Morel_Moreau_Morella. The Metamorphoses of Adolfo Bioy Casares' Invention in a (Re) Animating Universe

Abstract

Adolfo Bioy Casares' short novel *The Invention of Morel* (La invención de Morel, 1940) envisioned the wish of human beings to define themselves through technology, indeed to reanimate the human as a technological double in an environment that gradually becomes virtual. This article develops the relationships connecting *The Invention of Morel* with three animating forms: the phantasmagoria, the automaton, and the machine-environment, to stress the privileged association they make between invention and (re)animation. With this purpose, the paper examines key contributions to our understanding of simulation and automata in the field of animation theory, such as Alan Cholodenko's 'Speculations on the Animation Automaton', but also Joubert-Laurencin's *La lettre volante. Quatre essais sur le cinema d'animation*, which directly addresses Bioy Casares' story as a metaphor of animated cinema. Sigmund Freud's psychoanalytical approach to the field of aesthetics in 'The Uncanny', and subsequent theories like Masahiro Mori's 'The Uncanny Valley', are also taken into consideration.

Key words

Phantasmagoria, animation, literature, invention, machine, island, automata, Morel, Adolfo Bioy Casares

> This island, and its buildings, is our private paradise. […] Even if
> we left tomorrow, we would be here eternally, repeating
> consecutively the moments of this week, powerless to escape from
> the consciousness we had in each one of them — the thoughts and
> the feelings that the machine captured. We will be able to live a
> life that is always new.

Adolfo Bioy Casares, *The Invention of Morel*, 1940, p. 76

Introduction

In 1940, the Argentinean writer Adolfo Bioy Casares published his short novel *The Invention of Morel* (La invención de Morel). In the book, Morel creates a machine to animate copies that perfectly resemble human life. But the inescapable condition in order for those copies to exist is to replace the living models — even possibly acquiring their souls. This unique story has had a great influence on film, from Alain Resnais' unofficial adaptation in *Last Year at Marienbad* (L'Année dernière à Marienbad, 1960), to recent TV series such as *Lost* (J.J. Abrahams et al., 2004-10), which repeats the idea of the island as a place for invention. Although *The Invention of Morel* has been regarded as an allegory of cinema, I will argue that its most inherent properties are related to *animation* not only in the sense of imparting motion to the inert, but also in giving it a 'soul'.

Bioy Casares' novella envisioned the desire for human beings to be defined through technology, indeed to re-animate themselves as the technological double of the human in an environment turned virtual. Following this line, *The Invention of Morel* has established a dialogue with works suggesting a re-fabrication of the human, from H.G. Wells' *The Island of Doctor Moreau* (1896) to Auguste Villiers de l'Isle-Adam's *The Future Eve* (*L'Eve future*, 1886), the novel that popularized the term 'android'. And, as in Oscar Wilde's

The Portrait of Dorian Gray (1890), in Bioy Casares' short novel the imagining of a cannibalistic object becomes central, this time a machine that consumes the people that it pictures. This essay proposes a transversal reading of the book, where the human is re-animated as an apparatus, a doubling device that re-produces the living as an illusion.

The Invention of Morel tells the story of an escapee from prison who flees to an abandoned island, known to be the focal point of a mysterious disease. However, there are signs of human presence on this island, like a group of young people dressed in an old-fashioned manner, who live in a mansion. They are guests of Morel, the owner of the house. Since the escapee is afraid of being discovered, he does not interact with this group, becoming instead a voyeur of their daily life. In this way, he realizes that they periodically repeat the same actions — for instance, there is a woman who always sits at the same place to stare at the sea. The woman, called Faustine, intrigues the unnamed castaway so much so that he wishes to get her attention; but every time he tries to address her, she seems to ignore him. Finally, the castaway witnesses Morel's confession to his guests: he has been recording them during their holidays, using a machine of his own invention, which is hidden in the residence's cellar. Morel's machine records and perfectly replicates human models in their scenes of daily routines. But the inescapable condition for those copies to exist is to replace the living models: the resulting images will remain forever on the island, while the human models will die a terrible death. Due to the impossibility of leaving the island, and to his fatal love for Faustine, the fugitive uses the machine to record *himself* alongside the island's ghosts — despite the certainty of his demise as a result — to access their re-animated dimension and share with them the scenes of their past happiness.

Significantly, in Bioy Casares' novel, *invention* adopts the form of animation. *The Invention of Morel* stresses the privileged association between invention and animation (in the form of *reanimation*), which emerges in settings

such as the island — a laboratory apart from the 'real', ordinary world, where the most uncanny ideas can be implemented. Indeed, Bioy Casares' novella arguably envisions the ambivalent desire of human beings to be defined through technology, even to reanimate themselves as the technological double of the human in an environment that becomes increasingly virtual.

With this purpose, I will examine three key aspects in the novella that illustrate the animatic in film: the *phantasmagoria*, the *automaton*, and the *machine environment*. The first section of this article will discuss the construction of replicas by Morel's machine, resulting in a modern phantasmagoria that recalls the history of pre-cinema and, at the same time, anticipates future technology — with the mirror as the conceptual model in the construction of simulacra. In the second section, I will incorporate the automaton as a metaphor for the technologies between the human and its invention for the screen: the CGI hyper-realistic human characters, which take from living models to be animated, frequently awaking in the audience a feeling of the uncanny. The last section elaborates the notion of the machine-environment: a place properly isolated for experimentation, an engine that animates a fiction no other than a story of eternal re-enactment.

