Emotive validity and the eye in the hand
- Representing visual reality with digital technology

Keywords
Digital photography, photo manipulation, modality, validity, photographic empathy

Abstract
Smartphone photography and social media are central in our everyday social lives, and they have paved the way for extremely fast distribution and sharing of our digital photographic texts. The new technology has profound consequences for the pace at which conventionalisation of new social practices can take place, and, consequently, at this point in history our understanding of visual manipulation is undergoing radical changes.

This article explores the social semiotic concept visual validity presented by Kress and van Leeuwen in the 3rd edition of their influential book Reading Images, the grammar of visual design (2020) and discusses in what ways this concept is a fertile new approach to comprehending and analysing the contemporary digitally manipulated reality of vernacular photography. The engagement with the social semiotic theory is anchored in the author’s own experiences as a practising photographer and observations of students’ practical and theoretical work with photography.

It is argued in the article that a new category of represented visual reality, emotive coding orientation, needs to be added to the social semiotic theory to encompass the perspective that photographs may not convey a naturalistic fidelity to how a depicted situation ‘really looked’ at the time it was photographed, but rather convey an emotional fidelity to how the depicted situation ‘really felt’ to the photographer.

The article proceeds to pursue how we share photographic images as bodily experiences with the camera as an extension of our sensory motor apparatus, and consequently a part of our distributed cognitive system and of our social environment. The concept photographetic empathy (derived from Abercrombie’s (1964) notion ‘phonetic empathy’) is introduced to elucidate how the smartphone camera enhances a sensibility to a (more) bodily experience of photography caused by empathetic reverberation through digital sensorimotor imitation.
Introduction

This article explores the social semiotic concept visual validity as presented by Kress and van Leeuwen (2020) and discusses in what ways this concept is a fertile new approach to comprehending and analysing the contemporary digitally manipulated ‘photographic reality’, where digital filters are part of everyday social ‘vernacular’ photography. The article engages with the theory and praxis of photography from a point of departure in systemic functional linguistics and social semiotic multimodality, and it is backgrounded both with analyses of various manipulation options in photo editing software and with observations of students’ practice in courses in visual communication and design.

The article draws on the author’s own experiences as a practicing photographer and examines technological resources available both in ‘professional’ photo editing software, such as Adobe Photoshop or Adobe Lightroom, and in ‘amateur’ editing software, such as Instagram, Snapchat, VSCO, Betterme, Facetune, Shape, Facetify, Facelab, Faceapp, etc., in a discussion of how the different types of software lend themselves to different approaches to conveying validity.

At the University of Southern Denmark, mandatory courses in visual analysis and design have been offered to BA and postgraduate students from Business Communication, Media Studies and Danish Language and Literature since the early 2000s to the present day. These courses have drawn upon adaptations of Kress and van Leeuwen’s influential work Reading Images – the grammar of visual design (1996; 2006), with strong theoretical and practical emphasis on the concept visual validity. This group of students is particularly interesting because they have an interest in communication at an advanced level, and they are trained to develop a specialised meta-perspective on visual communication. The author of this article has been subject leader of these courses and has conducted a large part of the teaching over the two decades, which has given insights into more than a thousand students’ understanding and practical use of ‘represented realness’ in digital photography, both in analysis and practical exercises. At the end of each course, the students submit examination papers demonstrating their competencies in theory, analysis and design, which has enabled very direct observations of their comprehension and use of the concept validity over the years. Unfortunately, due to confidentiality and GDPR legislation the teaching observations and the exam papers cannot be made available for scrutiny and therefore do not serve as primary empirical material in this article. Nevertheless, the author’s observations of perceptible changes in the use of photo manipulation and apprehension of multimodal theory over the 20-year period serve as a qualifying background for the theoretical discussion about the need for modifications of the concept validity in light of the development of new forms of photographic practice, where digital photography has become an increasingly significant part of everyday social activities through smart-devices and social media.

The article argues that a new type of visual truth may be on the rise, which is termed emotive coding orientation, which does not convey a naturalistic fidelity to how a depicted situation ‘really looked’ at the time it was photographed but rather conveys an emotional fidelity to how the depicted situation ‘really felt’ to the photographer. The article proceeds to pursue how photographs can more unconsciously convey emotions and how they are shared as bodily experiences because people live with the camera as an extension of the body’s sensory motor apparatus – a distributed cognitive system in a digital social environment. Consequently, the term photographetic empathy (derived from Abercrombie’s (1964) notion ‘phonetic empathy’) is introduced to describe how the smartphone camera enhances a sensibility to a (more) bodily experience of photography caused by empathetic reverberation through digital sensorimotor imitation.
The photograph and the world

In 1846 Fox Talbot published the very first illustrated book on photography, called “Pencils of Nature” (1969 [1946]), where he described photographs as pure, scientific recordings untouched by the contamination of human subjectivity. Since then, photography’s relation to the world has been on the agenda in theoretical discussions about photography where one dominating perspective has been the Piercian concept of the index (Pettersson 2011: 189). Bazin has noted that photography is something completely different than other pre-photographic plastic arts as it is a trace of the represented (Bazin 1967; 1971) and, in a similar vein, Sontag has argued, that a photograph is a trace of “something directly stenciled off the real, like a footprint or a death mask” (Sontag 2004: 154). In the social semiotic approach “visual structures do not simply reproduce the structures of reality (...) they have a deeply important semantic dimension” (Kress & van Leeuwen 2006: 47). This places social semiotics within the current of understanding ‘images as language’ that has also been influential in theories about photography, as in Benjamin’s early prediction of how literacy in the future would consist of the ability to read photographs rather than just written words (2008 [1935], 1969), and Bazin’s statement that “cinema is also a language” (1996 [1967]: 16).

