-over is a technique in which one or two voice actors assume all the roles in the programme, with the original soundtrack's volume simply turned down, but still present in the background. This is a method that is frequently used in documentary films, but also in fiction in some eastern European countries such as Poland, where a reader (or lector) voices all the characters.[103] Partial dubbing is an in-between method in which only the main characters are dubbed, the supporting cast voiced-over, and narration is simply a disembodied voice not actually saying lines but uttering a compressed version of the translation. These are all forms of revoicing. However, the form of dubbing this work is interested in is the one that is generally understood when thinking and talking about the discipline: fully performed and synchronised dubbing. There are four major elements that come into play: translation, adaptation, synchronisation, and voice and performance.

Translation and Adaptation

Before an AV text can be dubbed in another language, it needs to be translated. Like for all translation, there are many criteria that come into play in the quality and content of translation, which can be related to anything from state censorship to different moral standards from one culture to another, or time constraints, or a poor choice of translator. In the world of dubbing, the process of language shifting happens in two stages: translation, and adaptation (plus a third when words are changed during the recording). These two tasks can be performed by several people or one single person. The first stage is that of transcription and translation. Translators in dubbing do not generally get access to either the script (which, in any case, contains the dialogue as it was written, not necessarily the exact version that appears in the film) or to an already transcribed version of the dialogue as it appears in the final product. Instead, they have to work from the final – or near final – product. In any case, their work is focused on the meaning of the dialogue and the accuracy of the information that is conveyed by it rather than on the style or flow. The flow, or rhythm, of the translated dialogue, is the responsibility of the adapter, who takes the translated text and reworks it so that it works with the synchronisation constraints

103 - Voice-over is also known in Russia as Gavrilov dubbing, or single-voice translation.

imposed by the visual elements of the film. The adapter is, for instance, free to move information around and cut and paste lines to instances when a character is off-screen, or turning his back to the audience. Another step is the "detection", which consists of noting down the mouth movement of the screen actors, in particular the bilabials and rounded vowels, so the adaptation work can be done appropriately. In other words, the detection phase consists of identifying the visemes – or mouth shapes – performed by the actors. This information is useful in the following steps of the process, as the illusion of synchronisation relies heavily on trying to replace phonemes in the source and target languages by phonemes they might share.

It is clear then, regardless of the translation choices, that the main constraint encountered by adapters is the synchronisation with the on-screen footage.

Translating Imaginary Fiction, the Star Wars Case

Translating visual science-fiction – or any other form of Imaginary Fiction – is a different endeavour than translating other types of content, but an endeavour that remains very much under-researched. As a matter of fact, Monika Wozniak's 2015 *Technobabble on Screen* is one of the rare pieces of academic research that has been written on the topic, in her own words, "a preliminary survey of relatively unexplored issues related to the translation of science fiction" (1).

Acknowledging the specific issues generated by the Imaginary Fiction genres, whether future, parallel, or alternate (Bandiroli, 2008) is acknowledging the role of language in creating cognitive estrangement. Wozniak asserts that dialogue creates "an equilibrium between the visionary forces of the futuristic world and the familiarity of a recognisable situation that will enable the viewer to develop an emotional link with story and its protagonists" (ibid.) This specific language that is used in Imaginary Fiction genres (see chapter three) create specificities of translation. Wozniak focuses in her article on two of those issues: the "extensive presence of neologisms, typical of science fiction language", and the "recurrent problem of familiar patterns of polite forms" (ibid.). These two aspects link up with the various aspects of Imaginary Fiction language as discussed in chapter three of this thesis, but I would like to add a third related aspect to the conversation: Intellectual Property (IP) constraints.

It is my personal experience, from working as a translation manager of a science-fiction oriented publishing house in the UK, that names and terms specific to a particular IP often pose translation problems both in terms of legal protection and ownership terms, but also artistically (words that can be unintentionally funny or rude in other languages) and financially (cost of reprinting merchandising packaging for different markets). Translation strategies also evolve over time.

In the case of the French version of the original Star Wars Episode IV, in 1977, something quite out of the ordinary happened. Caught by surprise by the success of the film in the United States, 20th Century Fox imposed onto the SND (Societé Nouvelle de Doublage) an artistic director, Éric Kahane, to control the translation and adaptation process. Kahane quickly set the tone of his approach, diametrically at odds with what was originally planned for the film, and prioritising synchronisation above everything else, making some very odd choices in the process (Léger, 2015). It is to Kahane that the French version of Star Wars owes its title of *La Guerre des Étoiles*[104] (*The War of the Stars*), as well as various name changes. Among those are the change from Han Solo to Yan Solo, presumably because, the "H" being silent in French, the character's name could be misheard as Anne. Chewbacca, nicknamed Chewie in the film, became Chiktabba (Chico), in an effort to emulate the probable pun from which the character's name originated. Other examples of strange changes include D2-R2 (R2-D2), Z-6PO (C-3PO), the Millennium Condor (Millennium Falcon), Tarkan (Tarkin), l'Étoile Noire (the Death Star), la Guerre Noire (the Clone Wars), and many more. In the case of Artoo, things are even stranger, as the droid is frequently referred to as a D2-R2 ("Ce D2-R2", "Votre D2-R2"), confusing the fact that R2-D2 is the unit's - not the model's - name. It is also to Kahane that Anakin Skywalker's dark side consumed alter ego is known in France not as Darth Vader, but Dark Vador (in this case, the problematic "th" sound for French speakers is almost certainly the reason for the change. As for Vador instead of Vader, it is anybody's guess). These are amongst the better-known changes that have been made to the original text, but there are many, many more. For instance, the Kessel Mines were changed to les mines de sel de Keselrie (my spelling), the Bocce language what changed to Bacce, the Banthas mounts became Banthos… Another area in which the vast majority of names were changed is all the codes and numbers, of which George Lucas is fond,[105] that are used throughout the film. In this area, things like Sector TK-421 have become TK-F821 (maybe the "F" was added to synchronise with the "4"), cell 1138[106] was changed to bloc 183, coordinates were modified ("Three marks at 2.1.0" has become "Three ships at 12.12.9" (my translation)). The list does not stop there, with units and place code names also being changed (Gold

104 - Interestingly, other translated version went down similar routes, with the Spanish title being *La Guerra de las Galaxias* (The War of the Galaxies) and the German one being *Krieg der Sterne* (The War of the Star).

105 - Lucas' fondness for numbers is mocked in the short film *George Lucas in Love*, a *Shakespeare in Love* parody about how Lucas used his college experience as inspiration for Star Wars.

106 - A reference to George Lucas' first film, THX-1138.

Leader became Yellow – Yellow, not *Jaune* – Leader, and Base One became Base Zéro). This is without even mentioning various mix-ups of characters during the final battle, which are lost in the action. One other change that was probably considered at some point before being given up was the translation of the last name "Skywalker" into "Courleciel", and of "Luke" to "Luc". This is suggested by the fact that the end credits of the original *La Guerre des Étoiles* print features Mark Hammill's role as Luc Courleciel.

Some other oddities are to be found in the French dubbed version, such as a missing PA announcement when the rebel ships take off from the hidden Yavin IV base ("gold squadron begin take off procedure", present in the Portuguese version), and a line of dialogue between two Stormtroopers that was added in the 1997 Special Edition but apparently was forgotten when it came to the French dub (but also the other versions present on the Blu-ray: Spanish and Portuguese).

After the release of the film in France, Fox came to realise that the liberties Kahane had taken with the adaptation were unwarranted, and he was removed from the project and subsequent ones. From the second film in the series then, *The Empire Strikes Back*, a new team at SND would be in charge of the adaptation, and names in particular were not treated so badly for the two remaining film of the series. One exception was the transformation of Jabba the Hutt into Jabba le Forestier (Jabba the Woodsman). To be fair, the character of Jabba is only mentioned in the original cut of the *ANH,*[107] and it was impossible for anyone to know that Jabba would end up being a disgusting giant slug-like creature (Hutt is his species). Although the team never spoke of the reasons behind this decision, a well-accepted explanation among French fans is that the reasoning must have gone along the lines of: Hutt sound like hutte (a hut or a shack), huts are made of wood, wood comes from trees, and trees are found in forests. Eventually, in *ROTJ*, Jabba was correctly renamed Jabba le Hutt. The team did not have complete freedom to undo what had been done, however, as some merchandising rights had already been purchased for toys with the names of the first film's characters. In this situation, C-3PO remained Z-6PO (although Artoo is called Erdeu in *TESB* and *ROTJ*), but the Millennium Falcon was more accurately renamed le Faucon Millenium. Other than the curious case of Jabba le Forestier, the translations for *TESB* and *ROTJ* are quite uneventful, with an even balance of foreignisation and domestication. Kahane's approach in *ANH* was of extreme domestication, and "to be as faithful as possible to the meaning and

107 - A scene with Jabba was filmed but cut from the film, with Jabba being played by a human actor. The scene was reinserted in the 1997 Special Edition, with the actor replaced by a digital Jabba matching the creature's design from *Return of the Jedi*.

intonation of the dialogue, while scrupulously respecting synchronisation" (Léger, 2015. My translation). The result of such a strategy is a text that sounds and feels less science-fiction and more grounded in reality. For instance, the French dub of *ANH* contains expressions like "mon vieux" (buddy), "j'en perd mon Latin" ("I'm losing my Latin", which means "I'm confused"), and sentences like "watch your mouth or you're gonna find yourself floating in space" were very loosely translated in very Audiard sounding "prend ta pelle et ton seau et va jouer" ("take your toy spade and bucket and go play" (my translation)). Some creative liberties were also taken. For instance, in a discussion centred around the identity of R2-D2's rightful owner, the name Obi-Wan Kenobi is replaced by *Obi-Wan Je-n'sais-qui* (Obi-Wan who-cares (my translation)). This change does technically work (Je-n'-sais-qui fits nicely with Kenobi), but is also overstepping the responsibility of the translator. Something similar also happens with the name of the fat rebel pilot Porkins, whom Kahane renamed Porky in his translation. And even though the character's name is without a doubt a mild joke on his physique, the French version seems to be replacing his last name with what amounts more to a nickname, even though the original name would work as it is.

Inconsistencies in the translation of the films are also to be found across trilogies, with the French versions of the prequels being more adapted than the original trilogy, and character names much more faithful. Indeed, and at the expense of continuity, Artoo and Threepio are renamed R2-D2 (Erdeu-Dédeu) and C-3PO (Cétroipéo). And to make things even stranger, Threepio's name is changed again in Episode 7 (*The Force Awakens*), this time back to Cétroipéo. The change in name is even acknowledged in the film, with an entire line of dialogue added in which sees the protocol droid stating "C'est moi C-3PO, *jadis 6PO*. Vous ne devez pas me reconnaître à cause du bras rouge" ("It is me, C-3PO, *formely 6PO*. You probably do not recognise me because of the red arm" (my translation)) when the original line is "It is I, C-3PO. You probably do not recognise me because of the red arm". The translators have added the line formerly Z-6PO in order to fill the narrative gap, but there is no explanation given as to why the name has been reverted to the original. *TFA*'s French version also sees Harrison Ford's character being renamed Han Solo instead of Yan.

Another interesting point is that whereas the original trilogy only has one French dubbed version, the newer films have been given a separate version for Quebec, with a different translation and different voices. An analysis of the differences in character perception between the two dubs is beyond the scope of this study, but a cursory glance at some translation choices across both versions show that there is often not one single possible choice when it comes to translation, and that despite the

constraints imposed by dubbing (mainly synchronisation), more than one options can often be given to the translators and adapters. A few examples illustrating the different strategies adopted in each version include "changeling" that becomes changeante[108] (FV[109]), or Transmuteuse[110] (QV[111]), "deathsticks", that became either bâtons de la mort[112] (FV) or nécrotiges[113] (QV), "pod racer", translated as module de course (FV) and proto-jet, and "moisture farm", that was translated as ferme hydroponique[114] (FV) and hydroferme[115] (QV). This last example is quite representative of the leeway that can apply to synchronisation, as the two translations are very different from one another both in terms of syllables and phonetic organisation (in this case, hydroferme is a much better choice, as not only does it match the original better in terms of syllables, but it also matches the end of the word almost perfectly, and uses an acceptable French form). The Quebec French version, in this particular instance, seems to make a lot more sense in terms of synchronisation.

Synchronisation and Recording

In *The Power of Myth*, the very same Joseph Campbell that described the Hero's Journey insists that "the first part of any journey of initiation must deal with the death of the old self and the resurrection of the new" (Field, 2005: 46). Equally, the first step of dubbing is to destroy the original in order to make room for the new.

Synchronisation, a "key factor in dubbing" (Chaume, 2013: 66), is "the process of matching a target language translation to the screen actor's body and articulation movements in a recording made in a dubbing studio" (Chaume, 2012: 67). A more precise definition is that synchronisation is "the replacement of the original speech by a voice track which is a faithful translation of the original speech and which attempts to reproduce the timing, phrasing and lip movement of the original" (Luyken et al., 1991: 73), and Agost insists on the importance of "the harmony between the visible articulatory speech movements and the sounds heard" (1999: 59). This involves choosing words that coincide with the screen actor's lip movements, and is a process in which "pauses, the start and the end of the utterance, the openness of the vowel

---

108 - Changer (my translation).

109 - French Version.

110 - Transmuter (my translation).

111 - Quebec Version.

112 - Sticks of death (my translation).

113 - Necrosticks (my translation).

114 - Hydroponic farm (my translation).

115 - Hydrofarm (my translation).

sounds and the presence of bilabials are all taken into account" (Chaume, 2012: 67). There are three aspects of synchronisation that are generally understood to come into play in dubbing: phonetic, kinesic, and isochronic.

Phonetic, or Lip Synchrony.

Lip synchrony (lip-sync), "consists of adapting the translation to the articulatory movements of the on-screen characters, especially in close-ups and extreme close-ups" (68). In order to make the final product sound natural, particular attention and respect has to be given to open vowels, bilabial and bi-labial consonants, and sentence endings. Fodor recommends that bilabial consonants (m, p, b…) should be replaced by bilabial consonants, labio-dental consonants (f, v…) by labio-dental consonants, and rounded vowels by rounded vowels (1976). These are types of sounds that are easily recognisable and that are used as markers for lip reading. A poor implementation of phonetic synchrony can lead to the appearance of the McGurk effect – a situation where the visual and audio stimuli do not align and create confusion in the brain's signal processing capabilities. Science-fiction however, and generally genres that commonly feature non-human characters, can challenge the limits of what is accepted in terms of lip synchronisation. With non-human characters, even ones that are humanoid, expectations, as demonstrated by experiments on the uncanny, are shifted. Various techniques used to portray alien character on screen, whether through the use of computer-generated imagery, rubber masks, or puppets, have different levels of ability to reproduce lip movement, and therefore change the amount of lip-reading audiences can perform. In essence, voice for such characters is even more separated from the body than it is for human characters, even when the dialogue is re-recorded in post-production. In this type of instances, it is likely that non-human characters (at least those who express themselves in an understandable language to the audience), are either not subject to the same level of scrutiny when it comes to lip sync, or that they are considered more distant to the audience, like a dubbed character in a translated version. To summarise then, a successful lip sync allows the viewer to not be distracted by the mismatch between the screen actor's lip movements and the words that are heard. In other words, it preserves synchresis, and there is a potential for non-human characters to be judged by looser criteria in this respect.

Kinesic Synchrony

Kinesic synchrony (character synchrony (Fodor, 1976), or kinetic synchrony (Whitman-Linsen, 1992)) is another aspect of synchronisation that relates to the movement of the screen actors. Fodor suggests that in the dubbing booth, the voice talents

should imitate the gestures of the onscreen actors in order to achieve verbal mimicry, and he even recommends that they pay attention to the breathing patterns of the screen actors. I gave an example of the importance of kinesic synchrony earlier with the car scene in Orson Welles *The Magnificent Andersons.*[116] Other aspects of communication also have to be matched in order for kinesic synchrony to be achieved. For example, if a character shakes his head from left to right to express "no", the translation and dub cannot be a "yes", as this would send conflicting messages to the audience, unless there is a cultural reason to do so. This kind of situation can seem unlikely to happen, but it is possible in certain cases that the translator or adapter would have modified the dialogue in the beginning of an on-screen conversation (for instance to achieve better lip sync) in a way that would make a "yes" answer logical where a "no" happens in the original version. If this were to happen, the dialogue would have to be re-written to respect kinesic synchrony, as not doing so would result in a rupture of suspension of disbelief and of immersion. There is also the matter of the volume, or intensity of an utterance, which I think does belong to this category, although it treads the line of the question of performance. What I mean, however, is that the intensity of an utterance influences the visual aspect of said utterance. In other words, when screaming "no", the mouth does not form the same shape as when whispering the word. Although this is more the responsibility of the dubbing director and voice talent to implement, I think it is worth mentioning here.

Isochrony

Isochrony is the synchronisation of the length of the translated dialogue with the original actor's utterance. In layman's terms, isochrony refers to the fact that dubbed dialogue must start and end simultaneously with the original lines. To be more precise, the dubbed dialogue must not start before or after the screen actor has started talking, or end before or after he is finished. According to Chaume, "most criticism of a badly dubbed film stems from isochroniy deficiency, since it is where the viewer is most likely to see the fault" (Chaume, 2012: 69). This position reflects the results achieved by Tinwell (2015) when studying the effects of synchronisation on the uncanny, even though there is some margin to the amount or delay of lag acceptable by audiences (Tinwell, 2015; Dixon and Spitz, 1980; Lewkowics, 1996; Grant and Greenberg, 2001; Grant, Wassenhove and Poeppel, 2004). There is support in popular culture for Chaume's assertion that poor isochrony is one of the most noticeable types of asynchronies. A typical example would be the poor level of synchronisation

116 - Another one can be seen here: https://www.youtube.com/watch?v=cfsGvjaLSwI.

associated with Chinese martial art films, and the numerous parodies they have inspired.

Performance and Voice

With a good dub, well-chosen voices and good performance, the illusion is hard to detect, even when paying attention to lip movement. Also, the overall experience takes the attention away from the approximations in lip sync, something that even the best subtitles just cannot achieve. The casting of voice talents is the responsibility of the dubbing director. The selection of appropriate voice actors for each project is of utmost importance, as "for many professionals, the success of a dubbing largely depends on the right choice of voice talent" (Chaume, 2012: 36). In the recording studio, the dubbing director fulfils the same role as the actual director on a set, and has to guide the talents' performance. The voice actors, who record their lines individually (sometimes two actors at a time, rarely more), have to perform their lines over and over while watching looped footage of the particular bit they are recording. For some high-profile projects, like the Star Wars films, the voice talents do not even have access to the whole of the footage, as most of the screen is masked during the recording sessions, leaving only the mouths of the actors to base their performance on (Obi-Wan62 et al., 2011). This is an example of how kinesic synchrony can be difficult to achieve, and the quality of a dubbed version can be compromised. This is a factor that has to be taken into account when dealing with the dubbing of film that are surrounded by secrecy, and this type of situation is but one of the real-world constraints that academic research must take into account in order to come to conclusions that reflect reality. Indeed, very often, the only translation strategy that professionals in the field can afford is to do the best they can in a very limited amount of time and within the constraints that are imposed on them by their clients.

The Uncanny in Dubbing

Dubbing is an effective method of adaptation for AV texts. People such as myself who have grown up in dubbing countries, and have not been exposed to other modes of screen translation, are generally mostly oblivious to its existence, or at least favour it over subtitling. "Attitudes and preferences", Antonini and Chiaro argue, "are largely an issue of habit and thus a person who has been used to almost a lifetime of dubbing is unlikely to change to a different mode of screen translation" (2009: 97). Dubbing, in other words, can create a powerful illusion that the experience an audience has is the original experience. Like all illusions, however, it is prone to breaking in certain circumstances. With dubbing, those circumstances can easily be the misalignment of any of the aspects that produce it in the first place.

Bosseaux claims that dubbing potentially can "create an intellectual uncertainty in viewers, who may find themselves wondering who they are actually hearing" (2015: 80). She goes on to suggest that the uncanny feeling in a viewer can arise when they realise "that the voice of an actor that they have heard in many films is not actually their own, but that of another actor, another body" (ibid.). This questioning of which body a voice normally inhabits (Chion, 1999: 22) can be enough to break suspension of disbelief and disrupt a viewer's state of mindlessness (and therefore immersion) and therefore create an uncanny sensation. Bosseaux argues that "this uncanniness is exacerbated further [when] a real human being has or possesses a voice that is not their own" (2015: 81).

Bosseaux uses *Buffy the Vampire Slayer* – a supernatural drama – as a corpus for her case studies concerning the uncanny effects of dubbing. The case studies of several short scenes are conducted following a multi-modal model that takes into account "cinematic modalities", "oral aspect performances", and "actor's voice quality". In other words, her studies, just like this one, are interested in "what effect can a change in voice (including […] vocal timbre, accent and colloquial usage) have on performance and characterisation" (83).

In order to conduct case studies, Bosseaux devised a multimodal model that takes into consideration "the acoustic and visual elements that comprise a filmic performance" (155). Bosseaux is "concerned with how various modes are put together to design a semiotic product or event" (86). She identifies "five modes to consider in AV materials: spoken, written, the mode of music, the mode of sound effects and that of moving images (87, from Chuang (2006)). Bosseaux also sides with Jeremy Munday when he argues that some linguistic features that are lost during the process of translation can be compensated by visual elements on the screen (2006: 34). This phenomenon, due to the often visually distinctive nature of IF, is particularly pertinent to the present research (the more distinctive the visual, the more they can make up for the loss of linguistic features). Indeed, Bosseaux points out that "the visual dimension has been overlooked" (2015: 91) when studying the translation of AV texts. The model she puts forward, by paying attention to the visual aspect of AV texts, allows to see what happens to characters' "distinctive features" (156) by "looking first at scenes from the original version […] and then comparing these to the French dubbed version in order to identify the influence of the translators' choices on our perception of the characters" (ibid.).

Conclusion

The very act of dubbing is paradoxical: its aim is to make a film more familiar to an audience, but in doing so, it requires to takes a number of steps that are individually

estranging. Essentially, "via a process akin to ventriloquism, the actor becomes a 'dummy' or a ghost brought to life by the acousmatic voice of an other" (Bosseaux 2015: 2014). There are two phases to the act of dubbing: one substractive, and one additive.

To summarise, the steps of dubbing are as follows: for the substractive part, dubbing deprives the actor from his or her voice, which is half of the original performance, and erases the original words of the performance, resulting in a loss of meaning. For the additive part of the process, the performers are given a new voice (with all the individual qualities that go with it), new words (translated), and a new performance. At every turn of the process, a similar situation occurs that is ripe for the uncanny for emerge, for each replacement is by nature imperfect. At every turn, we are looking at reaching the second peak of the uncanny valley chart, but in the case of dubbing, it is generally impossible to reach consistently (it is possible that source and target language share words and structures, but not reliably so). To be more precise, the act of dubbing needs to overcome the difficulties of translation, while adding the extra – and very important – constraint of synchronisation.

These two aspects of dubbing are most of the time at odds with one another: on one side, "it is no secret that there is a common understanding among the general public that translations should be equivalent products to their original (Bosseaux 2015: 155), and on the other, synchronisation is key to maintaining the illusion that the voice that is heard belongs to the performer who is seen. Considering that those two goals do not align with one another, choices have to be made during the dubbing process to mitigate potential issues and attempt to attain an optimal result that both conserves the original meaning as much as possible while respecting synchronisation to an acceptable degree.

But even in this conscious attempt to maintain suspension of disbelief, several processes are at play that exert friction against one another. One aspect that facilitates immersion is the power of habit. Viewers who are used to watching dubbed programmes develop a special type of suspension of disbelief that allows them to mostly ignore the artifacts of dubbing (such as less than perfect lip-sync, the fact that the same voice might be used to dub more than one actor or that one actor might have different voices). Another powerful ally to dubbing is synchresis, as we unconsciously tend to associate the sounds and images we see on screen with one another. Together, synchresis and habit form a powerful framework for dubbing to be effective.

On the other hand, there are factors at play that constantly threaten to break down the illusion: asynchronicities, and the McGurk effect. Despite the effects of habit, viewers stay sensitive to certain types of asynchronies, and acoustic mismatches

(such as viseme/phoneme clashes) are potential disrupting elements when it comes to immersion and characterisation.

In her study of select scenes of *Buffy the Vampire Slayer* using a holistic multimodal analysis tool, Charlotte Bosseaux concludes that the realisation that the performers we see on screen are given different voices in dubbing "can be said to be uncanny" (214). She also presents her work as a "starting point for the systematic investigation of characterisation in audiovisual products" (216), and encourages other researchers to use her multimodal tool to work on "other material and language combinations" (ibid.).

This is precisely what this thesis aims to be doing. The specific contribution of the present work, however, is both analytic and comparative. Bosseaux, in her monograph, focuses her attention on human-like characters. I see a missed opportunity in her work, as she focuses mainly on the loss of British accents for certain characters when dubbed into French, but ignores the wealth of opportunities that a piece of Imaginary Fiction such as Buffy can afford in terms of analysing non-human characters using the same multimodal analysis tool. Indeed, *BtVS* is a supernatural drama in which some characters are vampires, which are portrayed with the use of prosthetics, masks, and fake teeth. All those elements heavily participate in characterisation, and therefore play a role in the characters' perception, including when they are experienced in dubbing. A logical hypothesis stemming from uncanny valley theory, however, would suggest that just like the fact that artificial characters aiming at the first peak of the valley are less likely to be uncanny, less human looking characters in films are less likely to fall victim to the uncanny sensation when being dubbed (Romero-Fresco, 2020).

In the next chapter, I will attempt to fill this gap by applying Bosseaux's model to scenes and characters from the Star Wars films. One of the potential issues there would be in applying Bosseaux's method to prosthetics-wearing vampires in Buffy is that those characters are exclusively villains in the story, which introduces a heavy bias as to the way they are portrayed. In Star Wars, non-human characters are to be found across all films, in all factions, and in all sorts of character interactions. Analysing scenes, series of scenes, and character types from various entries in the Star Wars series, I will explore the similarities and differences in the way character voices and personalities are preserved or modified in the French dub, and if non-human characters are indeed immune, at least to some extent, to the uncanny effects of dubbing.

– Fifth Threshold –

The Ultimate Boon

"*The ability to speak does not make you intelligent.*"
Qui-Gon Jin to Jar Jar Binks

The aim of this final chapter is to closely analyse different scenes and characters from the Star Wars series, with special consideration to the idiosyncrasies of the genre they belong to. Throughout this thesis, I have attempted to link the mechanics of the uncanny – perceptual mismatch and category uncertainty – to the narrative specificities of Imaginary Fiction genres (cognitive estrangement and suspension of disbelief) and to the practice of dubbing. Using Charlotte Bosseaux's multimodal analysis tool, which is designed to identify "any shifts between the way characters are created and presented in the source and target audiovisual texts" (2015: 155), I will in this chapter conduct a close reading of several scenes from Star Wars that feature mainly non-human characters.

