What's the Point of an Index? or, Faking Photographs

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If Freud had subjected one of the West's central ideologies – historical progress – to psychoanalysis, he might have discovered the primary psychic operation of displacement, operating behind our constant impetus towards ever-greater perfection. What passes for progress (especially theoretical progress), I am claiming, often simply displaces unresolved problems onto new material. As a historian of early cinema (and of the even earlier visual and sound technology that preceded the cinema – such as the magic lantern, the phantasmagoria, the panorama, the phonograph and the devices of instantaneous and chronophotography) I am excited, but also a bit dismayed by the current discussion of newly emerging media, especially when this discussion provides an account of the older media of cinema and photography. There is no question in my mind that the recent interest in early cinema and its technological antecedents springs partly from the excitement the appearance of such new media generates (and my friend and colleague Erkki Huhtamo has demonstrated this interrelation of old and new most wonderfully[1]). But, as Norman Mailer once said, ideals of progress often depend on the anaesthetization of the past. While I believe that the possibilities and realities of new media invites us to (in fact, demands that we) rethink the history of visual media, I also fear it can produce the opposite: a sort of reification of our view of the older media, an ignoring of the true complexities that photography, cinema and other visual media capturing light and motion presented, simply displacing their promises and disappointments unto a yet-to-be-achieved digital media utopia. Especially bothering to me is a tendency to cast the older media as bad objects, imbued with a series of (displaced) sins that the good objects of new media will absolve.

Let's tackle one of the largest problem first, the truth claim of traditional photography (and to some extent cinematography) which has become identified with Charles Peirce's term "indexicality." Both aspects need investigation: the nature of the truth claim, and the adequacy of indexicality to account for it. This whole issues becomes even more obscure when critics or theorists claim (I hope less frequently as time goes by) that the digital and the indexical are opposed terms.

I will approach this last issue first, both because I think it is rather simple and because others have made the argument as well or better than I can (most recently Phil Rosen in his fine work *Change Mummified*).[2] I have some difficulty figuring out how this confu-

sion arose, but I imagine it went something like this: the indexicality of the photograph depends on a physical relation between the object photographed and the image finally created. The image on the photographic negative derives from the transformation of light sensitive emulsion caused by light reflecting off the object photographed filtered through the lens and diaphragm. In a digital image, however, instead of light sensitive emulsion affected by the luminous object, the image is formed through data about light that is encoded in a matrix of numbers.

But what problem does this change present and how does it challenge indexicality? Clearly a digital camera records through its numerical data the same intensities of light that a non-digital camera records: hence the similarity of their images. The difference between the digital and the film based camera has to do with the way the information is captured – which does have strong implications for the way the images can be stored, transferred and indeed manipulated. But storage in terms of numerical data does not eliminate indexicality (which is why digital images can serves as passport photographs and the other sorts of legal evidence or documents, which ordinary photographs supply). Further, it would be foolish to closely identify the indexical with the photographic; most indexical information is not recorded by photography. Long before digital media were introduced, medical instruments and other instrument of measurement, indexical instruments *par excellence* – such as devices for reading pulse rate, temperature, heart rate, etc, or speedometers, wind gauges, and barometers – all converted their information into numbers.

Although a photograph combines both types of signs, the indexical quality of a photograph must not be confused with its iconicity. The fact that rows of numbers do not resemble a photograph, or what the photograph is supposed to represent, does not undermine any indexical claim. An index need not (and frequently does not) resemble the thing it represents. The indexicality of a traditional photograph inheres in the effect of light on chemicals, not in the picture it produces. The rows of numerical data produced by a digital camera and the image of traditional chemical photography are both indexically determined by objects outside the camera. Both photographic chemicals and the digital data must be subjected to elaborate procedures before a picture will result. Here we might grasp how the claim for digital uniqueness displaces a problematic issue within our conception of traditional photography, an especially pernicious one. The claim that the digital media alone transforms its data into an intermediary form fosters the myth that photography involves a transparent process, a direct transfer from the object to the photograph. The mediation of lens, film stock, exposure rate, type of shutter, processes of developing and of printing become magically whisked away if one considers the photograph as a direct imprint of reality.

