# THE *CAMERA LUCIDA* (AND THE DIGITAL CAMERA): THE RE-MEDIATION OF PHOTOGRAPHY IN COMPUTER GENERATED ANIMATION*

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The *Winter Garden* photograph is the motivation behind Barthes' words in *Camera Lucida*. It is a portrait of his mother when she was only five years old, which he found while organising photographs after her death. For Barthes, these "were merely analogical, provoking only her identity, not her truth; but the Winter Garden Photograph was indeed essential, it achieved for me, utopically, the impossible science of the unique being" (BARTHES, 1981: 71). With this simple example, Barthes eloquently explains the power of photography: it is the testimony of the "that-has-been" and is no longer, and of what will never be again.

But nowadays, digital images, or "computer generated images" in the words of Román Gubern (2003: 133), are the symbol of a "a new post-analogue phase" and are more and more common in the contemporary iconosphere. They are images generated in a digital environment from mathematical calculations of the physical parameters of reality and cinematic reality, such as volume, the influence of light and shadow, materials, texture, atmosphere, movement, or the camera lens. The computer becomes a work station that allows us to create and preview objects that have never existed before, where "there are no limits but the computer itself, and any object or scenario can be created" (FERNÁNDEZ CASADO and NOHALES ESCRIBANO, 1999: 286); and where, unlike earlier image capture mechanisms (such as photography), there is no real referent. Computer graphics are not a representation of a pre-existing reality; they simply generate images as ones and zeros in a computer environment. But the fact that the image is no longer the testimony to a physical reality does not mean it does not contain traces of other media.


This is how we can understand computer generated images as a hybrid of different languages. A digital image can be defined as a *hyperimage* if it allows conceptual access to images of different natures, like cinema, painting, animation, typography, and obviously photography, as connections that establish links with other media. Likewise, these links with other media function as intertexts, and therefore the meaning of the digital image depends to a greater or lesser extent on the knowledge of these earlier media forms. Thus, in the heart of the digital image other earlier visual traditions seamlessly converge and are updated.

In order to explain the logic behind the *hyperimage* described here, it is necessary to offer a brief outline of the process of re-mediation[1] (a theory developed by Bolter and Grusin in their book *Remediation: Understanding New Media* [1999]), which can be understood as the formal logic through which new media reshapes earlier media forms, making use of a dual and apparently contradictory strategy: immediacy and hypermediacy. According to this theory, computer generated animation multiplies the references to earlier media forms (hypermediacy), with the aim of drawing attention to the medium itself, while at the same time trying to erase any evidence of a mediation (in order to achieve immediacy) so as to leave the spectator in the sole presence of what is represented. These strategies constitute what the authors call "the double logic of remediation", which is justified by the idea that "our culture wants both to multiply its media and to erase all traces of mediation: ideally, it wants to erase its media in the very act of multiplying them" (BOLTER and GRUSIN, 1999: 5).

Re-mediation —which is also considered by Spanish theorists like Román Gubern (2003), Josep M. Català (2005) or Gómez Isla (2004), with different nuances— proves that the immediacy and hypermediacy strategies are simply two sides of the same coin: the need the spectator has to access what is real. Bolter and Grusin propose various levels of re-mediation, and the computer generated image is placed at the most aggressive level, where media of different origins are blended into an integrated image and where, as Gómez Isla argues (2004: 546), the image constructs its critical discourse as a medium of production in the erasure of the seams between the different traditions that integrate a single image, as a digital polygraph.

What motivates this article is the complexity of the digital image, and in an effort to make my ideas tangible with extreme cases, I will analyse short advertisements created using computer animation. These will serve to explain the re-mediation processes that make the existence of *hyperimages* possible, and how the concept of truth, historically associated with photography, plays a central role in their construction. In this sense, Martin Lister's argument that the meaning of new technologies will not be understood unless they are related to photographic culture (LISTER, 1995: 2) acquires special significance.

