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PHOTO-GRAFT:

A CRITICAL ANALYSIS OF IMAGE MANIPULATION

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ABSTRACT

For 150 years, chemical photography had a privileged status as a truthful means of representation. The emerging technology of digital imaging is challenging this unique position. This paper proposes to examine the status of the photographic image in the digital age, as well as the debate surrounding the new technology and its implications. Chapter one begins with a brief technical history of the medium and establishes the construction behind the myth of photographic truth. Chapter two debunks the myth of photographic image's objectivity. Chapter three describes the specifities of digital imaging technology and discusses the potential problems and consequences of the invasion of digitally enhanced images in the media, as well as possible solutions. Finally, the fourth chapter considers the use of digital imaging in women's magazines and examines what such a use says about our society's values. By considering the issue of photo-manipulation, one can understand that manipulation expresses the human will to create a world of simulation.

SOMMAIRE

Pendant plus de 150 ans, la photographie a été perçue comme un système de représentation objectif. L'apparition de nouvelles technologies de traitement de l'image remet en cause cette vision. Ce mémoire propose d'examiner le status de l'image argentique a l'ère digitale ainsi que les conséquences de ces nouvelles technologies. Le premier chapitre commence avec un bref historique de la photographie, puis énonce les conditions qui ont construit le mythe de l'objectivité de la photographie. Le second chapitre déconstruit ce mythe. Le troisième chapitre décrit les spécifités de l'image digitale et propose une réflexion sur les problèmes soulevés par l'irruption des images virtuelles, fabriquées a l'aide d'ordinateurs, dans les médias. Finalement, le quatrième chapitre examine l'utilisation du digital dans les magazines féminins et tente de déterminer ce qu'une telle utilisation nous apprend sur les valeurs de notre société. L'étude de la photomanipulation permet de comprendre que toute manipulation exprime la volonté de créer un monde simulé.

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INTRODUCTION

For a century and a half, chemical photography has had a privileged status as a "truthful" means of representation. The notion that the camera offers a unique representation of nature itself, an accurate, objective copy of the real world, has been a popular one. Photography had, and to some extent still has, a remarkable weight and credibility that other forms of media, such as illustration or text, never had.

However, the advent of digital imaging[1] is calling into question this unique position. Indeed, over the last decade, the new technology has made the photographic image become remarkably malleable. Today, we are increasingly confronted with manipulated images that are no longer exact renderings of events that transpired before the lens and to synthetic images whose photograph-like realism are nothing more than sophisticated *trompe-l'oeil*. Therefore, as a result of photography's current mutation from analog to digital, a number of discussions and controversies are arising.

On the one hand, many artists welcome the new technology for its limitless creative possibilities. Mike Laye, for instance, remarks: "Photographers will be freed from [the] perpetual constraint, that of having, by definition, to record the reality of things, that which is really occurring... Freed at last from being mere recorders of reality, [...] creativity will be given free rein" (in Robins, 1991: 56). On the other hand, some theorists are more prone to alarmist statements, claiming the death of photography and the beginning of a new "post-photographic"[2] era (Mitchell, 1992; Ritchin 1990).
The issue of the status of the photographic image in the digital age is critical to address since photography has traditionally played a crucial role in the creation of collective memory and the formation of belief. We live in an extremely

[1] The technology is also referred to as electronic, computer, digital imaging or retouching; computer enhancement, image processing, and electronic color imaging a.k.a. ECI.

[2] The term "post-photographic era" is said to have been given its currency with the title of William Mitchell's book *The Reconfigured Eye: Visual Truth in the Post-photographic Era*, although the term was used earlier in *Photovideo: Photography in the Age of the Computer* (Ziff, 1991: 150).

visual world — especially since the late 1880s[3] when the development of printing techniques enabled the reproduction of photographs in newspapers, books, and magazines (Keller, 1990: 195). Today, the typical urbanite is said to absorb about 11 000 images in the course of a given day. In the United States there are reportedly 260 000 billboards, 11 520 newspapers, and 11 556 periodicals (Postman, 1992: 69 and Friend, 1998: HREF). *Fortune* magazine reported that in 1990, seventeen billion photographs — more than 46 millions photos a day — had been generated in America alone (Nulty, 1991: 39). And even though, according to the same article, "only" five billion photographs had been made in 1970, British critic John Berger was already remarking back then that "in no other form of society in history has there been such a concentration of images, such a density of visual messages" (Berger, 1972: 129). These impressive numbers might suggest that since we are over-saturated with pictures, their impact might be diluted; Graham Clarke even suggests in *The Photograph*: "In a world dominated by visual images the photograph has become almost invisible" (Clarke, 1998: 11). Nevertheless, one could argue that we still rely heavily upon visual "evidence" for information about our world. David Friend, Editor for Creative Development at *Vanity Fair*, and former Director of Photography at *Life*, says:

> As a society, we have become comfortable with images, and with the immediate and often emotional gratification that pictures provide. We are now accustomed, and I would even say conditioned, to needing a "picture fix" from many, many media outlets. We are voyeurs. Pictures still move us, day in, day out (Friend, 1998: HREF).

As we shall see, even though photographs have long been tampered with and many critics have stressed its constructed character, the issue of the credibility of the photographic image has never been as contested and central to the debate of representation as it is today, in the age of computer-imaging technology. Why has the issue of photo-manipulation become so omnipresent? Why do propositions to affix a symbol[4] to altered photographs arise only now and not

[3] The technique I am referring to is the half-tone plate which enabled the reproduction of photographs in the print media and inaugurated the era of photojournalism. For more information on the half-tone plate I direct the reader to Naomi Rosenblum's *A World History of Photography* (Rosenblum, 1981: 451), and for further examination on the effects of the introduction of this technique of lithography, I direct the reader to Ulrich Keller's essay "Early Photojournalism" (Keller, 1990: 193-200).

[4] As we shall see later, some have proposed to attach a distinctive symbol to all the published photographs that have been digitally altered.

twenty or fifty years ago? What are the differences between analog and digital that justify the claim that photography is dead? And, more importantly, what are the possible implications of the technology? These are some of the important questions to address. Of course, the development of digital imaging involves a number of other critical issues: ethical problems — in the field of documentary photography and photojournalism most notably — legal matters and questions of copyright for instance. However, these subjects, if mentioned in the course of this paper, are not intended to be fully covered. For more information, I direct the reader to the work of Martin Lister or Fred Ritchin for questions regarding ethics, especially in the domain of photojournalism, and to the US Congress Office of Technology Assessment for analysis and discussion on the problem of copyright in the digital age.

One of the most systematic premises held regarding digital imaging is that the new technology's endless possibilities for manipulation are destroying the truth effect of the photographic image. It is fundamental to understand what substantiates such an argument. The first chapter, entitled "The Myth of Photographic Truth," examines the origins of the unique credibility photographic images have historically enjoyed in our society. The analysis of photography's discourse through the writings of the pioneers of the medium, will show how the medium was established to be objective, automatic, and truthful. The work of theorists such as Rudolph Arnheim, Roland Barthes, André Bazin, Susan Sontag and John Tagg will constitute the theoretical framework for this chapter.

Moreover, many critics are concerned by the ease with which digital imaging is able to manipulate photographs and, as a result, public opinion. As Victor Burgin states: "Work with an obvious ideological slant is often condemned as 'manipulative'; that it to say, first, that the photographer manipulates what comes over in the image; second, that as a result his or her audience's beliefs about the world are manipulated" (Burgin, 1976: 75). Nonetheless, as we shall see in the second chapter, an examination of the history and theory of photograph will show that the medium has never been a realistic representation of reality and that manipulation has always been inherent to photography. In this section, the different manipulations performed in the darkroom will be presented and discussed in relation to their different

applications: portraiture, art, and political propaganda. Chapter three first describes the present technological tools that permit the undetectable alteration of photographic images. This chapter also proposes to rethink photography and representation in the light of the recent changes brought by computer manipulation. In order to do so, the contemporary discourse that claims the death of photography will be examined. The implications of the current situation will be assessed through the writings of William J. Mitchell, Fred Ritchin, Kevin Robins and Martha Rosler, and possible solutions will be proposed. Finally, chapter four intends to determine how digital imaging is used to construct a world of simulation. The case of the representation of women in magazines will constitute the primary basis for this analysis. Moreover, it will examine the different alterations made on photographs of women and will attempt to demonstrate that the changes performed reveal our society's values and fears. Among the authors consulted are Roland Barthes, Jean Baudrillard and Vivian Sobchack.

This thesis concludes that most of the alarmist discourses surrounding the issue of digital photography can be put into relative perspectives if one examines the history and theory of photography. In fact, most preoccupying is the systematic use of the technology which constructs a world of simulation. Using a famous analogy, one can argue that digital imaging is emphasising the shadows on the cave.

CHAPTER ONE

THE MYTH OF PHOTOGRAPHIC TRUTH

Photographic images have historically enjoyed, in our societies, a unique role, based for the most part on their supposed credibility. They have been acknowledged to offer a truthful visual representation of the world and our societies accept(ed) as truth sentences such as "Photographs don't lie," "A picture is worth a thousand words," and "Seeing is believing."[5] For instance, many historians take old photographs for granted as document of things that were or happened and unquestionably use them to investigate our past. In the judiciary system[6] , the reliability of conventional photography — its power of authentication — has led it to be termed, "The Silent Witness" and courtrooms have admitted photographs as evidence without collateral testimony to incriminate or prove someone's innocence (Guilshan, 1992: 368). States and governments utilise them to identify and classify their citizens through visual identification and photojournalists are believed to bring home the truth of what is happening in the world. How did photographs earn this privileged belief that we have in them; that they are accurate representations of reality? What are the peculiarities which set photography apart from other modes of representation? What are the foundations on which photography has rested its claims as an objective reflection of reality?

As we shall see later, the progress made in electronic imaging radically challenges the very idea of photographic objectivity. Therefore, it is fundamental to examine these questions if we are to address fully the current debate elicited by the new technology.

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[5] In addition, it is interesting to examine some of the words which have been used to describe photographic objectivity or realism, as these words reveal a set of synonyms and metaphors suggesting a will for truthfulness. When the daguerreotype was invented, for instance, Oliver Wendell Holmes referred to it as a "mirror with a memory" (in Mitchell, 1992: 80), a wording Newhall later used as a title for a chapter of his book *The History of Photograph* (Newhall, 1982: 27). Moreover, it had been widely claimed that the medium holds qualities of "objectivity," "transparency," "honesty," "purity," "immediacy," etc. Critic Clement Greenberg, for example, writes that "Photography is the most transparent of the art mediums" (in Marien, 1997:4).

[6] Because photographs are generally regarded as truthworthy, most states allow their uses as evidence. As Walter Benjamin judiciously observed: "The scene of a crime [...] is [...] photographed for the purpose of establishing evidence" (Benjamin: 1936: 226).

This chapter will attempt to answer these questions by examining the fundamental characteristics of the photographic medium and the manner in which it can be distinguished from other visual media, as well as the different assumptions — historical, technical and socio-cultural — that have helped establish photography as an accurate, objective, copy of the real world.

A Brief Technical History of Photography

Before examining these characteristics, I believe it is important to briefly consider the major milestones that constitute the technical history of photography, since, as David Crowley and Paul Heyer have noted, the history of communication technology is pivotal to understand socio-cultural changes (Crowley and Heyer, 1995: 1). A considerable amount of literature has been devoted to the development and history of photography[7] and much of it emphasizes that, like every other discovery, photography was the result of accumulated technical and chemical knowledge covering a period of no less than three hundred years. Indeed, most historians of the medium acknowledge that the general principles of photography were made possible only when two scientific processes, that had been known for quite a long time, were finally combined. The first process, the Camera Obscura (literally "dark room"), was optical while, the second process, the means of fixing the image, was chemical.

The pinhole camera obscura effect, a natural phenomenon, had been observed by artists, scholars and intellectuals as far back as the fifth century B.C. At that time, it was known that a pinhole on the wall of a dark room produced an upside down image on the opposite wall and basic optical principles of the pinhole were commented on in Chinese texts. Philosopher Mo Ti, for instance, recorded the formation of an inverted image with a pinhole or screen and was aware that rays from the top of an object produced the lower part of an image when passing through an opening (Grepstad, 1996: HREF). In the Western hemisphere, Aristotle, in the fourth century B.C., reportedly

[7] See for example Alison and Helmut Gernsheim's classic, *The History of Photography from the Earliest Use of the Camera Obscura in the Eleventh Century up to 1914* (1969), Josef Maria Eder's 1945 *History of Photography*, Naomi Rosenblum's *A World History of Photography* (1981), Beaumont Newhall's *The History of Photography* (1982), and John Szarkowski's Photography Until Now (1989). For a collection of the fundamental early essays on the medium, I direct the reader to *Photography: Essays & Images* (1980) edited by Beaumont Newhall and the equally impressive *Illuminations: Women Writing on Photography from 1850s to the Present* edited by Liz Heron and Val Williams (1996).

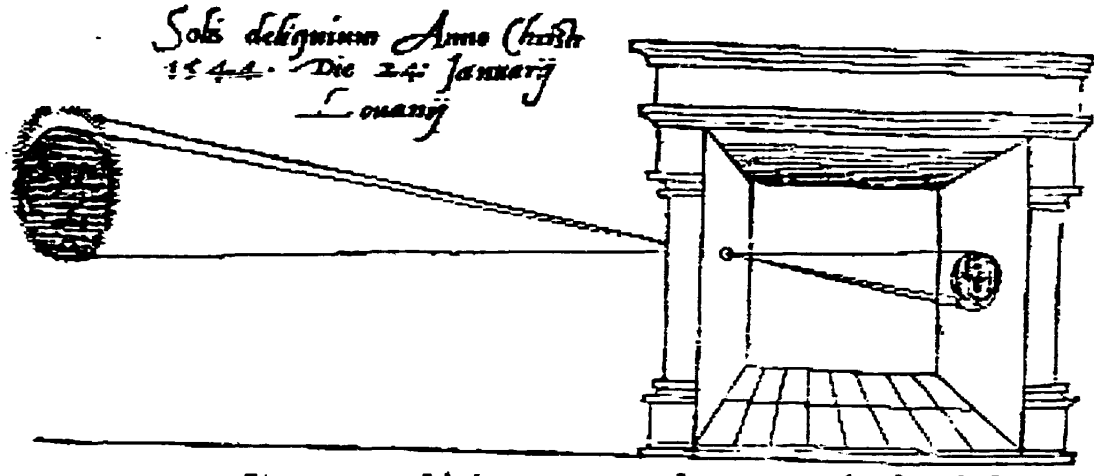
observed the principle of the pinhole image formation. In *Problems*, Book XV, 6, the Greek philosopher wonders: "Why is it that when the sun passes through quadrilaterals, as for instance in wickerwork, it does not produce figures rectangular in shape but circular? [...]" (Aristotle: 333). In Book XV, 11, he writes:

> Why is it that an eclipse of the sun, if one looks at it through a sieve or through leaves, such as a plane-tree or other broad-leaved tree, or if one joins the fingers of one hand over the fingers of the other, the rays are crescent-shaped where they reach the earth? Is it for the same reason as that when light shines through a rectangular peep-hole, it appears circular in the form of a cone? [...] (Aristotle: 341).

Aristotle found no satisfactory explanation for his observations and the problems would remain unresolved until the sixteenth century (Grepstad, 1996: HREF). Between the eleventh and the sixteenth centuries however, many scholars such as Alhazen, Erasmus Reinhold, Roger Bacon and Gemma Frisius referred to the pinhole device and its applications to astronomy in their works. Arabian scholar Ibn Al-Haitam (965-1040), known as Alhazen in the West, is considered to be the earliest author on the topic of the camera obscura for an essay entitled "On the Form of the Eclipse" (Eder, 1945: 37). In the thirteenth century, philosopher and scientist Roger Bacon (1214-94) utilized the principles of the camera obscura for astronomical observation. Thanks to his method, eclipses of the sun could be viewed without damaging the eye. In 1545, astronomer Gemma Frisius is believed to have published the first drawing of a pinhole camera obscura in *De Radio Astronomica et Geometrica* (see figure 1).

The camera obscura, first devised for scientific ends, was adopted and perfected over centuries within the fields of drawing techniques. During the Renaissance period for instance, artists such as Leonardo da Vinci (1452-1519) exploited the process as a drafting aid. In addition, he wrote the first detailed description of the camera obscura in several of his works, including his *Codex Atlanticus*. In this manuscript da Vinci describes not only his experiment to make copies of plants: "The paper must be coated with lampblack, mixed with sweet oil, and then the leaf of the plant must be colored with type on the printing process. It is then printed as usual, and so the leaf (i.e., the impression from it) will appear dark in the low parts and light in those parts which are high [...]" (in Eder, 1945: 33-4), but also provides a clear description of the

illum in tabula per radios Solis, quàm in cœlo contingit: hoc eſt, ſi in cœlo ſuperior pars deliquiũ patiatur, in radiis apparebit inferior deficere, vt ratio exigit optica.



Sic nos exactè Anno .1544. Louanii eclipſim Solis obſeruauimus, inuenimuſq; deficere paulò plus q̃ dex-

1. First published illustration of a camera obscura:
Gemma Frisius. *Drawing of a Camera Obscura*. Gernsheim Collection, Austin, Texas.

principle of the camera obscura:

> In the facade of a building, or a place, or a landscape is illuminated by the sun and a small hole is drilled in the wall of a room in a building facing this, which is not directly lighted by the sun, then all objects illuminated by the sun will send their images through this aperture and will appear, upside down, on the wall facing the hole (in Eder, 1945: 39).

However, it is fellow Italian Giovanni Battista della Porta, a scientist from Naples, who published the first account of a theory of the photograph. Della Porta has long been regarded as the inventor of the camera obscura, since in his 1558 *Magia naturalis, sive de miraculis rerun naturalium (Natural Magic)*, he describes the use of an optical lens to replace the pinhole on a camera obscura (Clarke, 1997: 12). This process improved definition and allowed an image to be sharply focused on a piece of ground glass, allowing the operator to trace a picture on a sheet of paper laid over the glass. However he was by no means its inventor. In fact, the very term camera obscura was coined by Johannes Kepler (1571-1630), who, in the 1620s, invented the portable camera obscura (Grepstad, 1996: HREF).

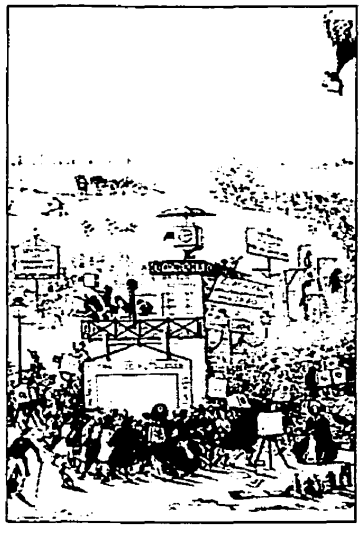
After gaining knowledge of the physical properties of the camera obscura, many of its users dream of capturing its images in some permanent manner. Just like the pinhole image preceded the construction of the camera obscura, the knowledge of light-sensitive substances preceded the actual operation of being able to (chemically) permanently fixing an image. For hundreds of years before photography was invented, scientists and chemists had been experimenting with the reaction of light to certain metallic salts and were aware of the fact that some colours became bleached in the sun. However, they made little distinction between heat, air and light and further development was provided by Johann Heinrich Schulze's (1687-1744) major discovery. In 1727, the German scientist found that silver salts darkened when exposed to sunlight and published results that distinguished between the action of light and heat upon silver salts. For Austrian historian Josef Maria Eder, Schulze's discovery made the German scientist "the inventor of photography in its first inception" and his findings began "a new epoch in the history of the invention of photography" (Eder, 1945: 62). Following Schulze's findings, Thomas Wedgwood (1771-1805) of Britain was one of the first to link optics and chemistry together, in order to record the camera obscura image by means of the

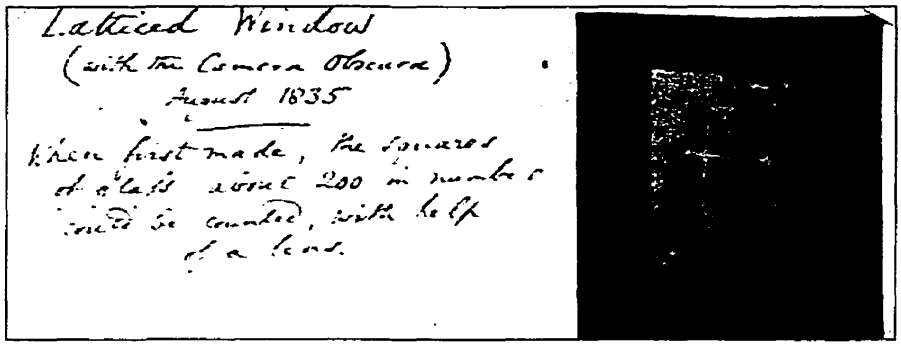
action of light. Between 1795 and 1802, he experimented intensively, and in June 1802, in collaboration with chemist Sir Humphry Davy, he published the results of his experiments in the *Journals of the Royal Institution of Great Britain* under the title "An Account of a Method of Copying Paintings upon Glass, and of Making Profiles, by the Agency of Light upon Nitrate of Silver." Thanks to his findings, Wedgwood had some success using chemicals to capture images. By casting a shadow on a chemically treated surface, he created photographic-like images. Unfortunately, once produced, the images stayed sensitive to light and could only be viewed in dim light. When exposed to light the images would disappear and Wedgwood was never able to fix them durably.

More successful in his attempt to record permanently images of the camera was French lithographer Joseph Nicéphore Niépce (1765-1833), one of the three recognized pioneers of photography, who finally combined the optical and chemical knowledge that had been accumulated over the centuries. In the summer of 1826, Niépce reportedly produced the world very first permanent photograph, a view from his window at Le Gras (see figure 2), when he inserted a polished pewter plate made light-sensitive with bitumen of Judea, a type of asphalt that becomes insoluble when exposed to light, into a camera obscura (Newhall, 1980: 17). An exposure of more than eight hours was required to affix the blurry image of his country estate. This first permanently captured image was named a "heliograph" (literally sun drawing, "helio" being the Greek prefix for sun and "graph" the suffix for "written" or "drawn). The quality, however, was very poor (it did not reproduce colours for instance) and despite several attempts Niépce could not improve his process. Therefore, a few years later, in 1829, he formed a partnership with Parisian scene painter and proprietor of the Diorama[8] Louis Jacques Mandé Daguerre (1787-1851) who had been experimenting to capture camera obscura images. The partnership lasted until Niépce's death, four years later.

Daguerre continued to experiment and soon discovered a way of developing photographic plates, a process which greatly reduced the exposure time from eight hours down to half an hour. He also found that an image could be made permanent by immersing it in salt. In January 1839, Daguerre's

[8] A kind of illusions theater in which the scenery took over from the actor which was very popular at the time.





2. The world first photograph: Nicéphore Niépce.*View From The Window At Gras*. circa 1827. Heliograph. Gernheim Collection, Harry Ransom Humanities Research Center, The University of Texas at Austin.

3. T.-H. Maurisset. *La Daguerréotypomanie*. 1840. Lithograph. Gisèle Freund archives.

4. William Henry Fox Talbot. *Lacock Abbey*. 1839. Photogenic drawing. The Metropolitan Museum of Art, New York.

photographic process, the daguerreotype[9], was made public in Paris. Daguerreotypy consisted of a silvered copper plate that was sensitized over fumes of iodine and was then exposed in a camera for several minutes. After the exposure, a positive image was developed by treating the plate with mercury fumes, which brought out a light image on the silver surface. Finally, the image was fixed in sodium chloride (common salt), washed in water and dried. On January 6th, 1839, *La Gazette de France* declared:

> We announce an important discovery by our famous diorama painter, M. Daguerre. This discovery partakes of the prodigious. It upsets all scientific theories on light and optics, and it will revolutionize the art of drawing. M. Daguerre has found the way to fix the images which paint themselves within a camera obscura, so that these images are no longer transient reflections of objects, but their fixed and everlasting impress, which like a painting or a drawing, can be taken away from the presence of the objects (in Newhall, 1980: 17).

Nevertheless, Daguerre's discovery was officially announced only on August 19, 1839 by scientist François Arago at the Institut de France. The invention was widely acclaimed, starting in the 1840s a "daguerreotypemania" in France, but also in the United States (see figure 3 and Freund, 1974: 30). The Daguerreotype process, though producing amazing images — *La Gazette* notes for instance that the images had "a truth which nature alone can give to her works" (in Newhall, 1980: 17), had some major drawbacks: it was expensive, easily damaged — since the image was on the surface of the plate — and more important, each picture was unique, since duplication was impossible. The only way to reproduce a daguerreotype was to photograph an existing plate. These disadvantages, coupled with others, such as long exposure times that did not allow to photograph people and make portraits, as well as a growing need for a means of copying pictures, led to the decline of the daguerreotype. Therefore, by 1860 the daguerreotype was obsolete and was supplanted by Englishman William Henry Fox Talbot's negative-positive process. Talbot's invention remains the basis of photographic technique, and earned him the title of the "inventor of modern photography," in Eder's words (Eder, 1945: 63).

In 1834, Talbot (1800-77), a mathematician, botanist and classical scholar, conceived of a process he called "photogenic drawing" and published

[9] In his 1840 essay "The Daguerreotype," Edgar Allan Poe begins by noting the proper spelling of the word: "This word is properly spelt Daguerréotype, [...] the French usage requires an accent on the second e, in the formation of the compound term." In this paper, the common English spelling, which omits the accent, is used.

his results in a paper to the Royal Society of London, "Some Account of the Art of Photogenic Drawing, or, the Process by which Natural Objects May Be Made to Delineate Themselves without the Aid of the Artist's Pencil," January 31, 1839. Thanks to this process Talbot actually produced paper negatives as soon as August 1835. The small negative, 1" square, depicted a window of his home, Lacock Abbey and was of poor quality compared with the striking images produced by the Daguerreotype process (see figure 4).

By 1840, however, Talbot had made some significant improvements and introduced a negative paper process named "calotype" (Greek for "beautiful picture")[10] which he patented in 1841. Compared with Daguerreotypes the quality of the early calotypes was still somewhat inferior (as the images were printed on paper, inevitably, the imperfections of the paper were printed alongside when a positive was made). Despite this drawback, the great advantage of Talbot's method was that the process involved both a negative and a positive (unlike the daguerreotype which resulted in a unique positive image as we have seen earlier) and as the negative image, the calotype, was repeatable indefinitely in a positive print, finally allowing multiple prints.

From this point forward, developments in chemical processing affected glass plate, film, and paper negatives and positives, continually shaping the industry, technology, and art known as photography.