Thus the very strong claim that digital images can be manipulated in ways photographic images could not, must also be qualified. Indeed the much-heralded malleability of the digital image does not contrast absolutely with photography. I would not deny that the ease, speed and quality of digital manipulation represent an important new stage in the technology of imagery. But we must carefully consider the situations in which such malleability becomes a value and the considerable debt such transformations owe to (although often displacing our attention from) the history of photography. Here especially, the intertwining of indexicality and iconicity must be observed.

Let us grant for the moment, the ability of digital photography to absolutely transform the appearance of the object originally photographed. If we grant that the original digital photograph of Uncle Harry was indexical (and therefore bears an important relation

to the actual Uncle Harry), what happens when we then intervene on the data in a Photo-shop program and transform his nose into a pronounced beak, his baldhead into a shaggy wilderness, turn his brown eyes blue? Surely the indexical is being attenuated! Two an-swers are relevant here, both of which depend on a qualified yes. Yes, but … film-based photography can also transform Uncle Harry's appearance, whether through retouching, use of filters or lenses, selection of angle of photography, exposure time, use of specially prepared chemicals in the developing stage, or adding elements through multiple print-ing. Traditional photography, therefore, also possesses processes that can attenuate, ig-nore, or even undo the indexical. No question digital processes can perform these altera-tions more quickly and more seamlessly, but the difference between digital and film-based photography cannot be described as absolute.

But a more complex and, I think, more interesting answer would point out that the power of the digital (or even the traditional photographic) to "transform" an image de-pends on maintaining *something* of the original image's visual accuracy and recogniz-ability. I use this phrase ("visual accuracy and recognizability") to indicate the manner in which indexicality intertwines with iconicity in our common assessment of photo-graphs. Our evaluation of a photograph as accurate (i.e. visually reflecting its subject) depends not simply on its indexical basis (the chemical process), but on our recognition of it as looking like its subject. A host of psychological and perceptual processes inter-vene here which cannot be reduced to the indexical process. The recognition of a pho-tograph by a viewer as an image of its subject would not simply result from indexically. Indeed, one could produce an indexical image of something or someone that remained unrecognizable. The image must also be legible in order to be likened to its subject.

Let me get at this via another route. If one of the great consequences of the digital revolution lies in the freedom it gives people to transform a photographic image, we could say that the digital aspires to the condition of painting, in which color, shape, tex-ture, all the components of an image are completely up to the painter, rather than deter-mined by the original subject through an indexical process. But do users of Photoshop want an *absolute* freedom? Do they really want to *create* an image or, rather, to *trans-form* one which can still be recognized as a photograph (and maybe even as a photograph of Uncle Harry?)

The interest in transforming Uncle Harry's photograph is not quite the same as that of drawing a caricature of him. Admittedly one could point out that few of us have the depictive talent to produce a caricature, and that digital manipulation programs give us that power (interestingly this recalls the argument Fox Talbot gave for his invention of photography). But it seems to me that the power of most digital manipulation of photo-graphs depends on our recognizing them as *manipulated photographs*, being aware of the strata of the indexical (or perhaps better, the visually recognizable) beneath the ma-nipulation.

The wonderful playfulness celebrated in the digital revolution remains parasitic on the initial claim of accuracy contained in some uses of photography. Just as I tried to untangle the idea of visual accuracy from simple indexicality, I would now like to consider the "truth claim" of photography that relies on both indexicality and visual accuracy but includes more (and perhaps less) than either of them. A great deal of the discussion of the digital revolution has involved its effect of the truth claim of photography, either from a paranoid position (photographs will be manipulated to serve as evidence of things which do not exist thereby manipulating the population to believe in things that do not exist), or from what we might call a schizophrenic position (celebrating the release of

photographic images from claims of truth, issuing in a world presumably of universal doubt and play, allowing us to cavort endlessly in the veils of Maya).