The conclusion of Bosseaux's analysis of several scenes from *Buffy the Vampire Slayer* is that there is a shift of characterisation that happens in dubbing, and that technical inaccuracies in the synchronisation of voice, together with the ghostly effect that changing a character's voice can have, changes character perception from audiences of the dubbed version, and can potentially induce an uncanny sensation in said audience. The contribution of the present approach is to discover if characters that we are less familiar with (placed to the left of the uncanny valley) are more, less, or similarly impacted by the constraints of dubbing.

The starting hypothesis of this chapter is that as non-human characters are placed to the left of the uncanny valley (somewhere on the first peak's slope), they elicit more estrangement in the viewers. This estrangement is then met with a higher level

of suspension of disbelief, which extends to the rest of the film. In this situation, viewers are unconsciously willing to overlook more synchronisation issues than they would in more realistic settings.

The second aspect that I will pay attention to is the faithfulness – or lack thereof – of non-human characters' voices in the dub. Just like with synchronisation issues, the hypothesis of this is work that as voices becomes more unique – almost to the point of parody (Jar Jar Binks for instance), they also become easier to emulate, and therefore help maintaining characterisation in the target product.

Dubbing is splitting a film in two and recombining image and sound to make a new version. A character, once a film is dubbed, is presented to a different audience and, it is the goal of the whole process, is presented in a manner that is faithful to the original. A well dubbed character receives the ultimate boon: the ability to maintain his identity in each territory.

The Voices of Star Wars

In the same way that music is used in Star Wars to set the mood and the pace of the story, voice is used in the films as a world-building and characterisation tool. In the first forty-five minutes of *A New Hope*, the first Star Wars film to be released, audiences are presented with Darth Vader, a laboured-breathing cyborg, C-3PO, a Received Pronunciation-using protocol droid, R2-D2, a beeping and whistling astromech droid, but also Luke Skywalker, a whiny teenager, Obi-Wan Kenobi, a calm and wise Jedi master, two-Huttese speaking characters (Greedo and Jabba), the grunting Sand People, a Wookie, and the alien motley crew that comprises the Cantina Bar clientele. This is even before mentioning that George Lucas had decided for his film to have the Empire officers speak with a British accent (tighter and more serious) and the heroes and rebels speak with an American accent (associated with freedom). There has clearly been great care put into the voices of various characters, in an effort to make them immediately recognisable, and these efforts do have a lot of impact on how the protagonists are perceived by audiences

In Star Wars, many characters – whether they be human, alien, or robotic – are defined by their voices, intonations, and speech patterns. In the following sections, I will break down Star Wars characters into five different categories, in order to identify the circumstances in which the uncanny emerges in relation to voice and dubbing. This approach is inspired by Angela Tinwell's experiment in the Survival Horror Characters and the Uncanny chapter of her book *The Uncanny Valley in Games and Animation* (2015). In her chapter, Tinwell compares participants' perception of thirteen different characters plotted on the uncanny valley curve. For this segment of my research, I will take a similar approach, but I will focus on a handful

of characters to which voice (their voice texture, intonation, delivery, and speech patterns) is particularly important, because this impacts greatly on the way they are perceived, and on their treatment in dubbed versions. Generally, the variety of characters, and the combinations of physical appearances and languages spoken, mean that in relation to the uncanny, individual characters can be thought of as occupying different spots in an uncanny curve.

The boundaries between the different flavours of human characters is difficult to position. The spectrum of accents, pronunciation, and speech patterns makes it difficult to place them all squarely into a category. For instance, Tarkin, who has an extremely recognisable voice and diction, but who is also voiced by someone else in *Rogue One,* or Darth Maul, who is played by one actor/martial artist and voiced by another person. The choices here might be somehow subjective depending on the perceived neutralisation in the dubbed version, and I will also mention characters from other IPs, in an attempt to be as inclusive and comprehensive as possible. Keeping this limitation in mind, I have hand-picked a few characters from each category, whose archetypes will be analysed in case studies.

1st Type – The Masked Ones: Darth Vader, Grievous, K-2SO, C-3PO

This category consists of characters such as Darth Vader and C-3PO, respectively voiced in the original versions by James Earl Jones and Anthony Daniels. Both characters have very unique and recognisable voices and speech patterns, that are intimately connected to the expression of their personal identities, and have become integral part of popular culture. They are also two characters devoid of facial expressions, one because he wears his iconic black helmet in all but one scene across the entire saga, and the other one being a humanoid robot with "unblinking lantern eyes set below sculpted brows [and a] hyphen of the mouth beneath the brush stroke of [his] nose" (Martin, 2017).

C-3PO's (renamed Z-6PO in the original French version) personality owes as much to his dialogue as to the performance of Anthony Daniels, who plays the human cyborg relations protocol droid as an insecure, eager to please butler speaking with an unmistakable Received Pronunciation British English. Daniels considers the mask that constitutes 3PO's face as an asset for his interpretation of the character, a "wonderful, blank, beautiful mask that you can put [and] place an emotion on" (Daniels, 2017). 3PO – who is fluent in "over six million forms of communication" (*ROTJ*, 1983) – is a humanoid droid covered in (mostly) gold metal, with two shiny eyes and a small speaker (which allows him to reproduce any sound) for a mouth. In a sense, he is designed in a way that he would be placed close to the first peak of the Mori diagram: his appearance is generally humanlike and therefore familiar, but the

way he expresses himself, his slightly robotic voice, and his stiff gait clearly identify him as a robot. In the films, it is British actor Anthony Daniels who lends both his physical presence and his voice to C-3PO. For this character, Daniels uses a very identifiable Received Pronunciation accent, to go along his higher register dialogue. In his role as a galactic interpreter, Daniels also had to speak Huttese and Ewokese in *ROTJ*, and to carry his specific delivery to these alien languages. As such, both his delivery, his accent, and his dialogue – all of which participate in building Threepio's personality – pose a challenge when it comes to translating and dubbing him.

The French incarnation of 3PO, provided by Roger Carel, is as beloved by fans of the dubbed version as the original is by English speakers. The Received Pronunciation does not have a direct equivalent in French, but Carel is widely recognised for having captured the essence of the character in his diction and tone. The performance is to some extent facilitated by the lack of lip synchronisation constraints, as well as the robotic filter applied to 3PO's voice, which was provided for the French version by an H910 harmoniser, the only tool that was at the time available to the sound engineer in the French recording studio.

Darth Vader, the main antagonist of the original trilogy, is what is left of Anakin Skywalker after he was defeated by Obi-Wan Kenobi on the volcanic planet Mustafar. The fight left Anakin burnt both on the outside and in his lungs, and the black suit worn by Vader is equipped with a life support system that helps his breathing (hence the noticeable mechanical breathing patterns). Additionally, Vader's voice, because he speaks from behind a mask, is broadcast through small speakers in his helmet that give the voice a low-fi quality that contrasts with the low end of the actor's voice. The character of Vader is one of the most recognisable of film history. His silhouette is unmistakable, some of his lines have become integral part of pop culture.[117] In fact, it took, in the original trilogy alone, three (four with the change at the end of *ROTJ* in the Blu-ray version) actors to portray the Dark Lord of the Sith. The physical performance was provided by 6.6-foot-tall David Prowse, and the scene at the end of *ROTJ* where his face is revealed was played by Sebastian Shaw. But it is of course Vader's voice that is his most recognisable trait, the one that has been impersonated by countless fans since the appearance of the character (his voice, and his Force choke move). Vader's voice was provided by American actor James Earl Jones, and he has reprised his role in all the Star Wars films in which Darth Vader has featured, including 2016's *Rogue One*. His appearance in

117 - "Apology accepted, Captain Needa", "The ability to destroy a planet is insignificant next to the power of the Force", "I find your lack of faith disturbing", and the often misquoted "No, I am your father", which can be found in twenty languages here: https://www.youtube.com/watch?v=cas-B-CGnLk.

Rogue One, almost forty years after Vader's first outing in *A New Hope*, did pose the sound engineering team some problems related to the natural aging of voice (higher pitch, reduced volume and projection, tremor or shakiness[118]), and Jones' voice had to be adjusted to match his performance in *ANH* (*RO* and *ANH*'s releases are separated by thirty-nine years, but their storylines only by a few hours). One of the interesting things about Darth Vader is that for half of the original trilogy, his identity is kept secret both from the audience and the characters. Not only are both the viewers and the protagonists kept in the dark about Vader's true identity, but we are directly lied to by Obi-Wan Kenobi in *ANH*. Of course, in the light of the prequel trilogy – and the overwhelming presence of Star Wars in pop culture – this secret has been widely known about, even outside science-fiction audiences.

The French version of the character, whose voice was provided by François Chaumette, was more difficult to recreate than the protocol droid's. Indeed, if the H910 harmoniser available to the French sound engineer worked wonders for 3PO, it appeared too limited to faithfully reproduce Vader's voice. Worse, the "American production company [did] not communicate the distortion method used in the original soundtrack, despite repeated demands from the SND"[119] (Bardet; Faucourt; Wybon, 2015: 30). To remedy the situation, Pierre Davanture – technical director for the SND – resorted to DIY techniques. In order to "get as close as possible to the character's reality" (ibid.), he built a small wooden chest fitted with a speaker, sat on a thick armchair and surrounded by pillows and blankets, through which the pitched down voice of Chaumette was played and re-recorded. The technique was deemed satisfying and would be used throughout the film. Here immediately, it is noticeable that on top of a change of dialogue and voice, the effects used to render the character's voice are altered in the dubbed version, potentially modifying the perception audiences will experience of him.

These characters, ultimately, have been selected because they are speaking roles expressing themselves in the language of the audience, but who lack a mouth, and therefore are not subject to lip synchrony. This particular situation gives, at least in theory, more freedom to the translators to write dialogue that is closer to the original, since there is not a constraint of matching either open vowels or bilabial consonants. This does not mean, however, that they are completely safe from a potential shift of characterisation to the choice of words used, as isosynchrony is still a concern, albeit reduced. Even in the original version, George Lucas has been reported to complain about Threepio being "out of sync" (Dunham, 1997: 239).

---

118 - http://www.entnet.org/content/voice-and-aging.

119 - My translation.

Dwayne Dunham, the editor of *Return of the Jedi*, insists that even with mouthless characters ("What do you mean Threepio is out of sync? He does not even have a mouth!"), the filmmakers have to ensure that sequences have "internal rhythm" (ibid.), and that "every little inflection, any kind of body movement coming from the robots and the different creatures […] be put to the right syllables" (ibid.). Ultimately, in the present context, these two characters are intended to help measure how much more identity is or is not maintained when constraints of lip synchronisation are removed.

Additionally, these characters express themselves with instantly recognisable delivery and voice qualities, and have their dialogue filtered in a recognisable manner. For those reasons, it is expected that the dubbed versions of the characters should be able to retain most of their identity, because their lines can be translated without concern for lip synchronisation (and therefore be more accurately translated than if lip-sync was to be taken into consideration), and because the voice actors can make an attempt to reproduce, or imitate, the original delivery.

Additional examples from other Intellectual Properties include Sauron and the Nazgul (The Lord of the Rings movies), V, from *V for Vendetta* (in particular the famous "Voila" monologue[120]), and Bane (*The Dark Knight Rises*).

2nd Type – The Aliens: Sebulba, Jabba, and Chewbacca

Sebulba (from *TPM*), voiced by Lewis MacLeod,[121] and Jabba (here taken from *ANH*) whose original voice was provided by Larry Ward,[122] are both obvious aliens who do not speak Basic. Sebulba is a Dug, an alien species that walk on their arms and use their prehensile feet to interact with their environment. He is also an antagonist in *The Phantom Menace*, and young Anakin Skywalker's rival during the pod race that takes place halfway through the film. As for Jabba, he is a Hutt, an enormous slug-like creature who runs a crime syndicate from his lair on the desert planet of Tatooine. Both characters speak Huttese, a language invented for Star Wars. Being obviously aliens speaking an alien language, their performance and voice are not changed in the dubbed versions of the films compared to the original.

Both characters have a very particular, low voice, although Sebulba's also has a "clicky" quality that Jabba's does not (Sebulba and Jabba might speak the same language, but they belong to different species). Sebulba, in other words, might have a

120 - https://www.youtube.com/watch?v=wKn1R6fekk4

121 - https://www.youtube.com/watch?v=fERyqMEuJbg.

122 - There are no voice actors credited for Jabba in *The Phantom Menace* or the Special Edition of *A New Hope*.

Dug accent when he speaks Huttese. The creation of Huttese and that of Jabba's voice are inseparable from one another, as they both came to be for *Return of the Jedi*, which was originally the first time Jabba appeared on screen (before a deleted scene was re-intserted into *A New Hope* with a digital version of the character). Jabba's voice was inspired by the massive aspect of the character, but it "was greatly refined during postproduction, when the scenes were being edited […] and […] dialogue rewritten to accommodate new ideas in the details of the storyline" (Burtt, 2001: 153). The actor performing the part had a deep voice to begin with, but it still got "pitch-shifted as low as it would go and still maintain intelligibility" (ibid.). A subharmonic generator was then "used to derive even deeper tones, almost earthquake rumbles, […] that were mixed with the words" (ibid). The estranging aspect of such characters also has storytelling and filmmaking choice implications. As those characters are subtitled, the takes in which they appear and speak must contain "shots long enough so the audience would have time to read the subtitles" (Dunham, 1997: 239). This in turn might impact the perception of the characters in localised versions.

Sebulba and Jabba are both non-humanoid characters (brought to life by a variety of techniques: computer-generated and live action, life-size puppet), and their mouths are animated to roughly match their speech, but as nobody really knows what such creatures would sound like or how they would articulate, it stands to reason that they should be perceived similarly by English and French speakers alike. In other words, there should be no identity shift in perception between the original and the dubbed versions.

Outside of the Star Wars unviverse, such characters are the Vogons form The Hitch Hicker's guide to the Galaxy, Christopher Johnson (*District 9*), the martians from *Mars Attacks*, the Predator, and Abott and Costello from *Arrival*.

The third main type of character that I identify on this list is the type of alien character that speaks Basic, or more often a non-standard version of it. For this particular study, I will focus on two of the most famous (and infamous) characters from the series: Yoda and Jar Jar Binks.

The hypothesis with these characters is that their alienness to some extent protects their identity in dubbing.

3rd Type – The Less Alien: Yoda, Jar Jar Binks, Nute Gunray, Dex

Aliens in Star Wars express themselves along four distinct avenues: they either speak an alien language (Jabba, Sebulba…), use an idiosyncratic variety of Basic (again split into sub-categories such as syntactic variations and pidgins, for instance Yoda and Jar Jar Binks), speak with an accent (the Nemoidians, such as Nute Gunray), or speak in a standard variety (Dex in *AOTC*).

Nute Gunray is one of the antagonists of the prequel trilogies, and even though he appears in all three films, his role is most important in *TPM*. Gunray is the Viceroy of the Neimoidian Trade Federation, a powerful commercial force. Neimoidians originate from the planet Neimoidia, and have "smooth noseless faces, mottled green-gray skin, and large red-orange eyes."[123] They are described in the official *Star Wars Visual Dictionary* as "greedy and fearful of death", and "driven by their intense desire for possessions" (Reynolds, 1999: 16). In the era where the films take place, the Neimoidians have, for commercial reasons, adopted the Galactic Basic as their primary language. Their original language, however, is called Pak Pak, which has been described as "a chorus of staccato guttural croaks of infinite and subtle variety"[124](there is also a non-verbal form of Pak Pak that uses complex combinations of hand gestures). The physiology of the Neimoidian allows them to pronounce the Basic language, but only with a thick accent that is strongly reminiscent of the Thai accent in English. Actually, to decide how the Neimoidians characters should sound, George Lucas asked the dialogue to be read by various people to whom English is not the first language and decided that the Thai accent was fitting. He then asked actor Silas Carson to imitate the accent. On set, Carson was wearing a heavy rubber mask and was only able to formulate "exaggerated dialogue" (*The Beginning*,[125] 2001), while an animator would remotely control the mask's lips. Dealing with accents in dubbing is never an easy thing, but in the case of Star Wars and science-fiction in general, things are simpler. In a "realistic" piece of fiction, or at least a piece that is supposed to take place in the zero world, accents and dialects are almost always bound to geographical locations (idiolects) or societal associations (sociolects). However, in science-fiction, there is case to be made that the utilisation of accent is somehow free from such associations, as it is not at all inconceivable that species originally speaking another language would have an accent when speaking Basic, in the same way that humans raised to speak a different language do maintain traces of their mother tongue when learning and speaking a new language. In any case, Carson, the actor who plays Gunray, does not have a Thai accent, but is portraying a version of the Thai accent. My interpretation is that George Lucas could have used a native Thai speaker for the role, but did not want a Thai accent in his film, only something reminiscent of it. On the topic, but on a side note, the Neimoidians have been given Spanish accents in the French versions of the films, a French accent in the German versions, and a Russian accent in the Italian version. Nute Gunray is, I think, an interesting character to look at in details when it comes to dubbing because he is an alien character whose physiology is quite different

123 - http://starwars.wikia.com/wiki/Neimoidian.

124 - http://starwars.wikia.com/wiki/Pak_Pak.

125 - *The Phantom Menace* making-of.

from the human physiology. The lack of facial features, for instance, does not allow him to emote in a way an audience can really relate too, and Angela Tinwell's results as to the importance of facial expression in the likability of a character, in particular in the upper part of the face, suggest that audiences would feel quite put off by him. Another interesting fact is that in the French versions of the prequel trilogy, Gunray's voice has been provided by three different actors. Despite this, the performances from the three actors are virtually indistinguishable from one another, which points toward the fact that this type of character tends to maintain their identity when their voice is swapped, because they are so extreme that they are easily impersonated.
Such characters can be found in other franchises as well, for instance Gollum in the Lord of the Rings films, Dobby the elf and Magorian the centaur in the Harry Potter series, and even Aslan the lion in the Narnia Chronicles.

4th Type – Accented Humans: Chirrut Îmwe and Cassian Andor (non-native speakers of English)
Giving a character an accent is very often a shortcut to characterisation, and to discrimination (Lippi Green, 1997). This type of character is touched upon by Bosseaux in her analysis of *Buffy*, in which she includes two British characters who play their part in an American setting.

In the original trilogy and prequel trilogy, there is a remarkable amount of consistency in the varieties of Basic spoken by the human characters, regardless of their potential ethnic origin. The classic tendency to give British accents to villains is certainly present, and most characters do express themselves in a very personal idiolect, but the only real varieties of English (Basic) spoken are representative of standard film English, as spoken by native speakers. This trend has been broken in the most recent Star Wars films, with more accents being spoken by the characters, although the approach to the implementation and the results are problematic. Indeed, although the apparent diversity of the cast of *Rogue One* has been widely applauded (Doré, 2017; Sun, 2017; Framke, 2017), the way it is implemented actually presents a step back in terms of real diversity, by largely relying on stereotypes rather than archetypes.

The two main accented characters in *Rogue One* are Chirrut Îmwe, a Guardian of the Whills born on Jedha,[126] and Cassian Andor, a resistance fighter originally from the planet Fest. The character of Chirrut is played by Chinese actor Donnie Yen, and Andor is played by Mexican actor Diego Luna. A lot has been written, in particular in pop culture outlets, about the cultural importance of Diego Luna keeping

126 - https://starwars.fandom.com/wiki/Chirrut_%C3%8Emwe.

his Mexican accent in *Rogue One*, much more than about Donnie Yen's rather thick Chinese accent. This is without a doubt due to the important Mexican population in the United States, and maybe the fact that Asian actors have been cast in leading roles for major films in the past twenty years (Jackie Chan in the *Rush Hour* franchise, Jet Li in *Romeo Must Die* and *Lethal Weapon 4*, Chow Yun-Fat in *Bulletproof Monk*…).

What is problematic with non-native speakers of English keeping their accent in works of Imaginary Fiction is that the practice links a speech specificity with an ethnic stereotype. It is cliché enough that Chinese martial artist Donnie Yen is cast as a mysterious keeper of ancient secrets, in the purest orientalist fashion, but the fact that he also speaks with an accent from planet Earth's China is slightly disturbing. Typically, in Star Wars, accents or non-standard varieties of English (Basic) are used to convey a sense of estrangement, and are attached to alien species. But by attaching a Chinese accent in the case of Donnie Yen, with an Asian character, the filmmakers seem to imply that the way the character speaks is directly linked to his ethnicity.

The character of Chirrut Îmwe is from the planet Jedah, and it is very possible that inhabitants of Jedah would speak either their own language, or a variety of Basic that implies an accent, but the fact that this accent would be the same that is associated on Earth with native speakers of Chinese is challenging suspension of disbelief and, I would argue, is detrimental to the sense of diversity that is characteristic of the Star Wars universe. Worse, there are in *Rogue One* two other characters native from the same planet of Jedah: the pilot Bohdi Rook and the warrior monk Baze Balbus. Balbus is also played by a Chinese actor (Jiang Wen), and is another mystic-like character who speaks with a Chinese accent, while Rook, played by British actor of Pakistani descent Riz Ahmed, speaks with an American accent. Consistency would dictate that these three characters, as they originate from the same planet, would speak the same variety of Basic, but they do not.

The situation is not necessarily as problematic with the character played by Diego Luna (Cassian Andor), as his physical appearance does not immediately scream "Mexican!" to audiences. It is telling that the newer Star Wars films attempt to infuse more diversity in their cast, in particular by having human characters speak non-standard varieties of Basic, a feature until then exclusively reserved for alien characters, but the implementation in *Rogue One* is awkward to say the least. The expectation, in any case, of the dubbed version is that these types of accents would be neutralised.

Indeed, Bosseaux points out that "there seems to be a tradition of neutralising accents in French dubbing" and that "grammar as part of register may be used to

compensate for loss of characterisation" (2015: 208). Mingant says on the topic that this type of approach runs the risk of "burst[ing] at the seams, revealing their artificiality to an attentive ear" (2010: 723), although without a reference point for the viewer, it is difficult to imagine why. Indeed, to an unknowing audience, type four characters become type fives in dubbing, as their accent disappears in the translation process.

Type four characters outside of the Star Wars univers include Wikus van de Merwe (*District 9*) and the Thermians from *Galaxy Quest* (1999).

5th Type – Standard Humans: Han Solo, Jyn Erso, Obi-Wan Kenobi, Tarkin

The final type of characters is the standard human type. These characters do not significantly deviate from what would be expected from non-Imaginary Fiction stories. In actuality, these characters correspond to the ones that Bosseaux inspects in *Uncanny Encounters*. In her book, Bosseaux focuses on characters from the American television show *Buffy the Vampire Slayer*, and in particular on three characters: Buffy, Spike, and Giles. Bosseaux chooses to concentrate her efforts on those characters because they each specificy a unique type of feature representative of the cast of Buffy. Buffy is the prototypical American teenager, Spike is a British character "reminiscent of punk vampires as seen in *The Lost Boys*" (Bosseaux, 2015: 146) played by an American actor, and Giles is a British character, whose "Britishness mainly means being old fashioned and cultivated" (Bosseaux, 2105: 150), played by a British actor. In their own way, those characters represent archetypes as featured in the Monomyth model. In *BtVS*, Buffy is the hero, Spike the counterpoint companion, and Giles the mentor, roles that align in Star Wars with the Luke/Han Solo/Obi-Wan Kenobi trio. In her study, Bosseaux is mainly interested in how characters' idiolects (voice, accent, diction, grammar and choice of vocabulary) affirm their personality (Buffy, Spikes and Giles are characterised in terms of their "nationalities, accents and stereotypes" (153)), and how their personalities are negotiated in dubbing, and eventually affected in their dubbed incarnations. In Star Wars, most human characters, such as Palpatine, fall into this category.

Palpatine, who is played by Ian McDiarmid, is the main antagonist of the first two trilogies. In the original trilogy, he plays the role of Darth Vader's master: Emperor Palpatine[127] (although he is only referred to as "the Emperor", his last name has been canon for decades). In the prequels, however, he plays a much younger version of his character, a senator from Naboo who manipulates the Galactic Senate into electing him Supreme Chancellor, then into giving him special emergency powers, and then

127 - The Emperor was originally played by Clive Revill in the one scene he appears in. The scene was modified, with McDiarmid reprising his role, in the 2004 DVD release of the saga.

finally into crowning him the ruler of the First Galactic Empire. Alongside is public persona as a politician, however, Palpatine is secretly a Sith lord going by the name of Darth Sidious. When assuming the persona of Darth Sidious, Palpatine covers part of his face with a hood, and drastically changes his voice, intonations, and delivery. As Palpatine, the characters voice is soft and endearing, but as Sidious, and later the Emperor, the voice becomes authoritarian and creaky. In this situation, the character's voice is directly used to impact the audience's perception of him, and to mislead the viewers the same way the Republican Senate is misled. A few scenes in the prequels play on this uncertainty about the character's identity. Already in *TPM*, in a holographic communication with Naboo, there is a hint towards Palpatine's real identity when the communication breaks off and his voice gets distorted to sound just like Sidious' voice, even for just a fraction of a second. And much later, in *ROTS*, when Palpatine, now Chancellor, reveals his true identity to Anakin, he progressively changes speech patterns, intonation, and even voice texture. But it is not until Palpatine gets disfigured by his own Force lightning bolts that he finally assumes his true voice. In the case of Palpatine, voice is literally a defining characteristic. Not only is it his tool, as a politician, but the changes in his voice reflect his relation and abandonment to the dark side of the Force. In the French versions, Palpatine/Sidious/the Emperor has been dubbed by various actors, including in *TPM* for his different personas. This type of character is also the most common type in non-IF movies.

By and large, humans are the most common inhabitants of the Star Wars universe, and Basic is the lingua franca that they speak. More than that, there seems to be in the SW galaxy a remarkable homogeneity of varieties of Basic. Indeed, in only one (*Rogue One*) of the official eleven Star Wars films are there human characters who speak a variety of English that is not either British or American English (Cassian and Chirrut). Characters, however, do often speak with a recognisable idiolect that makes them unique. In this respect, type four and five characters, as per Bosseaux's findings, seem to be the ones who have most to lose in dubbing, since their voices (as well as their lip-sync) aim for the second peak of the uncanny graph, but can rarely – if ever – reach it.

In the following case studies, I will spend a significant amount of time on type three characters – with Master Yoda as my central subject – and on the dynamics that exist between types of characters when they interact together by looking at one of the most diverse series of sequences in the whole saga: the opening of *Return of the Jedi*, and Jabba's palace.

