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Is Photographic Image Represented the Reality?

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Abstract
The development of technology represents the circulations and progresses of culture and society, from 'death of painting' (after the invention of photography) to 'death of photography' (after the invention of digital image). It seems too severe by using the term 'death'. In actually, the 'death' is not really death since there are still many people who ardently love painting; galleries are opened as usual for the public. In the case of photography, the invention of the digital camera does not entirely take over the traditional role of the photographer. However, the 'loss of the real' (Lister, eds. 1995: 1) is the argument here based on the development of technology, for example, computer software. We have entered a new generation where we are surrounded by illusions. It is not a positive progress that technology made for photographic image. The judgment of what we call 'a good image' is no longer based on how skillful the photographer is. Instead, we could assume that there is no such things as good or poor taken image, only if you know how to use software. The invention of computer software makes things from impossible to possible. This paper aims to argue that photography is only an action. No matter traditional photograph or digital image, none of them is presented the reality. With the application of computer software, the original content of a photographic image is missing to some degree.

Keywords: Photography, Digital Image, Computer Software, Reality

Introduction

> The 'death of photography' and the birth of a post-photographic culture. It is the story of how the image has now progressed from the age of its mechanical production to that of its digital origination and replication. It is the story of how new technologies have provided 'a welcome opportunity to expose the aporias in photography's construction of the visual world, to deconstruct the very ideas of photographic objectivity and closure, and to resist what has become an increasingly sclerotic pictorial tradition' (Mitchell, cited in Lister, eds. 1995: 31).

The development of technology represents the circulations and progress of culture and society, from 'death of painting' (after the invention of photography) to 'death of photography' (after the invention of a digital image). It seems too severe by using the term 'death.' In actually, the 'death' is not really death since there are still many people who ardently love painting; galleries are opened as usual for the public. In the case of photography, the invention of the digital camera does not entirely take over the traditional role of the photographer. However, the 'loss of the real' (Lister, eds. 1995: 1) is the argument here based on the development of technology, for example, computer software, which affects the basic function of photography. As Hughes (1990) points out that 'you can no longer trust your eye' (cited in Lister, eds. 1995: 1). It seems to Hughes that the originality of a photographic image is lost. Most images that we now access, is not the original version, which means that it has not been touched

up by post-production reproduction. It is interesting to realize that the audience's first attention to an image is no longer on the content but to question about which part is the original, and which part is undergoing reproduction, such as composition. We have entered a new generation where we are surrounded by illusions. It is not a positive progress that technology made for the photographic image. The judgment of what we call ‘a good image' is no longer based on how skillful the photographer is. Instead, we could assume that there are no such things as good or poor taken image, only if you know how to use the software. In other words, the way we see an image has become questionable. It is just like you may never trust your eyes when you see a beautiful lady, just because of the invention of facial surgery that makes things happen in certain ways. In a beauty spa, the common question that customers used to be asked was: could you please tell me your skin type? This question has been changed to: may I touch your nose? Or your chin? Is this question funny? No, it is not. As the facial specialist needs to make sure that she will not hurt the part that the customer has undergone surgery. This example may be seen irrelevant to the topic we discuss in this paper, however, it is somewhere a reflection on what we, as audiences, to view a photographic image.

The invention of computer software makes things from impossible to possible. As an element of photography, color plays a critical role in producing what we call ‘the atmosphere' of a photographic image. For example, a black and white image is powerful in representing a feeling of lonely and sad. After the reproduction of a photographic image, the color mode can be changed from colored to gray scale. An image that is taken today looks like taken during the 18th century by applying the special effect (s). Computer software makes all these possible. Photography can be classified as a sort of medium, which helps to record the specific of the moment in life, as memory, for an instant. In Marshall McLuhan's book *Understanding Media: The Extensions of Man*, he points out that ‘the medium is the message,' which is a well-known and powerful quote that subverts the way how we understand the medium. As he puts it:

> In a culture like ours, long accustomed to splitting and dividing all things as a means of control, it is sometimes a bit of a shock to be reminded that, in operational and practical fact, the medium is the message. This is merely to say that the personal and social consequences of any medium – that is, of any extension of ourselves – result from the new scale that is introduced into our affairs by each extension of ourselves, or by any new technology (Durham & Kellner, 2001: 129).

