Between technological and social evolution: digital photography as a framework for (im)material experiences

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Abstract

This article explores how the potentialities of digital media amplify processes of production and diffusion of photographs on the Internet, allowing for a diversity of experiences, each of them potentially meaningful to those who see or those who are seen. This work was envisaged as a dialogue between the field research based on qualitative and ethnographic tools and some theoretical aspects related to photography and communication. The field research is based on interviews and observations on social networks (Instagram© and Facebook©), aiming at some aspects of digital photographic behavior in the context of the use of these networks as platforms for communication and creation of social ties. First, we will outline the (im)material features of digital photography and how such features inform the practices of production and diffusion of digital photographs in social networks. Secondly, we will present the modalities of influence of the technological evolutions on social behaviors. Third, we will try to understand how the processes of producing and circulating photos on the Internet allow for "new" forms of experience. The interviews contribute to the process of making apparent the technological structure that underlies the experiences of production and diffusion of photographs online, corroborating the diversity of experiences.

Keywords: digital photography, experience, technology, production, reception, social networks, social behaviors

Introduction

Our work is aiming at a better understanding of digital media as a development factor of new processes of production and diffusion of photographs online, more precisely in the context of massive consumption of social networks. The methodology of this research is interpretive (Bahl, Milne, 2006) as its starting point was the observation of the digital field, in the perspective of netnography (Mauss, 1967; Kozinets, 2010). The field results were used in an objective of theoretical development, following an inductive design and in line with the grounded theory principles (Thiétart, 2003; Glaser, Strauss, 1967).

Two kinds of approaches were adopted regarding the field. Hence, 10 qualitative interviews with a duration of one hour approximately were carried out, and a phase of non-participant observations was simultaneously launched. Non-participant observations (no active interaction with the people was involved, only photography browsing and comment reading) of 10 Facebook accounts were developed for six months. Simultaneously, Instagram was used as a complementary source of images, to get more "food for thought" regarding the behaviors contemplated in the field research, as this social network is mainly about photographs. We considered that the research would benefit from this triangulation of data: qualitative interviews allow for in-depth understanding and online photography observation brings in a wider perception of the research topic (Arnould, Wallendorf, 1994). Both social networks were useful to deepen insights from the interviews by watching photographs and reading comments and also to get a wider picture of the subject. Finally, a content analysis of the field research data was carried out (Spiggle, 1994, p. 491-503; Miles, Huberman, 2003).

1. The technical modalities of the passage from the material to the (im)material

Image diffusion is conditioned by production techniques. Throughout history, the

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modifications in these techniques have always reflected distinct trends of images. Speaking of the three periods of the world history, characterized as pre-industrial, industrial and post-industrial, respectively, it is stated that the production of images has some particularities. In the first one it is based on artisanal techniques. In the industrial period, the production of images relates to the phenomenon of technical reproducibility; it is the culture of the "reproducible". With the rise of photography, the forms of image production expand; series and copies abound. In the post-industrial period, the production of images links to the culture of availability in its infinite possibilities. The changes resulting from the use of digital media in the context of image production do not imply the elimination of mechanical techniques and artisanship, but rather a relocation of these techniques, as they are transcoded to the digital information transport systems. As a consequence, the computer (and now the cellphone) can be viewed as a meta-medium, which incorporates all other media to the numerical code. Therefore, new challenges are inherent to the modes of production and diffusion of images, typical of the shift from analog to digital (Plaza, Tavares, 1998).

The distinguishing feature between an analog and a digital photograph is that the former implies continuous information, and the latter discrete information. In a photograph of continuous tones, there is an unlimited amount of information; by enlarging it, usually more details are revealed, however an imprecise and grainy image is generated. In the case of the digital image, it has a precisely limited spatial and tonal resolution and contains a fixed amount of information (Mitchell, 1994).

Due to its digital nature, this type of image is configured in the dialectic between the mathematical and the visible, between the virtual and the actual, between (im)material and material. Here, the notion of "(im)material" does not bear the Platonic sense of the term – it means "other materiality". The materiality of computational writing exists in a coded form performed by the organization of states of signals 0 and 1. Therefore, it has a binary character, which means that the (im)material messages are not fixed to a single support, because these messages transit through different interfaces (Plaza, Tavares, 1998) - for instance, that is the case of several photographs that may be linked in Instagram, Facebook, etc.