I use the word "truth claim" because I want to emphasize that this is not simply a property inherent in a photograph, but a claim made for it (dependent, of course, on our understanding of its inherent properties). Perhaps its Ur-form can be found in Dion Boucicault's 1859 melodrama *The Octoroon*, in which Scudder, the play's Yankee "photographic operator", discovers that an act of murder has been recorded by a camera. He offers the photograph as evidence to a lynch mob about to string up an Indian falsely accused of the murder, declaring, "'Tis true! the apparatus can't lie!"[3]

We might add immediately that the apparatus, in itself, can neither lie, nor tell the truth. Bereft of language, a photograph relies on people to say things about it or for it. It is no accident that Boucicault's melodrama involves a mock trial in which the photograph exonerates the falsely accused Indian chief Wahnotee and determines the true culprit. Given the early date of this play characters question whether a court of law would actually accept such evidence. Both historically and institutionally, in order to tell the truth, the photograph must be subjected to a series of discourses, become, in effect, the supporting evidence for a statement. Anyone who knows either the complex history by which photographs were granted evidentiary status in legal trial, or indeed the scrutiny and discussion to which they must be subjected before they are granted such status in contemporary trials must realize that in order to speak the truth the photograph must be integrated into a statement, subjected to complex rules of discourse – legal, rhetorical and even scientific (discussing all the aspect of the photograph, its exposure, developing and printing).

But I think we would also have to contradict Scudder and say a photograph can only tell the truth if it is also capable of telling a lie. In other words, the truth claim is always a claim and lurking behind it is a suspicion of fakery, even if the default mode is belief. In other words, the value placed on the visual accuracy of a photograph, founded on its combination of indexicality and iconicity, forms the basis of a truth claim that can be made in a variety of discourses whether legal ("Here we see the accused caught by a surveillance camera…") or less formal and interpersonal ("Yes, his penis really is that big…"). But in so far as this value of visual accuracy exists, there will always be a drive to counterfeit it. The truth implies the possibility of lying, and vice versa.

Faking photograph has a long history and was always possible given the processes that intervene or shape the indexical process as it becomes a picture. Spirit photography, the attempt by Spiritualist to prove the survival of a soul after death by capturing its image, a practice dear to my heart, provides only one early example.[4] The variety of doctored photographs for political purposes is another.[5] But my point here is not simply to claim either that the manipulatability of photographs predates the digital (undeniable) or that this practice was frequently employed in circumstances where truth claims were attempted (undoubted). Rather my point is that the practice of faking or counterfeiting can only exist when true coin of the realm exists as well. Rather than denying photography's truth claim, the practice of faking photographs depends upon and demonstrates it.

Thus the concern over, or the celebration of, the possibility of the digital undermining the association of photography with a truth claim involves an inherent contradiction. If the digital undermines the truth claim of photography, we will have to ask in what contexts this occurs. Within interpersonal relations someone could digitally alter the size of his penis in a photograph and most likely a general incredulity about extraordinary photographs has already set in within the personal exchange of images. But in cases of legal or scientific evidence protocols are set in place for determining the process by

which the photograph would be made and the likelihood of its accuracy. Clearly journalism (and governmental use of the media) pose arenas in which the greatest concern abounds. But equally clearly, institutions of journalism and government watchdog organizations will endeavor to preserve the possibility (the inevitability is not an issue) of photographs supporting truth claims in certain situations. I by no means claim that conspiracies of deception cannot exist, but simply that they will not differ essentially from other attempts at political deception. George Bush did not provide photographs of Iraq's "weapons of mass destruction" to justify his invasion (although Colin Powell did attempt some rather vague photographic evidence in his address to the United Nations