McLuhan's idea completely changes the way how we understand the role of a medium. In a general sense, a medium is understood as a tool, which helps the user for a specific purpose in producing or communicating with content. For example, if one would like to show his friends about his trip to Paris, the best idea for today is to make a post on social media, FaceBook, for an instant. By posing a post on social media, one is allowed to upload photos and short video, so his followers can access to the most updated moment of their friends at any time anywhere. McLuhan's idea is that people's attention of any piece of content, such as text or photographic image, may be different from what the medium is used to show it. A same content of photographic image gains a different level of attraction according to which medium it is shown. By way of example, a photographic image of the Eiffel Tower would get more attention on FaceBook than on a traditional photo album. McLuhan's idea is clearly shown how people access to the same content of the photographic image and what makes it more attractive. People may not notice that the way how a photographic image gains the audience's attention is not only based on the content itself but also the medium they use to access. In other words, the attraction of a photographic image is determined mainly by the medium rather than what the content is. McLuhan points out that ‘characteristic of all media, means that the "content" of any medium is always another medium' (Durham & Kellner, 2001: 129). As he describes it:

> “The medium is the message” because it is the medium that shapes and controls the scale and form of human association and action. The content or uses of such media are as diverse as they are ineffectual in shaping the form of human association. Indeed, it is only too typical that the “content” of any medium blinds us to the character of the medium (Durham & Kellner, 2001: 130).

This paper aims to argue that photography is only an action. No matter traditional photograph or digital image, none of them has presented the reality. With the application of computer software, the original content of a photographic image is missing to some degree. What question that brings us into consideration is that whether or not using computer software for reproduction is necessary for photographic images? The major concern of this research paper is as what Sontag states that:

> We live in a world where a chief activity has long been the production and consumption of photographic images. It is one where such images have come to determine our demands upon reality, where they are coveted as substitutes for the first-hand experience, and have become indispensable to the economy, to politics, and in the pursuit of private happiness (Lister, eds. 1995: 4).

Moreover, this research paper is also inspirited by Druckery's (1991) concern about the role of educator in the teaching of digital imaging. The author of this paper has been teaching in the field of media arts and design for nearly thirteen years. It becomes more and more critical to re-think about some fundamentals of media arts, in particular, the area of digital production in photography and film. As Druckery puts it:

> Electronic media can't simply ignore theoretical questions of representation that the field of photography and film have been grappling with over the last two decades. As representation is enveloped in algorithms, (the algorithms of the simulation or the algorithms of corporate marketing)theory becomes more essential than ever. If educators are to teach their students about digital imaging, then some clear directions and analyses should be presented (cited in Lister, eds. 1995: 5).

Lister (2005) provides a further explanation of what Druckery means by 'grappling with questions.' As he explains that 'grappling with questions' can be found within a number of disciplines. They included historical, sociological and ethnographic studies of the media, cultural studies and cultural theory, and critical and social histories of art, photography, and film' (Lister, eds. 1995: 5). Before processing to the discussion, it is important to understand what 'reality' means. The term 'reality' has different meanings according to what it is related to. According to Paresky, 'our common sense notion of reality is that our eyes, ears, nose, and fingertips pick up objective reality, but that couldn't be farther from the truth (2015). In other words, what is considered as reality is the object that is touchable and visible at least. Even though a scenario or photographic image may fit into the conditions of what reality is defined by Paresky, it is too general to make it equal to the meaning of 'the truth.' In order to analyse the cultural images in the new media world, this paper will be divided into two major parts, which are photographic image and reality; and postmodernism. Finally, this paper will end by providing a conclusion.

Photographic Image and Reality

Tracing the history of photography, according to Grundberg, photography played a role as an instrument that recoded the social reality, and represented what the actual objects were in the world from 1974 (1999: introduction xi). It seems to Barthes (1981) that photography is 'more than other arts, photography offers an immediate presence of the world' (cited in Bolter & Grusin, 2001: 110). As Barthes notes that:

> Photographs, unlike every other type of image, can never be divorced from their referents. Photograph and referent "are glued together." Photographs are causally connected to the presence of the latter. "I call 'photographic referent' not the optionally real thing to which an image or sign refers but the necessarily real thing which has been placed before the lens without which there would be no photograph. For Barthes, "Every photograph is a certificate of presence" (cited in Prince, 1996: 28).