1. A Doorway to Eternity: the *Invention* of Phantasmagoria

> By 1937 […] I glimpsed to the idea of *The Invention of Morel*. I believe that such an idea came from the ravishment that caused me the vision of my mother's dressing room, infinitely repeated in the deepest perspectives of her three-phased Venetian mirror. […] The possibility of a machine that would achieve the artificial reproduction of a man, for the five or more senses that we have, with the sharpness of a mirror reproducing these images, became the essential subject of the book.

Adolfo Bioy Casares, 1991, *Autobiography*[1]

The novel delves into a stimulating view of cinema as a means of achieving eternity: the imagining of an enduring form, a resistant body that can be repaired and re-activated — or *replayed*, like cinematographic images. In his fable, Bioy Casares proposes a hyperbolic form of film, one that would fix visions of humankind 'for the five or more senses that we have'. As a result, the Morelian machine fabricates a multidimensional portrait of the living that shares the seductive power of phantasmagoria, the paradox of what exists and is non-existing at the same time, proposing a journey to the pre-history of cinema.

The phantasmagoria has its origins in the famous show — close to a Spiritualist fraud — by Belgian scientist Robertson at the end of French Revolution in Paris. However, phantasmagoria, as a concept, has a privileged relation to animation: for Joubert-Laurencin (1997, p. 67), an animated film always recalls some or all of the elements of Phantasmagoria, which constitutes the multiple and un-organized film base unit; as a consequence, every animated film re-actualizes Phantasmagoria, 'playing' the invention of cinema: "In other words, any animated film worthy of the name produces an invention (an update) of Phantasmagoria, and, therefore, in its most complete version, plays the invention of cinema." (Joubert-Laurencin, 1997, p. 67, translation by the author).[2] Phantasmagoria is the spectral experience in the advent of cinema — from the Camera Obscura to the Lumiéres' 'moving photography'. But, more decisively for my purposes, the idea of phantasmagoria is still present in current devices such as virtual reality, stereoscopic cinema — 3D film —, or even mapping buildings. Nonetheless, the obsession to add 'dimensions' to the cinema of today does not contribute to a realistic effect, but it rather increases the sensation of the uncanny. To prove this, let me describe the sensation of being in a virtual reality 'cave': Virtual reality is produced inside a cubic setting composed of four screens, where the viewer plays a dual role, that of an actor and a spectator. In this place, the viewer inside receives different signals (Fig. 1), no other than the images projected onto the 'cave' screens, whose

combination will produce in their retina a perfectly deceptive three dimensional image. The result is the simulation of volume synchronized with the viewer, but in my opinion a ghosted and ghosting experience — never a consistent one. Nevertheless, phantasmagoria's mutations into new technologies prove its capacity to still fascinate us.

Caption for Figure 1
The virtual reality 'cave', with the viewer-performer inside, as can be experienced at Universitat Politècnica de València, Spain. The figure shows simulation of being into a car. ® Máster de Animación, Universitat Politècnica de València, 2011.

I propose that these re-animating technologies are comparable to the Morelian machine, which re-doubles reality, creating a disturbing yet appealing phantasmagoria. In the novel, the island appears as a great abandoned house of cinema, as if they had forgot to switch off the projector. At first, the island presents features beyond the castaway's understanding: there are two suns and two moons, and the temperature is twice as high; in a pond, fish are swimming among dead ones, because the living fish are screen images of the dead ones. The island is somehow like a maze of mirrors (Fig. 2), where the prisoner

cannot distinguish the real from its simulation, as the inventor explains: "You must not forget that I am speaking of images extracted from mirrors, with the sounds, tactile sensations, flavours, odours, temperatures, all synchronized perfectly. An observer will not realize that they are images". (Bioy Casares, 1940, p. 70) And the castaway's fascination towards this phantasmagoria will be the fascination for a ghost: a ghost does not have a life on its own; it only exists to be perceived, as an object of desire.

Moreover, the novel reveals an animistic view of this technological, illusory scenery: the human inhabitants on the island are replicas instead of living models, who decades ago abandoned this place — only to be found on a yacht, emaciated beyond recognition. The inventor describes to his guests the reduplicating process in detailed yet elusive terms: for Morel, the living is just a kind of multi-dimensional broadcasting, the linkage of different signs for each sense, which can be isolated, reproduced and synchronized. But, as these images are 'extracted from mirrors', a Narcissistic object that kills by doubling, their lethal consequences of their models bring back the primary fright inspired by mirrors — a fear rooted in the realm of animism: "When all the senses are synchronized, the soul emerges. That was to be expected. When Madeleine existed for the senses of sight, hearing, taste, smell and touch, Madeleine herself was actually there" (ibid, p. 71).

Since these copies are endowed with all the external sensations of the living, Morel assumes that the *person*, their *anima*, is already there. However, to find out if these replicas have a soul — or are even aware of themselves — it would be necessary to build another machine to access their thoughts and feelings (ibid, p. 82). This suggestion of animism in the book re-actualizes the fear inspired by the Dopplegänger, as described by Sigmund Freud in his famous essay 'The Uncanny' ('Das Unheimliche', 1919): a double conceived to preserve life after death, which finally becomes a symbol of a near death because it threatens to supplant us.

