

ARTICLE

STATUTE OF ANNE-IMALS: SHOULD COPYRIGHT PROTECT SENTIENT NONHUMAN CREATORS?

By
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This article explores questions of whether copyright protection can and should extend to works created by captive animals such as gorillas, chimpanzees, and elephants. Commentators have considered similar questions in the artificial intelligence context and generally rejected the notion that computers can create works sufficiently free of human involvement to merit copyright protection. As our understanding of animal intelligence increases, however, the case for reconsideration of copyright’s constitutional and statutory boundaries becomes stronger. This article examines those boundaries and offers a proposal for granting limited copyrights to animals under a theory along the lines of David Favre’s equitable self-ownership concept.

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I. INTRODUCTION

In June 2005, an auctioneer at Bonhams, a London auction house “[recognized] worldwide throughout all sectors of the fine art, antiques[,] and collectors market”¹ opened bidding on three previously unknown, untitled abstract tempera paintings.² The works, part of a sale of modern and contemporary art that included paintings by Renoir and Warhol, fetched some \$25,620,³ far exceeding predictions that priced the paintings only as high as \$1,500.⁴ Born in 1954, the painter produced about four hundred drawings and paintings between the ages of two and four before his premature death of tuberculosis at age ten.⁵ “His artwork provoked reactions ranging from scorn to skepticism among critics of the time. His fans may have included . . . Pablo Picasso,”⁷ who reportedly hung a painting by the artist—known as “Congo”—in his studio.⁶

But Congo was a chimpanzee, not a human. Some might say that he was not an artist at all.⁷ Increasingly, however, animals’ interactions with art materials are leading artists and others who encounter them to react differently and raising questions of the meaning of art.⁸ Five years before the Bonhams sale, Christie’s conducted a similar auction of fifty paintings by seven Asian elephants.⁹ These works, created through the efforts of Russian artists Vitaly Komar and Alexander Melamid, fetched more than \$30,000.¹⁰ Elaine de Kooning, the wife of abstract painter Willem de Kooning, reported that she and her husband responded favorably to drawings made by an elephant called

¹ Bonhams, *About Us*, <http://www.bonhams.com>; *select* About Bonhams (last accessed Nov. 8, 2008).

² Bonhams, *Sale 11928—Modern & Contemporary Art, 20 Jun. 2005*, <http://www.bonhams.com/cgi-bin/public.sh/pubweb/publicSite.r?sContinent=EUR&screen=lotdetailsNoFlash&iSaleItemNo=2525716&iSaleNo=11928> (last accessed Sept. 18, 2008).

³ CBS News, *Dead Chimp’s Art Sells Big*, <http://www.cbsnews.com/stories/2005/06/20/entertainment/main703057.shtml> (June 20, 2005) (last accessed Nov. 8, 2008).

⁴ *Id.*

⁵ *Id.*

⁶ *Id.*

⁷ Howard Rutkowski, the auction house’s director of modern and contemporary art, stated after the sale that “[we] had no idea what these things were worth . . . We just put them in for our own amusement.” *Id.*; see also CNN.com, *Elephants’ Artwork: Raising Cash and Eyebrows*, <http://archives.cnn.com/2000/STYLE/arts/03/22/life.art.reut/> (Mar. 22, 2000) (last accessed Nov. 20, 2008) (quoting an anonymous participant in Christie’s auction of elephant-created artworks as saying: “If this is art then aliens have taken over the planet.”).

⁸ CNN.com, *supra* n. 7.

⁹ *Id.*

¹⁰ *Id.*

Siri.¹¹ Ms. de Kooning wrote that “they had a kind of flair and decisiveness and originality. . . . They are not accidental. They have the same kind of rhythm and verve one sometimes observes in the little dance steps [of] elephants”¹²

Regardless of the critical aesthetic lens through which one chooses to view the products of animals’ manipulations of art media, profound implications exist in recognizing animals as creators motivated to express, through artwork, thoughts or feelings analogous to those felt by human artists. The U.S. Supreme Court’s general rule that a copyrightable work’s “author is the party who actually creates the work, that is, the person who translates an idea into a fixed, tangible expression entitled to copyright protection”¹³ invites consideration of the degree to which “person” should be interpreted literally when the Court’s broader pronouncement that an author is one “to whom anything owes its origin; originator; maker; one who completes a work” is taken into account.¹⁴ Commentators have examined that question extensively in the context of computer-generated works.¹⁵ This article applies a similar approach in the context of the many nonhuman living creators whose works seem to merit at least as much consideration.¹⁶

Part I provides a background on the traditional view of copyright as a system to encourage production and dissemination of human creativity through recognition of exclusive rights. Because such rights are of little value unless they are made enforceable, this part also discusses registration and the benefits accorded copyright registrants. Part II examines judicial opinions considering the effect, if any, of nonhuman creativity on copyright authorship and ownership. Here, the article focuses on the conceptual and practical problems of extending copyright ownership to creative works by artificially intelligent computers in light of the purposes discussed in Part I. Part III then considers whether the rationales for rejecting nonhuman ownership in the mechanical context represented by the computers discussed in Part II extend to the biological context represented by animals like Congo and Siri. Part III also considers whether such animals’ works meet copyright’s authorship requirements and, if so, the alternatives under current copyright law for protecting the exclusive rights in those works. Finally, Part IV proposes an equitable title concept of copyright ownership shared between animals and the human organizations to which

¹¹ Gary Kowalski, *The Souls of Animals*, 41–42, 47 (Stillpoint Publ. 1991) Siri is a resident of Syracuse’s Burnet Park Zoo. *Id.*

¹² *Id.* at 48.

¹³ *Community for Creative Non-Violence v. Reid*, 490 U.S. 730, 737 (1989).

¹⁴ *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 58 (1884).

¹⁵ See Melville B. Nimmer & David Nimmer, *Nimmer on Copyright* vol. 1, § 5.01[A], 5-5 (LexisNexis 2008) (“In the secondary literature on copyright, rivers of ink are spilt on” whether computers can be considered authors for copyright purposes.).

¹⁶ See Kowalski, *supra* n. 11, at 48 (noting interest of abstract painter Willem de Kooning in following the artistic “career” of elephant Siri after reviewing her drawings).

they may be connected, a means of recognizing the contributions and protecting the interests of animal authors.

II. COPYRIGHT AUTHORSHIP AND REGISTRATION

A. *Traditional Views*

Under United States copyright law, protection for a work vests in its author automatically upon its creation,¹⁷ provided the work satisfies a minimum level of creativity.¹⁸ Copyright in an unpublished work and the work itself come into existence at the same moment.¹⁹ Thus, unless a work is created for hire or assigned, ownership is also determined as of that moment.²⁰

When an animal's actions determine the moment of creation, however, an unanticipated analytical challenge occurs. In such a case, a copyrightable work—a painting, drawing, or perhaps even a photograph²¹—exists. Copyright must therefore inure in some designee. The question is, if not the animal, then who, if anyone?

