

**THREE FUNERALS AND A WEDDING:
ART EDUCATION, DIGITAL IMAGES, AND AN AESTHETICS OF CLONING¹**

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In this paper the author describes how contemporary digital technologies have changed the way in which images are constructed, distributed, and appropriated. The metaphor of cloning best describes this process, one that is dramatically different from images produced through mechanical means. Outlining an 'aesthetics of cloning,' the author proposes three shifts associated with the increased use of digital images in art educational spaces that might lead to a better understanding of contemporary issues related to digital technologies as they relate to the field of art education in general.

Art educators who wish to address contemporary issues related to the use of digital technologies in art educational spaces must ask basic questions about their own practice. Why should we use computers in the art classroom? What can the computer do that other media cannot? If there is an aesthetics that is unique to digital technologies, then how can art educators structure relevant pedagogical practices that address these attributes without losing that which has proven important to the field?

Contemporary computer systems have allowed for the reproduction of images on a scale unmatched by previous technologies. The ability for reproduced images to circulate through digital networks such as the Internet has contributed to the exponential proliferation of visual images, contributing to the 'visual culture' that many art educators currently find a relevant topic of conversation. The concept that is central to these computer operations -- and the rise of a *digital* visual culture (Sweeny, 2004) -- is cloning.

Computers operate through a process of cloning. Data in the form of binary code is easily transferred from one computer to another, and easily translated into new forms. Each time a computer is directed to transfer or translate information, it does so by making a copy that is

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virtually indistinguishable from the original. When one cannot *see* the difference between an image and its clone, new criteria must be applied in the analysis of the image.

The shifts in vision that are related to the creation and reception of cloned images requires that art educators inquire as to how images are created, replicated, transformed and consumed within a digital visual culture. A Modernist emphasis on formal qualities has traditionally been emphasized within the field of art education (Duncum, 2002, Gheagan, 1998). The development of new image processing technologies draws into question the person that made the image, the technologies that were used in the production of the image, the possibilities for circulation and reception through digital networks, and the cultural and social implications of such networks, deemphasizing but not eliminating discussions of formal attributes.

Cloned digital images are different from their mechanically-reproduced counterparts, and must be viewed as such. They physically differ from images produced in traditional media such as drawing, painting, sculpture and photography, often existing without material substructure as ephemeral arrangements of light on a computer screen. They often exist as multiples, easily replicated and manipulated, calling the notion of the original into question. In fact, the operations of the computer challenge many traditional concepts of originality, creativity, and authorship. The digital image is typically removed from the touch of the artist's hand, separating it from the Western tradition of art representing a direct outgrowth of physical interaction with materials, and therefore a view into the artist's soul. Many see these aspects of digital technology as being closely related to the critique of genius and authorship that is part of postmodernity (Manovich, 2001).

The notion of the clone will be used to describe the open-ended nature of digital imagery, leading to an analysis of the use of cloned images in art educational practices, and will point towards an aesthetics of cloning that addresses the aura of the image in a digital age.

Attack of the Clones

Cloning is a controversial topic, in raising ethical issues in fields of biology as well as digital technology. With the creation of Dolly the genetically cloned sheep on July 5th, 1996, the world was introduced to the possibility that human beings might soon be duplicated in a similar fashion. When a group called the Raelians announced in the summer of 2002 that they had successfully cloned a human, the international science community responded with skepticism as the general public watched with equal parts dismay and curiosity.

The utopian potential of cloning is frequently described by its proponents as removing the unwanted, undesirable qualities from humanity while leaving that which is desired. Those who warn against the uncertainty of a future in which biology and technology are one and the same worry over a loss of 'human-ness.' As social theorist Jean Baudrillard states:

For what becomes of the human being when he is pushed out by his own clone and rendered useless? A reserve? A relic? A fossil? A fetish? An art object? There is no immediate end in sight to the conflict between the original and its double, the clash between the real and the virtual (*The Clone or the Degree: Xerox of the Species*, 2002, p. 201-202)

Art educators might pose similar questions related to the cloned images created through the use of the computer in the spaces of art education. What is the difference between looking at a photographic image and one that is digitally-reproduced? If visual culture is increasingly composed of digital images, then can art educators respond with practices that are socially relevant and technologically critical?