In 1851, for instance, two Frenchmen made important technical improvements on Talbot's calotype process. Louis-Desiré Blanquart-Evrard (1802-72) invented the Albumen paper which yielded a clearer image than Talbot's salt prints and Gustave LeGray announced his waxed paper process, which improved the clarity of calotype negatives. The same year, in England, a new era in photography was introduced by Frederick Scott Archer (1813-57), with the Collodion/wet plate process. This process was much faster than conventional methods, reducing exposure times to one to three minutes and produced a negative with an acute resolution of details, using glass as a support. However, its major drawback was that developing had to take place immediately after the image had been taken. The collodion was made obsolete in 1871 when English physician Dr. Richard Leach Maddox (1816-1902) discovered a way of using Gelatin (an organic material obtained from animal protein which had

[10] Talbot's process is also known as the negative/positive process or the salt print process. It is important to differentiate the calotype from the salted paper print. The former is the negative paper process while the latter is the positive produce from it. It is their combination that is known as the negative/positive process.

been discovered only a few years before) instead of glass as a basis for the photographic plate. His discovery led to the development of the dry plate process. This process marked a turning point in photography since it made wet-plates and darkroom tents unnecessary. Moreover, dry plates could be developed much more quickly than with any previous technique. Initially it was very insensitive compared with existing processes, but it was refined to the extent that the idea of factory-made photographic material was now becoming possible. The day where photographs could be taken without any specialized knowledge was getting closer...

The next step forward came with the invention of Celluloid in the early eighteen-sixties, and when John Carbutt, in 1888 persuaded a manufacturer to produce very thin celluloid as a backing for sensitive material. George Eastman (1854-1932) is particularly remembered for introducing roll film in 1884. Four years later he introduced a handy camera, invented the name "Kodak" and photography was finally able to reach a much greater number of people as cameras were put into mass circulation (Eder, 1945: 489). No history of photography would be complete without mentioning Sir John Frederick William Herschel, a close friend of Talbot and a fellow photographic experimenter, who in addition to broadening the knowledge of photochemical actions, will mostly be remembered as the person who coined the word "photography" in a lecture he gave before the Royal Society of London, on March 14, 1839 (Eder, 1945: 258).

As we have seen, photography, though its components had been known for centuries, only appeared in the nineteenth century and many critics have tried to understand the medium beyond a mere succession of technological innovations and obsolescences, attempting to comprehend why and how the technology appeared precisely during this particular epoch. As Geoffrey Batchen expresses in his book *Burning with Desire: The Conception of Photography*, it is fundamental to examine "why it took so long to invent a workable photographic process or why such a process was conceived in the first place" (Batchen, 1997: 129).

There are two major explanations, some would say "tales," for the emergence of photography. On the one hand, in William J. Mitchell's words, "commentators of more positivistic and conservative outlook," argue that technical innovations emerge on their own, creating new social and cultural

potential (Mitchell, 1992: 20). The determinist vision that "new technologies are discovered by an essentially internal process of research and development, which then sets the conditions of social change and progress" as Raymond Williams puts it, (in Winston, 1996: 1) suggests that, paraphrasing Martha Rosler, cultural imperatives follow technology. If one examines the popular accounts that surround the discovery of photography, one will realize to what extent these discourses relate the discovery in terms of serendipity, a "eureka" discovery due mostly to good fortune. This is for example illustrated in the movie *The Governess*. This 1998 picture tells us the story of a nineteenth-century young woman who assists her employer in trying to capture images formed by the camera obscura. She discovers how to fix the images permanently when she accidentally spills salt water on a piece of paper previously exposed in the camera obscura. There have been many similar quaint accounts. In *L. J. M. Daguerre: The History of the Diorama and the Daguerreotype*, photography historians Helmut and Alison Gernsheim debunk some of the myths related to the Frenchman's discovery. One of them goes like this:

> [...] Daguerre, resting in a darkened room, observed a ray of sunlight coming through a chink in the shutters and projecting the image of a tree on to a painting he was working on. The following morning, astonished to find faint traces of the image still on the painting, Daguerre tried to repeat the phenomenon, but in vain. He then attempted it in the camera obscura, and remembering at last that he had mixed iodine in his colours, undertook a long series of experiments on the light-sensitivity of iodine, which led him to photography (Gernsheim and Gernsheim, 1968: 48).

As the Gernsheims observe, "this picturesque myth [...] is too fantastic to merit a detailed confutation" (Gernsheim and Gernsheim, 1968: 48). Nevertheless, it is interesting to note that these sorts of accounts are still very popular.

On the other hand, some theorists and historians, such as Heinrich Schwarz, have argued that technical innovations are the result of social pressure: "The year of Daguerre's invention, as in every important invention, meant nothing but the moment when the acquired knowledge had become so convincing and the need of realizing this invention so pressing that it could no longer be delayed by any difficulties or obstacles" (in Mitchell, 1992: 18-9). For critic Martha Rosler, "technology is following a cultural imperative rather than vice versa" (Rosler, 1996: 39). In *Burning with Desire: The Conception of Photography*,

Geoffrey Batchen investigates photography's timing and place of appearance examining the works of some artists and scientists who "felt the hitherto strange and unfamiliar desire to have images formed by light spontaneously fix themselves," long before Daguerre and Talbot announced their discoveries in 1839 (Batchen, 1997: 38). Many other critics have similarly tried to appreciate this will, and many single out a novel, written in 1760 by French writer Charles François Tiphaigne de la Roche (1729-1774), entitled *Giphantie*. Beaumont Newhall even includes the important passages of the story, which offer an uncanny prediction of photography, in his collection of essays *Photography: Essays and Images* under the title "Photography Predicted." In this imaginary tale, de la Roche depicts a strange land where the "transient images" of nature are "fixed" by the action of light:

> Thou knowest that the rays of light, reflected from different bodies, make a picture and paint the bodies upon all polished surfaces, on the retina of the eye, for instance, on water, on glass. The elementary spirits have studies to fix these transient images: they have composed a subtile (sic) manner, very viscous, and proper to harden and dry, by the help of which a picture is made in the twinkle of an eye [...] The first effect of the canvas is that of a mirrour [...] But what the glass cannot do, the canvas, by means of the viscous matter, retains the images. The mirrour shows the object exactly; but keeps none; our canvases show them with the same exactness, and retains them all. This impression of the images is made the first instant they are received on the canvas, which is immediately carried into some dark place; an hour after, the subtile matter dries, and you have a picture so much the more valuable, as it cannot be imitated by art nor damaged by time [...] The justeness of the design, the truth of the expression, the gradation of the shades [...] draws upon our canvases images which deceive the eye and make reason to doubt, whether what are called real objects, are not phantoms which impose upon the sight, the hearing, the feeling, and all the sense at once (in Newhall, 1760: 13-4).

The author never found out how prophetic his tale would appear a few decades after his death.

Naomi Rosenblum, in *A World History of Photography* argues that the camera's images appeared and remained viable because they filled cultural and sociological needs that were not being met by other means of representation such as illustration or paintings. As she puts it: "By the time it was announced in 1839, Western industrialized society was ready for photography" (Rosenblum, 1981: 15). One could argue that the will for always more accurate representation is part of people's desire to see and depict: from cave-drawing to the Camera Obscura, from still to moving images, from silent to

talking movies, from black and white to color, and then from technologies such as IMAX to 3-D virtual reality, it seems that men and women are constantly looking for more "realist" and compelling representations of the real world (to the point where the representations are more real than the real, as Jean Baudrillard would argue). We have to remember that for many philosophers, from Plato to Blake, mankind lacked the ability to perceive things directly. As Plato hints in his well known "Myth of the Cave" (Book VII of *The Republic*), men are misled by their senses and consequently are unable to face the Truth: "And if the [prisoner/man] is compelled to look straight at the light, will he not have a pain in his eyes which will make him turn away to take refuge in the objects of vision which he can see, and which he will conceive to be in reality clearer than the things which are now being shown to him?" The apparition of photography reveals a desire to escape the limitations of subjectivity in order to perceive reality "as it really is." As Noël Burch puts it, discussing the origins of cinema in an essay entitled "Charles Baudelaire versus Doctor Frankenstein:"

> The 19th century witnessed a series of stages in the thrusting progress of a vast aspiration which emerges as the quintessence of the bourgeois ideology of representation. From Daguerre's Diorama to Edison's first Kinetophonograph, each state of the pre-history of the cinema was intended by its initiators — and seen by its publicists — as representatives of their class, as another step towards the "re-creation" of reality, towards a "perfect illusion" of the perceptual world (in Jay, 1995: 346).

Bernard Marbot, curator in charge of Early Photography in the Department of Prints and Photography at the Bibliothèque Nationale in Paris, emphasises this point in his essay "Towards the Discovery (Before 1839)." As he observes, the rise of the French bourgeoisie after 1789 and the progress of science favored a growing interest in objective and scientific rationalism which created a need for "a mode of representation which could swiftly, accurately and comprehensively render visible and measurable even such bodies and phenomena as were invisible by reason of their substance, dimensions or inaccessibility" (Marbot, 1986: 15). According to Marbot, this explains photography's place of invention: "Now, at the end of the eighteenth century, the scene was set for photography to enter upon the role it was to play from 1839 onwards; the prologue came from the countries most advanced economically and politically: France and Britain." For Marbot, society was not

ready for photography hitherto even though all the processes had been known for quite some time. As he claims:

> If photography did not see the light of day in the eighteenth century, it was not because the various pieces of the puzzle were too widely dispersed among artists and scholars, mathematicians and chemists, nor was it that the imagination capable of bringing the existing technical knowledge to fruition was lacking. The fact was, rather, that society was not ready for it (Marbot, 1986: 15).

Finally, in the introduction of his interesting account of the development of visual media technology, *Technologies of Seeing*, Brian Winston writes that "technologists are working to an agenda determined by society" (Winston, 1996: 6). According to him, this explains the phenomenon of simultaneous "inventions." Even though Winston cites the telephone as an example of simultaneous discoveries, one cannot help thinking of Daguerre and Talbot, who, as we have seen, announced their processes to fix permanently the images formed by light almost exactly at the same time.

Modernism and Photography

Whatever the reasons behind the appearance of photography in our lives might be, no one can deny that chemical photography happened to be invented "in a period which liked to think of itself as the age of absolute knowledge, a century of modernist belief in science, the century of Auguste Comte's positivist philosophy" (Didi-Huberman, 1986: 71). And as a matter of fact, many theorists did not fail to mention and comment on the connection between both. John Berger and Jean Mohr, for instance, write in *Another Way of Telling*: "The camera was invented in 1839. Auguste Comte was just finishing his Cours de Philosophie Positive. Positivism and the camera and sociology grew up together" (Berger and Mohr, 1982: 99). Edward W. Said shares Berger's view, but also mentions the classic realistic novel as coeval in photography's origins (Said, 1983: 157).

It has been widely acknowledged that some aspects of modernity have played a primary role in shaping photography as an objective representative medium. For nineteenth century people, and, once again, especially for the bourgeoisie, the most valued representations were the ones realistic and objective in nature. Therefore, the apparently impartial eye of the camera

happened to be the perfect instrument to achieve the naturalistic documentation characteristic of the Victorian era (Price, 1997: 67). Many early commentators of photography enthusiastically welcomed the invention and subscribed to the belief that photography was a medium of truth and accuracy, a guarantee of authenticity. For American author Edgar Allan Poe, for instance, the instrument itself must be regarded as a triumph of modern science. As he writes in an essay entitled "The Daguerreotype" – published in the *Alexander's Weekly Messenger* just months after Daguerre's process was formally announced in France – the early form of photography might be "the most important, and perhaps the most extraordinary triumph of modern science" (Poe, 1840: HREF). In this article, Poe does not limit his enthusiasm to his declaration that "the Daguerreotype plate is infinitely (we use the term advisedly) is infinitely more accurate in its representation than any painting by human hands," but also summarizes the early understanding of photography, praising "the supremeness of [the process'] perfection" (Poe, 1840: HREF).

The ability to freeze or fix the fleeting images of the camera obscura allowed scientists to inspect and study the represented content, meeting the needs of a period of unprecedented scientific and industrial changes. Astronomer Janssen hints at the use of photographs as a potential tool for scientific neutrality when he observes that "the photographic plate is the true retina of the scientist" (in Didi-Huberman, 1986: 71). Moreover, as Brian Winston points out in *Technologies of Seeing*, photography was introduced to the public as a tool of science and those who used the camera were considered "*non tanquam pictor, sed tanquam mathematicus*," not so much painters as mathematicians (Watson, 1996: 40). It is important to note here that some of the first accounts of the medium greatly stressed its scientific component, thus conditioning the public that the camera, as a scientific instrument never lies (Winston, 1995: 130). For example, in "Some Account of the Art of Photogenic Drawing," Talbot hints at the scientific potential of the photographic medium when he writes that "this remarkable phenomenon, of whatever value it may turn out in its application to the arts, will at least be accepted as a new proof of the value of the inductive methods of modern science" (in Newhall, 1980: 25).

Regarding this aspect of photography as a modernist medium that allows the eye to extend its vision, the work of British artist and inventor Eadweard Muybridge (1830-1904) is interesting to examine. Muybridge used the camera

to capture animals and human athletes in motion and published his photographs in 1887 under the complex title *Animal Locomotion: an Electro-photographic Investigation of Consecutive Phases of Animal Movements*. One of the most well known series of Muybridge's experiments is "Horse in motion" (see figure 5). This photographic sequence reveals the varieties of truth the camera can see and which the eye is incapable of distinguishing. His work was highly praised and artists as well as scientists appreciate its potential significance.

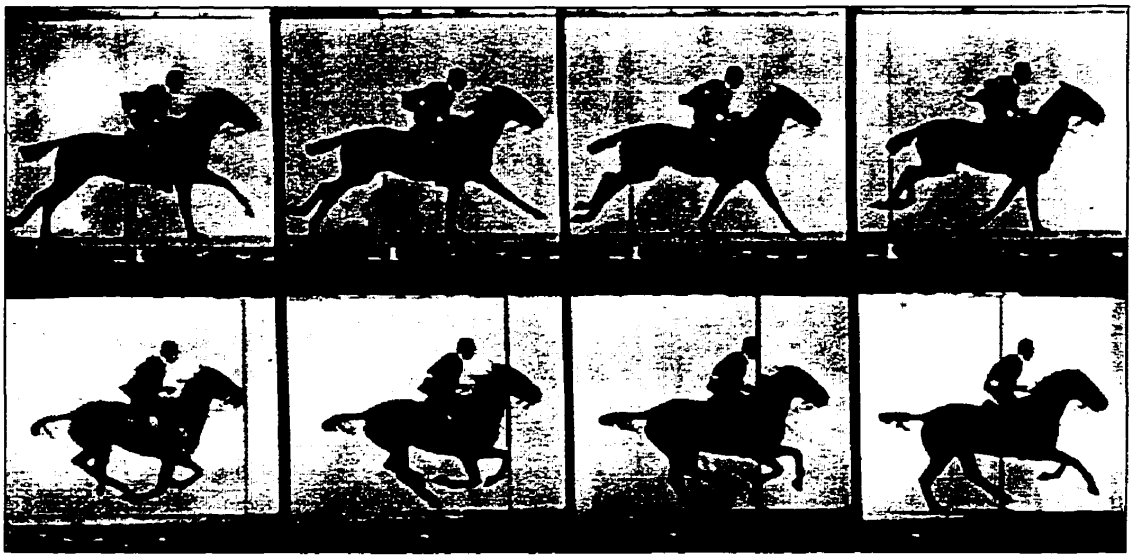
As a result of all these factors, the camera became a guarantee of scientific truth. As Brian Winston remarks in *Claiming the Real*, "the long history of pictorial representation as a mode of scientific evidence" coupled with the "tendency of modern science to produce data via instruments [...] analogous to the camera" supports the status of the camera as a scientific instrument (Winston, 1995: 127). To sum it up, the fact that photography was born in a modern era and that consequently it was developed as a modernist medium, has been essential to the propagation of the myth that the camera cannot lie[11] .

"The Pencil of Nature"

Unlike other means of representation which are distrusted because they are products of their author's intentions, photographs are regarded as trustworthy on account of the role of nature in their creation. For many observers, once the photographer has completed his guidance, the process is plainly and simply chemical and automatic. It is the technology itself that many consider the guarantee of an accurate transcription of reality.

If one examines the way photography has been described over the decades, one will realize that for many commentators the power of authentication conveyed by the photograph relies on its "natural" process. It is interesting to note, for instance, that the three recognized "fathers" of photography, though using different formulations, have commented on their discovery in very similar manners. Niépce, Daguerre and Talbot have all thought of photography as a kind of partnership with nature, a means which allows a natural force, light, to speak for itself, contrary to other means of representation which screen its message through personal interpretation. The words used to name the process

[11] For an in depth analysis of photographic history as a modernist myth, I direct the reader to the second chapter of Mary Warner Marien's *Photography and its Critics*.



5. Photographying motion:
Eadweard Muybridge. *Galloping Horse*. 1878. Albumen print. George Eastman House, Rochester, N.Y.

are revelatory of this attitude. Niépce, for instance, referred to his first images on paper as "heliographs" (sun drawing or sun written as we have seen earlier), while Talbot used the term "photogenic" drawings (light produced). In addition, etymologically, "photograph" derives from two Greek words, "phos" (light) and "graphie" (writing or drawing), that together mean "writing with light" or "light written."

This metaphoric instrumentality is also clearly illustrated by the title Talbot chose for his book: *The Pencil of Nature* (1844-1846), known as the first photographically illustrated publication, featuring plates of architecture, still-lifes and work of arts. In a text announcing its publication, Talbot writes: "Naturally, the book's illustrations are themselves the images as they were *created by the effects of light* and not engraving based on them... The illustrations in the work announced here were created with extreme care and *solely with optical and chemical processes*... and the views depicted contain *nothing other than the pure and unaltered brush stroke of nature*" (in Rötzer, 1996: 15, emphasis mine).

In 1838, Daguerre circulated a notice meant to attract potential investors in which he describes his daguerreotype as being not merely "an instrument which serves to draw nature; on the contrary it is a chemical and physical process which gives her the power to reproduce herself" (in Gernsheim, 1968: 81). In his address to the French Upper Chamber, Joseph Louis Gay-Lussac described enthusiastically the qualities of Daguerre's invention, stressing out likewise: "The daguerreotype represents inanimate nature with a degree of perfection unattainable by the ordinary processes of drawing and painting — a perfection equal to that of Nature herself" (in Gernsheim, 1982: 45).

In "Some Account of the Art of Photogenic Drawing," another compelling metaphor, Talbot writes enthusiastically about the "boundless powers of natural chemistry" and in a section entitled "On the Art of Fixing a Shadow," he notes the "*marvelous*" character of the phenomenon, as he puts it, its "*natural magic*" (in Newhall, 1980: 24-5).

As Mary Price words it in her book *The Photograph: A Strange Confined Space*, photography could be regarded for Talbot's contemporaries as "an instrument of light directly inscribing itself on the receptive paper" (Price, 1994: 7). The fact that photographs are nothing more than the result of an optical image of light coming from the subject itself, gives them an authenticity or feeling of reality not found in painting or other hand-done productions

(Warren, 1993: 217). In his article on the Daguerreotype, Poe, after mentioning the chemistry involved in the process, suggests the impartial and natural aspect of the process simply writing that "the action of the light does the rest" (Poe, 1840: HREF).

More contemporary critics have also extensively commented on the optical/chemical aspect of photography. In a 1974 essay entitled "On the Nature of Photography" for instance, self-described "media analyst" Rudolf Arnheim defines "the fundamental peculiarity of the photographic medium" as being that "the physical objects themselves print their image by means of the optical and chemical action of light" (Arnheim, 1974: 155). For the German modern theorist, this procedure implies that " a photograph has an authenticity from which painting is barred by birth" (Arnheim, 1974: 154). John Berger formulates the same idea in his book *Another Way of Telling*, when he claims that photography's "primary materials are light and time" (Berger, 1982: 85) and that photography "cannot lie because it prints directly" (Berger, 1982: 96). Susan Sontag and Roland Barthes, who both consider the arguments for and against photographic truth in respectively, *On Photography* and *Camera Lucida*, conclude that photography is more real than other media of representation since it operates in a mechanical way. As Sontag explains, a photograph is "a registering of an emanation," "a material vestige of its subject" because it is formed by capturing light waves (Sontag, 1973: 154). Finally, William J. Mitchell claims in *The Reconfigured Eye* that if one resumes photography to its core aspect, technically photographs can be viewed as a mere "fossilized light," created by a chemical and mechanical process that captures a direct physical imprint of reality (Mitchell, 1992: 24).

"YOU PUSH THE BUTTON, WE DO THE REST" OR THE AUTOMATIC QUALITY OF PHOTOGRAPHY

Another aspect of photography which validates its supposed integrity is based on the mechanical properties of the camera. Indeed, part of the credibility of the photograph rest on the knowledge of the mechanical, apparently objective, mode of operation of the camera [12] . Victorians, for instance, regarded photography as the product of a "regularized and predictable process" and for that reason

[12] It is worth mentioning that the idea that photography is essentially objective is, to some extent, reflected in French and Italian photographic terminology as the words for "lens" are respectively "objectif" and "obiettivo."

considered it a "truthful" medium (Willis, 1990: 201). Nevertheless, this sentiment is perhaps best illustrated by Kodak's well-known advertising slogan: "You push the button, we do the rest." This slogan epitomizes the mechanical aspect of the process, suggesting that the act of taking a photograph involves nothing more than pushing a button and that no additional intervention is required.

This is one of the reasons why, unlike other signs that are rendered in paint or prose, photographs appear to convey reality without the mediation of an artist or interpreter: photography differentiates itself from other forms of representation because it (supposedly) does not rely on human intervention. In his 1967 essay "The Ontology of the Photographic Image," André Bazin compares photography to painting and writes about both the automatic quality of the camera and the absence of man's intervention:

> Originality in photography as distinct from originality in painting lies in the *essentially objective nature of photography*. For the first time, between the originating object and its reproduction there intervenes only the instrumentality of a non living agent. For the first time an image of the world is formed *automatically, without the creative intervention of man*. (Bazin, 1967: 13, my emphasis).

Bazin is not the only twentieth-century commentator to pursue this theme. In his essay "On the Nature of Photography," Rudolf Arnheim also writes about the triumph of mechanical reproduction over subjectivity and stresses the importance of the "mechanical" origins of photography. Other critics have produced very similar statements. American philosopher Stanley Cavell, for instance, echoes Bazin's formulation almost word by word, when he writes the following in *The World Viewed* (New York, 1971): "Photography overcame subjectivity in a way underdreamed by painting, one which does not so much defeat the act of painting as escape it altogether: by *automatism*, by removing the human agent from the act of reproduction" (in Snyder and Allen, 1975: 145). Moreover, Susan Sontag summarizes perfectly the belief many early photographers had in the photographic image to be objective and untainted. Indeed, as she remarks, early photographers believed in the automatic nature of the recording process and tended to treat the camera as a "copy machine," and thought of themselves as "non interfering observers," "scribes more than poets" (Sontag, 1973: 88).

"THE NOEME" OR THE REFERENTIAL QUALITY OF PHOTOGRAPHY

Moreover, as it is argued by David Tomas, "special position of photography in our culture is predicated on a unique form of contiguous, causal link that unites the photography with its referent" (Tomas 1988: 148). Put simply: a photograph is always a photograph *of* something, a physical presence, the referent. As a result, photographs are believed to be more realistic than other representations of reality based on observation, such as drawing or painting, since these latter do not necessarily imply a referent (Price and Wells, 1997: 42). Roland Barthes writes extensively about the referential characteristic of the medium in his 1961 essay "The Photographic Message" and in his last book devoted entirely to photography, *Camera Lucida*. In "The Photographic Message," he observes that the photograph transmits "the scene itself, the literal reality" and even though "the image is not the reality" since the photograph is reduced and one-dimensional, it is nonetheless the "perfect *analogon*" of the object or person represented, the referent (Barthes, 1977: 17). In *Camera Lucida*, the author develops his definition and writes:

> I call "photographic referent" not the *optionally* real thing to which an image or a sign refers but the *necessarily* real thing which has been placed before the lens, without which there would be no photograph. Painting can feign reality without having seen it. Discourse signs which have referents, of course, but these referents can be and are most often "chimeras." Contrary to these imitations, in Photography I can never deny that *the thing has been there.* There is a superimposition here: of reality and of the past. (Barthes, 1981 : 76).

For Barthes, the referent is fundamental to photography; it is the "founding order of Photography" (Barthes, 1981: 77). Unlike other means of representation, photography cannot be achieved through memory: the referent has to be there when the photograph is taken, it has to be "absolutely, irrefutably present" (Barthes, 1981: 77). For Barthes, the constraint of the referent is specific to photography and he refers to it as its *noeme*. Another photography theorist who stresses the referential properties of the photographic medium is Susan Sontag. In her book *On Photography*, she writes: "A photograph passes for incontrovertible proof that a given thing happened. The picture may distort; but there is always a presumption that something exists or did exist, which is like what's in the picture" (Sontag, 1973: 5). In a more metaphorical

way she reiterates her idea of the referent later on in her book, writing the following: "A photograph is not only an image (as a painting is an image), an interpretation of the real; it is also a trace, something directly stenciled off the real, like a footprint or a death mask" (Sontag, 1973: 154).
As we shall see later, the theory of a fundamental existence of a referent, even though only partially true in the world of analog photography, might be the most radically challenged foundation of photographic truth in the digital world.

THE TRADITION OF DOCUMENTARY PHOTOGRAPHY

All previous crimes of the Russian empire had been committed under the cover of a discreet shadow. The deportation of a million Lithuanians, the murder of hundreds of thousands of Poles, the liquidation of the Crimean Tatars remain in our memory, but no photographic documentation exists; sooner or later they will therefore be proclaimed as fabrications. Not so the 1968 invasion of Czechoslovakia, of which both stills and motion pictures are stored in archives throughout the world.

- Milan Kundera, *The Unbearable Lightness of Being*, 1984.

Another reason for the unconditional modernist belief in the impartial eye of the camera is based on the long tradition of genres of straight, realistic or documentary photography. If I am well aware that these genres have specific styles, forms, practices and history, for the purpose of simplicity and clarity, I shall consider a loose, elementary definition: photographs which meet the minimal condition of documentary are those who provide the viewer with "an account of events that have their own existence outside the frame of the photograph or the confines of the studio walls" (Price, 1997: 101); photographs that are free of retouching and manipulation. Documentary photography gives information about the subject, object or event photographed in a supposedly objective manner. The will to record and document the everyday world began when some "socially conscious" reporters realized the potential of the camera as a witness. Since that time, photographs were considered to transform into undeniable "facts" what they were portraying and many photographers thought their work might help bring awareness of what was going on in society. John Berger describes the early photojournalists' aspirations in *Another Way of Telling*: "The idealistic early press photographers-in the twenties and thirties of this century-believed that their mission was to

bring home the truth to the world" (Berger, 1982: 97). In the documentary tradition photographers are witnesses and the photograph is a testimony of empirical truth. As Mitchell notes "The tools of traditional photography were well suited to Strand's and Weston's high-modernist intentions — their quest for a kind of objective truth assured by a quasi-scientific procedure and closed, finished perfection" (Mitchell, 1992: 8).

Danish-born photographer and social reformer Jacob Riis (1849-1914) appears to be at the origin of American social documentary (Stange, 1989: 1). Riis used photography to draw attention to the conditions under which the poor in America, especially the immigrants, were living. In his best-known first book, *How the Other Half Lives* (1890), a collection of photographs, he exposed the appalling conditions of the time. His work caused a considerable stir and secured a number of reforms from Theodore Roosevelt who was reportedly moved by Riis' work (Leggat, 1997: HREF). Another photographer whose work had a definite political nature and revealed the misery of his time was sociologist Lewis Wickes Hine (1874-1940). In the early 1910s, he worked as an official photographer for the National Labor Committee and exposed the horrors of child labor. "I wanted to show things that had to be corrected," Hine once declared. In the 1930s, his work finally bore fruit when child labor became controlled in the United States (Leggat, 1997: HREF).