Multimodal social semiotics is considered the third major semiotic school that has taken inspiration in linguistics for theorising about other modes of communication after, first, the Prague school in the 1930s and 1940s and, second, the Paris school that has been influential since the 1960s until now (cf. Kress and van Leeuwen 2006: 6). In the early 1990s the first applications of Halliday’s systemic functional linguistics to other modes marked the birth of multimodal social semiotics (Hodge and Kress 1988, O’Toole 1994, Kress and van Leeuwen 1996). Kress and van Leeuwen criticise earlier semiotic traditions for focusing on the visual equivalent to linguistic lexis, and on the ‘denotative’ and ‘connotative’, the ‘iconographical’ and ‘iconological’ significance rather than on the visual grammar and syntax that combine elements into meaningful wholes (1996: 1). They also criticise Barthes’ polysemic understanding of the photograph and do not see it as consisting of ‘floating chains of signifiers’ (1980: 38) but, rather, as a visual text constructed from choices within a repertoire of conventions for meaning-making – a photographic semiotic system (Kress and van Leeuwen 2006: 18). The social semiotic approach is characterised by its ambition to describe the meaning-making repertoire from a grammatical approach, systematising the studium as a means for very detailed analysis and thereby enabling what Eisenstein would call an analytical close-up view (1959) on photography.

From the late 1970s onwards “the regime of visuality came progressively to take precedence over (...) the regime of textuality, which had dominated the preceding structuralist years of triumphant semiology” (Dubois 2016: 156-157). This development has inspired the social semiotic approach, which is opposed to letting images take second place to language, and argues that in the contemporary media landscape “language is moving from its former, unchallenged role as the medium of communication, to a role as one medium of communication” (Kress & van Leeuwen 1996:34, orig. italic). Furthermore, Jewitt and Kress stress that the logics of the image rule to such an extent that writing may become subordinated to image even on the printed page (2003: 16).

The introduction of Adobe Photoshop in 1989 sparked a heated debate about photography in the beginning of the 1990s, where the special indexical status of the photograph as mechanically and chemically related to the world (Barthes 1980: 94 - 95) was dissolving, and with it the conventions of a documentary photographic truth as the “postphotographic era” of digital image simulation had begun (Mitchell 1992;
As photography did not carry an inherent indexical referentiality to the world, the photographic ethos had to come from the reputation of the photographer and photographer’s institution (Ritchin 1990: 28). Others have emphasised how it is irrelevant whether a photograph is produced chemically or digitally because the ‘real’ is always already lost in the act of representation itself (Kember 1998: 11). From the beginning of the 2000s, the question of ‘the digital turn’ appeared on the agenda, and with the emerging social media and smartphone photography during the 2000s and 2010s it changed the focus from ‘the trace’ or ‘imprint’ of ‘what has been’ and ‘emanation of the real’ (Barthes) or a ‘transfer of reality’ (Bazin) to a focus on the use of photography (Dubois 2016: 159). The functional approach to multimodality in social semiotics lends itself particularly well to exploring the use of photography, with its focus on both social practice and semiotic conventionalization and on the photograph as a text.

Photography did not lose its indexical innocence with the invention of digital manipulation because it has always been ‘manipulated’ since all choices involved in creating a photograph, such as, the point of view, the framing, the exposure, the choice of motif, etc., can be deceiving (Szarkowski 1966), and it has been possible to retouch photographs in the darkroom since the very early years of photography. Well-known examples of politically motivated retouching can be found in early Soviet period photographs in which political opponents who had fallen from grace were removed. This kind of retouching demanded highly specialised expertise and a photo laboratory, but with the introduction of image editing software such as Photoshop (in 1990), all that is needed is a powerful personal computer and some basic pc skills. Today, there are photo apps which can do the retouching work automatically at the touch of a finger.

Nevertheless, in recent years a series of ‘scandals’ demonstrates that, apparently, the documentary praxis is still in the process of adapting to the new reality. Perhaps the best-known recent example is from 2016 when the renowned Magnum photographer Steve McCurry was exposed for digitally manipulating his documentary photographs (Petapixel 2016, Business Insider 2016). McCurry first tried to manage his brand crisis by firing the lab technician who had conducted the cloning in praxis, but later proclaimed that he was no longer a photojournalist but a ‘visual storyteller’ (Time 2016). Recently there was also a heated debate in Danish media about the retouching of school photographs, where photographers were on one hand forced by parents to clone out blemishes on children’s portraits while at the same time being shamed for doing so by other parents and by Danish politicians on social media (DR 2019a, DR 2019b and DR 2019c).

