Music in contrast to psychology

Analysis of Michael Giacchino's music for Inside Out

A Thesis Submitted in Partial Fulfillment
of the Degree of Master of
Scoring for Film Television and Video Games

Supervisor: Vanessa Garde

Alicia Fernández Morote

Berklee College of Music, Valencia

2016

INDEX

1.	Introduction	4
2.	Synopsis	4
3.	Basic emotions of the human being represented in Inside Out	7
4.	Main characters of the movie	11
5.	Biography of Michael Giacchino.	13
6.	Style	14
7.	Analysing Inside Out's music	16
8.	Analysing some cues of interest	22
9.	Personal reflections about Inside Out.	25
10.	Bibliography and Links	28

1. Introduction

Inside Out is a movie from 2015 that has gained a lot of success, becoming one of the top movies of Disney Pixar. It won the Oscar in 2016 for best animated picture(1). It is a concept of cinema that tries to go further, presenting two different statements of reality: the interior of the human being vs. the exterior and his/her environment. This is reflected in different aspects of the movie: two different types of animation as well as two different environments that involve different characters.

What apparently can seem complicated to understand for a child becomes something simple, moving and fun, due to the fact that the narrative in the movie is very clear and concise. The implicit psychology in every situation, as well as in all the characters, is softened by Michael Giacchino's music, which gives a relaxed mood indispensable in a film mainly directed to children.

My purpose is to show an analysis of a soundtrack that supports a kind of ethic animated film, whose intention is to transmit good values to the children of our society.

2. Synopsis

Inside Out is focused on the basic emotions of the human being and their behavior. In this case, the emotions that live inside Riley, an eleven year old kid.

When Riley is born, an internal character named Joy is born inside her. Joy is going to try all

1. "Inside Out (2015 Film)". Wikipedia The Free Encyclopedia, 2015...

the time to make Riley happy throughout a control table in a control tower. Soon, Sadness is also going to appear. She is completely the opposite to Joy, and she is going to try to make Riley take out all the sadness inside her. Besides Joy and Sadness, another three basic emotions are going to be in control sometimes: Fear, Disgust and Anger.

Every time Riley lives an experience, inside her a new remember is created with the shape of a sphere. If this remember is happy, it will have Joy's color (yellow). If the remember is sad, it will have Sadness's color (blue). Every night, before Riley goes to sleep, all the remembers are sent directly to a never-ending catalogue of remembers through a scape tube that leaves from the control tower.

But, aside from all this remembers, throughout Riley's life are also created the essential memories: these are remembers that stay blocked inside Riley, and can not be erased. The essential memories that Riley has at the beginning of the movie are, for instance, the first time she scored a goal playing hockey; having fun with her best friends, or the first time in her life she saw her parents when she was a baby.

The Essential Memories are directly connected to the Personality Islands. Riley has five personality islands: Friendship Island, Family Island, Hockey Island, Nomanisone Island, Honesty Island. This five Islands are what make Riley be Riley.

When everything seems to go perfectly, and when almost all of Riley memories are yellow (the color of Joy), everything changes: the family leaves Minessota to move to San Francisco. Everything is new for Riley: the new house is much smaller, the city is very different, and she has to change schools and try to make new friends. All this represents a big chaos in the world of the basic emotions. In a certain moment, Sadness losses control,

and accidentally manipulates the essential memories. Then, an intense fight between Joy and Sadness takes place. Accidentally, they go through the scape tube along with the essential memories, and they are sent directly to the labyrinthine remembering area and other zones inside Riley, as the abstract thought area, imagination land, or the world of dreams.

This key moment coincides with the moment in which Riley introduces herself to her class. Riley starts crying when she starts to remember her old life and, suddenly, she feels completely empty. This moments is in synchronization with the moment in which Joy and Sadness get lost through the scape tube.

Slowly, the Personality Islands are being destroyed. Riley loses her illusion for playing hockey; she feels extremely lonely, and she thinks she can not rely on her parents. Joy and Sadness try as much as they can to go back to the control area to prevent Riley from unhappiness, and inside that infinite world of memories in which they are lost, they find Bin-Bong: the imaginary friend that Riley had when she was four years old, who has been hiding and running away in order not to be destroyed. Bing-Bong is a key character to help Joy and Sadness to go back.