This 'lifedeath'[3] of the Morelian copies the re-animating power of a machine composed of mirrors that draws underground relations with *animation*; not only in the sense of imparting motion to the inert, but also in giving it a *soul*. It may seem naïve that such a sophisticated mechanism had a basis as ingenuous as mirrors; however, according to Joubert-Laurencin, the looking-glass is no other than an anomalous object perpetuated in "the mix of new and archaism, which is a likely specific to science fiction" (1997: 125)[4] — as he writes in reference to to the famous photo scanner in Ridley Scott's *Blade Runner* (1982). The Morelian machine, described in elliptic terms, also obeys this combination: its conceptual model conjoins permanence in time and infinite space, through the 'deepest perspectives' reflected by confronted mirrors — as observed by Bioy Casares in his mother's boudoir, in the citation at the start of this section.

Caption for Figure 3

Émile Reynaud's moment of inspiration to build his Praxinoscope when he saw his little child passing between the mirrors at his cabinet. Screen caption from Pierre Levie's documentary film *La Préhistoire du Cinéma: Merci, Mr. Robertson.* © Sofidoc 1995 (Brussels).

Reynaud playing his Théâtre Optique. Screen caption from Pierre Levie's documentary film *La Préhistoire du Cinéma: Merci, Mr. Robertson.* © Sofidoc 1995 (Brussels).

Remarkably, this metaphorical image not only brings to mind the keystone moment in the writer's career, but also the animation devices that prepared the advent of cinema. Mirrors, which can show what we cannot see directly, were required to see the moving pictures on the rotating disc of Joseph Plateau's Phenakistiscope (1832), and the spinning drum of mirrors in Émile Reynaud's Praxinoscope (1876) was also intended to cause stroboscopic effect (Figs. 3, 4). Therefore, the looking glass — the instrument for imagination, which took Alice to its other side — not only played a central role in the perception of animation at the time, but it may also be said that mirrors *animated* cinema.

Eventually, the reproductions in *The Invention of Morel*, conceived as *solid objects that move*, share in many senses the status of a wax museum, a veritable mausoleum of the famous — where the visitors can take photos of themselves alongside the frozen celebrities, pretending to interact with them. And, as do these visitors, the castaway of the novel records himself with the copies on the island, because the resulting recording does not distinguish between the copies and the living. In this sense, digital cinema, with its obsession to add 'dimensions' to its simulations, still recalls, the ingenuous, but distressing, magic of a house of mirrors. The next section will examine another disquieting

form of human representation: the *automaton*, which can be regarded as a symbolic relative of cinema.

2. Mechanical Dreamers: on Automata and other Doubles

> A fascination binds the proto-history of cinema, the advent of cinema and the advent of cartoon animation. It is the fascination with the mysterious imbrications and reanimation of life and motion by means of an apparatus. […] It is the fascination with the way in which that apparatus may be thought to have reanimated the world in and as simulation. It is the fascination with the automaton.
>
> Alan Cholodenko, 2007, 'Speculations on the Animatic Automaton', p. 496.

A recent film on Georges Méliès' life has recovered the image of the 19th Century automaton, magically connected to the origins of cinema: *Hugo* (Martin Scorsese, 2011). In this film, the automaton is the last vestige of an unknown genius, but its inner mechanism is partly disassembled so that it does not work. Later**,** we will discover that these lost components proved useful to the automaton's creator so that he could set up his first film camera. Once repaired, the automaton reveals its special gift: it is not an automaton that writes, as seemed at first, *but one that can draw*. It portrays a milestone of early cinema: Georges Méliès' rocket stuck in the face of the Moon (*Le Voyage dans la lune,* 1902). It is interesting to speculate what would have happened if the film had depicted the android drawing another design, slightly different from the preceding one. Then the automaton would be a highly advanced cinematographic machine: it would be *an animator*.
Automata are a powerful evocation for fantasy. As well as finding their special place in literature, so they did in cinema: as robots, 'replicants' or machine-men and -women, these technological reflections of the human invite us to question

whether we are really relevant — and, for this reason, "J. F. Sebastian's replicants in *Blade Runner* have an expiration date. They are much *better* than us to keep walking around a long time." (Bueno, Peirano, 2009, p. 283).[5] Still far from such mechanisms in the future — perhaps not so distant for us —,as we know them, automata were built as scientific curiosities or as fairground attractions: they were very sophisticated mechanisms, yet very basic in terms of what they could do.[6] As Patrick J. Gyger appreciates, automata do not have life but an appearance of it, however they might convey an image stronger than reality, indeed a form that matches our desires (Gyger, 2009, p. XI)[7] — I would add, like the Morelian copies.

The automaton, or more precisely, *the automatic,* has been present in cinema since early times. Pioneers like Méliès discovered the properties of stop-action shooting and found the principles of stop-motion animation, introducing changes frame by frame. Thus the Victorian fascination with self-propulsion reached the screen, with films like James Stuart Blackton's *The Haunted Hotel* (1907) and Segundo de Chomón's *El hotel eléctrico* (1908), in which objects from daily life moved with inexplicable autonomy through an eerie — or technologically advanced — environment. Donald Crafton suggests films like these started the 'haunted hotel' genre (1982: 24), initiating a wave of subsequent productions that displayed the re-animation of the inert in a new, irrepressible life.