* * *

Case Studies and Close Reading

This section comprises of two case studies. Unlike in Bosseaux's *Uncanny Encounters*, I have decided to not analyse single scenes, or individual characters. Rather, in line with the framework of this thesis, I have opted for a format that covers types of characters and situations, in terms of schematic relationships. Besides, the Star Wars films are very different in their structure from what Bosseaux is dealing with in *Buffy the Vampire Slayer*. Although the total running time of the series is much shorter than Buffy's seven seasons, the cast of the Star Wars films is much more extensive than one of a TV series, and the scale – an entire galaxy – much larger. For this reason, characters are often separated, mixed up from scene to scene and film to film, and sometimes reunited. As demonstrated earlier, however, characters in the Star Wars universe can be categorised along a mixture of linguistic and physical types. This allows for a much broader comparative analysis of how those characters are treated in their dubbed incarnations.

The aim of the following analysis is to apply Bosseaux's multimodal model, "taking into consideration the acoustic and visual elements that comprise a filmic performance" (2015: 155), and to push it beyond its original design by applying it to more estranging situations that it has been applied to so far. Following her approach, I look in the selected scenes at "cinematic parameters such as shot composition and paralinguistics […] as well as linguistic choices, in order to examine characterisation through performance in both versions" (161). The paralinguistic elements taken into consideration comprise of voice qualities (grain, pitch, pitch variation, intonation), performance, and synchronisation.

A key difference between Bosseaux's use of the multimodal model and its application within the Star Wars universe is the overall level of estrangement and suspension of disbelief provoked by the respective universes. *Buffy* belongs to the genre of the fantastic, and therefore requires some level of suspension of disbelief from audiences, but it is also set in contemporary America, which grounds the universe into the real – familiar – world, even to a lot of foreign viewers, considering the omnipresence of American cultural products in the West. The setting of the Star Wars stories is as removed from American culture as it is from other Western ones, such as French, Spanish, Italian, or German. This is one of the key elements of the present study, alongside with non-human protagonists: if the uncanny valley dips as we get closer to a perfect representation of what is familiar (eg. human-likeness, in this case including speech), then, by virtue of creating estrangement, Imaginary Fiction universes and the non-human characters who inhabit them will be less prone to eliciting the eerie sensation, at least by accident.

The following case studies have been chosen because they offer a variety of situations involving all types of characters interacting with the other types, which will

allow for some measure of cross analysis. The first case that I intend to analyse is the case of type three characters: alien characters who speak English.

Judge me by my size, do you?

The uncanny valley theory states that the closer a non-human character (a robot, puppet, alien, or in our contemporary world, a computer-generated character) gets to resembling a healthy human being (possesses a high shinwakan), the more favourable an opinion a person would have of it, until the point where the almost-but-not-quite resemblance becomes jarring, creepy, uncanny. The uncanny landscape model that I have put forward adds to this the fact that this uncanny sensation is a multimodal phenomenon. The phenomenon applies to visual and audio stimuli, and in the case of cinema, can occur by a mismatch of those two modes. Star Wars, with the myriad of alien characters that inhabit its universe, is the perfect place to look for the parameters that are susceptible to triggering this uncanny feeling. It is on the remote swamp planet of Dagobah that I start my quest for uncanniness.

As Luke Skywalker is getting his first meal on Dagobah ready, he confesses to R2-D2 that the place "gives [him] the creeps", but that there also is "something familiar" about the swamp planet. Familiarity is, as we've seen, a necessary condition to exist for the uncanny to emerge.

In this section, I will explain how the character of Yoda (the only sentient inhabitant of the planet[128]) and science-fiction settings challenge the uncanny valley/landscape theory, by systematically analysing the mechanics of characterisation relied on in the films to either emphasise or neutralise Yoda's uncanniness. I will then explore the impact of dubbing on the potential uncanny effects of the character, and how the balancing mechanics in place play a role in characterising foreign dubbed representations of the venerable Jedi Master.

In her article *Possible Worlds in Recent Literary Theory*, Marie-Laure Ryan defines a fictional character as "a referent to a proper name, pronoun, or definite description to which the text attributes certain human-like properties such as a mind and agency" (1992: 545). In other words: a fictional character has a name by which he can be referred to, and a personality that differentiates them from the other protagonists of the story and motivates their actions. In Star Wars, the characters loosely follow Campbell's (1949) Monomyth archetypes (as inspired by Jung's notion of cultural archetypes), which correspond to Margolin's (1990) fifth character position: the plot-functional approach. This type of characters "are linked to the plot and retain their identity" across the various narrative forms they are portrayed in, and

128 - That we know of.

are likely to be found in "adventure thrillers and fairy tales" (Ryan, 1992: 547). In other words, just as "we cannot think of Cinderella apart from her plot" (ibid), we cannot think of Luke Skywalker, Darth Vader, or Yoda apart from Star Wars. In this interpretation of what a fictional character is, they are defined by their function (subject, object, helper… or in Campbell's terms hero, mentor, goddess, dragon…), and therefore by what they do in the story.

In visual mediums, characters are also defined by what they look like (including the way they are dressed, their hairstyle…) and sound like (language, accent, tone and texture of voice…), as those cues give the audience indications as to what the character's personality, function, social status, etc. are. Those are aspects that are to be taken into account in a multimodal approach, as element of the "oral and visual levels of audiovisual materials […] give audiences a specific image of the film world" (Bosseaux, 2015: 85) and of the characters that inhabit it.

And finally, cinematography, the way characters are filmed (which includes framing, camera angles, camera moves, photography, editing, but also the way the characters move within the frame) is also an important aspect of how the audience sees them, or at least of how the filmmaker wants to present them to the audience. Another term for the totality of the elements making up a scene, as used by Bosseaux (2015) and Gibbs (2002), is called mise-en-scène. This thesis is not interested in debating the merits of different filmmaking approaches, or even in discussing any notion of truth in cinema, but there is no denying that at bare minimum, there is directorial intent behind the way films are put together.[129] Another way of expressing this is to say that if there is any value at all in analysing a film, it is because the director is attempting to communicate something to the viewer through his choices.

The stylistic approach to the Star Wars films has not changed much since the original film was released, and has been largely impervious to the trends and fashions that came and went since the late 1970s (slow motion, wirework, "impossible" camera moves, ultra-fast edit…). This is in large part why the films remain so timeless. I would describe the style of filming of the Star Wars franchise as classic Hollywood filmmaking, which can largely be summarised by the three following components: widescreen cinemascope, moderate camera moves, and careful, controlled editing.[130] In other words, the type of cinematography employed for the Star Wars films prefers wide, clear shots, as well as legibility in the way camera moves and

129 - I will also assume that directors are provided with means to fulfil their vision at least to a satisfactory level to themselves.

130 - This style of filming reached its pinnacle in the late 1970s and mostly persisted until the digital revolution.

editing are used. One of the challenges of filming the type of visual science-fiction to which Star Wars belongs is the abundance of special and visual effects that are necessary to the telling of the story. The presence in a shot of one or several effects, whether they are created on camera or are to be integrated later digitally, can easily impact the way the director chooses to film a scene or an individual shot.[131] There is no doubt that shots featuring Yoda did include limitations in camera placement and motion, as well as to the movements of the characters within the frame. In terms of production design, the entire Dagobah stage was built on stilts so that Frank Oz and his assistants could manipulate Yoda from underneath. The choice of having a character such as Yoda on screen, then, came with a financial cost (as well as likely time constraints), as the sets had to be custom built to accommodate the puppet. The artistic limitations imposed by the puppet in the original trilogy, however, do not obviously translate on screen. Because of the very classical style of filming used for the Star Wars films, shots including Yoda do not appear to have suffered from the extra constraints created by the presence of the puppet. In the prequel trilogy, Yoda being mostly a digital creature, this kind of constraint mostly did not occur. But the technological freedom to have the digital puppet walk around meant that Yoda occasionally appears in more dynamic scenes, which pose their own challenges, although action scenes were not particularly affected. One particular sequence in *AOTC* sees Yoda in a conversation with two other characters in the corridors of the Jedi Temple. The characters were originally supposed to walk down the corridor together, but it soon became evident that Yoda's short legs would not allow him to walk at the same speed as the human characters. To palliate the situation, Lucas put Yoda in a hovering chair, thus allowing him to move at the same speed as the other characters. These are the types of situation that potentially impede the director's artistic freedom, but in practice, Yoda and other alien characters are filmed in the same way human characters are filmed. In other words, in none of the films does the audience have the impression that the way Yoda is filmed is informed by technical constraints. In the same vein, other aspects of the mise-en-scène, such as the lighting, are not informed by the presence or absence of effects in the scene. Some aspects of the mise-en-scène, such as the lighting, shot value, or editing choices, do not change during the localisation process, and can therefore largely be ignored in this context.

Ultimately though, all these aspects of characterisation exist with the goal to

131 - Sir Alec Guinness is said to have been frustrated on the set of *Empire* because he couldn't tell if another take was needed because of his performance or because something went wrong with the special effects.

convince the audience that the things they are witnessing are – within the confines or suspension of disbelief – real, authentic. With the characterisation tools available to filmmakers laid out then, how is Yoda presented to the audience, how is he made to feel authentic, and more precisely, what is his function in the story? Additionally, what are his visual attributes, and how is he characterised acoustically? Once those questions are answered, his uncanniness, or lack thereof, can be examined.

The uncanny arises in the space between the familiar and the unfamiliar, when viewers' expectations of what belongs to one category or the other are challenged. In order to avoid the uncanny sensation to unwillingly happen, creators, particularly of science-fiction, must craft their characters in a way that balances these two elements out (equally, an unbalance will help create an uncanny atmosphere). What is particular about visual science-fiction worlds such as the Star Wars universe is that the sheer abundance of unfamiliar objects, from speeders to spaceships and from droids to alien creatures, challenges the viewer's notion of normality, and therefore of familiarity. A particularity of the Star Wars films is that nothing about the world is ever explained to the audience (viewers do not know how droids work, or how ships travel faster than light), and that according to the used universe world-building approach, the setting of the story is designed to speak for itself, to impose itself as a new-lived in, history-filled normal, familiar. In the same spirit, the numerous alien species that populate the Star Wars universe are never directly addressed: they are there because they live and belong there, and noone is surprised to see them coexist and share the same spaces. This is why, when Luke meets Yoda for the first time, he is not in the least surprised by his appearance. This lack of surprise from Luke as to Yoda's appearance, just as his lack of surprise while walking into the alien-filled Cantina Bar on Tatooine, indicates to the audience than there is nothing there that is out of the ordinary. The normal has been redefined. There are some aspects of Yoda, however, that tell us about what type of character he represents, and what function he occupies in the story.

In Star Wars, Yoda fulfils the role left vacant by Obi-Wan Kenobi in the Hero's Journey (Campbell, 1949): he is the mentor, the helper. The third stage of the Hero's Journey is the introduction of some sort of supernatural aid to the hero (in this case, Luke, but also Anakin and Obi-Wan in the prequels), usually in the form of "a mentor or guide with special powers [who] appears to aid him" [Mann, 2008: 3). This is a very typical character that can be found in numerous myths and legends as well as pop culture narratives (Merlin in the Arthur sagas, Gandalf in *The Hobbit* and The Lord of the Rings, Morpheus and the Oracle in *The Matrix*). Such characters often share physical characteristics and personality traits. For instance, both Yoda, Gandalf, and the Oracle are originally presented to the audience as old, eccentric

characters that are later revealed to be extremely powerful,[132] and the custodians of great knowledge. They also often live outside of the main world, as hermits. In Star Wars, both Kenobi and Yoda have exiled themselves to escape the Empire. In accordance with this role as wise master, the mentor character often fits a certain description: he is old, wrinkled, wears used robes, and speaks in a raspy voice. Yoda does fit this description, and it is entirely possible to talk about him without ever mentioning that he is not human (none of his non-human features define him). By fitting a well-known trope and a classical role in the story, then, Yoda is presented as inherently familiar to us, despite his unusual appearance.

Yoda's non-humanness is in fact purely the by-product of the fantastic nature of Star Wars, and an element of estrangement. Non-human characters have an ambivalent position in the Star Wars universe, as they are simultaneously a device of estrangement (they are the signifiers of the alienness of the world the story is taking place in), while never being acknowledged as such. This position is strikingly different to the one occupied by aliens in a programme like Star Trek, which is heavily human-centric in its themes, and focuses on the exploration of the cosmos by humanity, with an emphasis on the difficulties to communicate with other species and cultures. In Star Wars, characters' species are almost never mentioned, except when particularly relevant (Hutts are organised in a galactic mafia, Wookies have a short temper…). Being non-human, then, in Star Wars, is more a matter of visual diversity than anything else and contrary to what Michael Cronin states in *The Empire Talks Back*, translation and communication are only rarely concerns of the protagonists of Star Wars, although he is right to point out that when the topic appears, it is almost always presented as "a problem to be solved" (2009: 108). Yoda's appearance, still, helps us learn about his character, at least on an intuitive level, if not in any other meaningful way.

A character's appearance is important to film-goers. Cinema is, after all, a visual medium, and characters are partially defined by how they look. There is little doubt, for instance, that Darth Maul, with his red and black tattoos, yellow teeth and horned skull, is supposed to be a villain. Equally, even though the Ewoks are originally presented to us as a mild threat to the protagonists, viewer instincts are right to consider the plush little bears as friendly. Expectations as to the personality of a character fall

132 - Although in the case of Yoda, the order in which the films are watched alters the way the character is perceived, he goes from sitting down and alternating between being solemn and facetious ("lost a planet, Master Kenobi has, hmmm" he says to delighted younglings in *AOTC*) to performing remarkable feats (lifting an X-Wing from a swamp in *Empire*, and fighting Sith Lord Count Dooku in *AOTC*).

in line with the concept of the uncanny (which relies on a shift of expectations) and can be perverted. One great example is the film *Galaxy Quest* (1999), which sees a spaceship's crew make contact with adorable, big-eyed, purring aliens that later turn out to be cannibalistic flesh-eating monsters. Appearances, then, can be deceiving. And they are in Yoda's case who, as he himself points out, shouldn't be judged by his size ("for [his] ally is the Force, and a powerful ally it is"). How then, is Yoda visually represented, what does his visual design tell us about his character, and where does he fall on the uncanny valley diagram?

The first thing to point out with Yoda is that, despite his alien characteristics, is a humanoid. This, I would argue, is the most important aspect that ensures a level of familiarity, or shinwakan, that is not off putting. Whatever his other traits then, Yoda is still relatable to us in his basic morphology. A number of his other attributes are also familiar: he has two eyes, two ears, a nose, a mouth, teeth, two arms with hands, two legs with feet. There are a number of ways characters can be made to feel alien and somehow repulsive to us. Jabba the Hutt, for instance, before we even learn of his disgusting personality, is shown as giant slug with a slimy tongue and reptilian eyes, playing on our (partially culturally acquired) disgust of those things. Equally, the Geonosians in *Attack of the Clones* are an insectoid species communicating in cracks and buzzes, with wasp wings and elongated limbs. They too are designed to elicit disgust in the viewer, and in such a fashion that it is acceptable for the heroes to dispose of them in large quantities. Yoda is different, he is a sympathetic character and his appearance – he is small and frail, and does not seem to represent a threat – to some extent reflects that.

One of the difficulties of using the uncanny as a critical tool is the elusive nature of the phenomenon. Jabba and the Geonosians do not fit into the uncanny category, as what is disturbing and off-putting about them is not related to a feeling of familiarity, but rather of difference (we do not like slugs and insects). Characters like Yoda are more familiar to us. In terms of Mori's diagram, Yoda would be closer to a healthy human, which would bring him closer to the drop leading into the uncanny valley. He possesses a number of physical characteristics that make him familiar, and some that make him unfamiliar: his small size, long ears, tridactyl hands and feet, and greenish skin colour. These ensure that his visual appearance never gets too close to the first peak of the curve.

There are two dimensions to Yoda's appearance then – one familiarising, and one alienating – that work in conjunction to keep Yoda out of the visual valley of the uncanny landscape. There is another element to a character's personality, however, that needs to be taken into consideration while analysing the uncanniness of said character.

The second main aspect of Yoda's character is "one of those key acting tools that

have constantly been overlooked: the voice" (Sergi, 1999: 126). As memorable as Yoda's appearance is, it is his voice and speech patterns that define him the most. Voice, I would argue, operates in conjunction with the visuals, but its familiarity is plotted on a different curve than the visual appearance of a character (a different region of the uncanny landscape). In other words, the visual aspect of a character can be perfectly familiar (and therefore not uncanny), but uncanniness can be introduced via a mismatching vocal element. Also, as demonstrated by Tinwell et al. (2015), uncanniness not only can, but is likely to arise, from the combination of visual and acoustic elements that are individually familiar, but do not match each other. A perfect example of a willing introduction of uncanniness in order to put both the characters and the audience ill at ease can be found in Peter Jackson's Lord of the Rings trilogy. In his films, Jackson makes the Nazgul's voice come out from different speakers in the surround sound system for each word they pronounce, creating an eerie sensation as 1) Audiences expect dialogue to come from the screen's direction (challenge of expectations), and 2) Audiences do not know which direction the next word or piece of dialogue will come from (uncertainty creates tension). This, added to the fact that the viewer cannot distinguish any facial feature under the black hoods that cover the Ringwraith's faces, is profoundly disturbing, and definitely roots the characters in the uncanny. Yoda's voice, though, is not used in such a fashion.[133]

Yoda's voice and speech patterns are unusual, but not completely unfamiliar. As a matter of fact, the acoustic dimension of the character is remarkably similar to his visual dimension: some aspects of it are familiar, and some are odd. The familiar aspects of Yoda's voice are the language that he speaks: Galactic Basic, ("that is coincidentally identical to spoken English" (Wozniak, 2014: 349)), and in a low raspy voice that is consistent with his old age and role as a mentor. What is unfamiliar about Yoda's voice is the syntax that he uses.

Much has been said, particularly in pop culture outlets, about Yoda's speech patterns (Pullum, 2005; Kaminski, 2011; Spears, 2011; Harbeck, 2014; LaFrance, 2015) and there is even a Talk Like Yoda day (May 21st), although not so much has been said on the specific texture of his voice. Michael Kaminski, in particular, presents

133 - Surprinsingly for a fictional world as well formed as the Star Wars universe, Yoda's species is unknown, and so are his planet and language of origin. Including the non-canon extended universe, only three other members of Yoda's species have featured in Star Wars products. One of them, Yaddle, did not speak, and of the other two, only one spoke in a Yoda-like syntax, the other one speaking standard Basic. Very little can be said, in these conditions, about the nature of Yoda's unusual syntax, apart from the fact that it is probably supposed to be a remnant of his original language.

in his 2011 article a very granular breakdown of Yoda's speech patterns across both trilogies, and comes to unexpected conclusions. First of all, Yoda does not speak in an unusual way all the time (48% of the time in the original trilogy and 66% of the time in the prequels), but he also does not speak that much in the unusual patterns (Object/Subject/Verb – *strong enough, you are not*) that are associated with Yodaspeak, with a variety of other odd structures being used in his dialogue. It his surprising to see that the idea of the way Yoda speaks is so deeply ingrained in our collective imagination that even George Lucas, Yoda's creator, failed to be true to the way the character expresses himself in the original trilogy, and succumbed to the collective idea of what Yodaspeak sounds like in his prequels (where he uses a lot of OSV forms, "Begun, the Clone War, has").

Like for his visual appearance, Yoda's voice is composed of different elements that balance out familiar and unfamiliar in a way that signifies him as alien, but not uncanny. There are therefore two aspects of the character, the visual and the acoustic, that are both comprised of a variety of sub-elements that come into conjunction in a way that I argue firmly maintains the character outside of reach of the uncanny valley. In this sense, or in terms of uncanniness, he is not different from the human characters he interacts with in the films. There is one aspect of Yoda, however, that could tip the balance and render him uncanny: lip synchronisation.

The uncanny is susceptible to appearing when two stimuli conflict, and Tinwell et al. (2015) have demonstrated that a mismatch between visemes and phonemes can result in the manifestation of an uncanny sensation in viewers. By definition, the fact that the character of Yoda is an alien (or rather an alien looking character) means that his appearance on film is due to one form of special effect or another. Yoda appears in six of the Star Wars films, across all three main trilogies. Technology has evolved a lot between his introduction in 1980 and his final appearance in 2005. Regardless of the methods used to put the character on screen, he is in essence a puppet, whether the puppet is made of rubber or pixels. And even with the greater freedom brought forward by digital technology in the 1990s, a computer-generated Yoda still had to be faithful to the original puppet from the 1980s. The transition from one method to the other is very well shown in the documentary *From Puppets to Pixels* (2002), in which the visual effects artist and George Lucas express their willingness to keep the character faithful to the original. This faithfulness extends, of course, to the level of lip synchronisation the puppet/3D model is capable of. For this reason, I will treat rubber Yoda and CGI Yoda indiscriminately in this respect.

Yoda, not being a real person (as in, he is not alive), does not have a voice. His voice, and his vocal performance, are therefore lent to him by an actor, and the words are mapped onto the visual representation of the fictional character: the puppet. In this

sense, a character like Yoda is always dubbed, his voice is never his own, although it is sensible to consider the voice of the actor performing the English language (in this case, Frank Oz) as the original. By that, I mean that it is the performance that has been directed and approved by the director, and is in this sense on the same level as any other actor's voice. It is also the voice that will be replaced later in the process of dubbing, putting it then again in the same category as the human actors'. This "first generation" can then be considered to be the "authentic" voice of the character. But even though the voice is authentic, and first generation, it is uttered by an actor, and the words are mapped onto a puppet. A digital puppet can, in theory and in practice, form any viseme the voice actor would form while performing his lines. The original rubber puppet Yoda could not. If we follow Bosseaux's and Tinwell's argument that the discrepancy between visemes and phonemes results in the emergence of an uncanny sensation, this sensation should arise when a character such as Yoda speaks. However, it does not, because of the effects of synchresis, which fill in the gap between the imperfect visual stimulus and the acoustic stimulus. Yoda's lip-sync, even for his first generation, original voice, is imperfect, but it hits the important aspects of synchronisation: the bilabials and open vowels. This, in conjunction with the state of Suspension of Disbelief the character design creates, and the power of synchresis, finishes to sell the illusion to the viewer, and allows a simple piece of rubber to become "a living thing" (Kershner, from Rinzler, 2010: 224-233). If all those elements come together to keep the original version of Yoda safe from the uncanny, what of his localised alter egos, are the changes in words (translation), voice, and performance enough to tip the balance into the valley?

Yoda's way of speaking, both because of his tone of voice and the syntax he uses, is a defining part of his identity, and therefore has to be kept in translation if the personality and authenticity of the character are to be preserved.

Characters such as Yoda escape the uncanny trap by combining several features that cancel each other out. In other words, and in accord with Mori's suggestion, they escape the uncanny by design. The creative process by which fictional characters are created, however, rarely takes subsequent issues of localisation into account. The visual and narrative elements of a film do not change in a dubbed version,[134] but content creators build characters with idiosyncrasies that help define them. These idiosyncrasies can be of a visual nature (mannerisms, faces, hand motion…) or of an aural nature and be conveyed by the character's voice, syntax, tone of voice, dialect… All these elements are performed by the actor playing the character, as

134 - Nor does the soundtrack when the film is subtitled, although an extra element is added to the picture due to the intersemiotic nature of subtitling.

he or she is instructed by the director. Visual and acoustic elements, furthermore, are melded into one another in the audience's mind via the process of synchresis, which works in favour of immersion, and pushes against the uncanny. The visual cues generally do not need to change, as there is more universality in for instance facial expressions than there is in language.[135] Voice, however, is entirely replaced in the process of dubbing. In the case of Yoda, his peculiar syntax and tone of voice are defining elements of their personality, at least as much as his appearance. It is the combination of his physical and vocal performance that turns the pile of rubber or pixels that is Yoda into a living breathing creature, that pull him away from his potential uncanniness, that makes him an authentic character. What then happens when his voice, so important to the characterisation of Yoda, is taken away from him in the process of dubbing, and can the power of synchresis reach far enough to overcome the uncanny dimension that dubbing carries with it?

The loss of authenticity is something to take into consideration when talking about dubbing, as "an essential part of a character's personality is their voice, which is closely linked to facial expressions, gestures, and body language", which leads to the fact that "authenticity is undeniably sacrificed when a character is deprived of their voice and instead the audience hears the voice of somebody else" (Tveit, 2009: 92). Voice in film then, according to Sergi, "unlike [in] theatre, is not a given, fixed value, but a variable" (1999: 131). This is never more true than in the context of dubbing, in which the original voice is erased and replaced by a new one. Bosseaux's argument is that two things change in dubbing: the words that are spoken (translation), and the voice that is speaking them (performance). Those two elements are the responsibility of two different teams: the translator and adapter on one side, and the voice talent and director on the other (as well as, arguably, the sound engineer).

Characters like Yoda are already dubbed in their original performance and are never really dubbed in the same sense that a human character is dubbed. Rather, Yoda-like characters are revoiced (this would include all Basic-speaking aliens in Star Wars, but also Darth Vader and Darth Maul). By the nature of such characters, lip synchronisation in the original language is not as drastically important as with human characters. This added leniency in what level of lip-sync is acceptable of course impacts the foreign dubbed versions, and by virtue of having more freedom in the lip-sync department, the translators are able to translate closer to the original text. Paradoxically then, by having a simplified original to match (only the bilabials

135 - Some production companies, like Pixar, make an effort to culturally localise some of the visual cues of their film. This is only the case with productions principally aimed at children, as adults are considered to be able to interpret signifiers they are unfamiliar with through context.

and the open vowels), translators, adapters, and voice actors are free to tailor their work to the lip movement more accurately. In other words, by only having two main visemes to worry about (just like the original), they gain the ability to stay closer to the original text and meaning. Added to that, an unusual and inconsistent syntax (in the case of Yoda) allows the adapters to move words around in the sentences to make them fit visemes better.

Syntax, in Yoda's case, is fairly easy to emulate in languages that originally respect the Subject/Verb/Object structure (like French). Syntactical variation might not always be a match for the original, but the original is so inconsistent in its oddness that there is freedom in that respect (odd instances of syntax are not special signifiers, they do not add to meaning, or reflect Yoda's emotional states). No academic research has been done on the various adapting strategies used across languages to deal with Yodaspeak, but there exists an extensive Reddit thread on the topic,[136] which could serve as a useful starting point to study the matter.