Thus a recent journalism text book dedicated to this issue proposes that organizations dedicated to reporting news take a pledge of "Truth and Accuracy in Media Photography" and that organizations so pledging could display "a badge or symbol certifying their commitment" to the visual integrity of their images (i.e. that they have not been altered digitally).[6] My point is not to predict if such a practice will be widely adopted, but rather to demonstrate that truth claims about photographs possess an institutional value in specific circumstances (the text book I quoted at one point queries it journalism student readers: "Will we Photoshop ourselves out of a job?").[7] Therefore means will be taken to preserve this value, even in an era where it is easy and cheap to alter photographs and produce a believable image. The truth claim must always be supported by rules of discourse, whether rigorously defined (as in scientific or legal evidence) or inherent in general practice (as in the belief that news reporting generally tells the truth; It seems to me that doubts about journalists' commitments to the truth more likely undermine belief in the truth claim of a photograph than the simple fact of technical manipulability).

Likewise the use of photographs as evidence, whether legal or scientific, has always entailed a considerable disciplining of the photographic image. Consistency and uniformity of photographic processes (such as the very specific manuals written for police photographers or the strictly determined routine of distance, camera angle, lighting, and type of lens and apparatus used in the creation of Bertilon's photographs of criminal for use in identification)[8] rule institution photographic practices. A photograph's use as evidence or scientific data often has to contend with the excesses of its intertwined indexical and iconic aspects. For scientists photographs frequently recorded too much information, and, as Peter Galison has shown, scientists debated whether to remove this excessive information or to forthrightly acknowledge it.[9]

Etienne Jules Marey (whose chronophotography provides the most direct ancestor of the commercial cinema) provides a fascinating example as Joel Snyder and Marta Braun have shown.[10] Marey's first investigations of the human and animal body in motion used instruments that provided only numerical readings or graphic inscriptions. However, after encountering Eadweard Muybridge's serial photographs of the horse in motion, Marey realized the increased sensitivity of new photographic processes and emulsions provided a new temporal control, capturing instants of motion that the human eye could not see. The possibility of analyzing human and animal motion through multiple instantaneous images in rapid succession excited Marey. However, for certain purposes the excess of visual information interfered with analysis and Marey arranged the subject in front of the camera in order to create a more abstract image.

We might describe Marey as a digital manipulator of photographs *avant le letter*. Subjects wearing dark costumes in which white stripes and metal studs marked joints and limbs converted Marey's photographs into graph-like images, which with a slightly increased abstraction became literal graphs. Yet one thing Marey did not eliminate from

the image was its indexical relation to the subject, another indication of the way in which the indexical and digital need not be opposed and that the indexical may have little relation to photography's iconic properties. Throughout the late nineteenth and twentieth century scientists introduced protocols of both the way photographs were made and the way they could be read which tamed the photographic image and made it useable as scientific evidence

Let us consider the other side of the equation: the celebration of the new digital utopia (as Rosen calls it)[11] in which digital manipulation liberates photography from its stable and predictable identity and its seemingly mechanical reiteration of the facts. As an art form photography has never been limited to any such restriction to the factual or accurate. In contrast to the protocols that enabled the truth claim of the legal or scientific photograph, art photography may create its own protocols and practices, free to explore its forms. The processes of superimposing multiple negatives, gum printing, or solarization – not to mention aesthetic selection of lighting, exposure and composition – have always delivered photography from a simple adherence to accuracy and truth claims, when it desired to explore its visual possibilities as an art form. The techniques of 19th century photographers on all levels (including the costuming and posing of models as in the work of Julia Cameron or Lewis Carroll) were hardly examples of "faking" photographs, but were the means of creating photographs as a mode of representation, play and imagination. The aesthetic triumph of styles of direct photography during much of the twentieth century (scorning many of these techniques in favor of hard-edged focus and printing techniques) primarily involves processes of artistic choice and stylistic differentiation, no matter how much claims of essential truthfulness of photography might be invoked by practioners and critics.