At some point, something happens that is going to change our perception about Sadness in the movie. Bing-Bong can not keep walking; he is too depressed remembering the old times when he was happy with Riley. Sadness goes and talks to him, and helps him taking our all the sadness inside him. This way, she gets Bing-Bong to feel relieved and much better to be able to continue.

In the meantime, in the control area, Fear, Disgust and Anger try to change Riley's life, but it is practically impossible to do it without Joy in control. The only thing they can come out with is to introduce an idea inside Riley: since she was happy in Minessota and she is not happy now in San Francisco, what about running away from San Francisco and take a bus by herself to go back to Minessota.

Honestly Island is destroyed when Riley steals her mum's credit card and uses it to buy the bus ticket. Riley disappears and goes to the bus stations in a very tense and dramatic moment in the movie.

Finally, throughout the thinking train and with the help of other characters in the Imagination world, Joy and Sadness get to the control area. The key moment of the movie is when Joy and Sadness find their way back to the control tower, and Sadness takes action by converting the Essential Memories into sad remembers. This is the only way for Riley to feel sad and open herself to her parents.

By letting this sorrow go and show her feelings, Riley is able to start a new life with the support and love of her parents.

3. Basic emotions of the human being represented in Inside Out

Inside Out is mainly about how each one of our basic emotions work inside us.

According to Paul Ekman, the basic emotions of the human being are classified in six main statements: <a href="https://happiness.sadness.google.googl

However, directors Ronnie del Carmen and Pete Docter decided not to include "surprise" as a character in the movie. The reason to do this is that they considered surprise not to be as well definite as the rest of the basic emotions, so it would not contribute to give anything new(3).

The basic emotions of the human being give place to the next psychological factors in the movie:

The formation of memories

As we saw in the synopsis, memories are shown in the film as luminous spheres of a certain color depending on what emotion was present during that moment. In the film they are called "essential memories", and they are more important than other memories, and they form when the emotional imprint is stronger. As we grow, emotions mix and give birth to memories made of combined emotions.

The personality

In the film, the essential memories give space to create the Islands of personality. A memory powerful enough in Riley's life can create a personality island. It is the same in real life. Personality is shaped by different experiences with high emotional burden and can affect our self-steem(4).

- 2. Myers, David G.. Psychology. (New York: Worth Publishers, 2004), 221 230.
- 3. Docter, Pete. *Academy Conversations: Inside Out* online interview. Oscars Official Youtube Channel, 2015
- 4. Myers, David G. Psychology. (New York: Worth Publishers, 2004), 221 230.

Personality changes as we grow and live, and that is very well reflected when the islands of personality collapse. In the end, what we see are more islands personality in combination with the ones that we saw at the beginning, leading to a much richer and more complex personality.

The subconscious

In the movie, there is a moment in which two policemen of the subconscious world are guarding the prison door to the subconscious, where there are the elements that should not come to light, like greatest fears or traumas from childhood. The music cue "The Subconscious Basement" accompany this moment in the film, working as a functional cue full of tension.

Dreams

Dreams are an open door to the subconscious. In Inside Out, dreams are produced by a film company inside Riley. Every night, fears, hopes and concerns are mixed with the experiences lived that day. The cue "Dream Productions" presents this film company in a classic Hollywood style that sounds as the music from the 40's.

Abstract thought

The abstract thought is a concept that becomes more understandable when a person grows up. Very young children are not able to understand abstract concepts, so in the film, abstract thought is represented as a factory where concepts are fragmented and altered in order to make them easier for the mind. This part of the psychology of the human being is presented in a very funny and innovative sequence, where the music has an essential part.

The long-term memory

Every night, memories that have lived that day pass to the long-term memory. The long-term memory is they depicted as a huge maze of shelves where they are stored memories. From there they can be re remembered or forgotten forever.

Imaginary Friends

Riley's imaginary friend is Bing Bong, a being made of cotton candy, elephant, dolphin, raccoon tail, whiskers cat: everything a child can imagine. This character gives place to one of the most emotional moments of the film, when he sacrifices himself to give place to another stage in the life of Riley.

Imagination land

Imagination is represented as a huge place where everything is possible: an infinite house of cards, factory imaginary boyfriends, a city of clouds, etc. Imagination is an area that all human beings have in their minds, more or less developed.

The importance of the mourning for closing episodes in life

The film is about the stage in which a kid leaves childhood to start the preadolescence period. It is a difficult time, full of physical and mental changes, and Sadness is key to close this stage and help Riley turning page. Here, we can hear the "Sad theme", that we will analyze later.