Apart from syntax, the other identifying aspects of Yoda's voice are his tone, cadence, grain, and paralinguistic uses (Hmmmmms and sentence-ending Yesses). It is difficult to accurately describe a voice, as "we do not have the adequate vocabulary" (Kozloff, 2000: 91) to do so, but Yoda's voice can be summarily described as raspy, breathy, and widely varying in both pitch and cadence. However difficult to describe Yoda's voice is, it is very singular and tends to make a lasting impression to those who hear it. It is also very extreme in its characteristics. In fact, Yoda's voice and syntax are so idiosyncratic that they are easier to emulate and translate. As a matter of fact, most foreign language versions of Yoda are remarkably similar in their delivery, to the point that the character can be identified easily regardless of one's understanding of the spoken language. Indeed, when listening to audio clips in various languages,[137] it becomes evident that the voice actors who do try to sound Yoda-like (German, Norwegian, Danish) do achieve their goal, whereas the one that does not (Swedish) could, non-understanding of the grammar withstanding, very well be another character. By drawing attention to itself then and being so unique, Yoda's voice (and I will argue that it is also true for type 3 characters like Jar Jar Binks, Nute Gunray…) lends itself well to dubbing, and easily retains its identity, provided an effort is made by the voice actor, and of course adequate direction given by the voice director. A perfect example of this is the fact that Nute Gunray is voiced

136 - https://www.reddit.com/r/linguistics/comments/gfoov/what_is_yodas_syntax_in_foreign_dubssubtitles_in/

137 - https://www.youtube.com/watch?v=tRXl-ME1gqc&index=6&list=PLRPROqjk1lnlMAZuug-fTjGhH-DC01kO8X, (45 sec mark onwards).

by three different voice actors in the three prequel films, but the character's voice is so over the top that it is quite easy to emulate, and the trick goes unnoticed.

Finally, in science-fiction, the status of non-human characters also plays a role. First of all, Yoda is a character that is exclusive to Star Wars, therefore his identity is linked to the series. When an audience experiences Yoda, they are de facto experiencing Star Wars. This applies to his voice as well as to his appearance, but what it means is that an audience cannot experience Yoda's voice apart from Star Wars, thus disabling the uncanny effect of wondering whose voice it is I am hearing that can be experienced while watching some animated films for instance. And this is true both in English and in any other language (that does its job properly): It is not Frank Oz's voice that English speaking audience experience, it is Yoda's voice. Equally, it is Yoda's voice that non-English speaking audiences experience, not the voice of the talent performing the role. As a matter of fact, and this may be anecdotal, but it supports the point made above: even after carefully watching both the original trilogy and the prequels dubbed in French, I still failed to identify that it is two different voice actors who play Yoda in the films. It was only after researching the French voice actors that I stumbled onto the fact (some other alien characters are also in the same situation).

Dubbed non-human characters do not seem to suffer from the uncanny. This contrasts with what Charlotte Bosseaux argues happens with human characters, because "uncanniness is exacerbated […] because a real human being has or possesses a voice that is not their own" (Bosseaux, 2015: 81).

This is only one type of character however, out of the five that I identified earlier. In the next section, I will examine a sequence of scenes from *Return of the Jedi*, which feature a wide variety of different type characters interacting with each other. This multitude of interaction types will help clarify which types of characters are more susceptible to appearing uncanny to audiences of the dubbed versions of a film.

Entering Jabba's Palace

The scenes discussed below are all taken from the third film in the original trilogy, *Return of the Jedi*. Narratively, it constitutes the third act of the trilogy, and the completion of Luke Skywalker's Hero's Journey. It is also a particularly interesting film from a linguistic point of view, as George Lucas and director Richard Marquand clearly fully embraced the idea of a multicultural, multi species, and multilanguage universe. Indeed, in *ANH*, even though Tatooine is populated by Jawas and Tusken Raiders, and even with a cantina full of alien characters, the humans – and Basic – are still the focus point of the story. In *The Empire Strikes Back*, Yoda is given a significant amount of screen time, but he is pretty much the only alien character in the film. The relative absence of non-human main protagonist in those two films is due partly to the focus

of the story on the core group of Luke, Han and Leia, but also because integrating fully speaking alien characters into scenes was a real technical challenge. When *The Phantom Menace* was released in 1999, it contained a lot more alien characters, largely because technology would now allow Lucas to fully realise his vision. *Return of the Jedi*, however, paves the way in terms of multi species interactions and linguistic representations. In the film, almost all categories of characters are present. Humans of course, but also droids, masked humans (Vader, Boba Fett, Boushh), various alien speaking creatures (Jabba, Bib Fortuna, the Ewoks) and Basic-speaking ones with the (brief) return of Master Yoda and Admiral Ackbar. It is also the film that makes the most extensive use of C-3PO, the protocol droid, who actually has to play his role as an interpreter in several scenes of the film (towards the end of the film, he even narrates the adventures the characters have been through in Ewokese).

It is towards the beginning of the film, however, that the scenes I have decided to analyse are placed. At the end of *TESB*, Han Solo has been frozen in carbonite and given to Boba Fett so he can bring him back to Tatooine, where Jabba the Hutt awaits with the bounty. Solo's friends are determined to rescue him, and put together a plan that involves C-3PO and R2-D2 to deliver a message to the Hutt gangster in his palace. In terms of the Hero's Journey, the whole section is clearly a "belly of the beast situation", a narrative arc within the story that sees the heroes trapped in an enclosed and unwelcoming environment from which they have to escape.

The first scene features C-3PO, R2-D2, and a strange eye-droid mounted on an articulated arm that is the custodian to the Palace gates. The main feature of this short scene is that none of the three characters "speak" Basic, and none of them have mouths (3PO has a speaker where the mouth should be, but it is a fixed feature). R2-D2 communicates, as the audience is used to, with electronic bips expressing emotion rather than actual linguistic meaning. The eye-droid (which does not have either a mouth or a visible speaker) speaks what seems to be a form of Huttese. Both characters remain the same between the original and the dubbed version, resulting in an unchanged experience for the viewer. 3PO, however, is in a different situation: when he speaks to Artoo, he speaks in Basic (English or French depending on the version), but when he interacts with the eye-droid, he speaks in Huttese. The meaning of the exchange between the eye-droid and Threepio is conveyed through a form of backchannelling: the protocol droid's answers to the strange voice from the eye-droid inform us of what the former is saying. It is not real backchannelling though, because 3PO also answers in Huttese. What is striking is that he introduces himself and Artoo, but of course the droids' names are different in the French version of the film. As a consequence, French C-3PO (Z-6PO) is speaking in this scene a different

version of the alien language. The exchange goes as presented next page.[138][139]

The striking thing about this particular scene is that it is built to provide a maximum sense of estrangement to the viewer: the characters are about to penetrate into a deeply foreign place, one that requires to know an alien language to access. It is also a scene that makes the viewer work a little: 3PO and the eye-droid's short exchange is entirely in Huttese. But it also gives the viewer an access point into what is being said, as 3PO introduces himself and R2 in Huttese, although the names remain recognisable, and when 3PO states the reason for their visit, he mentions the name of Jabba, which acts to the viewer as an anchoring element. There is something intriguing, however, in the way 3PO chooses to adapt his and R2's names. In the English version, R2-D2 becomes Artoo Detoowha, and C-3PO becomes Seethreepiowha. The two transpositions follow a similar pattern from original to Huttese interpretation. In the French dub, however, it is rather unclear what strategy, if any, is applied. First of all, R2-D2 (Erdeudédeu) is transposed as Ertoowé Détoowé.

EXT JABBA'S PALACE -	**EXT JABBA'S PALACE -**
A small hatch in the middle of the door opens and a spidery mechanical arm, with a large electronic eyeball on the end, pops out and inspects the two droids.	*A small hatch in the middle of the door opens and a spidery mechanical arm, with a large electronic eyeball on the end, pops out and inspects the two droids.*
STRANGE VOICE Tee chuta Kukuta!	**STRANGE VOICE** Tee chuta Kukuta!
THREEPIO Goodness gracious me!	**TROIPÉO** Divine bonté du Ciel ! (BT: Holy goodness from the heaveans!)
Threepio points to Artoo, then to himself.	*Threepio points to Artoo, then to himself.*

138 - The scene descriptions are left in English for ease of reading, as they are not relevant to the analysis.

139 - The transcripts are taken from *Star Wars – The Annotated Screenplays* (Bouzereau, 1997) for the English language dialogue, and are my transcriptions for the French.

THREEPIO	**TROIPÉO**
Artoo Detoowha bo Seethree- piowha ey toota odd mis- chka Jabba du Hutt.	Ertoowé Détoowé, euh oh, Zé Six Pé Toowé toota mis- chka Jabba du Hutt.
The eye looks from one robot to the other. The hatch slams shut. Artoo beeps his concern.	*The eye looks from one robot to the other. The hatch slams shut. Artoo beeps his concern.*

Figure 11 - R2 and 3PO at the gates of Jabba's Palace

In this case, the first syllable of the first word is changed from the English AR to the French ER, and the last syllable from WHA to WÉ, but the middle syllable remains unchanged. The exact same "strategy" is applied to the second part of the name. Something very similar happens with 3PO's name, as it is changed from Seethreepiowha to Zé Six Pé Toowé. The result of this change in transposition is strange. From the audience's point of view, either English or French is a proxy for Basic, the lingua franca used in the Star Wars universe. Huttese, however, is a conlang (and a sound design-based one rather than a grammatically correct one). From this perspective, the distance between Basic and Huttese should be the same regardless of what real world language acts as a proxy for it. In this case, it is not, and it conveys a slight increase in distance between the non-English speaking audience and the Huttese speaking aliens. In other words, the French version of Huttese needs an in-between step before being vocalised (but only on some parts of the words). This strategy is very intriguing, especially considering that there are no synchronisation constraints in this scene, since 3PO does not have an articulated mouth. The droids' names could very well have been transposed as Ereuwha Dédeuwha and Zé Six Pé Trowha for instance, which would have created an equal amount of distance between French and English versions of Basic and Huttese.

What is striking is the similarity between Anthony Daniels' and Roger Carel's voices and performances. Their tone of voice is very similar, and they both infuse the character with a sort of fragile dignity and awkwardness. For this particular scene, the mise-en-scène, in particular the shot selection, is of little importance, as none of the characters have mouths that are animated. There are therefore no problems with synchrony. Despite that, Carel very closely matches the pace and rhythm of his performance to Daniels' and the result is for all intents and purposes identical

to the original performance. Immediately after they have been admitted into the palace, 3PO and R2 are confronted with Jabba's second line of defence in the person of the Hutt's personal assistant: Bib Fortuna.

The palace, and more specifically the throne room, is one of the classic Star Wars multispecies gathering places. It offers a similar alien diversity to what is displayed in *ANH*'s cantina bar, *Attack of the Clones*' Outlander Club and Dex's diner in the prequel trilogy, or even Maz Kanata's castle in *TFA*. Typically, those spaces are used in the films to simultaneously evoke familiarity by showing a familiar setting in which customers drink and chat, with music playing in the background, and estrangement by filling the scenes with as many aliens and alien looking props as possible. They are also very often used as low-key social commentaries. For instance, in the Cantina on Tattooine, the owner refuses entry to Luke's droid and insists that they "do not serve their kind here", and that they will have to wait outside. Although it is not expressly stated in the film, it is very clear that the attitude towards droids at Jabba's palace is very similar.

This behaviour is illustrated in the next scene featuring the two droids, in which they encounter Jabba's right-hand "man", Bib Fortuna. This short scene is a continuation of the previous one, as after having passed the first obstacle incarnated by the eye-droid, the two companions are confronted with an alien antagonist, who therefore shifts the situation from all-droid interaction to a droid/alien conversation. In Star Wars lore, living sentient creatures are considered superior to droids, so a shift of power is expected. Indeed, 3PO in the scene does his best to please his interlocutor and deliver his master's message.

The first noticeable thing is the utilisation of code switching from 3PO, he answers Fortuna in Huttese, but immediately switches back to English to deliver his message. Fortuna, however, keeps speaking Huttese. The character is never really shown speaking Basic, so it is unclear if he is able to, yet it is clear that he understands it. By sticking to Huttese, however – and regardless of his ability or not to speak Basic – he clearly defines the space the heros are entering as foreign, hostile, and the masters of this place as being in a position of power.

INT JABBA'S PALACE — HALLWAY	**INT JABBA'S PALACE — HALLWAY**
Walking toward the droids, out of the darkness is BIB FORTUNA, a humanlike alien with long tentacles protruding from his skull.	*Walking toward the droids, out of the darkness is BIB FORTUNA, a humanlike alien with long tentacles protruding from his skull.*
BIB Die Wanna Wanga!	**BIB** Die Wanna Wanga!
THREEPIO Oh, my! Die Wanna Wauaga. We - we bring a message to your master, Jabba the Hutt.	**TROIPÉO** Oh, non ! Die Wanna Wauaga. Nous - nous apportons un message a votre Maitre, Jabba le Hutt. (BT: Oh, no! we bring a message to your master, Jabba the Hutt.
Artoo lets out a series of quick beeps.	*Artoo lets out a series of quick beeps.*
THREEPIO(cont) ...and a gift. (thinks a moment, then to Artoo) Gift, what gift?	**TROIPÉO(cont)** Oui, oui... et un cadeau. (thinks a moment, then to Artoo) Un cadeau ? quel cadeau ? (BT: Yes, yes... and a gift. A gift? What gift?
Bib shakes his head negatively.	*Bib shakes his head negatively.*
BIB Nee Jabba no badda. Eeza meeta. Ze Kado omooti.	**BIB** Nee Jabba no badda. Eeza meeta. Ze Kado omooti.
Bib holds out his hand toward Artoo and the tiny droid backs up a bit, letting out a protesting array of squeaks. Threepio turns to the strange-looking alien.	

Figure 12 - R2 and 3PO offer a present

R2 then adds that they are also bringing Jabba a gift, of which 3PO is unaware of ("a gift, what gift?"). Following this revelation, Bib Fortuna (who is a humanoid alien, type 3 character) asks the droids (in Huttese) to hand over the "kado" to him.

In the French version, the droid announces that they have a "cadeau" for Jabba. Bib Fortuna, like most alien-speaking characters, is not dubbed, the same voice and performance is kept from the original and the dubbed version. In the original, however, there is a contrast that is made between Basic and Huttese, as the two languages use a different word for "a present". The word used in Huttese, kado, is, however, borrowed from French, so in this particular combination of languages, the contrast is attenuated, even if audience comprehension, by virtue of knowing the word, might be slightly increased. If this is the case at all though, it is likely to be negligible, as the way the scene unfolds makes it quite clear what is being said. If the dubbing director had wanted the exact same effect as in the original to happen in the French dub, he could have made 3PO use a different word, like "présent", or "don", or even maybe "gift" in order to reverse the effect. Since there is no lip-sync involved, this would not have been a problem. Equally, he could have chosen to dub Bib Fortuna. Although dubbing could incur a shift in personality, Fortuna's voice is quite easy to imitate, there would not be any translation threatening to make lip synchronisation obvious, and the framing of the shot places the character's mouth at the very top edge of the frame, while the eye is drawn towards his hand gestures in the middle of the frame. On close inspection of the original version, it even seems that the line "Ze kado omooti" has been re-recorded, as it does not quite match Bib Fortuna's lip movements. As Bib Fortuna is a type 3 character, this slip in synchronisation, however, does not appear out of place even when noticed.[140]

Despite the subaltern role of droids in the Star Wars universe, R2 demonstrates his characteristic stubbornness and forces Bib Fortuna to take him and his companion to Jabba in order to deliver Luke's message directly.

The next scene sees the two droids being introduced to Jabba in his throne room. The differentiating element of this particular scene is the introduction of a human character to the conversation, albeit as a hologram. This is particularly relevant because so far, in this sequence, all the characters have been either droids or aliens, and communication has only happened in Huttese, droidspeak, or via translation through 3PO. In the third scene of the sequence, Luke is introduced, but he is not present physically. Rather, the projection of his request to Jabba is low resolution, grainy, and flickering (as are holograms represented in the franchise). In truth, the projection could easily be qualified as "ghostly". This introduction of Skywalker to Jabba's palace, along with the fact that he is the first human character present, serves as characterisation: Jabba's throne room is far removed from our normality

140 - This is anecdotal evidence, but I personally only noticed this lack of synchronisation while conducting the analysis of the scene, despite having seen *Return of the Jedi* many times before.

and strongly presented as Other,[141] and Luke is not welcome here. Even the fact that he speaks Basic after a couple of scenes mostly in other languages presents him as an outsider. The content of the conversation itself sets an uneasy tone to the relationship, as Luke simultaneously tries to negotiate, flatter, intimidate (by presenting himself as a Jedi Knight), and ultimately, bribe (by offering the droids as a token of good will) Jabba.

In this scene, Luke is presented as a disembodied presence, which gives him an eerie quality even in the original version – he is present and yet absent, not unlike the voice talent of a dubbed programme. Indeed, his fantomatic appearance somehow helps maintaining his identity from the original version to the dubbed one. By being present as a hologram, Luke's identity is represented as a sort of low resolution of itself: it is understood by the audience that it is not Luke whom we see, but a recording. Schematically, this triggers our understanding of long-distance communication: poor sound quality, glitches, loss of connection. It also opens us up to the idea that image and voice might lose synchronisation in the process. The result of this low-fi version of Luke in this scene is effectively to move him from the fifth type – standard human – into the third. From a dubbing perspective, this means two things: that the audience of the dubbed version should be more forgiving of the lack of synchrony, and therefore that Luke's identity should be preserved to a higher degree than in a sense where he is physically present. The result, then, is a conversation in which no fifth-type character is actually present.

From a dubbing perspective in this scene, Luke is to be considered as a third type character, which means some tolerance from audiences is to be expected about the synchronisation of his dialogue. This does not mean that synchronisation is unimportant, however, and in this particular scene, the translation is aiming at dialogue beats that anchor the dialogue to the images at regular intervals. Luke is filmed with only three shots in this scene, discarding one with his back to the camera. Of the three where his face is visible, one is wide (used only once), and the other two are a medium shot and a close-up, in which his mouth is clearly visible. A large portion of the scene, however, focuses on other characters' reactions rather than on Luke himself. In terms of synchronisation, Luke starts by calling Jabba "Exalted One", which is reflected in French by "excellence". In his opening statement, it is quite clear that the synchronisation strategy is to match beats in the dialogue: the dubbed dialogue matches closely the original at regular intervals on "Luke Skywalker/Luke Skywalker", "Captain Solo/Capitaine Solo", "powerful/puissant", "audience/audience", and "Your Greatness/Votre Grandeur". Luke is not always visible during his opening

141 - Although in this case, Jabba's lair is presented as the new norm, and it is Luke who takes the role of other.

statement, but the synchronisation is remarkably accurate until the very last two words "Solo's life/la vie de Solo", in which the displacement of the word "Solo" is quite apparent, as it is quite clear that Luke pronounces the word, and it feels like there is a delay in the French dub. This is particularly noticeable as it comes at the end of a piece of dialogue, and lets the viewer wonder if they missed something. The importance of accuracy at the end of a piece of dialogue is further amplified with Luke's next line, which ends with "these two droids/ces deux droides". Here, the dubbed line offers a satisfactory feeling of closure to the line. In this particular scene, except for the uncanny example mentioned above ("Solo's life"), the mixture of generally accurate translation and synchrony with a signifier of low quality mode of communication make for a high degree of fidelity in the reception of Skywalker.

One element that is noticeable in the scene comes from Bib Fortuna after Luke has made his plea. In the original version, he presents himself as a Jedi Knight, and in the French dub as a Chevalier Jedi (the similar inversion is much less noticeable because it is in the middle of a piece of dialogue rather than at the end). After Luke has spoken, Bib leans towards Jabba and tells him that Skywalker "is no Jedi". As in the previous scene in the hallway, Bib Fortuna is not dubbed, and therefore, his line remains in English in the French version of the film, which creates an eerie situation in which the English language exists, although it does not represent Basic anymore. This discrepancy is quite jarring and contributes to a rupture of immersion from audiences by being too familiar, not strange enough.

A few scenes later, a bounty hunter arrives at Jabba's palace with the Wookie Chewbacca in his custody. The bounty hunter turns out to be Princess Leia in disguise. The way she chooses to present herself is by impersonating Boushh, a Ubese (a sentient species from the planet Uba IV). The disguise she wears allows her to hide her face and, as importantly, her voice. At this point of the story, neither the characters[142] nor the audience are aware of the subterfuge.

This disguise strategy points out to the importance of voice in character identity, and the treatment of Boushh/Leia's voice in the film is very telling of its importance. The changing of voice, diegetically and extra-diegetically, exists to confuse the audience. Within the confines of the film, the audience is Jabba himself and his court, but the trick is also directed at the audience. In order to achieve this goal, the filmmakers have opted to muddy the waters as much as possible, and although the character of Boushh only appears in two scenes and has just a few minutes of screen time, he is voiced by no fewer than three people in the original version, and possibly another two in the French dubbed version. The breakdown goes as follows: there is

142 - Except for the ones who are in on the rescue plan.

one voice (uncredited), heavily filtered for the Huttese parts (it is the same in both English and French), one (again, heavily filtered) for when Boushh speaks Basic (Patricia Welsh[143] in English, uncredited in French), and finally a third one when Boushh's true identity is revealed (Carrie Fisher, Évelyn Séléna). Over the course of the two scenes the character appears in, he/she moves from hybrid 1/2/3 type male character (alien speaking/masked/humanoid) to a type-two character (masked, filtered voice), to a type-one female character (a standard human). When the audience first meets Boushh, he is presented as a ruthless bounty hunter (speaking Huttese), and an obstacle to the development of the story. Then, as he frees Solo from the carbonite, Boushh switches to Basic (although the voice is still heavily filtered), which acts as a symbolic sign that he is on the side of the heroes after all. Finally, when Han Solo asks "who are you?", Boushh removes his mask and reveals himself as Leia, who answers in her own voice "someone who loves you". In this scene, voice is used as a more gradual tool to reveal the character's true identity, in three steps rather than in two for the visuals.

When it comes to the perception of the character in the dubbed version, this gradual transition helps a lot. Indeed, when the character is first introduced, both English and French-speaking viewers are presented with the same exact character.[144] In the first part of the second scene, Boushh starts speaking Basic, which operates an equal shift in perception in audiences regardless of their native language: the character moves from estranging Huttese to familiar English or French. In this section, the voice is, however, heavily modified, and at least in the original version, performed by a different actress.[145] Finally, after the mask is removed, it is the familiar voice of Leia, along with her familiar face (and musical theme), that is revealed to the audience. When Boushh speaks an alien language, he is depicted as belonging to the criminal world, but as the character transitions to Basic, he/she takes the place of an outsider to this world. It is in this scene that humans physically present in the room (as opposed to Luke's hologram) play a role for the first time within the walls of Jabba's palace, and therefore the first time that synchronisation can potentially become really visible, as it is prone to clashing with the way other non-human characters are perceived by the audience. At this point, a closer examination of the dub (both in terms of performance and synchronisation, but also the translation itself) can be undertaken.

At this time in the story, the relationship between Solo and Jabba is generally

143 - Patricia Welsh was also the voice of E.T.

144 - In a scene with no human characters as a reference, with only C-3PO speaking Basic.

145 - There is no data available for the French dub.

clear (Solo dropped a shipment he was carrying for Jabba and owes him money). In the original version of *ANH*, we learn of the situation when another bounty hunter, Greedo, blackmails Solo for the money before being shot by him. The story line continues at the beginning of *Empire*, when Han explains that he has to leave the rebellion in order to pay his debts. However, there was a scene originally shot for *ANH* that got cut from the final release, before being re-integrated into the film in the Special Editions in 1997, well after *Return of the Jedi* came out. This scene is now fully part of the story chronology, but like with some elements of the prequel trilogy, it slightly confuses the relationship between the characters. This is even more true of the dubbed versions, as not only is Harrison Ford dubbed by a different actor in the added scene in *ANH,*[146] but he also uses the T-form to address Jabba, whereas he uses the V-form in *Jedi* (in French, the T-form is the familiar for of addressing someone, while the V-form is the polite way). This could be interpreted as Solo asserting his position against Jabba in *Hope*, by placing himself on an even level with his interlocutor, while he is in an inferior position in *Jedi*. However, this decision feels inappropriate for the character of Han Solo, who is presented as a man who, even though he is has a silky tongue ("same thing I ever do, [I'm] gonna talk my way out of it", and to Chewbacca's objections, "Yes I do. Every time" (*TFA*, 2015)), he is also a man who does not bow down to authority. The change to using a T-form in the Special Edition of *A New Hope* seems unmotivated, especially considered the fact that there was already a precedent as to how Solo addresses Jabba in *ROTJ*. The change of voice also adds to the general feeling of uncanniness that accompanies dubbing, once again because of the contrast that exists between the previous and following scenes, but also because the new voice in this single scene is actually very close to the original dubber's. This closeness, while not being exactly the same, does provoke a switch from mindlessness to mindfulness in the viewer, and although after a few lines, audiences can get used to the new voice, the same feeling happens once again when the original voice reappears in the next scene, arguably amplifying the phenomenon.

In this scene of *ROTJ*, Solo is a little bit disoriented, which exaggerates Ford's performance slightly. His hesitations, as well as the rushed manner in which he delivers most of his lines help the synchronisation for the dub, as there is a little space for the voice talent to place his own voice over the footage. The second section of the scene, where he tries to haggle with Jabba, feels more natural and less distracting than the couple of lines he has with Leia ("I can't see" / "Je n'vois rien", "Where am I?" / "Où

146 - Gabriel Le Doze replaced Francis Lax, who had passed away before the Special Editions were released.

est-ce que j'suis?"…), that share few phonemes. Solo and Leia are eventually sent to holding cells, and it befalls Luke Skywalker to come to Jabba's palace to rescue his friends.

The arrival of Luke in the throne room thematically marks the first interaction between a human in full possession of his faculties and Jabba or other members of his court. It is no accident that Luke introduces himself with confidence as a Jedi Knight. Before this scene, only Threepio, Han and Leia have been speaking Basic, all three being either in a subaltern role (droid) or trying to hide their endeavours (escape quietly).

In this scene, Luke and 3PO speak Basic, and Jabba and Bib Fortuna speak Huttese. This clearly defines to which side the characters belong. Like most voices in the French dub of Star Wars, Luke's voice in French – provided by Dominique Collignon-Mourin – is very close to Mark Hamil's in terms of pitch. Collignon-Mourin's voice and measured performance match Hamil's with remarkable accuracy, and convey the Jedi's wisdom by being at the same time soft-spoken and assertive. There is little here that deviates from the original and Luke's personality is remarkably well conveyed in the French version. In the first section of the scene, Luke is in the shadows, is backlit (which allows less details on his face) and is wearing a hood that casts extra shadows on his face. He is also shot in medium and wide shots. From a dubbing point of view, it is an ideal situation, which affords the translators, adapters, and voice talent more flexibility.

Luke's first line inn a close-up shot is "I must be allowed to speak", translated as "il faut me permettre de vous parler". It is Luke's first close up, and although his face is still in the shadows, his mouth is fairly clearly lit and very visible. This is particularly notable because the main (key) light source of the scene is behind him and to his left (right side of the screen), and mostly illuminates the left side of his hood and his left shoulder, projecting shadows over his face and his chest. The fact then, that the bottom part is clearly visible shows a willingness to direct the audience's attention to it: Luke is now a Jedi, and his words carry weight with them. From a technical point of view, this effect is most likely achieved with a reflector being placed off screen in front of the actor's face, bouncing light off either the key light or a smaller secondary light source. The synchronisation of this first line of dialogue is flawless, even though the French translation is slightly longer than the original.

