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The digital face on the screen. Continuity and rupture in the history of the face in cinema

Samuel Solé

Abstract

The advent of computer-generated images in the late twentieth century marked a major turning point in the history of the face in cinema. An initial interpretation of these aesthetic changes might suggest that digital faces break with traditional representations of faces in films, which would disappear in favor of a simulacrum. However, this paper shows that the relations between digital faces and human faces are increasingly ambiguous, paradoxical, and multifaceted, shaped by both continuity and rupture. Drawing on the work of Jacques Aumont, according to whom the history of cinema is also the history of the defeat and undoing of the face, I argue that digital images do indeed break with the history of the face in cinema, not because they have completely defeated the face, but precisely because they have recreated and revived it within the very media responsible for its disappearance.

L'avvento delle immagini generate al computer alla fine del Novecento ha segnato una svolta importante nella storia del volto nel cinema. Una prima interpretazione di questi cambiamenti estetici potrebbe suggerire che i volti digitali rompono con le rappresentazioni tradizionali dei volti nei film, che scomparirebbero a favore di un simulacro. Tuttavia, lo scopo di questo articolo è quello di dimostrare che le relazioni tra i volti digitali e i volti umani sono sempre più ambigue, paradossali e multiformi, caratterizzate sia dalla continuità che dalla rottura. Attingendo al lavoro di Jacques Aumont, secondo cui la storia del cinema è anche la storia della sconfitta e del disfacimento del volto, sostengo che le immagini digitali rompono effettivamente con la storia del volto nel cinema, non perché abbiano completamente sconfitto il volto, ma proprio perché lo hanno ricreato e fatto rivivere all'interno degli stessi media responsabili della sua scomparsa.

Keywords

CGI; digital face; film studies; uncanny valley; virtual actor

CGI; volto digitale; filmologia; zona perturbante; attore virtuale

The face has been historically considered the essence of cinema. In the late nineteenth century and early twentieth century, movie images created a new mode of visibility for the face. Film directors such as Ingmar Bergman emphasized the ability of the cinematographic apparatus to examine and investigate the face: “The possibility of drawing near to the human face is the primary originality and the distinctive quality of the cinema”¹. As a result, the digital age brings about a dramatic change in the very nature of cinema, as virtual actors progressively replace real actors in more and more film productions. In the same way that digital films are replacing analog films, human faces are disappearing under digital faces, thus foreshadowing a faceless and fleshless future for cinema.

Previous works in film studies have focused on digital humans as wholes, but few researchers have addressed the crucial issue of digital faces in particular. In broad terms, I define digital faces as three-dimensional representations of human faces, modeled and animated in a graphic interface and rendered visible on a computer monitor. This paper calls into question the relations between digital and human faces and assesses whether it marks a continuity or a rupture in the history of the face in cinema. At first sight, this relation raises a significant problem, as digital faces both dissimulate and simulate human faces. Although they negate human faces, they seek ways and means to reinvent and visualize this lost referent in the very same medium that leads to its loss.

This ontological uncertainty could account for the experience of uncanniness produced by virtual actors, often compared by audiences and critics with automatons, cadavers, and dummies. As an explanation, the theory of the uncanny valley assumes the existence of a correlation between the resemblance of a non-human object to a human figure and the emotional response of the observer to the object². A non-human object that vaguely resembles a human figure elicits positive responses, but above a certain threshold of resemblance, it elicits negative responses. A human-like object that almost perfectly resembles a human figure, such as humanoid robots or prosthetic hands, but without achieving perfect

¹ I. Bergman, as quoted in G. Deleuze, *Cinema 1: The Movement-Image*, trans. H. Tomlinson, B. Habberjam, University of Minnesota Press, Minneapolis 1986, p. 99.

² See M. Mori, *The Uncanny Valley [From the Field]*, trans. K.F. MacDorman, N. Kageki, in “IEEE Robotics & Automation Magazine”, 19, 2, 2012, pp. 98-100.

resemblance, provokes a strong feeling of eeriness because it dissolves boundaries between the Other and the Same, human and non-human, living and non-living.