## Photography as the essence of truth

The idea of photography as an objective medium originated from the fact that "for the first time an image of the world is formed automatically, without the creative intervention of man" (BAZIN, 2005: 13), marking a turning point in the development of artistic technologies. Until that moment, all the arts had

been founded on the presence of man, and only in photography may we benefit from his absence (BAZIN, 2005: 13). Its relative technological automaticity thus made photography, for the society that witnessed its birth, a transparent medium that represents reality objectively. Therefore, the essential phenomenon of photography lies in a psychological fact: the full satisfaction "of our appetite for illusion by a mechanical reproduction in the making of which man plays no part" (BAZIN, 2005: 11). Automaticity and mechanicity are therefore configured as processes that allow the exclusion of man from the photographic act and thus of any trace of subjectivity in the images, allowing a mimetic representation of reality that constituted a breakthrough in the history of representation.

In this way, the technical characteristics of the medium, which configure it as a process with an unprecedented level of automaticity, lead to the idea of the objectivity of photographic images; and this objectivity was transformed into truth, boosted by the historical and social context in which the medium developed. Thus, on the basis of its apparent mechanical objectivity, photography became the medium for representing truth. This belief was born with photography itself and the scientific context in which it was created, as "positivism and the camera grew up together" (ROBINS, 1997: 54). Positivism is characterised by a desire to record reality for the purpose of organising it and thereby establish absolute truth and control over the world. Therefore, "for the positivist, photography represented a privileged means for understanding the 'truth' about the world, its nature and its properties" (ROBINS, 1997: 54). As a result, "the photographic procedure, like these scientific procedures, seems to provide a guaranteed way of overcoming subjectivity and getting at the real truth" (MITCHELL, 1992: 28).

However, as Javier Marzal points out, "photography cannot be considered in a simplistic way, as a mimesis of reality. [...] This is why photography is defined as an impression of reality in which a mediation takes place, that is, a transformation of reality" (MARZAL, 2007: 61). The characteristics of objectivity and truth that were attributed to the medium at first are thus questioned in light of new theories that deconstruct the virtually automatic association of photography with the concept of realism (MARZAL, 2007: 58). Photographer and theorist Joan Fontcuberta expresses this question clearly when he positions himself on the opposite extreme and argues that all photography is a manipulation: "but ultimately, the choice of one from among various possibilities reflects a small dose of 'manipulation': framing is a manipulation, focusing is a manipulation, choosing the moment to shoot is a manipulation... The sum of all these steps is expressed in the resulting image, an outright 'manipulation'. Creating means manipulating, and the very term 'manipulated photograph' constitutes a flagrant tautology" (FONTCUBERTA, 1997: 125).

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According to the arguments put forward by Fontcuberta from the perspective of professional practice and theoretical reflection, the mechanical conception of photography as a technology that captures an image without the intervention of the photographer proves inadequate to explain the process of creation of photographic images, since a photograph involves a much more complex process than the mere capture of an image through optical, chemical and mechanical mechanisms. In this sense, Lister insists that "instead of focusing attention upon the photograph as the product of a specific mechanical and chemical technology, we need to consider its technological, semiotic, and social hybrid-ness; the way in which its meanings and power are the result of a mixture and compound of forces and not a singular, essential and inherent quality" (LISTER, 1997: 26).

### The *camera lucida* (and the digital camera)

Digital technology is rapidly achieving the status of a new essentialised medium, "[b]ut this time, not one which guarantees access to reality but one which celebrates that impossibility and offers to construct virtual ones instead" (LISTER, 1995: 11). Computer generated animation constitutes a digital representation that constructs virtual worlds like those referred to by Lister, especially when it is used in advertising and, beyond any doubt, *celebrates* the impossibility of guaranteeing access to reality. Despite this, computer generated images reproduce photographic culture by hybridising it from within. But what aspects of photography are re-mediated in computer generated animation?

I will take as a case study the famous Coca-Cola ad *Happiness Factory*, a mega-production by the French production company Psyop, which depicts the journey of a bottle through a vending machine. Amidst the caricatures that live inside the machine, the spot presents two elements that stand out for their photorealism. These elements are, on the one hand, the bottle and coin, and on the other, the setting. Obviously, this aesthetic choice is not accidental, since photorealism invest these elements with specific connotations that contribute significantly to communicating the values of the ad. The bottle and the coin have a photorealistic design which, in a different context, the eye would not be able to distinguish from a photograph. Its shape, the quality of materials and textures, the lighting and its animation respond to the logic of its real physical appearance, as can be seen

when the bottle goes down the ramp, and simulate perfectly the photographic image and the physical behaviour of the objects referenced. The reason for this is precisely to establish a continuity between the world inside the machine and the outer world, as these elements are the points of connection between the two. If they were caricatured, like the characters, the ad would lose its credibility because the whole journey through the machine would recall animation films based on fantasy.

