PHOTO-GRAHPHIES
MEMORIES OF THE ETERNAL PRESENCE IN THE AGE OF DIGITAL MORTALITY

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Visual communication has always been one of the primary forms of human expression and the re-evolution of its languages deeply marked and witnessed the world history. Moreover, since the digital era, we are leaving in between two phenomena: the so-called *société du spectacle* directly relying on images as social representation and the ‘information society’. More than ever, we are living an abundance of mass picture production thanks to mobile devices, and social network devoted to visual storytelling. Nevertheless, this profusion is dramatically changing the nature of images: from timeless memory-machines to ephemeral experiences to be shared and consumed in a sort of streaming ‘synopticon’. Besides, the perishable materiality of digital images, the low-resolution degradation, the absence of an ‘original’ and the technological obsolescence risk to erase original documentary sources forever. The paper presents and discusses the paradox the end of ‘mythography’ –the visual form history storytelling as we know it– and the cultural creation of the ‘eternal present’ due to the mortality of digital images.
‘GRAPHISM’ AS MEMORY-MACHINE

Many of the knowledge revolutions of human history have been arisen by innovations or, at least, a change, in the communication systems. Besides, many of these turning points have been determined by a visual language or a visual tool breakthrough. The pre-historic age images engraved, built or depicted in caves, stones, and open environment are the primary way to tell the story of tribes and population, to record their religious beliefs, crucial events or simply the daily lives. Pictures, symbols, sculptures, spatial landmarks were made to identify social belonging and cultural identities along with oral traditions (Lynch, 1960; Francescato & Mebane, 1973; Bagnara & Misiti, 1978; Bollini, 2017a, 2017b, 2011a, 2011b). Then, the concept itself of history broke into thanks to the ‘chirographic’ revolution. The invention of writing has been preceded by a long incubation period, according to the French archaeologist and paleoanthropologist Leroi-Gourhan, in which the complex relationship between visual and oral, manual and performative has produced a rich and original structure to tell the myths before they become historical narrations. “Indeed in primitive societies mythology and multidimensional ‘graphism’ usually coincide. If I had the courage to use words in their strict sense, I would be tempted to counterbalance ‘mytho-logy’—a multidimensional construct based upon the verbal— with ‘mythography’ its strict counterpart based upon the manual. The forms of thought that existed during the longest period in the evolution of Homo sapiens seem strange to us today although they continue to underlie a significant part of human behavior. Our life is molded by the practice of a language whose sounds are recorded in an associated system of writing: a mode of expression in which the graphic representation of thought is radial is today practically inconceivable” (Leroi-Gourhan, 1964, pp. 195-196).

Writing—in all its forms, from phonetic to pictographic notation alphabets—is one of the most significant milestones in the way knowledge is created and transmitted. Furthermore, it is the cognitive tool which frees humankind from the
limits of memory and co-presence in time and space (Bollini, Busdon & Mazzola, 2015). As stated by Sacasas (2011): “writing reconfigures the relationship of the individual vis-à-vis culture; it introduces a fulcrum by which an individual may extricate themselves (to significant degree, if never entirely) from their culture. With the introduction of writing, knowledge, memory, communication, and with these the self, is situated on a trajectory that runs from contextualised to abstracted, or from associated to alienated”. On the one hand, the chirographic technology creates an individual space for private stories and recordings alongside with the public and collective history. On the other hand, it creates the past and therefore the idea of obsolescence: “for it is at the moment of such transitions that the past becomes clear as a past, as obsolescent, and the future becomes clear as destiny, a challenge of the unknown” (Heim, 1986, p. 270).

However, alongside the ability to produce and share contents in the form of texts—that means a graphic transcription of the oral message, “the dressed word” as defined by Bruno Monguzzi (2003)—the visual language of images has developed its potentiality over centuries. Paintings, drawings and sketches—in the two-dimensional space—sculpture, bas-reliefs, volumetric and ‘archigraphics’ structure in the 3D world are the expressions—as in the prehistorical ages—through which people and society as a whole express and state their values, their beliefs, their symbolic meanings and their interpretation of the world.

