# ELECTRONIC ART AND THE LAW:

## INTELLECTUAL PROPERTY RIGHTS IN CYBERSPACE

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Intellectual property is an important issue in the age of electronic information. The impact of electronic technology on the rights of artists is being debated worldwide. Changes in the way we create and disseminate works of art require revisions in the copyright law to protect the rights of authors and artists. The copyright law protects the commercial value of artwork, and the degree of intellectual property protection afforded new forms of electronic art will impact the way this work is created, critiqued, and marketed.

The dematerialization of art which began in the 1960s has reached new heights with the use of electronic media. Many forms of electronic art exist as intangible objects in an abstract digital format. Current copyright laws, derived from a history of the print medium, are based on fixed forms of communication and do not adequately protect the intangible, plastic forms of artistic expression created with electronic media.

This paper shows how current copyright legislation does not reflect the changing dynamics of electronic art, including postmodern perspectives that blur distinctions between original artwork and copies, and new forms of authorship defined by collaborative and interactive works of art. This paper also takes a look at the legal and commercial implications of artistic appropriation in cyberspace.

### Copies and originals

With electronic media, the concept of "original" artwork no longer presumes a unique or rare object. One set of data can result in many works that vary in size, color, and medium, depending on the method of display or reproduction. Furthermore, we cannot view the artwork in its original digital format, we must view a *translation* of that format. In computer simulations and virtual reality artwork, it is especially difficult to sort through these philosophical paradoxes and define the meaning of original art. While the actual works of art themselves may be original, they are also simulations of real (or original) objects and experiences. As with photographs, the creative value of computer simulations and virtual reality environments is based on the likeness of the original.

Hence, in the digital medium where it is possible to make exact copies of artwork, where virtual interpretations of the original may be the essence of the creative experience, and where

copies are required for data transmission over electronic networks, more commercial value may be assigned to copies or reproductions than originals. Since copyright law protects the right to make reproductions, adequate copyright legislation is essential for digital works of art.

**Authorship and copyright**

The foundation of the copyright law is based on authorship. The United States Copyright Act states that statutory copyright "vests initially in the author or authors of the work" [1]. Throughout history, however, the concept of authorship, as defined by the copyright law, has changed. Peter Jaszi, a professor at Washington College of Law, points out that authorship used to be the critical foundation of copyright protection [2]. The significance of authorship in the creative process reached new heights during the eighteenth century when authorship was linked to the Romantic movement in literature and deemed synonymous with creativity and genius [3].

However, with the "commercialization and the commodification of print culture" in the nineteenth century, the "concept of work" gradually replaced the importance of authorship as a basis for copyright protection [4]. Any work was eligible for copyright so long as it did not duplicate existing works. In Alfred Bell & Co. v. Catalda Fine Arts, the court issued an opinion that reduced the significance of creativity as a criterium for authorship:

All that is needed to satisfy both the Constitution and the statute is that the "author" contributed something more than a "merely trivial" variation, something recognizably "his own." Originality in this context "means little more that a prohibition on actual copying." No matter how poor artistically the "author's" addition, it is enough if it be his own [5].

There have also been changes in the role of authorship in electronic art. With electronic media, the dematerialization of artwork, the lack of tactile qualities, and the absence of the "artist's hand" negate the visible presence and authority of the artist. Moreover, in interactive collaborative works, there are multiple authors, and under the copyright law, all of the authors have equal intellectual property rights. The size of their individual contributions or the amount of creativity in the contributions is irrelevant. The law merely states that a copyrightable work of joint authorship is "a work prepared by two or more authors with the intention that their contributions be merged into inseparable or interdependent parts of a unitary whole" [6].

To complicate matters further, with interactive works of art, the boundary between author and viewer is blurred. Some hypertext/hypermedia computer programs enable the user to create new paths or links through the program as well as add annotations to the original material. According to the copyright law, a new work of creative expression based on a previous work constitutes a derivative work which is also copyrightable. However, only the copyright owner of a work can authorize the creation of derivative works. If the user of a hypermedia program adds links or information to the program, does this new material constitute a derivative work? Can the user claim a derivative copyright to these new sections? There are no clear answers in today's copyright legislation.