This type of digital image exists both in the form of a matrix of numbers - soft copy - circulating as latent information and as a sensitive image (linked to different media: paper, cloth, screen, etc.) - hard copy - being seductively perceived by the observer.

Accordingly, since the information can be translated and transferred to other media, the notion of "(im)materiality" should not be considered as an absence of matter, but rather as a fluid materiality that circulates through a variety of supports; therefore, less as a product and more as a transfer process. The image – when in the form of a soft copy – can circulate among various media, and it is a result of a translation between codes and languages. In the processes of transcoding and transmutation between different media, the numeric state acts as a translation language between various media. As a fluid, circulating memory, the image can always transform and incorporate new signs, establishing associative relations between several languages and the mathematical language (Plaza; Tavares, 1998). Very easily, it is possible to create a new image from the superposition of different photos and this new image can be viewed in different media.

In a comprehensive way, the new technologies are characterised by four main features – transduction, transit of information, hybridization and interactivity - that potentialize dialogue, as well different ways of creating and sharing images, which paradoxically lead to unique experiences of media consumption. The phenomenon of signal transduction ensures the amplification of the user's sensitive and intelligible capacities. The devices, mediators of this phenomenon, inscribe the mode of representation of the human computer interaction, since the nature of the interfaces interfere, qualitatively, in the way information is presented. New technologies based on the principle of transduction also enable the transit of signals between geographically distinct locations. The transmission of analog signals via telematics (association of computers and telecommunications) is done by transducing the analog information to electrical impulses, corresponding to the numbers 0 and 1. Through the use of digital technologies, the image attached to a specific medium is gradually shifting, giving way to the hybrid image, produced by the convergence of media and languages. Therefore, the digital hybrid image is, quintessentially, a virtual memory; at the same

time, it has numeric and (im)material characteristics as well formal and material features, and can incorporate verbal, visual and vocal signs. Finally, the phenomenon of the interactivity guarantees the exchange of information, thus enabling the recipients to intervene instantaneously on the message. This quality of the new communication technologies is of paramount importance, since it supports the reciprocity between users and system(s), allowing the transformation of the structural data of a given information in real time. (Tavares, 2001).

Images in digital format are ephemeral, fluid and can continually be transformed. They can be copied and transmitted almost instantaneously. On the other hand, they can not be examined for physical proof of tampering (as it's the case with photographic negatives). The only difference between an original file and a copy is the date and time of the file creation, which to a certain extent can be modified. Digital image files, therefore, leave no trace of their initial production, and it is often impossible to determine with certainty their origin (Mitchell, 1994, p.51).

With digital technologies we are witnessing a transformation in the cultural strategies of creation, distribution and consumption of images. The current context of production and circulation of photographs is defined by their irresistible abundance, which makes the viewer often feel carried away by a stream whose distinctive aspects–he/she does not perceive. Therefore, a photograph published in a social network must represent a scene attractive enough for the viewer to feel touched by it, despite the continuous flow of other images that also try to catch his/her attention: "it is a very intense consumption of images… people look at the image for just a few seconds, then they discard it and move to others" (D., 35 years old).

Instead of cultivating trust, the culture of the digital image tends to result in the generalization of distrust, disorienting the interpretations and the reception of contemporary images in general. Somehow, the digital image embodies the distrust produced by the image, in the Western culture, by highlighting the possibilities already existing in traditional media, conflating the real and the false, the documentary and the fictitious, and creating realistic-looking simulation images that can be completely autonomous in relation to real-world

events (Flores, 2004, p. 29-48). Thus, one can observe the trivialization of the use of photography improvement tools, such as filters. The phrase "no filter" indicates that the person wanted to emphasize the authenticity of this particular photograph, as a means to differentiate it from all other ones that were made "with filter": "In Instagram you see that thing about filters… Whenever a person does not use it, one says 'no filter'" (A., 28 years old). Likewise, perfect-life photographs published on social networks may lead to skepticism about their credibility. Nevertheless, the photos posted on Facebook are viewed as data about the lives of those who posted them, in accordance to a kind of paradoxical "belief-disbelief": "It's not real… you know, everyone wakes up in the morning with messy hair, feeling tired… It's just not true." (A., 30 years old).