However, looking back to the history of cinema, faces in films were already uncanny, foreign to themselves, long before the invention of digital faces. According to Jacques Aumont, the history of cinema is also the history of the defeat of the face (*la défaite du visage*). In French, the term *défaite* can be used in several ways. First, it is the loss of a battle or a war. Second, it is the noun of the verb *défaire*, to undo what has been done, to reduce something to the state of separate elements. The author plays on this polysemy when he evokes the defeat of the face. Cinema would be the site of a war between faces and images, a war that faces have finally lost, as they have been reduced to the rank of ordinary images, graphic and plastic objects, decomposable and recomposable elements, by the action of camera angles and shots, editing, lighting, makeup, and special effects. Jacques Aumont argues that a certain tendency in the films of the seventies and eighties has de-faced the face³. Filmed faces are prey to a perpetual turning in on themselves, as the ever-present materiality of the image, too present, engulfs them with luminous grains, and ultimately ruins them⁴. Paradoxically, cinema was the last apparent refuge of faith in humanity, but the very excess of this faith has led to abuse and destruction of the face⁵.

Whereas digital faces seem to prolong and confirm the defeat of the face, vanishing under digital images, they also seem to announce the revenge of the face, that digital films restore by mimicking its visible appearance and incorporating vestiges from its lost referent. On the one hand, digital faces pursue the defeat of the face in continuity with the history of cinema, as they negate faces as biological and physical features. On the other hand, faces once again become one of the main aesthetic and technical concerns of some digital films in rupture with the history of cinema. The coexistence of these two contradictory movements appears as the sign of a crisis in the figuration of humans, maybe at the origin of the experience of uncanniness that can arise when seeing human-like faces on the screen. In the following lines, I will discuss this insoluble contradiction and attempt to systematize a theoretical framework for digital faces in films.

³ J. Aumont, *Du visage au cinéma*, Éditions de l'Étoile/Cahiers du cinéma, Paris 1992, p. 150.

⁴ *Ibid.*, p. 158.

⁵ *Ibid.*, p. 184.

The defeat of the face in cinema manifests itself in two partially overlapping ways: defacement and effacement. The defacement refers to the set of cinematic operations, such as cosmetics and prostheses, that ostensibly manipulate and transform faces into something else. In digital films, visual effects are an extension and improvement of these practical techniques. Fantasy, horror, and science fiction films offer a gallery of improbable digital portraits caught between animal origins and human becoming. Examples include the cursed pirate Davy Jones in the saga *Pirates of the Caribbean*, with shell-encrusted face and tentacular beard, and the chimpanzee Caesar in the saga *Planet of the Apes*, with simian face and human eyes. Digital faces thus reverse in a retraction movement the evolutionary history of human faces, which Peter Sloterdijk refers to as protraction: a “biologically and culturally motivated setting apart of human faces from animal faces”⁶. Digital faces eat away at human faces from the inside, bringing out their bestial and primitive origins.

Simultaneously, the effacement inflicts an even more irreparable evil by turning faces into deceptive images: human-like faces pretending to be human faces while being mimicry. In this situation, digital faces are monstrous, not because of their ostensibly inhuman nature, but because of their confusing proximity to human faces. What constitutes the ontology of the face, seen as the first sign of humanity, is erased in favor of a phantom image, an empty shell, drained of all moral and spiritual values. Serge Daney hence notes that anyone who has followed the adventures of the image over the last ten, twenty, or thirty years, has observed the strange “effacement” of the human face. He also states that the war between face and image in cinema has ended up with the triumph of the image over a twice-lost face⁷. In this sense, virtual actors seem to speed up the movement of the disappearance of faces in cinema, as they make real actors dispensable, if not superfluous.

The first digital film to simulate realistic humans, *Final Fantasy: The Spirits Within* (2001), marks a precedent in the history of cinema. In this eschatological science fiction fable, humans are facing extinction by an alien inva-

⁶ P. Sloterdijk, *Between Faces: On the Appearance of the Interfacial Intimate Sphere*, in *Spheres*, vol. I, *Bubbles: Microspherology*, trans. W. Hoban, Semiotext(e), Los Angeles 2011, pp. 163-164.

⁷ S. Daney, as quoted in J. Aumont, *op. cit.*, p. 149.