Nevertheless, the masterpieces of art history have been often intended as an alternative language to convey and teach political, religious, and social principles and behaviours to illiterate people. In fact, the representation of reality, according to Pasolini (1969), is the act of construction and of knowledge of reality itself. The pictorial cycles depicted by Giotto in Assisi, the frescos of the Sistine Chapel designed by Michelangelo, the Ideal city painted by an unknown master, the Vitruvian man drawn by Leonardo, the Tiziano’s or Goya’s portraits, just to mention a few, embed the
ontological vision of the cultures and societies they belong to.

If a first revolution has been realised by the shift from orality to written forms of transcription, notation and recording of the speech and abstract thought, a second one is the invention of photography. This new technology gives back to the visual culture a primary role in documenting and witnessing historical facts, personal experience, famous personalities lives or intimate facts of ordinary peoples.

The first portraits—as always happen to innovations—mimic the past masterpieces and accept the iconography of the previous ages as a way to legitimate both the emerging social classes and the new technique to ‘signify’ reality.

As underlined by Paul Connerton in *How societies remember* (1989, p. 3) “we may note that images of the past commonly legitimate a present social order. It is an implicit rule that participants in any social order must presuppose a shared memory”. According to this perspective, the pictures of the most influential personalities of his age taken by Nadar (Figure 1), draw on the portrait tradition of paintings, but, at the same time create a new imaginary and a original way to witness history.

If paintings and statues have been the power representation iconography between monarchies, aristocracy, clergy and nobility, photography becomes the visual representation of the emerging social class: the industrial bourgeois. In the 20th century, the use of photography shifted from an elitist and technically expensive medium to a powerful tool to catch and witness reality and events. From the *Magnum*’s report commissioned by the *Farm Security Administration* (FSA) to document “the great depression” caused by the Wall Street Crash of 1929 (O’Neal, 1976) in the US, to the Robert Capa iconic shot of the falling soldier (1936) of the Spanish Civil War, or the *Pulitzer* winning picture of Kim Phuc taken in 1972 by Nick Ut, the photography was assume in the mass cultural debate as a reproduction of reality (Benjamin, 1931; Lemagny, 1993). Therefore, photographs and visual documents have been considered a vital and reliable resource in historical studies. Moreover, photographs often witness and preserve memories of not-yet-told stories, as often happen when studying women history: forgotten presences in an all-male world.
(Bollini, 2017b) (Figure 2). As underlined by Berger (1967, p. 8) “the photograph is about this actuality”: with this statement he defines the role of indisputable proof and the powerful impact that the photo of the death body of Che Guevara (transmitted broadcast world-wide) had in the mythology of Imperialism and its self-representation through the incontrovertible truth of a picture.

**DISINTERMEDIATION AND MEMORY SOCIALISATION**

The evolution of technologies, the transition from plate to exposed and developed chemical films, the *Kodachrome* patent in the 1930s and the introduction of the instant camera by *Polaroid* in the 1970s have transformed photography: from a professional business to a personal and amateur activity.

This technical and cultural transition opens an extensive discussion on the statute of photography. The ‘nature’ of photograph has been debated from many perspectives: Walter Benjamin in his writings—about photography (1931) and the impact of industrial revolution on the art system (1936)—faces the issue both from an historical and a cultural approach.

On the one hand, photography has been considered a form of art, as cinema and other disciplines not included in the subdivision of the classical paradigm, but moreover the symptom of a changing society under the pressure both of

human evolution and the production revolution. On the other hand, it represents a collective appropriation of technological innovation, a tool to develop a “trivia” aesthetic (Sontag, 1977). The issue has been explored also by Roland Barthes (1980), who names *studium* the public, the cultural and iconographic role of the photographs and *punctum* the intimate, personal relationship that they create with our emotional experience.

Also John Berger tries to define it as other than art focusing on the concept of “property” and “rarity” according to a socio-political interpretation: “By their nature photographs have little or no property value because they have no rarity value. The very principle of photography is that the resulting image is not unique, but on the contrary infinitely reproducible. Thus, in twentieth-century terms, photographs are records of things seen”. Beside, Berger shifts the question to a further level when arguing that “photographs bear witness to a human choice being exercised in a given situation. [...] The true content of photography is invisible, for it derives from a play, not with form but with time. [...] It isolates, preserves and presents a moment taken from the continuum” (Berger, 1967, pp. 18-20). So it seems that the real nature of a diffuse possibility to take pictures is not only the illusion to testify reality but furthermore the one to crystallize time and to fix it indefinability to be preserved for the future. These theoreticians and critics could not imagine the extent that the transition from analogue to digital would have had on the previous visual culture (the first digital cameras were introduced to the mass market the late 1980s), yet they had already grasped some expectations that would have been critical in subsequent evolutions.

