'AND THE EARTH WAS WITHOUT FORM': VISUAL EFFECTS AND WONDER IN TERRENCE MALICK'S VOYAGE OF TIME (2016)

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Abstract

Terrence Malick's *Voyage of Time* puts the latest technology into the search for the oldest images we can think about, those of our origin. Taking this paradox as a starting point, we will explore precedents of visual effects in science documentaries and their role in Malick's particular quest for wonder. Are VFX capable of truth?

Keywords: *Terrence Malick, Science Documentary, Visual Effects, Computer Generated Imagery, Truth, Digital Aesthetics, Film Studies.*

THE STORY OF OUR UNIVERSE, WRIT-TEN AND DIRECTED BY TERRENCE MALICK

Since the premiere of The Tree of Life, Terrence Malick has been typecast as one of those filmmakers tending to grandiloquence. Telling the story of a Texan family using images of black holes is not, of course, a humble goal. Voyage of Time (2016), which was announced wittily enough as "The Story of Our Universe, Written and Directed by Terrence Malick" in some of its posters is one more step in this direction. If at first glance it might seem that what has been sold as a "scientific documentary" does not fit at all into the work of a filmmaker who has been broadly recognized as an author, the film's viewing reveals it to be completely consistent with his work.

Already in his first movie *Badlands* (1973), Malick has focused much of his attention on nature. A nature that is used to situate humankind, to understand it:

"Few directors have invested the natural American landscape with such beauty or meaning as Terrence Malick. Throughout his films, the environment plays a crucial role in the narrative, governing character emotions and motivations, providing a lyrical canvas for the action and, perhaps most importantly, offering a deeper unverstanding of the personal stories Malick wants to tell. He uses landscape to define what are essentially philosophical and ethical issues (...)" (McCann, 2003).

In which may be one of the most beautiful studies that have been made about the work of the filmmaker. Alexandre Mathis defines this focus in the relationship between man and nature as a "vertigo of scales" (Mathis, 2015). Indeed, it is a common feature in Malick's style to move from a close-up to a general shot, a tic that has been increasing: if in Badlands we saw an insect to later see a landscape, in The Tree of Life we go from the birth of a child to the birth of a star. About these choices, Mathis points out: "This game of the big and the small aims to put everything back on the same scale. After all, whether filming a huge building or the foot of a newborn, the size of the screen remains the same" and "whether it's a star or a microbe. Malick films everything on an equal footing, with the same admiration. All of a sudden, the scales of values are rebalanced. Everything has its place, at the same level, on the screen. Paradoxically, this process is intimidating and flabbergasting. It brings us back to our modest role in immensity" (Mathis, 2015). Our modest role in immensity sounds like a good description for Malick's entire work. This concern for placing our existence in a larger system comes from afar for Malick: not only was he, before anything else, a philosopher, but it seems that his transition from philosophy to art was motivated

precisely by the inability of the first one to satisfy his existential needs in this regard (Woessner, 2017). A project that explains the origin of the universe seems appropriate to this precocious interest: it means only, after all, to move from playing with scales in space to play with scales in time. A natural evolution.

Natural, only in a sense - shooting insects and dinosaurs isn't exactly the same thing. For starters, even Malick isn't able to revive extinct species. Not to speak about repeating the Big Bang. What he can do is artificially re-enact them in the way most contemporary filmmakers re-enact things that no longer exist or even create the ones which have never existed: with VFX. But, aren't those the ones in *Transformers* and *The* Avengers? How can a tool so often related to the firework-type of blockbuster be useful to an author's discourse? And. moreover, how does the latest technology speak of the oldest images we know about, those of our origins? In this paper we will try to answer these questions by documenting the use of VFX in Voyage of Time, stating other cases where documentaries have relied on them to illustrate science, and determining their role in Malick's particular depiction of the story of our Universe, which we will arque is focused on wonder and ecstatic truth as opposite to scientific truth.