Fig. 1 - Aki Ross facing a digital skull in *Final Fantasy: The Spirits Within* (2001)

sion. The faces of characters may appear as the last sign of humanity in a lifeless and desolate world, but ironically, all of them remain devoid of life and humanity, for they are only fake humans. The film yet uses aesthetic strategies to anchor virtual actors in digital corporeality. In one scene, Aki Ross, the main character, finds a corpse whose skull is shown in a close-up (fig. 1). A shot/reverse shot opposes the digital face and the digital skull, which seems to remind the character of her finiteness, in the manner of vanitas paintings. This macabre picture leads us to think that virtual actors are mortal beings as we are. Under their digital envelope, they would have a bodily interiority, a carnal depth. The film incorporates the mental picture of death to overcome the superficiality of digital images. It introduces

notions of life and death to compensate for the undecidable nature of virtual actors, both alive and dead, absent and present, human and non-human. By opposing her digital face with the image of a skull as a symbol of death, it enhances the living presence of the virtual actress and makes the audience forget that she is only an image after all.

Referring to Emmanuel Levinas' philosophy of the face, perhaps the defeat of the face is not the disappearance of the visible subject, the face as an assemblage of flesh, organs, and skin, but the disappearance of an invisible subject, the ontological value of the face, irreducible to material contingencies, as the face exceeds the limits of the physical experience and becomes the moral bond between humans at a metaphysical level:

To manifest oneself as a face is to *impose oneself* above and beyond the manifested and purely phenomenal form, to present oneself in a mode irreducible to manifestation, the very straightforwardness of the face to face, without the intermediary of any image, in one's nudity, that is, in one's destitution and hunger.⁸

As flawless images lacking the imperfections proper to humans, virtual actors perpetuate the natural tendency of analog films to freeze movie stars in glamorous poses and to expose their eternal perfection beyond the filmed flesh. Jacques Aumont describes glamour as an operation without revelation that produces, at best, a beauty external to the film and the face as well: a star-like beauty, promotable, saleable, consumable, in short, a commodity⁹. Like movie stars, cyberstars are becoming fetishes, images that arouse desire by their mere prestige as images. For instance, the virtual actress Aki Ross is featured in publicity materials that were circulated in adult magazines¹⁰, which shows the glamorization of virtual actors alongside real actors, whose images gain independence and autonomy from their fleshy origins. If digital images can satisfy the desire to identify with movie stars, Barbara Creed also suggests that an experience of uncanniness inevitably accompanies this identification: "Asked to identify with a cyberstar, the spectator would be haunted by a sense of uncanny:

⁸ E. Levinas, *Totality and Infinity: An Essay on Exteriority*, trans. A. Lingis, Duquesne University Press, Pittsburgh 1969, p. 200.

⁹ J. Aumont, *op. cit.*, p. 64.

¹⁰ *Maxim* magazine named the virtual actress among the hundred "hottest women" of 2001. She appeared on the cover of an issue, posing in a purple bikini with a glamorous look.

the image on the screen appears human, and yet is not human. The glamorous other is a phantom, an image without a referent in the real, an exotic chimera, familiar yet strange”¹¹.

The causes of the experience of uncanniness may lie in the face of virtual actors, in particular in their absent gaze and pre-calculated expressions. The eye is a complex organ difficult to simulate by using digital images because many biological parameters contribute to the expressiveness of the gaze: eyelids movements, fluttering of eyelashes, iris pattern, lacrimal secretion, ocular saccade, and pupillary response. Furthermore, the eye is highly charged with moral and spiritual meanings. We hold it to be the mirror of the soul and the vehicle of intentionality. In his dissertation on digital simulacra, Régis Cotentin says that, unlike the human eye which is distinguished by its brilliance compared to the rest of the body, the virtual eye is not different from the other parts of the robotic anatomy, and he vehemently concludes that virtual characters have no gaze¹². They are oblivious to the world around them, and their virtual eyes mechanically move in their orbits, maintaining no semblance of humanity.

Since the experience of uncanniness relies on the absence of emotion from virtual actors, it could find its origin in motions – the very matter of films, as motions are strongly related to emotions. The apathy of digital faces may result from the combination of two factors that arise from computer animation techniques: spatial and temporal divisions of facial motion. In the first place, the animation of digital faces comprises the animation of each part (eyes, mouth, nose), considered autonomous and independent of each other in space. In contrast to this approach, Georg Simmel asserts that the aesthetic significance of the face entirely depends on the unity of its parts: “From a purely formal viewpoint, the face, with its variety and diversity of parts, forms, and colors, would really be something quite abstruse and aesthetically unbearable – if, that is, the complexity were not at the same time a complete unity”¹³. Contrary to human faces, digital faces are not considered holistically as united and indivisible

¹¹ B. Creed, *The Cyberstar: Digital Pleasures and the End of the Unconscious*, in “Screen”, 41, 1, 2000, p. 86.