Thus digital manipulation can hardly be seen as transforming the nature of photography as an art form, although it offers both new exciting techniques and new processes of discovery in the exploration of those techniques. We must keep in mind that only a limited practice of photography ever made accuracy or truth claims an essential part of its practice and that many uses of photography intentionally flout such claims. Beyond the modernist practices of art photography, popular form of what we could call "rhetorical" uses of photography, such as in advertising or political persuasion, do not depend exclusively, or often even primarily, on such truth claims.

Finally, we could observe that if indeed a digital revolution ever did trigger a complete overthrow of the truth claim of photography – if the association of photography in people's minds with truth claims and accuracy were entirely abolished through repeated encounters with photography images that could not be trusted – then the possibility of deception, would also be abolished, and little motive for counterfeiting would remain. If the truth claim were utterly destroyed as a possibility, what would be the motivation for making photographs rather than drawings or paintings, other than Fox Talbot's embarrassing claim that photography could place visual representation in the hands of the artistically challenged?

Here I think we encounter a basic *aporia* in our understanding of photography, one that I believe can only be approached phenomenologically, rather than semiotically. It is only by a phenomenological investigation of our investment in the photographic image (digital or otherwise obtained) that I think we can truly grasp the drive behind digitalization and why photography seems unlikely to disappear and why, even without a formulated truth claim, it offers us something that other forms of visual representation cannot.

Let us consider modes of photography that seem designed to flout the truth or even the accuracy claim associated with photography. While I would not deny that forms of photography can exist in which this flouting triumphs to such a degree that any referential role seems to vanish, I think that in most instances such photographs actually strive to present a contradiction, an oxymoron, an impossible presence, invoking photographic accuracy or truth even while contradicting it. Thus surrealist superimpositions in the work of Man Ray, photomontages by John Heartfield, or defamiliarizing camera angles by Rodchenko, to cite a few masters of modernist photography, all work with (and against) the recognizability and accuracy of the photograph.

Our delight in a clever digital manipulation of a photographic image in a advertisement or magazine cover does not come from being fooled by the image, but rather by its playful push-pull between its associations with accuracy (that is how a woman's face actually looks) and its obvious distortion (but no face looks like *that)*. But just as a counterfeit image relies on us still believing in the reliability of images, a playful image that deconstructs itself before our eyes relies on our common investment in the photograph's ability to show objects accurately. Nor is this play the product of simple novelty and unfamiliarity. In other words, I do not believe that seeing a large number of photomontages, surrealist superimpositions or bizarre digital manipulations will abolish this game for us (although making original and fresh images from these process remains a challenge to artistic skill and originality). I think the delight in seeing a photographic image of a familiar world distorted in an unfamiliar manner will always provide pleasure.

Thus I would maintain the particular artistic and entertaining delight of digitally manipulated photographs depends on a continued investment in the photograph as potentially an accurate representation. This sense of the photograph as accurate remains inherent even while contradicted in a manipulated photograph. Yes, the back of a woman does not have incisions like the soundboard of a violin. But while Man Ray's pun "The violin of Ingres" could have been conveyed by a drawing or even a rebus, it is the photographic nature of this woman's back rubbed against the absurdity of seeing her as a fleshly violin and the wit of Man Ray's joke that produces its effect. This photograph makes no truth claim (there never was a woman like this), yet it does still depend on a perceptual accuracy (we recognize the contours and texture of the woman's flesh and back).

I am positing a phenomenological fascination with photography that involves a continuing sense of the relation between the photograph and a pre-existing reality. While this is precisely what "indexicality" supposedly involves, I am less and less sure this semiotic term provides the proper term for the experience. It is often claimed that our belief in photographic images depends on our knowledge of how they are made, on being aware of the fact that light bounced from the object has a causal role in the creation of the image. Without denying this, since I believe that cultural knowledge shapes our perception of things, I wonder whether this putative knowledge really provides the source of our investment in the photographic image. If a friend shows me a pen and tells me it was the one Herman Melville used to write *Moby Dick* my fascination with the pen is dependent on this fact. If I find out my friend is joking and bought the pen at a dime store, my fascination vanishes. But when I am told a photograph has been digitalized I may cease to believe its truth claim, but I think I am still intrigued by it. The same irrational appeal applies to the uncanny fascination that spirit photographs have for me.