In the same sense, the setting, like the bottle and the coin, is designed in a photorealistic way. If real characters had been used instead of caricatures, the spectator's eye would not doubt that the setting could be real. The landscapes are so physically credible they could have been photographed. Only in those shots where elements of the setting are shown in the foreground, like the grass and the flowers, can the eye perceive something artificial in the landscape. Nevertheless, the lighting, fog, snowflakes and clouds construct a perfectly real atmosphere. In addition to the landscape, the devices integrated into it, which are used to move the bottle from one stage to the next, have a photorealistic appearance as well, although at times it is mixed with some non-realistic figurative element typical of cartoons, like the hands that pick up the bottle to transport it from the mountainous landscape to the penguin landscape. These details invest the setting with a cartoonish touch, which is necessary so that it does not clash with the characters.

There are various parameters that combine to give the image this photorealistic appearance. The choice of textures is the first step to achieve this finish. In the ad, the landscape textures are not completely flat, but have plenty of tiny details drawn three-dimensionally. This endows them with a more realistic finish than if the texture had been completely flat, as is the case of the characters, which have a cartoonish appearance. On the other hand, the colours used for the models have a tone, saturation and brightness that make them stand out expressively: the grass is an intense green, the snow is blue and the clouds in the final scene are orange. For this reason, lighting is used to enhance the colours and the details of the textures, with plenty of luminosity so that the details of all the elements in the background can be observed. This aesthetic approach contributes to the generation of a photorealistic image a long way from images typical of children's cartoons, which are characterised by bright colours with no distinction of distance. Thus, the presence of these photorealistic elements in the midst of the caricatured characters endows the image with verisimilitude, making the spectator believe that the journey through the machine might have actually happened, which is precisely what makes this journey exceptional. The photorealistic element gives meaning to the look the protagonist gives the machine at the end of the ad.

This analysis leads us inevitably to search for the characteristics of photography that are re-mediated in the very essence of the digital medium. In order to do so, we need to return to the eloquent explanation provided by Barthes in his *Camera Lucida* on the essence of photography. His reflections are motivated by a desire: to know what photography is. In this respect, he tells us: "I was overcome by an 'ontological' desire: I wanted to learn at all costs what Photography was 'in itself', by what essential feature it was to be distinguished from the community of images" (BARTHES, 1981: 3). This is how he embarks on a subjective adventure, with little scientific rigour but plenty of pragmatic value, to try to define or explain, somehow, the feelings this expressive medium awakens in him and which in some way constitute a manifestation of the features of photography that are re-mediated today in digital images like the ones in the ad analysed above. His reflections are thus expressed in a document written in June 1979, just before the rise of digital media, and so its reinterpretation in the digital era applied to re-mediation in the digital image allows us to recover the essence of what a photograph means.

Barthes points out that the attraction that photographic images awaken in him does not lie in fascination or interest, but in adventure: "the principle of adventure allows me to make Photography exist. Conversely, without adventure, no photograph [...] I must name the attraction which makes it exist: an animation. The photograph itself is in no way animated [...] but it animates

me: this is what creates every adventure" (BARTHES, 1981: 19). Thus, we can think of the photographic image as an image that reaches the receiver, *animating* him like an adventure, because the image that is interpreted is one he can recognise, the sign of a reality that is familiar to him and that therefore can even be read as a mirror with memory, a testimony. Proof of this is the use the general public makes of photography: from pocket cameras to digital cameras or the cameras built into mobile phones, its main use is still testimony. This feature, deep-rooted in Western visual culture, is one of those that are most powerfully re-mediated in the digital image, which, despite being freed of the obligation to be a sign of reality, needs *anchors* to appeal to the public: the spectator needs familiar and recognisable elements in order to explore the image. And the photographic code provides them very efficiently. Thus, when it is used it awakens feelings, wounds in the spectator, which are held for him in the image. As Barthes points out, "as *Spectator* I was interested in Photography only for 'sentimental' reasons; I wanted to explore it not as a question (a theme) but as a wound: I see, I feel, hence I notice, I observe, and I think." In this way, the presence of photography in computer generated animation animates the spectator, making him a participant in an adventure that awakens a feeling that reminds him that he is alive, by putting him in contact with images that constitute an impression of reality and that ultimately inspire the human ability par excellence: thought.