¹² R. Cotentin, *Du simulacre numérique : les images digitales au défi du vivant*, Ph. D. diss., Université Sorbonne Nouvelle, 2017, p. 126.

¹³ G. Simmel, *The Aesthetic Significance of the Face*, in *Georg Simmel: Essays on Art and Aesthetics*, trans. A. Harrington, University of Chicago Press, Chicago 2020, p. 232.

wholes, but analytically as assemblies of separate elements, which can explain their uncanniness and lack of humanity.

In the second place, the animation of digital faces is sequenced in time into a succession of key-frames, the most important steps of the movement, manually animated by a computer animator. Afterward, the computer automatically processes the missing frames to ensure the fluidity of the movement. This leads to the idea that digital faces shy away from photogenicity, a vague notion that initially refers to the supplement of beauty given by films or photographs to some faces. Jacques Aumont explains that photogenicity is better defined negatively as non-wanted, non-artificial, non-fabricated, non-conscious, and non-laborious. It is associated with unpredictability and volatility¹⁴. Contrary to photogenic faces, digital faces are calculated, manufactured, simulated, and turned by computer animation into a sequence of fixed facial expressions. They are thus anti-photogenic objects, if one considers photogenicity as an idealistic aesthetic, which sees the face as an organic, infrangible, total unity¹⁵. Since emotions of faces are anything but a path from pose to pose¹⁶, and digital animation is nothing more than spatial positions mechanically bound to one another, then digital faces cannot express any emotion as motion, as an indecomposable and continuous movement.

Rupture: The Digital Face in Search of the Human Face

To some extent, digital films have confirmed the defeat of the face, already transformed by analog films into definitely shallow images, devoid of interiority, devoid of expression, devoid of faceness¹⁷. Simultaneously, and paradoxically, digital films seem entirely polarized on this lost referent, the face, that they try to recover within digital images. The process of defacement and effacement hence finds a counterpart in the process of refacement across two different approaches: mimetic ideology and digital epiphany. The first focuses on the *face*, the visible and material aspects of the *visage*. It aims at the perfect resemblance between digital and human faces. The second focuses on the *visage*, the invisible and nonlocalizable

¹⁴ J. Aumont, *op. cit.*, p. 88.

¹⁵ *Ibid.*, p. 92.

¹⁶ *Ibid.*, p. 97.

¹⁷ *Ibid.*, p. 183.

presence behind the *face*. It is an attempt to reveal the face as a spiritual state beyond material contingencies and phenomenal appearances.

Although cinema is, as Christian Metz claims, a vast trickery¹⁸, faces have escaped until now the powers of the false: the audience has never wondered if the faces projected on the screen were real or not. Nowadays, the advance in visual effects makes it possible to simulate digital faces, sometimes difficult to distinguish from human faces. The purpose is to achieve a perceptually realistic image, Stephen Prince explains, “which structurally corresponds to the viewer’s audiovisual experience of three-dimensional space”¹⁹, through “scientific study and real-life observation”, Dan North adds, “to gain credibility as perceptually realistic, even without an indexical relationship between the image and its referent”²⁰. The accurate simulation of perceptually realistic digital faces thus relies on precise and extensive knowledge of the anatomy of the face: bone structure of the skull, facial muscles, histology of tissues, organs of perception, and skin texture. This is also necessary to understand the behavior of light on the surface of the skin, the specular reflection caused by sebum secretion, and the absorption and diffusion of light through skin layers.

Besides, digital faces are also judged in terms of photorealism. The conventions of realistic representations in analog films have become the criterion of verisimilitude in digital films. As Scott McQuire states, the credibility of digital images “is now judged, not against ‘reality,’ but ‘camera-reality’” because “camera based images have been internalised as a standard of true representation”²¹. In semiotic terms, photorealism is the use of digital media to replicate the indexicality of analog media, to substitute iconic signs for indexical signs. This is what Andrew Darley refers to as “second-order realism”²². The referent of digital films is not only the real world but the real world as it is perceived through the lens of a camera. The spectator must believe that he is seeing a real face filmed by a real camera, despite there being no face or camera. For this

¹⁸ C. Metz, *Trucage et cinéma*, in *Essais sur la signification au cinéma*, vol. II, Klincksieck, Paris 1972, p. 187.