I am not sure that the indexical explanation fully accounts for our fascination with the photographic image, its sense of perceptual richness and nearly infinite detail that strikes us as somehow more direct than other forms of representation. Confronted with a pho-

tograph, I do not so much make a judgment based on my knowledge of its means of production as I immediately inhabit its image and recognize it, even if the recognition involves the playful discovery that this world is impossible.

I think we should pause in our attempts to *explain* the effect of the photographic image and instead *describe* it more fully. There is no question of mistaking a photograph for the world; its stillness, borders, sense of texture, etc. forbid that. Photography therefore does not effect me like a hallucination. But outside of some form of analysis, I am not sure we ordinarily approach photographs semiotically, that is, taking them as signs. Certainly a photograph can function as a sign for something, usually its subject, a souvenir of a place or a person, a way of identifying or referring to something. But I think this is a secondary process to its ability as a picture to present us with an image of the world. Pictures generally are more than signs, and frequently we would be hard pressed to claim they referred to anything other than themselves. But photographs do seem to point beyond themselves in a curious manner, and this is part of the reason the index does seem to explain part of its power. But whereas signs reduce their reference to a signification, I would claim the photograph opens up a passageway to its subject, not as a signification but as a world, multiple and complex.

Thus photographs are more than just pictures. Or rather, they are pictures of a special sort, ones whose visual accuracy invites us to a different sort of observation. The photograph does make us imagine something else, something behind it, before it, somewhere in relation to it. Barthes indicates this, I believe, by his claim that the photograph and its referent "adhere".[12] And yet even Barthes, the semiotician, differentiates this adherence of the photograph to its referent from the way other signs refer. Photography, Barthes, first told us in an early essay, was an image without a code, thus outside of ordinary semiotics.[13] He later told us, reaffirming his earlier position, that photography was not a copy of reality but rather its emanation.[14] In his self-described "realist" position, Barthes shares Bazin's belief that a photograph puts us in the presence of something, that it possesses an ontology rather than a semiotics.

The fairly recent preoccupation with the index as a means of understanding photography derives not only from the rediscovery of Peirce that accompanied the shift to a semiotics of culture, but more directly from Peter Wollen's brilliant application of Peirce's category to Bazin's discussion of the ontology of the photographic image.[15] But Wollen's translation of Bazin's ontology of photography into a semiotics involved a canny appropriation and transformation of Bazin (who never used the term "index," although his terms of comparison with photography – death masks, fingerprints, moulds – certainly correspond to Peirce's examples of indices).[16] If Wollen's semiotic gloss on Bazin rendered his argument more rational and understandable, it may have also cut us off from a different understanding of the power of the photograph implied in some of Bazin's less understandable passages.

For Bazin, the photograph is not a sign of something, but a presence of something, or perhaps we could say a means for putting us into the presence of something, since clearly Bazin realizes that a photograph differs from its subject. But is the indexical relation to a referent enough to truly explain what Bazin describes as photography's "irrational power to bear away our faith"?[17] An indexical relation falls entirely into the rational realm. Likewise Barthes describes the power of photography as, "A magic, not an art."[18] When Barthes describes a photograph as an emanation of a past reality rather than a copy of something, he underscores the way a photograph relates to a single individual object and a unique moment in the existence of that object. Within the realm of signs, only a

index possess this sort of specificity, but one might question if semiotics provides an account for those aspects of the photograph that seem most compelling to Bazin and Barthes. Rather than finding equivalents to photography within the science of signs, we might explore the way photography transforms – or even possibly avoids – the sign's essential function of substitution. Barthes and Bazin are agreed that the photograph offers neither a copy (a simple iconic sign) nor a substitute (the function of all signs, including indices). "Photography actually contributes something to the natural order of creation instead of providing a substitute for it," claims Bazin.[19]