However, Sontag (1978) has a totally opposite understanding of reality, and objection on photograph represents the reality. First of all, it seems to her that the definition of reality depends on its use as ‘an item for an exhibition, as a record for scrutiny, as a target for surveillance' (cited in Grange, 2005: 156). Sontag (1978) concerns about ‘a record for scrutiny,' which refers to tourists. The purpose for tourists taking photographs is to seek security, since photographs can be seen as the evidence that certifies they have visited certain places. However, tourism is threatened by photographs as well. Tourist may not necessarily experience the place personally as they search for opportunities for photographs (Grange, 2005: 31). Secondly, ‘the notion of a fixed reality are complimentary…notion of what is real has been progressively complicated and weakened' (cited in Grange, 2005: 60). Thirdly, in Sontag's (1978) opinion, people in different countries have a different understanding of reality. She stresses that the ‘"true modern primitivism" does not regard the image as real but regards reality as being like images' (Grange, 2005: 61). Through ‘it seemed like a movie' (Grange, 2005: 61) to understand how people describe things in reality. It seems to them that reality is not something that exactly exists. Rather, they understand what reality is through images. There is a fundamental difference between people in industrial and non-industrial countries. As Sontag (1978) puts, ‘people in non-industrialised countries may be apprehensive about having their photographs taken, people in industrial countries feel it is a conformation of their reality’ (Grange, 2005: 61). Fourth, Sontag (1978) points out that ‘photography images instant access to the real' (Grange, 2005: 61). In other words, the photography images can be understood as almost nearly the real. However, as she stresses, the reality is something that happens at that moment, not something in the past (Grange, 2005: 61). Therefore, photographic images can be seen as a form of history. Even though they can record what exactly happened at that instant, the moment is not able to be possessed forever, since reality is changing all the time. Once a photography image is taken, it will be considered as a piece of evidence about the past. In Sontag's (1978) opinion, ‘photography makes images, not reality, immediately accessible' (Grange, 2005: 61). Andre Bazin shares his opinion on the relationship between photographic image and reality. He regards:

> As the "objective" nature of photography, which bears the mechanical trace of its references. In a well-known passage, … "the photographic image is the object itself, the object freed from the conditions of time and space which govern it. No matter how fuzzy, distorted, or discolored, no matter how lacking in documentary value the image may be. It shares, by virtue of the very process of it's becoming, the being of the model of which it is the reproduction; it is the model (cited in Prince, 1996: 28 – 29)

Sontag (1978) analyses three major reasons that photographs are more disturbing than reality. ‘Firstly, in reality, we are usually not passive; we have things to do. Secondly, in a photograph or film, we have to look at what the photographer wants us to see, in real life, we look at what we want for as long as we want. Thirdly, the photograph or film condenses time so only the most interesting (or shocking) things are shown, and they are shown happening in more repaid succession than in reality' (Grange, 2005: 62 – 63). Obviously, the image viewer plays a passive role in both having photographs taken and viewing photograph or film. In the case of viewing photograph and film, whatever we can see is decided and directed by the photographer and director. A landscape, for instance, could be wonderful scenery; people obtain much pleasure from it, however, the shooting location, the composition, the camera edge, and the post-production…etc, all these elements are not decided by the viewer, but by the photographer and director.

Henning (1995) compares chemical photography with the digital image in terms of the idea of ‘the loss of the real.' ‘Chemical photography, may have constructed reality, but at least we could be reassured by the fact that ultimately the photo had resulted from an encounter with the visible world. It appeared to have some scientific truth claim, however slight. It held a mirror to reality, reassured us that our senses did not deceive us' (Lister, eds. 1995: 218). In the case of the digital image, he points out that ‘the “digital image” seems to center around the idea of the "loss of the real" or “derealisation." Such arguments may rely on some extent on ideas of photographic truth, but, even there they don't, they rely on a belief that the main way that people interpret and engage with visual images is through treating them as documents of reality' (Lister, eds. 1995: 218).

It seems to Henning (1995) that the idea of 'the loss of the real' is focused on computer technology. Even though he does not totally agree that chemical photography means totally representing the reality, however, one of the fundamental distinctions between chemical photography and the digital image, is that chemical photography can only be developed without undergoing the computer technology, as the development of computer technology makes huge differences before and after the images taken. Therefore, digital images may be adjusted, changed, composed with other image elements, and so on. For example, computer software provides multiple choices and functions to its user. Thus, the user can make changes to the image according to their own preference. In the case of chemical photography, to be developed under the chemical process is reduced by the percentage being changed. In other words, chemical photography records the reality and the visible word more real than the digital image.