¹⁹ S. Prince, *True Lies: Perceptual Realism, Digital Images, and Film Theory*, in “Film Quarterly”, 49, 3, 1996, p. 32.

²⁰ D. North, *Performing Illusions: Cinema, Special Effects and the Virtual Actor*, Wallflower Press, London 2008, p. 22.

²¹ S. McQuire, *Crossing the Digital Threshold*, Australian Key Centre for Cultural and Media Policy, Brisbane 1997, p. 5.

²² See A. Darley, *Visual Digital Culture: Surface Play and Spectacle in New Media Genres*, Routledge, London 2000.

purpose, digital films have to mimic indexical markers of the film recording of reality by non-indexical means, as well as face alterations caused by camera lenses: chromatic aberrations, depth of field blur effect, and optical distortions.

But actually, the digital simulacrum is never total, as it may incorporate elements that come from the film recording of reality. According to Lev Manovich, analog and digital media are never completely separate from each other. They must be understood as part of “a new hybrid aesthetics”²³ that intertwines both indexical and non-indexical images. In *The Curious Case of Benjamin Button* (2008), Brad Pitt’s face is digitized by laser scanning to make a three-dimensional model that can be changed to reflect the character’s reverse-aging process in the film, while a skin texture is mathematically wrapped around it using the technique of texture mapping. Even though Brad Pitt’s digital face is computer-generated, it still stands in an indexical relation with its referent, as the three-dimensional model and its two-dimensional texture come from the direct recording of data from the actor’s real face. Like silicone molds, digital faces would preserve the trace of their models.

Nonetheless, the attempt to portray realistic humans with digital images often fails. Matthew Butler and Lucie Joschko actually found out the audience prefers nonrealistic over realistic characters²⁴. Nonrealistic characters elicit identification from spectators, whereas realistic characters produce an experience of uncanniness. There are several plausible explanations for this result. In terms of neuropsychology, this phenomenon could result from a perceptual dissonance related to the perception of contradictory information, a figure that seems both human and non-human. In terms of evolutionary biology, it could be associated with a cognitive defense mechanism that allows individuals to identify and avoid abnormal individuals. A third explanation, advanced in this paper, is that the uncanny valley results from the pitfall of mimetic ideology, which only focuses on the visible surface of the *face* and misses the invisible depth of the *visage*, thus producing a feeling of eeriness.

²³ L. Manovich, *Image Future*, in “Animation”, 1, 1, 2006, p. 26.

²⁴ See M. Butler, L. Joschko, *Final Fantasy or The Incredibles: Ultra-Realistic Animation, Aesthetic Engagement and the Uncanny Valley*, in “Animation Studies”, 4, 2009, pp. 55-63.



Fig. 2 - Rosa Salazar performing her digital character in *Alita: Battle Angel* (2019)

According to Jacques Aumont, the real face is not the one visible, but the spiritual form to which this visible face alludes²⁵. In order to ward off the frightening superficiality of digital faces, animators and engineers develop techniques aimed at capturing the face as a spiritual substance, the back-face of which the face is the mask, beyond the simple image of the face. This is what may be called digital epiphany, as opposed to mimetic ideology. In contrast to human faces in the humanist age, represented for themselves, digital faces in the digital age are open to transcendence, and renew with religious iconology, connecting the spiritual nature of the image and its sensible appearance.

Performance capture is a striking example of the digital epiphany. This technique consists in recording and converting actors' facial movements and expressions into digital data to animate digital images. Since emotion and motion emanate from real humans and not from computer processes, this helps virtual characters avoid the uncanny valley. For instance, the animation of *Alita: Battle Angel* (2019) involved hardware devices and deep learning software to convey the subtle range of micro-expressions of Rosa Salazar, the actress who animates the virtual heroine of the film, as well as external factors that affect her face from one day to another, such as climate, fatigue, hydration, mood, and stress (fig. 2). The idea here is to capture what cannot be captured, the

²⁵ J. Aumont, *op. cit.*, p. 19.

permanent metamorphosis of faces, as described by David Le Breton, an evanescent form that nothing can capture, but which suggests the singularity of an individual²⁶.