Broad and traditional notions of copyright authorship assumed the answer to that question was limited to human creators.²² While a number of authorities set forth copyright's purposes in terms that would seem to encompass creativity itself, rather than merely that creativity produced by human beings, these purposes in practice have thus far ultimately restricted themselves to humans. But no definition of "author" appears in the copyright statute.²³ Neither does the Constitution's reference to authors mandate that they be human.²⁴

¹⁷ 17 U.S.C. § 201(a) (2006) (copyright attaches upon a work's physical creation regardless of whether the author takes any further action). "As to works created today or in the future, copyright attaches automatically as soon as the work is put down on paper, tape, digital disk, or some other tangible medium." Robert A. Gorman & Jane C. Ginsburg, *Copyright* 39 (2006).

¹⁸ *Feist Publications, Inc. v. Rural Tel. Serv. Co., Inc.*, 499 U.S. 340, 346, 359 (1991).

¹⁹ William F. Patry, *Patry on Copyright* vol. 7, § 25.52, 25–158 (Thomson West 2008).

²⁰ *Id.*

²¹ See David Eggers, *Portrait of Artist with Trunk*, *Esquire* 65, 156 (Dec. 1998) (describing artist Alex Melamid's work with animals painting and noting unconfirmed report that chimpanzee in Moscow had learned to take photographs).

²² The 1971 Universal Copyright Convention, for example, provides that one of its purposes is to "encourage the development of literature, the sciences[,] and the arts," which seems indifferent to the source of creative works in any of those areas. But the Convention also describes the purposes of "[ensuring] respect for the rights of the individual" and "[facilitating] a wider dissemination of works of the *human* mind" *Universal Copyright Convention* (July 24, 1971), 25 U.S.T. 1341, 1344 (emphasis added). Rights-holders eligible for respect under the Convention thus appear to be limited to humans. See also Copyright Act of 1909, ch. 320, 35 Stat. 1075, 1075 (1909) (setting forth exclusive rights vested in "any *person* entitled thereto . . ." (emphasis added)).

²³ 17 U.S.C. § 101 (no defined terms appear between "Audiovisual works" and "Berne Convention").

²⁴ Arthur R. Miller, *Copyright Protection for Computer Programs, Databases, and Computer-Generated Works: Is Anything New Since CONTU?*, 106 *Harv. L. Rev.* 977, 1065 (1993).

Some judicial interpretations have suggested that play exists in the constitutional definition of “writings,”²⁵ and nothing in the Constitution’s text explicitly constrains the meaning of “authors.” As this article will discuss, there is little reason to do so where a broader interpretation would serve the constitutional purpose. Even so, copyright law’s position on the meaning of “authors” appears firmly entrenched. In its 1984 Compendium II of copyright practices, for example, the United State Copyright Office [hereinafter Copyright Office] stated that “[the] term ‘authorship’ implies that, for a work to be copyrightable, it must owe its origin to a human being. Materials produced solely by nature, by plants, or by animals are not copyrightable.”²⁶

Although this bright-line perspective is likely to resist adjustment,²⁷ its rationale is not immediately apparent.²⁸ Additional or alternative authorial characteristics “range from sweat of the ordinary brow, to highly skilled labor, to intent to be a creative author, to investment.”²⁹ Whether the reasons for rejection apply in the nonhuman context where other sentient entities are involved has not been considered. Rather, it may simply be that authorship has been limited to humans because they create most copyrighted works. Initially, copyright was limited to charts, maps, and books,³⁰ works seemingly limited to human origins.³¹ But the Copyright Clause neither supports nor opposes such a limited view. It provides only that “authors” create the “writings” protected under the text.³²

It would likely not have occurred to the Framers that anything or anyone except a human could be an author. Thus, literal readings of constitutional provisions do little to resolve the question of whether a nonhuman would have been considered an author if its works were

²⁵ See *Goldstein v. California*, 412 U.S. 546, 561 (1973) (interpreting “writings” as potentially including “any physical rendering of the fruits of creative intellectual or aesthetic labor”); *In Re Trademark Cases*, 100 U.S. 82, 94 (1879) (“And while the word *writings* may be liberally construed, as it has been, to include *original* designs for engravings, prints, &c., it is only such as are original, and are founded in the creative powers of the mind.”) (emphasis in original).

²⁶ U.S. Copyright Off., *Copyright Office Practices Compendium II* § 202.02(b) (1984) [hereinafter *Compendium II*].

²⁷ See Pamela Samuelson, *Allocating Ownership Rights in Computer-Generated Works*, 47 U. Pitt. L. Rev. 1185, 1199 (1986) (“In the long history of the copyright system, rights have been allocated only to humans.”).

²⁸ See Cindy Alberts Carson, *Laser Bones: Copyright Issues Raised by the Use of Information Technology in Archaeology*, 10 Harv. J.L. & Tech. 281, 300 (1997) (suggesting that either “we do not believe a non-human is capable of making choices, or that we have made a policy decision that only human-generated work is protectable.”).

²⁹ Jane C. Ginsburg, *The Concept of Authorship in Comparative Copyright Law*, 52 DePaul L. Rev. 1063, 1064 (2003).

³⁰ Copyright Act of 1790, 1 Stat. 124, 124 (repealed 1802).

³¹ *But see* Racter, *The Policeman’s Beard is Half Constructed* (Warner Software Warner Books 1984). (“Racter” is a computer program and is listed as author of this work of computer-generated prose. Its programmer is registered as copyright owner.).

³² U.S. Const. art. I, § 8 cl. 8.

useful arts. Nonetheless, some commentators seem to suggest that any more nuanced understanding of authorship has neither legal nor any other rational basis.

When considering whether computers alleged to have artificial intelligence could be regarded as creators under copyright law, law professor and software consultant Ralph Clifford asserted that “[throughout] most of history, the worldly source of creativity has been assumed to be the human being.”³³ Clifford infers support from a number of legislative authorities that lend significant and persuasive weight to what appears to be the dominant perspective on authorship.³⁴ Copyright’s limited term, for example (“the life of the author and 70 years after the author’s death”),³⁵ implies that “an author is something capable of dying—a human rather than an artificial entity.”³⁶ Thus, the statute effectively excludes creative machines. Similarly, Clifford infers that since “the statute defines an author’s *widow or widower*, [its] definition clearly eliminates nonhuman entities.”³⁷

Given that marriage is not a copyright requirement, Clifford’s argument is unpersuasive. When examining some other authorities, however, no inductive reasoning is necessary to conclude that “author” equals “human.” Prominent among these is the 1979 Final Report to Congress of the National Commission on New Technological Uses of Copyrighted Works (CONTU). Created in part to “assess the need for possible changes in the copyright law to recognize copyright ownership in works created by the application or intervention of computers,”³⁸ CONTU reported “no reasonable basis for considering that a computer in any way contributes authorship to a work produced through its use.”³⁹ Rather, CONTU compared computers to typewriters, albeit powerful ones, and concluded “copyright depends . . . upon the presence of at least minimal *human* creative effort at the time the work is produced.”⁴⁰

CONTU reached its conclusion despite knowing that early artificial intelligence programs could independently create works that ap-

³³ Ralph D. Clifford, *Intellectual Property in the Era of the Creative Computer Program: Will the True Creator Please Stand Up?*, 71 Tul. L. Rev. 1675, 1676 (1996–1997) (citing *Buddhism: A Religion of Infinite Compassion* (Clarence H. Hamilton ed., F. Max Fuller trans., Bobbs Merrill 1952)).