The Invention of Morel seems to re-actualize this 'haunted hotel' genre in literature, with the islanders repeating their daily routines at an enchanted house — the 'Museum' in the book. Significantly, the novella proposes the re-invention of the human as an activity diverse from medicine or surgery. Morel's apparatus makes its simulations directly *from* and *for* the senses, in a conjoint of science and art that, for Max Milner, makes *The Invention of Morel* a "great Berkeleyan fiction in which *esse est percipi* is pushed to its ultimate consequences" (1982, p. 258, translation by the author).[8]

But if *The Invention of Morel* is regarded as an allegory for cinema, the novel also anticipates mediating technologies between the human and their animated doubles, like CGI animation, and more recently the animation of hyper-realistic human characters based on motion capture (mocap) — automata made specifically for the screen. Mocap evokes a pervading technology that has already replaced other doubling mechanisms in filmmaking, such as the use of animatronics; and, even when it closely depends on the use of actors, it also suggests the idea of their long-term replacement in cinema.

Needless to say, the use of mocap to animate hyper-realistic human characters helps to minimize the work of digital animators (although it does not exclude it) through mechanical processes that capture real movement. Somehow it is inspired in Eadweard Muybridge's and Étienne-Jules Marey's practices in chronophotography, with the computer combining a multiplicity of signals registered from many camera views. It can be said that mocap is a means as vampirical as Morel's invention — "To make living reproduction, I need living transmitters. I do not create life." (Bioy Casares, 1940: 71). And, like machine-based automata, the digitally animated characters in Robert Zemeckis' *Beowulf* (2007) and in Spielberg's *Tintin: The Secret of the Unicorn* (2011) inspire ambivalent sensations in audiences. Their illusory appearance does not correspond to what we understand as *real*; this is similar to what happens when we see sophisticated hand-made simulations such as a hyper-realistic picture or a 'trompe-l'oeil' image. As Jean Baudrillard explains in *Fatal Strategies*, simulations are the product of the true, when it soaks all the energy of the false, trapped in a vertiginous spiral where it loses its character of authenticity (Baudrillard, 1983: 7).

In her illuminating essay 'Final Fantasies: Computer Graphic Animation and the [Dis]Illusion of Life', Vivian Sobchack suggests that "the 'hyper-reality' of CGI resolution and detail […] constitutes a 'hyperbolic' effect in relation to what we perceive […] as 'the structure of reality'" (2006, p. 179). This 'hyperbolic' aspect responds to the increasing commitment to realism assumed by CGI animation, though paradoxically it transforms our vision of hyper-

realistic animation as simulacra. Contrary to this effect, it can be asserted that the viewers need to complete by themselves the illusion of the living, while the astounding amount of data in CGI images — skin, materials, lighting — gives small room for imagination, keeping us away from our 'structure of reality'.

The disturbing impression inspired by highly realistic — but not identical — reproductions of the human — as when we see people with realistic prosthetic parts, or entire robots like Hiroshi Ishiguro's in Figure 5 — can be

explained through Mashahiro Mori's hypothesis of the 'Uncanny Valley', a theory on cybernetics that has great potential to be applied to the viewers' experience of hyper-realistic CGI. Working with Freud's essay mentioned above, and Ernst Jentsch's *On the Psychology of the Uncanny* (1906), Mori's theory proposes that when human observers first interact with replicas — for instance, androids that look and act *almost* like human beings, but not perfectly (Fig. 5) — , they initially feel a strong empathy towards these copies until a point is reached beyond which their response quickly turns into rejection (Mori, 1970, pp. 33-35). As well, Vivian Socbhack points to a discordancy perceived when we see hiper-realistic CGI human characters —like in the case she describes, concerning the realism of hair and textures compared with the restricted character animation and lypsinch in *Final Fantasy: The Spirits Within* (Hironobu Sakaguchi, Motonori Sakakibara, 2001): an incompatibility that is fundamentally semiotic, because the visual premises of seeing animation do not match with the film image (Sobchack, 2006, p. 176).[9] As well, in *The Invention of Morel*, the castaway's feeling of revulsion towards the Morelian copies is caused by such a semiotic mismatch, once he is aware of being living among artificial ghosts — "I experienced a feeling of scorn, almost disgust, for these people and their indefatigable, repetitious activity" (Bioy Casares, 1940, p. 75). Moreover, the novel also anticipates Mashahiro Mori's observations about the impact in the viewer of an imperfect human copy, when Morel explains his first attempts to record people, surfacing the gloomy, morbid nuances of these experiments:

> 'There were still some minor defects in the receiver; […] there are times when errors are imperceptible for unspecialized observers, but occasionally the deviation is broad.'
> 'Can you show us those first images?' asked Stoever.
> 'If you wish, of course; but I warn you that some of the ghosts are slightly monstrous!' replied Morel. (ibid, p. 72)

According to Morel it is *not* when the deviation is broad that we perceive the effects of monstrosity, but rather when the difference is *slight!* Most hyper-realistic 3D human characters, endowed with the appearance of *mechanical reproduction* — as opposed to *organic* production that in animation we relate to the spiritual, to having a soul (Broadfoot, Butler, 1999, p. 273)[10] — seem alienating because they do not seem to have a life of their own, as if the pre-eminence of automatized animation systems had devoured the *anima* of animation. Notably, the inconsistency of digital characters is primarily perceived in the appearance of their eyes, often lifeless due to the limitations to capture the movement of the players' eyes, resulting in the disturbing 'dead eye syndrome'.[11] This effect transforms realistic animated human characters into virtual *automata* — like E.T.A Hoffmann in *The Sandman* (Der Sandmann, 1816), when he describes the automaton Olympia as a lovely female doll but with opaque eyes and mechanic movements, who at first causes admiration, and later, disdain.[12]