4. Main characters of the movie

<u>Joy</u>



Joy is the main character of the movie. She is the basic emotion that was born inside Riley before the rest of emotions inside Riley's mind. Joy is positive, smiling and shiny. She is extremely active, and always has ideas to

solve any problema. Joy is the leader of the basic emotions team inside Riley.

She works very hard in the movie to prevent Riley from suffer.

<u>Sadness</u>

Sadness is the second main character of the movie. Sadness is very important, because her function is to help the others in venting their sorrows and setting them free from suffer, so they can move on with their lives. She is the opposite to Joy: Sadness



is slow, negative, and she only talks to say sad things. She is an essential character that grows in importance in the movie, because nobody is aware of how necessary she is for things to go well in the end.

<u>Fear</u>



Fear's role is to protect Riley and keep her safe from any possible danger that she can find. Fear is lunatic and paranoid. He is always alert for nothing bad to happen.

Disgust

Disgust is a secondary character that tries to prevent Riley from being poisoned physically and socially.



<u>Anger</u>



Anger works for things to be fair in Riley's life. When Anger acts, Riley is able to react with annoyance in front of a situation. He helps Riley in defining herself as a person and make the world clear about who and how she is.

Riley

Riley is an eleven year old kid around whom the film sets the whole storyline. She is a cheerful character, with a complete life built upon five personality islands: family, friendship, hockey, clowning and honesty. Most



of her remembers are happy, and have given place to the Riley from today.

In a certain moment, everything is twisted for Riley. She has to move to San Francisco with her parents, changing her life forever. These events make Joy and Sadness get lost inside Riley, which leaves her with a feeling of emptiness and depression, and making the personality islands being destroyed.

Luckily, Joy and Sadness are able to make the biggest effort to come back to the control area, helping Riley to open a door to a new life.

Bing Bong



Bing Bong was Riley's imaginary friend when she was a child. Although Riley forgets about him, he still stays inside her. He helps Joy and Sadness to come back to the control area, and for that, he has to sacrifice himself.

5. Michael Giacchino

Michael Giacchino is one of the most well-known composers in Hollywood. He has worked as a composer in some of the most popular films in today's history: The Incredibles, Ratatouille, Mission Impossible: Ghost Protocol, Up or The Dawn of the Planet of the Apes. Giacchino scored the music for Pixar's movie "Up", for which he won an Oscar_{TM}(5).



Giacchino gave start to his studies in filmmaking at the School of Visual Arts in NYC. After finishing college, he began his studies in music composition: first at Juilliard University and then at UCLA. Then, Giacchino became a producer in the Disney Interactive Division, where he also had the opportunity to write music for video games.

^{5.} Falkenberg, Katie. Inside Out' Composer Michael Giacchino Is On A Roll". Los Angeles Times, 2015

After starting as a producer at DreamWorks Interactive division, he was asked to score the temp track for the video game adaptation of The Lost World: Jurassic Park. After this, Steven Spielberg hired him as a composer and it became the first PlayStation game to have a live orchestral score.

Giacchino composed for other projects in collaboration with Disney Imagineering on music for Space scores. On the other hand, Giacchino's work in video games sparked the interest of J.J. Abrams. A relationship began that would lead to scores for TV series like Alias and LOST.

6. Style

As he mentioned in an interview for Empire magazine, his biggest influences in film music are Max Steiner ("I remember seeing King Kong and being amazed by the music" (6)), David Shire, John Williams, Jerry Goldsmith, Bernard Herrmann; also, he has influences from jazz music, and he mentions Benny Goodman, Louis Prima and Peter Niro.

"I like experimenting, I like doing new things, but I love working with live musicians. That's my favorite thing in the world and I'm very lucky to be able to do that on every film that I work on. I'm glad that all the directors I work with feel the same way; they love the

6. Helen O'Hara, Michael Giacchino on Being a Film Composer (Empire Online, 2015)

orchestra. It is fun to be with people who appreciate that era of Hollywood because now there's a wide variety of film scores.(7)".

As we were mentioning before, Giacchino works with the idea of creating a theme for each character or situation. According to him, this works very well to give more identity to the characters and place the audience in the story, specially taking into consideration the fact that we are referring to children's movies; however, this resource has been and it is still used in many other different styles and movie genres.