It is at the same epoch (1935-1943), that the American government, understanding the power of photographs, implemented the Farm Security Administration (FSA) Project. Headed by Roy E. Striker, the Project aimed to document rural poverty while appealing to the sensibilities of middle-class urbanites. Photographers such as Hine, but also Walker Evans and Dorothea Lange, along with many others, worked for the federal government in order to record pictorially the hard time the American nation, especially rural areas, was going through. The project produced some of the most enduring images of the Great Depression. At the time, the photographs, publicly displayed in an exhibition called "How American People Live," had a profound impact on contemporary viewers. Today, the FSA photographs are still considered as the primary basis for our understanding of this era. In addition, these images have shaped a standard for documentary photography with their simple, direct recording of an epoch.

As a result of documentary photography, the medium established itself

as a witness and claimed to be a true and disinterested picture of the world. Even early frauds could not completely challenge the confidence people had in the camera. In the early 1870s for instance, Dr. Barnardo, a London missionary, produced "before and after" photographs of orphans in his care in order to show the productive work of his charitable institution. However, Dr. Barnardo was charged for deceiving the public based on the fact that the images were not authentic. This incident put into light some of the practices in the social uses of documentary photography which were casually "manipulated" in such terms for purposes of rhetoric (Rosenblum, 1981: 352). John Berger believes that the reason why the positivist view has remained dominant, despite its inadequacies, is because there are no other views possible "unless one comes to terms with the revelational nature of appearances" (Berger, 1982: 119). As Florian Rötzer claims: "Photographers have always known that direct photography is subjective and staged. At the same time, there has been an unspoken (?) agreement between the photographer and his audience to accept the myth of photographic truth" (Rötzer, 1996: 13).

The "Artificial Eye" or The Analogy of the Eye

Finally, photographs held a special position for many men and women of the nineteenth century for the very simple reason that they corresponded to what they could see: photographs appeared as a truthful replication of human sight. As Mary Warner Marien expresses it in *Photography and its Critics*: "the photograph suggested infallible representation because of its parallel to sight. The exactitude of the Daguerrean image, which people studied under a magnifying glass, was a source of awe" (Marien, 1997: 40). Lady Elizabeth Eastlake, who was amongst the very first commentators of the new medium, saw photography as the "sworn witness" of the appearance of things (Eastlake, 1857: 94). As a matter of fact, most people at the time accepted that the medium rendered a complete and faithful image of its subjects and viewed photographs as an absolute material accuracy (Price and Wells, 1997: 21). The analogy of the camera to the eye has been stressed by its very inventors from the very beginnings of the medium. Niépce, for example, refers to his camera as an "artificial eye" in two separate letters to his brother Claude, on March 12 and May 5, 1816 (in Batchen, 1997: 81). Talbot uses a similar metaphor in *The Pencil of Nature* writing about the "eye of the camera" (in Batchen, 1997: 81).

Moreover, in a statement to the Académie des Sciences organized on January 7, 1839, physicist Jean-Baptiste Biot praised Daguerre for putting at the disposal of scientists an "artificial retina" (in Gernsheim, 1968: 84). Snyder and Walsh refer to this aspect of photography as the "'visual' model." As they remark in their essay "Photography, Vision, and Representation," this "visual model stresses the supposed similarity between the camera and the eye as optical systems, and posits that a photograph shows us (or ought to show us) 'what we would have seen if we had been there ourselves'" (Snyder and Walsh, 1975: 149). As a result, camera has often been used metaphorically by writers to suggest neutral recording. One of the most famous examples can be found in Christopher Isherwood's *The Berlin Stories*, when he writes: "I am a camera with its shutter open, quite passive, recording, not thinking" (in Mitchell, 1992: 29).

Photography as an Instrument of Power

Entering the crematorium. Tomas did not understand what was happening: the hall was lit up like a film studio. Looking around in bewilderment, he noticed cameras set up in three places. No, it was not television; it was the police. They were filming the funeral to study who had attended it.
- Milan Kundera, *The Unbearable Lightness of Being*, 1984.

Finally, influenced by the work of Michel Foucault, some postmodern critics have suggested that the belief in the veracity of the photographic image has been primarily sustained by the authority of society's institutions. They argue that these institutions, most notably law and medicine, have developed practices of observation, recording and surveillance through photography. In an interview conducted in 1987, John Tagg, who has written extensively on the uses of photography within power relations, claimed that the value of photography as evidence: "was something that was institutionally and historically produced" (Lukitsh, 1987: 232). Furthermore, in the introduction to his essays *The Burden of Representation*, Tagg writes that the fact "a photograph can come to stand as evidence [...] rests not on a natural or existential fact, but on a social, semiotic process" (Tagg, 1988: 4).

Many commentators regard the 1871 Commune, an episode of France's period of the Second Empire (1852-1870), as the first forensic use of the camera. According to Gen Doy, who provides an insightful look at this event in her essay "The Camera against the Paris Commune," the concept of

"objectivity" was constructed at that time (Doy, 1979: 21). However, it is interesting to note that then the technology did not allow action photographs[13] and as a result, all the pictures were actually staged and posed with willing participants, proud to be immortalized for posterity by the camera. Nevertheless, these pictures were used for very different ends: They were used to identify the Communards (Doy, 1979: 25).

Since this first episode, the camera has been used continuously by governments as an instrument of surveillance and repression. In Susan Sontag's words:

> Photographs furnish evidence. Something we hear about, but doubt, seems proven when we're shown a photograph of it. In one version of its utility, the camera record incriminates. Starting with their use by the Paris police in the murderous roundup of Communards in June 1871, photographs became a useful tool of modern states in the surveillance and control of their increasingly mobile populations (Sontag, 1973: 5).

Czechoslovakian writer Milan Kundera has suggested extremely well the ambiguity of the camera as a tool to record, but also as a tool to identify in *The Unbearable Lightness of Being*. In this novel he tells the story of Theresa, a young photographer who uses her camera to capture on film the invasion of the Russians during the Spring of Prague (1968) and describes how her photographs were then used by the Communist government to identify and oppress its contestants. In the following passage of the book, Kundera depicts this ambivalence of the camera, how images that were supposed to denounce a particular event got twisted to become accusatory evidences:

> The boy's father said, "This photograph was the only 'corpus delicti.' He denied it all until they showed it to him."
> He took a clipping out of his wallet. "It came out in the *Times* in the autumn of 1968."
> It was the picture of a young man grabbing another man by the throat and a crowd looking on in the background. "Collaborator Punished" read the caption.
> Tereza let our her breath. No, it wasn't one of hers. Walking home with Karenin through nocturnal Prague, she thought of the days she had spent photographing tanks. How naive they had been, thinking they were risking their lives for their country when in fact they were helping the Russian police (Kundera, 1984: 141-2).

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[13] Mostly due to long exposure times and to the use of wet plates which necessitated careful preservation and development (Doy, 1979: 23).

By establishing and constructing the value of the photograph as a trustable and honest representation of something which happened or was, institutions have provided themselves with substantial opportunities to propagate their doctrines. Therefore, it is not surprising that governments and other persuasive fields have used photographs to promote their ideologies. With photography these institutions happened to create a medium for propaganda far more powerful than words.

As we have seen, photography has benefitted from the time of its discovery of a great faith. Many early commentators described the photographic process as a neutral one, and subscribed to the belief that photography was a medium of truth and unassailable accuracy. Even today, the precision with which photographic images reproduces reality has not been equaled by any other medium. Therefore, it is not surprising that theorists continue to praise the objectivity of the medium. In 1985, for instance Annette Kuhn was still writing that "one of the defining features of photography as against certain other forms of visual representation [is] its capacity to appear truthful" and that "photography seems to record, rather than interpret, the piece of world in front of the camera" (Kuhn, 1985: 26). Even postmodernist philosopher Jean Baudrillard, known for his cold pessimism, formulates photography in a similar way: "I must capture this object at the moment of its appearance, before it takes on a meaning. And the lens... (l'objectif) places you in direct transition with the object" (in Bramly, 1993: 81). Nicholas Zurbrugg, who convinced Baudrillard to put some of his photographs in a collection of essays he was publishing, believes that "Baudrillard's photographic interest is a clear sign that he is not as pessimistic as he might seem." As he puts it, "If you were really a philosopher saying everything's finished, you'd be giving up. You'd just be moaning" (Leith, 1998: 16).

Nevertheless, as we shall see in the next chapter, the truth effect of photography has been challenged throughout its history.

CHAPTER TWO

DISMANTLING THE "TRUTH" EFFECT OF THE PHOTOGRAPHIC IMAGE

All images that appear in the press are manipulated in one way, shape, or form, whether they're by choice - by that image being chosen over another - or by cropping, or by digital manipulation. You're being manipulated a thousand different ways, and as long as you are somewhat aware of the fact, then there's not so much to be afraid of. But if you think that what you're seeing is the truth, then you're in for big trouble.

- David Byrne, 1994.

{M}anipulation is the essence of photography, photography would not exist without it .

- Victor Burgin, 1976.

As we have seen in the preceding chapter, many different reasons have established the photographic image as a truthful, unquestionable representation of reality. However, recent criticism has challenged the positions previously discussed, asking "whether the photographic process itself really guarantees much of anything about the relation between image and imaged" (Snyder and Allen, 1975: 148). As we shall see, photographs are constructed and manipulated in a vast number of ways. As Annette Kuhn summarizes it: "Photography actually involves just as much artifice as does any other mode of visual representation. There is plenty of scope for human intervention at every stage of making photographs: photos are no more innocent than any other product of human society" (Kuhn, 1985: 26). As the appearance of digital-imaging technology seems to announce the end of the blind trust we once had in the photographic image, it is important to remember that the question of the manipulation of photographs is not new. Number of artists, theorists and critics have challenged this assumption through their works and this, since 1839. As Martha Rosler, an artist and critical theorist, reminds us in her essay "Image Simulations, Computer Manipulations: Some Considerations:" "Any familiarity with photographic history shows that manipulation is integral to photography" (Rosler, 1996: 37). In this chapter, I intend to examine this history of manipulation, the different manners, mostly technical, which have contradicted the supposed integrity of the photograph for decades and the ways in which

theorists and artists have helped dismantle the myth of photographic truth, stressing the constructed, artifactual and ideological characteristics of the medium.

It has been widely acknowledged that virtually since the camera was invented, photographers have had opportunities to manipulate images and distort reality. The first alteration of a photograph can be traced back to 1839, the very same year photography was invented. Helmut Gernsheim, in his *History of Photography*, distinguishes Swiss Johann Baptist Isenring, a copperplate engraver of topographical views, as the first person who retouched a photograph, with his attempt to give daguerreotypes a more lifelike appearance, coloring them with dry powders. More specifically, Isenring over-painted an image and scratched on the silvered plate the pupils of the eyes to correct the unsharpness caused by the sitter's blinking (Gernsheim, 1969: 160). However, according to Gisèle Freund, it was a German photographer named Hampfstängl who invented the first technique to retouch the negative in the mid-1840s, a decade after Talbot's negative-positive process had begun replacing the daguerreotype, and in 1855, at the Exposition Universelle in Paris, Hampfstängl exhibited two versions of the same portrait: one retouched, the other not (Freund, 1974: 68-9). Retouching, which implies a direct human interference, marked a decisive moment for photography, the "beginning of its decay." Indeed, as Freund notes, the inconsiderate and abusive use of the technique "eliminated all the characteristics of a faithful reproduction, taking away photography's fundamental value" (Freund, 1974: 69).

Retouching

Within the wide ranges of techniques available to photographers to enhance their work, the most commonly used is probably retouching. According to Gordon Baldwin retouching can be defined as "the careful manual alteration of the appearance of a print or negative" that is "most often used in portraiture to make cosmetic improvement to a sitter's appearance, such as removing minor facial blemishes, softening outlines or wrinkles, or 'powdering' shining noses" (Baldwin, 1991: 74).

Photography has been linked with portraiture from its beginnings, or at

least as soon as the time of exposure was reduced enough to allow it[14] . This application of photography to portraiture was clearly the result of the public's demand[15] . As we have seen earlier, photography can be understood as the ultimate response to a constant need for more accurate representation and, as Naomi Rosenblum remarks, the new medium continued "the impulse to represent human form that goes back to the dawn of art" (Rosenblum, 1981: 39). As a result of this need for an always more truthful likeness, portrait photography quickly supplanted the miniature painting which until then had the favor of the upper classes[16] . In 1859, Charles Baudelaire, who Beaumont Newhall regards as "one of the most brilliant and perceptive art critics of his time," wrote about his contemporaries' vain and narcissistic desire to have their being immortalized on a photographic plate, describing the "madness," and the "extraordinary fanaticism [that] took possession of all these sun-worshippers." As he states: "From that moment our squalid society rushed, Narcissus to a man, to gaze at its trivial image on a scrap of metal" (in Newhall, 1980: 112). However, as Helmut Gernsheim remarks, this craze did not happen without influencing the new technology (Gernsheim, 1969: 234). Even if over the course of the nineteenth century mirrors and other devices of reproduction had streamed into people's lives, the advent of photography changed the most radically the way people perceived their own appearances. Regarded as truthful and realistic, photographs materialized the difference between idealized images of oneself and the reality of one's appearance. In her book *Hope in a Jar: The Making of America's Beauty Culture*, Kathy Peiss stresses that what most vexed the public during the early decades of photography was that the photograph revealed the face and the body with a degree of detail and precision men and women of the nineteenth century were not used to (Peiss, 1998: 45). As N. P.

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[14] It has to be remembered that the length of exposures of the first daguerreotypes did not allow portraits and several technical improvements had to be made before portrait studios could open their doors to men and women, eager to be immortalized by the camera.

[15] As Walter Benjamin remarks in "The Work of Art in the Age of Mechanical Reproduction:" "It is no accident that the portrait was the focal point of early photography. The cult of remembrance of loved ones, absent or dead, offers a last refuge for the cult value of the picture. For the last time the aura emanates from the early photographs in the fleeting expression of a human face" (Benjamin, 1936: 226).

[16] The introduction of the carte-de-visite format by Frenchman André Adolphe Eugène Disdéri, a photographer to the court of Napoleon III, in 1854, contributed to popularize portrait photography. As a result of its relative affordability, the new format became a craze overnight. It needs also to be noted here that Disdéri might have been the first theorist of portrait photography. In 1862, he published a book on the topic entitled *Esthetic of Photography* (Freund, 1974: 69).

Lerebours, one of the most prominent early French photographic portraitists, writes in his 1873 *Traité de Photographie*: "The most terrible enemy which the daguerreotype has to combat is, without contradiction, human vanity" (in Gernsheim, 1982: 96). Moreover, Lerebours stresses the differences between painting and photography in terms of customers' expectations:

> When a portrait is painted, the flattering hand of the artist knows how to soften the irregular features of the face, to make graceful a sting pose, and to give an effect of grace and dignity to the whole. Therein lies the talent of the portrait painter; one expects a likeness, but above all one wants to look beautiful — two demands which are often incompatible. It is not thus with the photographic artist: unable to correct the imperfections of nature, his portraits unfortunately often have the fault of portraying the sitter too truthfully; they are in a way *permanent mirrors* where vanity does not always find what it wants (in Gernsheim, 1982: 96).

Reportedly, some customers would leave the photographer's studio when they felt that the accuracy of the photograph happened to be too painful (Peiss, 1998: 46). The public, accustomed to the idealized and flattering portraits of painters, expected photographers to conform to the embellishing practices of the artists and as a result, clients would ask for retouched or tinted pictures[17] which tended to lessen the gap between self-image and the pictorial truth, offering a more pleasing likeness (Peiss, 1998: 45). This type of demand favored the talbotype, also known as calotype, which offered advantages over the more recognized daguerreotype with respect to its application to portraiture. An article published in Austria even specifically promoted the talbotype's ability to improve the artistic effects of pictures by "toning down or removing anything unattractive, like wrinkles, which may have been reproduced with too great accuracy" (in Gernsheim 1969: 466). As Susan Sontag remarks: "The news that the camera could lie made getting photographed much more popular" (Sontag, 1973: 86). Even if photographers first complained about their customers' demands[18], they quickly integrated retouching techniques into their practices (Gernsheim, 1969: 466). As a result, retouching became a common practice for photographers, an inherent part of the art of portrait photography, and they became a "curious hybrid of painter-photographer" (Gernsheim, 1969: 234).

[17] Tinted photographs have a single overall color resulting from the addition of dyes to the photographic materials by a commercial manufacturer. They do not require the photographer's manipulation contrarily to hand-colored photographs (Baldwin, 1991: 80).

[18] It needs to be noted that most photographers found the practice "detestable and costly" to quote Gaspard Félix Tournachon, better known as Nadar, one of the most famous portraitists of the nineteenth century (in Newhall, 1982: 70).

Technically, they would interfere manually with the negative or the print to "beautify" their clients, removing blemishes and adding balance to the portrait (Gernsheim, 1969: 234). Aspiring to conform to the Victorian ideal of beauty trends of the 1850s, photographers were lead to follow carefully determined recommendations. *The Photographic News* magazine suggested the following instructions to achieve the perfect picture:

> (For women). A handsome face is of an oval shape, both front view and in profile. The nose slightly prominent in the center, with small, well-rounded end, fine nostrils; small, full, projecting lips, the upper one short and curved upwards in the center, the lower one slightly hanging down in the center, both turned up a little at the corners, and receding inside; chin round and small; very small, low cheek-bones, not perceptibly rising above the general rotundity. Eyes large, inclined upwards at the inner angles, downwards at outer angles; upper eyelids long, forehead round, smooth and small; hair rather profuse. Of all things, do not draw the hair over the forehead if well formed, but rather up and away. See the Venus de Medici, and for comparison see also Canova's Venus, in which latter the hair is too broad.
> (For men). An intellectual head has the forehead and chin projecting; bottom lip projecting a little; eyebrows rather near together and low (raised eyebrows indicate weakness). Broad forehead, overhanging eyelids, sometimes cutting across the iris to the pupil. (in Gernsheim, 1969: 235).

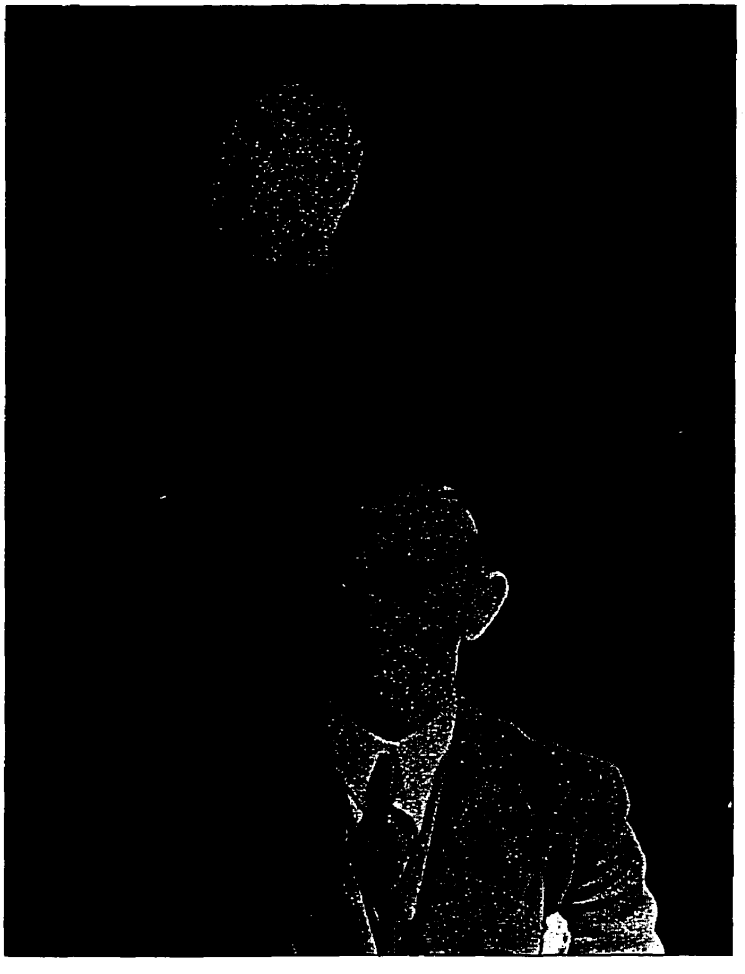
Women's waists were left to the photographer's good will and aesthetic judgment: "The retoucher may slice off, or curve the lady's waist after his own idea of shape and form and size" (Gernsheim, 1969: 235). Dorothy Wilding, an influential studio portraitist in Britain, was active in London from 1914 to the late 1950s. Trained as a retoucher, she recalls in her 1955 autobiography *In Pursuit of Perfection*, her views on retouching and tries to correct the impression some people might have that the enhancing technique is about making the sitter better looking than s/he is in real life: "It isn't that at all. It's more to make a portrait a fairer representation of a sitter than it would be if a negative were left alone" (Wilding, 1955: 125). However, according to Gernsheim, purists will always object to retouching since it represents an "injudicious mixture of two diametrically opposed artistic media" (Gernsheim, 1969: 164).

Another similar technique to disguise physical "flaws" that has been used for decades by skilled professionals, especially in the area of advertising, is airbrushing. This technique is based on a mechanical brush that uses no bristles to apply the paint, but instead, compressed air which is forced through

a fine nozzle to break up the paint into an ultra fine mist. This mist, which can be broad or fine, is then directed to an exact location on the photograph. Thanks to airbrushing an artist can carefully "paint" a light tone to reduce a dark area and conversely use a darker pigment to cover a lighter tone. This technique gives artists the most control and allows them to produce textures that are difficult to obtain by conventional methods. All work is done on a work print, not on the original as it is considered very risky to work on any original print.

Photographic Tricks

In addition to retouching, it is worth noting that early photographic history is filled with examples of technical tricks made possible by the camera to alter representation of reality. Double exposures, "spirit photographs," double printings and others were enthusiastically described in popular nineteenth-century books on "photographic amusements" (Ades, 1986: 7). In the first half of this century for instance, April Fool's photographic fakes were popular with the public and in the 1920s and 1930s, altered photographs were enjoyed for their humor or sensationalism (Lovell, 1997: HREF). In his book, *Hoaxes*, Curtis MacDougall examines different types of doctored photographs and discusses examples of images of giant sea creatures or Viking ships that were published in the print media. Photographs have often been used to show evidence of paranormal phenomena relying on the belief people have that "the camera never lies." The Cottingley Fairies are a famous example. In 1917, two young girls produced photographs of fairies (see figure 6). Several photography experts declared that the pictures had not been doctored and the girls were supported in their claims by Sir Arthur Conan Doyle, a fervent believer in the occult. The trick was finally admitted and was much simpler than anything speculated: Elsie Wright and her cousin Frances Griffith had just posed with paper cut-outs held in place by hat pins (Farquhar, 1996: HREF).
Another technical tricks made possible by the camera's properties are double exposures, which are the result of a second exposure in a camera of a negative. This produces a combination of two images in a single print from the same negative (Baldwin, 1991: 40). This artifact gave birth to the curious photographic genre of spirit photography which was believed to capture on film the likeness of a deceased person (see figure 7). Even though these photographs



6. Technical tricks:
Unknown Photographer. *Alice and the Fairies*. Brotherton Collection, Leeds University Library.

7. Spirit photography:
Unknown photographer. *Reverend Tweedle and Spirits*. Photography Collection, Harry Ransom Humanities Research Center, The University of Texas at Austin.

were only the products of a technical artifact, many people believed in their truthfulness given the automatic characteristic of the camera. It is interesting to note that even today, the use of the camera as evidence of supernatural events, such as UFOs for examples, is still very popular and regularly, specialists are asked to dismiss these visual "proofs."

"DARKROOM MAGIC"

As Fred Ritchin, a former picture editor for *The New York Times Magazine* who writes extensively on issues of documentary and digital photography, explains in his essay "Photojournalism in the Age of Computers," another effective method of manipulation that has been practiced from the beginnings of photography occurs in the form of pasting together different photographs and then reshooting the obtained picture, making the new image look like an original and leaving the negative untouched (Ritchin, 1990: 29). This technique, known as "combination print," was casually practiced to compensate the limitations of the early technology. The first emulsions indeed, did not allow photographers to shoot simultaneously the sky and the landscape[19] . Therefore, two pictures were taken and the two negatives were later combined into a single print in the darkroom. Parisian photographer Gustave Le Gray used this method to produce his famous seascapes and, according to Mark Haworth-Booth, curator of photographs at the Victoria and Albert Museum in London, Camille Silvy created his 1858 *River Scene* using the same technique (in Meyer, HREF, see also figure 8). However, very quickly combination prints were made not only to redeem the initial technical restrictions of the medium, but also to create one's own images. It is important to understand that at this point the claim of the truth effect of photography was greatly challenged, the combination print techniques allowing the camera to become a tool for artistic expression, and not just a tool of neutral representation. This claim of the creative nature of photography brought up one of the central debates in the history of photography; the artistic use totally conflicting with the "objective" nature of the photograph. Many skilled and talented artists used this technique to create

[19] As Beaumont Newhall explains: "The silver iodide emulsions of the time were sensitive only to the blue rays of the spectrum and those that lay beyond. It was impossible to photograph objects that *only* red or green: a very bright red flag with a green cross upon it appeared totally black in a print" (1982: 73). As a result, landscapes with skies were an almost impossible challenge.

8. Combination prints:
Gustave Le Gray. *The Great Wave — Cette.* 1856. Combination albumen print. Collection Paul F. Walter, New York; on extended loan to The Museum of Modern Art, New York.

Camille Silvy. *River Scene, France.* 1858. Gold-toned albumen print from two wet collodion-on-glass negatives.

their own, sometimes fantasized, representations of reality, notably with composites. Henry Peach Robinson, an early practitioner of the technique, described the combination print process as:

> A method which enables the photographer to represent objects in different planes in proper forms, to keep the true atmospheric and linear relation of varying distances, and by which a picture can be divided into separate portions for execution, the parts to be afterwards printed together on one paper, thus enabling the operator to devote all his attention to a single figure or sub-group at a time, so that if any part be imperfect from any cause, it can be substituted by another without the loss of the whole picture, as would be the case if taken at one operation (in Mitchell, 1992: 163-4).

Probably one of the most acclaimed perpetrators of this technique[20] is Oscar Gustave Rejlander who made elaborate compositions with several negatives, carrying the process to an extreme, in the 1860s. His controversial *The Two Ways of Life* of 1857 (see figure 9), for instance, was a montage of thirty different negatives that took him six weeks to complete (Newhall, 1982: 74). In his essay "Beyond reality: art photography," photography historian Marc Mélon uses the term "'demechanized' photography" to qualify Rejlander's work and discusses the consequences of the manipulation of the photographic image:

> Photography was a medium that was recognized to offer a faithful portrait of the world. To manipulate a photograph, retouch it and take it apart, in order to reconstitute it in an order acknowledged to be artificial, was tantamount to manipulating the world itself and to dominating its disorder. The task of taking reality apart and reassembling figures within the world of the image could be compared to the task of the moral law, which separates good from evil and saves the world by imposing a new order upon it (Mélon, 1986: 82).