³⁴ See generally *id.* at 1682–86 (interpreting the statute, legislative history, a report, and the meaning given to the word “author” as evidence for excluding non-living and non-human entities from inclusion).

³⁵ 17 U.S.C. § 302(a).

³⁶ Clifford, *supra* n. 33, at 1683.

³⁷ *Id.* (emphasis added).

³⁸ Evan H. Farr, *Copyrightability of Computer-Created Works*, 15 Rutgers Computer & Tech. L.J. 63, 66 (1989) (citing Natl. Commn. on New Technological Uses of Copyrighted Works Final Rep. 43–44 (1978)).

³⁹ Natl. Commn. on New Technological Uses of Copyrighted Works Final Rep. 44 (1978) [hereinafter *CONTU Rep.*].

⁴⁰ *Id.* at 45 (emphasis added).

peared to involve human creativity.⁴¹ Former CONTU Commissioner Arthur Miller has explained, however, that “CONTU did not attempt to determine whether a computer work generated with little or no human involvement is copyrightable.”⁴² Comparing the CONTU findings to the Supreme Court’s decision in *Burrow-Giles Lithographic Co. v. Sarony*⁴³ a century earlier, Miller noted that both CONTU and the Court avoided the harder questions of authorship in works produced without human involvement.⁴⁴

Moreover, technological advances soon challenged the CONTU conclusions. In a 1986 report, the Congressional Office of Technology Assessment queried whether “comparison of a computer to other instruments of creation begs the question of whether interactive computing employs the computer as a co-creator, rather than as an instrument of creation.”⁴⁵

The premises supporting some of the inductive arguments cited above similarly appear set in rather shallow foundations. The conclusion, for example, that a computer cannot qualify as a creator because it lacks a “life” to which any number of years could be added to determine the terms of its hypothetical copyright is unsupported by its premise. Computer obsolescence is one measure for technological “life,” perhaps even a more effective measure than human life span by its greater precision. “Moore’s Law,” for example, originated in a 1965 observation made by Intel co-founder Gordon Moore that the number of transistors on a chip would “continue to double every eighteen months on average.”⁴⁶ Such a measure might better advance what Congress in its revision of the 1976 Act saw as its “paramount goal . . . of enhancing predictability and certainty of copyright ownership.”⁴⁷

B. Authorship and Copyright Registration

Registration is unnecessary for a copyright’s existence but essential to its practical use. Although an author obtains the bundle of exclusive rights provided in 17 U.S.C. section 401 upon creation of the work, no enforcement of any of those rights is possible without registration.⁴⁸ Under section 411(a), “no action for infringement of the copyright in any United States work shall be instituted until . . . registration of the copyright claim has been made . . .”⁴⁹ A copyright-infringement plaintiff essentially has no standing to assert a

⁴¹ Miller, *supra* n. 24, at 1069.

⁴² *Id.* at 1070.

⁴³ 111 U.S. 53 (1884).

⁴⁴ Miller, *supra* n. 24, at 1070.

⁴⁵ Office of Technology Assessment, U.S. Congr., *The Accommodation of Intellectual Property Rights in an Age of Electronics and Information* 69, 72 (1986).

⁴⁶ John Markoff, *Is Planned Obsolescence Obsolete?*, N.Y. Times 6 (Feb. 17, 2002).

⁴⁷ *Reid*, 390 U.S. at 749 (1989) (citing H.R. Rpt. 94-1476 at 129) (Sept. 3, 1976).

⁴⁸ 17 U.S.C. § 412.

⁴⁹ *Id.* at § 411(a).

claim in an unregistered work.⁵⁰ He or she may still sue after registration for infringement occurring before registration, although without the right to elect statutory damages and recover attorney fees.⁵¹ In either case, however, registration is a jurisdictional prerequisite.⁵²

A copyright's owner or the owner of any exclusive right may register a work with the Copyright Office by paying a fee and completing a registration application based on the type of work for which registration is sought.⁵³ Form VA, for example, applies to registrations of pictorial and graphic works.⁵⁴ Registration forms collect information on the author and work, including dates of death, year of creation, and year of publication, if any, as well as the basis for ownership for persons other than authors.⁵⁵ Such data allow computation of the copyright's duration, assuming the Register of Copyrights accepts the registration.⁵⁶ Indication as to whether the creative contribution was made anonymously or pseudonymously must also be provided, and the author's country of citizenship or domicile must be stated.⁵⁷

Citizenship or domicile information might seem to support an inference that authorship is limited to human beings, but the law also recognizes corporate entities as having citizenship or domicile.⁵⁸ Nevertheless, Copyright Office practices set forth in Compendium II provide that "to be entitled to copyright registration, a work must be the product of human authorship."⁵⁹ Not only did the Copyright Office practices summarily exclude works produced by animals, they closed the door to works produced entirely by "mechanical processes or random selection without any contribution by a human author . . ."⁶⁰ Compendium II's policy positions were intended "for the general guidance of . . . staff in making registrations and recording documents."⁶¹ Even if such internal manuals had legal force, Compendium II is now out of date, and the Copyright Office considers it an unnecessary use of re-

⁵⁰ See *Miller v. CP Chemicals, Inc.*, 808 F. Supp. 1238, 1242 (D.S.C. 1992) (dismissing claim for lack of standing after finding no prima facie evidence of registration without certificate).

⁵¹ 17 U.S.C. § 412.

⁵² Howard B. Abrams, *The Law of Copyright* vol. 1, § 10:8, 10-10 (ThomsonWest 2007) (citing *Conan Props., Inc. v. Mattel, Inc.*, 601 F. Supp. 1179, 1182 (S.D.N.Y. 1984)).

⁵³ 17 U.S.C. § 408. Additionally, the copyright owner of the owner of the exclusive publication right must deposit two complete copies or phonorecordings of the "best edition" of the work. 17 U.S.C. § 407.

⁵⁴ U.S. Copyright Off., Form VA (2006) [hereinafter *Form VA*].

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ 28 U.S.C. § 1332(c)(1) (2006); 28 U.S.C. § 1391(c) ("[A] corporation shall be deemed to reside in any judicial district in which it is subject to personal jurisdiction . . .").