In a documentary about the making off the music of Ratatouille, Michael Giacchino says "I really love working tematically, because if you're gonna tell a story with music you need themes to represent the characters, so as you're listening to the soundtrack you can kind of follow along what is happening in the story" (8).

He mentions the same thing about the creation of themes for the movie Up, and he also says that the score changes gradually along with the change of the characters(9).

As regard to Inside Out, the example of the creation of this soundtrack shows how fast and prolific Michael Giacchino is. Normally, Giacchino sees the movie and composes a small suite with a compilation of the themes that would appear in the movie. In this case Pete Docter, director of the movie, mentions in a documentary about Sound Design in Inside Out

^{7.} Helen O'Hara, Michael Giacchino on Being a Film Composer (Empire Online, 2015)

^{8.} Michael Giacchino, Scoring Ratatouille Documentary, 2009

^{9.} Michael Giacchino, Scoring for Characters. Michael Giacchino scores Up"

Documentary, 2009

that Giacchino did an 8 minute suite with some ideas, and then composed practically all the music even before the spotting session took place(10).

7. Analysing Inside Out's Music

Listening to the whole soundtrack of Inside Out, we could make a distinction between **Main**Themes and Functional Cues. The cues that contain the Main Themes are those that want to point out the appearance of an specific character or situation.

On the other hand, the <u>Functional Cues</u> are related to parts in the movie that are not specifically related to any of the main themes in the soundtrack, and intend to create an specific atmosphere with a more "cinematic" and thick orchestration, favoring scenes of tension or transition. For instance, the cue "Down in the Dumps" starts as a functional cue, and finishes with one of the main themes.

However, the main themes give the feeling of something very light, thin and atmospherical. We can pay attention to the themes Bundle of Joy and Personality Islands, where the melody consists only in a few piano notes. In my opinion, the reason for doing this might be to give the sense of simplicity as supposed to the story that the movie presents: a story full of characters, a big diversity of situations, very rich in complexity. As well as this atmospherical/relaxing texture of the sound, Giacchino adds instruments that do not belong to the traditional orchestra as we know it. In the cue "Overcoming Sadness" that presents the theme of Sadness, he makes use of electric bass and ukelele, instruments that give some fresh air and informality.

Sound design

According to Inside Out's director Pete Docter, the movie sounds like "lighting": "Something that you are not usually conscious of, but you're completely affected by"(11).

It is worth mentioning the use of synths with plenty of reverb and delay supporting the harmony, as well as synths that sound doubling melodies. The reason for doing this might be the fact that the movie is referring to the world of the unknown inside us, where the subconscious works without a sense of time, so the real instruments are "distorted" by the sound of the synths.

The sound design equipment in the movie worked on designing these electronic synths by trying to get sounds from objects with a high metallic quality. They did this in Skywalker Sound studios with Shannon Mills as Supervising Sound Editor. For instance, **metallic balls** hitting together, getting a sound similar to a glockenspiel but with more resonance, or **cello bow against crystal glasses**. These sounds are sampled and implemented as instruments into the soundtrack.

MAIN THEMES

As I already mentioned before, Michael Giacchino had already worked with the idea of creating themes for each character of a movie when he worked in Up. In this occasion, he also composed a different theme for each character or situation.

Throughout the whole soundtrack, we can find four main themes: Joy theme, Sadness theme, Personality Islands theme, Imagination theme and Sad theme.

In the next Excel cue sheet, I present the relation of cues with the main themes:

CUE NAME	CORRESPONDING THEME
Bundle of Joy	JOY THEME
Team Building	SADNESS THEME + JOY THEME
Nomanisone Island	PERSONALITY ISLANDS
Overcoming sadness	SADNESS THEME
Free skating	JOY THEME
First Day of School	JOY THEME + SADNESS THEME
Riled Up	functional cue
Goofball No Longer	functional cue -> SAD THEME (end)
Memory Lanes	functional cue -> JOY THEME (variation)
The Forgetters	functional cue
Chasing the Pink Elephant	IMAGINATION THEME
Abstract Thought	functional cue
Imagination Land	IMAGINATION THEME
Down in the Dumps	functional cue -> SAD THEME
Dream Productions	functional cue
Dream a Little Nightmare	functional cue
The Subconscious Basement	functional cue
Escaping the Subconscious	functional cue
We Can Still Stop Her	functional cue
Tears of Joy	PERSONALITY ISLANDS
Rainbow Flyer	JOY THEME
Chasing Down Sadness	functional cue (same as We Can Still Stop Her")
Joy Turns to Sadness	SAD THEME + JOY THEME + PERSONALITY ISLANDS
The Joy of Credits	JOY THEME + The Forgetters + PERSONALITY ISLANDS