Photographic Validity

According to Walton (1984), photography has a certain nearness to it, a sense of ‘immediacy’ (Bolter and Gruisin 1999) that we do not experience with any other types of images. Even after the digital turn, we still experience a ‘photographic immediacy’ that sets photography apart from other visual representations (Petterson 2011). Dubois proposes that post-photographical digital images represent an ‘a-referential possible world’, with its own inherent logic, coherence and plausibility that is manifested in and by the photograph itself (2016: 161-2). This represented ‘world of fiction’ can be acceptable or refutable (Ibid.), which is at the core of the social semiotic concept of validity (Kress and van Leeuwen 2020) which describes degrees of immediacy conveyed by the photograph.

The concept of validity (previously called modality) deals with ‘as how true or real’ the content of a photograph is represented (Hodge and Kress 1988: 128; Kress and van Leeuwen 2006: 163). The new term was coined by Kress and van Leeuwen in the 3rd edition of Reading Images – the grammar of visual design (2020). Validity is a general conceptualisation of multimodal representation of truth that stems from Halliday’s concept of linguistic modality (Halliday and Matthiessen 2004). Halliday defines modality as
“enacting interpersonal relations” (2004: 30) by construing “the region of uncertainty that lies between ‘yes’ and ‘no’” (Ibid.: 147) as it introduces levels of probability, usuality, frequency, obligation and inclination (Ibid.: 618). The grammar of modality is concerned with how the truth value or credibility of statements is coloured with auxiliary verbs, adjectives, adverbs and certain intonation patterns (O’Toole 1994: 9).

The first social semiotic conceptualisations of visual truth as modality were premised on the assumption that “visual elements can be modalised just as much as linguistic elements” (Baldry and Thibault 2006: 37), and that it is possible to represent degrees of truth attached to visual proposition (Kress and Van Leeuwen 2006: 155) or construe the representation as degrees of ‘more or less real’ (Ravelli and van Leeuwen 2018: 277). According to Kress and van Leeuwen, the criterium for visual truth is not based on probability or frequency, as with Halliday’s linguistic modality system modalization (Halliday’s other modality system modulation is not discussed in detail) but is, rather, based on the idea of realism (Kress and Van Leeuwen 2006: 155). Visual modalisation is understood as the perceived reality of the content (Hodge and Tripp 1986: 2) and seen communicatively as “the ‘slant’ the painter gives to the reality being depicted” (O’Toole 1994: 9). With the new term validity Kress and van Leeuwen attempt a more pan-semiotic approach to ‘Signs of credibility’ (Kress and van Leeuwen 2020).

The represented relative truthfulness or realness of a given visual text is a result of shared conventionalised cues functioning as choices in the validity system that enables the text producer to express degrees of subjectivity or toning of the content. High validity means that the content is represented with the highest degree of reality and where the depicted content is not commented or contested, which is comparable to positive polarity in language where the content is stated as fact (Halliday and Matthiessen 2004: 618). Low validity means that the content is presented in an overtly subjective manner, so the visual text conveys a ‘not-real’ stance towards the content – emphasising the ‘take’ of the text producer.

Surprisingly, there has been very little focus in social semiotics on how degrees of validity have implications for the relative ‘meta-awareness’ of the text consumer. High validity is a maximally ‘real’ representation of the visual proposition, which results in a focus on the ideational meaning because the viewer is not encouraged to contest the natural(ised) content. Conversely, low validity represents the visual proposition as not real, or ‘de-naturalised’ and not neutral, which makes the visual text more subjective and overtly commented or contested. The subjective stance draws more (meta-)attention to the text as a construction and as a social interaction, which foregrounds the interpersonal meaning.

**Validity markers and coding orientation**

Visual validity is expressed by choices within certain parameters relating to adjustments in colour, light and detail. The distinguishing parameters are called validity markers, and Kress and van Leeuwen (2020) propose 8 different markers that influence the overall validity: colour saturation, colour differentiation, colour modulation, contextualization, representation of detail, depth, illumination and brightness. In combination, the values of the validity markers form the validity print as an overall characteristic of the visual text’s validity.

Validity is related to context, and thus the validity print is evaluated against four “culturally and historically determined standards of what is real and what is not” (Kress and van Leeuwen 2020) called coding orientations (2006: 165; 2020). The more the validity print deviates from the coding orientation standard, the lower the validity.
The Common-sense naturalistic coding orientation is seen as ‘related to perception’ (Kress and van Leeuwen 2020), but in fact it is related to a photorealistic truth of the (formerly) prevalent resolution and colour rendition in 35 mm photographic emulsions. This coding orientation has been dominant in our society as “the one coding orientation all members of our culture share” (Ibid.). The Sensory coding orientation is “based on the principle of sensation and used in contexts in which the pleasure principle dominates” (Kress and van Leeuwen 2020). It is most commonly seen in art and advertising, where colour and light are “amplified beyond the point of naturalism” (van Leeuwen 2005: 170). The Abstract coding orientation is related to academia and serious art because the focus is on representing the general perspective or essential conceptual qualities of a phenomenon often by reducing visual detail (Ibid.). The Technological coding orientation is about usefulness from a ‘pragmatic criterion’ where the validity of an image depends on its usefulness as for instance as a blueprint, a manual, or a map (Kress and van Leeuwen 2020).

The complexity of the interplay of validity markers in a visual text is not discussed in social semiotic theory. Therefore, there is a need to examine how the value of one validity system influences the meaning of the value of another: for example, high contrast may affect the perceived saturation, causing it to seem higher. Also, validity may vary across a visual text – even within a single photograph, but the validity system does not account for divergence in validity between local areas of a visual text. The overall validity is the result of complex dynamics of interplay between validity markers at different levels in the visual text (see Baldry and Thibault 2006; Boeriis 2009; Boeriis 2012; Boeriis and Holsanova 2012 for further discussions about validity and rank scale). The complex interplay of validity markers needs to be explored in detail in future research.