Besides photography's ability to put us in the presence of its reference, the quality Barthes describes as an emanation, we might want to describe aspects of its visually which the index alone does not imply. It is not enough, I think, to simply class photography as an icon without describing its unique depictive qualities. These unique qualities are often described in terms of photography's mode of production, especially the mechanical nature of its process, so that images do not derive from a skilled human hand, but rather rely on principles of optics mechanically controlled and chemically captured. While the importance of, as Bazin puts it, the absence of man[20] remains an issue in need of continued exploration, I would rather emphasize the sense of a nearly inexhaustible visual richness to the photograph, combined with a sense of the photograph's lack of selection. The photograph appears to share the complexity of its subject, to capture all its details, even those we might not ordinarily notice. The first commentators on photography marveled over this sense of an unprecedented visual array, possessing overwhelming detail. Marey's processes or Bertillion procedures sought to remove precisely this excessive aspect of photography, so that photographs could function better as unambiguous signs and clear sources of indexical data. It is photography's resistance to significance, its excessive "noise" which characterizes its realism, as well as its sense of uniqueness and contingency, values especially prized in Barthes' account of photography and essential, I would claim, to our fascination with photographs as a different sort of picture.

These qualities do not necessarily relate to indexicality, but they certainly make up a considerable part of the desire for total illusion that Bazin described in the "Myth of Total Cinema", the companion piece to his essay on "The Ontology of the Photographical Image", and an essay in which indexicality places a subsidiary role to the capturing of the visual detail and complexity of the world.[21] In this essay Bazin places cinema not so much in the tradition of photography as an index, but of other 19thcentury devices designed to overwhelm the senses with their excessive detail, such as the panorama, the diorama, the stereoscope and ultimately the phonograph. For Bazin the painted colors and entirely non-indexical animated drawings of Reynaud's Pantomimes Lumineuse are more essential to the history of cinema than the abstracted motion studies of Marey.

Here our discussion comes full circle, because if the digitally produced new media may differentiate itself from cinema and photography, it would seem to relate strongly to the artificial realities of the panorama, diorama and Reynaud's animations. If these devices lack the indexical claim of photography, they absolutely claim the ability to fashion a counter-reality through perceptual stimulation. But rather than maintaining the absolute barrier of the indexical, we might want to place photography into this tradition, accenting its visual acuity and excessive quality to often bypassed by recent commentaries (although Jonathan Crary's treatment of the stereoscope opens a similar line of investigation).[22]

Thus I think we are able to pose the questions about the relation between the new digital media and photography in ways which avoids the sacred cows associated with each side of this supposed divide. To refer to the digital as the "post-photographic" seems

not only polemic rather than descriptive, but most likely mystifying. The translation of photographic information into a number-based system certainly represents a revolutionary moment in photography, but one not unlike the replacement of the wet collodion process by the dry plate, or the conquering of exposure time with instantaneous photography, or the introduction of the hand camera. Like these earlier transformations in photographic history, the digital revolution will change how photographs are made, who makes them, and how they are used – but they will still be photographs.

The new ease of manipulation of the image that digital processes offer can at points seem to attenuate the indexically based truth claim of the photograph, but this threat of deceit has always been an aspect of photographic practice: the risk that often defines the game, dependent on the social value of photography's truth claim. Since this claim is the product of social discourses as well as the indexical quality of the camera, it seems likely means will be found to preserve it, at least in certain circumstances. The risk will remain a risk, not become a rout. Likewise, since the fascination of a transformed photograph lies partly in its verisimilitude, it would seem likely that even on a popular or artistic level, the sense of photography as an accurate record of the way things look will also survive, or the fun found in distortion becomes thin.