Artists such as Eduardo Kac and Faith Wilding have done much to address the issues related to biological cloning and art, or rather *as* art. Kac's *GFP Bunny* (2000) was the result of collaboration between Kac and French scientists, in which fluorescent jellyfish genes were combined with those of an albino rabbit. The result was a rabbit that emitted a greenish glow under blue light (source: <http://www.ekac.org/gfpbunny.html>). Faith Wilding, along with the Cult of the New Eve, has addressed issues regarding genetic manipulation of food. Their performance events have included offering gallery visitors bread and beer made from recombinant yeast

developed as part of the world genome project, appropriating the rhetoric commonly associated with the positive potential for genetically altered foods to critique such practices.

While these projects are provocative and relevant, there is a type of cloning that is more closely tied to everyday practices within contemporary art education: the cloning that is central to the operations of computer systems. The possibilities for art educational practice that addresses the issues related to cloned digital images will be presented through a discussion of a student project, created in *Art 100: Concepts and Creations in the Visual Arts*, a general education art course offered through the School of Visual Arts at the Pennsylvania State University. This project raises issues related to the sociocultural relevance of digital technologies, as well as art educational practices that respond to an *aesthetics* of cloning.

Constructing a Clone

Keith² begins to assemble the machine while other students present their work. He moves quickly, at a speed that indicates his familiarity with every cable, every card, every chip. All of his efforts are essentially invisible, as the pile of machine parts form a whole, internalized within the steel shell. After a half-hour his work is complete. The result, a large titanium box, perfectly smooth, save for a few buttons and openings.

Keith then connects the computer to the digital projector. We see his desktop – we see his actions as he boots up his machine, opens a particular file, and begins to point, click, and slide various elements on the screen. The actions that were hidden earlier are now presented for the class to view. As he manipulates the various programs the room that had been filled with the sounds of physical labor – the grinding of screws into metal, the crunch of card into port -- begins to fill with different types of sound. A low hum. A flurry of notes from a violin. A kick drum beat. These sounds begin to merge as Keith's actions on the screen indicate their position in a linear track, controlling their pitch, their volume, their rate of attack and decay. While he sits at a

desk operating a mouse the sounds become song, bleeps, basslines and blasts wound around a driving drum and bass track. Keith's actions slow, sounds wind down. The song ends. The room is left in silence, until the class begins to applaud.

Keith is a computer science major. He is quite familiar with the workings of his computer, at both the hardware and software levels. He proposed to assemble his computer in front of the class as a performance that would relate to this familiarity. He chose to perform this portion of his project while other students were presenting, as the process took in excess of thirty minutes. As the 'actual' performance he decided to use the newly assembled machine to spontaneously create a piece of music. The relationship between the assembly of the machine and the assembly of the music allowed for a discussion of creativity as it relates to the computer.

Keith's sounds lose their originality as they are manipulated, or at least challenge the notion in the process. Is the sound of the bass 'real,' or is it a computer simulation? Is Keith the creator, the 'author' of the sound piece? Is this 'creative,' as the word is typically used in the language of art education?

Keith's project allowed the class to discuss these issues within the context of our unit, which dealt with the connections between previous artistic strategies such as montage and contemporary approaches based in appropriation. His project made direct reference to the assigned reading: *Material Memories: Time and the Cinematic Image* by new media theorist and 'illbient' DJ Paul D. Miller/DJ Spooky (that subliminal kid) (2001). It also allowed the class to experience a multisensory response to issues related to the effects that digital technologies have had on contemporary artistic practices. It specifically questions the legitimacy of the 'original,' through activities that reference both copies and clones. This critical potential of the clone can be developed through a discussion of Walter Benjamin's (1968) notion of *aura*, proposed in *The Work of Art in the Age of Mechanical Reproduction*.

² A pseudonym has been used to protect the identity of the student.

The Death of Aura: Authenticity and Mechanical Reproduction

Soon the signs started appearing. THE MOST PHOTOGRAPHED BARN IN AMERICA. We counted five signs before we reached the site. There were forty cars and a tour bus in the makeshift lot. We walked along the cowpath to the slightly elevated spot set aside for viewing and photographing. All the people had cameras; some had tripods, telephoto lenses, filter kits. A man in a booth sold postcards and slides – pictures of the barn taken from the elevated spot. We stood near a grove of trees and watched the photographers. Murray maintained a prolonged silence, occasionally scrawling some notes in a little book.

“No one sees the barn,” he said finally.

A long silence followed.

“Once you’ve seen the signs about the barn, it becomes impossible to see the barn. . . .”