Kress and van Leeuwen’s coding orientation concept focuses exclusively on the validity of a ‘general visual mode’ of any form of visual communication. This approach can be criticised for disregarding potential ‘inherent validity print’ of different visual modes or the influence of affordances of the media involved. For instance, a photograph can be abstract, and a pencil drawing can be naturalistic, which would often result in lower validity because both are uncommon choices with those particular modes and media. It is imperative that future research revisits the coding orientation from a mode-sensitive approach, where each mode and medium sets the overall orientation of the print together with the ‘communicative purpose’ and cultural context of traditional coding orientations (see Boeriis 2009 for further discussions of mode-sensitive coding orientation).

A complex issue mostly overlooked in the social semiotic theory of visual validity is the potential to express what could be called ‘multimodal irrealis’. This entails the representation of something that could have been, has been, will be or might be real. There are, for instance, conventions for expressing ‘not now’, ‘not here’, ‘not real’ as well as for visual projection in the feature film genre, such as flashbacks or flash forwards, of representing thoughts, dreams or hallucinations, and for visualising a narrative presented by a character in the film (Bazin 1967, 1971; Burch 1979, Bordwell 1985: 80; Zettl 1990: 291). Vignetting, desaturation, hyper saturation, soft-focus or overexposure are conventionalised markings of irrealis but are treated as low naturalistic validity in the system. Therefore, the marking of irrealis should also be considered a part of the validity system (for further discussions see Boeriis 2009: 276).

Students’ assessment of validity

In the early 2000s, validity seemed to be a very complex and abstract concept to students at university courses in visual analysis and design, and they struggled to comprehend the represented semiotic realism
of a ‘shared truth’ (Kress and van Leeuwen 2006: 154). They lacked a sensitised repertoire for distinguishing validity markers and for grasping the meaning of instantiated validity prints. They could, for instance, not clearly identify different degrees of saturation and had a rather vague conceptual understanding of it.

Introducing the functionalities of Adobe Photoshop in the courses provided a little more tacit appreciation of the different validity markers, but the theoretical concept of validity itself was still very abstract to the students. Even though validity was a central part of the curriculum of visual analysis, the examination papers generally did not demonstrate a sound validity analysis, and the students often expressed very simplistic and dogmatic reactions to most kinds of photo manipulation, which were deemed malicious.

However, from the early 2010s and onwards a gradual but clear development of the students’ capacity for analysing validity could be observed. Today, they have a much more developed and nuanced repertoire for grasping validity and for analysing it as a strategic communicative resource. Most students are now able to conduct a precise analysis of validity prints and their communicative consequences. The pronounced improvement in students’ base competencies have demanded adjustments in both the teaching plans and in the examination assessments.

This development of students’ skills in the analysis of validity runs parallel with the development and spread of social media photo sharing apps, with Instagram (launched October 2010) featuring as the single most dominant example. The students have become experienced users of photo filters from engaging in a social praxis of producing photographs with smartphones and sharing them with each other via social media, and today they immediately embrace the term #nofilter as definitory for high naturalistic validity.

Interestingly, as the students have become better at identifying and analysing validity markers, they seem to assess the validity profile values in new ways. In recent years (2018-2020), a new understanding of photographic truth has emerged among users of social media: though the students can easily identify the use of strong filters, they often assess the photos as neutral, truthful or real (high validity). Some argue that the filtered photographs look true to them, as something they could have shared themselves. This indicates a common understanding of ‘true-ness’ and of high validity that does not necessarily correspond to the coding orientations presented by Kress and van Leeuwen, and the students do explicitly express that they feel a need for both new validity markers and for new coding orientation categories that include the effects of manipulation software and filters used in digital photography. We shall now turn to the affordances of some of this digital photo manipulation software.

Software’s resources for manipulating the photograph

The technological resources available in ‘professional’ photo editing software such as Adobe Photoshop or Adobe Lightroom and ‘amateur’ editing software such as Instagram, Snapchat, VSCO, Betterme, Facetune, Shape, Facetify, Facelab, Faceapp, etc., represent different approaches to visual semiotic resources, and they lend themselves to different approaches to conveying validity. Many filters in amateur photo apps manipulate the interpersonal validity markers with readymade pre-sets that give the photograph a certain validity profile which makes it either lower naturalistic validity or places it in the domain of the sensory coding orientation (cf. Zappavigna 2016; Poulsen 2018). One main motivation for the choice of filters in photo apps expressed by students is simply that it makes the image ‘look cool’ – which is to say that it adds an aesthetically pleasing feel to the images and as such almost functions as stylistic ornamentation (cf. Page et al. 2014; Bartholeyns 2014; Adami and Jewitt 2016). Photoshop does not offer the same selection of
preconstructed effects but rather has a very full and complex palette of basic choices for manipulation, and it is in fact not always easy to achieve the same results as with the mobile app photo filters.

High naturalistic validity where no filters are applied is, of course, not neutral: it is a meaning-making choice for naturalising the ideational content into the photographic realism of a given time. The choice of film stock was of importance for meaning making in the analogue film years, and today there are also meaning making choices built into digital cameras as, for instance, the default neutral or natural setting is not necessarily the same from one camera brand to another.