⁵⁹ *Compendium II*, *supra* n. 26, at § 503.03(a).

⁶⁰ *Id.*

⁶¹ 37 C.F.R. § 201.2(b)(7) (2007).

sources to post it on the Internet.⁶² Secondary sources dealing with Copyright Office practice have given it little scholarly attention.⁶³

Consistent with those policy statements, however, one employee has explained that

[as] a practical matter[,] the Copyright Office would not register [a computer's own] work if its origins were accurately represented on the copyright application. The computer program itself would be registrable if it met the normal standards for computer programs, but not the computer-generated literary work.⁶⁴

Notwithstanding this apparent practice, no express requirement prevents either a computer's or an animal's name from appearing as author on the registration form. The form instructions leave determination of authorship entirely to the copyright registrant, who is directed to "decide who are the 'authors' of this work for copyright purposes."⁶⁵

Moreover, a separate section of the form requires identification of the name and address of the copyright claimant, which must be provided "even if the claimant is the same as the author . . ."⁶⁶ The form's indication that either author *or* copyright claimant may obtain registration underscores the distinction between authors, in whom exclusive rights vest, and claimants, who may, but need not, originate the works to which those rights apply. A party's authorship is thus a sufficient condition for registration, but not a necessary one. Copyright registration forms do not appear to condition the ability of authors, or those acting on their behalf, to enforce their exclusive rights on a claimant's species. Indeed, in one case, a computer *was* registered as an author. In 1984, William Chamberlain apparently programmed a computer to write a volume of poetry and prose, registered a copyright naming the program "Racter" as author, and assigned the copyright to himself and the book's illustrator.⁶⁷ Thus, the registration requirements offer little support for a conclusion that authorship is restricted to humans.

III. IS THERE NONHUMAN CREATIVITY?

Copyright protects the expressions of ideas originating in an author's mind. The corollary of this foundational principle of copyright

⁶² IP Mall: Franklin Pierce Law Center, *Compendium II: Copyright Office Practices*, http://ipmall.info/hosted_resources/copyrightcompendium.asp (last accessed Nov. 8, 2008) (citing discussions between Copyright Office and Professor Jon Cavicchi).

⁶³ *Id.*

⁶⁴ Washington College of Law, *Re: An Odd Copyright Question*, <http://www3.wcl.american.edu/cni/9410/3663.html> (last accessed Nov. 8, 2008) (reproducing a purported e-mail from Richard Alan Anderson, Senior Info. Specialist, U. S. Copyright Off., to Eugene Volokh, Acting Prof., UCLA L. Sch. (Oct. 6, 1994, 3:08 p.m. EDT)).

⁶⁵ *Form VA*, *supra* n. 54.

⁶⁶ *Id.*

⁶⁷ William T. Ralston, *Copyright in Computer-Composed Music: Hal Meets Handel*, 52 J. Copyright Socy. U.S.A. 281, 283 (2004).

law and jurisprudence would appear to be that authors must have minds that can originate ideas. When nonhuman authors such as advanced computers can generate random—and perhaps even independent—creative works, however, that apparent prerequisite does little to resolve the question.

Technological progress has prompted challenges for courts in copyright cases ever since Napoleon Sarony snapped his famous photograph of Oscar Wilde.⁶⁸ Even earlier, seventeenth-century philosopher René Descartes had essentially predicted as impossible a computer with the ability to think, that “no machine could arrange words ‘to reply appropriately to everything that may be said in its presence.’”⁶⁹ But replacement of camera-shutter clicks with computer mouse clicks and the rapid rise of digital media have compounded the philosophical and jurisprudential puzzles, and the possibilities presented by artificial intelligence add additional layers of analytical and policy complexity. Numerous commentators have explored “the question of whether machine-generated expression is a proper subject for copyright,”⁷⁰ and the importance of that query will certainly increase if or when computers’ capacities to create original works independently of their programmers develops further. While artificial intelligence technology may not yet force the issue,⁷¹ the “time may not be far off,” according to copyright scholar David Nimmer, “when that question demands an answer.”⁷²

A future answer will build on the Supreme Court’s historic explorations of that question. As the Court explained in *Feist Publications, Inc. v. Rural Telephone Service Co.*,

[original], as the term is used in copyright, means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity. . . . To be sure, the requisite level of creativity is extremely low; even a slight amount will suffice. The vast majority of works make the grade quite easily, as they possess some creative spark, “no matter how crude, humble or obvious” it might be.⁷³

⁶⁸ Compare *Burrow-Giles*, 111 U.S. 53 (1884) (considering the issue of whether copyright protections were applicable to photographs) with *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240 (3d Cir. 1983) (considering the issue of whether copyright protections were applicable to computer programs expressed in object code).

⁶⁹ Tal Vigderson, Comment, *Hamlet II: The Sequel? The Rights of Authors vs. Computer-Generated “Read-Alike” Works*, 28 Loy. L.A. L. Rev. 401, 417 n.104 (1994–1995) (quoting René Descartes, Discourse on the Method of Rightly Conducting One’s Reason and Seeking Truth in the Sciences (1637), reprinted in *The Essential Descartes*, at 138 (Margaret D. Wilson ed., Signet Book 1969)).

⁷⁰ Ralston, *supra* n. 67, at 306.

⁷¹ See Douglas Hofstadter & The Fluid Analogies Research Group, *Fluid Concepts & Creative Analogies: Computer Models of the Fundamental Mechanisms of Thought*, 467–91 (Basic Books 1995) (explaining “a somewhat skeptical perspective on computers and creativity”).

⁷² Nimmer & Nimmer, *supra* n. 15, at § 5.01[A], 5-5.

⁷³ 499 U.S. 340, 345 (1991) (emphasis added).

But *Feist*'s apparent simplicity has proven deceptive in practice. The formula has achieved inconsistent results in its application in the lower courts. The Sixth Circuit, for example, found insufficient originality for copyright protection in a cut-away drawing of a spindle bearing, a part reproduced in a plaintiff's catalog of landscaping power equipment components.⁷⁴ The court found that the plaintiff lacked the level of originality and creativity required under *Feist*.⁷⁵ While the court acknowledged that illustrated reproductions are generally entitled to protection,⁷⁶ it found drawings like the plaintiff's in common use in the replacement part industry.⁷⁷ Most importantly for the court, however, the illustration "was drawn with the express intention of duplicating on paper the appearance of an actual spindle bearing. Its reproduction involved absolutely no creative spark whatsoever."⁷⁸

In contrast, the Ninth Circuit's application of *Feist* in *Ets-Hokin v. Skyy Spirits, Inc.*⁷⁹ to a commercial photograph of a bottle suggests that the creativity threshold is of almost no hindrance to copyright protection in any photo that is not a direct copy of a public domain work. The court in *Ets-Hokin* found a photographer's decisions protectable based on the factors identified by the Supreme Court in *Burrow-Giles*: "selection of subject, posture, background, [and] lighting . . ." ⁸⁰ But it also reaffirmed an interpretation of creativity broad enough to include "perhaps even perspective alone" as a protectable element of a photographer's work.⁸¹

These decisions are difficult to reconcile. If a photographer's depiction of a bottle from a full frontal angle is sufficiently original for protection simply because he or she applies skillful lighting and chooses a particular color of seamless background paper, then why is an illustrator's depiction of a bearing from a particular angle insufficiently original because he or she sets out to create a realistic rendition? Like the photographer, the illustrator must also choose a perspective from which to present the subject. He or she must consider whether to render light and shadow from a particular direction or whether to depict the subject's form in line without any indication of lighting at all—a creative decision unavailable to the photographer. Moreover, *Feist* makes clear that originality is not novelty.⁸² Thus, common use of similar cut-away illustrations should have no bearing on whether an individual illustration is protectable.