If Universe was created in seven days, *Voyage of Time* took much longer than

that, about 40 years being needed from the moment the project was first thought about to its actual fulfilment. After his second feature film Davs of Heaven (1978), Malick was offered 1.000.000\$ by Paramount's Charles Brudon to develop a project. What first was a choral story about First World War in the Middle East with a prologue set in Prehistory – the project title at that time was Q – ended up as a monumental depiction of life's origin (Mathis, 2015; Pagliara, 2016). Although some landscape footage was shot, the project didn't see light until some of its main ideas were filmed and included in The Tree of Life (2011). Later everything evolved into its final form, the autonomous documentary called Voyage of Life, something that many thought would never happen. A note originally appeared in Los Angeles Magazine on December 1995 narrates: "[Malick visited] Sam Shepard (the farmer in Days of Heaven) in Virginia armed with a 250-page version of Q that Shepard though absolutely brilliant but virtually unfilmable, according to a mutual friend, writer-director Chris Cleveland" (Gillis, 1995). Of course, that was 1995, and virtually unfilmable could still make sense with all the VFX innovations that were yet to appear.

But, as we can read from a number of declarations in *One Big Soul*, Malick was ahead of that impossibility: already in 1979 he was thinking about computer animation (Maher, 2015). During the

long process of development, Malick had the intelligence to surround himself by specialists like Ed Verreaux (Back to the Future sequels, Indiana Jones), Richard Taylor II (Star Trek, Tron), or David McCrone (storyboard for Spielberg's Contact), although some contributions disappeared in time (Maher, 2015). In some early notes for the Q project, names such as Terry Carr and Rick Baker (King Kong, 1976) would come up, and multiple references to Douglas Trumbull's work in 2001: A Space Oddyssey would come true decades later when Trumbull was made VFX consultant in The Tree Of Life. There he was given freedom to experiment with all sorts of chemicals in order to produce galactic images under VFX supervisor Dan Glass (Batman Begins, the Matrix sequels), who later would follow Trumbull's inspiration also in Voyage of Life.

Both special effects (SFX) –practical, real-life effects, such as experiments with liquids– and visual effects (VFX) –digital manipulations or enhancements of the footage, including images created by scratch (Computer Generated Imagery, CGI)– (Dinur, 2017) are thereby clearly important for Malick in this film. Deepening in this interest for film technology, *Voyage of Time* was released in two versions: a feature film (*Voyage of Time: Life's Journey*) narrated by Cate Blanchett, and a version for IMAX (*Voyage of Time: The IMAX Experience*) narrated by Brad Pitt.

SCIENCE AND DINOSAURS

Among the countless creatures and organisms that appear in Voyage of Life, there's a type that interests us the most in regards to VFX. Dinosaurs. And that's because, in the VFX popular imagination, dinosaurs play an important role. The first characters completely created by computer that were seen on a big screen were some of the reptiles in Jurassic Park (1993), a film that developed and consolidated a technique that would later feed the most spectacular contemporary cinema (Riambau, 2011). What's interesting about the first CGI creature being a dinosaur is that it creates a link between contemporaneity and prehistory. Voyage of Time isn't the first film to put the latest technology into the search of the oldest images we can think of, those of our origins: VFX have been often used for travelling into possible futures, but also for imagining our past. In fact what Jurassic Park is talking about is "the link between the past and the future, the resurrection of old animal species thanks to modern genetic technologies, and the reflection on the ethical limits between science and leisure through a game of mirrors that reflects the very nature of a movie meant to market a remarkable technological breakthrough in the creation of images, while speculating on the border that should separate the scientific research of its commercial exploitation as entertainment and the consequences that this implies for the maintenance of a traditional family structure" (Riambau, 2011).

Precisely taking in mind the success of Jurassic Park. Tim Haines and Jasper James released in 1999 the documentary series Walking with Dinosaurs (Bell, 2000). The series also illustrated the life of these creatures by means of CGI along with some animatronics, just like in the case of Spielberg's movie-, and was rapidly acclaimed both by critic and audience. As the show's website puts it, "The Walking with Dinosaurs TV series changed the way we saw dinosaurs forever. This revolutionary show took viewers right into the dinosaur's world, showing them as if they were alive and filmed in the wild. (...) It simulates the style of a nature documentary and so avoids the use of talking head interviews".

In a similar way and in the field of author documentary, Werner Herzog's *The Cave of Forgotten Dreams* (2010) offers a tour of the Chauvet Cave in southern France where rock paintings come to life thanks to 3D technology, which, despite not being VFX per se, reproduce this paradox in which to reach our origins we need the most advanced tools.