In summary, contemporary use of mocap in cinema invites us to establish a dialogue with Bioy Casares novel and with literature that preceded it about the reinvention of the human as a technological double. Such discussion reveals the residual force of animistic thinking in the modern era, for which the 'soul' is still an imaginary quality of unanimated objects, of animals that reflect hominid attitudes, and of artificial copies of the human — from portraits and figurines to androids and CGI characters. Eventually, it is possible that the search for perfectly convincing realism of CGI human characters no longer will be a utopia, when these animated characters are able to transmit consistency and likeness with the audience as if they were living performers. Without the deliberate exposure of the trick, we would not be able to distinguish anymore the real and the simulation. The following section will delve into a fictional form of simulation, as found in adventure and science-fiction literature, but also in pre-cinematic devices and spaces: the machine-environment.

3. Machine-Environments and the Eternal Reenactment

> I never saved Malvina. I never made it past the sixth automaton. […]
> These thoughts preserve me now here, inside the sixth automaton,
> where I dream mechanically with the tides amongst the rocks, where
> they can never separate us.
>
> Felisberto in the Quay Brothers' *The Piano Tuner of Earthquakes*, 2005

In Edinburgh one can experience an old camera obscura. The house where it is located is more than four centuries old, and the dark chamber resides in a tower equipped with a telescopic view to collect outdoor scenes. The landscape, the houses, but also the people walking down the street, suddenly appear on a concave table that serves as a screen (Figs. 6 & 7). One might play with these screened people: the observer can pick them with a piece of paper, or squash them — like animators do with their creatures. When the telescope frames the sky and rooftops, the sudden appearance of seagulls reminds us that we are not seeing a slide, but something that is happening *in real time*. To quote Maxim Gorki's famous article after his first experience at the cinema, the camera obscura does not transmit life, but "its soundless spectre" (Harding, Popple, 1996, p. 5).[13] And all this can be done duplicating just one of the sensations of the living: their image. If the camera obscura can inspire disturbing sensations, there is something from this silent spectacle that still survives in cinematic fiction. It is something that *blooms* in modern fictions. It is one of their key features: the idea of control; the idea of isolation, the idea of a box containing one's object of desire. It is the machine-environment.

Caption for Figure 6
Camera Obscura image. Courtesy of Camera Obscura & World of Illusions, Edinburgh © 2013.

Caption for Figure 7
Engraving from the collection of Jack and Beverly Wilgus, representing a Camera Obscura show, end of 19th Century. Courtesy of Camera Obscura & World of Illusions, Edinburgh © 2013.

The machine-environment could be given a preferential place in Alan Cholodenko's 'Cryptic Complex' of cinema, comparable to the 'house of cinema' — or its precedent forms, like the camera obscura — as an intermediate space, as a crypt:

> To be in the house (casa) of cinema is not to be in the domus — the home.
> Its refuge could never be pure refuge, any more than it could be pure non-
> refuge. Like the spectre, the movie theatre is of the order of the between.
> To be in it is to be in the haunted house, the crypt, of cinema.
> (Cholodenko, 2004, p. 110)

The machine-environment is always defined in terms of an apparatus: like a spinning Zoetrope or a Thaumatrope, it is an engine that animates the illusory. It can be a dystopic system for individuals or, on the contrary, a 'happy' place, but always within a limited space. Its mark of identity is repetition, an eternal re-enactment of something that — maybe — already happened. This notion of repetition also dominates *The Invention of Morel*: referring to the novella, for Joubert-Laurencin

> This modern myth differs from the more mundane loss of control of the
> inventor (whose paradigm is *Frankenstein*), and enriches the human
> puppet, invention of Romanticism: there is a lack of distinction between
> being and appearance, combined with a mechanic repeating a process,
> and grafted onto a monstrous narcissistic apprehension of the figure of the
> double.' Joubert-Laurencin, 1997, p. 257 (Translation by the author).[14]

Starting from Max Milner, Joubert-Laurencin establishes in his essay '*Tango. Une répétition polonaise*' a parallel between *The Invention of Morel* and the famous Polish short film, Zbigniew Rybczynski's *Tango* (1980). The film evokes the atmosphere of the Argentinian novel, with its little room that hosts a small society whose movements are untiringly reproduced, performing a kind of 'playback' for eternity and for no one (Joubert-Laurencin, 1997, p. 263).[15] Morel's 'replicants' are monstrous because they compete with the living, replacing them with an illusion: as the castaway says, "I experienced a feeling of scorn, almost disgust, for these people and their indefatigable, repetitious

activity" (Bioy Casares, 1940, p. 75); the filmed people in *Tango* seem also monstrous because, even when they take the 'real' — photography — into animation, they behave like automata they share the same space but they do not interact with each other to produce changes in their routine — until the last iteration in the film, when the cycle is broken by the woman who throws the ball. As well, the castaway introduces a variation in Morel's 'playback', when he uses the machine to record himself within Faustine and her friend's cyclical routine[16] — the only way for him to "enter the heaven of her consciousness" (Bioy Casares, 1940, p. 103), a privileged space that exists by virtue of an animating machine: the machine-environment.