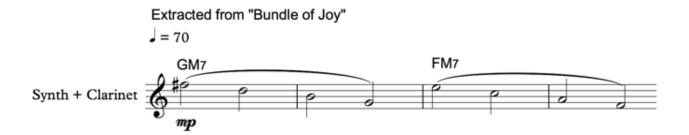
JOY THEME

Extracted from "Bundle of Joy" J = 126

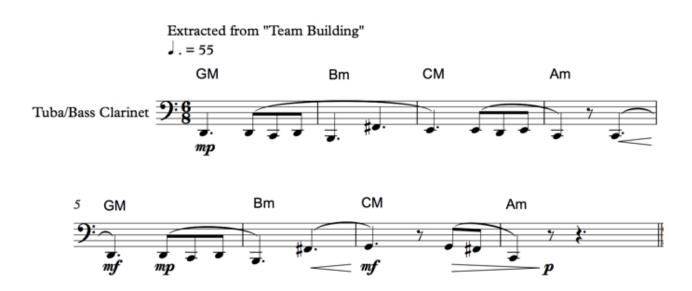




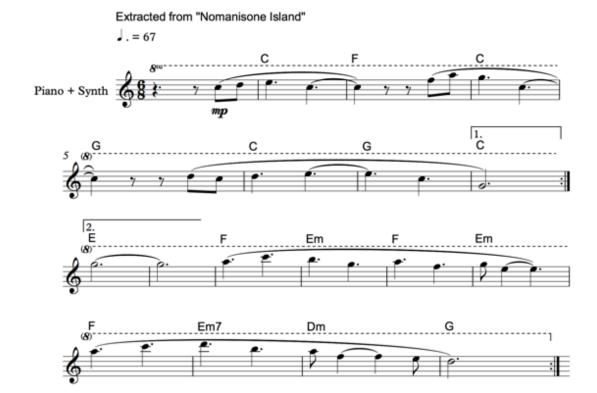
Variation:



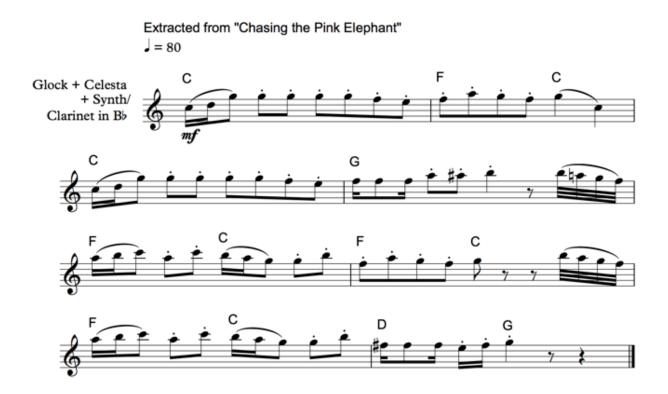
SADNESS THEME



PERSONALITY ISLANDS THEME



IMAGINATION THEME



SAD THEME

I would like to make a special mention to the Sad theme, which is not the same as Sadness

theme. It is not related to Sadness theme, cause it does not try to refer to Sadness character.

However, it has to do something with the character Sadness: It wants to reflect those

moments of loss, where Sadness takes action in a positive way. While the Sadness Theme

wants to show that depressive side characterized by laziness and anguish, the Sad Theme

will try to reflect the importance of the role of Sadness in the movie. For instance, we can

hear it when Bing Bong loses his trolley and he cries (TC: 01:48:42:10). This is a very

emotional moment that wants to present the idea of loss.

As another example, the "Sad theme" shows up at the end in the cue "Tears of Joy", when

Riley comes back home after trying to escape, and she opens herself to her parents and tell

them how she feels. In that moment, what Riley is losing is her childhood to open a new

door in her life: adolescence.

This theme is very similar to a theme that appears in the TV series "Lost", composed also

by Giacchino. We can appreciate a big similarity in harmony and character. This happens in

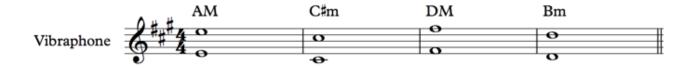
Lost's cue "Life and Death", where the harmonic progression is based on the gesture of

Tonic – III minor as happens to the Sad theme.