Manipulations of the validity systems are mostly considered to be minor changes in the tone or mood/stimmung of the photograph, and even when they are more dramatic, the general assumption among students seems to be that they do not change the core proposition or content of the photograph. Changes in colour, brightness and detail only come to attention if they are so radical that they inflict serious ideational changes in the photograph. This is, for instance, the case with (over) processed skin texture, when brightness is increased, colour differentiation and modulation are lowered and the details are obscured, making the skin perfectly flawless to a point where it does not ‘look natural anymore’ because the lack of intensive attributes makes the skin texture seem unreal (Figure 1d).

Ideational meaning (Halliday and Matthiessen 2004: 175; Kress and van Leeuwen 2006: 59) is the domain where manipulation is considered most ‘malicious’ by the students as they deemed the changing of elements and people (participants), events (processes) or settings (circumstantials) unambiguously manipulative.

The clone tool in Photoshop is one feature that students have had critical focus on. Using this tool, it is possible to remove an element and give the impression it was never there. To the students, this figure-level deletion of whole elements such as people or things (Figure 2) seems to be a clear case of a manipulative action, whereas cloning on a component level is more debated. Possessive attributes (Boeriis 2009: 192) such as, saliva or coffee stains are not part of the depicted person and could just as well have been removed physically at the shoot, so it is typically not considered manipulative by the students to clone them out. Deletion of impermanent intensive attributes (Ibid.) such as bruises, pimples (Figure 1b) or tan lines is debated more as they are part of the person’s look at the time the photograph was taken (DR 2019a). The students often discussed the ethically problematic issues of retouching more permanent intensive attributes (Ibid.) such as birthmarks, pigment changes or scars, but overall, in recent years students have gradually come to accept many attributive manipulations as unproblematic.

In 2019, FaceApp introduced a functionality that students have had very different opinions about: Persons in the foreground can be cut out and by automated compositing placed in a new circumstantial context at the touch of a button (Figure 3d, 3e and 3f). To many students this is just a fun feature, but the fact that it can be done seamlessly concerns some students as it can be used for manipulation. A similar shape recognition algorithm has been implemented in video conferencing systems such as Zoom, making it possible to change the background behind the person and thereby, for instance, hide a messy living room. The less than perfect masking in Zoom does, however, result in a lowered validity value as it makes the image appear less realistic, whereas the compositing is impeccable in FaceApp, creating a high validity value. In Photoshop, these kinds of changes to circumstantial setting demand a much more time-consuming process of complex compositing.

Manipulation of colour and light in locally selected areas of a photograph is possible in Photoshop by painting in effects with a brush or by utilising the different compositing functionalities. Many local adjustments are not debated by students at all as the alterations are not easily detectable and are so
widely used that the students see them as expected (in certain genres). They are part of the photographer’s professional praxis and to a certain extent just another way to achieve what could have been done on location. For instance, dodge or burn brightens or darkens selected areas, which can enhance cheekbones or muscular structures on the body (Figure 1c). Such intensive attributive changes to the face are not only done using lighting and makeup with professional models but are also a part of many people’s everyday makeup routines. Similarly, local changing of the eyes or hair colour on subjects can also be done with contact lenses and hair dye.

The Liquify tool is one of the most debated and criticised Photoshop tools by the students. It affects intensive attributes by warping the body or face in dramatic yet unnoticeable ways, often to make a person look thinner (Figure 4). Free mobile phone photo apps like FaceApp and Facetune use object recognition algorithms to make it very easy to apply alterations to selected areas such as the eyes, the nose or the mouth (Figure 5a). This has put pressure on professional software, and in recent years Photoshop has introduced face recognition in the liquify function, where the software identifies the features of a face and sets up standard manipulation of parameters such as eye size and placement, cheek and jawline adjustments, face width and nose and forehead size (Figure 5b). These adjustments are intended to ‘improve’ the proportions of the face of the person depicted.

In FaceApp there are several other effects that have an impact on the ideational content, which are all based on a face shape recognition algorithm. For instance, the function smile (Figure 3b) not only adds a curl to the sides of the mouth, which can also be done in Photoshop’s liquify (Figure 5b), but in FaceApp it also opens the mouth and adds artificial teeth to the smile. The result looks rather convincing and thus retains a high naturalistic validity. Similarly, there are options to automatically add makeup, glasses, tattoos, a new hairstyle or a beard (Figure 3g, 3h and 3i). As something of a curiosity, it is even possible to alter the age to either younger or older (Figure 3c), also with very convincing high validity results, as well as change the gender of the depicted person. It is discomforting to some of the students that these effects all relate to a high validity in a naturalistic coding orientation, which at times makes FaceApp’s effects surreal. Other apps have similar functionalities for altering the attributive meaning of the photograph. Best known are probably the different funny faces of Snapchat where the person in the picture is turned into different, often grotesque, character such as, a demon, a vampire, a kitten, or a hotdog with eyes (Figure 6). These effects are not in a naturalistic coding orientation, but rather fall within a sensory or even an abstract coding orientation conveying a cartoonish feel that makes them humorous.