Joint authorship of artwork raises important questions concerning the protection of intellectual property rights and ultimately, the protection of the commercial value of the artwork. If there are multiple authors, each author or artist owns the copyright to the work. Hence, each artist can independently authorize the reproduction of the artwork and the creation of new works derived from the art. Pamela Samuelson, a law professor and expert on intellectual property rights in computing, points out that "Joint authorship fractionates ownership rights, rather than consolidating them" [7]. Samuelson goes on to note that electronic technology compounds the problem of ownership fractionation and creates a "nearly unsolvable fractionation problem" because computers can access information owned by numerous authors, each of whom may have an ownership interest in the final product [8].

In addition to multiple authors in electronic art, there are some new forms of authorship that do not fit the "traditional" interpretation of authorship. For example, the concept of authorship implies someone who makes a concrete contribution or addition to a work. "Non-authors" or "destructive" authors who create computer viruses that destroy information are not included in this perception of authorship.

Other important questions of authorship stem from the use of artificial intelligence in computer programs. Who is the author of a poem, image, or story generated by a computer program? Samuelson identifies five prospects: the computer, the programmer, the individual who uses the program, the programmer and the user, or no one [9]. Samuelson uses legal arguments to conclude that the user is the author of a computer-generated work. However, she points out that there is no definitive answer in the United States Copyright Act because the law does not define *author* or *authorship*; it merely describes some examples of authorship [10]. Some countries have defined the author of a computer-generated work as the user or person who defines the query [11]. However, until this question is addressed on an international level, artists using artificial intelligence techniques in their work may not receive adequate copyright protection.

**Inadequacies of the copyright law**

In electronic environments where it is easy to make exact digital reproductions of files, where the "original" artwork may change continually, and where multiple authors can create an infinite number of derivative works, the importance of copies, reproductions, and derivative works takes on new significance. Since the commercial and aesthetic value of copies may be as

great or greater than the originals, adequate copyright protection is paramount. However, there are important gaps in the current copyright legislation that may impact electronic works of art. Several of these issues are discussed below. While this discussion refers specifically to the United States Copyright Act, similar problems exist in other copyright laws.

**Difficulties in Determining Infringements**

When determining copyright infringements, the courts evaluate the "substantial similarity" between works of expression. However, there are inherent philosophical problems in identifying similarity between objects. As Nelson Goodman points out, there are too many variables in defining similarity. Similarity often depends on perspective as well as context and purpose [12]. For this reason, the courts have devised several tests for evaluating similarity. The test traditionally used to determine substantial similarity is called the "subtractive test" [13]. This test divides a copyrighted work into copyrightable and noncopyrightable items and compares only the copyrightable items with the allegedly infringing work.

However, with electronic information, it is often difficult to determine similarity and prove infringement for the following reasons:

1) Electronic media raise new questions regarding similarity that are not addressed by the current legal tests for similarity. In digital art, similarity may be based on algorithmic similarities as well as audiovisual comparisons [14]. With these types of similarity, the issue of function versus expression must be considered. If two works contain algorithmic similarities that involve similarities of functions or processes, there is no copyright infringement because functions and processes are *patentable* not *copyrightable* [15]. However, algorithmic functions in artwork are usually coupled with expression, which is copyrightable. Therefore, in order to prove infringement, the artwork would have to patented as well as copyrighted.

2) When determining copyright infringement, the courts have ruled that an "ordinary observer" must be able to discern "substantial similarity" [16]. In Dawson v. Hinshaw Music, the court clarified this interpretation by stating that the ordinary observer should be the "intended" audience for the work [17]. However, with electronic communication and networking, it is increasingly difficult to identify the intended audience. In mass communication models, such as those defined by computer networking, information may not be directed to a known or specific audience [18]. Furthermore, with electronic media, it is possible to modify and synthesize data to a point where an "ordinary observer" (or a trained expert for that matter) cannot determine the original source in order to evaluate the similarities.