Like the cycles from *Tango,* 19th century optical devices provide a powerful metaphor for the machine-environment that *houses* repetition, with the spinning drawings moving in loops, their cycles restricted to the limits of an apparatus. In this sense, Émile Reynaud's public show developed from his Praxinoscope, the Théâtre Optique (1888), set up an apparent contradiction: this screening machine released animation from its cyclical confinement in previous devices to projection on a screen; however, animation does not exist but by means of an apparatus — and *for* a Demiurge that shapes it. However, the Demiurge himself is absorbed by fiction, entering the space of the machine-environment, as in the myth of the mad inventor *devoured* by his own inventions —Dr Moreau assassinated by his Beast Folk, or Morel dying due to voluntary exposure to his machine.[17] The tragic outcome of 'mad scientists' — the Demiurges imagined by Jules Verne or H.G. Wells, from Captain Nemo to the invisible Griffin — puts the machine-environment in a space between animation and literature.

Nevertheless, the machine-environment rarely works as a single *machine*, but needs its complement, the *environment*, to work properly. In *The Invention of Morel* the machine re-animates the inhabitants of the 'Museum', the house; and these inhabitants transform the abandoned island — a place supposed to be ravaged by a disease — into a place of strange properties that deceive the castaway. In science-fiction and fantasy writing, [18] the main characters' misfortunes often occur in an isolated place: the *island*, which does not

represent nature but rather a laboratory where individuals endure extreme situations, imaging an experimental model of society or a specular image of civilisation. The unpredictable features of the island, often with unusual flora and fauna, are also present on distant planets, lost continents or parallel universes, because isolation has made them original and unique.

However, the machine-environment behaves as a more sophisticated engine of fiction when it establishes a structure of concentric circles between different typologies of isolated sceneries: ghost cities, old castles, abandoned houses, lost ships, mad scientists' laboratories, labyrinthine constructions, etc. More recently, in cinema, these 'haunted hotels', enchanted or futuristic, illustrate a more convoluted idea of the machine-environment as a mirror-place, familiar and unfamiliar at the same time: these illusory places take the evil inversion of reality as a modus operandi. Examples are the disturbing Red Room in David Lynch's *Twin Peaks* (1990-91) — recalling 'redrum' ('murder' spelled backwards), the ominous palindrome in Stanley Kubrick's *The Shining* (1980), a story about mazes, labyrinths, and mirrors as means of disintegrating space and time, or like the deceptive chrysalis in the Wachowsky Brothers' *The Matrix* (1999), which engenders and hosts fiction.

Despite the inherent complexity of such a fictional strategy, sometimes the machine-environment appears as plainly as a simple box in the middle of nowhere:

> Let me put it so you'll understand. Picture a box. You know something about boxes, don't you John? What if I told you that, somewhere on this island, there is a very large box and whatever you imagined, whatever you wanted to be in it when you opened that box, there it would be? What would you say about that, John? (Benjamin Linus in *Lost*, 2004-2010, 'The Man from Tallahassee', episode 62, 2007)

Paraphrasing Omar Calabrese's characterisation of the literary island as a prevalent place for invention, the true essence of the machine-environment

would be "its capacity to produce passions", mirroring our intimate wishes and feelings (2009: 32, translation by the author).[19] In this sense, probably the most outstanding example of machine-environment generated by animation cinema are the 'metaphysical machines' that occupy a prominent place in the Quay Brothers' filmography: an object to "create an alternate universe […] not a dream or a nightmare but an autonomous and self-sufficient world, with its particular laws and lucidity" (Buchan, 2011, p. 114). These machines put the world under a magnifying glass, like the Kinetoscope or peep-show that contains the universe of *Street of Crocodiles* (Quay Brothers, 1986); or more recently the musical automata from their film *The Piano Tuner of Earthquakes* (2005), not in vain a free reinvention after Bioy Casares' novel. The islands' artificial ghosts are transformed into stop-motion animated artefacts restricted to dioramas, a set of machines that condition the life and feelings of the islanders.

As a re-animating machine *The Invention of Morel* reenacts earlier science-fiction novels by H.G. Wells and L'Isle-Adams; but also texts by Verne, Edgar Allen Poe, and Daniel Defoe are revived in Bioy Casares' book — which has Verne's *The Carpathian Castle* (1892) as a main reference, a story of amorous fascination with the ghost of a singer. The castaway from the Argentinian novella falls in love with an artificial woman *because* of her spectral nature: "to be in love with one of those images was worse than being in love with a ghost (perhaps we always want the person we love to have the existence of a ghost)" (Bioy Casares, 1940: 75). Like in Chris Marker's *La Jetée* (1962), the story is an artefact that recalls — but never as a rescue for the living — the image of a spectre. To conclude this section, it can be argued that as it re-animates literature, the machine-environment revives a story of eternal reenactment; presumably the same story where a man tries to save his beloved from Hades, only to lose her again, of Orpheus seeking his Eurydice.

Conclusion

It will be possible for all souls, both those that are intact, and the ones whose elements have been dispersed, to have immortality. […]. To make a single man (who is now disembodied) with all his elements, and without letting an extraneous part enter, one must have the patient desire of Isis when she reconstructed Osiris.