“We’re not here to capture an image, we’re here to maintain one. Every image reinforces the aura. Can you feel it Jack? An accumulation of nameless energies. . . .”

“What was the barn like before it was photographed?” he said. “What did it look like, how was it different from other barns, how was it similar to other barns? We can’t answer these questions because we’ve read the signs, seen the people snapping the pictures. We can’t get outside the aura. We’re part of the aura. We’re here, we’re now.”

He seemed immensely pleased by this. (DeLillo, *White Noise*, 1985,p.)

Are art educators ‘here and now,’ relying upon the aura of past images to trace outlines of the present? Art education certainly relies on reproduced images: slides, photocopies, color reproductions, textbook images, Web pages that contribute to the hypermediated situation to which DeLillo refers. Art educators have yet to acknowledge the role that these reproduced images play in art education, particularly in a digital era where images are accessed easily, manipulated effortlessly, and multiplied indefinitely. These cloned images represent new ways of making and seeing. Studying the ways that artists address issues of authorship and originality, critiquing the aura of the image through processes of cloning, might lead to art educational practices that address the sociocultural impact of developing technologies.

Walter Benjamin (1968) famously studied the relationship between works of art and developing technologies in *The Work of Art in the Age of Mechanical Reproduction*. He proposed

that mechanical reproduction and the resultant destruction of what he terms 'aura' challenged art historical concepts of authorship, authenticity, and authority, if not eliminating them altogether.³

These are notions that play a central role in many Western aesthetic models, where the concept of beauty is closely tied to the originality, and thereby genius, of the artist (Kant, 1987).

Benjamin importantly emphasized the political implications of this social shift, describing the art historical changes that accompanied mechanical reproduction. As he stated:

The authenticity of the thing is the essence of all that is transmissible from its beginning, ranging from its substantive duration to its testimony to the history which it has experienced. Since the historical testimony rests on the authenticity, the former, too, is jeopardized by reproduction when substantive duration ceases to matter. And what is really jeopardized when the historical testimony is affected is the authority of the object. (Benjamin, 1968, p.299)

Benjamin emphasizes 'things' in his study of the effects of mechanical reproduction on works of art, as we see in the previous quote. Computer-generated images call into question the physicality of works of art. If there is no 'thing' to be copied, then are Benjamin's theories still applicable? As I will suggest later in this paper, digitally-generated images create their own aura, their own concept of authorship, their own instructions for use in sociocultural spaces.

Benjamin suggests that when objects – things – are mechanically reproduced, they lose part of what makes them unique. The copy calls into question the authenticity of the original, an aspect that begins to dismantle 'aura.' Aura as described by Benjamin is "the "effect of a distance, no matter how close the object may be" (1968, p. 243). Mechanical reproduction challenges the social function of the object previously used for religious or magical purposes. The copy destabilizes the original, tainting its purity, sapping its power. At the same time, the concept of 'original' relies upon the existence, or the potential for the existence of the copy: there is no 'original' without the possibility of the copy.

³ For DeLillo, aura is constructed *through* mediation; a reversal of what Benjamin describes. DeLillo presents an interesting take on aura, suggesting that it is *created* through the mediated image. Perhaps it is not a question of elimination, but of translation. The power of the unique images shifts to the reproduction, multiplying aura, possibly to the point of irrelevance.

Benjamin suggests that the mechanically produced work of art has the potential to shift artistic modes of production and reception in industrialized countries through challenges to the power that the original image represents: "To an ever greater degree the work of art reproduced becomes the work of art designed for reproducibility" (1968, p. 224). Film is the art form that best represents this cultural shift for Benjamin. With this art form, the concept of 'the original' is already brought into question, as film is based in reproduction, not only in how images are captured, but also in how the finished films are distributed. Although the tone of the essay reflects the balance of a dialectical approach, Benjamin suggests that the negative aspects associated with the destruction of aura represented by film are outweighed by potential political applications. Much of this potential rests in the political shift associated with this challenge to authenticity: ". . .the instant the criterion of authenticity ceases to be applicable to artistic production, the total function of art is reversed. Instead of being based on ritual, it begins to be based on another practice - politics" (1968, p. 224). The politics derived from the mechanical reproduction of art are Socialist in nature, and are specifically anti-fascist. Benjamin suggests that the erosion of art historical notions of authorship would lead to social critique that could destabilize the power of the 'Führer cult.'⁴

Benjamin suggests that the mechanically reproduced work of art also the potential to shift societal notions of creativity and authenticity. It is no longer important that the work is technically marvelous or aesthetically pleasing, but that it is original: not a copy. The touch of the creator – important even in 'authorized,' signed reproductions is removed from the process, shifting the relationship between the work of art and the body of the artist. The shift can be seen in the project presented by Keith, as he shifts from physically touching the computer components to moving representations of sounds on a computer screen, a mouse replacing the screwdriver.