3) In interactive programs, the users may add annotations or new links to the program. As previously noted, these "similar" programs could be considered derivative works which would constitute a copyright infringement because only the original author has the right to create derivative works. These new issues concerning user interaction and derivative works are not addressed by the current copyright law. Moreover, the courts have had difficulty defining derivative works. Court decisions and the copyright law do not make it clear whether "the derivative work must be substantially *similar* to the prior work or that it simply must incorporate in some form a portion of the prior work" [19]. If the law isn't clear on the issue of similarity in the basic definition of derivative works, it will be especially difficult for the courts to define the rights of authors in new forms of interactive works where the boundaries between authors and users merge.

**Electronic Dissemination of Information**

The electronic dissemination of information raises new issues in intellectual property rights that are not addressed by current copyright legislation. The nature of the medium itself and the techniques used to transmit electronic data mandate changes in some of the terminology and definitions found in the copyright law.

To begin, the meaning of the word "copy" must be redefined within the context of electronic technology. Loading a digital file into a computer, uploading or downloading digital data between a computer and a server, and displaying an electronic work on a computer screen create copies which may be copyright infringements. In MAI Systems Corp. v. Peak Computer, Inc. and in Advanced Computer Services v. MAI Systems Corp., the loading of copyrighted software into the computer's random access memory constituted an infringing reproduction [20].

On electronic networks, it is not possible to transmit information without creating copies. The copyright law must be revised to define how and when copies can be made for electronic transmission without constituting an infringement. In a recent Internet discussion on this topic, one participant summed up the critical issues as follows: " . . . the important consideration about copying is what is done with the copy, not how the copy is made, and . . . the new definition of "copy" in the copyright domain will take that into account" [21].

Problems also exist concerning the importation of work over electronic networks. Section 602 of the U.S. Copyright Act states that copies and phonorecords acquired outside the United States cannot be imported into the U. S. without the permission of the copyright owner. However, the use of electronic networks to import digital data is not considered an "importation" because no tangible objects are being imported. In other words, anyone in the U.S. can import electronic files without the permission of the copyright owner.

**Inadequate Categorization**

The copyright law covers eight categories of protectable information: 1) literary works, 2) musical works, 3) dramatic works, 4) pantomimes and choreographic works, 5) pictorial, graphic, and sculptural works, 6) motion pictures and other audiovisual works, 7) sound recordings, 8) architectural works [22]. However, there is no category for interactive multimedia computer programs. While multimedia works may include elements from several of these categories, most multimedia works are registered as audiovisual works. Technically, under the copyright law, multimedia works receive protection under all applicable categories even if they are only registered under one category. While this type of umbrella protection may seem adequate on the surface, there is concern in the legal arenas that the courts may not award complete protection under all applicable categories [23]. In the United States Department of Commerce, a Working Group on Intellectual Property Rights published a green paper which states that a work which doesn't fall into one of the copyright categories is in a "copyright no-man's land" [24]. The report goes on to point out that "proper categorization" is critical for copyright protection because some rights as well as some limitations in the copyright law are category specific [25].

Interactive multimedia programs are not the only artworks with inadequate protection under the existing copyright law. A work of art may contain elements that do not receive any copyright protection. As previously noted, if a work of art uses algorithmic functions or processes, those elements are not copyrightable. This copyright distinction is significant because the lines between creative expression and function often merge in today's electronic art, especially in interactive works. In addition, it should be noted that works of art that are transmitted via satellite communication or electronic networks are not copyrightable unless they are "fixed" in a permanent format. In other words, those works must be documented (e.g., videotaped, stored on disk) in order to be copyrightable. Of course, this legal requirement for intellectual property protection may conflict with the aesthetic goals of an artist who specifically uses telematic communication to avoid the temporal and physical constraints of documentation.