Luke's next line, however ("You will bring Captain Solo and the Wookie to me" / "Vous allez me livrer le Capitaine Solo et le Wookie"), delivered as Luke pulls his hood down and walks toward the camera until he is in a tight close-up, does not work nearly as well. This is mainly due to the fact that the blocks "Captain Solo and the Wookie" / "Capitaine Solo et le Wookie", although they should work very well in terms of synchronisation, do not align in the sentence structure. This block indeed

arrives later in the French dub, and concludes the sentence. This creates an impression of delay in the speech, which, as pointed out by Chaume (2012) and Tinwell (2015), leads to an uncomfortable sensation.

On a side note, the conversation dynamics in this particular scene seem not to follow any consistent rules, or any rules established in previous scenes. Indeed, Luke speaks Basic to Bib Fortuna at the very beginning of the scene, and also to Jabba, but Fortuna partly translates (or at least is compelled to translate by Luke's mind manipulation) to Jabba, who understands Basic (although 3PO has been established as the new court translator). This is more likely done to illustrate Luke's Jedi powers over weak minds and establish Jabba as not susceptible To Luke's influence. In this particular scene, it seems that the filmmakers have chosen to forgo consistency for the sake of character development.

Luke's next line, "Nevertheless, I'm taking Captain Solo and his friends" is spoken in a wide shot and the translation of "Et pourtant, j'emmène le Capitaine Solo et ses amis" works well, because of a combination of the rhythm of the sentence fitting the original, a structure that makes the "Captain Solo" part match almost perfectly, and a shot value that does not draw attention to the character's mouth. The only slightly disturbing thing in the French translation is that "emmener" is typically used in conjunction with a prepositional phrase ("avec moi" / "with me", for instance).

The exchange between Luke and Jabba goes on for a little bit before Luke's negotiations and attempt at intimidation fail and he is thrown into the Rancor's Pit, but there is little point in describing it in detail, as it functions along the same lines. As a matter of fact, the language dynamics are fairly consistent across all the films of the series, and consistently paint relationships between human and non-human characters, depending on their types.

Conclusion

In this chapter, I have shown that type-three alien characters such as Yoda are immune to the creeping presence of the uncanny, and that this is largely thanks to their design. The idea of escape by design was already included in Mori's original uncanny valley paper where he states that a beautifully crafted wooden prosthetic hand would be more acceptable, less jarring for another human being, than a rubber, realistic looking one. Non-human characters that are designed in such a way that they strike a balance between familiarity and unfamiliarity, equally, manage to maintain alien qualities that signify them as such without eliciting uneasy feeling in audiences.

I also have applied the concept of the uncanny landscape as an evolution of the idea of the uncanny valley to address the various individual but connected elements that comprise a fictional character's identity. With the use of this critical tool, I have shown how different aspects of a character can contain the potential for the

emergence of uncanny qualities. I have also shown how these dimensions (visual, acoustic, mise-en-scène), have an impact on one another, and how for instance visual and audio elements can work together to, in the case of Yoda, make the character decidedly not uncanny. This lack of uncanniness is an element that makes such characters appear real and authentic.

And finally, I have touched on the impact of dubbing on the perception of alien and non-human characters by foreign audiences. In analysing the topic, it has emerged that the lower level of lip synchronisation present in original versions (and that helps with the credibility of the original voicing), added to exaggerated types of voices and performances also allow the character to avoid uncanniness in situations where human characters might be more susceptible to the phenomenon. Another finding was that the lower level of original lip-sync, focused essentially on bilabials and open vowels, theoretically allows translators and adapters to work with lessfewer constraints and therefore stay closer to the original text's meaning. This piece was essentially focused on Yoda, taken as an archetypal example of a Basic-speaking character in the Star Wars films, and could be expanded and enriched by looking at other characters and by comparing individual lines of dialogue for translation accuracy.

Dubbing, then, does not carry within itself the potential for uncanniness, and revoicing, even with poorer lip-sync, can in certain cases cancel out the uncanny. Non-human characters can be designed to escape the uncanny, but science-fiction sometimes requires the same types of effects used to create aliens also to be used to recreate human characters. Typically, this is where the uncanny happens. As far as Star Wars is concerned, it is with the film *Rogue One* that the conversation about the uncanny and the uncanny valley really started. Photorealistic computer-generated human characters, as it turns out, bring with them a degree of strangeness that is difficult to balance out. Could it be in this type of situation that dubbing, by disrupting the status-quo, is a practice that could help keep the uncanny at bay?

There are some caveats that I need to clearly express before drawing conclusions about shifts in characterisation and the uncanny phenomenon in dubbing. First of all, as native speaker of French. I have grown up watching not only Star Wars, but all films dubbed in French up until I was around twenty, and never took issue with it. As far as Star War is concerned, I grew up under the impression that French was the original language the films were shot in, and I can still to this day quote a lot of lines in French, and have a certain affection for some of the French voices. The phenomenon of habit is also real (Chaume, 2012), and the more a person is used to dubbing, the less likely they are to notice it. The opposite, I have noticed, is also true, and after more than twenty years of watching films exclusively in their original language, I have started to find dubbing particularly jarring. Very little has so far been said on the phenomenon

of the uncanny in dubbing. Indeed, apart from Bosseaux's *Uncanny Encounters*, which is very recent, there is no academic research that I know of that has been conducted on the topic. With this in mind, there are some conclusions that can be drawn from the present study with a certain level of confidence, mostly due to the contrastive nature of the scene analyses that compared different types of characters interacting within scenes.

The dubbing quality of the Star Wars films is overall excellent. The choice of voice talent is very good, with most French voices being very close to the original actor's voice across the board. Synchronisation is also generally very good and quite invisible. Finally, translation itself is of good quality, even though the original trilogy suffers from the liberties taken by the French version artistic director. But this high quality of dub turns out to be an ally of this study (and a powerful ally it is).

The uncanny, as has been shown, is an in between phenomenon, one that requires its victim to be at rest, passive, to be able to emerge. It appears when an unexpected contrast happens. The high quality of the Star Wars dub allows for just that. Because the dub is generally so good, it promotes a state of mindlessness in the viewers, and because the characters on screen are so varied, the films encourage a high level of suspension of disbelief in its audience. This is the reason why the uncanny, and the loss of immersion that it brings with it, is so potent.

There is little to say about type-one characters such as Jabba the Hutt or Sebulba. As expected, these characters tend to maintain their identity very well from the original version to the localised one, essentially because their performance remains identical from one to the other (they only change by virtue of contrast). This is not to say that they always remain one hundred percent the same, however. In the palace scene analysed earlier, there is a potential for uncanniness in several instances as far as Jabba and Bib Fortuna are concerned. Those instances are linked to code switching in their line of dialogue, when they use borrowed words. Depending on the target language of the dub and the knowledge of English of the audience, those instances of code switching can be jarring. For a French audience, the utilisation of the word "kado" (from the French word "cadeau", a gift), can potentially trigger a switch from mindlessness to mindfulness, a *did I hear that correctly?* moment. Similarly, when Jabba uses English terms such as "Jedi mind trick" integrated into his Huttese, his dialogue is designed to make sense to an English-speaking audience, but this part, left untranslated as it is, does not have the same effect on a non-English-speaking audience. Those shifts in characterisation and potential uncanny emergences are difficult to pinpoint though, and a more experimental approach would be necessary to measure them with a degree of precision.

Type-two characters, the ones whose facial expressions are inscrutable and who

do not have an animated mouth, also fare very well in terms of maintaining their identity, better even than type-one characters. The main differences between type-one and two characters is the lack of facial motion (they either wear a mask or are droids) and the fact that they generally speak Basic (meaning that not only their dialogue, but their voice is changed). The first difference (lack of facial motion) does, however, inform the second. Because those characters do not have a mouth or expressive eyes, there cannot be any discrepancy of synchronisation in the dubbed version. Equally, synchronisation not being an issue, audiences of the dubbed versions are not likely to redirect their attention to the upper part of the character's face (Romero-Fresco, 2020). This freedom from synchronisation, in turn, allows for very accurate translations that maintain character identity very well. Additionally, those characters are systematically given very recognisable voices through a combination of audio tricks, such as filters (3PO, Kylo Ren), heavy breathing sounds (Vader), or diseased, coughing voices (Grievous). In the Jabba's palace scene analysis, C-3PO is the main character of this type, and he is representative of his category. A combination of a French voice and performance that are very close to the original, combined with a set of voice filters and a very faithful translation, help maintain his identity almost perfectly. Across the series, the same can be said for all the characters of this type. This points towards the fact that synchronisation, voice, and performance, are the reasons for identity shift, loss of immersion, and the potential for the uncanny. There are a handful of characters throughout the films that occasionally move from type-two to category five. Darth Vader does have a few lines without his helmet at the end of *Return of the Jedi*, and Jango Fett has a few lines with his helmet in *Attack of the Clones*, but it is Kylo Ren who really provides the best evidence for this statement. The character of Kylo Ren has a good number of scenes with and without his helmet in *The Force Awakens*. This gives a good point of comparison between how his identity is maintained with and without his helmet. Indeed, with the helmet and the heavily filtered voice, it is much easier to convey the character's identity than when he is bare headed. In other words, as the character moves up the curve of the uncanny diagram, he becomes more likely to fall victim to the uncanny phenomenon. Yet another way to express this is to say that that the lower fidelity the signal is to begin with, the easier it is to interpret, because there is already so much noise that adding or subtracting a little bit more is quite invisible. On the other hand, when a signal is loud, clear, and of high intensity, any loss of quality or distortion is quite apparent.

Type-three characters maintain their identity well in dubbing for a variety of factors. The synchronisation aspect, which is connected to the uncanny sensation, is unlikely to have any impact on audiences here because of the visual difference in the characters' faces and mouths. In most cases, the synchronisation of the characters in the original

version is not as close as it is with human characters, and the non-human attributes of a character help dilute the sense of connection between the phonemes heard and the visemes seen. Additionally, very much like type two characters, Basic-speaking aliens are systematically given idiosyncratic voices and/or speech patterns. This is true throughout all three trilogies, with characters like Yoda (all three trilogies), Jar Jar Binks, Watto, Nute Gunray and many more (prequels), and Maz Kanata (sequels). Indeed, it is when alien characters speak without a strongly identifiable idiolect that they appear jarring. Rio Durant, a four-armed ape-like character from *Solo*, perfectly illustrates this. He is the only clearly alien character in the ten films that have been released at the time of writing who speaks with a traditional human voice without any particular accent or strongly recognisable idiolect. The result is unsettling, as there appears to be a disconnect between his appearance and his voice. This suggests that it is not necessarily the strangeness of a character itself, or of his voice, that creates the jarring or uncanny sensation, but rather the disconnect between those two elements.

The last two categories of characters are humans with and without accents. I have not included any characters with foreign accents in this study, because this is an area that is already fairly well researched, and because Bosseaux already heavily focuses on this aspect in her analysis of scenes from *Buffy*. Much has been said about the "thorny endeavour" that is the rendering of "geographical and social accents in dubbing" (Bosseaux, 2015: 67; Federici, 2006 and 2009; Taylor, 2006; Dore, 2009). Bosseaux also draws from Mingant who points out "the tendency to neutralize accents, and the recourse to speech registers as a compensation strategy" (2010: 22). In her analysis of scenes from *BtVS* featuring British characters, Bosseaux observes that "by replacing the British accent with a French one, the Britishness [of the characters] has been neutralized in translation" (2015: 205). Unsurprisingly, the neutralisation of Chirrut's, Baze's, and Cassian's accents in *Rogue One* does take away from their personality (however cliché it might be in the origial version), and make them "blend rather too smoothly" (Bosseaux, 2015: 154) with the rest of the cast. This sentiment is confirmed by the fact that in the case of *RO*, there is no real adjustment strategy in place to make up for the loss of characterisation. These characters see a strong shift in identity and individuality by being deprived from their accent and idiolect, and are for all intents and purposes shifted from type-four characters to type-five in the dubbed version.

Type-five characters are the ones who suffer the most from dubbing in terms of maintaining their identity and evoking the uncanny. Some of this is due to consistency (Solo's changed voice), some to the constraints of translation (synchrony), but largely because there is no artefact behind which to hide their humanity (no alien language, strange appearance, mask of sound effects).

– Conclusion –

Return

Master of Two Worlds?

"Journeying to other planets is more often like return than departure," according to Michael Cronin (2009: 108). Dubbing, similarly, illustrates a departure from the original, and a return to it. Just like in the Hero's Journey however, the return is not to the same thing that has been left behind. Not only the place itself has changed, but the hero too. This thesis set out to explore the changes that happen in dubbing, the uncanny effect that the practice can have on audiences, and the mitigating effect that different types of characters – as found in Imaginary Fiction genres – can have on this effect. The disentangling of all those elements is a daunting task, made so much more difficult by the fleeting nature of the uncanny phenomenon. The findings presented here are initial, and I will suggest ways to reach more empirical, measurable conclusions.

Throughout this thesis, I have attempted to connect different disciplines in an effort to elaborate on Charlotte Bosseaux's research on the uncanny effect of dubbing. In the first chapter, I explored the notion of the uncanny itself, and addressed my first research question: what are the cognitive mechanisms behind the uncanny valley phenomenon? To summarise, the uncanny is defined as the fleeting, uneasy sensation one can experience without being aware of the reasons that caused the feeling. The main triggering elements are generally agreed to be a mixture of category uncertainty and perceptual mismatch of a phenomenon. In other words, when we fail to properly categorise a stimulus, or when various stimuli experienced simultaneously enter into conflict, our cognitive, schematically organised minds react by

triggering the eerie, uncanny sensation. Already in this first chapter, I linked the uncanny sensation to issues of synchronisation between lip movement and utterances, as well as to the expectations of consistency between the physical appearance of a character and their voice. I also introduced the notion of the uncanny valley, and the fact that less realistic occurrences (such as a wooden hand) carry with them less potential for the uncanny than more realistic ones (a realistic-looking prosthetic). This chapter also highlights the fleeting nature of the uncanny, and its lack of universal experience and repeatability.

The second and third chapters are dedicated, respectively, to genres of Imaginary Fiction (such as science-fiction and fantasy) and the specific uses of language that they make. Chapter two addresses my second research question (is Imaginary Fiction more or less susceptible to the uncanny?), and chapter three deals with the third one (what are the strategies used to mitigate its effects?) The appeal of Imaginary Fiction genres in studying the phenomenon of the uncanny is that genres such as science-fiction and fantasy, at their core, ask audiences to change their expectations of reality. The uncanny having a lot to do with the friction between expectations and experience, studying it with the confines of worlds obeying a different set of rules than traditional "realistic" worlds offers original insights into the phenomenon. In particular, the topics that are discussed in this chapter are cognitive estrangement – or the ways the non-zero worlds encourage audiences to accept the new reality – and willing suspension of disbelief – the cognitive ability of audiences to accept said new reality. The hypothesis here is that as audiences revise their expectations to potential occurrences that are different from their real-world experiences, the space in which the uncanny is prone to manifest itself is displaced. This thesis is primarily centred around dubbing though, and therefore language. In the same way that works of Imaginary Fiction visually modify audience expectations by replacing elements of reality by fictional ones, they also often introduce estrangement though specific use of language, either through vocabulary means, or by introducing artificial forms known as constructed languages (conlangs). Those visual and acoustic elements are key to studying the impact of the uncanny on dubbing, as different looking and different sounding characters might not be prone to eliciting it in the same proportions as familiar, human ones.

The fourth and fifth chapters are dedicated to the practice of dubbing itself and its relationship to the uncanny and to the Star Wars universe, its characters, and the importance of voice in characterisation. Chapter four engages with my fourth research question (what is the connection between dubbing and the uncanny?). Chapter four focuses on my fourth research question (how does the intersection between genre and dubbing impacts the uncanny effect on audiences ?)and argues

that the practice of dubbing is inherently subject to the uncanny, as by its very nature it attempts to reconciliate different and often incompatible stimuli. This clash of expectations – between the visemes that are seen and the phonemes that are heard – can result, as identified by Charlotte Bosseaux in her book *Uncanny Encounters*, in an eerie, ghostly experience that threatens to rupture the fine balance between estrangement and suspension of disbelief. In the fifth chapter, I pay particular attention to the voices and the dubbing of the Star Wars films and analyse and key aspects of it. The findings are that, as is predicted by the Uncanny valley model, less realistic characters such as Yoda (or more generally non-human characters who speak English), are less likely to elicit an uncanny sensation in viewers. This is due to the fact that their presentation (visual and audio) creates estrangement in the viewer, and is therefore met with a heightened level of suspension of disbelief. Consequently, the approximation in lip synchronisation for these characters is easier to overlook than for human characters. In other words, by aiming by design at the first peak of the uncanny valley diagram, those characters avoid falling off the uncanny cliff. Secondly, and less convincingly, the interactions between human characters and non-human characters can potentially alleviate the uncanny effects of dubbing on human characters as well. It is plausible that the heightened sense of suspension of disbelief, by association, protects the human characters from the effects of the uncanny. On this particular point, more research is needed.

I would also like to highlight a particular point that has come to me as a surprise as I was conducting my research. As someone who had not watched a dubbed film in a very long time, I started this project from quite an anti-dubbing position. The obvious (to my eyes) lack of synchronisation, the often completely different voices given to the actors, and the downright strange translation that sometimes occur, meant that to me, subtitling was by far the superior way to experience foreign language content. And while I still heavily lean in favour of an experience as close as possible to the original, viewing the dubbed versions of the Star Wars films for this thesis has somehow changed my perspective on dubbing.

First of all, as expressed by Chaume and other dubbing scholars, the localisation method by which audiences consume media is very much shaped by habit. Habit, indeed, is a strong force that conditions expectations, and in all likelihood, a person used to an actor's dubbed voice and performance might find the original somehow uncanny. To the credit of the practice however, and to my surprise, as I was studying the Star Wars films, I occasionally forgot that I was watching the dubbed version. This, I think, is a testament to the practice, and to the fact that when well done, it can to some extent become invisible. Even in its relative invisibility, however, the practice of dubbing comes with a certain number of problematic features.

Dubbing is the victim of the tension between two forces: faithful translation on one hand (priority to meaning), and accurate synchronisation on the other (priority to immersion). Targeting a highly accurate translation without taking synchronisation into account is a recipe for an un-immersive experience. Equally, prioritising synchronisation is an invitation to additional loss of meaning in the dialogue. Moreover, in most cases, the change of voice from the original to the dubbed version of a character incurs an unavoidable shift in characterisation that modifies the experience for the audience. This situation is the result of the polysemiotic nature of film, and a fact that dubbing has had to deal with for almost a century.

In chapter five, I have identified five different categories of characters from completely alien (visually and acoustically), to completely human. In uncanny terms, those character types can be plotted along Mori's uncanny diagram, with types one to four on the slope leading to the first peak, and human characters occupying the second peak. of those five categories, none is situated in the uncanny valley, except when the human characters are computer generated. CGI humans (currently) get pushed from the second peak into the valley and their imperfections make them uncanny. This is situation that can be remedied with better implementation of computer generated images, and at the time I am writing this conclusion, several computer generated humans have passed the Moris test (see chapter one), for instance in *Blade Runner 2049* and *Logan*. Real humans however, just like their almost-photorealistic counterpart, get pushed into the uncanny valley when dubbed. in dubbing, their voice and the synchronisation of their dialogue, is taken away from them, rendering them a semi-empty avatar comparable in a way to computer generated shell. Type one, two, three and four characters are different enough that the replacement of their voice does not impact their identity in any noticeable way, and therefore, current dubbing practices are perfectly adequate and do not to be drastically altered (although I have established that type four characters, when neutralised, become type five characters in dubbing). Type five characters, however, do not fare so well. There is definite room for improvement in the dubbing processes for human characters (that constitute the vast majority of characters that undergo dubbing, especially outside of Imaginary Fiction).

To reiterate the issue: if non-human characters (types one to three) are immune to the uncanny in dubbing despite their lip synchronisation being imperfect, but human characters (type five) are susceptible to the uncanny in dubbing, it is the combination of humanness and poor lip sync that is the source of the uncanny sensation.

Unfortunately, as explained by the concept of mise-en-scène, the visual aspects of a film do not change in the process of dubbing. Actors' lip movements cannot

– be modified, and therefore the translation and performance aspects must bend to accommodate the visuals. Equally, and by definition, replacing an actor's voice equates to replacing half the performance, and half their identity.

A potential solution to solving this problem can be found in Pablo Romero-Fresco's approach to accessibility. Romero-Fresco's approach is to try and integrate accessibility into the filmmaking process in order to facilitate and improve the localisation process. One major obstacle to this approach is the conflict between creativity and accessibility, as integrating localisation and accessibility practice to the filmmaking process tends to compromise said process. Ideally then, localisation practices would be able to integrate to the final product as if it had been planned into the filmmaking process, while not encroaching on the creative intentions of the filmmakers. This is a paradoxical situation that up until very recently seemed insurmountable, but I would like to offer an insight into what the future of dubbing might look like.

Recent technological advancements mean that in the near future some of the obstacles that stand in the way of achieving better dubbing might be lifted, and that cinema might get back to being close to a universal language once again. Two types of technologies are currently being developed that promise to help alleviate those issues and, in doing so, reduce the gap from which the uncanny can emerge, and bring the audience's experience of dubbed films closer to the original. Those technologies are lip resynchronisation and voice retargeting.

Lip resynchronisation addresses the visual dimension of film. Film is a pre-recorded, non-interactive medium: the story and performances are always the same, and the images and sounds that comprise it never change. This is a different situation than with other audio-visual media such as video games. In modern, 3D video games, the characters on screen are rendered in real time. This means that during gameplay, the players can move the camera freely to discover new points of view, and each new image is rendered by the 3D engine and the computer. What this in turn means, is that 3D characters' performances – during cut scenes for instance – are also rendered in real time, including their lip movements.

This is a critical difference between pre-rendered images such as those that are found in 3D animated films. Even though the gap in image fidelity between pre-rendered and real-time rendering is shrinking, computing time for CGI films such as *Frozen* can reach 30 hours for one frame (Zahed, 2013), while video games need to be able to produce a frame at least every thirtieth of a second. What this means in practical terms is that 3D video games can afford to resynchronise character lip movements for different languages. Doing so for an animated film would be prohibitively expensive, as each frame would have to be rendered all over again (or at least

portions of the frame containing the character's face). The real-time nature of video games allows for more flexibility. The practice is not widely spread yet, but companies like Square Enix are experimenting with it. The most recent example is 2020's *Final Fantasy VI Remake*, which features fully synchronised Japanese and English cut-scenes. The difference in immersion between these fully synchronised versions and the French version of the game is staggering. As mentioned earlier, the cost at the moment is a major barrier to applying this approach to full-length animated films. Indeed, the game features lengthy dialogue scenes and high quality visuals, and would in my opinion make for a perfect candidate for a study on immersion and character connection across languages.

The increasing presence of digital humans in feature films means that those characters could benefit from such technology. The characters of Granf Moff Tarkin and Princess Leia in *Rogue One,* for instance, who are computer-generated recreations of respectively Peter Cushing and Carrie Fisher, could be re-rendered by language, and therefore begin to escape the uncanny burden that their digital renditions carry with them. Small-scale experiences of this kind could help determine audiences' receptivity to the concept. Another solution, less costly but until recently unthinkable, is also emerging.

The 3D reconstruction of human faces in 2D space is currently a booming field of research. As a matter of fact, "the computer-generated and vision communities have dedicated long standing efforts in building computerized tools for reconstruction, tracking, and analyzing human face on visual input" (Zollhöfer et al. 2018: 523). In their 2018 technological survey, Zollhöfer and colleagues recognised the fact that "human faces occupy a very central place in human visual perception [and] play a key role in conveying identity, message, emotion, and intent" (523). The ability to analyse human faces from 2D inputs and manipulate them in a 3D space with speed and accuracy has the potential to benefit a wide range of applications, chief among them dubbing. The idea of visual dubbing "is to alter the mouth motion [of an on-screen character] so that it aligns with a foreign language voice spoken by the dubbing actor" (539). The metastudy identifies several methods to achieve the goal of resynchronising dialogue: speech-driven techniques, performance-driven techniques, speech/performance hybrid-driven techniques. In more detail, "speech driven dubbing techniques learn a phoneme-to-viseme mapping from a training sequence of the actor" (53). In other words, the computer learns the facial expressions (visemes) of an actor for corresponding sounds (phonemes). This method "can produce accurate lip-sync", but unfortunately so far "only works if the actor speaks both the original and foreign language" (539). Performance driven methods "first track the actor and dubber performance, and then transfer the dubber's mouth

motion to the actor's" (ibid.). This can be done "either using image-based swapping techniques" or "via parameter transfer" (ibid.). Some techniques "additionally transfer fine-scale skin detail in the mouth region and employ the audio signal to align lip closure events of salient utterances" (539). Synthesia, a London based company, already provides a convincing video translation solution, as can be experienced on the website synthesia.io, which allows modifying the feedback from a personal trainer along four different parameters and three languages.

One aspect of dubbing that solutions such as Synthesia do not address however, is voice. Voice transformation and synthesising are proving as difficult to achieve as their visual counterpart, but recent advances in artificial intelligence-based learning are reasons for hope. Voice transformation is the process of modifying one person's voice into another's. Although "it has been shown that for isolated sentences [,] the converted speech from a source speaker may be perceived as if the speech [had] been uttered by a target speaker" (Stylianou, 2009: 2), such processes do not perform well for extended speeches that heavily feature idiolectic components. Voice synthesising, however, offers many promising opportunities (such the ungiven JFK speech reconstructed by artificial intelligence for the *Unsilenced*[147] project). Services such as Lyrebird AI offer the possibility to clone one's voice by training and artificial intelligence in recognising prosodic and stylistic features. Lyrebird's ambitions, to "make content creation […] more accessible", do show a trend in the willingness to universalise content. From a movie studio and accessibility point of view, the recording of actor's voices in order to build a model that can then be reused during the dubbing process is a low cost option that could heavily benefit the industry.

Combinations of visual and audio-driven AI manipulations are happening, and offer a glimpse into the future of dubbing, such as the "Faux Rogan Experiment". Deep-learning research company Dessa created in 2019 a clone voice of podcaster Joe Rogan using artificial intelligence. These types of technologies have been evolving at a rapid pace, and applied to a variety of applications: from entertainment to online communication, and even therapy. The main entertainment value of resynchronising speech, pertaining to this research, is dubbing. Although invisible as a result, achieving this goal would increase enjoyment of AV products for millions. But there are currently numerous phone apps on the market that use this type of technology for more frivolous goals (https://www.rankred.com/best-deepfake-apps-tools/).