But "[t]he Photograph does not necessarily say *what is no longer*, but only and for certain *what has been* [...] the essence of photography consists in confirming what it represents" (BARTHES, 1981: 85). The photograph represents what has been there and is not anymore. And by introducing photographic features in images, computer generated animation seeks to convey this idea. Thus, what also becomes evident is temporality as one of the fundamental aspects of photography, because essentially a photo means capturing a unique moment. Thus, for Barthes "what the Photograph reproduces to infinity has occurred only once: the Photograph mechanically repeats what could never be repeated existentially" (BARTHES, 1981: 4), while Sontag suggests that "all photographs are *memento mori*. To take a photograph is to participate in another person's (or thing's) mortality, vulnerability, mutability" (SONTAG, 1978: 15). Photographing something means capturing an instant that dies with the photograph, because it will never come back: "photography is a past-tense medium. It says 'that was there' not what is there" (MIRZOEFF, 1999: 74). As a result, in the act of photographing, the photographed object or subject is captured in only one moment and (im)mortalised in a snapshot. The photograph proves that this moment is unique and unrepeatable and therefore is born and dies with the photographic act itself. However, printing it on paper is a way of keeping it alive forever, since by making it eternal it can never die, thereby keeping one's own and the collective memory from forgetting it. Photographs thus acquire a special importance because "both our notion of reality and the essence of our individual identity depend on memory. We are but memory. Photography is therefore a fundamental activity engaged in to define ourselves, which opens a dual gateway to self-affirmation and knowledge" (FONTCUBERTA, 1997: 56). Turning a photograph into memory means turning it into part of our history and thus the photographic image acquires a special sentimental value which the cold and artificial digital image hybridises within it to awaken profound feelings in the spectator.

The feelings awoken by photographs are therefore based on the idea that the photograph is proof of the 'that-has-been', which means it can never lie: "photography never lies: or rather, it can lie as to the meaning of the thing, being by nature tendentious, never as to its existence" (BARTHES, 1981: 87). Thus, the highest value attributed to the photograph is that —even though its content might be a lie— the photographed instant has existed and printed in paper. It is precisely this value that is absent from synthetic photoreality, which does not need the photographic fact to have existed since it can be created without a real referent. That is, an image is created that is photorealistic aesthetically —the image of reality as perceived through image capture photochemical technology— but not essentially; in other words, no photographic instant ever existed. Bolter and Grusin argue that if perfect photoreality could be achieved by means of computers, photographs could be created without natural light. Thus, an image could be synthesised to satisfy the spectator's desire for immediacy without the need for the objects to have existed or to have been together at some point, which is precisely the condition that defines the photography Barthes talks about. This means that "[c]omplete success in computer photorealism would make nonsense of the term photorealism, because no one could any longer believe in a causal connection between the image and the world" (BOLTER and GRUSIN, 1999: 106). For Barthes, "[e]

very photograph is a certificate of presence. This certificate is the new gene[2] which its invention has introduced into the family of images" (BARTHES, 1981: 87). And though we know that this gene is a mere construction, the value of the photographic instant is precisely the main re-mediated feature in the digital image, because it anchors computer generated images in a point of reality that serves as a basis for spectators to enjoy synthetic images. As Lister points out, "we may then begin to see the *extent* to which the *new image technologies* are in an *active* relation, of some *dependence* and continuity, with a 150-year-old photographic culture" (LISTER, 1995: 8).

## Notes

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1 I prefer to remark the process of repetition by separating the prefix with a hyphen.

2 Translator's note: The English text of the Barthes quote does use "embarrassment", but this appears to be a mistranslation of the French word *gêne*, which can mean both "embarrassment" and "gene". The problem is, if it is left as "embarrassment", the referene to the "gene" in the next sentence makes no sense.

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