Apparently, Rejlander may have realized this, or might have simply been discouraged by too much criticism, and denounced the combination print process in a letter to Robinson, allegedly writing that he was "tired of photography for the public, particularly composite photos, for there call be no gain and there is no honour only cavil and misrepresentation" (in Newhall, 1982: 76). Nevertheless, the principle of the composite image was never abandoned since

[20] Other prominent artists who used the principle include notably Henry Peach Robinson who first became famous with his *Fading Away*, a combination print showing a dying young woman with her parent grieving (see figure 9), but also British photographer David Octavious Hill (1802-1870) who produced many collages or John Morrissey who used an even simpler method to construct his composite pictures, simply rephotographing ready-made pictures that he would first cut out and paste together against a specially prepared background (Ades, 1986: 7).

9. Oscar Gustave Rejlander. The Two Ways of Life. 1857. Combination albumen print. The Royal Photographic Society, Bath, England.

9. Henry Peach Robinson. *Fading Away*. 1858. Combination albumen print. George Eastman House, Rochester, N.Y.

that time. Therefore, in a sense, it can be considered as the core of photo-manipulation as well as the precursor of digital imaging in terms of its "cut and paste" principle[21] . In the 1920s, the process, even though its intent and results differ radically from Rejlander's and Robinson's, was revived under the label "photomontage." This approach was used with infinite variations by constructivists, surrealists, dadaïsts, and futurists. It is best exemplified by the work of artists such as Lazlo Moholy-Nagy, Christian Schad, Alexander Rodtchenko, Man Ray, and especially John Heartfield (1891-1968) who used photomontages to criticize Nazi Germany in the 1930s (for examples of these artists' work see figure 10). Photomontages implicitly meant that photography is a social construction that one cannot and should not rely on blindly.

It needs also to be noted here that in the 1960s, various artists also used the camera and the combination print technique in an effort to dismantle the truth effect of the photograph. One precursor for this use of the camera was Frenchman Yes Klein who, in 1960, conceived a photograph, entitled *The Leap into the Void*, which shows the artist diving out of a second-story window (see figure 11). The photograph was forged and yet it presented the event as if it had really happened, as if it were real. Following Klein's path, many photographers, such as John Bulldozer or Robert Chumming, explored notions of perception and vision, creating explicitly false illusions for the camera[22]. Another photographer known for his use of combination printing is so-called "master of the composite image" American Jerry Uelsmann who significantly refers to the photomontage technique as "post-visualization" because for him "the moment of creativity does not take place the instant the shutter of the camera is released, but rather later — in the darkroom" (Uelsmann: HREF). As Newhall states "Uelsmann combines disparate images to produce strange, often disquieting and ambivalent compositions such as the face/fist in *Symbolic Mutations* (see figure 12 and Newhall, 1982: 288). However, it needs to be pointed that the work of these artists present us with more than a simple true/false dichotomy. Their work seeks to create realities that are more meaningful than the one literally given to the eye and if one consider, for instance Heartfield's photomontages of Hitler, one can realize that in their

[21] The "cut and paste" principle, perhaps one of the most important characteristics of the computer age, allows the user to select data from a text, an image or even a video, to copy it and paste it in another document. All this in a matters of seconds.

[22] For a more in-depth examination of this issue, I direct the reader to Graham Clarke's chapter entitled "The Photograph Manipulated" in his book *The Photograph* (pp. 187-206).

10. Photomontages:
John Heartfield. *Gleiche Brüder Gleiche Mörder* (Like Brother, Like Murderer). Photomontage. Kent Gallery, N.Y. C.

Lazlo Moholy-Nagy. *Jealousy*. 1927. Photomontage and ink. George Eastman House, Rochester, N.Y.

11. Harry Schunk. *Yves Klein: Leap into The Void.* 1960. Gelatin-silver print.

12. Jerry Ueslmann. *Symbolic Mutations.* 1961. Combination print. The Museum of Modern Art, New York.

essences these composites are truer than propaganda pictures. Put simply, tampering with a photograph does not necessarily mean that the obtained result is false.

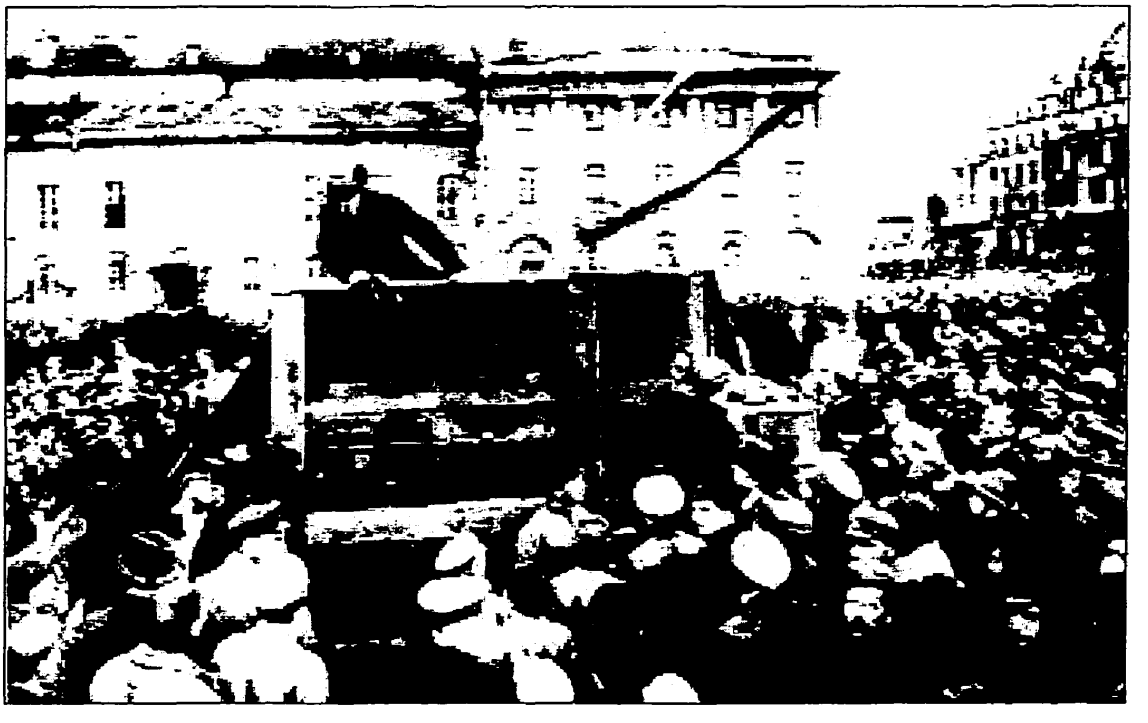
PHOTO-MANIPULATION AND POLITICS

Nevertheless, as we have seen in the first chapter, political institutions helped develop the belief that photography was offering a faithful representation of reality. Once this belief had been ingested by the masses and the faith in the photographic image was near absolute, the medium became a powerful instrument of propaganda in the hands of totalitarian governments. As John Berger writes in *About Looking*: "The very 'truthfulness' of the medium encouraged its deliberate use as a means of propaganda" (Berger 1980: 52-3).

As historians have revealed, old manner manipulations have been casually used in the past to retouch, cut out or rearrange politicians to conform the political agenda of the time and place[23]. However, many examples of doctored political photographs come from Soviet propaganda. Back then, techniques of retouching were performed not only to enhance the appearance of the country's leaders, but also, more importantly, to "erase" someone's existence from history[24]. The most famous example of this kind of "Stalinist retouching" might be the historical shot of Lenin's May 5, 1920 address to the troops. In the original photograph, Lenin addresses the soldiers from a wooden podium while Trotsky and Kamenev stand on the right of the podium. Later, under Stalin's regime, the picture was reissued with a bit of retouching and without the two conspicuous figures (see figure 13). Stalin did not want to have Trotsky associated with the Bolshevik revolution, so he "rewrote" history with a brush and ink (King, 1997: 66-73). The same technique was used to get rid of Gregory Nelyubov, one of the nation's earliest cosmonaut trainees, from

[23] For examples of falsifications of political photographs, I recommend Alain Jaubert's remarkable *Making People Disappear: An Amazing Chronicle of Photographic Deception* (McLean, VA: Pergamon-Brassey International Defense Publishers, 1989), in which techniques of photographic manipulation of historical records are described and David King's *The Commissar Vanishes: The Falsification of Photographs and Art in Stalin's Russia* (New York: Metropolitan Books, 1997), which focuses on the practices of "the Kremlin airbrushers" under Stalin.

[24] If this technique is common to photography, it is interesting to note that the idea of erasing or adding people to "rewrite" history has always been around, long before the appearance of the camera. In ancient Rome for instance, the parallel desire to efface the trace of a person's existence from history was called a damnation memoriae. In a similar spirit, Jacques-Louis David's famous 1805 painting *The Coronation of Napoleon*, features, at the request of the emperor, people who did not attend the ceremony.



13. Retouching:
Unknown photographer. *Lenin's address to a crowd, May 5, 1920*. 1920. Before and after retouching.

official records. Nelyubov had his face smudged and cropped out, and was completely erased from all space shots and group shots in 1961, after he had a run-in with the police. Similarly, twenty years later, when the Soviet Union wanted to downplay the military's role in the Soviet space program, they eliminated Soviet missile chief Charlie S. Moskalenko from a photograph immortalising the first launch of man into space, in which he originally appeared in military attire between cosmonaut Yore Gagarin and rocket expert Sergei Korolev (*Life*, 1986: 67-8). Alexander Dubcek, Czech Prime Minister and progressive leader of a "communism with a human face," received the same fate. He "vanished" from a photograph showing him with President Svoboda in front of Saint Virus Church in Prague, after the Soviets had crushed his attempt at reform in 1968 (Rodgers, 1998: 114).

As a matter of fact, political regimes have made people disappear from photographs for years and almost every dictatorship has used the possibilities offered by the photographic medium to doctor or falsify pictures for propaganda purposes. However, doctoring of photographs is unfortunately not the privilege of totalitarian regimes and photo forgery was performed in "free" countries as well. Even though this is less documented, two political examples are often cited. The first involves a 1928 campaign picture of Herbert Hoover and his running mate which was faked because Hoover refused to pose with the vice-presidential candidate. The other well publicised case dates from the McCarthy era. In 1951, Maryland Democrat Senator Millard Tidings lost his seat after a composite showing him apparently conferring with Earl Browser, a head of the US Communist Party was published in *Life* (see figure 14).

MESSAGE WITHOUT A CODE?

This latter incident is mentioned and commented on by Roland Barthes in the section of his essay "The Photographic Message" devoted to manipulated photographs, or what he calls "trick photography[25]"and gives him the opportunity to determine the issues brought up by such processes. In this 1961 essay, Barthes examines the particular genre of press photography and attempts

[25] Barthes writes the following regarding the composite: "Tricks effects. A photograph given wide circulation in the American press in 1951 is reputed to have cost Senator Millard Tydings his seat; it showed the Senator in conversation with the Communist leader Earl Browder. In fact the photograph had been faked, created by the artificial bringing together of the two faces" (Barthes, 1961: 21).

14. "US Senator Millard Tydings (right) and communist leader Earl Browder (left)." 1951. Composite. Published in Life. AP/Wide World Reports.

to establish a "structural analysis of the photographic message" (Barthes, 1977: 16). For the French cultural critic/semiologist/structuralist/poststructuralist, the photographic image "is a message without a code"; the only structure of information "that is exclusively constituted and occupied by a 'denoted' message" (Barthes, 1977: 17-8). However, as he first defines the structure of the photographic message as independent of the text and then discusses their interrelation Barthes reaches a somehow more complex answer.

In the section entitled "The photographic paradox," Barthes stresses photographs' two levels of meaning: the denotative and the connotative, an important distinction in semiology. While denotation relates to that which is "objectively" present in a sign, connotation is the meaning beyond the denotated, literal sign. As we have seen earlier, what Barthes calls the analogon of photography is the perfect representation of the object or person photographed, the referent. This perfect representation, the *analogon*, is the "denoted" aspect of the message or the non-coded aspect of the photographic meaning. However, photographs have also a "connoted" message which is "the manner in which the society, to a certain extent, communicates what it thinks of it" (Barthes, 1961: 17). Put simply, connotation relates to the cultural meaning which influences our reading of a photograph. According to Barthes, this dimension of meaning is not natural, but rather determined culturally, historically and ideologically. Furthermore, connotation implies interpretation, and the interpretation depends on the context in which the denoted signs appears. As Barthes sums it up: "The photographic paradox can be seen as the co-existence of two messages, the one without a code (the photographic analogue), the other with a code (the 'art,' or the treatment, or the 'writing', or the rhetoric, of the photograph)" (Barthes, 1977: 19). In this text Barthes also identifies six ways to impose connotative meaning upon a photograph: trick effects, pose, objects, photogenic, aestheticism, and syntax, which he calls "connotation procedures" (Barthes, 1961: 20). What interests Barthes in trick effects, is the fact that they "intervene without warning in the plane of denotation; they utilise the special credibility of the photograph — this, as was seen, being simply its exceptional power of denotation — in order to pass off as merely denoted a message which is in reality heavily connoted; in no other treatment does connotation assume so completely the 'objective' mask of denotation" (Barthes, 1961: 21). Manipulating a photograph therefore changes

the connotative aspect of a photograph. Barthes explains the *Life* composite in the following way:

> Naturally, signification is only possible to the extent that there is a stock of signs, the beginnings of a code. The signifier here is the conversational attitude of the two figures and it will be noted that this attitude becomes a sign only for a certain society, only given certain values. What makes the speaker's attitude the sign of a reprehensible familiarity is the tetchy anti-Communism of the American electorate; which is to say that the code of connotation is neither artificial (as in a true language) nor natural, but historical (Barthes, 1961: 21-2).

However, as Barthes further explains in "The Photographic Message," another way to alter the meaning of a photograph has to do with the use of text. According to him, words come to "sublimate, patheticize, or rationalise the image" and text "loads the image" (Barthes, 1977: 25-6). In addition, Barthes observes that the effect of connotation varies with the distance of the text to the image: the closer words are to the image, the less they seem to connote it (Barthes, 1977: 26).

Text is an important component of a photograph since it is what gives the image most of its meaning, helping us comprehend what it depicts. Therefore, even though Barthes started by emphasising the assertion that a photograph is an encoded message, we can understand how connotative value is inescapable[26] . For Barthes, the capacity to understand a photograph's connotative value is based on "the reader's 'knowledge' just as though it were a matter of a real language"; and it will be "intelligible only if one has learned the signs" (Barthes, 1977: 28). Furthermre, given their purely denotative value, photographs' content can be drastically "rewritten." This versatile aspect of photographs is conveniently used by tabloids. For instance, a snapshot of a star mourning at a funeral, taken out of context and associated with an appropriate caption or commentary can become the visual proof that the star is in an unhappy relationship. On a more serious note, an exhibition in Paris, several years ago, demonstrated that point, showing thirty photographs from the First World War that had been (falsely) labelled and identified as documents from the Iran-Iraq war. None of the thousands of people who visited this exhibition questioned the images. The trick was only revealed in the last show room,

[26] Barthes concluded his essay noting that "pure denotation" in the photograph exists only on the level of the traumatic image. In *Camera Lucida*, Barthes retains his concept of the traumatic image, but transforms his earlier terms "denotation" and "connotation" into the terms "punctum" and "studium."

where explanations on the different manipulations used were offered (Cajole, 1998: 26). In her book *Photography and Society*, Gisèle Freund examines several similar cases which happened in the French media in the sixties and seventies and claims that "the objectivity of the photograph is only an illusion. The captions to the image can change totally its signification" (Freund, 1974: 153). The importance of the caption has also been pointed out by Walter Benjamin. In his "A Short History of Photography," he predicted with a great vision its weight when he wondered: "Will not captions become the essential components of pictures?" (in Mitchell, 1992: 192). Moreover, as he writes in "The Work of Art in the Age of Mechanical Reproduction:"

> For the first time, captions have become obligatory. And it is clear that they have an altogether different character than the title of a painting. The directives which the captions give to those looking at pictures in illustrated magazines soon become even more explicit and more imperative in the film where the meaning of each single picture appears to be prescribed by the sequence of all preceding ones (Benjamin, 1936: 226).

Therefore, photographic images are not as removed from written texts as is often thought[27] . Text, is essential to understand the content and the message of photographs.

DECONSTRUCTING DOCUMENTARY PHOTOGRAPHY

Even the photo that most closely fulfils the conventions of standard realism is a "reasonable facsimile" of what the eye might have seen.

- Kroker and Weinstein, *Data Trash*, 1994.

Even photographs which make direct claims to documentary truth are always constructed by the photographer to create symbolic images that can "provoke" viewers' interest. Many contemporary critics have exposed the construction behind documentary photographers' work. A good example of this is Dorothea Lange's (1895-1965) famous photograph, *Migrant Mother* (see figure 15). Taken in March 1936, in Nipomo, California, the photograph is a portrait of a thirty-two-year-old woman, Florence Thompson, and her children sheltered under a tent in a camp of migrant pea pickers, which, as it has been often noted, bears striking resemblance to a Madonna-with-child image. Over the years this image

[27] Roland Barthes, in his book on the semiotics of fashion, *Système de la mode*, also writes about the significance of the caption (New York : Hill and Wang, 1983).

15. Selecting/cropping:
Dorothea Lange. *Migrant Mother, Nipomo, California.* 1936. Gelatin-silver print. The Museum of Modern Art, New York.

16. All: Dorothea Lange. "Migrant agricultural worker's family. Seven children without food. Mother aged 32, father is a native Californian. March 1936." Library of Congress, Washington, D.C.

has become an icon of the Great Depression era[28] and one of the most reproduced in the world. However, some have argued that Lange's celebrated photograph had been carefully constructed in order to achieve a result that would comply with the FSA Project ideology. In *Mind's Eye, Mind's Truth: FSA Photography Reconsidered*, historian James Curtis demonstrates how the enduring image was composed. According to him, "Lange did not arrive at this final composition by accident [...] but by patient experimentation with various poses[29]." To prove this, Curtis exposes the five other shots taken by Lange the same day and considers that the most well-known of them is actually the last of the series (see figure 16). This reveals an explicit political and ideological agenda behind the choice made to single out a particular picture.

Another highly controversial photograph is Associated Press Joe Rosenthal's 1945 *Raising the flag on Iwo Jiwa* (see figure 17). This photograph, which shows a groups of marines erecting a U.S. flag on a Japanese island after their victory, is also one of the most reproduced in the world and earned its author a Pulitzer's Price. Despite these impressive achievements, some have challenged the authenticity of the image claiming that it had been posed for the camera[30] (Mitchell, 1992: 42). It has to be noted here that "restaging[31] " has been at the center of a number of controversies. Based on such claims, the veracity of a lot of war photographs for instance has been challenged.

Documentary photographer Lewis Wickes Hine, in his essay "Social Photography," discusses the ambivalence of the photographic image. For Hine,

[28] In 1972, Roy Stryker, the head of the FSA Project, described the picture in the following terms: "When Dorothea took that picture, that was the ultimate. She never surpassed it. To me, it was *the* picture of Farm Security" (in Rosler, 1989: 315).

[29] In a 1960 essay for *Popular Photography* entitled "The Assignment I'll Never Forget," Lange gave the following account of the experience: "I saw and approached the hungry and desperate mother, as if drawn by a magnet. I do not remember how I explained my presence or my camera to her, but I do remember she asked no questions. I made five exposures, working closer and closer from the same direction. I did not ask her name or her history. She told me her age, that she was thirty-two. She said that they had been living on frozen vegetables from the surrounding fields, and birds that the children killed. She had just sold the tires from her car to buy food. There she sat in that lean- to tent with her children huddled around her, and seemed to know that my pictures might help her, and so she helped me. There was a sort of equality about it" (in Newhall, 1980: 262-5).

[30] However, it is worth noting that according to Paul Martin Lester, "the confusion over the authenticity of the famous photograph" is based on the fact that there was another shot of the event, featuring the soldiers "smiling and waving for the camera under the same flag." When a reporter asked Rosenthal if the image was posed, the photographer, thinking that he was referring to this other shot, (too) casually admitted that it was and later confirmed that the famous photograph was genuine (Lester, 1988: HREF).

[31] Restaging is the action of re-creating a situation or an event that actually happened for the camera.

17. Staging:
Joe Rosenthal. *Raising the Flag over Iwo Jima*. 1945. Library of Congress, Washington, D.C.

on the one hand, "the average person believes implicitly that the photograph cannot falsify" because it "has an added realism of its own," "an inherent attraction not found in other forms of illustration." However, on the other hand, we should be aware that our "unbounded faith in the integrity of the photograph is often rudely shaken, for, while photographs may not lie, liars may photograph." As Hine remarks: "It becomes necessary, then, in our revelation of the truth, to see to it that the camera we depend upon contracts no bad habits" (in Stange, 1989: 86). As a result of these discussions on the realistic nature of documentary photography, later photographers, such as Swiss-born photographer Robert Frank with his series *The Americans*, a documentary of the United States published in 1959, began to acknowledge personal expression as part of their projects. In 1966, *Life* magazine challenged photographic "truth" in regard of the role of the photographer in "making" pictures, notably quoting from novelist and critic James Agree: "... It is doubtful whether most people realize how extraordinarily slippery a liar the camera is. The camera is just a machine, which records with impressive and as a rule very cruel faithfulness precisely what is in the eye, mind, spirit and skill of its operator to make its record" (*Life*, 1966: 7). The editors then noted that "the image reflects the man who snatches it" and recognized that it is "entirely possible for a skilled photographer to twist truth to his liking."

As André Rouillé writes in the conclusion of *A History of Photography: Social and Cultural Perspectives*: "We can see the erosion of the myth of the photographer-reporter devoted to the ideal of representing the unvarnished truth, even at the cost of his life [...] Press photography which used to claim to be a way of knowing the world and life, can now be seen for what it is: a source of illusory, subjective, sometimes misleading images [...] As the photographic image increasingly reveals itself to be not so much a true copy of reality but a metaphor of it, documentary photography and art photography cease to be considered irreconcilable" (Rouillé, 1987: 255-6).

In this regard, the work of Mexican "traditional photographer[32] and digital-age dialectician" Pedro Meyer is interesting. In his collection of digitally-altered photographs entitled *Truths & Fictions*, he calls into question the photographic image as documentary truth. Moreover, he shows photographs

[32] Meyer's first CD-ROM compilation, *I Photograph to Remember* (1991), was for instance an example of traditional photojournalism: a collection of black-and-white pictures of the last year of his parents' lives (Howorth and Scanlon, 1993: 82).

as the construction they are and reminds the viewers that photographers are storytellers and they should not trust their eyes (Rosenberg, 1995: HREF). For Baudrillard, Meyer's work would be a perfect example of his notion of "simulation" since his images mimic the real without trying to replace it. As Meyer explains in his book *Truth & Fictions*: "All my images are about documenting experiences — not fabricating them" (Meyer and Fontcuberta, 1995: 108). Furthermore, he argues that the fact that his images are digital "doesn't make them any less truthful than documentary photographs of the past" (Howorth and Scanlon, 1993: 82). As the literature describing his 1993 exhibition states: "Meyer has produced a new body of seamless digital photographs that are at once documentary fictions and digital truths" (Enyeart: HREF).

CHALLENGING THE AUTOMATIC CHARACTERISTIC OF PHOTOGRAPHY

Finally, as we have seen in the first chapter, it has often been argued (Barthes, Sontag, Cavell, Arnheim) that the claim for truth of the photographic medium is directly linked to its mechanical aspect. This position has been questioned by many critics. For instance, Joel Snyder and Neil Walsh Allen argument in "Photography, Vision, and Representation" that the "automatic" character of photography has been highly exaggerated. As they argue in their essay, even when no process such as retouching or photographic "trickery" is used, technically the camera offers a wide range of manners to alter the meaning of a photograph. Any photographer, from the "Sunday snapshooter" to the professional, "makes a number of characterization" intentionally or not, through "his choice of equipment and how he uses it" (Snyder and Allen, 1975: 150).

As a matter of fact, some very efficient ways to alter the message conveyed by an image, indeed, do not require neither darkroom work, nor a computer: the simple selection of an image amongst the many at the disposition of photo editors already implies subjectivity as we have seen with the example of Dorothea Lange's series *Migrant Mother*. Another efficient way to convey a different perspectives to viewer can be found through reframing; as David Shenk points out, "cropping alone is a powerful tool" because it edits what we can see and influences our awareness of a particular event (Shenk, 1997: HREF). Moreover, photographs' meaning can be altered through stage direction by the photographer at the shooting stage, the camera position, choice of filters or by using a different range of lens width. John Henshall explains how lenses

can affect the final image:

> The choice of a wide angle lens exaggerates perspective and consequently affects perception of the relative sizes of objects in the frame. A long focal length lens makes objects appear closer together than they are. A wide aperture reduces depth of field to the point where attention can be directed to the in-focus part of the image. A low camera angle accentuates the stature of subjects, allowing them to dominate us; a high camera angle enables us to dominate the subject (Henshall, 1998: HREF).

As a result, a close-up on a group of eight or ten persons can either suggest a crowd or "erase" the crowd around the main person. This technique was used by Poland's official media in 1979 when the Pope made his first visit to the country. By focusing on John Paul II and the nuns around him, the photographers virtually left out of the picture the hundreds of thousands people who had gathered around him, diminishing its impact but complying with the political directives of the Polish government (Huriet, 1998: HREF). Given these possibilities, one has to acknowledge that Berger's statement that photography "cannot lie because it prints directly" seems much less plausible.

Finally, it needs to be pointed out here that if some photographs are intentionally manipulated to convey a certain message, sometimes mysterious apparitions, interpreted as ghosts or other paranormal phenomena, are only the result of photography artifacts. The New England Skeptical Society Encyclopedia of Skepticism and the Paranormal, details many opportunities for mistakes to be made, should it be by the camera operator, the developer or the camera manufacturer. For example, one of the most common procedures, flashback, happens when a flash used is too bright so that the reflected light creates hazy overexposed areas on the film. The camera cord itself can look like a streak of light if it falls in front of the lens once the picture is developed (DeAngelis, 1996: HREF). These technical tricks also contradict the purely mechanical aspect of the camera.

CHAPTER THREE

PHOTOGRAPHY IN THE DIGITAL AGE

"These copies are exact?"
"Oh, yes."
"So they're legal?"
Sanders frowned. "Legal in what sense?"
"Well, as evidence, in a court of law..."
"Oh, no," Sanders said. "These tapes would never be admissible in a court of law."
"But if they're exact copies..."
"It's nothing to do with that. All forms of photographic evidence including video, are no longer admissible in court."
"I haven't heard that," I said.
"It hasn't happened yet," Sanders said. "The case law isn't entirely clear. But it's coming. All photographs are suspect these days. Because now, with digital systems, they can be changed perfectly. Perfectly."

- Michael Crichton, *Rising Sun*, 1992.

As noted earlier, misrepresentation by photographs has occurred since the invention of the camera: photographers have had opportunities to alter their images since 1839, and suspicions about the medium did not wait the end of the twentieth century to develop. However, the appearance of digital imaging technology has made manipulation easier, faster, more accessible, more systematic, and more difficult to detect than ever before. According to the *Wall Street Journal*, in 1989 already, digitally retouched or altered photographs represented 10% of all the published color photographs in the United States (in de Mul, 1997: 45). With this technology, changes can be blended so convincingly, that even experts have a difficult time distinguishing what is real from what has been created. Moreover, digital imaging allows just about anyone with a computer, a scanner and/or a digital camera, basic software, and a little training to manipulate photographs, making the imagined, real.