All ideational manipulations are related to the validity profile of the photograph – if the validity is high in the naturalistic coding orientation, ideational manipulations are considered manipulative, whereas if the validity is low or not naturalistic the manipulations can more often be considered humoristic or symbolic.

The functionalities of professional software are programmed into photo apps in a simplified workflow (e.g., retouching and airbrushing), and the most popular filters and easy-to-do effects of mobile apps such as Instagram (Figure 7a, 7b, 7c, 7d, 7e and 7f) are being implemented into professional software, for instance, Adobe Lightroom’s cross-processing, split toning or automated retro filters (Figure 7g, 7h and 7f). Adobe Photoshop and ‘amateur’ editing software, such as Instagram and Facetune, have different approaches to conveying validity. Photoshop has a detailed approach that demands specialised skills, whereas amateur apps have a readymade, one-click approach. The professional software promotes a focus on the resources in play and their impact on the image, and on gradual adjustments – perhaps resulting in a more strategic focus – whereas the phone apps lends themselves to more intuitive emotionally-driven choices based on what feels right in the moment. We turn to this feeling in the photograph below.
Recent technological developments take the manipulation of images to a new level. The use of shape recognition and motion capture in photo manipulation software allows for more than adding funny faces, as these functionalities migrate from the apps into the proprietary operation system of the mobile phone. The mobile phone camera can recognise the phone owner’s face and add preselected beautifying effects to every photo of that face. In this way the user can make sure that they will never take a photo without effects. For instance, in the Huawei mobile phone’s operating system (EMUI 9.1) this functionality is available as a very easy to set up standard automated functionality that is always on unless manually turned off (Figure 8). The standard setup provides options to change the size, brightness and openness of eyes, and the colour, brightness, and details of skin as well as contouring of the face (slimming of the jaw). There is an ideology built into the automated functionality that suggests that everybody needs to be improved with cleaner skin, bigger brighter eyes, and narrow chin lines. We need to be very concerned about what the automated manipulation of the self-representations may inflict on an individual’s self-understanding and self-image as the phone camera is a central part of our social reality.
[Figure 2: Figure-level cloning in Photoshop (Photo: Author’s own work and retouching)]
Figure 3: FaceApp filters (Photo: Author’s own work and retouching)
[Figure 4: Figure level Liquify, b is the original (Photo: Colourbox SDU + author's own retouching)]
[Figure 5: Face manipulation FaceApp and Photoshop (Photo: Author’s own work and retouching)]
Figure 6: Snapchat filters (Photo: Author’s own work and retouching)
[Figure 7: Photo filters Instagram and Lightroom (Photo: Author’s own work and retouching)]
The emotive reality

Photography is a social act (Bourdieu 1965: 77), and it has from the very first years been used to record family and social events for remembering, sharing or showcasing, as it can change an experience into a souvenir (Sontag 2002: 11). We may experience a closeness to the depicted subjects in the photographs, but at the same time we can also experience a relation to the photographer as the photographing subject (Pettersson 2011: 190), and with digitalised social photography this has become very pronounced.

The semiotic process of creating photographic meaning has changed along with the technological development of photography through history. From the first cameras with wet plate through dry plate, celluloid to digital cameras and eventually mobile phone photography, the photographic process has been accelerated in several ways (Johannessen and Boeriis 2019). The production of photographs (logogenesis) has become faster, with more aids for framing, exposure, focus, etc., and we now have immediate access to
a screen *protext* (Ibid.). Creating a photograph is no longer a time-consuming process of meticulously choosing the correct settings, based on knowledge about exposure and film development (Van Dijck 2008); photographic texts come about through rapid fast sensorimotor trial and error processes, where the finalised text is available as it comes into being. Similarly, the distribution and sharing of photographs via mobile phone networks, social media and the World Wide Web has had a strong impact on the photographic meaning making praxis through immediate sharing and social feedback. The massive flow of photographic communication and the fast feedback loops in the trial-and-error process of photography lead to faster appropriation of new social photographic conventions and skills (ontogenesis). When individuals are experiencing increased numbers of instantiations from the photographic semiotic resource system, they thereby achieve a more refined mastering of it (Johannessen and Boeriis 2019). The evolution of the general semiotic systems of conventionalisation (phylogenesis) is also accelerated as the production and distribution of photographic instances increase in a larger community. Technological development paves the way for semiotic evolution, but semiotic innovations also demand new technological inventions (e.g., software functionalities, faster processors, new hardware, etc.), so the acceleration is reciprocally driven by both a technological push and a semiotic push.

Due to technological improvements in individual enskillment stemming from faster feedback loops, there has been a significant change in the aesthetic of amateur photography to the point where it is in fact no longer amateurish. Amateur photographs are no longer poorly exposed, grainy, blurry or poorly framed, as more skilled social individuals can create aesthetically pleasing photographic texts, based on informed communicative choices. As the distinction between amateur and professional is dissolving, the amateurish text is no longer authentic in itself simply due to its form as Blaagaard (2013) has claimed, while simultaneously the professional photograph no longer conveys authority in its style alone.