In other words, this technique performs the abstraction of material faces to extract their immaterial movements. It seizes the being of the *visage* under the appearance of the *face*. This leads some film studies scholars to the conclusion that performance capture is equivalent to capturing a soul²⁷, as Renée Bourassa says, assuming that faces are indeed the place where the movement of the soul is expressed. This revives the revelationist approach of Béla Balázs, who in the twenties thought that cinema was able to reveal the invisible face of beings and things: “The invisible face behind the visible had made its appearance, the invisible face visible only to the one person to whom it addresses itself – and to the audience”²⁸. In this sense, digital films compensate for the defacement and effacement of faces by an extra touch of soul that is directly picked up from human faces and incorporated into digital faces.

Somehow, digital faces appear to be interfaced between actors and spectators, as a sort of ritual mask revealing the absent presence of the vanished comedian. Like the *prosopon* – the mask of Greek theater, digital faces dissimulate the actor’s face while revealing the soul of the character he embodies. According to Flavio de Bernardinis, the performance capture actor must intensify his play through gesture, voice, and posture, to make his presence felt, yet without being physically seen by the spectator²⁹. We recognize, for example, under the digital faces of Gollum, Caesar, or Haddock, the unique face of Andy Serkis, not because of any physical resemblance between the actor and the virtual characters, but precisely because the digital mask preserves the essence of his *visage* and its invisible humanity and rejects the anecdotal appearance of his *face*.

A couple of nuances should be introduced here. First, the argument that virtual characters faithfully reproduce actors’ performances does not consider “the contribution of the animators and designers who intervene

²⁶ D. Le Breton, *Des visages : essai d’anthropologie*, Métailié, Paris 2003, p. 10.

²⁷ R. Bourassa, *Capture de mouvement et illusionnisme : pour une anthropologie de l’effet de présence*, in M. Grosoli, J.-B. Massuet, eds., *La capture de mouvement : ou le modelage de l’invisible*, Presses universitaires de Rennes, Rennes 2014, p. 76.

²⁸ B. Balázs, *The Face of Man*, in *Theory of the Film: Character and Growth of a New Art*, trans. E. Bone, Dover Publications, New York 1970, p. 76.

²⁹ F. de Bernardinis, *Le “psychique” du rôle*, in M. Grosoli, J.-B. Massuet, eds., *op. cit.*, p. 93.

in the process³⁰, as Philip Auslander explains. Since performances need to be corrected and readjusted in postproduction to overcome losses occurring during the conversion process of movements into numerical data, the animation of virtual characters requires the co-participation of both actors and technicians. Second, narrative and promotional discourses of the film industry encourage the misleading, nearly unquestioned assumption that performance capture is equivalent to the transmigration of the actor's soul. For instance, *Avatar* (2009) features a former soldier whose mind is transferred into a cloned body remotely controlled by thought. Seemingly, this story is a metaphor for the performance capture itself and implies that this technique somehow transfers the actor's soul into digital avatars. While the mimetic ideology represents the visible appearance of the face and misses its spiritual substance, the digital epiphany seems to be just a discursive construction that does not reflect the practical reality of digital media techniques.

Face-to-Face: The Cinematic Face in Front of the Digital Face

A crisis is an event in history that holds together continuity and rupture, reunion and disunion, past and present. In this sense, digital faces are the sign of a crisis in the figuration of humans, as they are at a point of rupture between the defeat and the revenge of the face, two contradictory movements that momentarily merge into one another. First, digital films wipe the slate clean of the past by erasing faces, and this seems to usher in an age of the post-visage. Second, they cannot help but turn to this past referent and bring it back into the presence of digital images. Hans Belting summarizes the problem of the cyberface as follows: "As an image, a digital face is a paradox per se because it rejects the old task of illustration, and by analogy to a real face, loses its historical connection"³¹.

The very nature of cinema can explain this apparent contradiction. According to Jean Baudrillard, cinema is the art of simulacra *par excellence*. It

³⁰ P. Auslander, *Film Acting and Performance Capture: The Index in Crisis*, in "PAJ: A Journal of Performance and Art", 39, 3, 2017, p. 19.