Moreover, Henning (1995) provides two versions of the 'loss of the real.' In the first version he quotes Robins from his article *The Virtual Unconscious in Post-Photography* that the '"loss of the real" suggests that the user (or viewer) of computer-generated imagery will eventually lose the ability to distinguish between the "simulated" or "hyperreal" world and the real one' (Lister, eds. 1995: 219). In the second version, Henning (1995) puts 'the argument that reality has been replaced by the world of simulation.' This argument is based on the 'postmodern' theories of Jean Baudrillard. (Lister, eds. 1995: 219)

To sum up, people in different positions have different ideas and understanding of reality. The function of the photographic image is defined as different ways as well. As for Henning (1995), images in the news should act as a 'window on the world' (Lister, eds. 1995: 218). In other words, the function of images depends on particular situations. As for computer graphic designers, for instance, whether or not an image to be represented, the reality may not be necessary. They may found more interesting to do with combining multimedia design on an image, rather than just record the real world. As Robin(1995) suggests,

> 'There is the sense that photography was constrained by its inherent automatism and realism, that is to say, by its essentially passive nature; that the imagination of photographers was restricted because they could aspire to be no more than the mere recorders of reality. In the future, it is said, the enhanced ability to process and manipulate images will give the post-photographer greater 'control', while the capacity to generate (virtual) images through computers, and thereby to make images independent of referents in 'the real world', will offer greater 'freedom' to the post-photographic imagination' (Lister, eds. 1995: 29).

Postmodernism

Crimp (1980) states that postmodernism 'can only be understood as a specific breach with modernism, with those institutions which are the preconditions for and which shape the discourse of modernism' (cited in Grundberg, 1999: 17). The preconditions can be referred to as the development of technology. For example, the usage of a computer is one of the indispensable requirements, which is confined to the interpretation of postmodernism. However, in Jameson's opinion, postmodernism is 'a periodizing concept whose function is to correlate the emergence of new formal features in culture with the emergence of a new type of social life and a new economic order' (Manovich, 2001: 131). It seems to Robins that the development of technology is:

> Some kind of transcendent and autonomous force—rather than as what it really is, that is to say embedded in a whole array of social institutions and organizations—also works to reduce what is, in reality, a highly complex and uneven process of change to an abstract and schematic teleology of 'progress' (Lister, eds. 1995: 29).

On the one hand, Manovich defines computer technology as 'the material properties of the computer, the ways in which it is used in modern society; the structure of its interface, and key software applications' (2001: 13). Mitchell also shares his idea on 'postmodern,' which in the relation with technology, he suggests that:

> A (digital medium which 'privileges fragmentation, indeterminacy, and heterogeneity and that emphasize the process of performance' is the technological counterpart to some propositions of cultural and linguistic theory. He sees 'post-photographic' practice as analogous to 'poststructuralist' theory, both embraced within a world characterized as 'postmodern' (Lister, eds. 1995: 7)

Robins (1995) criticizes that old technologies (chemical and optical) are 'restrictive and impoverishes' (Lister, eds. 1995: 29). Comparing with these old technologies, the new electronic technologies are 'almost unbounded freedom and flexibility' (Lister, eds. 1995: 29). Moreover, Grundberg points out that the consisting of a mixture of media is one concept of the postmodernist style (1999: 6). In order to ensure this concept, he claims that 'dispelling modernism's fetishistic concentration on the medium as a message—painting about painting, photography about photography, and so on' (1999: 6). Grundberg's argument is somewhat echoed with what Hughes (1990) concerns about 'you can no longer trust your eye' (cited in Lister, eds. 1995: 1). These arguments are based on the digital images in the postmodern era.

Mitchell (1992) defines the emergence of digital imaging as 'expose the aporias in photography's construction of the visual world, to deconstruct the very ideas of photographic objectivity and closure, and to resist what has become an increasingly sclerotic tradition' (cited in Lister, eds. 1995: 16). He provides one more definition of digital imaging, which as 'felicitously adapted to the diverse projects of our postmodern era' (cited in Lister, eds. 1995: 31). According to Bolter and Grusin, the term 'era' is characterised in which 'photography and digital technologies are remediations each other' (2001: 106).