⁴ The political power of film was never fully realized as Benjamin predicted. In fact, film was one of the most successful forms of propaganda employed by the Nazi party, a potent example being Leni Reifenstahl's *Triumph of the Will* (1936). The parallel between early filmmaking and

An Aesthetics of Cloning: Three Principles

Principle One – Distance (and Originality): Benjamin states that the photograph is the first work of art freed from the direct touch of the artist. This is carried further by the motion picture, as the singular artist is replaced by numerous individuals, each participating in the production of the finished product. New media theorist Lev Manovich (2001) provides a contemporary analysis of this relationship, as it relates to Marx's notion of alienated labor and the modern computer, in *The Language of New Media*:

[Henry] Ford's assembly line relied upon the separation of the production process into sets of simple, repetitive, and sequential activities. The same principle made computer programming possible: A computer program breaks a task into a series of elemental operations to be executed one at a time. Cinema followed this logic of industrial production as well. It replaced all other modes of narration with a sequential narrative, an assembly line of shots that appear on the screen one at a time. This type of narrative turned out to be particularly incompatible with the spatial narrative that had played a role in European visual culture for centuries (2001, p. 322).

Manovich's statements relate more to the operations of the computer than to those of the user. However, one can see the distinct roles of cameraperson, director, sound recorder, editor as becoming fused in not only the operations of the computer, but also in those of the computer user. In fact, many video editing programs allow for users to create and manipulate images, edit them into sequence, and add additional layers of sound and text.

Manovich compares Paul Virilio's (1992) theory of 'big optics' to Benjamin's emphasis on physical distance in the destruction of aura, and how this distance is altered through emerging technologies. While Benjamin centers his analysis on film, Virilio discusses the relationship between what he terms 'small optics' - geometric forms of vision that include painting and film - with big optics, technologies that allow for the real-time transmission of information at a global level.

contemporary digital networks has been explored by Lev Manovich (2000), as they share similar promises related to social change.

Although Manovich makes worthwhile comparisons between these theories, he does so by way of a limited reading of Benjamin's theory of aura. Manovich focuses only on the aspect of physical distance as it relates to aura, without taking into consideration that Benjamin describes aura as "distance, no matter how close an object" (1968, p. 243). Aura is therefore a combination of physical *and* conceptual distance for Benjamin, reflected in the previous quote by DeLillo (1985): the tension of being in a space but not *seeing* what is there, without technological mediation. The conceptual distance associated with aura is related to the power of the institution or authority figure to control the object, continually reminding the viewer of the power associated with the ownership of the object (Benjamin, 1968). Removing the conceptual dimension of distance limits the possibilities for discussing the political dimensions of aura; dimensions that are central to the theories proposed by Benjamin.

How does the power of the 'original' work of art function within the spaces of art education? How much time is dedicated to the study of original works of art and Enlightenment-era aesthetics without acknowledging the mechanically reproduced image in the classroom, the image viewed at a distance, sapped of aura? Although many art educators use a wide variety of reproductions, the practices that relate to these images typically serve to reinforce the power of the original by maintaining the physical and conceptual distance between the original work of art and the student. The Picture Study movement of the early 20th century utilized photomechanical technologies to distribute art reproductions, most famously in *Perry Magazine*. This magazine made fine art images available to teachers and students, influencing art appreciation activities in art classrooms as it set forth a model for connoisseurship (Stankiewicz, 2001).

The 'artist copy' is an extension of these practices, where students create a replica of an existing 'masterwork,' typically viewed in the form of a reproduction. These copies are not valued as examples of creativity in and of themselves. They are merely exercises that are assigned so that students can learn from the masters, and then possibly indicate what has been learned through the creation of an 'original' work in the style of the artist, once again deferring value to the original 'original.' While the creation of artist copies is common in art education, copying

from popular cultural sources such as comic books is generally discouraged (Wilson, Hurwitz, and Wilson, 1987). The originality of the work of art, and, by default, the genius of the artist, are reinforced in the process. In both cases, the distance between the original and the copy are not addressed.