2020 has been a unique year, during which most people have had to embrace remote working, and online meetings. Video call software has been pushed to its technological limits, as worldwide bandwidth struggled to cope with traffic. This,

147 - https://www.youtube.com/watch?v=PvbdnTIzM4Q&ab_channel=Rothco.

in turn, has led to innovation in image processing technology that tackles the same issue from a different angle. In early 2021, a paper from the NVIDIA Corporation (Wang, Mallya and Liu) entitled *One-Shot Free-View Neural Talking-Head Synthesis for Video Conferencing* presents a novel way to transmit video during video calls (including reconstruction, head rotation, face frontalization and motion transfer) from "a source image containing the target person's appearance and a driving video that dictates the motion in the output" (Wang, Mallya and Liu: 2021).

More serious uses include the reconstruction of historical events, such as the possibility to revive public figures that have passed away and make them talk, and therapeutic uses, such as offering closure to families by allowing them to say goodbye to people they have lost.

In chapter one, I mentioned the Turing test, and suggested that a non-uncanny artificial character would pass a Mori test. Dessa has a similar idea, and offers a Turing test that challenges participants to identify Rogan's real voice from clips created by the AI model uniquely from text inputs.[148] Anecdotally, I am an avid listener of Rogan's podcast, and failed to identify most of the clips. I invite anybody to put themselves through the test. One step further is the recent – on the 25th of November 2019 – first audiovisual deep fake combination of a real person, from footage of a real person.[149] This method uses existing 2D footage as a canvas to replace the stand-in's face with a photorealistic 3D model of the target actor, while simultaneously replacing the voice of the stand-in by a replica of the target actor's voice. This first attempt at a deep learning AI generated clone (as opposed to the CGI models currently used in films such as *Rogue One*) is not perfect, but it certainly offers a glimpse of what is to come in the near future. Deep learning, incidentally, has been used by fans to experiment with the Star Wars franchise. I have mentioned the uncanny Peter Cushing and Carrie Fisher several times in this thesis, and it is no accident that those characters that have been chosen to be replaced by deep fake versions of themselves. Other experiments have been made replacing Alden Ehrenreich with a deep fake version of Harrison Ford in Solo,[150] including with some voice alterations,[151] or Ewan McGregor for Sir Alec Guiness as Obi-Wan Kenobi.[152]

There are a yet no studies or experiments that I am aware of that attempt to combine technologies such as Synthesia's, Lyrebird's, or Dessa's in order to create

148 - https://medium.com/dessa-news/real-talk-speech-synthesis-5dd0897eef7f.

149 - https://www.youtube.com/watch?v=i7QNUZWS6VE.

150 - https://www.youtube.com/watch?v=KovciEvpaBA.

151 - https://www.youtube.com/watch?v=ExhpwiX0U6Y.

152 - https://www.youtube.com/watch?v=ZPGTM7WWUxQ.

a foreign language version of an actor, but this certainly seems with the realm of possibilities in the near future, and one that promises a wealth of opportunities for further research in the ways audiences perceive characters and their identities on screen.

As a matter of fact, this future might very well be only a short time from now, in a theatre near you….

- Index -

- References -

Bibliography and Webliography

- Adams, Douglas (1985). *The Hitchhiker's Guide to the Galaxy: The Original Radio Scripts*. Pan Books.
- Agost, R. (1999). *Traduccio´n y doblaje: palabras, voces e ima´genes*, Barcelona: Ariel.
- Algeo, John (1982). *Magic Names: Onomastics in the Fantasies of Ursula Le Guin*, in the *American Name Society* 30, pp. 59-67.
- Althoff, Eric (2016). *The Force reawakens deceased cast – probably for years to come*, in the *Washington Times*, https://www.washingtontimes.com/news/2016/dec/20/rogue-one-uncanny-valley-grand-moff-tarkin-likely-/.
- Anderson, Joseph D. (1996). *The Reality of Illusion: An Ecological Approach to Cognitive Film Theory*. Southern Illinois University Press, Carbondale.
- Andrew, D. (1978). *André Bazin*, Oxford University Press.
- Antonini, Rachel; Chiaro, Delia (2009). *The Perception of Dubbing by Italian Audiences*, in *Audiovisual Translation: Language Transfer on Screen*, pp. 97-114.
- Armstrong, N., Federici, F.M. (2006). *Translating Voices, Translating Regions*, Rome: Aracne.
- Aungst, Gerald (2012). *Faster and More Intense*, https://geraldaungst.com/2012/07/faster-and-more-intense/, (last accessed 17/07/2020).
- Bacon, Thomas (2018). *Star Wars: The Real Meaning of the Skywalker Name*, for *Screen Rant*, https://screenrant.com/star-wars-skywalker-name-meaning/, (last accessed 17/07/2020).

- Bandiroli, Luca and Enrico Terrone (2008) Nell'occhio, nel cielo. *Teoria e storia del cinema di fantascienza*, Torino, Lindau Edizioni.

- Bakker, Gerben (2005). *The Decline and Fall of the European Film Industry: Sunk Costs, Market Size, and Market Structure, 1890-1927*, in *The Economic History Review*, May, 2005, New Series, Vol. 58, No. 2 (May, 2005), pp. 310-351.

- Baobab, Ebenn Q3. *The Star Wars Galactic Phrase Book & Travel Guide* (Galactic Standard Version).

- Bardet, A.; Faucourt, S.; Wybon, J.; Marchand, A. and Mornet, T. (2015). *La Guerre des Étoiles – La Saga Vue de France*, Huginn & Muninn.

- Bardy, Mary Lea (ed.) (1983). *The Talking Film*, in *Redescovering French Film*, New York: Museum of Modern Art, pp. 91).

- Barlett, Frederic (1932). *Remembering: A Study in Experimental and Social Psychology*, Cambridge University Press.

- Barnes, Brook (2011). *Many Culprits in Fall of a Family Film*, The New York Times, http://www.nytimes.com/2011/03/15/business/media/15mars.html?_r=1, (last accessed 17/07/2020).

- Bartneck, C.; Kanda, T.; Ishiguro, H.; Hagita, N. (2009). *My robotic doppelganger – A critical look at the uncanny valley theory*. In *Proceedings of the 18th IEEE International Symposium on Robot and Human Interactive Communication*, pp. 269-276.

- Beck, A; Stevens, B; Bard, K. A.; Canamero, L (2012). *Emotional Body Language Displayed by Artificial Agents*, ACM Trans. Asian Language Information Processing, Vol. 6, No. 3, Article 9, Pub. November 2007.

- Benson, J.D.; Greaves W.S. (1985). *Systemic Perspectives on Discourse, Volume 1: Selected Theoretical Papers from the Ninth International Systemic Workshop*, Norwood: Ablex.

- Berlatsky, Noah (2017). *Is Star Wars' "The Last Jedi" science fiction? It's time to settle this age-old argument*, *THINK*, https://www.nbcnews.com/think/opinion/star-wars-last-jedi-science-fiction-it-s-time-settle-ncna830281, (last accessed 17/07/2020).

- Berry, Thomas Elliot. *Charactonyms,* in *Word Study* 25.2 (Dec. 1949), pp. 1-2.

- Biskind, Peter (1983). *Seeing is Believing*, Pantheon.

- Blair, Robert James R. (2005). *Responding to the Emotions of Others: Dissociating Forms of Empathy Through the Study of Typical and Psychiatric Populations*, in *Consciousness and Cognition* 14 (4), pp. 698-718.

- Blake, Meredith (2019). *How 'Game of Thrones' linguist David J. Peterson became Hollywood's go-to language guy*, *Los Angeles Times*, https://www.latimes.com/entertainment/tv/la-et-ca-game-of-thrones-language-creator-david-peterson-dothraki-20190409-story.html, (last accessed 17/07/2020).

- Bloom, Andrew (2014). *A Christmas Carol (2009): Jim Carrey, Robert Zemeckis, and a Mishmash of Tones*, http://www.theandrewblog.net/2014/12/17/a-christmas-carol-2009-the-andrew-review/, (last accessed 17/07/2020).

- Boroditsky, Lera (2010). *Lost in Translation*, in *The Wall Street Journal*, July 24th, 2010, http://lera.ucsd.edu/papers/wsj.pdf, (last accessed 17/07/2020).

- Boroditsky, Lera (2017). *How language shapes the way we think*, TED, https://www.ted.com/talks/lera_boroditsky_how_language_shapes_the_way_we_think?utm_campaign=social&utm_medium=referral&utm_source=facebook.com&utm_content=talk&utm_term=social-science&fbclid=IwAR1Nso-CX-fSgCQEITx5fuOLR337cLCXXUhXfj89RYK3iHwBV3FkA1oEvipI#t-23420, (last accessed 17/07/2020).

- Bosseaux, Charlotte (2012). *Some Like it Dubbed: Translating Marilyn Monroe*, in H Julia Minors (ed.), *Music, Text and Translation*, pp. 117-137, Continuum Books.

- Bosseaux, Charlotte (2015). *Dubbing, Film and Performance: Uncanny Encounters*, Peter Lang.

- Bouzereau, Laurent (1997). *Star Wars, The Annotated Screenplays*, a Del Rey book published by Ballantine Books.

- Brecht, Bertolt (1949). *A Short Organum for the Theatre* (*Kleines Organon für das Theater*), Bibliothek Suhrkamp.

- Brenton, H.; Gillies, M.; Ballin, D. and Chatting, D. (2005). *The uncanny valley: Does it exist?* At the HCI Group Annual Conference: Animated Characters Interaction Workshop, Napier University, Edinburgh, pp. 5-9 September issue.

- Britt, Ryan (2016). *The History of the Galaxy's Most Infamous Dad Bod*, for *Inverse*, https://www.inverse.com/article/25213-darth-vader-bodies-actors, (last accessed 17/07/2020).

- Brown, Douglas Williams (2012). *The Suspension of Disbelief in videogames*, Doctoral thesis, Brunel University.

- Bruhn, Daniel W. (2005) *Walls of the Tongue: A Sociolinhuistic Analysis of Ursula Le Guin's The Dispossessed*, Berkeley, http://linguistics.berkeley.edu/~dwbruhn/dwbruhn_376_Dispossessed.pdf, (last accessed 17/07/2020).

- Burelbach, Frederick M. (1982). *An introduction to the Literature of Fantasy*, in *Literary Onomastic Studies* volume 9, pp. 137-149.

- Burke, A. (2011). *Cutting Wait Time: DreamWorks-Intel Partnership to RevFolutionize Rendering*, in *Forbes*, https://www.forbes.com/sites/techonomy/2011/11/14/cutting-wait-time-dreamworks-intel-partnership-to-revolutionize-rendering/#45078856783d, (last accessed 17/07/2020).

- Burtt, Ben (2001). *Star Wars, Galactic Phrase Book & Travel Guide*. A Del Rey® Book, published by The Random House Publishing Group.

- Burtt, Ben (2010). *The Sounds Of Star Wars*, interview for *npr*, http://www.npr.org/2010/12/12/131968222/-the-sounds-of-star-wars-now-at-fans-fingertips, (last accessed 17/07/2020).
- Burtt, Ben (2014). *The Remarkable Way Chewbacca Got a Voice*, interview with Alexis C. Madrigal for *The Atlantic*, https://www.theatlantic.com/technology/archive/2014/08/the-remarkable-way-chewbacca-got-a-voice/375697/, (last accessed 17/07/2020).
- Bush, Jenna (2016). *How They Made Tony Stark Younger in Captain America: Civil War*, for ign.com, https://www.ign.com/articles/2016/09/25/how-they-made-tony-stark-younger-in-captain-america-civil-war, (last accessed 17/07/2020).
- Caldwell-Harris, Catherine L. (2019). *Our Language Affects What We See*, *Scientific American*, https://www.scientificamerican.com/article/our-language-affects-what-we-see/, (last accessed 17/07/2020).
- Campbell, Joseph (1949), *The Hero with a Thousand Faces*, Pantheon Books.
- Canby, Vincent (1977). *Star Wars – A Trip to a Far Galaxy That's Fun and Funny*, for *The New York Times*.
- Carbon C; Albrecht S. (2012). *Bartlett's schema theory: The unreplicated "portrait d'homme" series from 1932*, The Quarterly Journal of ExperimentalPsychology, 2012, 65 (11), 2258-2270, Psychology Press, Taylor & Francis Group.
- Carlin, Ben (2016). *The Wilhelm Scream Explained*, SuperCarlinBrothers, https://www.youtube.com/watch?v=SzITADosISk, (last accessed 17/07/2020).
- Carter, Lin (1973). *Imaginary Worlds: The Art of Fantasy*. Ballantine Books.
- Cassin, Barbara (2004). *Vocabulaire européen des philosophies*, Seuil.
- Chattopadhyay, Deballena; MacDorman, Karl F. (2016). *Familiar faces rendered strange: Why inconsistent realism drives characters into the uncanny valley*, *Journal of Vision* (2016) 16(11):7, pp. 1-25.
- Chaume, Frederic (2012). *Audiovisual Translation: Dubbing*, St Jerome Publishing.
- ChernabogNosgoth (2017). *Star Wars : Les Changements sur la VF*, https://www.youtube.com/watch?v=Xm_q1NGNPZo, (last accessed 17/07/2020).
- Chiang, Ted (1998). *Story of Your Life*, Starlight 2.
- Chin-Chang Ho, MacDorman, Karl F. (2010). *Revisiting the uncanny valley theory: Developing and validating an alternative*, in *Computer in Human Behavior* 26 (2010), pp. 1508-1518.

to the Godspeed indices

- Chion, Michel (1994). *Audio-Vision: Sound on Screen* (translated by Gorbman, C.). Columbia Press University, New York.

- Chion, Michel (1999). *The Voice in Cinema*, Columbia University Press.
- Chuang, Y.-T. (2006). *Studying Subtitle Translation from a Multi-modal Approach*, *Babel* 52(4), 372–83.
- Clarke, Arthur C. (1969). *The Myth of 2001*, in *The Science Fiction Film Reader* (Ed. Gregg Rickman), Limelight Editions, New York.
- Clarke, Arthur C. (1973). *Profiles of the Future: An Inquiry into the Limits of the Possible*, Macmillan.
- Coleridge, Samuel Taylor (1817). *Biographia Literaria*; or *Biographical Sketches of My Literary Life and Opinions* (https://www.gutenberg.org/files/6081/6081-h/6081-h.htm), (last accessed 17/07/2020).
- Conrey, E and Pisoni, D. (2006). *Auditory-speech perception and synchrony detection for speech and nonspeech signals*, in the *Journal of Acoustical Society of America*, vol. 119, pp. 4065-4073.
- Cornea, Christine (2007). *Science Fiction Cinema, Between Fiction and Reality*, Edinburgh University Press Ltd.
- Cowper, William (1791). *The Letters and Prose Writings of William Cowper: Volume 3*.
- Cramer, Kathryn (Ed.) and Hartwell, David G. (Ed.) (2007). *The Space Opera Renaissance*, Tom Doherty Associate LLC.
- Crigger, L. (2010). *Bad romance: Love in the time of videogames*, in *Gamespy*, http://www.gamespy.com/articles/108/1087383p1.html, (last accessed 17/07/2020).
- Crisp, Colin (1997). *The Classic French Cinema, 1930-1960*, Bloomington: indiana University Press.
- Cronin, Michael (2009). *Translation goes to the Movies*, Routledge
- Croshaw, Benjamin Richard. *Final Fantasy XIII - Zero Punctuation*, The Escapist, https://www.youtube.com/watch?v=KmnAL60mfSg.
- Culture Decanted (2014). *The semiotics of the doppelgänger: the double in popular culture*, https://culturedecanted.com/2014/07/14/the-semiotics-of-the-doppelganger-the-double-in-popular-culture/, (last accessed 17/07/2020).
- Cyranoski, David (2018). *First CRISPR babies: six questions that remain, in Nature*, https://www.nature.com/articles/d41586-018-07607-3, (last accessed 17/07/2020).
- D'Argenio, Angelo, M. (2018), *How Detroit: Become Human is Ruined by the Uncanny Valley*, for *Gamercrate*, (last accessed 17/07/2020).
- Daniels, Anthony (2017). *How Anthony Daniels Gives C-3PO an Unlikely Dash of Humanity*, https://www.smithsonianmag.com/arts-culture/anthony-daniels-c3po-unlikely-dash-humanity-180967212/, (last accessed 17/07/2020).
- deGrasse Tyson, Neill (Feb. 7th, 2015). From Twitter, https://twitter.com/

neiltyson/status/571485731736186880?lang=en), (last accessed 17/07/2020).

- Delistraty, Cody C. (2014). *Who Wins in the Name Game?*, in *The Atlantic*, https://www.theatlantic.com/business/archive/2014/07/who-wins-in-the-name-game/374912/, (last accessed 17/07/2020).

- Denton, John; Ciampi, Debora (2012). *A New Development in Translation StudiesTranslations Studies: Focus on Target Audience Reception*, in *Lingue e letterature d'Oriente e d'Occidente*, vol. 1, n. 1 (2012), pp. 399-422.

- Di Giovanni, Elena (2016). *Reception Studies in Audiovisual Translation Research – The Case of Subtitling at Subtitling at Film Festival*, in *Trans-Kom* issue 9, pp. 58-78.

- Dick, Philip K. (1968). *Do Androids Dream of Electric Sheep?* Doubleday.

- Dillon, Simon (2014). *Why Star Wars is not science fiction, and related matters…* Simon Dillon Books, https://simondillonbooks.wordpress.com/2014/03/11/why-star-wars-is-not-science-fiction-and-related-matters/, (last accessed 17/07/2020).

- Dixon, N. F. and Spitz, L. (1980). *The detection of auditory visual desynchrony*, in *Perception*, vol. 9, pp. 719-721.

- Doerr, N. (2007). *Heavy Rain devs have "conquered" the uncanny valley*, in *Engaget UK*, https://www.engadget.com/2007/12/18/heavy-rain-devs-have-conquered-the-uncanny-valley/, (last accessed 17/07/2020).

- Doré, Louis (2017). *This Rogue One actor inspired an amazing story about diversity and representation*, *Indy100* for *The Independent*, https://www.indy100.com/article/rogue-one-diversity-representation-diego-luna-twitter-tumblr-accents-7510526, (last accessed 17/07/2020).

- Dore, Margherita (2009). *Target Language Influence over Source Texts: A Novel Dubbing Approach in "The Simpsons"*, First Series. Rome: Arcane.

- Dunham, Dwayne (1997). In *Star Wars, The Annotated Screenplays*, Del Rey.

- Ebert, Roger (1977). *Star Wars film review*, for the *Chicago Sun-Times*.

- Edwards, A.D. (1957). *Language in culture and class*, London:Heinemann.

- Eisenstein, S.; Vsvolod, P.; Gregori, A. (1928). *A Statement*, translated and edited by Jay Leyda, *Film Form*, Harcourtm Brace and World, 1949, pp. 257-259.

- Elliot, Kamillia (2003). *Rethinking the Novel/Film Debate*. CUP.

- Emrys, Sai.; Fink, Alex; Peterson, David (2009). *Conlanging 101*, https://conlang.org/26c3.pdf, last accessed 17/07/2020).

- Ewbank, Anne (2018). *Until the Renaissance, the English language had no word for yellow-red*, *Atlas Obscura*, https://www.atlasobscura.com/articles/orange-fruit-color-origin?, (last accessed 17/07/2020).

- Ewok Guy (2017). *On the Lyrics of "Duel of the Fates"*, https://www.aaronkrerowicz.com/star-wars-blog/on-the-lyrics-of-duel-of-the-fates, (last accessed 17/07/2020).

- Ezra, Elizabeth (2000). *George Méliès*, MUP.

- Fandor (2017). *The Art and Ethics of Digital De-Aging* (Part 1 of 2), https://www.youtube.com/watch?v=zIjvinSP2NU, (last accessed 17/07/2020).
- Fandor (2017). *The Art and Ethics of Digital De-Aging* (Part 2 of 2), https://www.youtube.com/watch?v=vWtUdirdg9c, (last accessed 17/07/2020).
- Federici, Federico M. (2009). *Translating Regionalised Voices in Audiovisuals* (Ed.), Rome: Arcane.
- Federici, Federico M. (2006). *Translating for dubbing: the linguistic transposition of the audiovisual. Theory and practice of an imperfect art*, in *Modern Language Review* 101, pp. 871-872.
- Ferri, Anthony J. (2007). *Willing Suspension of Disbelief – Poetic Faith in Film*, Lexington Books.
- Firth-Godbehere, Rich (2016). *Rogue One: Digging Up the Dead in the uncanny valley*, for *Gizmodo*, https://www.gizmodo.co.uk/2016/12/rogue-one-digging-up-the-dead-in-the-uncanny-valley/, (last accessed 17/07/2020).
- Fisher, Carrie (2005). *The AFI Life Achievement Award: A Tribute to George Lucas*, https://www.youtube.com/watch?v=lZ97s396kb0, (last accessed 17/07/2020).
- Fiske, Susan T., Taylor, Shelley E. (1991). *Social Cognition*, McGraw-Hill Inc.
- Flach, L. M., de Moura, R. H., Musse, S. R., Dill, V., Pinho, M. S., and Lykawka, C. (2012). *Evaluation of the uncanny valley in CG characters*, in *Proceedings of the Brazillian Symposium on Computer Games and Digital Entertainment* (SBGames) (Brasiìlia), pp. 108-116.
- Fodor, István(1976). *Film Dubbing: phonetic, semiotic, esthetic and psychological aspects*, Buske.
- Fogarty, M.; Whitman N. (2018). *Does Your language Influence How You Think?*, in *Scientific American*, https://www.scientificamerican.com/article/does-your-language-influence-how-you-think/, (last accessed 17/07/2020).
- Framke, Caroline (2017). *Rogue One's hero has a Mexican accent. This fan's response explains why that's so important*, for *Vox*, https://www.vox.com/culture/2017/1/5/14175016/rogue-one-diego-luna-accent, (last accessed 17/07/2020).
- Frantzolas, Tasos (2016). *Everything you hear on screen is a lie*, TEDxAthens, https://www.ted.com/talks/tasos_frantzolas_everything_you_hear_on_film_is_a_lie?language=en, (last accessed 17/07/2020).
- Freud, Sigmund (1919). *Das Unheimliche* (*The Uncanny*).
- Frommer, Paul (2010). *Sweet Nothings in Na'vi*, TEDx, https://www.youtube.com/watch?v=muEMyQAJreg, (last accessed 17/07/2020).
- GamingSins (2019). *Everything Wrong With Anthem in 11 Minutes or Less* (https://www.youtube.com/watch?v=Fa5C2v9GhSw).
- GenerationWest (2017). *Comparing the Voices – Grand Moff Tarkin* (Updated),

https://www.youtube.com/watch?v=7W1cd9rcCNM&index=9&list=PLRPROq-jk1lnmM5M4tPvmxRCPVf72VpFLI, (last accessed 17/07/2020).

- Geraghty, Lincoln (2009). *American Science Fiction Film and Television*, Berg, NY, USA.

- Gerrig, Richard (1998). *Experiencing Narrative Worlds: On The Psychological Activities of Reading,* New Haven: Yale University Press.

- Gibson, William (1984). *Neuromancer*, Ace.

- Goldstone, R. L., and Hendrickson, A. T. (2010). *Categorical Perception*, Wiley Interdiscip. Rev. Cogn. Sci..

- Gordon, Andrew (1978). *Star Wars: A Myth for Our Time*, in *Literature/Film Quarterly* 6.4 (Fall 1978), pp. 314-326.

- Gouskos, C. (2006). *The depths of the uncanny valley*, for *Gamespot*, https://www.gamespot.com/articles/the-depths-of-the-uncanny-valley/1100-6153667/, (last accessed 17/07/2020).

- Grant, K. W. and Greenberg, S. (2001). *Speech intelligibility derived from asynchronous processing of auditory-visual information*, presented at the ISCA International Conference on Auditory-Visual Speech Processing, Scheelsminde, Denmark.

- Grant, K. W., Wassenhove, V. and Poeppel, D. (2004). *Detection of auditory (cross-spectral) and auditory-visual (cross-modal) synchrony*, in *Speech Communication*, vol. 44, pp. 43-53.

- Grant, Rhiannon; Reynolds, Myfanwy (2016). *Can Chewie Speak? Wittgenstein and the Philosophy of Language*, in *The Ultimate Star Wars and Philosophy (You must unlearn what you have learned)*, Edited by Jason T. Eberl and Kevin S. Decker, John Wiley & Sons Ltd.

- Graves, Robert (1948). *The White Goddess: A Historical Grammar of Poetic Myth*, Faber & Faber (UK), Creative Age Press (US).

- Green, R. D.; MacDorman K. F.; Ho, C.-C., Vasudevan, S. K. (2008). *Sensitivity to the proportions of faces that vary in human likeness*, in *Computers in Human Behavior*, vol. 24, no.5, pp. 2456-2474.

- Hader, Bill (2015). *Bill Hader and Ben Schwarz are the voices behind BB-8*, by Kwame Opam for *The Verge*, https://www.theverge.com/2015/12/16/10297510/star-wars-bill-hader-ben-schwartz-bb-8-voice, (last accessed 17/07/2020).

- Hanson, D. (2006). *Exploring the aesthetic range for humanoid robots*, in *Proceedings of the ICCS/CogSci-2006 Long Symposium: Toward Social Mechanisms of Android Science*, Vancouver, Canada, pp. 16-20.

- Harbeck, James (2014). *Why so Strangely Yoda Speaks*, in *The Week*, https://theweek.com/articles/442256/why-strangely-yoda-speaks, (last accessed 17/07/2020).

- Hart, Benjamin (2014). *Palpatine's First Name Revealed, for The Star Wars Underworld*, http://www.starwarsunderworld.com/2014/10/palpatines-first-name-revealed.html, (last accessed 17/07/2020).
- Hartwell, David G.; Cramer, Kathryn (2006). *The Space Opera Renaissance*, Tom Doherty Associates, pp. 10-18.
- Hess, John P. (2014). *The History of Sound at the Movies*, https://www.youtube.com/watch?v=Ot5IryUt9SM&ab_channel=FilmmakerIQ, (last accessed 17/07/2020).
- Hill, Amelia (2018). *An explanation of Whether Star Wars is Sci-Fi or Fantasy*, ToughtCo.com, https://www.thoughtco.com/star-wars-sci-fi-or-fantasy-2958030, (last accessed 17/07/2020).
- Hill, Jim (2011). *Has Disney Been 'Lion' About Jeremy Irons' Singing Voice?* In the *Huffington Post*, http://www.huffingtonpost.com/jim-hill/lion-king-voice-actors_b_968140.html, (last accessed 17/07/2020).
- Hoffman, E.T.A. (1816). *The Sandman*.
- Hoggins, T. (2010). *Heavy Rain videogame review*, in *The Telegraph*.

http://www.telegraph.co.uk/technology/video-games/7196822/Heavy-Rain-video-game-review.html, (last accessed 17/07/2020).
- Holland, Norman (2009). *Literature and the brain*, Florida: Psyart Foundation.
- Homer. *Illiad* (The).
- Hooper, Dirk (2017). *Is Star Wars Sci-Fi or Fantasy?, Quora*, https://www.quora.com/Is-Star-Wars-Sci-Fi-or-Fantasy, (last accessed 17/07/2020).
- Hynek, J. Allen (1972). *The UFO Experience: A Scientific Enquiry*. Ballantine Books.
- IAMAG (2017). *Making of Rachel in Blade Runner 2049*, https://www.youtube.com/watch?v=fV34mT5m0bM, (last accessed 17/07/2020).
- Ivarsson, J. (1992). *Subtitling for the Media*, Stockholm: TransEdit.
- Jacobson, Steven A. (1984). *Yup'ik Eskimo Dictionnary*, Alaska Native Language Center, University of Alaska, Fairbanks.
- James, Edwards (Ed.) and Mendlesohn, Farah(Ed.) (2003). *The Cambridge Companion to Science Fiction*, Cambridge University Press.
- Jenkins,W. (2004). *The Polar Express: A virtual train wreck*, The Ward-O-Matic, http://wardomatic.blogspot.com, (last accessed 17/07/2020).
- Jentsch, Ernst (1906). *Zur Psychologie des Unheimlichen* (*On the Psychology of the Uncanny*). *Psychiatrisch-Neurologische Wochenschrift* 8.22 (25 Aug. 1906): pp.195-98 and 8.23 (1 Sept. 1906): 203-05.
- Johnston, Keith M. (2011). *Science-fiction Film: A Critical Introduction*, Berg Publishers.