We note that there is a different perception regarding digital photographs versus paper photographs, particularly because paper photographs fit into the nostalgic context of childhood (the youngest person interviewed for this article being 26 years old). These photographs testify to a certain innocence of the analog camera era that did not allow for controlling the image, unlike the digital camera. However, because of the limited capabilities of the photographic film and the expensive and time-consuming process of development of photographs, people tended to choose the occasions for photography sessions more carefully. Finally, the paper photographs evoke the context of the family albums, with many memories of putting it together and sharing it with close people, in an intimacy different from the current context of generalized diffusion of the images.

The way of dealing with paper photographs nowadays involves a certain solemnity when deciding which digital photographs are worth printing, because the decision of printing establishes a photography as a precious object for its sentimental value: "You see a bigger appreciation for paper photos… nowadays you value more… You select the photos, the ones you like the most, and you print them "(L., 33 years old). Finally, authentic paper photographs can be scanned in order to be preserved, which implies a return to the material, even if the photograph was made from an immaterial technical process. The answers to the survey also show that it is difficult to give up totally the concept of

photography as an affective object. "It makes more sense to have the printed photos, you can hold them with your hands... but I'll also keep a scanned copy, so I can have a backup" (L, 33 years old).

2. The impact of technical developments over people's behaviors

In this section, we will present some implications and transformations arising from the use of digital media in the context of photography and, consequently, in the behavior of people. To do so, we will bring to attention some important questions from the article by Soulages (2007) which deal with the role, function and status of photography in contemporary art.

For Soulages (2007, p.84-85), if, in fact, there is a paradigmatic shift arising from digital photography, it would be in two moments: the photographic act (when the image is taken; "before the image"), and the exploration of the numeric matrix (when the image is produced, "after the image"). Without establishing a rupture with the trace paradigm and its relation to the real, the author considers that the problem is situated in the articulation of the trace and in the tracing concerning the numerical photography – therefore, the moment "before the image" and the moment "after the image" – in short, the meta-image.

The meta-image circumscribes two moments, two stages, two modalities, generated respectively by the "new". The "irreversible new" refers to the instant when the image is taken by the digital photography; the "endless new" refers to the moment of production of image potentialized by the digital media.

In the case of the "irreversible new" (the moment "before the image"), the agents involved are: 1) the new machine; 2) the new time; and 3) the new person. In the case of the relationships generated by the new machine (1), these determine: a) new ways of looking; b) new possibilities of image articulation; and c) new approaches of image based on the potential of (im)materiality. The new ways of looking are guided at least by three characteristics: a1) when shooting digitally, one does not look at the object, the phenomenon, but at the machine and its screen; a2) the individual can consider the machine not only as a carrier of images, but also as an image; a3) the numerical machine can be seen as a photo storage location. With regard to

the new possibilities of image articulation (b), there can be: fixed image and moving image; single image and multiple images; the autonomous image and the dependent image; the sound image and the mute. With regard to new approaches (c) of image, now anyone can work with a stock of images, having a potential memory of data to use: the digital memory assumes the role of human memory (Soulages, 2007, p.86-88).

Regarding the new time (2), much like the analogic photograph, the digital one is also irremediably marked by irreversibility. Memory data does not imply irreversibility, both digital and analogic photos are related to some kind of loss. The photographic act represents a singular instant, which never comes back, even if it can be repeated a number of times. Three elements are important here: 2a) repetition and resumption: one can deal with an indefinite number of photos, privileging the very experience of photographing, which may cause a difficulty to stop; 2b) flow and immediacy: multiplicity matter more than uniqueness; the act of photographing can be constructed and mediated, with the illusion of immediacy; 2c) money: one can create images with cheap and simple procedures, which place both the producer and the recipient between the expenditure and the dissipation of time – everything seems possible since it is costless; hence, one experiences the oscillation between capital time and time capital (Soulages, 2007, p.88-90).