CGI creatures in *Voyage of Life* are among the most impressive elements in its VFX work. There's an obvious visual pleasure about seeing something unreal or anachronic coming to life realistically before your eyes. The spectator knows it doesn't exist outside the screen, but in a contemporary application of Coleridge's concept suspension of disbe*lief*, believes for the duration of the film that the virtual creature exists. According to Kristen Whissel. "animation has been linked historically to the ability to give and take away the illusion of life. To animate line drawings is to bring them to life through simulated motion" (Whissel, 2014). After citing famous monsters that stop-motion made us believe such as King Kong or the Golem, Whissel identifies a "mediating function" in digital creatures, between "animate and inanimate, organic and inorganic, material and code", and relates this function with the fascination they provoke. "This fascination derives in part from the tendency of digital creatures to embody the very notion of a life force so excessive as to be uncontainable, noncommodifiable, and deadly", continues to note (Whissel, 2014).

The notion of a life force is key to Malick's intentions, and often expressed through the movement of creatures. Paul Atkins, *Voyage of Time*'s D.O.P, comments "Terry is interested in the repetitive ebb and flow of life's energy through the natural world" (...) "You probably noticed there are a lot of jellyfish in the film. Jellyfish are a perfect representation of that Tao for Terry. He says they're one with their world, as they pulse and move with the rhythm of ocean currents" (cited in

Tapley, 2016) He already did it in The Tree of Life: non-human creatures are presented as capable of love, grace, as seen through their gestures. Watching the dinosaurs in Voyage of Time we are thrilled just like when we watched for the first time the dinosaurs in Jurassic Park, but now they are not threatening children or chasing a man -they stop before a sunset, look at it, as if meditating. Riambau, when discussing the nature of the digital image, chooses to quote a soul in Dante's The Divine Comedy. Crying in hell, the soul reminds the mortal that, just because it isn't made of flesh and bone, it doesn't mean its tears are not of authentic pain (Riambau, 2011).

Even with these philosophical licenses, Voyage of Time can be described as scientifically accurate: the film crew included scientists and nature film specialists such as Dr. Jack Horner -palaeontologist, also advisor for Jurassic Park- as scientific consultant, Sophokles Tasioulis -producer of nature documentaries such as Earth (2007) or Deep Blue (2003)- as producer, Dr. Andrew Knoll -professor at Harvard and consultant for NASA- as the chief science advisor, or Paul Atkins -cinematographer and director of multiple wildlife filmsas director of photography. Moreover, funding for the film included a National Geographic Society grant, and some of the shots were created from original images from the Hubble Space Telescope.

But how can a film so based on VFX and CGI be scientific, let alone documental?

Menning & Keller observe that different types of animation have often acted as a substitution science documentaries. taking the place of images that could have never been filmed. "Substitutive animation is. in these cases. made to closely resemble reality, or rather, the look of a live action recording of reality. In most of the examples in this category, the animation is created using digital computer techniques, which are achieving ever-increasing levels of verisimilitude." (Menning & Keller, 2016). BBC Earth, producer of some of the most watched wildlife and science documentaries worldwide, is clear in his site about the reasons behind the use of CGI: "CGI can show things that it is impossible to visualise with a camera". Simple as that.

In Annabelle Honess' words, "the marriage of animation and documentary may seem like an odd union (...) The long history, however, of the hybridization of animation and documentary, one that stretches back to the earliest days of the moving image, would suggest that, as in many things in life, opposites can attract in a meaningful way (...) The authenticity of a documentary and the power of its claim to be such a type of film are deeply linked to notions of realism and the idea that documentary images bear evidence of events that actually happened, by virtue of the indexical relationship between image and reality" (Honess, 2011). But, of course, this indexicality can be seen as already broken. According to Riambau, before the symbolical turn of 1993 (the release of Jurassic Park and so the first characters completely generated by computer), "the spectators assumed that any image seen on a screen came from a real reference, however manipulated it was by different generations of tricks and special effects. Since the images emerge from a computer device that designs them ex novo, this pact has been cancelled and any image is possible, regardless of its relation to reality" (Riambau, 2011). In José Ramón Alcalá's opinion, "the new image technologies are the main responsible for having removed photography from the possibility of being documentary. With digital technology, the credibility of photography as a document is in crisis, and since then it has been suspected of not being truthful" (Alcalá, 2011).