The concept of digital images in the postmodern era cannot be realised without support from computer technology. For example, computer software such as Adobe Photoshop provides various functions and visual effects to the users. However, to Lister, the photographic image, in terms of digital technology, is viewed as a cultural but not a technological object (Lister, eds. 1995: 7). Even though critics like Lister may not agree with the functionality of computer technology, there is no denying that computer technology plays an indispensable role in the postmodern era.

Manovich describes the computer as a media processor (2001: 25). The role of computers is no longer limited to that of a calculator, control mechanism, or communication (2001: 25). 'Before, the computer could read a row of numbers, outputting a statistical result or a gun trajectory. Now it can read pixel values, blurring the image, adjusting its contrast, or checking whether it contains an outline of an object' (Manovich, 2001: 25). In the case of software programs, Manovich puts that 'software programs enable new media designers and artists to create new media objects—and at the same time, they act as yet another filter which shapes their imagination of what is possible to do with a computer' (2001: 117).

Obviously, both media designers and artists can apply their intelligence and ideas on new media objects by operating the computer software. The photographer is able to do the same thing as well. Therefore, the role of the photographer may need to be redefined. As Robins (1995) points out, 'photographers will be freed from our perpetual constraint, that of having, by definition, to record the reality of things, that which is really occurring…freed at last from being mere recorders of reality, our creativity will be given free rein' (cited in Lister, eds. 1995: 9).

Computer software can function as a new medium that extends to designers, artists, and photographers' capabilities. In the case of the development of photographic images, some software such as Adobe Photoshop is able to replace the essential function of the chemical darkroom. As Lister notes that:

> 'Adobe Photoshop can operate rather like a practical demonstration of photographic semiotics. Within a couple of hours' use, such a programme opens up, in principle at least, the post-

> production manipulations of photographic representation: manipulations, which previously would have been the outcome of several months' apprenticeship in the chemical darkroom. Digital software becomes a heuristic tool for *understanding* photographic representation' (Lister, eds. 1995: 16).

Programme like Photoshop becomes popular in terms of its various filters and effects. It can be seen as an element that causes the idea of the 'loss of the real' as well. If a chemical photograph can represent the reality, what would the situation be if the chemical photographs are scanned and transferred to the computer. A chemical photograph can become a digital format after being scanned. They may go through the same process as that of digital images. In this case, we would say that there is no difference between chemical and digital photography since the format is changeable.

Conclusion

According to Evans, 'the camera never lies' (cited in Grange, 2005: 27). Referring to Paresky's idea that 'smell, sounds, and colors do not actually exist in the outside world. The interaction between what's "out there," and our sensory organs isn't the whole picture, either' (2015). The fact is, not only smell, sounds, and colors do not exist in the outside world, but also not exist in the photographic image. It is the photographer's preference on what the object that he would like to take. The moment when the photographer presses the button, most of the time, it is regarded as what we call 'decision making,' which means that what he would like his audience to see and understand. The content of a photographic image is various. Sometimes, it may not always be something touchable or visible, it could be a feeling or a moment of thought, we can classify it as 'abstract style.' The same scenario expresses different meanings by the angle of a camera. From this perspective, we may be able to understand some of the controversial journalism photographs. It is always a decision that the photographer makes in which what his position on an issue. This is highly approved in terms of politics.

Whether chemical photograph or digital image, there is shared a comment first step: the shot must be taken. Before the invention of the digital camera, the photographer could use black and white film to shoot colourful scenery. This situation is not much difference with a digital photographer select black and white, nega, sepia, or solari mode to shoot the same scenery. To sum up, both chemical photograph and digital image are not represented the reality. Even the chemical photograph records exactly what the object is, or the digital image is not adjusted by the computer software, what they recorded is the photographer's decision making. Computer software plays a critical role in the process of post-production, for example, the function of color correction, multiple filters, and composition that turns the original image into the new vision with special visual effect(s). The audience may not be able to identify what the original image looks like after it has been gone through the CG (computer-generated) effect. Benjamin provides a detail explanation on the reproduction of the photograph:

First, process reproduction is more independent of the original than manual reproduction. For example, in photography, process reproduction can bring out those aspects of the original that are unattainable to the naked eye yet accessible to the lens, which is adjustable and chooses its angle at will. And photographic reproduction, with the aid of certain processes, such as enlargement or slow motion, can capture images which escape natural vision. Secondly, technical reproduction can put the copy of the original into situations which would be out of reach for the original itself. Above all, it enables the original to meet the beholder halfway, be it in the form of a photograph or a photograph record (Arendt, ed. 1696).