In the last twenty years of the 20th century, shaped by the representation that has come down to us from cinema and photography, a further technological invention changes the situation again. The information technologies revolution, the development of the first photo-retouching software (*Photoshop* was introduced in 1988) and the “next big things” such as multi and hypertextual media (Bollini, 2004; 2001) and internet gives to professionals, in the beginning, and then to amateurs new powerful tools to modify and create digital pictures.
Later on, in the first two decades of the new millennium, the communication ecosystem and the IT world have been populated by two convergent phenomena: social media and mobile devices (Bollini, 2016a) which still have a considerable impact on the redefinition of the role of images in our social culture and personal experience.

_Flickr_—a platform to show, collect and share mostly photographs—was firstly introduced in 2004 and appreciated among “professional-photo-amateur” (Keen, 2002). Then _Instagram_ was developed for the iOS mobile system only in 2010 (the _iPhone_ was launched on the market as the first mobile device in 2007) to be an exclusive application. Filters were introduced both to make up for the limitations of digital cameras and to create a recognisable aesthetic of the “new” photography (Bollini, 2017c) then the app become widely spread by the _Facebook_ acquisition in 2012. The first social media entirely based on images sharing was _Pinterest_, presented in 2010, when other mass social media such as _Facebook_ and _Twitter_ already managed to include photos in their content streaming. The escalation of technological innovations and the dramatic change undergone by the world of photography have produced new scenarios both from the people perspective on fruition and of the structure of signification and production of the images themselves. As stated by Jaron Lanier making the point about the changes produced by IT in the field of music (disrupted by the commercial ecosystem created by the integration between the device—the _iPod_—and the marketplace), and applicable also to photography: “Making information free is survivable so long as only limited numbers of people are disenfranchised. As much as it pains me to say so, we can survive if we only destroy the middle classes of musicians, journalists, and photographers. [...] And all that destruction will come surely enough if the dominant idea of an information economy is not improved” (Lanier, 2013, p. 19).

The digital revolution, in fact, has definitely disintermediated the professional system and discarded the remained gate-keepers or other obstacles to a massive selfproduction and freely-shared dynamic that involves us all as individuals and as a society. Infinite scrolls of images with no authorship and, often, quality, a continuum of picture streaming going
around in our walls, granularity and recursivity of images and memes using the same shot to mean different messages have become our daily visual diet (see the surreal effect generated by the use of the same stock-photo in different context to convey different messages in Figure 3).

**INSTAGRAMMED LIFES**

If scarcity was not the first quality of photography, we now live in an era of abundance that seems to be almost infinite. Moreover, an abundance which questions two other issues concerning the nature and the role of pictures: their life-cycle and the presence of a source from which photos would be reprinted. With a smartphone—always—in our hand, we are less aware of the intention of taking a picture and enslaved in a vicious circle of an endless ‘point-and-shoot’ practice. If the real essence of a photograph was meant to be the ‘intention’ of the author to separate a specific moment from a continuum and to secure its the memory in the future, the digital photograph is an ‘ephemeral continuum’ made by a sequence to be consumed and forgotten. The act of taking a picture with real-time filters to be posted, shown, commented, liked on Instagram or other social media, well represents the subsequent paradox. Photos, considered a way to witness reality, are used to ‘photoshop’ it, to embellish or even to falsify it in an iterative process. Foods, locations, exhibits even people are requested to be photogenic, to “look good on Instagram”.

The frontier of this phenomena is probably well represented by a sort of social experiment: the Egg gang (Figure 4). A picture of an egg—with no particular meaning or quality—has been

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**Fig. 3** The same stock-photo has been used in three different messages:

a) a sexual-disfunction medication
b) an Italian government’s campaign to launch citizenship income initiative
c) a dental clinic advertisement.
intentionally posted just to involve users in a challenge to let it become the most ‘liked’ in the history of the social platform. The phenomenon has been brought to its extreme consequences by another social media: Snapchat who defines itself as “a camera company”. “We believe that reinventing the camera represents our greatest opportunity to improve the way people live and communicate. We contribute to human progress by empowering people to express themselves, live in the moment, learn about the world, and have fun together”. Its interaction model is based on pictures and short videos to be consumed in a few minutes and then to be deleted forever. Right ‘here’, right ‘now’ is the logic on which it has been built: over production, fast consumption, for ever disappearance. People do not own their picture any more: they just ‘snap’ and share them in a sort of ‘eternal present’ –as well depicted in the movie of Gondry Eternal Sunshine of the Spotless Mind– which gives no chance to the cultural preservation and dissemination that the history of visual artifacts has been rooted in since its origin.