How then has CGI become so growing a practice among science documentaries? On one hand, we could read this phenomenon, well studied by A. M. Metz (2008), as a commercial turn towards drama and spectacle. As true as this may be for some cases, we think there's another explanation when it comes to a particular category of science documentaries where *Voyage of Time* falls into: we're talking about those revolving around the concept of *wonder*.

A VOYAGE OF WONDER

Menning & Keller's study about Journey of the Universe (2011) gualifies both this film and Carl Sagan's Cosmos: A Personal Voyage (1980) as "stories of wonder". "Journey of the Universe's mythic narrative of cosmogenesis is intended to evoke wonder. In the closing passage of the film, [Brian] Swimme says: As we float in the midst of such mysterious immensities, is there any deep wisdom that might help us align our consciousness with the grain of cosmic evolution? Wonder will guide us" (Menning & Keller, 2016) Documentaries like Journey of the Universe or Cosmos, or we could argue BBC's The Blue Planet (2001), Life (2009) and to a higher degree, any of the numerous documentaries Werner Herzog made, wish not to (or not only to) inform about something, but to fascinate audience in a way that makes them want to know more. Wonder is fundamental for science in an era where anyone can access nearly any information: we no longer need compilations of interviews, we need an experience, something that moves us to act and think. Dr. Andrew Knoll said about his work in Voyage of Time: "The wonder of Terry's film is that not only will it inspire a 10-year-old girl to think about new things. It also inspired a 60-year-old scientist to think in new ways" and "knowledge doesn't lessen your sense of beauty and mystery; it enhances it. Our job as scientists is to reach into that mystery and try to build understanding. That is also what Terry does, in his own way, with this movie" (cited in Buder, 2016).

So, how is this wonder motivated through Vovage of Time? First of all. there's a concern throughout the film about linking the origins of Universe with the contemporary spectator -a concern that is consistent with Malick's commented interest on linking nature with humans-. Some inserts show different points of the world crowded by people from different cultures. Their content suggest they are not trying to add any information to the movie but a poetic counterweight, as if saying "This is now. How have we arrived here?" to then proceed with the development of the universe. Even their form, shot with a Harinezumi camera –a tiny machine allowing to film practically anything anywhere-, shaky and blurry, confusing, speak more of a metaphysical statement about the current state of humankind than of any storytelling purposes.

Then there's the constant rely on humanization, something that allows spectators to empathize with non-human elements and to see themselves positioned in something so distant as the immensity that is being narrated. In this regard the voice-over, a blatant favourite of Malick's style, takes a whole new level in being vaguely identified with the voice of life. This voice does not, like in most science documentaries, explain what we are seeing: instead, it adds a new layer of humanity by pondering on questions, admiring creation, and asking about existence. Another mechanism for humanization, and in this VFX are a key factor, is the construction of creatures around human-like gestures. Protecting someone else with the own body, staring at the horizon or slowly approaching a face are gestures that we all are capable to interpret, even coming from prehistoric organisms.

And last but not least, there's the feeling of wonder motivated by a surrounding atmosphere. Malick wanted that the spectator could look around the image, decide where to focus, as if he/she was there (Giardina, 2016). As Paul Atkins remembers, "we looked at this super widescreen version and looked at a lot of the shots with it. We were stunned at how it affected you emotionally and how immersive it was" (cited in Tapley, 2016).

If creating an immersive film was Malick's intention there are no surprises in the fact that, first, an IMAX version was done –and IMAX technology, although is today frequently regarded as pure entertainment, was born with the experiential films of Graeme Ferguson (The Canadian Encyclopaedia)– and second, he used Douglas Trumbull as a referent. Who doesn't remember the so-called trip scene in 2001: A Space Odyssey? Scott Bukatman identified in this film and others such as Star Trek: The Motion Picture or Blade Runner a particular tradition of effects "designed to create an immersive experience for cinema spectators" (cited in Pierson, 2002). Trumbull's work, Bukatman follows, "is less the description of an object than the construction of an environment", having its antecedents in panoramas and phantasmagorias (cited in Pierson, 2002).