Nevertheless, the most dramatic change implicated by the technology is that computer imagery makes it possible to retouch and synthetize new images with "lifelike realism" (Reaves, 1987: 23). As a result, the computer can create photography-like images from scratch, generate images of human beings or

objects and simulate reality. What are the possible consequences of this technology? Can it create problems and what are the implications in terms of photography's status of a truthful representational mode? These are some of the questions this chapter intends to address. However, the first aspect to consider is how the technology got this far.

Brief History of the Development in Digital Imaging

According to Andy Darley, the production and manipulation of images by computer has a short history (Darley, 1990: 39). As Dale O'Dell explains in his article "Computer-manipulated Imagery: Is it Photography?", qualitative changes in the manipulation of photographic imagery occurred when computers were introduced in the early 1960s. By the 1970s, a small market had developed for computer-generated imagery despite the fact that the equipment was slow, astronomically expensive and as a result only available to a few (O'Dell: HREF). During the next decade however, the amount of computer-imagery grew tremendously as did the availability of good, cheaper equipment. However, the technology was not yet affordable to a mass audience and was still intended for professional and industrial use. For instance, photographic companies such as Kodak, Canon, and Nikon, developed and started to market cameras which recorded images directly on floppy disks for the professional fields of imaging (Mitchell, 1992: 17-8). The 1990s finally allowed the general public to afford the technology that would allow them to manipulate photographs. Personal computers began to offer the power, speed and memory necessary for image-processing work, whereas software companies launched software with capabilities previously available only to image-processing professionals.

The democratization of image processing is perhaps best symbolized by the introduction of the image-editing software Photoshop, by Adobe. First developed as Barneyscan XP in the late 1980s by Thomas and John Knoll for use with a scanner, Adobe bought the rights to the software from the Knolls and launched Photoshop 1.0 in 1990 (Salgado, 1997: HREF). Today, Photoshop is the world's best-selling professional image-editing product: the latest market share figures confirm the software's dominance: 87.7% for Windows, 85.2% for Macintosh. Moreover, Photoshop is one of the most popular pieces of software on the market with a professional version that costs

$500 and a consumer version at $50. Constantly improved with new features the last version, Photoshop 5.0, was introduced in May 1998. Other similar image manipulations programs include Pixel Paint Professional, Digital Darkroom, ArcSoft PhotoMontage, and Corel Photo-Paint.

However, it is the introduction, in the 1980s, of digital retouching equipment by companies such as Hell GraphicSystems, Crosfield and Scitex Corporation Ltd.[33], that gave newspapers, magazines, and book publishers the ability to manipulate photographs that were originally intended to be classic, documentary accounts of real events (Lester: HREF). As a result, Scitex has became part of the routine of art directors' and photo editors' work and as Brian Winston remarks in *Claiming the Real*, the word itself has became a synonym for digital retouching: "The technology for digital image manipulation is rapidly becoming a fixture in all newspaper and magazine offices. In the United States, the pioneering commercial device's brand-name, 'Scitex,' is a synonym for the whole process, much like 'hoover.' As a verb it is already a term of art — 'to scitex,' meaning to retouch digitally" (Winston, 1995: 5).

Scitex technology allows not only photographic images to be scanned into a computer to be retouched electronically, but also to have the final pictures ready for printing, something that saves magazines and newspapers a considerable amount of time and money. Nevertheless, once the picture is scanned, perfection is only a couple of mouse clicks away and photo editors can track down the subtlest imperfections, thus attaining incredible levels of flawlessness. If such process can be compared to the work of the first retouchers, one has to realize that the capabilities of digital retouching are far more sophisticated. With this technology, Harrison Ford's facial scar can disappear on the cover of an issue of *Premiere* magazine and Jodie Foster can get her bellybutton moved a full three inches for a portrait in the pages of the same magazine. For a *Rolling Stone* cover, Demi Moore can have all traces of facial hair, wrinkles and stretch marks removed while losing about an inch from each hip in the process. Michael Moore can have his nails digitally manicured for the cover of his book *The Big One* while Saddam Hussein gets his moustache

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[33] Founded in 1968, Scitex Corporation Ltd., the most prominent company involved in the image-manipulation industry, allows publishers to do their own prepress work, perform color correction and retouching operations in-house. In the company's words, the computer-based image processing technology offers: "advanced systems running on standard computers and dedicated workstations for *image manipulation* and editing (assembly, retouching, airbrushing and special effects)" (<http://karatpress.com/scitex.htm>, my emphasis).

digitally trimmed on the September 11, 1990 cover of *The New Republic* to heighten his resemblance to Adolph Hitler. However, alterations can go way beyond these simple touch-ups: one of the reasons Scitex is well known amongst picture editors, is due to its ability to create a composite photograph from two images, quickly, efficiently and seamlessly. Once again, if the principle is similar in nature to double printings, there is no comparison possible in terms of the results one can obtain with computer generated images. However, I shall examine in more depth these differences later in this chapter as I would like first to determine the possibilities of digital imaging and explain how the technology works.

Now, at the end of the twentieth century, the hardware - computers, scanners, digital cameras, is becoming increasingly affordable and common. Coupled with more and more powerful and easy-to-use software, the capture and editing of visual data is in almost everyone's reach. Whereas just a few years ago, creating a convincingly altered digital image required the efforts of a specialist using sophisticated equipment, it now can be easily accomplished by a hobbyist with a home computer (McCarvel, 1995: HREF). Just as personal computers democratized skills like typesetting and page design, the last decade has brought the possibility of photo editing onto millions of desktops.

Characetristics of Digital Imaging Technology

Digital manipulation is made possible by first digitizing visual images. This means to translate them into a format the computer can handle. This translation is achieved by scanning the photograph into a computer, a process which turns the image into an arrangement of thousands or millions of electronic digits, better known as "pixels" (picture elements). The particular position, tone and brightness associated with each pixel is then captured as a series of digital ones and zeros, the format readable by computers, and this information is stored in the computer's memory. Another method to enter an image into a computer is to use a digital camera which captures initially the image in digital form, making them easier to manipulate.

Once the picture is stored in digital form in the computer, a pixel (or a group of pixels) can be altered, moved or have its color, brightness and other characteristics duplicated, deleted or otherwise manipulated by making the appropriate changes to the various ones and zeros representing those

characteristics. Sections of a photograph can be cloned, and subtle details such as color, contrast, light, and shadow may be adjusted (McCarvel, 1995: HREF). With an imaging program such as Adobe Photoshop, the palette of techniques available to visual creators to control and modify appearances exists with a variety that was never so powerful, diverse, easy and fast. If a comprehensive description of the current technology used to alter visual images is beyond the scope of this paper, a general summary of some of this technology may help put relevant issues into context (for an almost complete spectrum of possible interventions into the photographic image, I direct the reader to Mitchell's *The Reconfigured Eye* which contains an in-depth analysis of them.).

One of the most spectacular techniques made possible on the computer is known as "object cloning." This technique, which is based on importing groups of pixels from one image into another image, enables striking compositions such as transposing Sylvester Stallone and Groucho Marx into the historical photograph taken at the end of World War II in Yalta (see figure 18). "Color cloning," which consists of changing the color, contrast and brightness of groups of pixels, is the procedure that was used by *Time* magazine for their infamous 1994 cover photo of a severely darkened police mug shot of O.J. Simpson. Moreover, by duplicating groups of pixels within the same image, advertisers can cover up the facial blemishes of a model or erase undesirable elements from a photograph. Such operation was performed for instance by the *New York Post* which eliminated the name of the sponsor, a competitor, on the placard of a race winner. In addition color cloning allows to extend a photograph above its original limits ("reverse cropping"). Groups of pixels can also be deleted from an image and replaced with other objects. This process, similar in its principle to Rejlander's and Robinson's double prints, is one of the most commonly used by photo-editors when they need to create the image they do not have, without having to make complicated arrangements. For instance, when *Newsweek* wanted a picture of *Rain Man* stars Tom Cruise and Dustin Hoffman for a 1989 cover and one was in Hawaii while the other was in New York, they simply shot the two actors separately and later combined the two photographs. The result gave not only the false appearance of a single cover shot, but also showed a certain chemistry between the two stars that may or may not have been obtained during a more traditional photographic session. This technique is usually utilized to create visually appealing illustrations and

should not be considered as "photographs," but more as photo-illustrations or "photofiction" as some call them. Examples of this process can be found on the *Time* cover which featured actor John Travolta apparently "posing" in front of the American flag to accompany an article on the movie *Primary Colors* (see figure 19), on another *Time* cover which showed a picture of a pig's head on top of a man's body to illustrate a story on male piggishness, or in the image of Bill Clinton with his pants down to his ankles *Esquire* carried, to well, guess what... (see figure 20). As Trisha Ziff remarks in "Taking Back New Ideas to the Old World," "the computer is an excellent medium for collage: cut - edit - copy - paste - merge, etc." (Ziff, 1991: 132).

To sum it up, almost anything can be accomplished with the right "tools," and as a matter of fact, changes can be blended so convincingly, that it has became increasingly difficult to distinguish what is real from what has been modified — especially since the changes are usually subtle and insidious. If the naked eye is usually able to discern enough to locate the inconsistencies of manually altered visual images, it is almost impossible to do so with digital images since the computer can locate the unnatural disparities between groups of pixels, and then automatically "smooth out" and fix these inconsistencies. Therefore, digital manipulations are especially difficult to detect for the untrained eye and, as Fred Ritchin remarks in his essay "The End of Photography as We Have Known It," we hear "of such manipulations [...] through word of mouth, since publications do not usually broadcast such modifications" (Ritchin, 1991: 13). This last claim, however, if probably true at the time Ritchin was writing, can be challenged, almost a decade later. Indeed, it has now become common for magazines to credit the person who performed the manipulation and to detail it. This is especially the case for cover photographs. It has not yet been generalized to every picture — though it would be interesting to see in a fashion magazine the list of all the retouching performed on the photograph of a model, next to the list of the make-up and clothes worn.

Before examining in greater detail the issues involved in the use of digital imaging, I would like to provide the reader with some examples that have surfaced within the print media; famous examples of photographs that have been "fixed" to make their composition perfect or adjusted to match the written text.

18. Object cloning:
Paul Higdon/NYT Pictures. "Sylvester Stallone and Groucho Marx at Yalta."

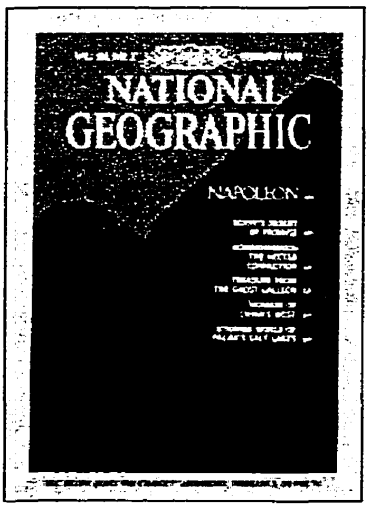
19. "Light! Camera! Action!" *Time*. 1998.

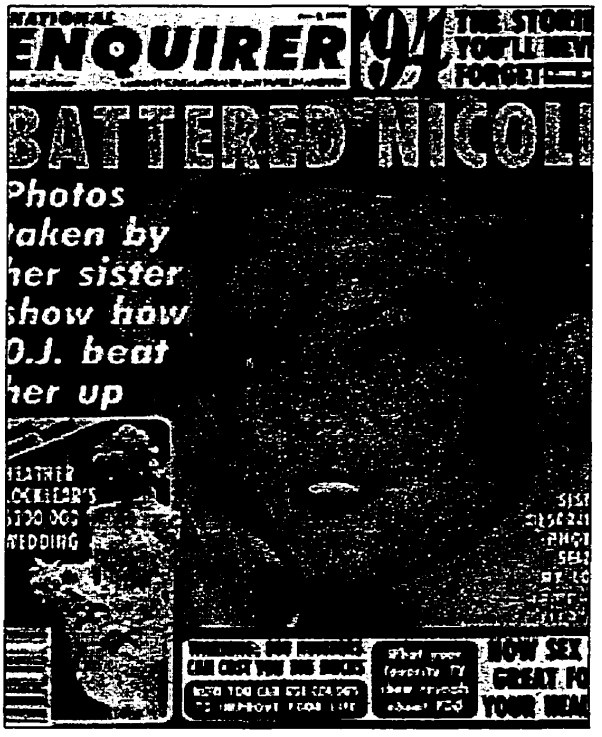
20. *Esquire*. April 1998.

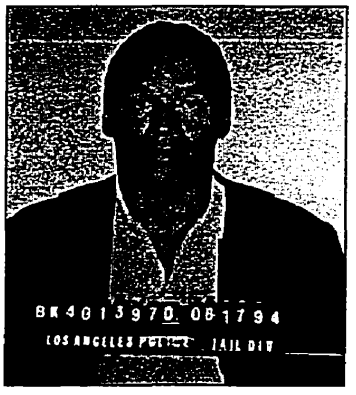
The headline on the cover of the *National Enquirer* read: "Battered Nicole: Photos taken by her sister show how O.J. beat her up." The tabloid showed the photo of a Nicole Simpson apparently severely beaten up, her forehead and left cheek covered with blotches and her eyes bloodied and swollen. However, the smaller type below the picture read: "Sister describes photos seized by cops - computer re-creation." The picture had been doctored to achieve the description given by the victim's sister (see figure 21 and Kobré, 1995: HREF). If one can unfortunately expect this kind of action from a tabloid, what should be said about more "credible and serious" publications when they adopt similar processes to offer an enhanced representation of reality to their readers?

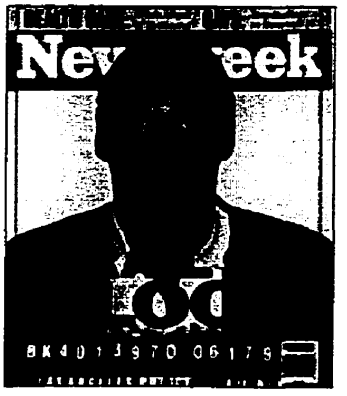
One of the most notorious examples of image manipulation involving a reputable magazine is provided by *National Geographic*. In February 1982 , the editors of the magazine used the beginning Scitex technology to move electronically one of Egypt's great pyramids, bringing its apex inside the magazine's yellow frame, in an effort to improve the composition. Former editor Wilbur Garrett argued the decision in a *New York Times* letter to the editor to point out that the effect would have been the same if the photographer had moved over a couple of feet. However, two months later, another manipulation was performed when the magazine put on its cover the image of a Polish man with part of his hat grafted from a second photograph. These two incidents, which were widely publicized, were perceived as deceptive by many disappointed readers who had relied on *National Geographic*'s reputation for accuracy (see figure 22). As a result, the magazine announced that digital retouching would not be used in the future and admitted that it got carried away by the possibilities offered by the new technology. A spokesperson for the monthly declared: "Scitex will never be used again to shift any of the Seven Wonders of the world" (in Winston, 1995: 5).

Almost a decade later, *Time* magazine created what might be considered the biggest ethical controversy in the history of digital manipulation with its 1994 cover depicting a severely darkened O.J. Simpson (see figure 23). The infamous cover was perceived as racist and offensive to many Americans, but for the editors of the magazine it was only meant to be a kind of "visual dramatization." However, the week after *Time* ran the incriminating "photo," Jim Gaines, the managing editor, apologized for confusing the magazine's









21. "Battered Nicole: Photos taken by her sister show how O.J. beat her up." National Enquirer. 1995.

22. "Egypt's Desert of Promise." National Geographic. February 1982, vol. 161 no. 2.

23. "An American Tragedy". O.J. Simpson's mug shot as it appeared on the cover of *Time*. June 27, 1994. Credit for the cover states: Photo-illustration by Matt Mahurin.

24. O.J. Simpson's mug shot as taken by the Los Angeles Police Department.

25. "Trail of Blood". O.J. Simpson's mug shot as it appeared on the cover of *Newsweek*. June 27, 1994. Credit for the cover states: Photo by Los Angeles Police Department.

audience: "If there was anything wrong with the cover, in my view, it was that it was not immediately apparent that this was a photo-illustration rather than an unaltered photograph; to know that, a reader had to turn to our contents page or see the original mug shot on the opening page of the story" (see figure 24 and Gaines, 1994: 40). Although Gaines claims that there is a clear difference between a photograph and a photo-illustration, it is doubtful that the difference is always obvious to the lay public. However, in this case, the manipulation was indubitable since the same week another magazine, *Newsweek*, utilized the same mug shot, but not retouched for its cover (see figure 25).

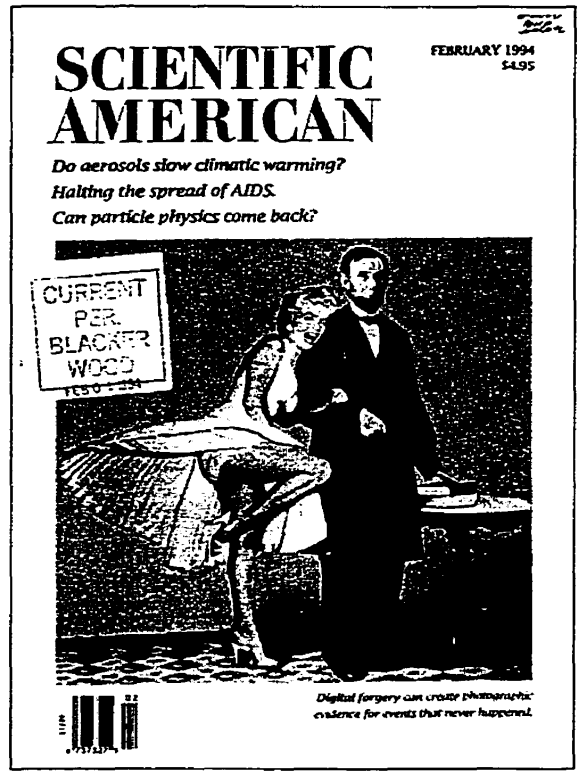
Another notorious photograph which illustrates the difference between photograph and photo-illustration, is the one *New York Newsday* published of rival skaters Tonya Harding and Nancy Kerrigan practicing together (see figure 26). The situation depicted could not have happened at the time the picture was taken since practice started on the day the image was published. However, thanks to electronic imagery the sensationalist shot was composed.

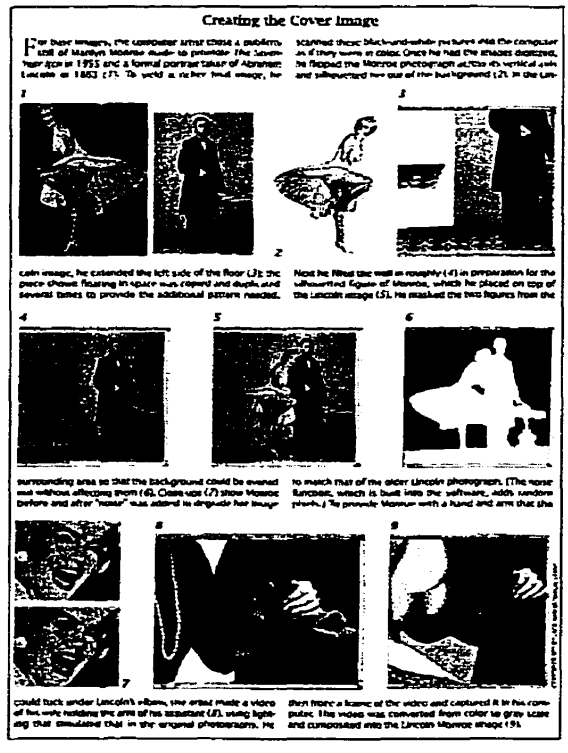
Several publications have demonstrated the possibilities offered by the technology. In 1990 for instance, *Newsweek* hired R/Greenberg Associates, an advertising agency to create a photograph of a dinner party which featured Ronald Reagan, Donald Trump's fiancée Marla Maples, Libya's dictator Mohammar Khaddafi, the Queen of England, and Elvis Presley (Alter, 1990: 44). Obviously, since Maples was probably still a toddler when Presley died, there was no chance that these people had ever gotten together. Nevertheless, this was impossible to tell solely from the picture. Every detail was perfect and the false picture produced by the agency was realistic and could convince anyone that the scene had really happened. In 1994, *Scientific American* declared that digital technology had subverted the certainty of photograph as evidence and to prove their point, they offered on their February cover a "photograph" of Abraham Lincoln, arm-in-arm with Marilyn Monroe (see figure 27). Inside, they demonstrated how using an off-the-shelf Macintosh with easily available software, they were able to bring together the president, who died in 1865, with the movie star, who died in 1962 (see figure 28). These two experiments are interesting because they not only reveal the capacities of digital manipulation, but they also suggest that the ability to discern truth from fabrication relies more on what one knows than on what one sees. As Mitchell notes: "Increasingly, our capacity to sort visual facts from falsehoods will rest on

The composite in New York Newsday showing Tonya Harding, left, and Nancy Kerrigan as they "appear to skate together" has touched off a debate over standards and integrity in journalism.

If a news picture isn't true, then what about the words around it?

26. "Fire on Ice". New York Newsday. February 16, 1994.





27. "Digital Forgery Can Create Photographic Evidence for Events that Never Happened". *Scientific American*. February 1994, vol. 270 no. 2. Computer art by Jack Harris/ Visual Logic.

28. "Creating the Cover Image". *Scientific American*. February 1994, vol. 270 no. 2, pp. 72. Computer art by Jack Harris/ Visual Logic.

our ability to cross-check the visual evidence against established knowledge and beliefs" (Mitchell, 1994: 73). This means the end of the "seeing is believing" era and the beginning of a more critical approach towards visual evidences.

Once a photograph, or even elements of it, is stored in a computer, we gain unprecedented control over it. We can change, distort, or rearrange a photograph without damaging the original. This control has interesting consequences in a Baudrillardian perspective. As Jos de Mul remarks in his article "The Virtualization of the World View: The End of Photography and the Return of the Aura," Baudrillard's simulation theory "is a real option in the digital domain" (de Mul, 1997: 53). For the author of *Simulacra and Simulation* the successive phases of the image are:

> It is the reflection of a profound reality;
> it masks and denatures a profound reality;
> it masks the absence of a profound reality;
> it has no relation to any reality whatsoever: it is its own pure simulacrum (1994: 6).

The examples from the *National Geographic* and from *Time* clearly "mask and denature a profound reality," while the *New York Newsday*, *Newsweek* and *Scientific American* illustrations "mask the absence of a profound reality." Indeed, in these cases what was pictured had simply never occurred. Reality is being dismissed to the profit of an edited one to give the public "perfect" images.

WHAT DIFFERENTIATES DIGITAL FROM ANALOG?

Other than unlimited techniques of manipulation, several characteristics differentiate conventional photography from digital imagery. Prior methods of alteration such as collages, airbrushing, cropping, change of brightness, etc., could take a skilled craftsperson many hours or days to accomplish and despite a tedious and expensive process, the final result was never guaranteed (Ritchin, 1990: 28-9). Now, thanks to the "electronic darkroom," the same changes can be achieved in a fraction of the time. Manipulations which previously would have been the outcome of several months' apprenticeship in the chemical darkroom are now a matter of days, and in some cases they can be made almost instantaneously (Salgado, 1997: HREF). Another advantage for editors and photographers is that, unlike traditional methods of retouching which required

waiting for new prints to see the result of the changes, modifications performed digitally can be witnessed immediately on the monitor (Reaves, 1987: 24). As a result of these gains of time, the use of digital retouching is spreading and is now used almost systematically. In fashion magazines for instance, before the apparition of the technology, only the cover and a few "important" pictures used to be retouched, whereas today almost all of them are (Tannen, 1994: 44). Another important change inherent to digital imaging is that no film or paper is necessary in the capture or storage of images. This implies that there are no originals in the sense of a negative. Moreover, once the image has been digitized, the file can be copied and reproduced endlessly, without loosing any of its quality or resolution contrary to other methods of reproduction such as photographs of photographs or photocopies. With digital technology, the reproduction is always the same and is always perfect. Moreover, as Mitchell notes, "computer files are open to modification at any time, and mutant versions proliferate rapidly and endlessly" and "the lineage of an image file is usually untraceable, and there may be no way to determine whether it is a freshly captured, unmanipulated record or a mutation of a mutation that has passed through many unknown hands" (Mitchell, 1992: 51-2).

This aspect of digital photography, reproduction, parallels Walter Benjamin's 1936 classic account of the impact of photography upon the handmade image ("The Work of Art in the Age of Mechanical Reproduction") and as a result many commentators have underlined the importance of this text to estimate the impact of digital technology upon photography. This affiliation is particularly visible in titles such as *PhotoVideo: Photography in the Age of the Computer* (Wombell, 1991), "Photojournalism in the Age of Computers" (Ritchin, 1990), "The Work of Culture in the Age of Cybernetic Systems" (Nichols, 1988) or the even more obviously inspired "The Work of Art in the Age of Digital Reproduction" (Davis, 1991-5). Why is a sixty-year-old essay mentioned on such a regular basis? To answer this question we have to first examine Benjamin's propositions.

In "The Work of Art in the Age of Mechanical Reproduction" Benjamin examines photography's capacities to reproduce mechanically handmade images and stipulates that inevitably the medium is meant to threaten the work of art, as its "aura" or uniqueness is being eliminated by mass reproduction:

> Even the most perfect reproduction of a work of art is lacking in one element: its presence in time and space, its unique existence at the place where it happens to be. This unique existence of the work of art determined the history to which it was subjected throughout the time of its existence. This includes the changes which it may have suffered in physical condition over the years as well as the various changes in its ownership. The traces of the first can be revealed only by chemical or physical analysis which it is impossible to perform on a reproduction; changes of ownership are subject to a tradition which must be traced from the situation of the original (Benjamin, 1936: 220).

Moreover, the Marxist critic points out that mechanical reproduction "substitutes a plurality of copies for a unique existence" (Benjamin, 1936: 221), something which might have a disintegrating effect on "originality" itself.

What happens in the digital era, or post-photographic as some call it, is that there is no more a distinction between "original" and "reproduction." As Douglas Davis, a veteran in the New York art world and a pioneer in the use of new media in the visual arts, puts it floridly: "The fictions of 'master' and 'copy' are now so entwined with each other that it is impossible to say where one begins and the other ends, resembling lovers folded together in ecstasy" (Davis, 1991-5: HREF).

On the one hand this means that Benjamin's prediction that the aura disappears with mechanical reproduction is verified in the digital age. On the other hand, however, many commentators examine the properties of digital imaging and differentiate it from analog photographic reproduction. For instance, because digital images, supposed to be "original," are nothing more than a table of numbers, to copy a number is nothing else than the very same number. There is not a "real" double, but more a second "original." If a number is changed, the image is obviously modified, but in the sense that it is another one, as original as the first one (Huriet, 1998: HREF). This entices philosopher Jos de Mul to affirm that the end of photography signifies the return of the aura. According to him, as synthetic digital photography creates "fundamentally infinite variation and transformation of the original, a return of the aura takes place" (de Mul, 1997: 54-5). Digital reproduction means the death of the mechanical copy, not the original's. Mitchell supports this when he writes: "If mechanical image reproduction substituted exhibition value as Benjamin claims, digital imaging further substitutes a new kind of use value — *input* value, the capacity to be manipulated by computer — for exhibition value" (Mitchell, 1992: 52). As a result, one can argue that the concept of

manipulation itself does not make sense in the digital era since the manipulation of an image implies the existence of an original, intentionally transformed to create a message, that is an original, authentic and a copy.