As these examples show, there are ample opportunities for addressing the social and political implications of the mechanical reproduction of images in the field of art education. However, they may be of less relevance in an era of digital reproduction. The paradox of authenticity inherent to mechanical reproduction is not applicable within a discussion of the operations of modern computer networks, as there is no 'original' in the traditional sense of the word. Each replication processed by the computer, whether image, word, or sound, is derived from a string of computer code, often translated from sensory information. The computer does not reproduce, it replicates, creating copies without an original. Or, creating an original work each time the digital image is viewed.

Principle Two –Replication (and Ethics): A clone is a replication of an existing entity based on a set of data. One of the most famous biological clones – Dolly the sheep – was created by replicating the genetic instructions that allow sheep to multiply. In this manner Dolly was not a 'copy' of any specific sheep, or even a hybrid of two sheep parents. As she shared the exact DNA of the sheep that was used in the cloning process, but not necessarily the same biological matter, the notion of an original 'Dolly' is replaced by a generic notion of 'sheep-ness.'

The relatively early death of Dolly in September of 2003 once again raised concerns related to the ethics of biological cloning. While not directly related to these concerns, the sampled nature of the sounds that Keith uses raises ethical issues concerning copyright law. The United States recording industry filed claims against 261 people in the second week of September 2003, charging these individuals with making illegal copies of audio files found on the Internet. Representing a unique challenge to copyright laws, file sharing on the Internet is the visible face of the 'culture of the copy' (Lohr, 2003). Keith's project operates according to similar principles.

He creates music based on digital samples, none of which he has created through the use of traditional instruments. The samples are often manipulated beyond recognition, making the original source untraceable and muddying the connection to the original sound and the associated notion of ownership.

I felt no qualms about Keith creating his music from preexisting sounds, as he took great pains to alter them, and to combine them as to make something new. The current debate regarding digital music and copyright infringement could in fact be connected to the use of reproduced images in art classrooms, discussing 'fair use' policies and the general acceptance of strategies of appropriation within much of Western art of the 20th century.

In a computer-saturated age, the aesthetic aspects of digital cloning should be considered a relevant form of expression. Although file sharers might not consider their actions as artistic, many do value the way in which these songs are compiled, a process that might be described as a creative act. (Lohr, 2003). In order for cloning to be considered a form of critique relevant in art educational spaces, the operations upon which contemporary computer systems are based must be analyzed.

Every time a computer user copies information he or she is participating in an act of cloning.⁵ Approaching this process as an aesthetic act, related to art historical notions of beauty and creativity, can lead to a discussion of cloning as a critical practice within spaces of art education. How often are student aesthetics guided by canonical art historical images? How often do students 'cut and paste' from these examples, appropriating and sampling without acknowledging the source?

What would it mean for the field of art education to question the ethics of digital processes based in cloning? If students creating digital works in the art classroom were to understand their creations as clones, then would these works allow for the critique of the art historical notion of originality and the authority of the original work of art? A generation that is

⁵ This paper has been entirely reworked (and rethought) through the use of the 'ctrl-x' and ctrl-v' hotkey commands, which I apply almost subconsciously.

growing up actively and effortlessly participating in file sharing and image manipulation may already understand this idea far better than those raised in an era of mechanical reproduction. It is necessary for art educators who wish for their instruction to remain relevant in a digital age to address these issues.

In order to analyze the possibilities of an aesthetics of cloning, the notion of authorship should therefore be reassessed. The notion of the 'death of the author' as proposed by Barthes (1977) may be especially relevant in an era of file sharing and cloning, where digital simulation makes everyone author and reader, possibly simultaneously.

Principle Three – Authorship (and Authority): Walter Benjamin suggests that the mechanical reproduction of works of art has the potential to blur the distinction between author and public, initially seen in the ability for the public to write letters to the editor. Roland Barthes extends this notion in "The Death of the Author" (1977), suggesting that the modernist notion of 'the author' is bankrupt, no longer relevant in poststructuralist thought. The 'death of the author' is not so much the blurring that Benjamin (1968) suggests, but a rather jarring displacement. Texts can no longer be thought of as being unique works unto themselves; they are always combinations of other texts: "The text is a tissue of quotations drawn from the innumerable centers of culture (Barthes, 1977, p. 146). The reader is therefore placed in a potential position of power. She or he becomes the integrating force, assembling the various texts, creating a new work. The reader then becomes both author and critic, with the potential for beginning the process anew.