The lack of intellectual property protection for certain types of artwork may impact the direction of future art forms as well as determine how new works of art are marketed and published. These problems will continue to increase as new forms of art emerge and challenge the parameters of the copyright law.

**Appropriation of copyrighted work**

Throughout history, artists have incorporated imagery created by others into their work. Contemporary artists often use appropriated images and symbols for social commentary, and the appropriation of copyrighted works has often resulted in legal complaints.

Larry Rivers incorporated part of a famous photograph of Picasso, taken by Arnold Newman, in a print that was part of his 1975 *Homage to Picasso* portfolio. Rivers claimed that since he used only a small part of the photograph (a section around Picasso's eyes) the use was legitimate and comparable to using a quote [26]. Newman didn't agree with this analogy because he was never credited as the author of the photograph. This case resulted in a heated dispute that was publicly aired in the *New York Times*.

Robert Rauschenberg ran into problems with photographers Dennis Brack and Morton Beebe. Brack complained when Rauschenberg used his *Newsweek* photograph of the Detroit riots in a print called *Signs*, and Morton Beebe initiated a lawsuit when Rauschenberg reproduced a photograph called *Diver* in a print entitled *Pull*.

Andy Warhol received legal complaints from photographers Charles Moore, Fred Ward, and Patricia Caulfield. Warhol used three of Charles Moore's photographs of the Birmingham race riots in a 1964 painting called *Race Riot*. He also used a *Life* magazine cover photo of Jacqueline Kennedy Onassis, taken by Fred Ward after President Kennedy's assassination, in several prints and paintings. Patricia Caulfield sued Warhol when she discovered that he had used one of her photographs in his 1964 series of paintings and prints called *Flowers*.

All of these cases were settled out of court. The photographers and their agents or attorneys received works of art from Rauschenberg and Warhol [27]. Beebe also received a promise that he would be acknowledged as the author of the photograph *Diver* in future exhibition catalogs of Rauschenberg's art, and Caulfield received a promise of royalties on future uses of her image by Warhol.

Unfortunately, because these cases were settled out of court, no legal precedents were set concerning artistic appropriation of copyrighted material. In the world of digital communication, these types of legal disputes are certain to escalate. With electronic networks, all artists, not just well-known artists, have a mass distribution network for their work, and copyright infringements are more likely to be identified. Moreover, with digital technology, it is very easy to reproduce artwork, further increasing the prospects for copyright infringement.

Martha Buskirk points out in her article "Commodification as Censor: Copyrights and Fair Use" that legal problems are most likely to arise when there is an intersection of reproduction technologies [28]. For example, if the appropriated material is reproduced in a similar medium (such as an electronic medium), the courts may find it easier to use the similarity tests to prove infringement. As previously mentioned, the "subtractive" test has traditionally been used to prove similarity in infringement cases. However, two other tests, the "totality" test and the "extrinsic/intrinsic" test, have become increasingly popu-

lar in the courts [29]. Both of these tests compare works using a "total concept and feel" standard to determine substantial similarity. If two works use a similar medium, the "total concept and feel" of the works are inherently similar.

In addition, when two works are produced in a similar medium, there may be a greater chance that the appropriated work will compete in the market with the original work, an important economic determinant in cases that involve "fair use" claims. The fair use provision of the U. S. Copyright Act allows copyrighted work to be reproduced without the copyright owner's permission "for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research" [30]. However, the use of the material must comply with certain statutory criteria, one of which pertains to the impact the use of the work will have on "the potential market for or value of the copyrighted work" [31].