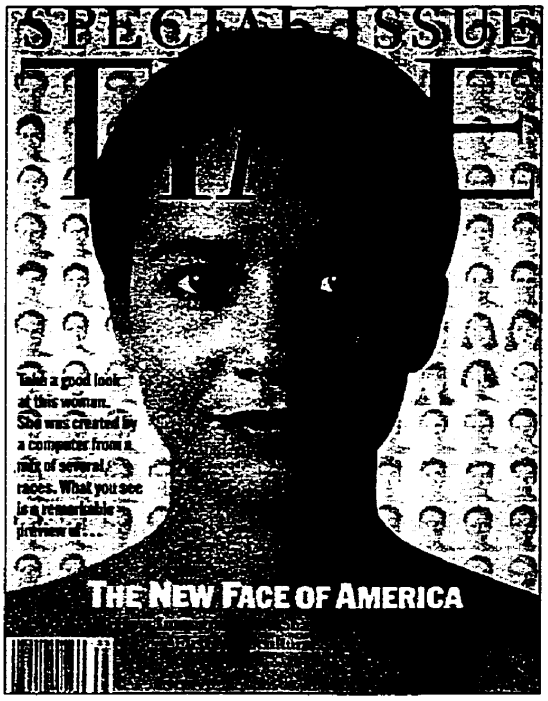
Nevertheless, the most important aspect of the reproduction of the digital and the digitalized images might be that it facilitates, accelerates, and effects the kinds of dispersals postmodern critics assert, assuring the plenitude of copies.

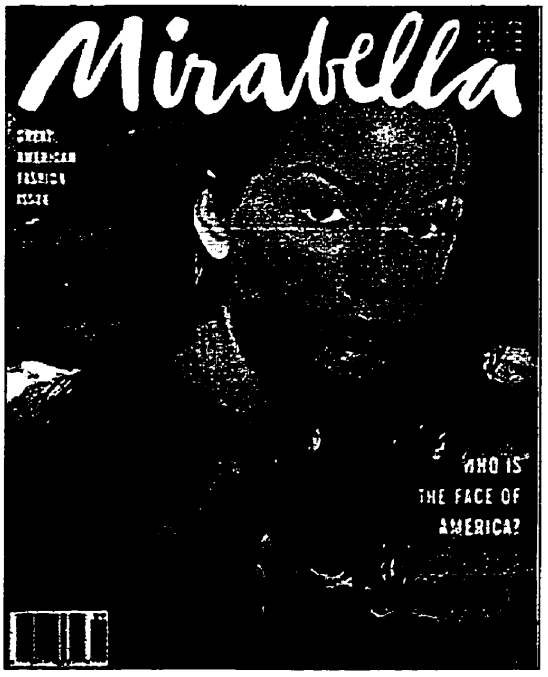
"THAT-HAS-NEVER-BEEN" OR THE DISAPPEARANCE OF THE REFERENT

As we have seen previously, an important aspect of photography that has been emphasized to proclaim the veracity of the photographic image is based on the belief that there is always a referent; that something similar to what is depicted exists outside of the frame of the picture. It is the existence of this referential characteristic — that Barthes calls the "*That-has-been*" — which is greatly challenged by digital photography.

In the Fall of 1993, *Time* magazine featured on the cover of a special issue, a photograph of "The New Face of America." The young woman represented illustrated a story entitled: "The New Face of America: How immigrants Are Shaping the World's First Multicultural Society." A side bar revealed the origin of the model: "Take a good look at this woman. She was created by a computer from a mix of several races. What you see is a remarkable preview of... The New Face of America"(see figure 29). This cover girl, symbolically named Eve, was generated from the photographs of seven women and seven men of various ethnic and racial backgrounds by Kin Wah Lam. The Asian-American computer specialist, dubbed a cybergeneticist, used Morph 2.0, a professional, easy-to-use morphing software (Hammonds, 1997: 116). The editors resorted to this process as a way to, in the words of managing editor Jim Gaines, "dramatize the impact of inter ethnic marriage, which has increased dramatically in the U.S. during the last wave of immigration" (Gaines, 1993: 2).

Employing a similar technique (and a similar designation), *Mirabella* magazine created an artificial model, "an extraordinary image of great American beauty," for the cover of their September 1994 issue (see figure 30). As the caption near the photograph teased the reader with the question: "Who is the Face of America," the editors gave the following clues in the contents page of the magazine:





29. "The New Face of America". Time. Special issue Fall 1993, vol. 142, no. 21. Photographs for Time by Ted Thai. Morphing by Kin Wah Lam, Time imaging specialist.

30. Hiro. "An Extraordinary Image of Great American Beauty". *Mirabella*. September 1994.

31. Visual Science Laboratory. "Kyoko Date, the first 'virtual idol'". 1996.

We asked the distinguished photographer Hiro to come up with a cover personifying today's all-American beauty. We thought it should be someone who represents the diversity of this country. We know that Hiro called in models - not famous faces, but beautiful faces, of all ethnicities. And, after an extensive search and painstaking work, he did present us with an extraordinary image of great American beauty. But who is she? Hiro's not telling. He will say only that she has never been photographed before and that she's not with any modeling agency. And, she's impossible to reach. He hints that she's something of a split personality. And he says, with a smile, that it wasn't easy getting her together. Maybe her identity has something to do with the microchip floating through space, next to that gorgeous face. America is a melting pot. And true American beauty is a combination of elements from all over the world. Is our cover model representative of the melting pot? All we're sure of is that her looks could melt just about anything (Mirabella, 1994).

It is no surprise that the model was "impossible to reach," nor that she was not easy to get together since the *Mirabella* cover was in fact a composite picture created by combining the pictures of six different women. The best eyes from one model were added to the best "bee sting" lips of another, etc., to create the perfect face which, as a result, has no correlation in reality.

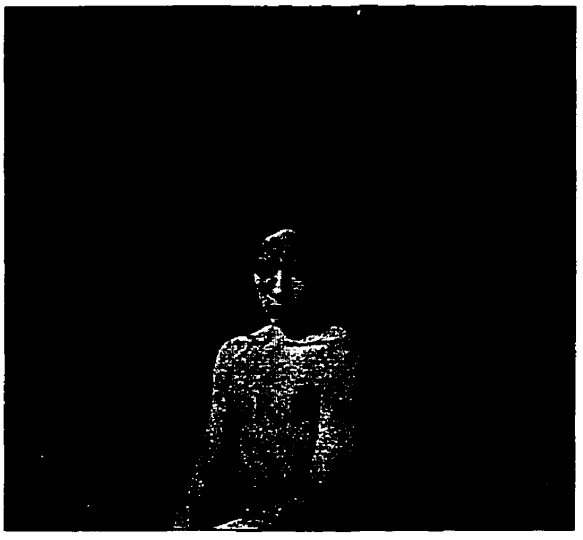
In 1996, the Visual Science Laboratory (VSL), a Japanese computer software company, went even further when it generated a nonexistent image through computer technology. The very sophisticated facsimile of a young woman was designed from scratch by VSL for Horipro, a talent agency and Kyoko Date, also known as DK-96 or "the first virtual idol," was made thanks to the latest computer technologies (see figure 31). In addition, VSL created her an ideal face. In the beginning, the project team started by imitating actual celebrities' features, but quickly changed direction and decided finally to fashion a completely imaginary look for their virtual pop-star (Visual Science Laboratory, 1996: HREF).

Kyoko Date is interesting because "she" is pure simulation in Baudrillard's sense of the term. That is, she was created through "the generation of models of a real without origin or reality: a hyperreal" (Baudrillard, 1994: 1). Eve and the *Mirabella* cover girl are only an amalgam of features that directly reference the real without necessarily being real. Their physical features are a combination of those of real people, which have been subsequently mixed together to create their idealistic virtual faces. Both models owes their "genes" to human models, whereas Kyoko Date comes from her creators' imagination.

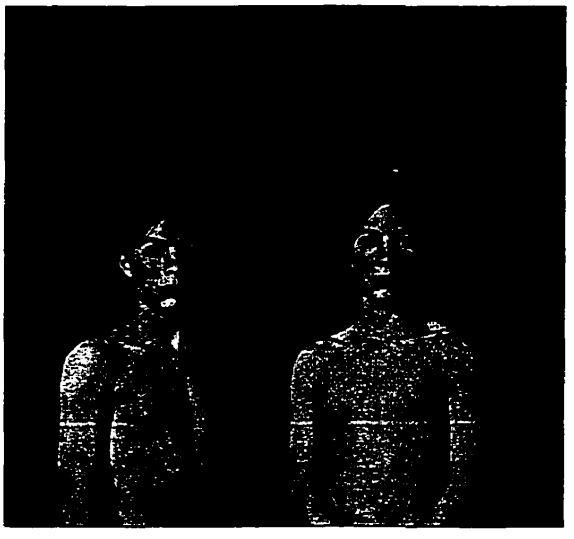
San Fransisco-based artist Keith Cottingham's work perfectly illustrates

this loss of origin or referent with his three portraits entitled *Single*, *Twins* and *Triplets* from the *Fictitious Portraits* series (see figure 32). If these images look at first to be studio portraits of what their respective titles indicate, they are not. They are digitally constructed color photographs, composed and constructed representations, and their subjects do not coincide with any physical person. Cottingham's subjects do not exist, never have, and most probably never will. Even though they appear soulful and real, these portraits depict fictitious beings. The illusion, however, is total and due, firstly to the belief that photography is a representation of reality, and secondly, to the long tradition of portraiture. By mimicking this genre, Cottingham shows how elastic the label "realism" is (Cottingham, 1996: 162). Moreover, for the artist: "These seemingly formal portraits foreground human reality as construction, as the product of signifying activities which play upon the body" (Cottingham, 1996: 164). Cottingham is making an important statement, core to postmodern thinking: the construction of the subject and reality.

As we can see, in their essence these *Fictitious Portraits*, the *Mirabella* cover girl, Eve and Kyoko Date contradict Barthes' concept of the mandatory existence of a photographic referent, the famous "there-has-been". None of these "models" have ever been placed in front of the lens of a camera. The fact that someone's representation exists is no longer absolute proof that the person behind it exists. It may have been electronically manipulated, or even computer generated, and no actual original may have ever even existed as is the case with Kyoko Date or Keith Cottingham's subjects. As it has already been mentioned in this paper, twenty years ago, Sontag noted that "the picture may distort; but there is always a presumption that something exists, or did exist, which is like what's in the picture" (Sontag, 1973: 5). With digital imaging technology this is no longer true. Therefore, Sontag's assumption and Barthes' concept of the thing "*That-has-been*," are clearly contradicted by digital photography. Paraphrasing him, one could claim that unlike analogue photography, digital photography, does not have the power "to compel [us] to believe its referent had really existed" (Barthes, 1981: 77). As Edmond Couchot remarks in his essay "The digital systhesis of the image," digital images present rather something which "might be" than something that "once was" (in Itoh, 1994: HREF). In the world of computer manipulation, reality itself can be dismissed or made up according to the operator's fantasy.



Untitled (Single)



Untitled (Double)

Untitled (Triple)

32. Keith Cottingham. *Fictitious Portraits* series. 1992. Digitally constructed color photographs. Fine Arts, New York.

Furthermore, the lack of evidence to substantiate the principle of the referent will become more evident as the technology develops. As Fred Ritchin, a former director of photography for *The New York Times Magazine* and the founding director of the photojournalism program at the International Center for Photography, observes in his essay "Photojournalism in the age of the computers," "This last technique — creating a 'realistic' image from scratch with a computer — is perhaps the most revolutionary in its implication because it allows the generation of imagery according to mathematical application that simulate reality"[34] (Ritchin, 1990: 32). As a matter of fact, the electronic image fulfills the condition of what Baudrillard has termed the "simulacrum" — it is a copy of which there is no original: the referent has disappeared and has been replaced by a simulacrum. Therefore, it is important to realize that this aspect of digital photography shifts the debate of photo-manipulation from questions such as "Is it true or false?" to questions such as "Is it real or not?".

Rethinking Photography and Representation

The digitized picture has broken the relationship between picture and reality once and for all. We are entering an era when no one will be able to say whether a picture is truth or false. They are all becoming beautiful and extraordinary, and with each passing day they belong increasingly to the world of advertising. Their beauty, like their truth is slipping away from us. Soon, they will really end up making us blind.

- Wim Wenders

As it has been demonstrated previously, photographs have never been entirely objective representations of reality. Their historical use as evidence and reliable documentation has always been in contradiction with practices of manipulation in the fields or portraiture, advertising and art. Nevertheless, their reputation for fidelity has managed to remain largely intact in the popular imagination, and unless a photograph has some form of obvious inconsistency, it will be believed. As a society, we continue to grant a strong presumption that a photograph is undeniable evidence that a particular event, object or person once existed materially as depicted (McCarvel, 1995: HREF). As the preliminary remarks on the project "Photography after Photography" reminds us: "Although we know better, our customary reflex still persists in attributing the usual reality-content to images which have a photographic semblance"

[34] Almost a decade later, the technology has progressed to the point where digital human beings can be created with the highest realism. Generic Modelling and Media is for instance one of the companies that specialize in this field. Possible applications include facial identification.

(Amelunxen, Ighlhaut, and Rötzer, 1995: 10). Even though postmodern theorists have long rejected this assertion of truth value for the photographic image, Arthur Kroker and Michael Weinstein note that "the "pencil-of-nature idea" still persists (Kroker and Weinstein, 1994: 111), while Peter Lunenfeld argues that "the very fury of the debate over digital imaging proves that the public sphere still holds the evidentiary nature of photography in high regard" (Lunenfeld, 1996: 95).

In 1994, James E. Kelly and Diona Nace conducted a study, entitled "Digital Imaging & Believing Photos," in which they investigated, amongst other themes, the way knowledge of digital manipulation technology could or could not affect the level of credibility of news pictures. Even though the study did not verify the hypothesis that "exposure to [a] Photoshop demonstration will lead to lower levels of story credibility, of photo believability, and of general newspaper believability," the authors are conscious of the limit of their experiment: "Our videotape simply stressed the capabilities of the software generally. Had it also shown examples of retouched photographs published by reputable newspapers and magazines, the effect might have been stronger" (Kelly and Nace, 1994: 4-5). Moreover, they found that "photographs have a believability beyond that of the medium of photography itself and perhaps are as dependent on the nature of the information they present as are the words in a text story" (Kelly and Nace, 1994: 5). However, according to the two authors, people believe in photographs , "not because they are exact [an] rendering of reality," but because they match their own personal convictions (Kelly and Nace, 1994: 5).

However, as a result of the recent developments in computer simulated image-making, the traditional photographic imagery that was based on the mirror theory of representation is greatly challenged. As Graham Clarke notes in *The Photograph*: "The photograph, far from being a literal or mirror of the world, is an endlessly deceptive form of representation" (Clarke, 1997: 25). Even if the idea of manipulating photographs is far from new, as we saw earlier, the current technological innovations are raising new questions about the status of the photographic image because of their previously described specificities: speed, low cost, availability, and systematicness. Moreover, the rapid growth of computer networks, notably the Internet, facilitate the dissemination of digital images, manipulated or not, to an uncontrollable point

instigating issues of ethics and copyright. Indeed, unlike other forms of media such as newspapers, radio or television, there is no editorial control over what is diffused on the Web[35] . So how do we deal with this profusion of images? How do we discern "truth" from propaganda? And more importantly what are the implications of this situation ?

DEATH OF THE PHOTOGRAPHIC IMAGE?

One of the main consequences of the introduction of digital imaging is obviously the suspicion which surrounds the photographic image. Today, more than a century and a half after the invention of photography, many commentators are announcing the death of the medium, or more precisely the death of its privileged status as an unbiased representation of reality. For Fred Ritchin, who claimed as soon as in 1990 that "the ethical or factual problem of computer alteration arises with the greatest urgency" (Ritchin, 1990: 29), photographic integrity is at stake as digital image technology dramatically increases the possibilities of image manipulation. As he observes in his article "Photojournalism in the Age of Computers:" "The implications of this new technology are now becoming clear. In fact, the new malleability of the image may eventually lead to a profound undermining of photography's status as an inherently truthful pictorial form" (Ritchin, 1990: 28). For Anne-Marie Willis, author of the article "Digitization and the Leaving Death of Photography," the mutation visual imagery is undergoing is "as significant as the invention of photography itself" (Willis, 1990: 197) and the introduction of the new technology marks the end of photography (as implied by the self-explanatory title of her essay). As she further writes:

> In some ways we are facing the death of photography — but as in movie fiction the corpse remains and is re-animated, by a mysterious new process, to inhabit the earth like a zombie. Imagery that looks photographic will continue to exist, but its means of reproduction is

[35] The publication in September 1997 of a faked photograph supposedly depicting Diana, Princess of Wales, dying on the back of a crashed Mercedes showed the speed with which (inaccurate) information can be disseminated over the global computer network. As Amy Harmon, author of an article entitled "Phony Diana photo reignites debate on internet postings," remarks, even though the image was immediately dismissed as an hoax, several newspapers and television channels used it. Nevertheless as Harmon points out, it is important to note the internet has the reputation to often carry bad information as a result of the ease to access and transmit whatever information, true or false and as a result the credibility of the medium is rather low (Harmon, 1997: HREF).

undergoing radical changes (Willis, 1990: 198).

According to William J. Mitchell, who investigates the destruction of the truth value of the photographic image in *The Reconfigured Eye*: "From the moment of its sesquicentennial in 1989 photography was dead — or, more precisely, radically and permanently displaced — as was painting 150 years ago" (Mitchell, 1992: 20). However, more importantly perhaps, for Mitchell digital photography signifies the beginning of a new era, that of "post-photography." Artist David Hockney echoes this concern when asked about the likely effect of computer-generated imagery: "I can see it's the end of chemical photography" and "We had this belief in photography, but that is about to disappear because of the computer" (Leith, 1990: 37).

IMPLICATIONS

The most important consequence of the invasion of digital imaging is that it totally challenges the belief we had in the photograph as an accurate representation of reality, the "incontrovertible proof that a given thing happened." Photography is only a form of representation, an imitation which can always be doubted. In 1988, The Bruce Museum in Greenwich Connecticut proposed an exhibition entitled "(art)^n Laboratory: Photographic Truth" which included works by many prominent artists, such as Richard Avedon, John Baldessari, Robert Cumming, Nam June Paik, Richard Prince, Cindy Sherman, etc. This is how Nancy Hall-Duncan, the curator of the exhibition, introduced the project:

> The new capacity of photography with computer technology raises difficult issues: the viewer is no longer dependent on his eyes to tell him the "truth" but must rely on who is telling him that the evidence seen is real, a situation with complex and frightening moral implications. An even more frightening possibility attends another recent development which allows taking a still image of anything and creating a videotape in which the subject of the image can be made to perform any desired action realistically. One indication of where technical manipulation may lead in the future is the PHSCologram, a term derived from the beginning letters of photography, holography, sculpture and computer graphics. Produced by a team of artists collectively known as (art)^n , the image at no time exists in "real" space, but is instead the photographic record or pure conceptual thought (Hall-Duncan, 1988: HREF).

Digital imaging forces us to reexamine the fundamental concept of

representation, the relationship we have had with the photographic image and reconsider the medium in its entirety. This is an especially difficult assessment to make since, as we have seen earlier, we have been culturally and institutionally conditioned to believe in the photograph. However, since, as Philippe Quéau, researcher at the Paris Institut National de L'Audiovisuel, remarks "we can generate any image whatsoever, we can also use simulation to substantiate any thesis and demonstrate it by the pseudo-evidence of the visible" (in Clayssen, 1996: 74) it is important to reassess the status of the photographic image.

William Mitchell claims in the very short conclusion, entitled "Shadows on the Wall,"of his book *The Reconfigured Eye* that "the emergence of digital imaging has irrevocably subverted these certainties [the truthful nature of the photographic image], forcing us to adopt a far more wary and more vigilant interpretative stance [...] An interlude of false innocence has passed" (Mitchell, 1992: 225).

However, total skepticism and cynicism is not necessarily the best option. It has to be remembered that even though photographs can be manipulated, they can also be important visual proofs. As Ritchin remarks in "Photojournalism in the Age of Computers," if the status of photographic truth is completely destroyed and we are no longer able to rely on any kind of photographic evidence, we might as well be condemned to plain nihilicism. As he writes: "If even a minimal confidence in photography does not survive, it is questionable whether many pictures will have meaning anymore, not only as symbols but as evidence. A government will be able to deny the veracity of images of torture victims, for example — and it may be difficult to prove otherwise" (Ritchin, 1990: 37). Ritchin develops further his argument in another essay. In "The End of Photography as We Have Known It," he does not only argue that "the photograph is as malleable as a paragraph, able to illustrate whatever one wants it to" (Ritchin, 1991: 12) but also reiterates his concerns about the possible disappearance of the photograph as an evidence of anything. According to him, if this function vanishes there might be a risk that "photographs which seem to go too much against the common system [will be] automatically rejected" (Ritchin, 1991: 14). If photographic images become reflexively disbelieved, then the fact-based ability "to change world opinion even against the most powerful governments" will be lost (Ritchin, 1991: 15).

In addition, the current methods of alteration present enormous legal and ethical challenges that traditional ways of photo-manipulation did not, and most of it has to do with the ease with which one can have access to them, store them and manipulate them with a computer. Finally, as we have seen earlier, the images produced by the computer are constructed in such a way that they can simulate the appearance of a "real" photograph, without referring necessarily to anything "real," blurring the boundaries between reality and simulation.

SOLUTIONS

For Ritchin, a possible solution is to rely on photographers' ethics and "sense of honor." According to him, in the future, "the photographer will have to be considered to be the author of his or her images, responsible for the accuracy of what is in them" (Ritchin, 1990: 36). Moreover, Ritchin believes that it will be important to define photographs "under categories such as fiction and non-fiction or editorializing and reportage" and that it may become necessary "to employ a specific terminology, such as 'photo-illustration,' to differentiate physically manipulated photographs from other images" (Ritchin, 1990: 36). Finally, the former picture editor declares that any interference made on a photograph, should it be during the shooting stage (staging for instance) or later on the computer, should be clearly indicated to viewers.

Another aspect to consider is that, image manipulation, if proven, can jeopardize the credibility of its author or publisher — I believe for example that the level of dependability of *National Geographic* suffered greatly from the pyramids episode. In addition, when a fallacy is revealed, it very often generates pages of criticism and analysis, and the practice is usually condemned by media professionals themselves (the darkened O.J., the fake ice-skating practice, etc). It may well be that the media will not jeopardize their hard-won credibility for a few images and take the risk to destroy the believability of all visual images (Huriet, 1998: HREF). Therefore, one will have to depend not only on the good standing of the photographer, but also on the reputation of a given publication. Reputation of both parties will validate or not the content and authenticity of photographs.

For many critical commentators, photography should, from now on, be

regarded as the result of the photographer's expression rather than an objective representation of reality and should be treated similarly to prose description or painting[36] : Jacques Leslie, contributing writer for *Wired* suggests that a "better approach might be to remind readers to view photographs with the same healthy skepticism they apply to the written word" (Leslie, 1995: 113). Similarly, Peter Lunenfeld writes: "The digital photograph must now be treated as having the same truth value as a written text" (Lunenfeld, 1996: 95). Finally, for Max Frankel, a *New York Times* columnist: "By transforming a chemical craft into an electronic art, computers are... forcing us to begin thinking of photographs as we do of paintings - as renderings of art instead of representations of reality" (Frankel: HREF). It is kind of ironic to think that more than 150 years ago, when photography was invented, history painter Paul Delaroche (1797-1856) reportedly declared "From this day on painting is dead!"[37]. Given its coincidental connotation, this quote is unsurprisingly mentioned in most works on photography and digital imaging (see for instance Gernsheim, 1982: 45, Mitchell, 1992: 3, Batchen, 1997: 207, or Marien, 1997: 55). Less known perhaps and equally inspired, are the definitions French novelist Gustave Flaubert gave to the terms "photography" and "Daguerreotype" in his *Dictionary of Received Ideas*: the entry under "Photography" reads: "Will make painting obsolete. (See daguerreotype.)" and the entry for "Daguerreotype" reads "Will take the place of painting. (See Photography.)" (in Crimp, 1983: 51). Now at the very end of the twentieth century, we have to regard the media that was supposed to cause the death of painting more or less like a... painting.

Moreover, as a result of this confusion, there have been some suggestions to affix a symbol to all the published photographs that have been digitally altered. However, whether it is former *New York Times Magazine* photo editor Fred Ritchin's icon of a tiny crossed-out camera lens, or the "not-a-lens" symbol (a circle inside a square with a diagonal slash and a description of what was changed in the picture) proposed by a committee on photographic standards at New York University, or the Norwegian capital "M" for "montasje" which

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[36] It is interesting to point out here the way Adobe promotes its Photoshop software: "Create, paint, correct, and retouch with the 'camera for your mind'."

[37] Mitchell writes the following in his note to Delaroche's quote: "This at least, is the standard story. If it is not quite true, it should be" (Mitchell, 1992: 228n4). Naomi Rosenblum in *A World History of Photography* writes about "the much-publicized pronouncement" Paul Delaroche made "that the daguerreotype signaled the end of painting is perplexing because this clever artist also forecast the usefulness of the medium for graphic artist in a letter to François Arago in 1839" (Rosenblum 1981: 209).

is employed to signal modification, there is apparently little chance for the idea to catch on (Shenk, 1997: HREF, Leslie, 1995: 113, and in Lunenfeld, 1996: 95). Four experts, interviewed by *Wired* magazine for an article on the future of photography, were split when asked to determine if a symbol like a circled A on a photograph would become a standard to warn viewers that an image has been digitally altered. Carl Gustin, senior vice president and chief marketing officer of Eastman Kodak Company and Georgia McCabe, senior vice president of marketing and business developments of the Digital Imaging Systems section of Applied Graphics Technologies Inc. predicted its standard use within the next decade, whereas the two interviewed photographers, Bart Nagel and Rick Smolan thought it was simply unlikely to happen. As Nagel puts it bluntly: "Photographs have always lied, and this is not the time to start announcing it" (Pescovitz, 1997: 90).

For digital artist Bill Niffenegger, average media consumers need to realize that trusting what they see, whether it is a TV commercial, a movie footage, or a newspaper photograph, is naive. As he remarks: "It's like going online in a chat room. There will always be 300-pound hairy guys calling themselves 'Mary.' We just have to grow up" (DeMocker, 1998: HREF).

We are nowadays supposed to be visually more sophisticated and less inclined to accept the photographic "evidence." Indeed as Jacques Clayssen writes in his essay "Digital (R)evolution:" "Many cases of manipulated images had already been registered, but the accumulation and denunciation of certain abuses have heightened public awareness of the need to remain watchful and wary when it comes to images that belong more to the category of illustration than testimony" (Clayssen, 1996: 74). In his 1976 essay "Art, Common Sense and Photography" for the review *Camerawork*, Victor Burgin was already remarking even though "not much is known about how the media influence opinions, [...] we can be fairly sure that people aren't simply led by the nose by photographs" (Burgin, 1976: 75).