- Jones, Brian Jay (2016). *George Lucas – A Life*, Headline Publishing Group.
- Joyce, James (1939). *Finnegans Wake*, Faber and Faber.
- Jullier, Laurent (2005/2010). *Star Wars – Anatomie d'une saga*, Armand Colin.
- Kain, E. (2011). *Techonomy: Can Intel and DreamWorks cross the uncanny valley?*, in *Forbes*, https://www.forbes.com/sites/erikkain/2011/11/14/techonomy-can-intel-and-dreamworks-cross-the-uncanny-valley/#77bab5e1126c, (last accessed 20/07/2020).
- Kaminski, Michael (2008). *The Secret History of Star Wars – The Art of Storytelling and the Making of a Modern Epic*, Legacy Books Press.
- Kang, Olivia (2018). *Is "Talking White" Actually A Thing?* in *Insider*, https://www.youtube.com/watch?v=6VRZdJl9GRk, (last accessed 20/07/2020).
- Kätsyri, Jari; Förger, Klaus; Mäkäräinen, Meeri; Takala, Tapio (2015). *A review of empirical evidence on different uncanny valley hypotheses: support for perceptual mismatch as one road to the valley of eeriness*, *Frontiers in Psychology*, April 2015.
- Kracauer, Siegfried (1960). *Theory of film: the redemption of physical reality*, Uxford Universtiy press.
- Kozloff, Sarah (2000). *Overhearing Film Dialogue*, University of California Press, Berkeley and Los Angeles, California.
- Lafrance, Adrienne (2015). *An Unusual Way of Speaking, Yoda Has*, in *The Atlantic*, https://www.theatlantic.com/entertainment/archive/2015/12/hmmmmm/420798/, (last accessed 20/07/2020).
- Lawler, Kelly (2016). *How the "Rogue One" ending went wrong*, https://www.usatoday.com/story/life/entertainthis/2016/12/19/how-rogue-one-ending-went-wrong/95519816/, (last accessed 20/07/2020).
- Le Guin, Ursula (1968). *A Wizard of Earthsea*, Parnassus Press.
- Léger, François (2015). *"Chico on met la gomme !" : retour sur la VF culte de La Guerre des étoiles, sorti il y a 40 ans*, in *Première*, http://www.premiere.fr/Cinema/News-Cinema/Star-Wars-parlez-vous-La-Guerre-des-etoiles-des-origines, (last accessed 20/07/2020).
- Leinster, Murray (1945). *First Contact*, Astounding Science-fiction.
- Lem, Stanisław (1961). *Solaris*, Wydawnictwo Ministerstwa Obrony Narodowej.
- Lewkowicz, D. J. (1996). *Perception of auditory-visual temporal synchrony in human infants*, in the *Journal of Experimental Psychology, Human Perception and Performance*, vol. 22, pp. 1094-1106.
- Lippi-Green, Rosina (1997). *English with an Accent: Language, ideology, and discrimination in the United States*, Routledge.
- Lucas, Blake (2004). *U-I Sci-Fi: Studio Aesthetics and 1950s Metaphysics,*

in The Science Fiction Film Reader (Ed. Gregg Rickman), Limelight Editions, New York.

- Luceno, James (2015). *Star Wars: Tarkin*. Arrow.
- Luckhurst, Roger (2005). *Science Fiction*, Polity Press.
- Lucy, John A. (2015). *Sapir-Whorf Hypothesis, in International Encyclopedia of the Social & Behavioural Sciences* (second edition), Elsevier, pp. 903-906.
- Ludwig, Alex et al.(2019). *Why this creepy melody is in so many moviefilms*, for *Vox*, https://www.youtube.com/watch?v=-3-bVRYRnSM, (last accessed 20/07/2020).
- Luyken, Georg-Michael, Thomas Herbst, Jo Langham-Brown, Helene Reid and Hermans Spinhof (1991). *Overcoming Language Barriers in Television*, Manchester: The European Institute for the Media.
- Macaluso, E., George, N, Dolan, R., Spence, C. and Driver, J. (2004). S*patial and temporal factors during processing of audiovisual speech: A PET study*, in *NeuroImage*, vol. 21, pp. 725-732.
- MacDorman K. F. and Ishiguro, H. (2006). *The uncanny advantage of using androids in cognitive and social science research*, in *Interaction Studies*, vol. 7, no. 3, pp. 297-337.
- MacDorman, K. F. (2006). *Subjective ratings of robot video clips for human likeness, familiarity, and eeriness: An exploration of the uncanny valley*, in *Proceedings of the ICCS/CogSci-2006 Long Symposium: Toward Social Mechanisms of Android Science*, Vancouver, Canada, pp. 26-29.
- MacDorman, K. F.; Coram J. A.; Ho, C.-C.; Patel, H. (2010). G*ender differences in the impact of presentational factors in human character animation on decisions in ethical dilemmas*. In *Presence: Teleoperators and Virtual Environments*, vol. 19, no. 3, pp. 213-229.
- MacDorman, Karl F. (2012). *Quoted in Robotics' uncanny valley Gets New Translation*, by Jeremy Hsu, http://www.livescience.com/20909-robotics-uncanny-valley-translation.html, (last accessed 20/07/2020).
- MacGregor, Jeff (2017). *How Anthony Daniels Gives C-3PO an Unlikely Dash of Humanity*, for *The Smithsonian*, https://www.smithsonianmag.com/arts-culture/anthony-daniels-c3po-unlikely-dash-humanity-180967212/, (last accessed 20/07/2020).
- Mandler, George (1984). *Mind and body: Psychology of emotion and stress*, WW Norton & Company Incorporated.
- Mann, Douglas (2008). *The Hero with a Thousand Faces and its Application to Star Wars*, Oxford University Press.
- Margolin, Uri (1990). *The What, the When, and the How of Being a Character in Literary Narrative*, vol. 24, no. 3, *Literary Character* (Fall 1990), pp. 453-468, Penn State University press.

- Martin, Cade (2017). How Anthony Daniels Gives C-3PO an Unlikely Dash of Humanity, Smithsonian Magazine, https://www.smithsonianmag.com/arts-culture/anthony-daniels-c3po-unlikely-dash-humanity-180967212/, (last accessed 20/07/2020).

- Masschelein, Anneleen (2012). *The Unconcept: The Freudian Uncanny in the Late Twentieth Century*, SUNY Press.

- Mattys, S., Bernstein, L. E., Edward, T. and Auer, J. (2000). *When lipreading words is as accurate as listening*, presented at the 139th ASA Meeting, Atlanta, GA.

- McFerrin, Bobby (2009). *Let me play… the audience!*, TED,

https://www.ted.com/talks/bobby_mcferrin_hacks_your_brain_with_music, (last accessed 20/07/2020).

- McGurk, H. and MacDonald, J. (1976). *Hearing lips and seeing voices*, in *Nature*, vol. 264, no. 5568, pp. 746-748.

- McWhorter, John (2013). *Are Elvish, Kligon, Dothraki and Na'vi real languages?* TED-Ed, https://www.youtube.com/watch?v=a5mZ0R3h8m0, (last accessed 20/07/2020).

- Mével, Pierre-Alexis (2015). *It's a Trope ! Star Wars and/in translation*, Popular Culture Lecture Series, delivered on Wednesday the 4th of February 2015 at the University of Nottingham, UK. https://www.nottingham.ac.uk/home/events/its-a-trope!-star-wars-andin-translation.aspx, (last accessed 20/07/2020).

- Meyer, Walter E. (1980). *Aliens and Linguists*, University of Georgia Press.

- Mingant, Nolwen. (2010). *Tarantino's Inglourious Basterds: a Blueprint for Dubbing Translators*, *Meta 55* (4), 712–31.

- Misselhorn, C. (2009). *Empathy with inanimate objects and the uncanny valley*, in *Mind and Machines*, vol. 19, no. 3, pp. 345-359.

- Mister Sunday MovieFilms (2017). *Should Deceased Actors Be Recreated With CGI?* https://www.youtube.com/watch?v=mI5u5m_F9zE&index=8&list=PLRPROqjk1lnmM5M4tPvmxRCPVf72VpFLI, (last accessed 20/07/2020).

- Mitchell, Wade J.; Szerszen, Kevin A. Sr.; Shirong Lu, Amy; Schermerhorn, Paul W.; Scheutz, Matthias; MacDorman, Karl F. (2011). *A mismatch in the human realism of face and voice produces an uncanny valley*. in *PERCEPTION* (2011) volume 2, pp. 10-12.

- More, Tomas (1516). *Utopia*.

- Mori, Masahiro (1970). *Bukimi no Tani Genshō*. *Energy Journal* (*Enerugi)*, 7/4, pp. 33-35.

- Mori, Masahiro (2012). Quoted in *An Uncanny Mind: Masahiro Mori on the uncanny valley and Beyond*, by Norri Kageki, IEEE SPECTRUM,http://spectrum.ieee.org/automaton/robotics/humanoids/an-uncanny-mind-masahiro-mori-on-the-uncanny-valley, (last accessed 20/07/2020).

- Munday, J. (2006). *Style in Audiovisual Translation*, in Armstrong, N. and Federici, F. M. (eds), *Translating Voices, Translating Regions*, pp. 21–36. Rome: Aracne.

- Munhall, K. and Vatikiotis-Bateson, E. (2004). *Spatial and temporal constraints on audiovisual speech perception*, in Calvert, G., Spence, C. and Stein, B. E. (eds.), *The Handbook of Multisensory Processes*, MIT Press Cambridge, MA.

- Murail, Lorris (1993). *Les maîtres de la science-fiction*, Bordas.

- Murray, M., Molholm, S., Michel, C. M., Heslenteld, D. J., Ritter, W., Javitt, D. C., et al. (2005). *Grabbing your ear: Rapid auditorysomatosensory multisensory interactions in low-level sensory cortices are not constrained by stimulus alignment*, in *Cerebral Cortex*, vol. 15, pp. 963-974.

- Nicholls, Peter (Ed.) (1979). *The Encyclopedia of Science Fiction*, Granada Publishing.

- Nida, Eugene (1964). *Towards a Science of Translating*, Brill.

- Nowell-Smith, Geoffrey (Ed.) (1996). *The Oxford History of World Cinema*, OUP.

- Obi-Wan62, MRHA, Lili Jones, Ma'ra, Taun We, BobbyWan (2011). *Les Doubleurs de la Saga*, for *Star Wars Universe*, http://www.starwars-universe.com/dossier-47-les-doubleurs.html, (last accessed 20/07/2020).

- Okrent, Arika (2010). *In the Land of Invented Languages*, Random House Inc.

- Orr, C.W. (1941). *The Problem of Translation,* in *Music and Letters*, Volume XXII, Issue 4, pp. 318-332.

- Palvus, John (2011). *Did The " uncanny valley" Kill Disney's CGI Company?*, https://www.fastcompany.com/1663530/did-the-uncanny-valley-kill-disneys-cgi-company, (last accessed 20/07/2020).

- Perkins, Christopher; Stephen, Owen, K.C; Thompson, Rodney (2007). *Star Wars Role Playing Game*, Hasbro UK Ltd.

- Perry, T. (2014). *Digital Actors Go Beyond The uncanny valley*, in *IEEE Spectrum Magazine,* http://spectrum.ieee.org/computing/software/digital-actors-go-beyond-the-uncanny-valley, (last accessed 20/07/2020).

- Peterson, David (2017). *What does it take to make a language?* TED Archive, https://www.youtube.com/watch?v=wDrJKCjwHqk, (last accessed 20/07/2020).

- Pinker, Steven (2005). What our language habits reveal, TEDGlobal 205, https://www.ted.com/talks/steven_pinker_what_our_language_habits_reveal?language=en, (last accessed 20/07/2020).

- Plantec, Peter (2007). *Crossing the great uncanny valley*,

https://www.awn.com/vfxworld/crossing-great-uncanny-valley, (last accessed 20/07/2020).

- Pollick, F. E. (2010). *In search of the uncanny valley, in Lecture Notes of the*

Institute for Computer Sciences, in S*ocial Informatics and Telecommunications Engineering*, vol. 40, no. 4, pp. 69-78.

- Polo, Susana (2015). *Stephen Colbert and George Lucas talk Star Wars, wooden dialogue and Howard the Duck*, for *Polygon*, https://www.polygon.com/2015/4/18/8448685/stephen-colbert-george-lucas-tribeca-talk, (last accessed 20/07/2020).

- Potter, Cherry (1990). *Image, Sound and Story*, Martin Secker & Warburg Limited.

- Powers, John (2008). *star wars: a new heap (or: How I Learned to Stop Worrying and Love the Death Star)*, for *triplecanopy*, https://www.canopycanopycanopy.com/contents/star_wars__a_new_heap, (last accessed 20/07/2020).

- Prospero (2011). *Tintin and the Dead-eyed zombies*, in *The Economist*, http://www.economist.com/blogs/prospero/2011/10/performance-capture-animation, (last accessed 20/07/2020).

- Prucher, Jeff (2006). *The Oxford Dictionary of Science Fiction*, Oxford University Press.

- Pullum, Geoffrey, K. (2005). *Yoda's Syntax the Tribune Analyzes; Supply More Details I Will!*, Language Log, http://itre.cis.upenn.edu/~myl/languagelog/archives/002173.html (last accessed 20/07/2020).

- Ravaja, N., Turpeinen, M., Saari, T., Puttonen, S., & Keltikangas-Järvinen, L. (2008). *The Psychophysiology of James Bond: Phasic emotional responses to violent video game events*, Emotion, 8(1), pp. 114-120.

- Reeves, B and Voelker, D (1993). *Effects of audiovideo asynchrony on viewer's memory, evaluation of content and detection ability* (research report for Pixel Instruments, CA), Stanford University, Pao Alto.

- Reichardt, Jasia (1978). *Robots: Fact, Fiction, and Prediction*. Viking Press.

- Reynolds, David (1999). *The Visual Dictionay of Star Wars, Episode I, The Phantom Menace*, DK Chidren.

- Rhee, Jennifer (2013). *Beyond the uncanny valley: Masahiro Mori and Philip K. Dick's Do Android Dream of Electric Sheep?, Configuration*, Volume 21, Number 3, Fall 2013, pp. 301-329 (Article), John Hopkins University Press.

- Rickman, Gregg (Ed.) (2004). *The Science-fiction Film Reader*, Limelight Editions.

- Rinzler, J. W. (2010). *The Making of The Empire Strikes Back: The Definitive Story Behind the Film*, Quarto Publishing Group.

- Rittmayer, Allison (2009). *Translation and Film: Slang, dialects, Accents and Multiple Languages*, *Comparative Humanities Review*: Vol.3, Article 1.

- Roberts, Adam (2006). *Science fiction*, Routledge.

- Rockall-Schmidt, Georg (2017). *How and Why CGI Took Over MovieFilms*, https://www.youtube.com/watch?v=vOCNe0SRq5I&t=333s, (last accessed 20/07/2020).

- Rockall-Schmidt, Georg (2017). *Suspension of Disbelief: How MovieFilms & TV Become Unbelievable*, https://www.youtube.com/watch?v=BJZSPlS-yLs, (last accessed 20/07/2020).

- Rockall-Schmidt, Georg (2018). *Robin Hood Flops – A Lesson In Condescension*, https://www.youtube.com/watch?v=DubOvHnQypw, (last accessed 20/07/2020).

- Romero-Fresco, Pablo (2020). *The dubbing effect: An eye-tracking study on how viewers make dubbing work*, *JoSTrans* 33.

- Rose, jay (2009). *Audio Postproduction for Film and Video*, pp194, focal Press.

- Rothman, Joshua (2018). *The Growing Emptiness of the Star Wars Universe*, published in *The New Yorker* on the 31st of May 2018, https://www.newyorker.com/culture/cultural-comment/the-growing-emptiness-of-the-star-wars-universe?, (last accessed 20/07/2020).

- Rougeau, Michael (2017). *How Sean Young's replicant Rachel appeared in Blade Runner 2049*, *Gamespot*, https://www.gamespot.com/articles/how-blade-runner-2049-resurrected-that-character-f/1100-6453912/, (last accessed 20/07/2020).

- Rumelhart, David E. (1978). *Schemata: The Building Blocks of Cognition,* Center for Human Information Processing, University of California, San Diego.

- Ryan, Marie-Laure (1992). *Possible Worlds in Recent Literary Theory*, Bibliographical Essays, vol. 26, No. 4 (Winter 1992), pp. 528-553, Penn State University Press.

- Sagliani, Devan (2015). *H.P. Lovecraft : The Father of Modern Horror*, for *The Escapist*, http://v1.escapistmagazine.com/articles/view/comicsandcosplay/columns/darkdreams/13588-H-P-Lovecraft-The-Father-of-Modern-Horror-and-the-Man-Who-Create, (last accessed 20/07/2020).

- Sakaguchi, Hironobu (2000). Quoted in *Cinema: A painstaking fantasy*, by Chris Taylor, In *TIME*, http://content.time.com/time/magazine/article/0,9171,997597,00.html (behind paywall), (last accessed 20/07/2020).

- Sardar, Ziauddin (2002). *Aliens R Us: The Other in Science-fiction Cinema*, Pluto Press.

- Sargeant, Alexi (2017). *The Undeath of Cinema*, in *The New Atlantis*, issue 53, https://www.thenewatlantis.com/publications/the-undeath-of-cinema, (last accessed 20/07/2020).

- Saygin, A. P., Chaminade, T., Ishurigo, H., Driver, J. and Frith, C. (2012).

The thing that should not be: Predictive coding and the uncanny valley in perceiving human and humanoid robot actions, in *Social Cognitive Affective Neuroscience*, vol. 7, no. 4, pp. 413-422.

- Schatz, Thomas (1993). *The New Hollywood*, Collins et al. (eds), pp. 18-19.
- Scholes, Robert (1975). *Structural Fabulation: An Essay on Fiction of the Future*, University of Michigan.
- Schwartz, Ben (2016). *Ben Schwartz on creating BB-8's voice in Star Wars Episode VII*, for Reddit, https://www.youtube.com/watch?v=VaBTkjw951o, (last accessed 20/07/2020).
- Scrivner, Joyce (2005). *Names*, in *The Greenwood Encyclopedia of Science Fiction and Fantasy: Themes, Works, and Wonders*, Volume 2, edited by Gary Wes*T-FA*hl, Greenwood Publishing Group.
- Seastrom, Lucas (2015). *Mythic Discoveries Within the Inner Reaches of Outer Space: Joseph Campbell Meets George Lucas – Part I*, https://www.starwars.com/news/mythic-discovery-within-the-inner-reaches-of-outer-space-joseph-campbell-meets-george-lucas-part-i, (last accessed 20/07/2020).
- Secombe, Andy (2017). *Star Wars 100 Interviews: ANDY SECOMBE - Voicing Watto & Almost Binks*, https://www.youtube.com/watch?v=KeG5-XU1zgI&ab_channel=StarWarsInterviews, (last accessed 20/07/2020).
- Sergi, Gianluca (1999). *Actors and the Sound Gang*, in *Screen Acting*, Kramer, P. and Lovell, A. (eds.), Routledge.
- Shakespeare, William (1597). *Romeo and Juliet*.
- Silberman, Steve (2005). *George Lucas on Star Wars, Fahrenheit 9/11, and his own legacy*, for *Wired*, https://www.wired.com/2005/05/lucasqa/, (last accessed 20/07/2020).
- Silverberg, Robert (2009). *Hic Rhodus, His Salta*, Asimov's Science-fiction.
- Singer, Erik (2017). *MovieFilm Accent Expert Breaks Down 6 Fictional Languages From Film & TV*, *WIRED*, https://www.youtube.com/watch?v=oa6cHEJIjYI, (last accessed 20/07/2020).
- Singer, Erik (2017). *MovieFilm Expert Breaks Down 31 Actors Playing Real People*, *WIRED*, https://www.youtube.com/watch?v=lZSCGZphjq0, (last accessed 20/07/2020).
- Singer, Erik (2018). *MovieFilm Accent Expert Breaks Down 28 More Actors' Accents*, *WIRED*, https://www.youtube.com/watch?v=ZXyWwirLfcg, (last accessed 20/07/2020).
- Sobchack, vivian C. (1997). *Screening Space: The American Science Fiction Film*, Rutgers University Press.
- Spadoni, R. (2007). *Uncanny Bodies: The Coming of Sound Film and the Origins of the Horror Genre*, Berkeley: University of California Press.

- Spears, Steve (2011). *Like Yoda Talk Today, You Must*, in the *Tampa Bay Times*, https://www.tampabay.com/archive/2011/05/20/like-yoda-talk-today-you-must/, last accessed 20/07/2020).

- Spinney, Laura (2016). *Exploring the uncanny valley: Why almost-human is creepy*, in *New Scientist*, https://www.newscientist.com/article/mg23230970-500-exploring-the-uncanny-valley-why-almosthuman-is-creepy/, (last accessed 20/07/2020).

- St. André, James (Ed.) (2010). *Thinking through Translation with Metaphors*, InTrans Publications, St. Jerome Publishing.

- Stanovitch, Keith E. (1980). *Toward an Interactive-Compensatory Model of Individual Differences in the Development of Reading Fluency*, in *Reading Research Quarterly*, Vol. 16, No. 1 (1980), pp. 32-71 (40 pages), Published By: International Literacy Association.

- Steckenfinger, A; Ghazanfar, A. (2009). *Monkey behaviour falls into the uncanny valley*, in *Proceedings of the National Academy of Science of the United States of America*, vol. 106, no. 43, pp. 18362-18366.

- Stein, B. and Meredith, M. A. (1993). *The Merging of the senses*, MIT Press, Cambridge, MA.

- Stockwell, Peter (2006). *Invented Language in Literature*, in the *Encyclopedia of Languages & Linguistics 2nd edition*, edited by Keith Brown, Elsevier Science.

- Stylianou, Yannis (2009). *Voice Transformation: A Survey*, Institute of Computer Science, FORTH, and Multimedia Informatics Lab, CSD, UoC, Greece.

- Sun, Rebecca (2017). *"Rogue One": How Diego Luna's Accent Gave a Voice to a New Set of Fans*, for *The Hollywood Reporter*, https://www.hollywoodreporter.com/heat-vision/rogue-one-diego-lunas-accent-gave-a-voice-a-new-set-fans-961343, (last accessed 20/07/2020).

- Suvin, Darko (1979). *Metamorphoses of Science Fiction: On the Poetics and History of the Literary Genre*, Yale University Press.

- Talbot, M. (2014). *Pixel Perfect: The Scientist Behind the Digital Cloning of Actors,* in *The New Yorker*, http://www.newyorker.com/magazine/2014/04/28/pixel-perfect-2, (last accessed 20/07/2020).

- Tarafder, Kamrul Hassan; Datta, Pran Gopal; Tariq, Ahmed (2012). *The Aging Voice*, *BSMMU J* 2012; 5(1): pp. 83-86.

- Taylor, Christopher J. (2006). *The Translation of Regional Variety in the Films of Ken Loach*, Rome: Arcane, 37-52.

- Thayer, Jaquelyn (2018). *A Reprise for a 19th-Century Language Based on Music*, *Atlas Obscura*, https://www.atlasobscura.com/articles/what-is-solresol, (last accessed 20/07/2020).

- The Cartoon Cipher (2018). *Why official Anime Dubs DON'TDO NOT Edit Lip Flaps*, https://www.youtube.com/watch?v=5Wrkvjd6GJQ, (last accessed 20/07/2020).
- Tiipana Kaisa (2014). *What is the McGurk Effect?*, in *Frontiers in Psychology*, https://www.frontiersin.org/articles/10.3389/fpsyg.2014.00725/full, (last accessed 20/07/2020).
- Tinwell, A. and Grimshaw, M. (2009). *Bridging the uncanny: An Impossible traverse?*, in *Proceedings of the 13th International MindTrek Conference: Everyday Life in the Ubiquitous Era*, Tampere, Finland, pp. 66-73.
- Tinwell, A., Abdel-Nabi, D. and Charlton, J. (2013). *Perception of psychopathy and the uncanny valley in virtual characters*, in *Computers in Human Behavior*, vol. 29, no. 4, pp. 1617-1625.
- Tinwell, A., Grimshaw, M. and Williams, A. (2010). *Uncanny behaviour in survival horror games*, in the *Journal of Gaming and Virtual Worlds*, vol. 2, no. 1, pp. 3-25.
- Tinwell, A., Grimshaw, M., Abdel-Nabi, D. (2011). *Effect of emotion and articulation of speech on the uncanny valley in virtual characters*, in *Affective Computing and Intelligent Interaction*, Springer Berlin/Heidelberg, pp. 557-566.
- Tinwell, A., Grimshaw, M., Abel-Nabi, D. (2015). *The effect of onset asynchrony in audio-visual speech and the uncanny valley in virtual character*s, in I*nternational Journal of Mechanisms and Robotic Systems 2* (2), Inderscience Publishers (IEL) pp. 97-110.
- Tinwell, A., Grimshaw, M., Williams, A. (2010). *Uncanny behaviour in survival horror games*, University of Bolton, https://www.researchgate.net/publication/45456813_Uncanny_behaviour_in_survival_horror_games, (last accessed 20/07/2020).
- Tinwell, Angela (2014). *The Uncanny valley in Games and Animation*, CRC Press.
- Todorov, Tzvetan (1970). *Introduction à la Littérature Fantastique*, Éditions du Seuil.
- Tolkien, J.R.R. (1939). *On Fairy-Stories*, in *Essays Presented to Charles Williams*, Oxford University Press.
- Turing, Alan (1950). *Computing Machinery and Intelligence*, in Mind, 59, pp. 433-460.
- Tveit, Jan-Emil (2009). *Dubbing versus Subtitling: Old Battleground Revisited*, in *Audiovisual Translation: Language Transfer on Screen*, pp. 85-96.
- Vardoulakis, Dimitris (2010). *The Doppelgänger*, University of Virginia Press.
- Various (2006 – ongoing). *The Horus Heresy*, Black Library.
- Various / uncredited. Copyright, Designs and Patents Act 1988.