Adolfo Bioy Casares, 1940: 78

This article has shown how *The Invention of Morel* traces a genuine association between cinema, simulacra and early myths, and it includes them in a technological context of a device which animates believable doubles of human beings. Moreover, a transversal reading of *The Invention of Morel* not only suggests the refabrication of the human by its mediating technologies, but also points to literature discussed as presenting a machine-environment: a laboratory where literature is the product of a (re)animated series of succeeding texts and unsuspected myths. Bioy Casares' novella has inspired a vision of the island as a re-animating space, proposing a contradictory return to animism through the manufactured, with the reanimated as "lifedeath" (Cholodenko, 2004: 102). Ultimately, the book suggests a story of eternal repetition, actualizing a mythical story of death and rebirth: the re-assembling of a fragmented God made of flesh that, as the citation above suggests, is inherent to almost all religions.

The magic of this story is probably encrypted in its title, the name of the alchemist, the mad inventor: Verne's Moreau, Bioy Casares' Morel, but also a female counterpart, Morella. *Morella* (1835), by Edgar Allan Poe, is a suspense story in which a young woman, fond of the dark arts, finds a way to reincarnate herself, assuming the form of her own daughter, during whose birth Morella died, by adopting her shape while keeping the identity of her spirit. Although latent, Morella's spirit manifests itself when it finallypossesses the girl when she reaches adolescence. In this coincidence of names, I see this fiction as a mere pretext with which the human tries to preserve themselves from death, as

Hélène Cixous suggests from her reading of Freud's 'The Uncanny': "Neither real nor fictitious, 'fiction' is a secretion of death, an anticipation of non-representation, a doll, a hybrid body composed of language and silence that, in the movement which turns it and which it turns, invents doubles, and death" (1976, p. 548). *The Invention of Morel* illustrates the human need for endurance, our secret hope of immortality, re-animated in a technological double in our "officially post religious intellectual culture" (Nelson, 2002, p. 20).[20] Fiction reanimates characters, narratives, universes… In other words, it reanimates a cryptic complex not restricted to film animation, but composed of the uncanny and the return of death as spectre. In the case of *The Invention of Morel*, the crypt is the island itself.

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Notes

[1] Quoted in Pichon Rivière, 1991, p. 85 (translation by the author).

[2] Original citation: 'Autrement dit: tout film d'animation digne de ce nom produit une invention (une mise au jour) de la fantasmagorie, et, donc, dans sa version la plus complète, rejoue l'invention du cinéma.' Joubert-Laurencin, 1997, p. 67.

[3] As characterized by Alan Cholodenko after Derrida, 'lifedeath' is 'both dead and alive, neither dead nor alive, at the same time. […] Which means not only that the work of mourning cannot be completed, but also that the incorporation is never finished' (Cholodenko, 2004, p. 102).

[4] 'Il n'était pas impossible d'imaginer, dans un film de science-fiction de 1982, un voyage dans une image en trois dimensions, comme les simulations

d'ordinateur nous y ont habitués, mais ce n'est pas le cas, car l'intérêt de *Blade Runner* est d'instaurer ce mélange de nouveauté et d'archaïsme, qui est un vraisemblable propre à la science-fiction.' Joubert-Laurencin, 1997, p. 125 ('It was not impossible to imagine a science fiction film 1982, a trip to a three-dimensional image, such as computer simulations we have used, but this is not the case, as *Blade Runner*'s interest is to establish the mix of new and archaism, which is a likely specific to science fiction.' Translation by the author).

5 Original citation: "¿Somos verdaderamente relevantes? Si podemos fabricar un ente autónomo que tenga todas nuestras características y ninguna de nuestras debilidades, ¿a quién le importará que desaparezcamos después? […] Por eso los replicantes de J. F. Sebastian en *Blade Runner* tienen fecha de caducidad. Son demasiado mejores que nosotros para seguir caminando mucho rato por ahí." Bueno, Peirano, 2009, p. 283 ('Are we truly relevant? If we can make an autonomous entity that has all of our features and none of our weaknesses, who will care to disappear next? […] J. F. Sebastian's replicants in *Blade Runner* have an expiration date. They are much *better* than us to keep walking around a long time.' Translation by the author).

6 'The crucial thing about automata is their enchainment. They can be extremely sophisticated but at the same time very basic in terms of what they can do' (Stephen & Timothy Quay, *The PianoTuner of EarthQuakes*, Press Kit, quoted in Buchan, 2011, p. 121).

7 Original citation: "puede ser que, ciertamente, los autómatas no tengan de la vida sino una apariencia y que la posean por una conciencia apreciada por el dualismo cartesiano. Por lo mismo, no son más que apariencia, lo que significa que en ocasiones transmiten una imagen más fuerte que lo real: en efecto, pueden tomar una forma que se corresponde perfectamente con nuestros deseos." Gyger, 2009, p. XI ('automata might certainly have no life but an appearance of it, and they possess it due to a conscience appreciated by Cartesian dualism. Therefore, they are nothing more than appearance, which means that sometimes they convey an image stronger than reality: indeed, they may take a form that perfectly matches our desires.' Translation by the author).

8 "A great Berkeleyan fiction in which *esse est percipi* is pushed to its ultimate consequences". Original citation: "Un grande fiction berkeleyenne dans laquelle le *esse est percipi* est poussé jusqu'à ses dernières conséquences", Max Milner, 1982, p. 244 (quoted in Joubert-Laurencin, 1997, p. 258).

9 "The foundational 'visual premises' of Final Fantasy — that is, the computational computergraphic grounding of the film's 'humans' — are semiotically incompatible with the film's narrative or 'visual argument': that what animates, inspires, and gives life is organic, not technological, production." (Sobchack, 2006, p. 176).