Nonetheless, photographic images appear to still affect us. Even if photographs are becoming more and more immaterial, their consequences might still be very material. Judging for example by the controversies and discussions surrounding the representation of women in the media, which alleges that the actual portrayal of women damages women's self esteem and health, it seems

reasonable to believe that the power of the photograph has not yet been fully eradicated[38] .

[38] For more information on these claims see for instance the following studies which suggest a relationship between the use of very thin models in the mass media, negative body perception and eating disorders. For instance, in a 1986 study "Some correlates of the thin standard of bodily attractiveness for women," Silverstein, Peterson and Perdue found that the years in which the number of women in managerial positions and professional positions increased, in the 1920's and late 1960's, the female body ideal, as reflected in issues of *Ladies Home Journal* and *Vogue*, became slimmer and that the thin ideal preceded the times when the rates of anorexia nervosa were highest (International Journal of Eating Disorders, 5 (5)). Lucas, Beard, O'Fallon, Kurland studied the incidents of anorexia nervosa over a 50-year period in their 1991 "50-year trends in the incidence of anorexia nervosa in Rochester, Minn.: A population-based study" and found that the cycle of the incidence of anorexia nervosa among 10-19 year-old girls paralleled the change of fashion and its idealized body image (*American Journal of Psychiatry*, 148 (7), 917-22). The results of the 1990 study "Mirror images: Effects of the standard of beauty on the self- and body-esteem of women exhibiting varying levels of bulimic symptoms" showed that all subjects experienced the greatest amount of pressure to be thin from the media (*Journal of Social and Clinical Psychology*, 9 (2), 230-42). Moreover, Stice, Schupak-Neuberg, Shaw, and Stein found a direct relationship between media exposure and eating disorders symptoms in their 1994 "Relation of media exposure to eating disorder symptomatology: An examination of mediating mechanisms" (*Journal of Abnormal Psychology*, 103 (4), 836-40).

CHAPTER FOUR

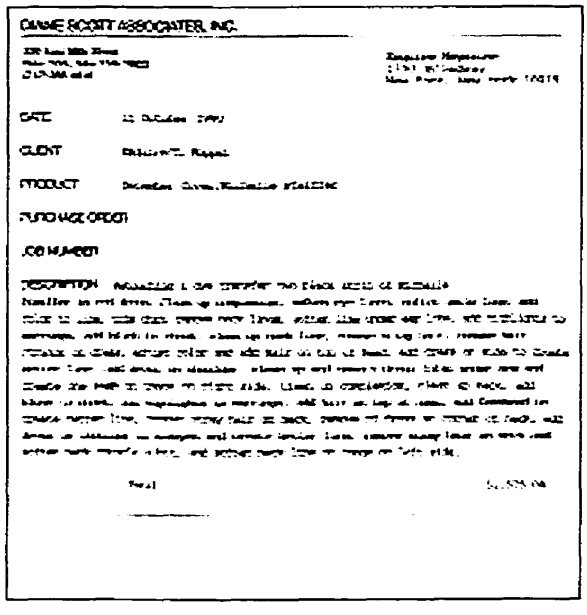
CULTURE OF MANIPULATION

We are surrounded by photographic images which constitute a global system of misinformation: the system known as publicity, proliferating consumerist lies. The role of photography in this system is revealing. The lie is constructed before the camera. A "tableau" of objects and figure is assembled. This "tableau" uses a language of symbols {...}, an implied narrative, and frequently, some kind of performance by models with a sexual content. This "tableau" is then photographed. It is photographed precisely because the camera can bestow authenticity upon any set of appearances, however false. The camera does not lie even when it is used to quote a lie. And so, this makes the lie appear more truthful.

- John Berger, *Another Way of Telling*, 1982.

As it has been demonstrated in the previous chapter, retouched and manipulated photographs are invading the media and many cultural theorists argue that digital imaging technology is menacing the real, manufacturing a world of hyperreality. Some have even talked of a crisis of representation. However, what I want to argue in this chapter is that the manipulation of photographs tells us a lot about our society's standards. The new digital procedures cannot simply be reduced to a matter of technological improvement. It is therefore important to examine how the technology is used, by whom and for what purposes. The case of women's magazines will provide the primary basis for this analysis. In addition, this chapter will present some of our society's preoccupations that seem to be substantiated by the use of electronic imaging. The preoccupations I have identified are the following: Pursuit of eternal youth, fear of death, and dismissal of biology, negation of individuality, culture of cleanliness and will to control.

In 1990, when actress Michelle Pfeiffer appeared on the cover of *Esquire* in a low cut red dress, the caption beside the photo read: "What Michelle Pfeiffer Needs... Is Absolutely Nothing" (see figure 33). Nothing, except $1,525 worth of touch-ups, as *Adbusters Quarterly* revealed five years later, a sum Diane Scott Associates, Inc. charged *Esquire* magazine for the following work, described in a purchase order obtained by Santa Cruz's Media Watch and reprinted by the "journal of the mental environment:"


DIANE SCOTT ASSOCIATES, INC.

DATE

CLIENT

PRODUCT

PURCHASE ORDER

JOB NUMBER

DESCRIPTION

Total

33. "What Michelle Pfeiffer Needs... Is Absolutely Nothing". *Esquire*. December 1990. Digitally enhanced cover.

34. Purchase order from Diane Scott Associates, Inc. 1990. Reprinted from *Adbusters Quarterly*, Summer 1995, p. 9.

Clean up complexion, soften eye lines, soften smile line, add color to lips, trim chin, remove neck lines, soften line under ear lobe, add highlights to earrings, add blush to cheeks, clean up neck line, remove stray hair, remove hair strands on dress, adjust color and add hair on top of head, add dress on side to create better line, add dress on shoulder, clean up an smooth dress folds under arm and create one seam on image on right side. Etc... (see figure 34).

Today, photographs on the cover of almost every magazine have been retouched using computer technology. For most fashion and beauty photographers, to retire to their computers, after a photo shoot, to rearrange digitally their pictures has became an integral part of their work. As Robert Newman, design director for *Details* magazine, states: "There's a lot more retouching now than there used to be" (Kennedy, 1997: HREF). If retouching, indeed, has always been around, as we have shown earlier, the new digital technology makes it so effortless and fast, that its use is becoming systematic. What used to be a privileged treatment, reserved for the cover and a few selected photographs, is now so widespread that virtually every photograph one can see in a magazine has undergone some digital modification[39] (Tannen, 1994: 44). This tendency is especially flagrant in advertising and women's magazines[40] , two fields, which unlike other genres of photography such as straight or documentary never pretended to be realistic representations. Nevertheless, the fact that the use of digital imaging technology to enhance photographs is never clearly mentioned tends to suggest that lay readers may not be aware of these practices, or at least of their extent. Even if Lucy Sisman, a former design director of magazines such as *Allure* and *Mademoiselle*, believes that readers of fashion and beauty magazines are "sophisticated enough" to know that photographs are retouched (Tannen, 1994: 44), such a claim can be challenged. As Dan Couto, a Toronto-based photographer/graphic designer who specializes in digital imaging, states:

I'm aware, because I do it for a living, that computer effects are being used in a way that

[39] The technique is so widespread that sometimes magazines are suspected to have performed more changes than they claimed to have made. For instance, *Details* raised some controversy when it was claimed that the magazine had tampered its February and March 1999 covers. The first cover, featuring Elizabeth Hurley, was attacked by several British newspapers which claimed that the actress' bust had been digitally enhanced by nearly 30 percent. The second cover, which showed Denise Richards totally nude and wrapped in a thin strip of film, was denounced by an industry insider who claimed that the actress' head had been stuck on top of another woman's naked body. According to the source, the tampering was apparent since the size of the body in the shot was entirely out of proportion to the size of the head. The magazine denied all the allegations. (Johnson, 1999: HREF).

[40] As well as men's magazines — though the images are of.... women: *Playboy* for instance is renowned for airbrushing its nudes to offer "perfect" images to its (male) readers.

(ordinary) people can't tell that these effects are being used. Every fashion story is retouched to the point where every model has perfect skin... You feel sad for Fred and Wilma who buy products thinking they'll end up looking like these images (Singer, 1998: HREF).

Even though we are said to become visually more sophisticated and less inclined to accept the photographic "evidence," photographs appear still to affect us: they can move us, make us angry, laugh, dream or even feel guilty. Some cultural critics have even talked about "the power of the image" and have studied the effects of visual images on individuals or groups. Other theorists have often observed that the representation of women in the mass media is based on imagery defined by social and cultural forces which erase any trace of reality. Borzello and al. for instance write that "from its beginnings, feminism has regarded ideas, language and images as crucial in shaping women's (and men's) lives" (Borzello and al., 1985: 2). As a result, issues about the artificiality of these images, from stereotyped portrayals to plastic surgery, have been extensively commented upon. However, it seems that few have discussed the consequences of digital imaging technology further than as simple examples. This is worth noting, considering that in comparison, every digital abuse from officially acknowledged "serious" magazines generates pages of critics and analysis (see for instance the previously discussed cases of the moved pyramids on the cover of the *National Geographic* or the darkened photo of O.J. Simpson on the cover of *Time*). Women are not the only subjects of the technology; therefore, it would be simplistic to assume these practices are, as a lot of feminists would argue, only the consequences of a patriarchal society. Pictures of men are also retouched, whether they are simple models or public figures such as movie stars or politicians[41] . Nevertheless, one has to admit the technology is performed the most blatantly and the most systematically on images of women. As we shall see later, most of the recent cases of extreme manipulation have involved women.

This chapter proposes to first identify and discuss the different levels of manipulation, from simple retouching to more sophisticated procedures such as

[41] It is worth noting that a "political variation" of cosmetic retouching exists and that it obviously involves primarily men. *Paris Match*'s editors once admitted to eventually retouch the photographs of political leaders so that they appear wrinkle-free and without disgraceful defects in their magazine. Moreover, some politicians may even require it. See for example the photograph of Stalin published to celebrate the Soviet leader's sixtieth birthday (figure 35). As David King notes: "Stalin's skin has been positively pancaked, his hair and mustache are now as smooth as a matinee idol's, and the glint in his eye is all that remains of the original (King, 1997: 98).

35. Moisei Nappelbaum. *Stalin*. 1924.
Moisei Nappelbaum. *Official portrait to celebrate Stalin's 60th birthday*. 1939. Retouched.

zipper heads. Secondly, it examines the characteristics of the manipulation made on the photographs of women and tries to understand what these procedures suggest about our society, what "myths" in a Barthesian perspective, they reveal.

Digitally-Constructed Images of Women

My waist is not thin, and my legs are not that long. As for the boobs we all know they are not real anyway. These calendar manufacturers and magazine editors all airbrush the photos to create the ideal which doesn't exist. It is ridiculous. - Jenny McCarthy

In the following section, I would like to discuss the different levels of women's digitally-enhanced photographs, as they appear in the mass media. There are indeed, different stages in image manipulation, from the moment when only simple, basic, retouching is involved — I shall refer to this kind of retouching as "cosmetic" — when the image simply "masks and denatures a profound reality" to the point where the image "masks the absence of a profound reality," (both orders of the image as defined by Jean Baudrillard in *Simulacra and Simulation*) which is when sophisticated alterations allowed by the nature of the technology are being used to generate images of women which have no relation to reality whatsoever, when the image becomes its own pure simulacrum (Baudrillard, 1994: 6). Furthermore, we shall see how digital manipulation reinforces concepts central to the postmodern discourse in terms of construction and fabrication of the image.

Computer Glamourization

The first category of digital alteration I would like to discuss, consists of basic, cosmetic touch-ups, such as the erasing of flaws, scars, blemishes, and notably wrinkles. I have chosen to refer to these practices as "computer glamourization." By using these two terms together, I want to point out that the construction of images of women descend from a long tradition. As we shall see, computers are only the latest developments in manipulating representations, and the idea of enhancing women through technology is not unprecedented.

The most blatant example of women's construction might be well

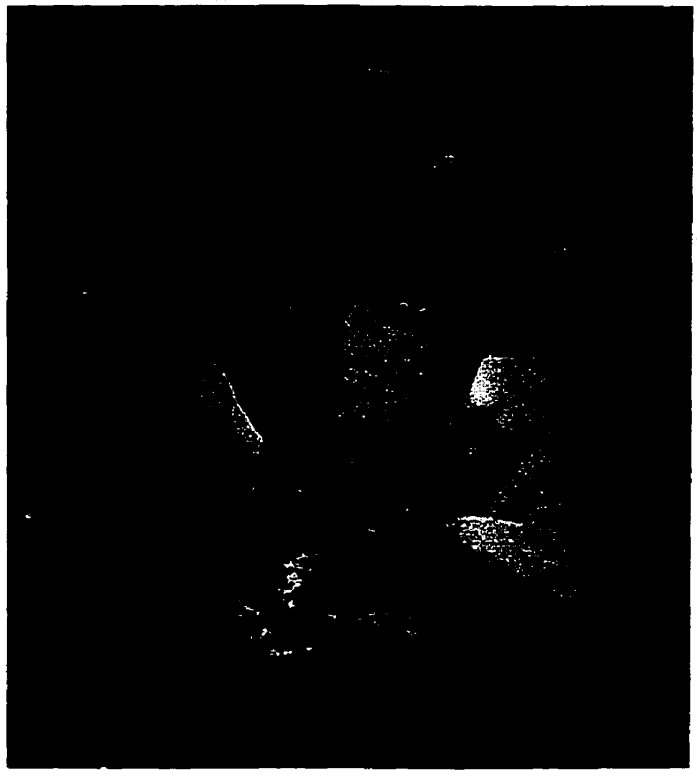
comprehended, if one considers the process of "starification" deployed by Hollywood movie-studios from the 1930s on, a process usually referred to as the Hollywood star system[42]. In his study on stardom, *The Stars*, French sociologist Edgar Morin described the process to make a star, emphasizing its constructed aspect:

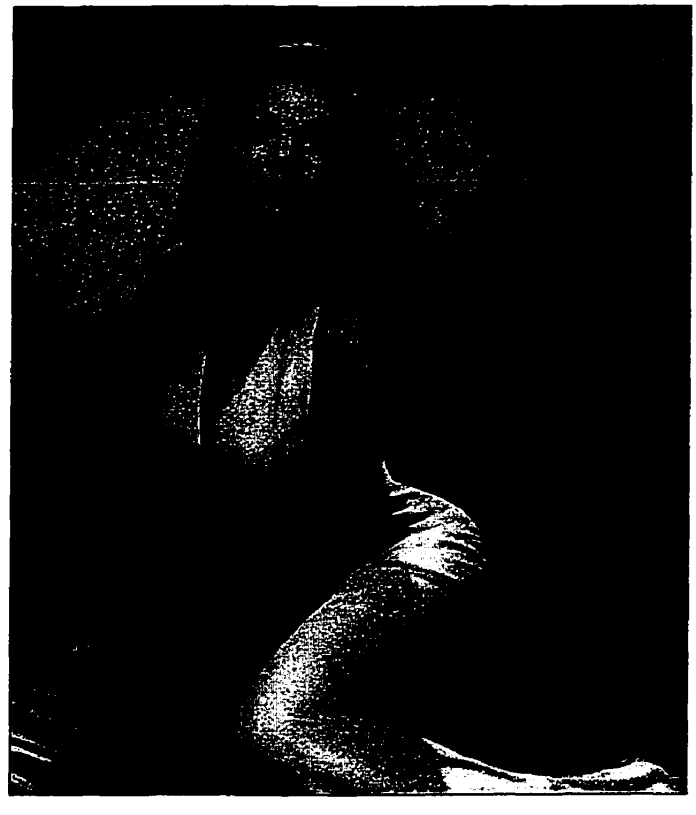
> A talent scout is struck by a promising face in the subway. Proposition, test photo, test recording. If the tests are conclusive, the young beauty leaves for Hollywood. Immediately put under contract, she is *refashioned* by by the masseurs, the beauticians, the dentists, even the surgeons. She learns to walk, loses her accent, is taught to sing, to stand, to sit still, to "hold herself." She is instructed in literature, ideas. The foreign star whom Hollywood cuts back to starlet level sees her beauty *transformed*, *recomposed*, *Max-Factorized*, and she learns American. Then there are more tests: among others a 30-second close-up in Technicolor. There is a new winnowing-out. She is noticed, approved, and given a minor role. Her car, her servants, her dogs, her goldfish, her birds are *chosen for her*. Her personality grows more complex, becomes enriched. She waits for letters. Nothing. Failure. But one day or the next the Fan Mail Department might notify the Executive Producer that she is receiving 300 letters a day from admirers. The studio decides to launch her, and *fabricates* a fairy tale for which she is the heroine. She provides material for the columnists; her private life is already illuminated by the glare of the projectors. At last she is given the lead in a major film. Apotheosis: the day when her fan tear her clothes: she is a star (Morin, 1972: 51, my emphasis).

Once the star had been made, her/his near mythological status, as some have suggested, was maintained through carefully made up images which glorified the star's exceptional beauty. George Hurrell (1904-1992), dubbed the "Grand Seigneur of the Hollywood Portrait," contributed greatly to this: hired in 1930 as head of the MGM portrait gallery Hurrell's use of dramatic poses, sharp focus, high-contrast lighting and masterful printing techniques inspired a new genre: Glamour photography, and set a new standard for Hollywood portraits (George Hurrell Biography: HREF, see figure 36). This genre might offer some of the first obviously and intentionally constructed images of women (and men)[43] . As John Berger remarked in *Ways of Seeing*: "Glamour is a modern invention. In the heyday of the oil painting it did not exist. Ideas of grace,

[42] For discussions of the birth of star system see: Fowles, Jib. (1995) "Mass Media and the Star System" by Jib Fowles, in David Crowley and Paul Heyer (Eds.), *Communications in History* (2nd ed.; pp.207-214). White Plains, NY: Longman. Other important discussions is available in 1970 Alexander Walker's *Stardom*. New York: Stein and Day.

[43] If George Hurrell pioneered the genre of glamour in Hollywood, the Studio Harcourt created similar portraits in 1950s France. Roland Barthes has analyzed the iconography of Harcourt in "L'Acteur d'Harcourt" in *Mythologies*. It seems however, that this text was not selected in some of the English versions of *Mythologies*.





36. George Hurrell. *Marion Davies*. 1938.
George Hurrell. *Sherilyn Fenn*. 1993.

elegance, authority amounted to something apparently similar but fundamentally different" (Berger, 1972: 146). In their essence, Glamour photographs promoted a fundamentally hyper-feminine representation of women, but more importantly, inaugurated and capitalized on the reign of "manufactured" beauty. As Frances Borzello, Annette Kuhn, Jill Pack and Cassandra Wedd point out in "Living Dolls and 'Real Women'":

> A good deal of the groomed beauty of the women of the glamour portraits comes from the fact that they are 'made-up' in the immediate sense that cosmetics have been applied to their bodies in order to enhance their existing qualities. But they are also 'made-up' in the sense that the images, rather than the women, are put together, constructed, even fabricated or falsified in the sense that we might say a story is made up if it is a fiction. (Borzello and al, 1985: 13).

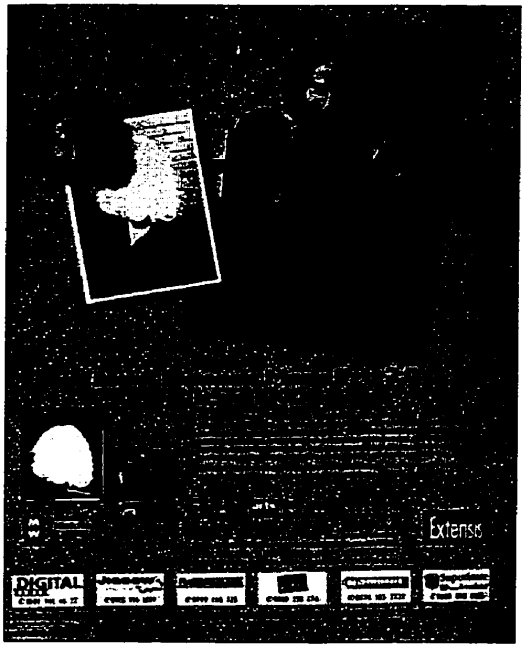
Today, as Gilles Lipovetsky argues, the idea of the esthetically perfect woman is being embodied by supermodels and, in spite of all the things that separate them from movie stars, such as the fact that models are only supposed to be "professional beauties," these two idealistic figures of femineity have in common the fact that their perfection in photographs is the product of an extraordinary work of metamorphosis (Lipovetsky, 1997: 182). In this sense, supermodels are a continuation of the artificial Hollywood practices. Models are, just as movie stars were, neither unreal nor fictious: they are, in Lipovetsky's words "recomposed and surreal" (Lipovetsky, 1997: 182). However, if during the golden age of Hollywood, constructed images of apparently seamless perfection were the result of skilled professionals of appearance (photographers, make-up artist, hairdresser and stylists) and of basic photographic manipulation (studio lights, filters, airbrushing and retouching), nowadays, they are rather the fruit of the work of the magicians of the virtual era.

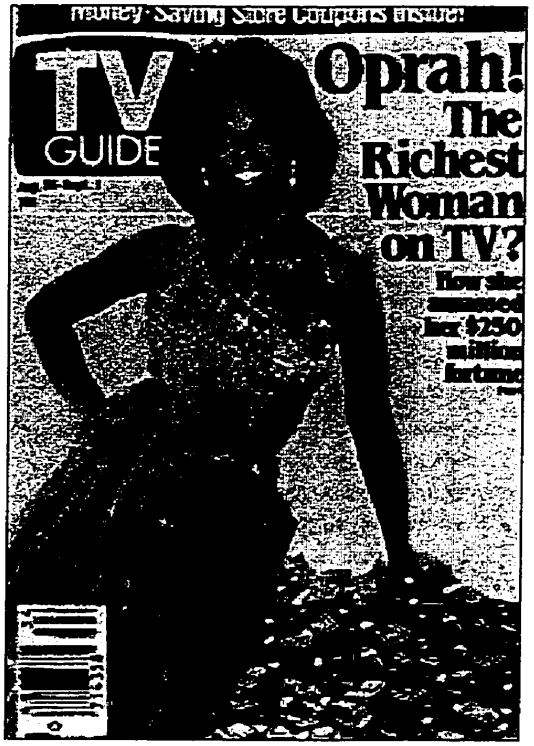
With a technology such as Scitex, if needed, models' faces can be completely restructured: lips can be made thinner or thicker, cheekbones might be moved higher, ears may shrink, and mouths may widen. Hair color or style can be changed, become more lustrous, and stray hair removed. Eyes may move, change color, their irises become more brilliant, and their whites whiter. Necks, arms and legs may lengthen. Picture editors and art directors also casually manipulate skin tone, eradicate wrinkles and blemishes, scrape off excess fat, and erase even basic human characteristics such as pores, bags under

the eyes, or veins. Moreover, with such practices, models might find that they have miraculously lost weight in various places... and gained it in others. For Mary Tannen, author of an article entitled "That Scitex Glow," such retouching of female models is a clear sign of cultural rejection of the realities of women's bodies (Tannen, 1994: 44).

COMPUTER-ASSISTED FRANKENSTEINS

Moreover, digital image-processing technology allows very complex and sophisticated manipulations, undetectable by the naked eye. The results are often totally unrealistic, belonging to Baudrillard's third order of the image. One of the most common procedures, is known as "zipper heads" or "pasties" (Alter, 1990: 45 and Wian, 1998: HREF). Very similar in their principle to early photomontages, they consist of grafting someone's head, usually a famous person's, onto someone else's body, usually an anonymous model's, using computer graphics programs. Extensis Mask Pro 2.0 is one of these programs. A leading professional masking software for Adobe Photoshop and Corel Photo-Paint, it allows to create "masks" (a selected portion of an image that will be grafted onto another picture) with clean edges (see figure 37).
The procedure was for example used by the distributors of the movie *Pretty Woman* for a publicity poster. The perfection featured on the image was literally composed, with the head of the film's star, Julia Roberts, implanted onto the seductively posed body of Shelley Michelle, a body double for many celebrities (Mitchell, 1992: 209 and Internet Movie Database, see figure 38). In 1989, the television program magazine *TV Guide* used the same quicker-and-less-painful-than-surgery method to produce their alluring cover picture of a conspicuously slender Oprah Winfrey, glamourously seated on a pile of money. To obtain this cover the talk show host was simply embodied as actress Ann-Margret (see figure 39). The deception was discovered when the actress' husband noticed a familiar ring on one of 'Winfrey"s fingers (Mitchell, 1992: 209). Even though the picture may not have been the result of digital manipulation, as sustained by *Wired* contributor Jacques Leslie who says that the image was not a photograph, but the drawing of an artist who used a photograph of Ann-Margret's as a reference, readers might not have caught the subtle trick and the magazine never mentioned the illustration as a composite (Leslie, 1995: 113).





37. Advertisement for Extensis Mask Pro 2.0. 1999.

38. Poster for the movie *Pretty Woman*. 1989.

39. AP Photo/files. "Oprah Winfrey! The Richest Woman on TV?" *TV Guide*. August 26, 1989. Digital photomontage.

For William Mitchell, such practices are meant to "present women as desirable boy toys" (Mitchell, 1992: 204). And, as he observes in *The Reconfigured Eye*: "The integral female subject is reconstructed as stereotyped sexual object" (Mitchell, 1992: 204).

A place where interchangeable heads have almost become a tradition as well as an example of women presented as men's object of fantasy, is on the Internet. As digital manipulation techniques are becoming more and more accessible, cheap and easy to use, virtually anyone is given the possibility to realize home-made montages, pasting the head of one's favorite celebrity onto a naked body. The result can then be disseminated, rapidly and uncontrollably, through the network. Therefore it is not surprising that web sites featuring allegedly "nude" photographs of popular media figures are proliferating[44]. The fakes range from simple nudes to sexually-explicit photographs. An entire usenet subculture, <alt.binaries.pictures.nude.celebrities.fake>, is even dedicated to posting these real and fake images, while another subculture is devoted to expose the less obvious fakes (*Law Street Journal*, 1998: HREF). In addition, many web sites such as "The Celebrities Naked Pasties Web Site" (<http://www.celebritynaked.com>) or "Scott's Fake Nude Celebrity Galleries" (<http://scottss.com>), specialize in archiving these fakes. Such use of digital technologies is clearly an abuse of celebrities' rights over copyrighted material[45], but it is also an abusive use of digital technology which tends to suggest that people are just a sum of features and body parts put together, a notion which is reminiscent of the genre of glamour precedently discussed. As we have seen earlier, Borzello and her colleagues write about glamour in their essay "Living Dolls and 'Real Women'." However, in the passage from the essay below, it is tempting to substitute the term "glamour" with the word "digital":

Glamour photography is very much open to the criticism that, at the same time as it holds out

[44] Internet industry estimates place the 1998 revenues for celebrity nude sites at about $185 million. It is, reportedly the fastest-growing segment of the online adult industry business (*Law Street Journal* (1998, May 1), <http://www.lawstreet.com/journal/art980501brief.html>).