Technological development has changed the way we may express validity. Filtered photographs prevail in social media, as demonstrated in many studies (cf. Halpern and Humphreys 2014; Hjorth and Pink 2014; Marsha 2014; Rettberg 2014; Page et al. 2014; Adami and Jewitt 2016). The emergence of the hashtag #nofilter as a discursive marker of a less frequent choice demonstrates very clearly how the neutral (naturalistic) representation in social photographs has in fact become a marked choice. Unfiltered images explicitly convey a statement about transparency or honesty. The dominant use of filtered images in social media has led to assumptions that we are entering an era where the *sensory coding orientation* is overtaking the naturalistic coding orientation as dominant in photographic representation (see e.g., Zappavigna 2016; Poulsen 2018; Ravelli and van Leeuwen 2018; Kress and van Leeuwen 2020). Kress and van Leeuwen state that “the sensory is on the rise. It is increasingly believed that human action is essentially driven by emotions” (Kress and van Leeuwen 2020).

This gives rise to consideration of whether validity can also be related to a fidelity to the rhetor’s feelings at the time when the photograph was taken. Paraphrasing Wierzbicka (1992: 3) on language, photography is a tool for meaning making – we think, feel and perceive, and we want to express our thoughts, feelings, and perceptions, to share them with other people, and also to record and to organise them. Photographing is more than recording ‘cool’ events to show off as part of a constructed online life; instead, it may be construed as a matter of meaning making in a dynamic social setting of sharing and caring. We take photographs using our mobile device to share experiences that have made a strong impression on us – the equivalent to verbally telling a good friend about something important. Sharing photographically enhances the experience and helps us process it by means of ‘co-feeling’ with others, and in that sense the photograph makes the experience even more real. Photographs do not just represent emotions, they are emotive, as we create photographs with the intention of representing our emotional state when the
picture was taken. I therefore propose the concept emotive coding orientation for texts with the overall communicational intention of semiotising emotions. The emotive photograph takes an emotional stance and hence depicts the motif from a ‘point of feeling’, so the utterance is not implicitly “look how beautiful this looks” but rather “look how wonderful I feel about this”.

From the point of view of an emotive coding orientation, it is not a paradox that students see filtered images as real, neutral and high validity, because in fact the photograph expresses the rhetor’s emotions in the most apt way (Jewitt and Kress 2003: 11) using the shared repertoire of filters and effects afforded by social media photo apps. The fast production, distribution, consumption, and feedback loops of social photography bring the photographic image closer to functioning more as a dialogical turn in an unfolding photographic interaction than as a text. Therefore, the filtered digital photograph can be seen as a turn in a socially dialogical and emotionally real interaction in and about the world. Filtering is part of the vocabulary, and it can be used to make clear subjective statements of unreal-ness in low validity, to convey emotive meaning as high validity and also to make more subtle emotional comments about the ideational content in slightly lowered validity. As with any other semiotic system, the complexity of the repertoire of photo filtering is mastered by users through their enskillment by experiencing social conventions.

The eye in the hand

We have the smartphone with us at all times; it is in our hand when we are walking, driving, commuting, at work, on the sofa, in the bathroom, in the bedroom, at family gatherings, when doing sports and at cultural events. With the phone in our hand, we have immediate access to expressing ourselves photographically. We do not have to remember the camera because it is always there at the end of our arm ready to be put to use. The creation of a photograph is not necessarily planned; it can happen in the spur of the moment to record events, to share them, to be creative or just for fun, with virtually no delay. There is no past-ness of photography (Barthes’ 1980) anymore – aside from retro filters. As “social photography has become embedded in everyday life” (Zappavigna 2016) the photographic image has become part of the everyday multimodal repertoire of interaction (cf. Halpern and Humphreys 2014; Hjorth and Pink 2014; Poulsen 2018). In any situation we can choose to interact photographically, just as we can choose to speak or write.

The relative distance between our body and the screen of the mobile phone could provide a less immersed experience than looking through the viewfinder of a camera. However, smartphone photography may in fact be much more embodied than traditional photography. As was predicted by McLuhan (1967), the body is extended by the photographic device (Stelarc 1991), so the camera is in fact not separate from the body, it is as close to the body as it can get – the camera has become part of the body.

When analysing citizen journalism using mobile phones, Blaagaard (2013) presents an interesting comparison to (documentary) film/video, where the movement of the handheld camera resonates with our sensory experience of ‘being there’. According to Blaagaard (Ibid.) authenticity is conveyed by ‘fimic techniques’, such as an unsteady camera, quick panning, unsharp or grainy images, rather than the images looking naturalistic as if we had been there. Blaagaard’s understanding of post-human photography suggests that we have access to each other in a new way, an augmented relation where subjectivity can be digitally mediated (Braidotti 2013; Hayles 1999) and where ‘embodied authenticity’ is carried by an extended part-digital body. The hypothesis of this article is that the phone in the hand provides a far more dramatic immediacy and closer bodily relation between the individuals involved in the communicative process than what can be conveyed by filmic means. Rather than expressing an emotional state or
representing our feelings, we share our sensory experience and our feelings directly with each other – we experience the feelings of others.

Following a distributed approach (cf. Frosh 2015), our sensory-motor system has been augmented by the mobile phone, and the stimuli we experience through this device are (almost) as real as the stimuli we experience with other parts of our sensory-motor system. We carry the screen and the camera with us as an addition to our sensory-motor apparatus and experience significant parts of our life through it. The camera is more than an external tool for recording semiotic renditions of texts about our experiences or an enhancement of our senses; it is an expansion of our body used for sensing, processing, comprehending, remembering, socialising and learning. Frosh says about the selfie that it should not be understood in aesthetic visual terms alone as it is a ‘gestural image’ that “connects the bodies of individuals, their mobility through physical and informational spaces, and the micro-bodily hand and eye movements they use to operate digital interfaces” (Ibid.: 1618). Thus, the digital photograph is perhaps not an indexical recording of a visual reality seen as a semantic reference (Ibid.: 1609), but, rather, it is perhaps still indexical in the sense that it discloses traces of information about the social bodily gesture of taking a photograph to someone (Ibid.: 1621).