⁷⁴ *J. Thomas Distributors, Inc. v. Greenline Distributors, Inc.*, 100 F.3d 596 (table), 1996 WL 636138 (6th Cir. 1996) (unpublished).

⁷⁵ *Id.* at *2.

⁷⁶ *Id.* (citing *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 252 (1903)).

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ 225 F.3d 1068 (9th Cir. 2000).

⁸⁰ *Id.* at 1077.

⁸¹ *Id.* (quoting *L.A. News Serv. v. Tullo*, 973 F.2d 791, 794 (9th Cir. 1992) (internal citations omitted)).

⁸² *Feist*, 499 U.S. at 345–46.

Advancing technology has already compounded the difficulties in determining creativity under the *Feist* standard. As Clifford notes, the analytical challenges posed by “questions raised by new technology that can exercise, or at least simulate, creativity using artificial intelligence techniques negating the need for human involvement in the work’s creation”⁸³ are considerable. Some courts have read *Feist* to exclude works that arguably demonstrate sufficient creativity for copyright despite their machine authorship.⁸⁴

Under *Feist*, a work is incapable of sustaining a valid copyright if its “creative spark is utterly lacking or so trivial as to be virtually nonexistent.”⁸⁵ The District Court for the Southern District of Iowa applied this standard rigidly in *Stuart Enterprises, Inc. v. American Games, Inc.*⁸⁶ The court found the requisite creativity lacking in a computer’s use of random algorithms to produce an “optimal” series of numbered bingo cards.⁸⁷ Bingo rules and the game’s traditional requirements impose a structure statistically determined to allow more than eleven quadrillion possible combinations.⁸⁸ From these, a computer selected nine thousand numeric patterns to create a series of cards intended to optimize playability.⁸⁹ The court found no infringement by an “exact, verbatim copy” of the cards because no “intellectual labor was put forth in [their] creation.”⁹⁰ Perhaps seeing an analogy in the array of random numbers spread over thousands of bingo cards to the “garden-variety white pages directory, devoid of even the slightest trace of creativity”⁹¹ at issue in *Feist*, the court rejected the plaintiff’s copyright claim.⁹²

But the result in *Stuart* does not necessarily follow from *Feist*. Clifford suggests rather that if, as *Feist* explained, “one indicator of sufficient intellectual creativity for a compilation is whether the author selected items to be included within the compilation from a larger universe of choices, [then the author in *Stuart*] satisfied this selection.”⁹³ A “minuscule percentage of the possible bingo cards were chosen . . . based on the author’s opinion of what defined a highly playable series of bingo cards. Rather than being a random sequence . . . they were a carefully crafted set of cards to maximize bingo players’ enjoy-

⁸³ Ralph D. Clifford, *Random Numbers, Chaos Theory, and Cogitation: A Search for the Minimal Creativity Standard in Copyright Law*, 82 *Denv. U. L. Rev.* 259, 260 (2004).

⁸⁴ *Id.* at 282–88.

⁸⁵ *Feist*, 499 U.S. at 359.

⁸⁶ No. 1-96-CV-90036, slip op. (S.D. Iowa Mar. 19, 1998), *aff’d*, 205 F.3d 1347 (8th Cir. 1999) (table), 1999 WL 1144831 (unpublished).

⁸⁷ *See id.* at slip op. 2-3.

⁸⁸ David Nimmer, *Copyright in the Dead Sea Scrolls: Authorship and Originality*, 38 *Hous. L. Rev.* 1, 32 (2001).

⁸⁹ *Id.*

⁹⁰ *Id.* at 15.

⁹¹ *Feist*, 499 U.S. at 362.

⁹² *Id.* at 363.

⁹³ Clifford, *supra* n. 83, at 283 (referring to *Feist*, 499 U.S. at 349).

ment.”⁹⁴ He concludes that because at least a minimal intellectual activity existed, the cards would have been protected by copyright had they been created by hand.⁹⁵

The bingo cards in *Stuart* appear largely indistinguishable from the copyrighted mezzotint reproductions of public domain old masters’ paintings in *Alfred Bell & Co. Ltd. v. Catalda Fine Arts, Inc.*⁹⁶ The Second Circuit in *Bell* explained that even purely random, unintended variations from public domain works would create sufficient originality for copyright if the author adopted them as his own.⁹⁷ Under *Bell*, originality is satisfied even if incorporated into the work merely by an author’s unconscious movements while attempting to directly copy another work.⁹⁸

If unconscious randomization is sufficient to satisfy the originality requirement, there is no logical distinction between its production by hand or machine. One commentator has pointed out that given modern computer programs, “minimal differences from the public domain . . . can be random and unintentional, whether guided by a human hand or guided algorithmically.”⁹⁹ Both *Stuart*’s randomized bingo numbers and the variations discussed in *Bell* were adopted by humans into the final works. If a distinction between *Stuart* and *Feist* exists, finding it requires reaching sufficiently far back in the design of whatever algorithm the *Stuart* computer followed and tracing its resulting work back to a human programmer capable of generating the creative spark that drives authorship. The Second Circuit followed just such reasoning in considering whether a video game display was protectable. Rejecting an alleged infringer’s contention that the display lacked originality because it was simply the product of running an algorithm, the court explained in *Stern Electronics, Inc. v. Kaufman* that “[someone] first conceived what the audiovisual display would look like and sound like . . . [and since originality] occurred at that point,”¹⁰⁰ the display was entitled to copyright protection.

The Second Circuit’s earlier conclusion in *Bell* that even variations produced without any intention at all, such as through the hand movements of an engraver reacting to sudden thunder,¹⁰¹ would produce enough originality for copyright seems irreconcilable with its decision in *Stern*. The engraver in *Bell* effectively codified random elements in the final work by retaining them in the finished product after they had come into being.¹⁰² As former CONTU Commissioner Arthur Miller suggests, “if the [*Bell*] court’s position is correct, the va-

⁹⁴ *Id.* at 283–84.