As an implication for the human agent (3), new behaviors and different users appear. Considering their individualities, users become at the same time more critical and more involved. More critical because he/she can easily analyze what he/she wanted to do; more implicated because he/she becomes a person who has to deal with machines. Such a contradiction assumes an important role in the photographic act. There is an explosion in the number of users and purchases related to photographic practice, be it collective or private. In this context, the photographer might be considered an actor (Soulages, 2007, p.90-92).

The possibility of posting photographs at any time without being possible to know when the photographs were actually taken leaves open the option to create fictitious experiences, playing with the concept of reality and finding validation in positive comments: "For example, I post a photo of me from a year ago, on the

beach… And then everyone writes 'Wow, you're on the beach!'… But, actually, I can be anywhere in the world… If you post a photo of some place, it is as if you were in fact in that place." (D., 35 years old). That makes quite clear how digital photography is inhabited by tensions between poles that do not contradict themselves, which nevertheless are the basis for the construction of lived experiences meant to be considered as construction of identities, even if one does so on the basis of illusions of immediacy.

Considering now the scope of the "endless new" (the moment "after the image"; the phase in which one has the possibility to explore the numerical matrix with the digital procedures of image production), the determining elements at this stage are: 1) the maker; 2) the machine; and 3) communication. As for the image-maker (1), he finds himself experiencing a dual process: at the same time producer and receiver, since the image is updated at each moment of its appearance and he has at his disposal an indefinite amount of possible images. When considering the issues related to the machine (2), four elements stand out: a) in the act of becoming a twin to a computer, a complete rupture occurs: everything can now be archived. It's necessary now to deal with the management of almost infinite archives, and then questions arise regarding what is effectively archived and what should be archived; this change is related to the new uses and the consequences of the uses of these new images; b) the hybridization, which concerns the 'impurity' of the image, since it is configured in relation to different languages and media; c) electronic transmission, which is based on the assumption of the socialization of photography and on the notion of photography as a socializing action; d) network diffusion, which allows the image to circulate in an interactive and rhizomatic way between machines and people. Finally, concerning communication (3), it allows for a rhizomatic emergence of tribes, communities and groups interconnected with each other. Photography becomes inhabited by a double tension: simultaneously political and individual, public and private, intimate and exteriorized, at once contemporary art and non-artistic practice, freedom and vigilance. It is characterized mainly by the notion of the double, always happening "at the same time" (Soulages, 2007, p.92-98).

In the fieldwork, a diversity of behaviors was observed, which illustrates the process of incorporating digital photography into daily activities that were reorganized around it.

The interviewees describe practices of selecting the photographs according to criteria that determine what will be stored on the computer or on the cellphone, what might be posted on social networks or deleted in the more or less short term. Keeping photos does not necessarily imply an affective value: photos can be stored simply because the person feels incapable of deleting them, usually following a logic of unhinged accumulation - "I might need this!" - or laziness, as when too many photographs have been added, in which case selecting them would demand too much time: "On the cell phone we have photos that we do not necessarily want or need, and yet we cling to them and can no longer delete them… I keep them, they're like accumulated objects." (P., 27 years old).

In general, that which only made sense at some point in the past (impulsive, anecdotal photographing) or that which is considered without interest in regard to social networks, or maybe an image that the person already has or that belongs to a time the person actually hopes to forget, all of that might be deleted in the end. In the case of a separation or the beginning of a new romance, some people remove from their Facebook account all the photographs of their affective past. Usually, whatever holds as part of an emotional heritage and is too personal to be posted publicly stay on the computer, just as you keep paper photographs in a family album. Nevertheless, the work of archiving the photographs on the computer in accordance with the same logic involved in actually creating an album is something that requires time and the sort of dedication that people don't always manifest.

The normalization of self-promotion through *selfies* and photo-modification practices (filtering, retouching, etc.), which can be interpreted as techniques of the self (Mauss, 1967; Giddens, 1991; Warnier, 2009, p. 52-53), appears particularly in the perspective of an online narrative that creates identity (Granjon, Denouël, 2010, p. 25-43). The online image becomes the signature of the individual, at the same time a source of authentication for their posts (for example, a landscape photo paired with a *selfie* that certifies that the photographer was really there), and a means to extend his brand in the network (Belk, 1989, p. 139-168).