Lost: "Life and Death"



Inside Out: "Down in the damps"



8. Analysing some cues of interest:

Cues that represent a Main Theme

Bundle of joy

In the arrangement of this cue based on the Joy theme, we can hear this line-up of instruments: flutes, clarinets, harp, celesta, piano, string orchestra, electric bass and synths.

The cue starts with a melody played by the piano, accompanied by an ostinato played with the harp, and a celesta doing spread chords in 8th notes. At the same time, the synths are accompanying the harmony as part of the background in the high register.

After the first fragment of melody, there is a variation of the melody played by the clarinet accompanied with the previous synth plus a new synth.

This cue can be divided in three parts: A, B (variation of the theme), A.

Everything moves between a mid-high register, except for the moment in which the electric bass plays in the background. Still, its thinness and low volume keeps us in a general mid-high register.

The combination of the timbres of the harp and celesta at the beginning makes us think of something magical and ethereal that want to reflect the idea of subconsciousness: the atemporality in the world of dreams and the distortion, that is represented as well in the use of synths and electronic sounds accompanying the orchestra.

Overcoming Sadness

In the arrangement of this cue based on the Sadness Theme, we can hear this line-up of instruments: 3 flutes, bass clarinet in Bb, cymbal, harp, ukelele, electric bass, piano, accordion, strings and two synths.

This cue starts with an intro of seven bars, and then, the theme is played by the bass clarinet and a synth in high register, only accompanied by the bass. After that, the theme is repeated with a playful orchestration characterized by pizzicatos in the high strings and staccatos played by the flutes.

There is a conclusion of the theme where we hear a variation of the theme played in octaves by the flutes, and concluding with accordion accompanied by a low synth.

This cue wants to reflect the negative side of the character Sadness: she is being lazy and negative, and she only talks about dark and unpleasant situations.

Chasing the Pink Elephant

In the arrangement of this cue based on the Imagination theme, we can hear this line-up of instruments: 2 flutes, 2 clarinets in Bb, 1 bass clarinet in Bb, glockenspiel, drum set, celesta, piano, accordion, organ, synths, strings.

The cue presents the main theme with the clarinets, followed by the repetition of the theme with clarinets and flutes. After this presentation, takes place a completely different texture: a "circus" style characterized by the use of accordion, kick and snare, organ, glockenspiel, synths and bass clarinet. All this textures creates a very childish atmosphere: the character it refers to is Bing Bong, Riley's imaginary friend of her childhood.

Cues that represent a Functional Theme

We can still stop her

Apart from the main themes that appear in Inside Out, it is worth mentioning some cues that have a functional character in the movie. In this case, we are going to take a look at the cue that sounds when Riley decides to leave her home, and all the emotions inside her are collapsing: "We can still stop her". This time, Giacchino doesn't hesitate in giving tension to the scene. This cue is an outstanding one in relation with the rest of cues. The initial ostinato has plenty of dramatic content, showing a line in A minor with a rhythmical pattern that alternates 4/4 and 5/4.

Beginning of "We can still stop her":



Abstract thought

This cue is serving as background for one of the most original, smart and funny scenes that Pixar has ever created. Basically, Joy, Sadness and Bing Bong, in order to take a short path to get to the Thinking Train, go into a tunnel that hosts the Abstract Thought. They instantly regret having taken this path, because they start experiencing in their bodies the different stages of the human's abstract thought: Non-Objective Fragmentation, Deconstruction, Two-Dimensionalization, and Non-Figurativity.

The music will try to support this four stages. We hear a crazy, atonal, and dissonant music filled with a big orchestration that works in big blocks of rhythm and harmony that move up and down. This harmony is mostly based in polytonality, and as an example, the introduction of the cue shows two chords overlapping: C Major and E Major, represented in the celesta + piano, and followed by a descending scale played with the woodwinds.

In the line up of instruments, we have a symphonic orchestra supported by synths, and saxophone, electric guitar and bass. The percussion section includes a very active and powerful drum set. It is remarkable the aggressive improvisation that carries the tenor saxophone in the middle of the piece.