⁹⁵ *Id.* at 284.

⁹⁶ *Alfred Bell & Co., Ltd. v. Catalda Fine Arts*, 191 F.2d 99 (2d Cir. 1951).

⁹⁷ *Id.* at 104–05.

⁹⁸ *Id.* at 105.

⁹⁹ Ralston, *supra* n. 67, at 299.

¹⁰⁰ 669 F.2d 852, 856 (2d Cir. 1982).

¹⁰¹ *Alfred Bell & Co.*, 191 F.2d at 104–05.

¹⁰² *Id.*

riation would not have to be intentional or even volitional, which means that it would not be part of the ‘author’s personality’ in any meaningful sense.”¹⁰³

The artist-created engravings and the computer-generated bingo cards and video game display in these cases appear to satisfy *Feist*’s originality requirement equally. The engravings, the products of human creativity, received protection, while the cards and display, both machine-created works, led courts to reach opposite conclusions. The *Stern* court located and recognized a creative spark. The court in *Stuart* did not probe to find one.

While a random-number series generated by a computer programmed by a human author may make too insubstantial a “creative spark” to stand out in the copyright universe, works that are independently created by artificially intelligent computers pose a more complex question. And creators like Congo, whose works are among those that “[re-present] the result of choices which would be described as creative if the ‘author’ were human,”¹⁰⁴ as Professor Cindy Albers Carson has asserted, are an even more compelling reason for reexamination of the Copyright Office’s position that authorship is unavailable to living entities other than humans.¹⁰⁵ Copyright protection exists primarily to advance society’s interests in increasing creative output.¹⁰⁶ Society’s interest in the creative output of authors does not depend on the humanity of those authors. Such a bright-line rule stretches too far when it excludes entities capable of making their own choices and creating original works without human collaboration.

IV. ANIMAL AUTHORSHIP

If awareness that nonhuman life has the capacity for creativity is broadening, a similarly alluvial widening of the authorship concept ought to follow. While some of the factors weighing against recognizing artificially intelligent computers as authors for copyright purposes apply in the animal context, computer and animal creators are different for some of the same fundamental reasons that are generally seen as separating humans and animals.¹⁰⁷

¹⁰³ Miller, *supra* n. 24, at 1063–64.

¹⁰⁴ Carson, *supra* n. 28, at 300.

¹⁰⁵ Compare Clifford, *supra* n. 83, at 272 (“The law should be interested in how the work was generated, not in any inherent characteristics of the author’s personality.”) with Ralston, *supra* n. 67, at 293 (“This creative spark is most clearly visible when there is an identifiable human author behind the creative work.”).

¹⁰⁶ See *Diamond v. Am-Law Publg. Corp.*, 745 F.2d 142, 147 (2d Cir. 1984) (“The principal purpose of [the Copyright Act of 1976] is to encourage the origination of creative works by attaching enforceable property rights to them.”).

¹⁰⁷ See Richard A. Posner, *The Problems of Jurisprudence* 347–48 (Harvard U. Press 1990) (noting that human “genes force us to distinguish between our own and other species”); *supra* Part III A.

If Miller is correct that “the fragments in the cases do not resolve the question whether the Constitution requires human authorship,”¹⁰⁸ then growing understanding that animal thought is more complex than previously believed suggests that a reexamination of the traditional vesting of authorship exclusively in the human dimension may be in order. Artificial intelligence may not yet compel that conclusion,¹⁰⁹ but evidence of animal intelligence seems to support it.

A. *Can an Animal Satisfy the Creativity Requirement for Copyright Authorship?*

Surveying visual arts “from the dawn of history to the present day,” art historian H.W. Janson declared that “[defining] art is about as troublesome as defining a human being.”¹¹⁰ If the definition of art itself eludes agreement, then the question of whether an animal might properly be defined as an artist adds a species-wide layer of complexity to the search for meaning.

Naturalist Roger Caras’s field studies led him to suggest that any parallels thought to be observed between human and animal behavior were accidental.¹¹¹ Thus, according to Caras, when an animal such as Siri, the 8,400 pound Asian elephant¹¹² noted in the introduction, traces lines with sticks in the dust on her cage floor, only anthropomorphism would support a conclusion that she is expressing ideas in physical form.¹¹³

Although other naturalists have explained such behavior as possibly an expression of mood,¹¹⁴ Caras’s human-centered perspective reflects a concept of animals as biological machines—a notion deeply rooted in the 17th-century perspective of Descartes, who considered

¹⁰⁸ Miller, *supra* n. 24, at 1065.

¹⁰⁹ See Steven M. Wise, *Rattling the Cage: Toward Legal Rights for Animals* 156 (Perseus Books 2000) (discussing conversation with MIT Artificial Intelligence Lab Ph.D. student who expressed doubt that artificial intelligence would achieve consciousness within fifty years).

¹¹⁰ Horst W. Janson & Dora J. Janson, *History of Art: A Survey of the Major Visual Arts from the Dawn of History to the Present Day*, 10 (Patricia Egan ed., 2d ed., Harry N. Abrams, Inc. 1977).

¹¹¹ See Roger Caras, *The Private Lives of Animals* 210 (Grosset & Dunlap, Inc. 1974) (“[No] animal even approaches the flexibility, the open-endedness of human behavior Animals are behaviorally finite creatures one and all.”).

¹¹² Kowalski, *supra* n. 11, at 42.

¹¹³ See Caras, *supra* n. 111 (describing bower birds’ crushing of berries and smearing of juice on their display arenas; “[were] it not so obviously an anthropomorphic reaction, we could say that they were painting”); but see CNN.com, *supra* n. 11, at ¶ 11, (quoting artist Vitaly Komar on his work with painting elephants as noting that “[for] thousands of years, elephants have been making mysterious characters on the ground with stones or sticks. Elephant art is only new to people, but it’s not new to the elephants”).

¹¹⁴ *She Paints What She Sees*, 25 Alberta Rpt. 38, 22 (Sept. 7, 1998) (“Elephants have been observed in the wild using sticks or rocks to scratch patterns in the sand and dust, a [behavior] that has been explained by naturalists as possibly an expression of mood.”).

animals mere thoughtless brutes.¹¹⁵ Such a view is an extreme example of a human-centered understanding of animals as property that discounts their capacities. In light of evidence that animals both possess and express creative thoughts, it seems fair to say that the Cartesian position and its less extreme variants underweight the plausibility that parallel human and animal behaviors might be other than coincidental. Similar motivations may prompt similar actions. Janson, for example, posits that primitive man might have seen the shapes of animals in rock formations on his cave walls because “[we] all know how our imagination sometimes makes us see all sorts of images in chance formations such as clouds or blots.”¹¹⁶ Depending on wild animals for survival,

[a] Stone Age hunter . . . would have been even more likely to recognize such animals as he stared at the rock surfaces of his cave, and to attribute deep significance to his discovery. Perhaps at first he merely reinforced the outlines of such images with a charred stick from the fire, so that others, too, could see what he had found.¹¹⁷

Such physical representations of mental processes are aspects of consciousness indicating the presence of higher cognitive abilities.¹¹⁸ They provide the basis for symbolic communication through language and art forms.¹¹⁹ Research has shown mental processes that may indicate self-awareness among certain animals, including chimpanzees and gorillas.¹²⁰ Experiments involving the use of American Sign Language strongly suggest that gorillas and other primates can explain their desires and feelings, as well as express an understanding of themselves as distinct beings.¹²¹ These animals can identify partly hidden objects in mirrors and recognize their own reflections as well.¹²² Law professor Steven Wise has described mirror tests, the results of which were first reported with chimpanzees in the 1970s, as

¹¹⁵ Mark Rowlands, *Animals Like Us* 3–5 (Verso 2002) (summarizing the philosophy of René Descartes).