The relationship between the challenges to authorship offered by Benjamin and Barthes should be compared in order to develop a better understanding of the contemporary challenges to authorship that digital technologies represent. Benjamin analyses the relationship between the singular author and the 'masses,' a generalizing concept that tends to limit the specificity of his argument. Who are the masses? Benjamin's 'masses' – the focus of much theory developed by Frankfurt School theorists – in fact reinforces the very mindset that he hopes to see destabilized

through film viewing. The possibility for individual interaction is restricted by Benjamin's Marxist rhetoric. In 'The Death of the Author' (1977), Barthes discusses a one-to-one relationship between author and reader, a simplified diagram described in general terms that allows for individual preferences to register in the interpretation of the text.

A hybrid of the two theories of authorship is best suited to address the critical potential of an aesthetics of cloning. The technologies that allow for shifts in authorship must be accounted for without relying upon a generalized notion of 'the masses' as subject.

The shift in authorship associated with Internet use continues to blur the distinction between author and reader. The ability for computer users to effortlessly cut and paste - a radical action described by Benjamin in his description of montage as "dynamite of the tenth of a second" (1968, p. 236) - is now standard to most computer programs. As Manovich points out: "What before involved scissors and glue [photomontage] now involves simply clicking on 'cut' and 'paste.' And, by encoding the operations of selection and combination into the very interfaces of authoring and editing software, new media 'legitimizes' them" (2001, p. 130). Manovich sees the perfect materialization of this cultural adoption in the Internet. While the notions of public and author may be closer than ever through these interfaces, they have not collapsed as theorized by Benjamin, nor has the notion of authorship been subsumed by the actions of the digital reader. Every human being does not have his or her own homepage. As the Internet develops, the potential for polyphonic voice is continually in danger of being silenced by conglomerated media force, as it has been in earlier media forms that presented revolutionary possibilities: film, radio, television (Lovink, 2003).

I argue that the process of cloning, as an artistic act, benefits art educational practice in three ways. First, it deemphasizes the pursuit of authenticity and the aura of the original that is reinforced in art educational practices that rely upon mechanically reproduced images. Second, an aesthetics of cloning would take into consideration the role that technologies play in how works of art are both created, distributed, and understood. It would acknowledge contemporary practices based in appropriation and sampling, allowing for the discussion of related ethical

issues. Third, and most importantly, it would allow for issues of authorship and power related to works of art to be directly addressed. An aesthetics of cloning would raise issues that are relevant to both contemporary artistic practices as well as activities common to computer users in a network society.

These three principles that form an aesthetics of cloning can be seen in the work of Michael Mandiberg, a new media artist who has taken the strategies of appropriation initiated by Marcel Duchamp and Sherry Levine and translated them into digital form.

Digital Readymades and Flickering Authorship

One of the most familiar examples of appropriation from the age of mechanical reproduction is Marcel Duchamp's *Fountain* (1917) (Naumann, 1999). The famous attempt to recontextualize the mass-produced urinal was seen as a direct challenge to the authority of the Society of Independent Artists, the organization of which Duchamp was part (de Duve, 1996). His strategies of appropriation, best exemplified in his 'readymade' sculptures, have influenced a number of artists throughout the 20th century. One of the most provocative is Sherry Levine. Her urinal cast in brass, titled *Fountain (After Duchamp: 1)*, extends Duchamp's critical gesture to address issues of commodification and gender.

Her appropriation of Walker Evans' photographs of Alabama sharecroppers from the 1930's (*After Walker Evans*, 1981) also extend the critical potential of strategies of appropriation. These photographic replicas once again challenge the status of the (typically male) artist as mythic genius. These photographs have recently been appropriated yet again, by an artist named Michael Mandiberg. It is in the digital readymades 'authored' by Mandiberg that the shift from mechanical reproduction to digital replication, to an aesthetic of cloning, can be seen.

The websites created by Mandiberg in 2003 exist in two forms. One is titled 'aftersherrylevine.com,' the other 'afterwalker evans.com.' Both are otherwise identical. They depict the same image, and display the same text. In his explanatory text on both pages,

Mandiberg describes the extension to the notion of the readymade that his websites represent. Providing the viewer with the ability to download and print the digital appropriation of the photochemically appropriated image, Mandiberg provides an example of the open-ended nature of digital images as presented on the Internet.