Ferrari and Gallese (2007) discuss a neurobiological grounding for intersubjectivity as mechanisms that allow one individual to take part in another’s experiences of actions, feelings or emotions:

“our capacity to experience and directly understand the emotional and tactile experiences of others could be mediated by embodied simulation, that is, by the externally triggered activation of some of the same neural networks underpinning our own emotion and tactile sensations (...) These mechanisms allow individuals to participate in another’s action, feeling or emotion through a preferential access of the visual information about the outside social world to our sensorimotor experience” (Ferrari and Gallese 2007: 85).

We do not simply see traces of emotion on the outside of other people, we simulate these bodily in our own sensorium and thereby evoke similar emotions in ourselves as an ‘offline’ embodied simulation. Being empathetic means being able to simulate another’s emotionally caused sensorimotor actions and experiencing simulations of the emotions in ourselves (Gallese 2005). Imitation and mirroring are central to human cognition, emotion, and communication (Currie and Ravenscroft 2002; Gallese 2005), and we understand each other’s sensations, thoughts, and emotions because we share similar sensoria.

The sensorium is augmented with a smart-device – our body is extended to include a digital eye-in-the-hand. The handheld mobile device is part of our sensory motor apparatus, and when we share our photographs they are received and viewed on a similar eye-in-the-hand as part of another augmented sensorium. We all have life experiences of holding a mobile phone, and we can recognise the experience and feel the emotions in each other’s images. The body is very much present in digital mobile phone photography because the mobile device is a part of our body, our perception and our distributed cognition. Similar to Abercrombie’s notion ‘phonetic empathy’ (1964), it is productive to introduce photographetic empathy as a term for the way the emotions of others reverberate with our own emotions through offline digital sensorimotor imitation (see also Thibault 2004: 124).

Photographs are vehicles of co-embodied interaction, as we experience the body of the other in our own extended body. As we re-experience and re-feel, this is more than mere hyper-immediacy (unawareness of the mediation) because the photograph is not a classic mediation anymore; it is body and it is sensory reality. All mobile photographic resources are bodily, they are dialogical and intentional; they carry
emotions, both the expressive emotive emotions and the empathetic bodily emotions that resonate with the emotions of other photographing bodies. We feel each other in the post-photography.

Conclusion

Photography takes centre stage in our social lives today as a part of the vernacular multimodal repertoire of social interaction. It has hitherto been a very external and enduring phenomenon – a work, a piece, a text; but now it has become something more internal, bodily, and transient – a gesture, an utterance, a turn in a photographic dialogue. Perhaps we are getting to a point were social media users do not take the manipulated bodies and faces for naturalistic representations of the real anymore, but rather appreciate the photos merely as sensory representations intended to create pleasure. Perhaps the idea of the indexical photograph is finally vanishing completely with the new photographic semiotic repertoire. As the understanding and evaluation of photo manipulation is undergoing severe transformations, it is becoming ever more important to investigate and theorise this area.

The adaptation of systemic functional linguistics to a social semiotic multimodal theory provides new insights about digital photography, and as we also think and conceptualise visually and not only with language (Dubois 2016: 157), we must not a priori set language as superordinate to other modes, neither in practice nor in theorising. However, when describing the practices of digital visual meaning making, we can draw upon theoretical insights from systemic functional linguistics in social semiotics in combination with earlier theories about visual communication and insights about concrete visual crafts. This is the multimodal social semiotic approach (van Leeuwen 2005). An important future task is to improve descriptive systems in light of the developments in digital social media photography and multimodal social semiotic theory.

Post-photography shares many semiotic systems with older photography, and therefore the insights from the social semiotic theories about analogue photography can be used as point of departure for understanding digital photography. Many of the analytical tools are there, but they can be supplemented and fine-tuned. This article demonstrates how Kress and van Leeuwen’s concept visual validity is a very fertile concept for elucidating truth and manipulation in contemporary vernacular digital photography when supplemented with a new sub-category called emotive validity, which encompasses social digital photography’s function of conveying an emotional fidelity to how the depicted situation felt to the photographer. In addition to this, the article develops the concept photographetic empathy to encompass the meaning derived from empathetic reverberation through digital sensorimotor imitation as the smartphone camera enhances a sensibility to a (more) bodily experience of photography because the camera is an extension of our sensory motor apparatus and of our cognitive and social systems.

As new technologies are invented and new semiotic practices constantly evolve, social semiotic multimodality, with its inherited descriptive aim founded in systemic functional linguistics, can be continually calibrated into productive new approaches to take on the endeavour of comprehending and describing the constant development in photographic communication.

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Declarations of interest

None

Highlights

- **Visual validity** in manipulated reality of vernacular digital photography
- **Emotive coding orientation** as photographic fidelity to feelings
- **Photographetic empathy** as reverberation through digital sensorimotor imitation

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