- Veekhoven, Tim (2014). *The Jedi Council: Meet the Masters*, for starwars.com, https://www.starwars.com/news/the-jedi-council-meet-the-masters, (last accessed 20/07/2020).
- Venuti, Lawrence (2000). *The Translation Studies Reader,* Routledge.
- Venuti, Lawrence (1995), *The Translator's Invisibility, A History of Translation*, Routledge.
- Verne, Jules (1865). *De la Terre à la Lune*, Pierre-Jules Hetzel.
- Vincent, James (2018). *China's state-run press agency has created an 'AI anchor' to read the news*, *The Verge*, https://www.theverge.com/2018/11/8/18074806/ai-news-anchor-china-xinhua-digital-composite, (last accessed 20/07/2020).
- Vizzini, Brian (2008). *Cold War Fears, Cold War Passions: Conservatives and Liberals Square Off,* in *1950s Science-fiction*, Routledge.
- Wang, Mallya, Liu (2021). *One-Shot Free-View Neural Talking-Head Synthesis for Video Conferencing,* NVIDIA Corporation, https://nvlabs.github.io/face-vid-2vid/main.pdf (last accessed 25/03/2021).
- Wessel, Karl (2004). *Alien Encounters: Science Fiction and the Mysterium in 2001, Solaris and Contact*, in *The Science Fiction Film Reader* (Ed. Gregg Rickman), Limelight Editions, New York.
- Winawer, J., Witthoft, N., Frank, M. C., Wu, L., Wade, A. R., Boroditsky, L. (2007). *Russian blues reveal effects of language on color discrimination*, in *Proceedings of the National Academy of Sciences of the United States of America* (PNAS), 2014 (19).
- Whitmann-Linsen, Candace (1992). *Through the Dubbing Glass: The Synchronization of American Motion Pictures into German, French and Spanish*, Peter Lang.
- Witthoft, Nathan; Winawer, Jonathan; Wu, Lisa; Franck, Michael, Wade, Alex; Boroditsky, Lera (2010). *Effects of language on color discriminability*, in *Journal of Vision*, October 2010.
- Wolfe, Graham (2012). *Voices, Monstrous and Hopeful: Catalyst Theatre's Frankenstein*, *The Brock Review* 12.2 (2012): 36-48.
- Woodbury, Anthony C. (1991). *Counting Eskimo words for snow: A citizen's guide*, University of Texas at Austin, https://www.princeton.edu/~browning/snow.html, (last accessed 20/07/2020).
- Wozniak, Monika (2014). *Future Imperfect, in Transfiction. Research into the realities of translation fiction*, edited by Klaus Kaindl and Karlheinz Spitzl, John Benjamins Publishing Company.
- Wozniak, Monika (2014). *Technobabble on Screen*, *InTRAlinea Special Issue: Across Screens Across Boundaries*.
- Zahed, Ramin (2013). *Disney's 'Frozen' to Warm Hearts This Week*, for aninationmagazine.net, https://www.animationmagazine.net/features/disney-ice/, (last accessed 20/07/2020).

- Zollhöfer M., Thies J., Garrido P., Bradley D., T. Beeler T., Pérez P., Stamminge M., Nießner M., Theobalt C. (2018). *State of the Art on Monocular 3D Face Reconstruction, Tracking, and Applications*, in *Eurographics 2018*, K. Hildebrandt and C. Theobalt (Guest Editors), Volume 37 (2018), Number 2, STAR – State of The Art Report.

Discography

- *Be Prepared* (1994). From *The Lion King*, written by Tim Rice and Elton John, performed by Jeremy Irons, Whoopi Goldberg, Cheech Marin, and Jim Cummings. Label: Walt Disney.
- *Dual of the Fates* (1999). From *The Phantom Menace*, written by John Williams. Label: Sony Classical.
- *End Credits* (1998). From *The Phantom Menace*, written by John Williams, performed by the London Symphony Orchestra. Label: Sony Classical, I Am Shark. 8:14 min.
- *Hail to the Winner Anakin Skywalker* (1998). From *The Phantom Menace*, written by John Williams, performed by the London Symphony Orchestra. Label: Sony Classical, I Am Shark. 1:13 min.
- *Messa da Requiem* (1874). Written by Giuseppe Verdi.
- *Requiem* (1791). Written by Wolfgang Amadeus Mozart.
- *Symphonie Fantastique* (1830). Written by Hector Berlioz.
- *The Imperial March* (1980). From *The Empire Strikes Back*, written by John Williams, performed by the London Symphony Orchestra. Label: RSO Records.
- *The Jedi Steps and Finale.* From *The Force Awakens*, Written by John Williams. Label: Walt Disney. 8:51 min.
- *Totentanz* (1849). Written by Franz Liszt.

Filmography and ludography

- *2001: A Space Odyssey* (1968). Dir. Stanley Kubrick. Metro-Goldwyn-Mayer. (Fiction, UK/USA, 142 min.).
- *2010: The Year We Make Contact* (1984). Dir. Peter Hyams. Metro-Goldwyn-Mayer (Fiction, USA, 116 min.).
- *A Christmas Carol* (2009). Dir. Robert Zemeckis. Walt Disney Pictures, ImageMovers Digital (Fiction, USA, 95 min.).
- *Alien* (1979). Dir. Ridley Scott. 20th Century Fox (London), Brandywine-Ronald Shushett production (Fiction, UK/USA, 117 min.).
- *Anthem* (2019) [video game]. Developed by BioWare, published by Electronic Art, dir. Jonathan Warner, USA.
- *Arrival* (2016). Dir. Denis Villeneuve. Lava Bear Films, 21 Laps Entertainment, FilmNation Entertainment (Fiction, USA, 116 min.).

- *Avatar* (2009). Dir. James Cameron. Lightstorm Entertainment, Dune Entertainment, Ingenious Film Partners (Fiction, USA/UK, 161 min.).
- *Battleship Potemkin* (1925). Dir. Sergei Eisenstein. Mosfilm (Fiction, Soviet Union, 75 min.).
- *Being John Malkovitch* (1999). Dir. Spike Jonze. Gramercy Pictures, Propaganda Films, Single Cell Pictures (Fiction, USA, 112 min.).
- *Beowulf* (2007). Dir. Robert Zemeckis. Shangri-La Entertainment, ImageMovers (Fiction, USA, 115 min.).
- *Blade II* (2002). Dir. Guillermo del Toro. Marvel Enterprises, Amen Ra Film, Imaginary Forces (Fiction, USA, 117 min.).
- *Blade Runner* (1982). Dir. Ridley Scott. The Ladd Company, Shaw Brothers, Blade Runner Partnership (Fiction, USA, 117 min. (2007 final cut)).
- *Blade Runner 2049* (2017). Dir. Denis Villeneuve. Alcon Entertainment, Columbia Pictures, Bud Yorkin Productions, Torridon Films, 16:14 Entertainment (Fiction, USA, 163 min.).
- *Bright* (2017). Dir. David Ayer. Overbrook Entertainment, Trigger Warning Entertainment, Grand Electric, Netflix (Fiction, USA, 118 min.).
- *Bruce Almighty* (2003). Dir. Tom Shadyac. Spyglass Entertainment, Shady Acres, Pit Bull Productions (Fiction, USA, 101 min.).
- *Buffy the Vampire Slayer* (1997-2003). Created by Josh Weldon. Mutant Enemy Productions, Sandollar Television, Kuzui Enterprises, 20th Century Fox Television (Fiction, USA, 144 episodes (42-51 min.).
- *Bulletproof Monk* (2003). Dir. Paul Hunter. Lakeshore Entertainment, Mosaic Media Group, Lion Rock Productions, Metro-Goldwyn-Mayer (Fiction, USA, 104 min.).
- *Captain America: Civil War* (2016). Dir. Anthony and Joe Russo. Marvel Studios (Fiction, USA, 147 min.).
- *Cast Away* (2000). Dir. Robert Zemeckis. ImageMovers, Playtone (Fiction, USA, 143 min.).
- *Columbo* (1982). Dir. various. Dino De Laurentis Corporation, Edward R. Pressman Productions (Fiction, USA, 73-98 min.).
- *Conan the Barbarian* (1982). Dir. John Milius. Universal television, Studios USA (Fiction, USA, 129 min.).
- *Contact* (1997). Dir Robert Zemeckis. South Side Entertainment (Fiction, USA, 149 min.).
- *Death Race 2000* (1975). Dir. Paul Bartel. Produced by Roger Corman and Jim Weatherill (Fiction, USA, 80 min.).
- *Defiance* (2013-2015). Produced by Paul M. Leonard, Michael Nankin, Anupam Nigam, Five & Dime Productions, Universal Cable Productions, distributed by NBC Universal Television Division, Syfy.

- *Digital Emily* (2008) [technological demo]. Image Metrics, UK.
- *District 9* (2009). Dir. Neill Blomkamp. QED International, WingNut Films (Fiction, New Zealand/USA/South Africa, 112 min.).
- *Doctor Strange* (2016). Dir. Scott Derrickson. Marvel Studios (Fiction, USA, 115 min.).
- *Doctor Who* (1963-1989, 2005-present). Dir. various. BBC (Fiction, UK, 25/45 min.).
- *Dracula* (1931). Dir. Tod Browning (uncredited: Karl Freund). Produced by Tod Browning and Carl Laemmle Jr. (Fiction, USA, 85 min.).
- *Empire of Dreams* (2004). Dir. Kevin Burns and Edith Becker. Prometheus Entertainment in association with Lucasfilm Ltd. (Documentary, USA, 150min.).
- *Europa Report* (2013). Dir. Sebastián Cordero. Magnet Releasing, Magnolia Pictures (Fiction, USA, 89 min.).
- *Fallen* (1998). Dir. Gregory Hoblit. Turner Pictures (Fiction, USA, 124 min.).
- *Fight Club* (1999). Dir. David Fincher. Fox 2000 Pictures, Regency Enterprises, Linson Films (Fiction, USA, 139 min.).
- *Final Fantasy XIII* (2009) [video game]. Dir. Motomu Toriyama. Developed and published by Square Enix, Japan.
- *Final Fantasy XV* (2016) [video game]. Dir. Hajime Tabata. Developed and published by Square Enix, Japan.
- *Final Fantasy: The Spirits Within* (2001). Dir. Hironobu Sakaguchi, co-dir. Motonori Sakakibara. Square Pictures (Fiction, USA, 106 min.).
- *Flash Gordon* (1936). Dir. Frederick Stephani, Ray Taylor (uncredited). Produced by Henry MacRae (Fiction, USA, 245 min. (13 episodes)).
- *Flash Gordon Conquers the Universe* (1940). Dir. Ford Beebe and Ray Taylor. Universal Pictures, King Feature Syndicate (Fiction, USA, 195 min. (UK version)).
- *Frankenstein* (1931). Dir. James Whale. Produced by Carl Laemmle Jr. (Fiction, USA, 71 min.).
- *Furious 7* (2015). Dir. James Wan. Original Film, One Race Films, Media Rights Capital, China Film (Fiction, USA, 137 min.).
- *Gentlemen Prefer Blondes* (1953). Dir. Howard Hawks. 20th Century Fox (Fiction, USA, 91 min.).
- *Gladiator* (2000). Dir. Ridley Scott. Scott Free Productions, Red Wagon Entertainment (Fiction, UK/USA, 155 min.).
- *Galaxy Quest* (1999). Dir. Dean Parisot. Produced by Mark Johnson and Charles Newirth (Fiction, USA, 102 min.).
- *Guardians of the Galaxy Vol. 2* (2017). Dir. James Gunn. Marvel Studios (Fiction, USA, 136 min.).

- *Heavy Rain* (2010) [video game]. Dir. David Cage. Quantic Dream (interactive drama, action-adventure).
- *House of Cards* (2013-2018). Media Rights Capital, Trigger Street Productions, Wade/Thomas Productions, Knight Takes King productions (Fiction, USA, 43-59 min.).
- *Interference* (1928). Dir. Lothar Mendes (silent version), Roy Pomery (sound version). Paramount Pictures (Fiction, USA, 10 reels).
- *It's a Wonderful Life* (1946). Dir. Frank Capra. Liberty Films (Fiction, USA, 135 min.).
- *Jurassic Park* (1993). Dir. Steven Spielberg. Amblin Entertainment (Fiction, USA, 127 min.).
- *Kingsglaive: Final Fantasy XV* (2016). Dir. Takeshi Nozue. Visual Works, Digic Pictures, Image Engine (Fiction, Japan, 110 min.).
- *Left 4 Dead* (2008) [video game]. Developed by Valve South (now Turtle Rock Studios), USA.
- *Les Innocents* (2006). Dir. Antoine Jullien. Prod. Anthony Esteban. Western (Fiction, France, 30 mim.).
- *Lethal Weapon 4* (1998). Dir. Richard Donner. Silver Pictures, Doshudo Productions (Fiction, USA, 127 min.).
- *M* (1931). Dir. Fritz Lang. Nero-Film A.G. (Weimar Republic of Germany, USA, 111 min.).
- *Mars Attacks* (1996). Dir. Tim Burton. Tim Burton Productions (Fiction, USA, 106 min.).
- *Mars Needs Moms* (2011). Dir. Simon Wells. Walt Disney Pictures, ImageMovers Digital (Fiction, USA, 88 min.).
- *Metropolis* (1927). Dir. Fritz Lang. Produced by Erich Pommer, UFA (Fiction, German, 153 min. (original, lost)/118 min. (2002 restauration)/ 148 min. (2010 restauration)).
- *MIB: Men in Black* (1997). Dir. Barry Sonnenfeld. Amblin Entertainment, Parkes/MacDonald Production (Fiction, USA, 98 min.).
- *Moon* (2009). Dir. Duncan Jones. Stage 6 Films, Liberty Films, Xingu Films, Limelight Fiction, USA/UK, 95 min.).
- *Natural Born Killers* (1994). Dir. Oliver Stone. Regency Enterprise (Fiction, USA, 119 min.).
- *Planet of the Apes* (1968). Dir. Franklin J. Schaffner. APJAC Productions (Fiction, USA, 112 min.).
- *Planet of the Apes* (2001). Dir. Tim Burton. The Zanuck Company, Tim Burton Productions (Fiction, USA, 120 min.).
- *Predator* (1987). Dir. John McTiernan. Lawrence Gordon Productions, Silver Pictures, Davis Entertainment (Fiction, USA, 107 min.).

- *Rick and Morty* (2013 - ongoing). Created by Justin Roiland and Dan Harmond (Fiction, USA, 22 min. episodes).

- *Rise of the Planet of the Apes* (2011). Dir. Rupert Wyatt. Chernin Entertainment, Dune Entertainment, Big Screen Production, Ingenious Film Partners (Fiction, USA, 105 min.).

- *Robin Hood* (2018). Dir. Otto Bathurst. Summit Entertainment, Appian Way Productions, Safehouse Pictures, Thunder Road Films (Fiction, USA, 116 min.).

- *Rogue One: A Star Wars Story* (2016). Dir Gareth Edwards. Lucasfilm Ltd. (Fiction, USA, 133 min.).

- *Romeo Must Die* (2000). Dir. Andrzej Bartowiak. Silver Pictures (Fiction, USA, 115 min.).

- *Rush Hour* (1998). Dir. Brett Ratner. Roger Birnbaum Productions (Fiction, USA, 98 min.).

- *Scarface* (1983). Dir. Brian de Palma. Universal Pictures (Fiction, USA, 170 min.).

- *Scrooge, or, Marley's Ghost* (1902). Dir. Walter R. Booth. Paul's Animatograph's Works (Fiction, UK, 6 min 20 sec.).

- *Snakes on a Plane* (2006). Dir. David R. Ellis. Mutual Film Company (Fiction, USA, 106 min.).

- *Solaris* (1972). Dir. Andrei Trakovsky. Produced by Viacheslav Trasov (Fiction, USSR, 166 min.).

- *Solaris* (2002). Dir. Steven Soderbergh. Lightstorm Entertainment (Fiction, USA, 98 min.).

- *Solo: A Star Wars Story* (2018). Dir. Ron Howard. Lucasfilm Ltd. (Fiction, USA, 135 min.).

- *Spielberg on Spielberg* (2007). Written and directed by Richard Schickel. Lorac Productions, Turner Classic MovieFilms (Documentary, USA, 86 min.).

- *Starship Troopers* (1997). Dir. Paul Verhoeven. TriStar Pictures, Touchstone Pictures, Jon Davison Productions (Fiction, USA, 129 min.).

- *Star Trek* TV series and films (1966-present).

- *Star War The Third Gathers: The Backstroke of the West* (dubbed version). Chinese bootleg version of *Revenge of the Sith*. Author unknown.

- *Star War The Third Gathers: The Backstroke of the West* (subtitled version). Chinese bootleg version of *Revenge of the Sith*. Author unknown.

- *Star Wars* - "*I am Your Father*" - (Multi-Langage) 20 Langues. Published by Matteo Di pastena, https://www.youtube.com/watch?v=cas-B-CGnLk.

- *Star Wars* (1977), later retitled *Star Wars: Episode IV - A New Hope* (1981). Dir. George Lucas. Lucasfilm Ltd. (Fiction, USA, 121 min.).

- *Star Wars Rebels* (2014-present), animated TV series. Created by Simon Kinberg, Dave Filoni, and Carrie Beck. Lucasfilm., Lucasfilm Animation (Fiction, USA, 22 min.).
- *Star Wars: The Clone Wars* (2003-2005), animated TV series. Created and directed by Genndy Tartakovsky. Lucasfilm Ltd., Cartoon Network Studio (Fiction, USA, 3 min. (Seasons 1&2), 12-15 min. (season 3)).
- *Star Wars: Episode I - The Phantom Menace* - Anti-Cheese Edit. Fan edit by JeremyMWest-Esquire. Not publicly available for copyright reasons.
- *Star Wars: Episode I - The Phantom Menace* (1999). Dir. George Lucas. Lucasfilm Ltd. (Fiction, USA, 133 min.).
- *Star Wars: Episode II - Attack of the Clones* - Anti-Cheese Edit. Fan edit by JeremyMWest-Esquire. Not publicly available for copyright reasons.
- *Star Wars: Episode II - Attack of the Clones* (2002). Dir. George Lucas. Lucasfilm Ltd. (Fiction, USA, 142 min.).
- *Star Wars: Episode III - Revenge of the Sith* - Anti-Cheese Edit. Fan edit by JeremyMWest-Esquire. Not publicly available for copyright reasons.
- *Star Wars: Episode III - Revenge of the Sith* (2005). Dir. George Lucas. Lucasfilm Ltd. (Fiction, USA, 140 min.).
- *Star Wars: Episode IX – The Rise of Skywalker* (2019). Dir. J.J. Abrahams. Lucasfilm Ltd., Bad Robot Productions (Fiction, USA, 142 min.).
- *Star Wars: Episode V - The Empire Strikes Back* (1980). Dir. Irvin Kershner. Lucasfilm Ltd. (Fiction, USA, 124 min.).
- *Star Wars: Episode VI - Return of the Jedi* (1983). Dir. Richard Marquand. Lucasfilm Ltd. (Fiction, USA, 131 min.).
- *Star Wars: Episode VII - The Force Awakens* (2015). Dir. J. J. Abrahams. Lucasfilm Ltd., Bad Robot Productions (Fiction, USA, 136 min.).
- *Star Wars: Episode VIII - The Last Jedi* (2017). Dir. Rian Johnson. Lucasfilm Ltd., Walt Disney Studios. (Fiction, USA, 153 min.).
- *Star Wars: The Clone Wars* (2008-2013), animated TV series. Created by George Lucas and directed by Dave Filoni (supervising). Lucasfilm Ltd., Lucasfilm Animation Singapore, Lucasfilm Animation (Fiction, USA, 22 min. episodes).
- *Stargate* (1994). Dir. Roland Emmerich. Metro-Goldwyn-Mayer (Fiction, USA/France, 121 min.).
- *Starman* (1984). Dir. John Carpenter. Produced by Larry J. Franco and Michael Douglas (Fiction, USA, 115 min.).
- *Superman* (1978). Dir. Richard Donner. Film Export A.G., Dovermead Limited, International Film Production (Fiction, UK/Switzerland/Panama/USA, 143 min.).

- *The 39 Steps* (1935). Dir. Alfred Hitchcock. Gaumont-British Picture Corporation (Fiction, USA, 86 min.).
- *The Andromeda Strain* (1971). Dir. Robert Wise. Universal Pictures (Fiction, USA, 130 min.).
- *Terminator 2: Judgment Day* (1991). Dir. James Cameron. Carolco Pictures, Pacific Western Production, Lightstorm Entertainment, Le Studio Canal+ S.A. (Fiction, USA, 137 min.).
- *Terminator 3: Rise of the Machines* (2003). Dir. Jonathan Mostow. IMF Internationale Medien und Film, C2 Pictures (Fiction, 109 min.).
- *Terminator Genisys* (2015). Dir. Alan Taylor. Skydance Productions (Fiction, USA, 126 min.).
- *Terminator Salvation* (2009). Dir. McG. The Halcyon Company, Wonderland Sound and Vision (Fiction, USA, 115 min.).
- *The Avengers*, aka *Marvel's The Avengers* and *Marvel Avengers Assemble* (2012). Dir Joss Whedon. Marvel Studios (Fiction, USA, 143 min.).
- *The Beginning: Making Episode I* (2001). Dir. Jon Shenk. Lucasfilm Ltd. (Documentary, USA. 96 min.).
- *The Birth of a Nation* (1917). Dir. D. W. Griffith. David W. Griffith Corp. (Fiction, USA, 133-193 min.).
- *The Casting* (2006) [video game technological demo]. Produced by Quantic Dream, France.
- *The Crow* (1994). Dir. Alex Proyas. Dimension Films (Fiction, USA, 102 min.).
- *The Curious Case of Benjamin Button* (2008). Dir. David Fincher. The Kennedy/Marshall company (Fiction, USA, 166 min.).
- *The Dark Crystal* (1982). Dir. Jim Henson and Frank Oz. Henson Associate, ITC Entertainment (Fiction, USA/UK, 93 min.).
- *The Dark Knight Rises* (2021). Dir. Christopher Nolan. Wwarner Bros Pictures, Legendary Pictures, DC Entertainment, Syncopy (Fiction, USA, 165 min.).
- *The Godfather* (1972). Dir. Francis Ford Coppola. Alfran Productions (Fiction, USA, 177 min.).
- *The Jazz Singer* (1927). Dir. Alan Crosland. Produced by Darryl F. Zanuck (Fiction, USA, 89/96 min.).
- *The Last Starfighter* (1984). Dir. Nick Castle. Lorimar Productions (Fiction, USA, 101 min.).
- *The Lights of New York* (1928). Dir. Bryan Foy. Warner Bros. Pictures (Fiction, USA, 57 min.).
- *The Lion King* (1994). Dir. Roger Allers and Rob Minkoff. Walt Disney Pictures, Walt Disney Feature Animation (Fiction, USA, 88 min.).

- *The Lost Boys* (1987). Dir. Joel Schumacher. Warner Bros. (Fiction, USA, 98 min.).
- *The Magnificient Andersons* (1942). Dir. Orson Welles. RKO Radio Pictures, Mercury Productions (Fiction, USA, 88 min. / 148 min. (original) / 131 min. (preview).
- *The Mandalorian* (2019-present). Created by Jon Favreau. Lucasfilm, Fairview Entertainment, Golem Creators (Fiction, USA, 31-46 min.).
- *The Mask* (1994). Dir. Charles Russel. Dark Horse Entertainment (Fiction, USA, 101 min.).
- *The Matrix Revolutions* (2003). Dir. The Wachowski Brothers. Village Roadshow Pictures, NPV Entertainment, Silver Pictures (Fiction, Australia/USA, 129 min.).
- *The Mummy* (1999). Dir. Stephen Sommers. Alphaville (Fiction, USA, 125 min.).
- *The Mummy Returns* (2001). Dir. Stephen Sommers. Alphaville films (Fiction, USA, 130 min.).
- *The Polar Express* (2004). Dir. Robert Zemeckis. Castle Rock Entertainment, Shangri-La Entertainment, ImageMovers, Playtone, Golden Mean (Fiction, USA, 100 min.).
- *The Power of Myth* (1988). PBS (six-part documentary, USA, 360 min. (6X60)).
- *The Shining* (1980). Dir. Stanley Kubrik. The Producer Circle Company, Peregrine Productions, Hawk Films (Fiction, USA/UK, 146 min. (premiere) / 144 min. (US) / 119 min. (Europe)).
- *The Stone Killer* (1973). Produced and directed by Michael Winner (Fiction, USA, 95 min.).
- *The Terminator* (1984). Dir. James Cameron. Cinema '84, Pacific Western Productions (Fiction, USA, 107 min.).
- *THX 1138* (1971). Dir. George Lucas. American Zoetrope (Fiction, USA, 95 min. (1971 theatrical release) / 88 min. (2004 director's cut)).
- *Tomorrowland* (2015). Dir. Brad Bird. Walt Disney Picture, A113 Productions (Fiction, USA, 130 min.).
- *Tron Legacy* (2010). Dir. Joseph Kosinski. Walt Disney Pictures, Sean Bailey Production (Fiction, USA, 125 min.).
- *The Usual Suspects* (1995). Dir. Bryan Singer. Polygram Filmed Entertainment, Bad Hat HArry Productions, Blue Parrot, Spelling Films International (Fiction, USA, 106 min.).
- *Unbreakable* (2000). Dir M. Night Shyamalan. Touchstone Pictures,

Blinding Edge Pictures, Barry Mendel Productions, Limited Edition Productions Inc. (Fiction, USA, 106 min.).

- *What Lies Beneath* (2000). Dir. Robert Zemeckis. ImageMovers (Fiction, USA, 130 min.).
- *Who Framed Roger Rabbit* (1988). Dir. Robert Zemeckis. Touchstone Entertainment, Amblin Entertainment (Fiction, USA, 104 min.).
- *Willow* (1986). Dir. Ron Howard. Lucasfilm Ltd., Imagine Entertainment (Fiction, USA, 216 min.).
- *X-Men: The Last Stand* (2006). Dir. Brent Ratner. Dune Entertainment, Marvel Entertainment, The Donners' Company, Ingenious Film Partners (Fiction, UK/USA, 104 min.).
- *Zodiac* (2007). Dir. David Fincher. Paramount Pictures, Warner Bros. Pictures, Phoenix Pictures (Fiction, USA, 157 min.).