³¹ H. Belting, *Face and Mask: A Double History*, trans. T.S. Hansen, A.J. Hansen, Princeton University Press, Princeton 2017, p. 240.

bypasses all of its referents, it is self-referential, and it absorbs and digests reality to replace it with its own simulacrum:

Cinema plagiarizes itself, recopies itself, remakes its classics, retroactivates its original myths, remakes the silent film more perfectly than the original, etc.: all of this is logical, *the cinema is fascinated by itself as a lost object as much as it (and we) are fascinated by the real as a lost referent.*³²

This tendency to subsume the real into the double of the real could account for both the defeat of the face, as described by Jacques Aumont, and its revenge, as suggested in this paper. As seen before, the face is the most privileged object of cinema, and just like all other cinematic objects, it has been abolished in cinematographic hyperrealism, doubled by its simulacrum, hidden by an image without a referent. In this sense, cinema would have annihilated the face to better recreate this original (and now lost) referent, as a computer-generated simulacrum.

But one question remains: what is the proper referent of digital faces? Several answers are plausible. If digital faces are aimed at representing faces as the lost object of cinema, then they do not represent faces as such but faces as cinema represents them, that is, cinematic faces, which themselves have human faces as a referent. In this view, digital faces appear to be the simulacrum of a simulacrum, and human faces a second-order referent. Digital faces imitate cinematic faces, and cinematic faces represent human faces. Surprisingly, the opposite is also possible, as cinematic faces sometimes imitate digital faces. For example, artists and engineers at Electronic Arts are used to “reverse engineered real-humans to make them appear virtual”³³, as Peter Plantec notes, by digitally removing details from real actors’ faces in video game cutscenes and trailers, such as skin texture and hair movement. In this paradoxical situation, cinematic faces have digital faces as a referent. The reason for this is that human faces stand out from video game aesthetics and are less consistent than digital faces within a digital world. Human faces must pretend to be digital faces to blend into the background. This counterintuitive observation may sug-

³² J. Baudrillard, *Simulacra and Simulation*, trans. S.F. Glaser, University of Michigan Press, Ann Arbor 1994, p. 47.

³³ P. Plantec, *Crossing the Great Uncanny Valley*, in “VFXWorld”, December 19, 2007, <https://www.awn.com/vfxworld/crossing-great-uncanny-valley>.

gest that the experience of uncanniness is not only dependent on digital faces but also on their medium and environment.

Perhaps there is a third relation between cinematic, digital, and human faces. Cinematic and digital faces can be grasped as two different modes of visibility for human faces, with no precedence or hierarchy between them. By eliminating cameras as physical objects, digital films can explore and navigate faces in unexpected ways, unknown to analog films. For example, in *Beowulf* (2007), the virtual camera records images that a real camera could not have recorded, by sneaking into the most inaccessible folds of the flesh with total freedom of movement. In the scene where Grendel attacks the Great Hall of King Hrothgar, the virtual camera goes inside the mouth of a screaming woman to show her vibrating glottis and tonsil. Then it goes out of her mouth to show her entire face and finishes its course behind the head of Grendel in a backward tracking shot.

By penetrating the reverse side of the face, by slipping into its cavities and orifices, the virtual camera becomes monstrous – in the proper sense of the term, from the Latin *monstrare*, *monstro*, to show, as it can cross the frontier of the body to show what cannot be usually shown. Although digital faces are, by definition, immaterial and disembodied, they remind us of the carnal and fleshy aspects of our faces and revive the unconscious anguish of incarnation, the “horrendous discovery here, that of the flesh one never sees, the foundation of things, the other side of the head, of the face”³⁴, as Jacques Lacan states. Whereas analog films build on material and incarnated faces, that of actors, to tend towards immaterial and disembodied images, namely, film icons, digital films start from immaterial and disembodied images to tend towards material and incarnated faces, a sort of digital corporeality. The experience of uncanniness would thus originate from the inherent contradiction between the diaphanous and ethereal ideal of the face and its biological and physical reality.