Voyage of Time is clearly intended to immerse audiences from its very start: the first thing we face is blackness, followed by a growing sound of tuning musical instruments. This blackness moves the spectator to search, to wait for something to appear, thus starting the immersion. A voice then asks "Mother, where are you?" identifying with this search. What follows is a film composition based on movement -magma falling into water and slowly creating rocks, marine organisms quickly turning as if actually escaping from the camera- and colour -a sunset-like glow for the earthly landscapes, vivid saturation for galactic scenes-, that feels more like a visual poem, like the expression of this flow of life that we already noted Malick values so much, than History being told. Something not made to understand but to see. to feel.

VISUAL EFFECTS AND (A) TRUTH

Of course, this voyage could have been created without this huge dependence on image technology, but our thoughts are that it wouldn't have been the same. Something lays in the images generated by computer that makes them perfect for the job. Castello-Branco links digital image manipulation with the vanguards and a tradition "that explores the eminently visual effects of film on viewers and, in so doing, discovers and unveils the deep sensual and subversive power of this technological device [film]" (Castello-Branco, 2010). In this same opinion, we can argue that a technology that sounds so Hollywood as VFX can be used not only at the service of an author's discourse but also approaches us to new kinds of truth

Werner Herzog, commenting on his largely invoked concept of *ecstatic truth*, explained: "A quest for truth is hard to articulate. It has very little to do with facts. Otherwise, the phone directory of Manhattan with four million entries would be the book of books –four million correct and truthful statements in the telephone directory. But it doesn't illuminate you at all" (cited in Macnab, 2008). Is there more truth in the facts stated by a recognized astronomer in front of the camera or in the feeling evoked by a moving spiral of CGI stars? Our answer would be that these are just two different kinds of truth – the first has to do with objectivity and a scientific paradigm, the second one is about wonder. And we have already seen it: one doesn't deny the other.

Describing the nature of digitally generated images, Fara makes an interesting comparison: "The pixel has the consistency of a gummy candy; the pixel can be infinitely manipulated, like play dough; the pixel has all the artificial colours; the pixel can be used to play, but not to work, like Lego; the pixel is a toy; the pixel chews everything and spits it out in digital form" (Fara, 2000). Isn't the wonder that Voyage of Time causes the same wonder of a child? As Malpas points out, "the naivety of the child (...) underpins both a sense of wonder and a desire to know (...) Moreover, it is not uncommon to find philosophers themselves caricatured as 'childish'" (Malpas, 2014). As cited in this same study, Suzanne Buchan (2013) notes a relation between childhood and animation: "One reason that animation has long been side-lined by film studies ... is because it was generally considered to target children: in other words, animation was naive. I contend that one of the attractions of many styles of animation lies not in its being 'childish' in a regressive, omnipotent way ... but rather in a naive delight we experience in seeing inanimate forms come to (a type of) life" (cited in Malpas, 2014).

Nicolas Gonda, one of the film producer's, declared "I think the process began as Terry was a kid and was staring at the night sky, wondering about our place in the world" (cited in Buder, 2016), and Richard Taylor II also recalled "Many of the conceptual ideas were taken from a book Terry had read as a kid, The World We Live In, from Life magazine" (cited in Maher, 2015). We see it in the way the voice over doesn't talk to a "God" or a "Universe" but a "Mother". We see it, too, in the way the film ends: with children in a contemporary urban landscape, running and laughing, then playing with a swing. What Malick is doing with Voyage of Time is to make us see things with the eyes of a child, like for the first time. And that is the narrative and aesthetic choice that makes possible for the audience to actually feel a bit of truth, to actually get a little closer to the distant concept of creation. Jewish theologian Abraham Joshua Heschel once said about the Bible's story of creation: "The Biblical words about the genesis of heaven and earth are not words of information but words of appreciation. The story of creation is not a description of how the world came into being but a song about the glory of the world's having come into being" (Heschel, 1986). When the Genesis describes the Earth as being formless -as the pixel, as play dough-, it's creating in us the poetic feeling of childhood, when things marvel us as they start to take shape. In the same manner, Voyage of *Time* takes us actually outside time, to a world created mostly with digital technologies from scratch, thus putting the audience where everything is still to be created.

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