The photographs in exhibition constitute a showcase in perpetual reconstruction, whose content cannot be predicted. Thus, social network users opt for strategies to select what they want to see, or at least what does not bother them: "My Facebook is well screened... There are things I do not want to see "(A., 30 years old); "Facebook photos, it's not that you want to see them, but they're there" (S., 38 years old). On the other hand, it seems that there is a phenomenon of mimicry that involves "what I post myself and what I like to see posted by others" and "what others post which makes me want to post it as well", thus reinforcing the feeling of belonging to a certain identification group, and also building the fashions and trends visible in social networks.

The trivialization of cameras through mobile phones also generalized the substitution of narrative or description for the image, that is, for something that attaches itself to the experiences of concrete reality. This type of shortcut takes several forms: showing a photo of an event instead of commenting it: "Today we do not tell stories anymore, we show" (D., 35 years old); posting someone's picture instead of describing that person; photographing a calendar, or a text, instead of annotating it: "The camera also becomes a notepad: you don't write, you photograph" (D., 35 years); That is, the photograph becomes a sign which is part of a communicational process which might include words, images and icons (the so-called emoji).

3. The reconfigurations of experience through digital practices

Images are at the center of our relationship with the world, for they play an important role in processes of perception, symbolization and communication (Piette, 1992, p. 129-136, Missonnier, 2002, p. 26-37, Stenger, Coutant, 2009). In daily life, the development of amateur practices of digital photography, more particularly through publication in social networks, has emphasized the representation of experience, leading to a perception that, rather than actually experiencing something, what really matters is publishing an image that attests to that experience, to the point that the image is now what really creates the true meaning of the experience (Maresca, 2004, p. 61-77). In addition, the processes of producing and posting photos on the Internet enable "new" forms of experiences that value much more a creation of

images which are thought as a "universe of fiction", not as a "universe of reference", a fundamental opposition defined by Thomas Pavel, in his book "Les Univers de la fiction", Seuil, Paris, 1988, according to Dubois, 2017, p. 31-51. Moreover, Dubois (2017, p.44-45) holds that the digital photographic image can be thought as a representation of a "possible world", not a representation of something that "have been there": no more what "was there" in the real world, but something that "is here" in front of us, something that can be accepted (or refused) not as a trace of something that was, but as something that is. His presupposition implies a new regime of visibility, which is distant from the notion of relativization of ontological discourse on photography as a trace – even though (as we believe) it does not necessarily deny it –, and so follows the idea of image as a fiction.

If the photographic language suggests a playful experience in accordance with the potentialities embedded in the device, with the rise of digital supports the combinatory possibilities, to a certain extent, are expanded vertically and horizontally. New experiences can develop through a controlled and specialized manipulation of the specific code of photography as well as through a variety of possibilities of coordination with several other codes and languages, in an interactive way (Favilla, 1998).

The act of taking a picture relates to an anecdotal impulse, and often the purpose of posting an unusual photo later is a big factor. In that case it is the emotion one feels that "triggers" the picture: surprise, disbelief, joy, anger, sometimes accompanied by a desire to share it with others on social networks. This evolution is the source of a re-enchantment of daily life with its inexhaustible potential for discoveries to be published, which goes along with the aesthetic value of the photos (Maffesoli, 2007, Gunthert, 2014, p. 1-12). Due to their instantaneousness, digital photos can also take on the role of witness to our journey in life: any moment which is considered important can be recorded and contemplated later. So, each one decides what is significant and which photos deserve to be saved or not: "There are several situations when I think oh, I wish I had my camera here now, because it is an impression that you register... of a moment that will pass and will never return in that particular way."(I., 33 years old).

At the same time, the trivialization of photography turns the photos into something of little value, even though it is the expression of emotions: "Today we can take the same photo thirty times… You do not really pay much attention to what you are photographing with your phone "(A., 30 years old). In any case, for most people, the cell phone turned into a camera. Therefore, in addition to the immediate impulse, digital photographs can be thought of with affection, as taking part in an aesthetical pursue or as a fundamental element in the creation of memories (for example, in the case of a trip): "I hate the selfie stick, but I ended up buying one for this trip in Europe, it really makes a difference when it comes to taking a picture." (L., 33 years old).