¹¹⁶ Janson & Janson, *supra* n. 110, at 25.

¹¹⁷ *Id.*

¹¹⁸ Lesley J. Rogers & Gisela Kaplan, *All Animals Are Not Equal: The Interface Between Scientific Knowledge and Legislation for Animal Rights*, in *Animal Rights: Current Debates and New Directions* 175, 186 (Cass R. Sunstein & Martha C. Nussbaum eds., Oxford U. Press 2004).

¹¹⁹ *Id.* (describing paintings as “the physical manifestation of the artist’s internal representation”).

¹²⁰ See e.g., Francine Patterson & Wendy Gordon, *The Case for the Personhood of Gorillas*, in *The Great Ape Project: Equality Beyond Humanity* 58, 59 (Paola Cavalieri & Peter Singer eds., St. Martin’s Griffin 1993) (research describing a gorilla’s mental capacity as measured by human interactions and standard tests); Wise, *supra* n. 109, at 199 (1999) (summarizing Gordon Gallup, Jr.’s self-recognition test for chimpanzees).

¹²¹ Patterson & Gordon, *supra* n. 120, at 59; see also Symposium, *The Evolving Legal Status of Chimpanzees*, 9 *Animal L.* 1, 3 (2003) (noting that chimpanzees and bonobos have learned to communicate in sign language).

¹²² Wise, *supra* n. 109, at 199.

the “‘gold standard’ for visual self-recognition in both nonhuman animals and human children.”¹²³

Primates have also shown that they can manipulate and play with their shadows.¹²⁴ Realization that one casts a shadow typically emerges in human children sometime between twenty-four and forty months,¹²⁵ about the same time that full self-awareness is believed to appear.¹²⁶ Psychologist Leonid Firsov has compared the creativity of primates and children of that approximate age, stating that “orangutans and children to about age three draw the same way and can be taught the same things.”¹²⁷ These experiments and field studies suggest that animals’ consciousness may exceed the levels with which humans have tended to credit them.¹²⁸

The evidence provided by this sort of research offers some support for a theory that when animals engage in what appear to be art-like behaviors, such as manipulating paintbrushes, they are representing ideas, not merely responding mechanically to routine biological processes or external stimuli. Wild and captive elephants alike have been observed using sticks and rocks to scratch patterns in the ground.¹²⁹ Naturalist Desmond Morris’s studies of the drawings and paintings produced by thirty-two apes and monkeys, among them Congo, led him to conclude that these animals seemed to “have an inherent need to express themselves aesthetically.”¹³⁰ Researchers have documented findings that support the conclusion that primates “are renowned for behavioral innovation: the ability to respond to novel circumstances or stresses with new behavior patterns.”¹³¹

Anecdotal evidence adds more support to the possibility of animal creativity. Keepers at the Phoenix Zoo, for example, who regularly provided paint, canvas, and brushes for an elephant called Ruby, described an afternoon during which a visitor collapsed in a crowd gathered to watch as the elephant painted.¹³² The keepers claimed that Ruby instead watched the guests, as a rescue squad arrived in an ambulance with sirens sounding.¹³³ When the scene calmed, Ruby

¹²³ *Id.*

¹²⁴ *Id.* at 200.

¹²⁵ P.A. Cameron & G.G. Gallup, Jr., *Shadow Self-Recognition in Human Infants*, 11 *Infant Behavior & Dev.* 465, 470 (1988).

¹²⁶ Jerome Kagan, *The Second Year: The Emergence of Self-Consciousness* (Harvard U. Press 1981).

¹²⁷ *Animal Art*, *Change* (May/June 1999) 9.

¹²⁸ *See generally* Rogers & Kaplan, *supra* n. 118 (multiple authors addressing legal and ethical issues of animal welfare, such as property status and being subjected to suffering).

¹²⁹ *She Paints What She Sees*, *supra* n. 114, at 22.

¹³⁰ Desmond Morris, *The Biology of Art* 151 (Alfred A. Knopf 1962).

¹³¹ Simon M. Reader & Kevin N. LaLand, *Primate Innovation: Sex, Age and Social Rank Differences*, 22 *Intl. J. of Primatology* 787, 788 (2001).

¹³² Bil Gilbert, *Once a Malcontent, Ruby Has Taken Up Brush and Palette*, 21 *Smithsonian* 9, 40 (Dec. 1990).

¹³³ *Id.*

painted what the keepers described as “a particularly wild, bold composition. A major feature of it is a red figure that . . . [could] suggest flashing and movement. In front are several strong blue dabs and swatches close in color to the uniforms worn by the members of the rescue squad.”¹³⁴

While Ruby’s creative thoughts, if any, cannot be determined empirically, her painting in close proximity to a stimulating situation is similar to possible creative expressions observed in two works painted by Michael, a lowland gorilla kept as part of Dr. Francine Patterson’s studies of animal communication via sign language, whose more well-known subject is the gorilla named Koko.¹³⁵ Michael’s paintings were shown at a San Francisco art gallery running from December 1997 to the beginning of 1998.¹³⁶ One small acrylic work presents a black and white shape that, to the author, strikingly resembles a photo of the black and white setter who was a regular playmate of the gorillas. Dr. Patterson noted that the colors Michael “selected and the image portrayed are very touching, and all the more powerful because [Michael] creates this portrait . . . from memory.”¹³⁷ In sign language, he indicated the dog’s name in connection with the artwork.¹³⁸ Michael made other paintings in multiple colors; one presents an array of shapes that the gorilla’s human caretaker attributed to a bunch of picked flowers he had arranged for use as the subject of a still life.¹³⁹ Dr. Patterson has reported that “[the] gorillas have also been asked to represent feeling states such as love, hate, happiness, and anger with paints on canvas. Given free choice of ten or more colors, the gorillas produced works of contrasting color and form.”¹⁴⁰

It thus appears increasingly possible that at least some animals can create or have created works that would come under copyright without question were their authors humans. Descartes’ dismissive view of animal consciousness can no longer be seriously considered. Oliver Wendell Holmes knew that “a dog distinguishes between being stumbled over and being kicked.”¹⁴¹ Law and economics scholar and noted pragmatist Judge Richard Posner has argued based on his intuition that “the best approach to the question of animal rights is a humancentric one,” and it is “wrong to kill one person to save 101 chimpanzees even if a human life is only a hundred times as valuable

¹³⁴ *Id.*

¹³⁵ The Gorilla Found., *Gallery Exhibits Gorilla Art*, <http://www.koko.org/news/121697.html> (last accessed Nov. 8, 2008).