**Fig. 4** The *Egg gang*: world record of a picture with more than 10 millions followers on *Instagram* (launched in 2018).

“LOW RESOLUTION” GENERATIONS

In his recent essay *Bassa risoluzione* Mantellini (2018) deals with the anthropological mutation that took place thanks to the digital revolution as the key to interpreting the contemporary world, that is, the reduction of our expectations. Contrary to what would have been expected, in fact, the relationship between technology and the quality of our lives,
seen as a progression, has been defeated. Whether it is politics, sound or images, a degraded, low-resolution profile emerges.

The issue involves two aspects of modernity: ‘public’ and ‘private’ discourse. On the one hand we have the aesthetics of Snapchat, the fragment that “sees in the abstraction of memory a value higher than that of the document and its preservation” (Mantellini, 2018, p. 8) that recalls, as Maeda (2006) already stated, the “Pointillism” and “Impressionism” and the “aesthetics of blur”. On the other hand, we are referring to the “transition from a society in which the story was selected through rigid and unilateral criteria to another in which the cultural ground can be seeded and watered by many different subjects” (Mantellini, 2018, p. 10).

The relationship with what Baricco (2018) calls the Oltre-mondo (Beyondworld) becomes the place where we play the new anthropology and our relationship with history and its instruments of memory and representation. It is a sort of digital copy of the real world in which everything is free, accessible, fluent. A ‘double motive force’ system of reality that, producing sense and experience, generates and is itself reality. In the ideal continuation of the discourse begun with the essay I barbari in 2006, the author further focuses on the mutation taking place in the culture of the Western world, which is not only a generational change, but “a systematic dismantling of all the mental armament inherited from nineteenth-century culture, romantic and bourgeois”.

If “digital migrants” find it difficult to navigate into this new territory because they use the instruments inherited from the analogue culture of the 20th century, the new generations of digital natives—from the Millennials to the Gen Z—consider technology and its devices as an extension of themselves, a “prosthesis” (Maldonado, 1987), not something that mediates the relationship with things or the world.

The concept of intermediation emerges forcefully in the debate on the 2.0 world. The accessibility and the apparent openness of everything that the net offers us seems to open worlds previously guarded or prevented by gatekeepers. On the other hand, the transition seems more apparent than real: the presumed disintermediation idealised above all by
the ‘noble’ fathers of the net, Tim Berners Lee in primis, has translated, in fact, into a change of intermediaries. Many authors have proposed critical reflections, when not alarmist, on the new conceptions of power, the informative and relational bubbles or the manipulation operated by algorithms, from Lovink (2008) to Russo & Zambardino (2009), from Metitieri (2009) to Lanier (2018).

The two critical strands that prevail in this debate have at their core two crucial issues: our relationship with reality, and the relationship between reality and digital.

Especially in the latter we play the role and meaning that images have, as a reproduction of reality, and their ontological status when they have become virtual themselves.

EPHEMERAL VS ‘DATAFICATION’

Nevertheless, one of the biggest contradiction of our “on-life” (Floridi, 2019) experience is the relationship between ephemerality and duration, i.e. instant and forever fragmentation of our life.