His identical websites continue the strategies of Duchamp and Levine. However, the digital nature of his project allows the viewer of the work to participate in the process of appropriation, and raises questions concerning the authority of the 'original.' When one can download and manipulate an iconic image such as the Walker Evans photograph, is the originality of the image maintained, possibly reinforced, or is it challenged through a shift in authorship? Does this process eliminate the physical and conceptual distance between the Evans photograph and the Levine appropriation, or does it allow for it to be increased? Does it challenge or reinforce the authority of the artist.

These are questions that should be answered by art educators interested in addressing issues related to contemporary artistic processes based in cloning. The work of Michael Mandiberg allows the appropriation strategies from an age of mechanical reproduction to be compared with an aesthetics of cloning relevant to a digital age, and further informs the project presented by Keith.

The sculptor creates something new from preexisting materials. The filmmaker cuts and reassembles images. The DJ splices together bits of sound. Keith operates between these positions, performing this process physically and digitally, in 'real-time,' for the class to see. He lifts the veil on the editing process, supplying the class with visual proof of his actions, the jarring montage of the Dadaist filmmaker replaced by effortless gliding of sound tracks on a screen. While the film is presented as a finished product, Keith's sounds are not. They are never fixed in space or time, as the bits of sound are retained even as they are modified. Cloned sounds exist to be used infinitely, in opposition to the physicality of the sculptural object or the film stock, which can only be reassembled so many times before they are reduced to fragments.

The possibility for perpetual deconstruction and reconstruction is unique to new media. Although Manovich (2001) debunks the idea that digitized information retains the potential to be infinitely cloned, stating that each reiteration actually represents a loss of information via compression, digitally simulated information is never fixed. It is continually mutable. Hayles (1999) describes this situation in poststructural terms as a *flickering signifier*.

We may think of the concept of authorship as flickering in much the same way. Digital technologies allow for the user to shift between construction and combination, interacting with large groups, individuals, or even one's self. Art educators might respond to the relevance of the aesthetics of cloning by addressing this situation, responding to these changes as they affect our own authorship in art educational spaces. We must also acknowledge our reliance upon – and perpetuation of – reproductions. Each slide projected in front of agitated elementary schoolers, each poster taped to the wall of high school classrooms, each image of student work displayed on a webpage is a perpetuation of the mechanical reproduction described by Benjamin. As we think about the possibilities for digital reproductions in the classroom – made effortless by high-power search engines such as Google that search specifically for images – we must consider the effects that accompany these technologies. Do they serve to reinforce the authenticity of the image and the authority of the artist, or can they provide for critical response? They might do both, flickering between poles of control and critique. Art educators who use digital technologies, based as they are in the process of cloning, might see themselves as reinforcing hierarchies only to critique them, dismantling aura only to create new forms of distance. In a digital era the death of aura and the death of the author are reversed, creating opportunities for everyone to participate in the production, consumption, and appropriation of images.

Epilogue: Cloning Art Education – Celebration or Mourning?

The sound/sculpture of Keith and the digital readymades of Michael Mandiberg present contemporary challenges to notions of originality and authorship. These are issues that are truly

contemporary, and that inform many aspects of daily life, from file sharing to downloading music to viewing popular films to communication in general. They should be addressed by art educators as relevant aspects of contemporary artistic practice, regardless of access to computers or interest in digital media.

Art educators should address the aesthetic shifts that have accompanied mechanical reproduction, and that are taking place in an era of digital simulation, as ours is a field based in the reproduction (and replication) of images. We participate in this process each time we display an art poster, project a slide, or share an interesting URL with our students. If we do not acknowledge our complicity in this process of cloning, we miss the opportunity to pose culturally relevant, technologically critical questions.

The challenges to contemporary notions of authorship that Keith's project represents should be compared to practices in art classrooms. How often do educators include students in the process of constructing knowledge, challenging their own authorial status? What is gained through the acknowledgement of new technologies, new ways of seeing and making? What, if anything, is lost? We, as always, have a choice in the matter. Do we mourn the death of the author and the destruction of aura, or do we celebrate the creation of new aesthetic possibilities that are a product of contemporary digital technologies, possibilities that are quite familiar to students in a digital age? Our answers are created, and cloned, each new day.

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