Artists will also find it increasingly difficult to use mass media images in social commentaries because many of these images are commercial symbols that are valuable commodities. With the widespread distribution of artwork over electronic networks, many works of art will be assimilated into cultures and become mass media symbols and subsequently, targets of appropriation. In Bleistein v. Donaldson Lithographing Co., a Supreme Court Case involving the reproduction of three circus posters, Justice Oliver Wendell Holmes said that the circus performers, who were the original subject matter for the posters, could be copied but the posters themselves could not be reproduced. He delivered a famous opinion in which he stated, "Others are free to copy the original. They are not free to copy the copy" [32]. However, the court at that time did not foresee the media-saturated cultures of today in which objects, people, and activities would symbolize commercial interests.

As a result, electronic artists who appropriate work for social or political commentary may find themselves caught in an unforgiving web of intellectual property battles. Commercially successful artists like Rauschenberg and Warhol may be able to resolve appropriation disputes by compensating other artists for the use of their work with gifts of artwork, royalties, and promises of future acknowledgment. However, artists who do not have an established market value for their work may not be able to settle their legal problems so easily.

Such commercial inequities may impact the interpretation of intellectual property law in the courts. Commercial interests that stand to gain from artistic appropriation, such as companies that consider the public exposure and association with a renowned artist a beneficial form of advertisement, may set precedents by settling out of court or opting to ignore the infringements completely. The work of some successful artists may become popular cultural symbols that are subject to frequent appropriation. The copyright law does not distinguish between different calibers of authors. However, if commercial hierarchies in the art community begin to dictate discriminating standards for resolving cases involving artistic appropriation, we may eventually see the courts attempt to enhance equity under the copyright law by restricting the criteria for fair use, thus limiting the ways copyrighted material can be used for research, criticism, and artistic expression.

**The new legal arena**

Electronic communication will accelerate the commodification of mass media images and works of art. Artists will find it increasingly difficult to successfully navigate the legal tight ropes that spring up along the way. Ironically, the legal system itself will not provide a stable foundation to address these challenges. The use of electronic databases in the legal profession will encourage frequent updates and undermine the stability formerly established by precedents [33]. As a result, court cases will be less authoritative and less final. Many cases will be settled using appeals processes that have yet to be devised, and the legal nightmare will escalate.

Changes in the copyright law are needed to clarify existing legal ambiguities concerning the creation and dissemination of electronic information. These changes, however, must reflect the new dimensions in authorship that have evolved, in part, because of the growth of electronic communication. Authorship in the twentieth century is becoming increasingly pluralistic with less emphasis on one view or opinion. This new perspective recognizes that authors and artists do not operate in a vacuum isolated from the creative ideas of others. Current copyright law is not directed toward this new concept of authorship. Instead, copyright law is founded on a Western interpretation of authorship that emphasizes individual ownership of a creative work in order to facilitate the marketing of the work.

The copyright law must support the dynamic, multilateral dimensions of the creative process that are reflected in many new forms of social discourse and electronic art. The law and society have traditionally legislated power and authority to *stable* forms of expression. The law must now reinterpret these ideals within the context of a dynamic communication structure where *change* is the essence of authority and power.


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9. Samuelson [7] p. 1190.
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11. In the United Kingdom, the Copyright, Designs and Patents Act defines a computer-generated work as "a work that is generated by computer in circumstances such that there is no human author of the work" and provides that, for copyright purposes, the author is "the person for whom the arrangements necessary for the creation of the work are undertaken" [Copyright, Designs and Patents Act, 1988, ch. 48 178 (Eng.)]. Hence, the author is the person who defined the query not the programmer. In Australia, the Copyright Law Review Committee has recommended a similar position and stated that the author should be defined as a) the person who arranges for the creation of the work or b) the person for whom the arrangements necessary for the creation of the work are undertaken [Wodetzki, Jamie, "An odd copyright question." Electronic message to CNI-copyright (electronic discussion group). 7 October 1994. 11:29:52 EST. Available from listserv@cni.org.].
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27. Ironically, Warhol gave Charles Moore prints from the *Flowers* series.
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31. Section 107 of the copyright law lists four statutory factors that are used to determine if the use of a work in a particular case is fair use: "(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work."
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