“Un ulteriore tema classico, quello della presenza nel tempo, esaminato da un caso particolare significativo: quello dell’identità dia cronica, che è reso tanto più urgente, rilevante e problematico quanto più le odierne tecnologie digitali dell’informazione e della comunicazione creano le condizioni per differenti forme di costruzione dell’identità nel tempo. [...] Ci sono, infatti, alcuni problemi classici riguardo all’identità personale che occorre aggiornare alla luce della rivoluzione dell’informazione. Questi problemi sono legati alla continuità nel tempo o entro determinati scenari futuri possibili. [...] La libertà di costruire le nostre identità personali online non è più la libertà di anonimato. [...] Piuttosto si tratta della libertà che associamo alle idee di autodeterminazione e autonomia. Non si può mentire così facilmente quando milioni di persone ci guardano. possiamo fare certamente del nostro meglio, però, per mostrare loro ragionevolmente chi potremmo o vorremmo essere, e ciò racconterà una storia differente al nostro riguardo che sul lungo periodo influenzerà chi siamo.
According to Floridi, it seems that the onlife world could be embellished, but not totally falsified because being under others scrutiny. To be regarded. To be under the public gaze through social platforms—Floridi mentions Facebook, LinkedIn, Youtube, Flickr, and Instagram—and their visibility reconfirm the apparent value of words and above all images as a reality surrogate. Images create the imaginary of our connected society that exists only when it is under our eyes. This tendency is confirmed by the growth of two different phenomena. On the one hand, the desire to fix every instant of our existence thanks to a continuum of images. It is the case of the visual “life-logging” (Öhlén, 2013) of Memoto Narrative Clip, a micro-camera able to take a photo every 30 seconds or Autographer (Coldwell, 2014), a wearable one, that create a ‘narrative’ of everyday life and software such as Narrative (2016) aimed to record and document automatically our lifes using the photo-camera to be shared. Human life is therefore dispossessed of one of its fundamental skills by the machine. The ability to create memory. To choose and discriminate what remains ephemeral, confined to the present, and what becomes memory and therefore history. This choice, according to Berger (1967), is the founding and conceptual act of photography. The border between real and virtual life (Bauman, 2014) is crossed by the reduction of people into (their) data. The ‘datafication’—the data processing of the existence—and thus the continuous tracking and recording of information finds its supporters of ‘transhumanists’ such as Kay Kurtweil, Google engineer, inventor and futurist, author of How to Create a Mind: The Secret of Human Thought Revealed (2012) a book about artificial superintelligence. A position that, in the long term, leads to synopticon—opposite to the panaopticon—in which buildings and space have been replaced by cameras and continuous visual and media exposure, as underlined by Chiusi (2014).

If algorithms are meant to record every aspect of human lives to create big-data base on which every experience is customised, on the other hand, memories, then become an issue
in the contemporary world. When everything is recorded, what's the role of remembrance, one of the most peculiar activity of humankind (Morin, 2015)? The question as been widely explored in novel and movies. In particular, the broken relationship between memories and experience is at the base of many dystopian plots. The leitmotiv is often the intimate connection or the falsification of what we think we had lived. The movie directed by Michel Gondry, *Eternal Sunshine of the Spotless Mind* (2004), the novel *Recursion* written by Blake Couch (2019) or the episode *Dangerous memories* of *Black Mirror* created by Charlie Brooker investigate and unveil the dissonance between a transient present and an artificial memory that loses its primary role, that of intimate elaboration of one's own experience, and with it the role of the image as a documental and documented fragment of that experience.

MEMORY, FOOTSTEPS AND SIMULACRA

According to the *Documentality* theory proposed by the Italian philosopher Ferraris (2009), the communication society is a documentation society. However, in his idea, the cultural reference is still ‘writing’ understood as a form of recording and, consequently, of finding the documentary or the link between the society and its traces. The crucial point, however, is the possibility of inscribing and preserving these ‘social objects’, whether they are real or digital, in order to be able, in the future, to retrace backwards the path done. In a society of images, based on highly visual communication tools and the role of traditional witness attributed to photographs leads us to ask ourselves about the change in the relationship between the image, its referent and the represented and its future communicative and testimonial value.

Mitchell, in the chapter dedicated to the realism of the photographic image and its relationship with the digital one, reproposes in a critical way precisely this assumption, that is, how much the image is a copy — “analog” — with respect to its referent. The suggested doubt is that the more the manipulation of the analog shot is difficult and complicated, the less it
is that of a digital shot, thanks to software within everyone's reach, such as Photoshop for instance. And that the imperceptibility of the 'spectrum of manipulation' to question 'all' digital photographs. He states, in fact: “these examples are called to weaken or at least question the predominant myth that digital photography has a different ontology than that based on chemical processes. and that this ontology imposes a different relationship with the referent, based on information, codifications and sets of signals (symbol dimension) rather than on the iconic and indexical dimensions of traditional photography. [...] it is based on the false belief of a misplaced concreteness, a type of vulgar technical determinism that believes that the ontology of a medium is adequately determined by the importance of its materiality and its technical-semiotic character” (Mitchell, 2017, pp. 199-200).