But finally I would claim that we still have only the beginnings of an account of the fascination photography exerts and although the use of the term "index" may have helped explain some aspects of this fascination, I am not at all sure it is either an adequate or accurate term. The semiotic category of the index assimilates photography to the realm of the sign, and although a photograph like most anything (everything?) can be used as a sign, I think this approach prematurely cuts off the claims made by theorists like Barthes, Bazin (and I think Deleuze) that the photograph exceeds the functions of a sign and that this indeed is part of the fascination it offers.

The description of a photograph as putting us into the presence of something (and for Barthes especially the presenting of a past time) needs to be explored outside the concept of the index. To explore this further the actual visual experience occasioned by the photograph needs more probing. Here our delight in visual illusion may play as important a role as indexicality. And if we are to deal with illusions it seems to me that the play with photographic imagery that the digital revolution allows may provide the perfect playground/laboratory for a greater understanding of a fascination that I maintain is likely to have a future.

Notes

1. Erkki Huhtamo, "From Kaleidoscomaniac to Cybernerd. Towards an Archeology of the Media", ISEA '94 Catalogue, edited by Minna Tarkka, Helsinki: The University of Art and Design, 1994, 130-135, to cite one among many.
2. Philip Rosen *Change Mummified: Cinema, Historicity, Theory* (Minneapolis: University of Minnesota Press, 2001).
3. "The Octoroon" in *Plays by Dion Boucicault* ed. Peter Thompson (Cambridge: Cambridge University Press, 1984), p. 1984.
4. Tom Gunning, "Phantom Images and Modern Manifestations: Spirit Photography, Magic Theater, Trick Films and Photography's Uncanny" in *Fugitive Images from Photography to Video* ed. Patrice Petro (Bloomington: Indiana University Press, 1995)
5. David King, *The Commissar Vanishes: The Falsification of Photographs and Art in Stalin's Russia* (New York: Henry Holt, 1997) provides one specific study.
6. Thomas H. Wheeler, *Phototruth or Photofiction: Ethics and Media Imagery in the Digital Age* (Mahwah N.J.: Lawrence Erlbaum, Assoc, 2002), pp. 207- 209.

7. Ibid., p. 111.
8. Bertillon, Signaletic *Instructions, Including the Theory and Practice of Anthropometric Identification*, ed. R.W. McClaughly (Chicago: The Werner Co., 1896).
9. Galison, "Judgment against Objectivity", in *Picturing Science Producing Art* ed., Caroline A. Jones and Peter Galison (New York: Routledge, 1998), pp. 327-359.
10. Snyder, "Visualization and Visibility", in *Picturing Science*, pp. 379-397;Braun, *Picturing Time: The Work of Etienne-Jules Marey (1830-1904)* (Chicago: University of Chicago Press, 1992).
11. Rosen, *Change Mummified*, p. 348.
12. Barthes, *Camera Lucida*: *Reflections on Photography* trans. Richard Howard (New York: Hill and Wang, 1981), p. 6.
13. Barthes, "The Photographic Message" in *Image Music Text* ed. & trans. Stephen Heath (New York: Hill and Wang, 1977, pp. 15-31.
14. Barthes, *Camera Lucida*, p. 80.
15. Peter Wollen, *Signs and Meaning in the Cinema* (Bloomington: Indiana University Press, 1969), pp. 120-155.
16. Andre Bazin, "The Ontology of the Photographic Image" in *What is Cinema?* Vol. I (Berkeley: University of California Press, 1967),
17. Ibid, p. 14.
18. Barthes, *Camera Obscura*, p. 88.
19. Bazin "Ontology of the Photographic Image". p. 15.
20. Ibid., p. 13.
21. "The Myth of Total Cinema" in *What is Cinema?* Vol. I, pp. 17-22.
22. Jonathan Crary, *Techniques of the Observer*: *On Vision and Modernity in the Nineteenth Century* (Cambridge: MIT Press, 199).