It seems common to use computer software, as referring to what Benjamin calls 'reproduction' to make an adjustment (even just slightly) no matter if it is necessary. McLuhan stress that 'in our own world as we become more aware of the effects of technology on psychic formation and manifestation. We are losing all confidence in our right to assign guilt' (Durham & Kellner, 2001: 135). We could say that, the photographic image was not recorded the reality even before the invention of technology, such as the computer software. As Nichols (1996) notes, 'a digitally designed or created image can be subject to infinite manipulation. Its reality is a function of

complex algorithms stored in computer memory rather than a necessary mechanical resem-balance to a referent (Prince, 1996: 29).

The question of whether or not the art works that have been manipulated by computer software are considered as art is still under debated. There is no right or wrong answer for this question. Scholars who come from the different specialist background may have different opinion and judgment on this matter. More specifically, artists from the field of visual communication may have a different perspective. For example, fine art artists may more or less resist the usage of technology in terms of the creation of art. This could be understood through the background they come from, oil painting, for an instant, it does not request for undergoing any technology, such as computer software in the process of production. In Benjamin's book 'The Work of Art in the Age of Mechanical Reproduction', he critics that 'even the most perfect reproduction of a work of art lacks in one element: its presence in time and space, its unique existence at the place where it happens to be' (Arendt, ed. 1696). Even though Benjamin's book has been published more than eight decades, its concepts are still applicable and effective for the present phenomenon.

To sum up, the answer of the question of 'is the photographic image represented the reality' is: no, it is not. The term 'reality' seems too wide as it can be interpreted in many ways. It is arguable that the basic function of the camera is to record what we see in reality, which is true. However, the moment we press the button, the moment becomes memory only. The author's perspective is: 'the reality cannot be duplicated.' This is referred and similar with what Benjamin's example in his book about how people argue about the technology of reproduction. He provides an argument about 'one might generalize by saying: the technique of reproduction detaches the reproduced object from the domain of tradition. The question here is why tradition cannot be domain? To some extent that the tradition is unique and non-replaceable. The role of scholars or visual art artists should analyze the problem at a deeper level. It calls us into action as not to be timeserver. It has nothing wrong to appreciate or support of the idea of reproduction in production of the photographic image. This paper aims to specifically focus on the relationship between 'photographic image' and 'reality.' Further research is necessary regarding to the topic of reproduction and photographic image, and that could be an intensive level of interpretation.

References

Benjamin, W. (1935) The work of art in the age of mechanical reproduction. In Arendt, H. ed. (1969). *Illuminations*, New York: Schocken Books. Available at: web.mit.edu/allanmc/www/Benjamin.pdf (accessed July 14, 2019).

Bolter, J. D. and Grusin, R. (2001) *Remediation*, The United States: MIT.

Durham, M. G. and Kellner, D. M. eds. (2001) Media and Cultural Studies. Malden: Blackwell Publishing.

Grange, A. L. (2005) *Basic Critical Theory for Photographers*. Oxford: Focal Press.

Grundberg, A. (1999) *Crisis of the Real*. Romford: Aperture.

Henning, M. (1995) Digital encounters: mythical pasts and electronic presence. In Lister,

M. eds. *The Photographic Image in Digital Culture*, London & New York: Routledge.

Lister, M. (1995) Introductory essay. In Lister, M. ed. *The Photographic Image in Digital Culture*, London & New York: Routledge.

Manovich, L. (2001) *The Language of New Media*, Cambridge, Massachusetts, & London: The MIT Press.

Mitchell, W. J. (2001) *The Reconfigured Eye,* Cambridge, Massachusetts & London: The MIT Press.

Paresky, P.B. (2015) *What is reality? Forget what you think you know*. Psychology Today. Available at: psychologytoday.com (accessed July 14, 2019).

Prince, S. (1996) *Perceptual realism, digital images, and film theory*. Film Quarterly, 49 (3), 27 – 37. Available at: www.jstor.org/stable/1213468 (accessed July 12, 2019).

Robins, K. (1995) Will image move us still? In Lister, M. eds. *The Photographic Image in Digital Culture*, London & New York: Routledge.