If the digital image carries within itself a kind of mistrust of its truthfulness and credibility and yet, most of our traces and textures are photos and selfies what 'narrability' do these tools offer, both present and future? In addition, if they are also manipulable over time, overwritable, falsifiable: what story will it be possible to tell? Or what happens if the technology in its next evolutions will be able to manipulate autonomously our images without that we are aware of it, as in the case of the photo editing made by a software based machine learning Deepfake app (Figure 5) intentionally programmed for that purpose?
As Baudrillard points out, in fact, the simulacrum is not something that hides the truth, but it is itself true: “Today [...] the simulation is no longer that of a territory, of a referential entity, of a substance. Today, it generates, through the models of a real without origin or reality: it is hyperreal, the territory no longer precedes the paper, nor survives it. Here and there are vestiges of the real that subsist, and not of paper [...] The desert of the real itself” (Baudrillard, 2008, pp. 59-60).

THE END OF THE (HI)STORY: THE ABUNDANCE OF PARADOX

The second issue, already mentioned above, is the relationship between the original or, the source –when shifting in the digital perspective– and its reproduction and the possibility of its preservation along time. The risk of this approach to material preservation is to face the paradox to hand down to posterity virtual copies, images or –better to say– simulacra of the originals without surviving connections with their original dimension. Copies without originals, as underlined by Falcinelli (2014) about the production of graphics and visual contents, in the digital media scenario, in contrast with the issue raised by Benjamin of the industrial reproduction of unique (art) pieces. “The debate about the relationship between the original and its copy, the original and its digital copy remains open, and increasingly critic if considering the problem of digital obsolescence and the loss of data according to the entropy of information source principle of the information theory” (Shannon, 1948, p. 382). Is a matter of fact that the technological evolution and its discontinuity of formats, standards, devices and data support sometimes become disruptive in front of the necessary continuum in the conservation field. The risk is to come to a paradoxical situation in which data are stored but no longer ‘usable’ because of a technological gap: something that is already happening with interactive CD-Roms of the 1980s, web sites and interactive online applications developed in Flash of the 1990s and early 2010s or with magnetic storages” (Bollini, 2016b, pp. 774-75).
As stated by Google engineer Vincent Cerf at the American Association for the Advancement of Science’s annual meeting in San Jose, California in 2015, we would miss an entire century or more in the next future: “We are nonchalantly throwing all of our data into what could become an information black hole without realising it. We digitise things because we think we will preserve them, but what we don’t understand is that unless we take other steps, those digital versions may not be any better, and may even be worse, than the artefacts that we digitised. If there are photos, you really care about, print them out” (Sample, 2015).

On the opposite, a whole generation is growing up with the myth of overexposure and disappearance, at the same time, as an existential condition. It is producing and consuming the most massive amount of pictures and data never produced before in the entire previous history of humanity, and it is unconsciously making an anthropological leap of discontinuity. Memories and photos have become public, social and massive, but as Berger wrote “if everything that existed were continually being photographed, every photograph would become meaningless” (Berger, 1967, p. 18).

CONCLUSIONS

According to the essay written by Bill Viola (1990) *Video black. The mortality of the image* —firstly appeared in book *Il- luminating video. An Essential Guide to Video Art* edited by da Doug Hall, Sally J. Fifter, David Ross with David Bolt— images are the metaphor which helps us in reading the profound change of being. The timeless icons depicted in the Middleage—both in East and Western culture—“unlike the mass media images of contemporary culture, aimed at consumption, [the icons] preserve their importance remaining unchanged over the centuries. Giving shape to eternal realities, they conform themselves to the eternity itself”. On the contrary, photography gives physical shape to images delivering them to an inherent temporality. The virtual (un)substantial of the digital photographs seems to resonate with black, the absence of light—the material of which photography
is made— a state of beyond-death, the limes between the emptiness and its opposite.

The same condition we are experiencing living in an abundance of digital images that are leaving no physical traces behind themselves.

Nevertheless, I would like to conclude with a positive quote taken from Lanier: “As long as we remember that we ourselves are the source of our value, our creativity, our sense of reality, then all of our work with computers will be worthwhile and beautiful”.

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