10 "Animation corresponds, as Eisenstein implies, to a condition of organic production. Animation is not the result of the lifelessness of a mechanical reproduction but is itself life-giving." (Broadfoot, Butler, 1999, p. 273).

11 Original citation: "En *The Polar Express* la crítica especializada y el público destacaron la sensación espeluznante que producía el ojo estático. Se la llamó entonces "síndrome del ojo muerto" (*dead eye syndrome*). Los modelos y la animación resultaban realistas, pero en los ojos se notaba esa falta de alma. Para paliar ese "defecto", en *Beowulf* el mismo equipo trabajó con un sistema de captura de la pupila. De todas maneras, muchos críticos destacaron nuevamente esa falta de alma detrás de la mirada." Dematei, 2011, p. 191 ('In *The Polar Express* critics and the public highlighted the creepy feeling that produced the static eye. Then it was called 'dead eye syndrome'. The models and animation were realistic, but you could tell in his eyes that lack of soul. To alleviate this 'defect' in *Beowulf* the same team worked with a pupil capture system. However, many critics noted again that lack of soul behind the eyes.' Translation by the author).

12 Inversely, the 'illusion of life' is more easily achieved when human characters tend to be more cartoony — when the 'deviation' is purposely broad —, when exaggeration is applied to animated movements to catch the 'spirit' behind the actions.

13 Original citation from Maxim Gorky's chronicle, *The Kindgom of Shadows*, written on July 4th, 1896, when he saw the Lumière's films at the Nizhni-Novgorod fair in Russia: "Last night I was in the Kingdom of Shadows. If you only knew how strange it is to be there. It is a world without sound, without color. Everything there – the earth, the trees, the people, the water and the air – is dipped in monotonous grey. Grey rays of the sun across the grey sky, grey eyes in grey faces, and the leaves of the trees are ashen grey. It is not life but its shadow, it is not motion but its soundless spectre." (Quoted in Harding, Popple, 1996, p. 5).

14 Original citation: "Ce mythe moderne se distingue de la plus banale perte de maîtrise de l'inventeur (dont le paradigme est *Frankenstein*), et enrichit celui de la marionnette humaine, invention du Romantisme: il s'agit d'une indistinction

entre être et paraître, combinée à un processus machinique répétitif, et entée sur une appréhension narcissique monstrueuse de la figure du double." (Joubert-Laurencin, 1997, p. 257).

[15] "Mais au spectateur de cinéma, il n'est pas réservé tout à fait le sort du narrateur, obligé de se programmer pour l'éternité, et pour personne, acteur d'un "play-back funèbre dérisoire et déchirant" (Milner, p. 250)" Joubert-Laurencin, 1997, p. 263 ("But the film spectator, it is not just quite the fate of the narrator have to be programmed for eternity, and for anyone, a player of a "funeral play-back, pathetic and heartbreaking" (Milner, p. 250)." Translation by the author).

[16] "Le narrateur, qui, par désespoir et par amour, finira par entrer volontairement dans la répétition indéfinie du spectacle autoperceptif des doubles, "en s'intercalant par surimpression". Comme le dit très bien Max Milner, se verra, au terme de l'opération, glabre, chauve, sans ongles, et enfin, mourra totalement écorché." Joubert-Laurencin, 1997, p. 261 ("The narrator, who by despair and love, will finally enter voluntarily the indefinite repetition of the self-perceptive spectacle of the doubles, "inserting himself by overprinting". In the words of Max Milner, at the end of the operation he will be hairless, bald, without nails, and finally dies completely skinned." Translation by the author).

[17] Paradoxically, such an ominous destiny was shared by *real inventors*, animation pioneers such as Plateau, Reynaud, but also by Georges Méliès and Émile Cohl, who endured parallel stories of self-destruction.

[18] Omar Calabrese appreciates: "Entre los casi 1200 territorios imaginarios catalogados por Gianni Guadalupi y Alberto Menguel en su *Manuale dei luoghi fantastici* (Rizzoli, Milán, 1982), más de la cuarta parte son islas. No se puede por menos de pensar que la coincidencia no es del todo casual, es decir que hay una relación muy estrecha entre la naturaleza misma de la isla y la posibilidad de inventar una." Calabrese, 2009, p. 13. ('Among the nearly 1,200 imaginary territories cataloged by Gianni Guadalupi and Alberto Menguel in their *Manual of Fantastic Places* (Rizzoli, Milan, 1982), more than a quarter are islands. We cannot but think that the match is not entirely accidental, ie that there is a close relationship between the nature of the island and the possibility to invent one.' Translation by the author.)

19 Original citation: "La verdadera esencia de la isla es su capacidad para producir pasiones. Así pues, la isla en realidad no existe: es siempre Neverland, la isla de Nunca Jamás. La isla de nuestros deseos y sentimientos." Calabrese, 2009, p. 32. ('The true essence of the island is its capacity to produce passions. Thus, the island actually doesn't exist: it is always Neverland. The island of our wishes and feelings.' Translation by the author).

20 'In our officially post religious intellectual culture, we miss the idols, too. Just as the mad scientist still carries the negative but still highly charged projection of the holy man who would otherwise have no place in our living culture, the repressed religion is also visible in representations of puppets, robots, cyborgs, and other artificial humans in literature and film.' (Nelson, 2002, p. 20).