9. Personal reflections about Inside Out

If we had to choose a phrase that would define the purpose of Inside Out, it would be "the importance of expressing emotions". Otherwise, all our internal structure could collapse and lead us to do things that can be dangerous for ourselves, as the moment in the movie in which Riley escapes home. After all the emotions inside her have collapsed, Riley reacts and goes back home before it is too late.

We live in a society where it is usual to show to the world a face that might not reflect the reality of our lives. The social networks, for instance, are a simulation of real life, where people try to show the best part of them, but where we they hide other side that sometimes needs to come out: the problems and the insecurities. Even, the concept itself is based on hiding oneself behind a computer, instead of actually trying to rely on the people that care for us. Other platforms on the internet pretend to simulate new worlds, like Second Life©, in which users create a character that defines them, with features that they would like to be shown to the rest of users. This is a new establishment of the 21st century: we need to show that we are someone online, without caring that much about who we really are.

Inside Out pretends to show an opposite situation. Little Riley lets the sorrow out of her, and that is what "saves" her from depression. This movie is a tribute to psycho-analysis: it presents how each one of all the events that occur in a person's life is determinant to build a whole personality. In this society of appearance we are forced to show to be fine all the time, whereas life is a roller-coaster of events and situations with the power to enrich us with a big range of emotions and moods. It is also a tribute to the fragility of the human being, showing the grim reality of sorrow, anxiety, uncertainty and loneliness: these are statements that affect almost everybody in occidental society, and this is shown openly in Inside Out.

My conclusion about all these facts are that, in the end, good values are what people seek for. As I previously said in the Introduction, Pixar's movies favor a type of ethical animated film-making with big values like friendship (Toy Story), family (Finding Nemo, The Incredibles), work ethic (Monsters Inc.), or carrying out dreams (Up), among others.

Inside Out has been the Pixar movie that has raised more money after the classic Toy Story in 1995 (12).

The moral of Inside Out is that what it is important is, whether we exteriorize our feelings or not, at least we recognize and accept what is going on inside ourselves and try to deal with it. Otherwise, happiness and sadness inside us can disappear and make us insensitive before the events that take place in our lives.

On the other hand, the magical atmospheres created by the sound design and music soundtrack team really touched me when I first listened to the soundtrack. In my opinion, it tries to represent what apparently is out of our reach: the deepest part of us. This kind of metallic effects to the music really interest me to apply similar effects to my music at some point in order to proportion and ethereal and delicate feeling based on electronics.

^{12.} Hoad, Phil. 2015. "Inside Out's Success Should Turn Hollywood Upside Down". The Guardian.

Bibliography

- Pinker, Steven. 1997. How The Mind Works. New York: Norton.
- Myers, David G. 2004. Psychology. New York: Worth Publishers.
- Ekman, Paul, Wallace V Friesen, and Phoebe Ellsworth. 1972. Emotion In The Human Face: Guide-Lines For Research And An Integration Of Findings. New York: Pergamon Press.
- Navarro, Heriberto and Sergio Navarro Arriola. 2005. Música De Cine. Madrid:
 Ediciones Internacionales Universitarias.

Links

- Ekman, Paul. The basic emotions of the Human Being
- Fernández Berrocal, Pablo. 2013. "La Inteligencia Que Necesitamos". El País. http://elpais.com/elpais/2013/11/18/opinion/1384787014_634340.html.
- Zabala, Iker. 2015. "Del Revés (Inside Out): El Mundo Familiar Era Esto". Jotdown. http://www.jotdown.es/2015/07/del-reves-inside-out-el-cine-familiar-era-esto/.
- Falkenberg, Katie. 2015. "'Inside Out' Composer Michael Giacchino Is On A Roll". Los Angeles Times. http://www.latimes.com/entertainment/movies/la-ca-mn-conversation-michael-giacchino-inside-out-20150719-story.html.
- Vico, Ana. 2016. "Análisis De Inside Out (Del Revés) Visto Por Una Psicóloga". http://befullness.com/analisis-de-inside-out-del-reves-visto-por-una-psicologa/.

- Hoad, Phil. 2015. "Inside Out's Success Should Turn Hollywood Upside Down". The Guardian. https://www.theguardian.com/film/2015/jun/22/global-box-office-inside-out-jurassic-world-spl-2.
- Inside out (2015) Technical Datasheet. http://www.imdb.com/title/tt2096673/
- F. Small, Mederith. 2008. "Why Humans Bother With Emotions". Live Science. http://www.livescience.com/2431-humans-bother-emotions.html.