[45] The law is rather unclear when it comes to photomontages and few cases have gone to court. Nevertheless, on December 23, 1998, a federal judge ordered a webmaster to pay $230,000 to actress Alyssa Milano for publishing nude photographs of her on the Internet, without her permission. Many of the photographs were "pasties," whereas other where still frames from movies in which the actress appeared naked. This is believed to be the first decision of its kind (Brunker, 1998: HREF). As the market for celebrities' nude is growing (Webmasters charge up to $30-a-month the access to these pictures), Web site operators are more an more tempted to create customized nudes. Therefore, even artists who have never gone unclothed, can find themselves in a sexually explicit position on the Internet.

idealized images, in particular of women, it also promotes the ideal woman as being put together, composed of surfaces and defined by appearance. It is here that the glamour tradition in all its manifestations may be seen to occupy a place dangerously close to another tradition of representation of women, from myth to fairy tale to high art to pornography, in which they are stripped of ill and autonomy. Woman is dehumanised by being represented as a kind of automaton, a 'living doll': *The Sleeping Beauty*, *Coppélia*, *L'Histoire d'O*, 'She's a real doll!' (Borzello and al., 1985: 13-4).

If techniques are changing, it seems that intentions are everlasting.

Deconstructing Images of Women

Reality leaves a lot to be desired... - Abel Gance, filmmaker

Digital manipulation and retouching involve a very important component which I have not discussed so far: the intention of its author. As we have seen earlier, the myth of photographic truth has been based in part on the modernist belief that "the camera never lies;" that it was an instrument of neutral recording. Therefore, the manipulation of an image, should it involve digital or simple darkroom retouching, clearly indicates an intention of its author, a desire to change a certain representation of reality by interfering with it. As a consequence, the manipulation of photographs gives a new dimension to the debates over the concept of authorship. For postmodernist theorists, seeking out an authors' intention is pointless and Roland Barthes proclaimed "The Death of the Author" in his notorious 1968 essay. For him, the author is dead in the sense that s/he is no longer responsible for the meaning of his/her work and as a result, the reader becomes the key element in controlling the textual meaning. Nevertheless, the fact that these photographs are *intentionally* manipulated gives them a definitive connotative aspect that can be "read." In a way, one can argue that digital photographs are closer to text than analog ones. Literally, they can be read as a succession of ones and zeros while on a more theoretical level, the manipulations can be considered as a kind of "editing" or "rewriting." Because of this very characteristic, I believe that these images, manipulated on purpose, can be read and can tell us a lot about our culture as they represent, with the appearance of reality, what those who manipulate them value and fear. In a sense, these manipulations allow us to demonstrate the semiotics of photography. Photo-manipulation is more than just using a given technology,

and the way it is used can help understand photographic representation as well as the values of our society. As Mitchell remarks, the emergence of digital imaging is an exciting "opportunity to expose the aporias in photography's construction" as it allow us to "deconstruct the very ideas of photographic objectivity and closure" and "resist what has become an increasingly sclerotic pictorial tradition" (Mitchell, 1992: 8). In his words, "the tools of digital imaging [are] felicitously adapted to the diverse projects of our postmodern era" (Mitchell, 1992: 8).

I believe it is particularly relevant at this point to introduce the concept of the "myth," as Roland Barthes has defined it in one of his most celebrated early works, 1957 *Mythologies*[46] . *Mythologies*, which consists of a series of journalistic articles originally written for the magazine *Les Lettres nouvelles* between 1954 and 1956 coupled with a theoretical essay: "Myth Today," is a book concerned with the meanings of the signs that surround us in our everyday lives. It is a study of the ways in which mass culture, which Barthes sees as controlled by the "petite bourgeoisie," constructs a mythological reality and encourages conformity to its own values. As he writes in the preface to the 1970 edition of *Mythologies*: "I had just read Saussure and as a result acquired the conviction that by treating 'collective representations' as sign-systems, one might hope to go further than the pious show of unmasking them and account *in detail* for the mystification which transforms petit-bourgeois culture into a universal nature" (Barthes, 1970: 9). Even if Barthes was concerned to analyze the myths circulating in the France of the postwar period[47], *Mythologies* is still relevant today since its author believes that it is important to expose signs as the artificial constructs that they are. To sum it up, Barthes is interested in the linguistic sign as in the application of linguistics to the non-verbal signs that exist around us in our everyday life. What makes this theory so exciting is the possibility of applying the methodology to the domain of culture defined in its broadest and most inclusive sense.

As Richard Appignanesi and Chris Garratt humorously sum up the content of the book: "Anything in culture can be decoded - not just literature but fashion,

[46] In *Structuralism and Since*, John Sturrock calls *Mythologies* Barthes' "most ferociously anti-bourgeois book" and labels it "devastating" (Sturrock, 1979: 53).

[47] It is interesting to note that one of the important development in the postwar years in France was the growing popularity of weekly and monthly magazines, particularly those aimed at a predominantly female readership, such as *Elle* (founded in 1945), *Marie-France*, *Marie-Claire* and *Femmes d'aujourd'hui*. Publications like these interested and irritated Barthes. He even went so far as to describe *Elle* as a "real mythological treasure" (Barthes: 1970, 78).

wrestling, strip tease, steak and chips, love, photography and even Japan Incorporated" (Appignanesi and Garratt, 1995: 74).

What I propose to do in this section is examine, in a Barthesian perspective, the use of digital retouching in women's magazines. What interests me here is to discuss not so much the unrealistic representation of women, but instead what each alteration says about our society. Put simply, I shall try to understand how digital imaging technology is used on photographs of women and what it reveals about our culture.

PURSUIT OF ETERNAL YOUTH, FEAR OF DEATH, AND DISMISSAL OF BIOLOGY

One of the most common, almost systematic, alterations performed on photographs of women is the erasing of wrinkles. What is ironic, while not surprising, is that photos of men are far less likely to get major retouching as compared to images of women. Wrinkles and stubble are often considered to add character to a man's face... but when it comes to the opposite sex, it is very different... (*Street Cents Online*). As Bob Ciano, once art director of *Life* magazine, claims: "No picture of a woman goes unretouched... even a well-known (older) woman who *doesn't want* to be retouched... *we still persist* in trying to make her look like she's in her fifties" (Wolf, 1990: 82, my emphasis).

For feminist Naomi Wolf, the issue of retouching photographs is not a trivial one. According to her, "it is about the most fundamental freedom: the freedom to imagine one's own future and to be proud of one's own life." "Airbrushing age off women' faces," she writes "has the same political echo that would resound if all positive images of blacks were routinely lightened" and "to airbrush age off a woman's face it to erase women's identity, power, and history" (Wolf, 1990: 83). As a matter of fact, the avoidance to show wrinkles and other signs of aging, is a clear dismissal of human biology. In the light of recent advances in the domains of biotechnology or even artificial procreation, it is not too absurd to argue that there is an undeniable aspiration to control nature and that digital imaging is just what may be the most "superficial" manner to achieve this objective.

The alterations performed on images of women are closely linked to fantasies of rejuvenation and agelessness. They disclose the importance America attaches to appearance and youth. As Lucy Sisman acknowledges it in Mary

Tannen's article "That Scitex Glow," the hyperclean looks seems to be primarily an American obsession (Tannen, 1994: 44). Baudrillard even stated in his book *America*, though in another context, that "Americans may have no identity, but they do have wonderful teeth" (Baudrillard, 1988: 34).
Nevertheless, what needs to be noted here is the close relationship between the photograph and death. This theme has been developed in depth by Barthes in several articles and especially in *Camera Lucida*. In an interview made prior to the publication of the book, for instance, Barthes said:

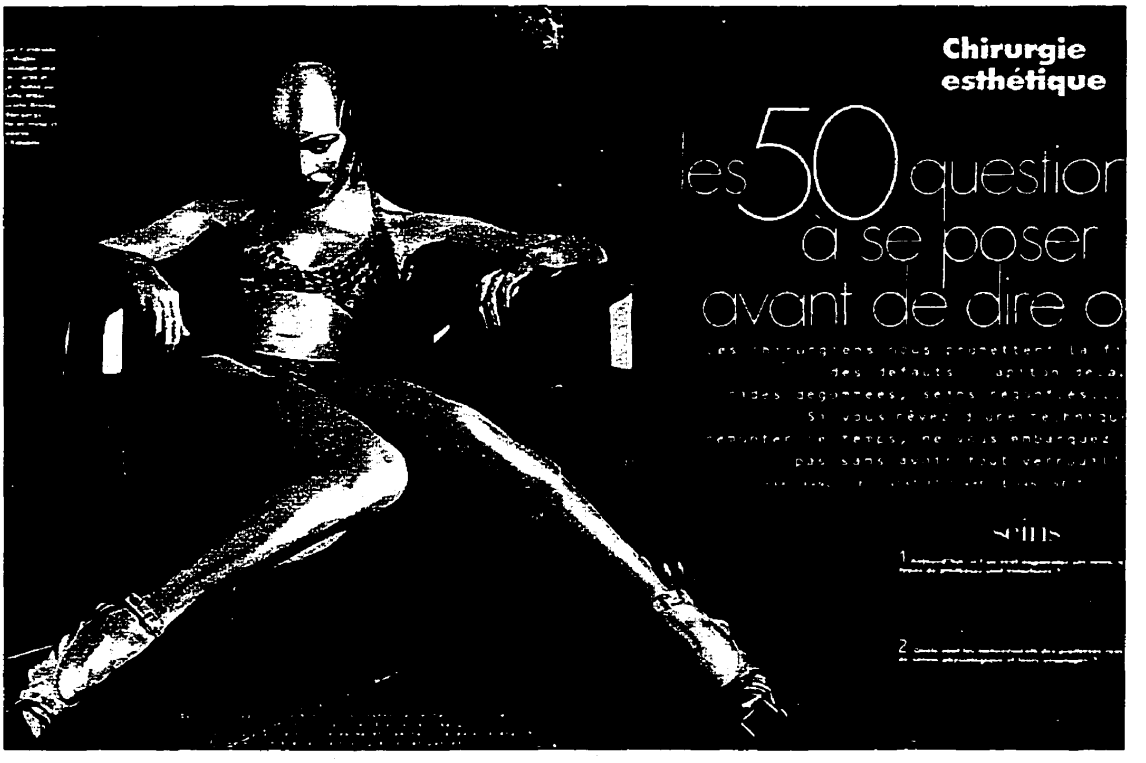
> If photography is to be discussed on a serious level, it must be described in relation to death. It's true that a photograph is a witness, but a witness of something that is no more. Even if the person in the picture is still alive, it's a moment of this subject's existence that was photographed, and this moment is gone. This is an enormous trauma for humanity, a trauma endlessly renewed. Each reading of a photo and there are billions worldwide in a day, each perception and reading of a photo is implicitly, in a repressed manner, a contract with what has ceased to exist, a contract with death (Barthes, 1985: 356).

Talking about Barthes' latest work, Ron Burnett remarks in *Cultures of Vision*: "Much of the book is governed by an emphasis on death — the death of his mother, the death of photography as a form of cultural expression, the death of the interpreter" (Burnett, 1995: 33). In *Camera Lucida* Barthes remarks: "By giving me the absolute past of the pose (aorist), the photograph tells me death in the future" (Barthes, 1981: 96). For him: "It is because each photograph always contains this imperious sign of my future death that each one, however attached to be to the excited world of the living, challenges each of us, one by one, outside of any generality (but not outside of any transcendence)" (Barthes, 1981: 97). With respect to what Barthes is saying, I would like to remark that by featuring younger-looking, and especially digitally-rejuvenated men and women in magazines, this "imperious sign" might be lessened, as the signs of aging, associated with death, are removed.

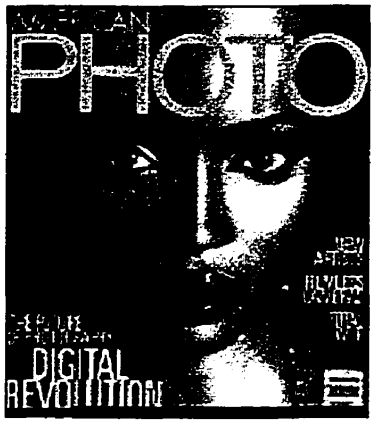
In an essay entitled "The Leech Woman's Revenge: On the Dread of Aging in a Low-Budget Horror Film," Vivian Sobchack examines low-budget horror films from the late 1950s through the early 1960s and demonstrates how movies such as *Attack of the 50 Foot Woman* (1958), *The Wasp Woman* (1959), and *The Leech Woman* (1960), "unravel our culture's complicated response to aging women." For Sobchack, this response is based on fear and loathing. She remarks that in these movies women are portrayed as both scary

and scared. For Sobchack, their scariness has "less to do with sexual desire and castration anxiety than with abjection and death." As she quotes from *The Leech Women*: "For a man, old age has rewards. If he is wise, his gray hairs bring dignity and he is treated with honor and respect. But for the aged woman, there is nothing. At best, she's pitied. More often, her lot is of contempt and neglect." Sobchack brings up anotner important point when she remarks how "increasingly technologized quotidian life of our culture" has become and argues that the current ideal body is the "ageless 'hard body' of the 'cyborg'" (Sobchack, HREF). This statement, about the current ideal body, reminded me of the images of fashion photographer Seb Janiak, in the French edition of *Elle* magazine, in January 1997 (figure 40). These pictures, which unsurprisingly illustrated an article on cosmetic surgery, were momentous, showing a bold Naomi Campbell covered from head to toe in silver paint. Janiak, well-known for his work with computer-imaging technique, "only" adjusted some colors and digitally smoothed the model's skin to obtain the metallic finish. A small caption at the bottom of the opening photograph read: "Beautiful... To what point? When fantasies of perfection are almost science fiction" (*Elle*, 1997: 92). I believe these pictures' meaning is dramatically increased by the context in which they are used. It is important to recall here that context is an important part of a photograph since it is what gives the image most of its meaning, helping us comprehend what it depicts. In the essay "Context as a Determinant of Photographic Meaning," John A. Walker states the importance of context in the attribution of a meaning to a photograph and argues that images do not have a stable meaning on their own. As he writes: "With each shift of location the photograph is *recontextualized* and as the context changes so does the meaning" (Walker, 1980:54). The "Digital Naomi" picture, used in different circumstances, such as on the cover of *American Photo* to illustrate a subject on "The Digital Revolution," is to some extent less compelling, since it is not textually associated with plastic surgery (see figure 41).

In addition, it is interesting to note that if *Elle*'s beauty editors christened Campbell a "cybergirl," the supermodel, when shown her portrait, is reported to have declared: "Wow! I look like a robot!" (<http://www.pathfinder.com/Life/eisies/1998/cat01f03.html>). This is a provocative thought, considering what Naomi Wolf was writing in her controversial book *The Beauty Myth,*



40. Seb Janiak/Creative Exchange Agency. Digital Naomi. 1997. Originally produced for Stern/Konr premiere issue. ELLE (French edition). January 20, 1997.



41. Seb Janiak/Creative Exchange Agency. Digital Naomi. 1997. American Photo. November/December 1997.

almost a decade ago, in 1990:

> The specter of the future is not that women will be slaves, but that we will be robots[48]. First, we will be subservient to ever more refined technology for self-surveillance [...] Then, to more sophisticated alterations of images of the "ideal" in the media: "Virtual reality" and "photographic re-imaging" will make "perfection" increasingly surreal. Then, to technologies that replace the faulty, mortal female body, piece by piece, with the "perfect" artifice (Wolf, 1990: 267).

Without necessarily being so pessimistic about women's future, there is a need to assess the realities of our capitalist society to explore fully its imagery. The diet and cosmetic surgery industries have been accused of exploiting and capitalizing on the unrealistic images of beauty promoted by the media. In the United States, millions of women spend billions of dollars in the quest for the ideological body and the market of the products supposed to help in attaining this ideological body is massive and unending. In 1996, the weight loss industry, alone, was estimated to generate in the United States an impressive $33 billion in revenue; a threefold increase in less than thirty years (*People*, 1996: 71). Moreover, in the meantime, the market for plastic surgery developed into a $5-billion-a-year industry and is increasingly considered part of the natural order of things for women[49]. As Kathryn Pauly Morgan writes:

> Not only is elective plastic surgery moving out of the domain of the sleazy, the suspicious, the secretively deviant, or the pathologically narcissistic, it is *becoming the norm*. This shift is leading to a predictable inversion of the domains of the deviant and the pathological, so that women who contemplate *not using* cosmetic surgery will increasingly be stigmatized and seen as deviant... (Morgan, 1991:148).

With a culture relentlessly pursuing and literally obsessed by an ideal of everlasting youth, it is not surprising that women try to emulate these images by virtually all means necessary and through operations such as facelifts, augmentation mammoplasty (breast enlargement), mastopexy (breast lift),

[48] An uncredited variant of Eric Fromm's quote "The danger of the past is that men become slaves. The danger of the future is that men become robots." (in *The Sane Society*).

[49] I would like to mention here the work of Kathy Davis who opposed the common argument that women who undergo surgery are "nothing more than misguided or deluded victims" (Davis, 1997: 168). Rather, she claims that plastic surgery can improve women's assertiveness. In addition, for her, more than the effect of the act itself, it is the decision to take this act which is empowering for these women. Davis has studied the reasons, choices and positions regarding plastic surgery in *Reshaping the Female Body: The Dilemma of Cosmetic Surgery* (1995, New York: Routledge).

abdominoplasty (tummy tuck), liposuction , rhinoplasty (nose job), browlifts, blepharoplasty (eyelid surgery), etc. It is as if American women felt defined as inadequate against the ideal unattainable female object of beauty promoted by the mass media and needed to compensate for not "being born with it."

As some have observed, our Western culture is constantly emphasizing looks and appearance, two notions based primarily on youth. Jean Baudrillard, for instance, writes in *America*: "The body has been made to forget pleasure as present grace, to forget its possible metamorphosis into other forms of appearance and become dedicated to the utopian preservation of a youth that is, in any case, already lost" (Baudrillard, 1988: 35). According to Baudrillard, the pursuit of the youthful body indicates one's anticipation of death and fear of failure (Baudrillard, 1988: 35). Today, the preservation of the body is being achieved mostly through technology and in a sense, Photoshop "surgery" used in magazines can be considerated as the virtual equivalent to plastic surgery.

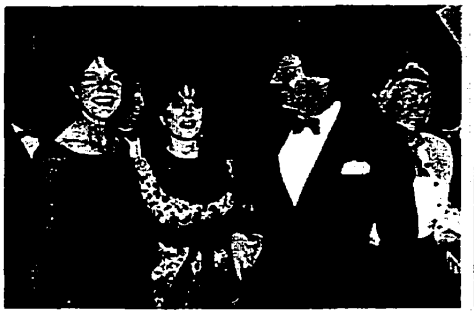
Negation of Individuality

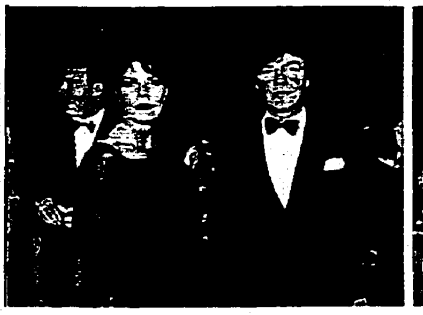
Another interesting aspect of retouching, and this is true especially for fashion and advertising photography, is the erasing of any trace that can suggest individuality. In a society which pretends to ignore and sometimes even favor differences, use of digital retouching to erase any distinctive signs such as scars, moles — except, of course, for some supermodels whose distinctive signs have become their trademark — or tattoos off the bodies and faces of models suggests just the opposite. Everything that suggests individuality is removed. As Sara Halprin notes, the range of the images of women in the media is extremely narrow, "much narrower than the range of men's images" (Halprin, 1995: 253).

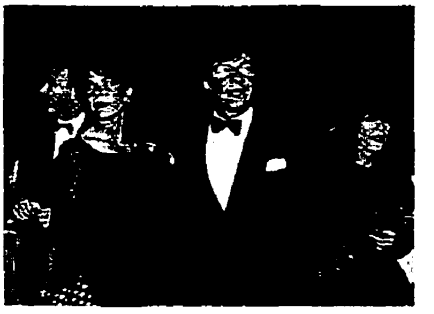
As it has been widely acknowledged, the image of women in the media is definitely not representative of women's diversity (race, color, size, weight, etc). The most fascinating however, is that retouching is performed on models who are supposed to fit in the narrow range determined by editors and advertisers in the first place. Nevertheless, even these women do get retouched to fit the unnatural/virtual ideal promoted by our society.

Finally, I would like to point out the esthetic element involved in photo-manipulation and the will to control it conveys. In her article on computer-manipulated photographic imagery, Martha Rosler states that "The rational is that visual appeal and cleanliness (so to speak) of images, not photographic accuracy, are the criteria in these uses" (Rosler, 1996: 41). The "necessity" to offer readers a visually pleasing cover is in most of the cases the main reason behind retouching. This practice reflects the obsession of our culture with immaculate perfection.

As a matter of fact, a recent faux pas from French magazine *Paris Match* perfectly illustrates this last statement. Indeed, when the editors of the weekly magazine wanted to feature on the cover a photograph of Princess Caroline of Monaco with her then potential future husband Ernst-August of Hanover attending a party and none of the pictures they had would illustrate properly the "chemistry" between the two of them, they simply decided to create what should have been the perfect shot. If they did utilize one of the pictures at their disposal, it did not happen without some modifications: they erased an intruding person who came in between the pair and moved them closer together. The final picture presented the image of two smiling persons apparently pleased to pose for the camera (see figure 42). Other European magazines published photographs of the event that were less blatantly manipulated (see figure 43). This case, very similar in its intention to the Giza pyramids episode, is not in its essence a lie: the two persons were there together and it is highly probable that at some moment they may have been closer to each other and the photograph could have existed without any manipulation. However, even though the "picture perfect" image did not exist, *Paris Match* still wanted to offer its readers a compelling cover (one that would sell better). A month later, after the alteration was revealed, the editors justified their decision. In a kind of Mea Culpa, in which they swore not to manipulate another photograph without informing their readers, they explained that according to them: "The cover of Paris Match has to meet a certain esthetics, certain criterions of balance and plastic beauty." They stated further that for "evident *esthetical reasons*," they accepted generally the idea of performing touch ups on movie stars, supermodels, even eventually even on political leaders. As they argue, for







42. DR/Photo "Officiel: Ernst reçu à Monaco." *Paris Match*, No. 2550. April 9, 1998

43. DR/Photo. "Caroline of Monaco and Ernst August of Hanover." *Bunte*'s and *Oggi*'s covers. April 1998.

many photographers retouching is considered as part of the art of photography (*Paris Match*, 1998: 99). Nevertheless, Jacques Clayssen summarizes perfectly (and bluntly) the current situation when he observes that the pages of magazines are invaded by a "virtually antiseptic cleanliness" (Clayssen, 1996: 75).

CONCLUSION

The results of the invention cannot, even remotely, be seen — but all experience, in matters of philosophical discovery, teaches us that, in such discovery, it is the unforeseen upon which we must calculate most largely. It is a theorem almost demonstrated, that the consequences of any new scientific invention will, at the present day exceed, by very much, the wildest expectations of the most imaginative.

- Edgar Allan Poe, "The Daguerrotype," 1840.

Throughout this paper, several aspects of photography have been examined. First, a brief technical history of the medium has shown that photography happened to be invented in 1839 — even though the components of the process had been known for quite some time — and was the result of a cultural desire to fix the shadows of the camera obscura. Then, it was demonstrated that the photographic image has been historically, technically and socio-culturally constructed as an exact, truthful rendering of reality. However, as we have seen in chapter two, the modern idea of photographic truth has been contradicted by the history and the theory of the medium. Nevertheless, the belief in the truth effect of photography has remained a popular one, based in great part on its referential characteristic, Barthes' "that-has-been."

However, the introduction of digital imaging technologies in the 1980s and especially the recent progress made in the field, seems to mark the end of the privileged status of the photographic image and many theorists and critics are announcing the death of the medium. As it has been explained in chapter three, the specificities of the new technology — speed, ease of use, availability, and low cost, coupled with endless possibilities to alter seamlessly photographic images — increases the cases of altered photographs. In addition, the capacities offered by digital-imaging technology are fundamentally challenging photography's central concept of the referent. Indeed, one of the most important aspects of the technology is its ability to create, with the appearance of the real, representations of events, persons or things. This potential signifies the beginning of a new world of representation, or as Baudrillard would refer to it, a world of simulation. As we have seen in

chapter four through the example of women's magazines, the manner in which technology is used emphasizes the notion of the simulacrum: the images we are presented with have no basis in reality.

A hundred and sixty years after the invention of photography by Talbot and Daguerre, the progress made in the field of computer-generated images has created a new world of representation, in which the operators of the virtual era multiply the ways to manipulate our perception of reality. As we have seen throughout this thesis, digital technology is modifying what we see in the media and edited reality is everywhere: on billboards, in magazines, tabloid newspapers and, of course, in advertisement. Life seems to become an impossibly perfect model — almost always digitally retouched, smoothed out and airbrushed — making the images we consume in our culture, literally highly manipulated. In chapter four, we have seen how the technology is used to alter the representation of women, constructing images that have no basis in reality. Therefore, what needs to be realized is that technology is used to promote a certain image that has nothing to do with reality, but rather with the standards of our culture. As we have seen, there is a human will to control and manipulate representations of reality. We have to be warned against the temptation of the universe of simulation, where attempts to expedite life through technology can result in a gradual imprisonment.

With the advent of electronic imaging we have moved a step further into simulation, but most importantly we enjoy it, fascinated that we seem to be by technological advancements and the so-called "digital revolution." As several theorists remarked it, our era seems to be attracted by virtual worlds. In 1843, in the preface to the second edition of *The Essence of Christianity*, Ludwig Andreas Feuerbach (1804-72) already observed that his time "prefers the sign to the thing signified, the copy to the original, representation to reality, the appearance to the essence... *illusion* only is *sacred*, *truth* profane. Nay, sacredness is held to be enhanced in proportion as truth decreases and illusion increases, so that the *highest degree of illusion* comes to be the *highest degree of sacredness*" (in Debord, 1967: HREF).

In the 1970s, Susan Sontag stressed the role of the photographic medium to emphasize this situation in *On Photography*: "The powers of photography have in effect de-Platonized our understanding or reality, making it less and less

plausible to reflect upon our experience according to the distinction between images and things, between copies and originals" (Sontag, 1973: 179).

Furthermore, writing about digital culture and the internet in *Life on the Screen*, Sherry Turkle suggest, more than a century and a half later after Feuerbach made his famous remark, that "we are moving towards a culture of simulation in which people are increasingly comfortable with substituting representation of reality for the real" (Turkle, 1995: 23). Douglas Crimp, managing editor of *October*, an art journal known for its use of postructuralist theories, stresses similar concern about the present situation when he states: "Our experience is governed by pictures, pictures in newspapers and magazines, on television and in the cinema. Next to these pictures, first hand experience begins to retreat, to seem more and more trivial" (in Trodd, 1998: 95).
As Arthur and Marilouise Kroker warn us in their essay "Code Warriors: Bunkering in and Dumbing Down:"

> Photography, cinema, TV, and the internet are successive stages in virtualization. Beginning with the simulacrum of the first photograph, continuing with the scanner imaging-system of TV, and concluding (for the moment) with the data archives of the Internet, human experience is fast-dumped into the relays and networks of virtual culture. McLuhan was wrong. It is not the technological media of communication as an extension of man, but the human species a humiliated subject of digital culture (Kroker, 1996: HREF).

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