In this way, cinematic and digital faces are the exact opposite of each other. They travel the same path, between the material and spiritual poles of human faces, but each in the opposite direction of the other. This common ambivalence is perhaps the reflection of the ambivalence of the face itself, as a place of encounter and tension between body and soul. In her dissertation on the cultural reception of virtual actors, Lisa Bode defends

³⁴ J. Lacan, *The Seminar of Jacques Lacan*, vol. II, *The Ego in Freud's Theory and in the Technique of Psychoanalysis 1954-1955*, trans. S. Tomaselli, W. W. Norton, New York 1991, p. 154.

the idea that both analog and digital films can produce experiences of uncanniness, more broadly related to historically situated discourses that predispose the audience to perceive real and virtual actors as uncanny³⁵. During the industrial age, filmed humans were described as pale and silent shadows, lifeless automatons with jerky movements, hence reflecting the anguish of modern man's alienation by industrialization. During the digital age, the negative responses to digitized humans could similarly reflect the anguish of postmodern man's amalgamation with new technologies, the dissolution of ontological boundaries between bodies and prostheses, human and non-human, life and death, real and virtual. While analog films suggest humans may become machines, digital films suggest machines may become humans.



Fig. 3 - Schwarzenegger and his digital alter ego in *Terminator Genisys* (2015)

³⁵ See L. Bode, *From Shadow Citizens to Teflon Stars: Cultural Responses to the Digital Actor*, Ph. D. diss., University of New South Wales, 2005.

The confrontation of these two beings, the man-machine and the machine-man, is organized in an emblematic scene of *Terminator Genisys* (2015), where the Terminator of 2015, played by 68-year-old Arnold Schwarzenegger, confronts his 37-year-old double of the past, the Terminator of 1984, resurrected with digital images (fig. 3). This is the face-to-face of a cinematic face, that of Arnold Schwarzenegger, the man who became a sort of machine in both bodybuilding and cinema, and a digital face, that of a virtual actor, a machine in human form. The human is playing a machine, while the machine is playing a machine. This is the perfect simulacrum. During the fight, the man, made of flesh and bone, disfigures his digital alter ego, whose skin breaks and reveals a metal skull. The simulacrum is denounced for what it is, and the man emerges victorious against the machine. In front of his computer doppelgänger, with a digitally lifted, forever young face, Arnold Schwarzenegger is on the side of humankind. His aged and wrinkled face appears deeply human, because, unlike digital faces, the human face is, Jacques Aumont notes, a sign, an index of the passage of time, which it inscribes on a surface, for better or for worse³⁶.

Conclusion

In contrast to human faces, considered as the metaphysical evidence of humanity beyond phenomenal appearances, cinematic and digital faces run the risk of being nothing more than shallow images deprived of spiritual substance and interiority, such as automatons and cadavers, and therefore capable of producing an experience of uncanniness. Simultaneously, various aesthetic strategies attempt to restore the referential link between digital and human faces: mimetic ideology and digital epiphany. The first one tries to reproduce the visible aspect of the *face* to perfection using digital media techniques, whereas the second one tries to make visible the invisible aspect of the *visage*, hence reviving the revelationist approach of early cinema. These two partially overlapping approaches are more or less successful attempts to cross the uncanny valley by revealing traces of the face within digital images.

³⁶ J. Aumont, *op. cit.*, p. 193.

Despite prophetic speeches about the alleged death of cinema, it would seem that digital faces will not replace human faces in cinema, nor drastically change the nature of cinema itself. Live-action films with real actors are still dominant in contemporary cinema, and digital films with virtual actors only provide an alternative mode of visibility for the face, without claiming to replace it. Cinematic and digital faces are not human faces as such but representations of human faces in specific media. However, the choice of a medium is never neutral and always carries an ideological message about the represented object, consciously or not. The new mode of visibility introduced by digital images conveys the technological unconscious of our contemporary society, that is, the mental image that humans have of themselves through media and technology. What does it mean to digitize faces and produce computer-generated faces? Further research is needed to decipher the meaning of digital faces and how they reflect our conception of humanity in the digital age, within the framework of the semiotics of computer-generated images.

Biography

Samuel Solé is a graduate student in film studies at the École normale supérieure and the Université Sorbonne Nouvelle. From 2019 to 2021, he completed his master's thesis, *Visages virtuels : faces, interfaces et cyber-faces à l'ère numérique*, which focuses on the place of human faces in CGI films, digital media, and video games, from an aesthetic and semiotic perspective. Currently, he prepares a doctoral thesis project on the modeling and animation of digital faces in broader relation to the history of art and techniques.

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