Moreover, the contemporary photographic act often captures daily rituals – personal experiences that may be turned into collective experiences through sharing. The cell phone has become an assistant in numerous social, commercial and educational practices, as well as in leisure activities, collective or individual, and even more so through the development of apps. According to Rook (1984, p. 1-6), a ritual is an expressive and symbolic activity, which may consist of several behaviors that occur along a fixed series and that repeat themselves in time following a certain formality, seriousness, and intensity. For example: the selfie that means only to say "good morning" in Facebook; the photo that attests to the training in the gym; the couple's photo celebrating the involvement in a relationship that the two have decided to formalize on the network; food photos; taking the same picture in the same context but in different places, etc. Social networks - a new showcase of a life co-constructed by each person, his audience in the network and the network itself - encourage nostalgia and the use of the network as an interactive album, often working as a life calendar with its special moments and dates. For example, one finds on Facebook the retrospective of the year, the celebration of birthdays, the cover photo that reflects the mood of the person and participates in the construction of a personal profile: "At that moment that's how they're feeling, so they change the cover photo and the profile picture."(P., 27 years old).

Finally, the image increasingly becomes a vector of socialization and magical participation in something greater, a kind of "collective self"

within a society of conversations where everything is communication (Rabot, 2007, p. 19-31). Sharing became a way of life brought about by the collective consumption of images (Maffesoli, 1988; Decrop, 2008, p. 85-93). Photos may play an important role in the acceptance of the individual by a specific group in opposition to others: the more the pictures one posts attest to the link with that particular group, the stronger the signs of acceptance (likes, comments), and the more the person feels as belonging to that group (Gunthert, 2014): "I think there's a personal narrative, but there's also a dialogue between various narratives that people construct together… One sees a profile picture of somebody else, then it ends up influencing his or her choice ." (P., 27 years old).

Conclusion

This work relies on a conversation between the findings of a qualitative and ethnographic field research framed by references of social sciences (Elisabeth Eglem) and some theoretical aspects related to photography and communication (Monica Tavares). Technological developments impact social behaviors, and even more so if these developments translate into a new culture and new modes of consumption that contribute to the rooting of this culture in daily habits, establishing a type of normality. For almost twenty years, we have been witnessing the development of a culture of the (im)material based on the use of devices aimed at communication, information and connection, characterized by the diffusion of images accompanied or not by texts, but always charged with meaning. Photography itself stands as a vehicle for diffusion, whether of an individual discourse or a collective discourse. It finds its place between the self and the others, between the analogical and the digital, the public sphere and the private sphere, the artistic and the non-artistic, and especially between the experience of observing and of being observed.

However, the psychological, affective and social origins underlying the behaviors in question have not changed so much: from the point of view of ritualization they can be interpreted as behaviors springing from the deep human desire for community, associated with a search for social approval that may seem a bit narcissistic, although it probably responds to a person's emotional need. Note also the attachment to the material, despite the

simultaneous use of innumerable services and technologies defined by its (im)materiality. The current existence of the photo album, the popularity of products and services linked to printing and the continuous appreciation of photographs as objects are signs of this trend.

We also see that the structural logics informing the practices of selection and classification of photographs - between cell phones, files on the computer and publication in social networks - are quite akin to the methods of organizing material objects: they create the same feeling of accumulation and sometimes saturation, and bear the same symbolic and affective power (as it is the case, for example, with the act of suppressing photographs reminiscent of a bygone era). Instantiation and repetition are the cause, at the same time, of the trivialization (by unlimited and immediate access) and of the seductive power of photography as well. The image is easily collected, selected, or suppressed; it acts as an aid for socialization through sharing and also provides a terrain of self-experimentation in the possibility of endlessly exploring one's self-image, repeatedly testing different styles and expressions (more so with the use of filters), in an attempt to get the one's best version on social networks.

Therefore, it is necessary to emphasize that the issues presented here are effectively introduced as determinants in and through the different experiences of photographing and disseminating the messages produced based on the potentiality of (im)material digital media. It was verified that the experiences brought to light by the field research are the most diverse, and that, in principle, they do not exclude each other. Even when highlighting different points of view, the experiences coexist in agreement, and, above all, they are configured in the form of a comprehensive, unorganized knowledge, spontaneously acquired through the relations between the individual and the community, between the individual and the various media, and between the individual and himself.

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