¹³⁶ *Id.*

¹³⁷ The Gorilla Found., *Ever Wondered How a Gorilla Sees the World?*, <http://www.koko.org/news/030399.html> (last accessed Nov. 8, 2008).

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ Patterson & Gordon, *supra* n. 120.

¹⁴¹ Oliver Wendell Holmes, Jr., *The Common Law* 3 (32d prtg., Little Brown & Co. 1938).

as a chimpanzee's life." He has also written that there is "good reason to think Descartes was mistaken."¹⁴²

If Posner is correct regarding Descartes, then the only justification for denying animals' works copyright protections and benefits is a policy choice favoring humans—a choice, as Carson notes, that "only human-generated work is protectable."¹⁴³ Posner has written that a human-centered perspective "rooted in our biology" may foreclose any influence that animal consciousness might have on such specific legal questions.¹⁴⁴ This, he suggests, is "[t]he main 'reason' why the 'philosophical' idea that . . . talking apes might have *more* rights than newborn or profoundly retarded children seems outlandish and repulsive."¹⁴⁵

This article does not suggest that recognizing animals as authors would or should grant them *more* rights than humans enjoy. But, is an exclusionary reading of the Copyright Clause that refuses to recognize *any* rights in animal authors warranted?¹⁴⁶ Whether Posner's perception that a human-centered perspective is built into human biology is accurate, it is likely fair to conclude that the framers would not have understood another perspective. As Professor Cass Sunstein has observed, "the framers anticipated that plaintiffs would ordinarily be human beings."¹⁴⁷ No basis for assuming otherwise, at least with regard to animals, existed at the founding. The first zoo in the United States was not chartered until 1859 and not opened until the end of the Civil War.¹⁴⁸ It would take at least another century for zoological perspectives on animal environments to shift from barren confinement, as an understanding of animals' mental capacities and needs began to develop.¹⁴⁹ Former National Zoological Park director William Mann, for example, believed that what is now seen as the stereotypic pacing of boredom arose from caged animals' simple "need for exercise

¹⁴² Richard A. Posner, *Animal Rights: Legal, Philosophical, and Pragmatic Perspectives*, in *Animal Rights: Current Debates and New Directions* 51, 67 (Cass R. Sunstein & Martha C. Nussbaum ed. Oxford U. Press 2004).

¹⁴³ Carson, *supra* n. 28.

¹⁴⁴ Posner, *supra* n. 107, at 347–48.

¹⁴⁵ *Id.* (emphasis added).

¹⁴⁶ See Miller, *supra* n. 24, at 1067 ("The Copyright Clause's objective is no less served if 'the Progress of Science and useful Arts' is promoted through computers . . . rather than by humans alone.").

¹⁴⁷ Cass R. Sunstein, *Standing for Animals*, 47 UCLA L. Rev. 1333, 1361 (2000); see also Adam Kolber, Note, *Standing Upright: The Moral and Legal Standing of Humans and Other Apes*, 54 Stan. L. Rev. 163, 196 (2001–2002) (noting that although "an originalist interpretation of the Constitution might conclude that the founding generation did not intend to grant standing to anyone who is not a human being," standing has since been conferred on such nonhuman entities as corporations, municipalities, partnerships, trusts, and ships).

¹⁴⁸ Philadelphia Zoo, *About America's First Zoo*, <http://www2.philadelphiazoo.org/about/AboutZoo.htm> 2 (last accessed Nov. 8, 2008).

¹⁴⁹ U.S. Dept. of Agric., Natl. Agric. Lib., *The Welfare of Mammals in Zoos*, <http://www.nal.usda.gov/awic/zoo/welmam.pdf> (last accessed Nov. 8, 2008).

and to work off excess energy [and is not a reaction to the cage itself].”¹⁵⁰

If animal works can indeed fit within the category of “useful arts,” then the same rationale for protection of human works embodied in the copyright clause should apply equally to them. If society’s interest in creative works is such that increasing access to them is thought desirable, no matter what the source, then legislators should at least reconsider the protections that copyright is able to provide in light of the evidence that animals may be capable of expressing creativity.

B. If Animals Author Copyrightable Works, Who Should Own Their Copyrights?

It has long been true that attempted assertions of copyright by people other than authors or their agents are invalid.¹⁵¹ Ownership is a threshold matter for copyright enforcement.¹⁵² A plaintiff must show both ownership of a valid copyright and copying by an alleged infringer to prevail on an infringement claim.¹⁵³

This principle complicates the attribution of authorship to animals in their works. Should animals be recognized as authors capable of owning copyrights in their works if ownership would make no difference to them because they lack an independent ability to enforce their rights?

If incapacitated or minor human plaintiffs were at issue, we would protect their interests by allowing them to sue through guardians ad litem, who may litigate on behalf of others asserting copyright interests, even if those others are unknown when copyright ownership is challenged. In the case that began what the Second Circuit called, on its third review, “the bitter litigation arising from plaintiff’s belated discovery that she is the daughter of the late famous country and western singer Hank Williams, Sr.,”¹⁵⁴ the “assignment of Hank Williams, Jr.’s copyright interests in his father’s music generated a lawsuit in . . . the Circuit Court of Montgomery County, Alabama. That court appointed a guardian ad litem . . . to ascertain any unknown potential heirs to the Williams’ estate and to represent their interests.”¹⁵⁵

While the application of this concept to animals is far from accepted in our legal system, it is difficult to distinguish between animals and humans who cannot speak for themselves for legal

¹⁵⁰ *Id.* (quoting William M. Mann, *The Wild Animals in My Life*, 111 Natl. Geographic 497, 507 (1957)).

¹⁵¹ See Arthur W. Weil, *American Copyright Law* 253 (Callaghan & Co. 1917) (discussing the general law of copyright in the U.S.); *Ferris v. Frohman*, 223 U.S. 424, 437 (1912) (“It was not the purpose or effect of the copyright law to render secure the fruits of piracy.”).

¹⁵² 17 U.S.C. § 501(b).

¹⁵³ *Twentieth Cent. Fox Film Corp. v. Entmt. Distrib.*, 429 F.3d 869, 876 (9th Cir. 2005).

¹⁵⁴ *Stone v. Williams (Stone II)*, 970 F.2d 1043, 1046 (2d Cir. 1992).

¹⁵⁵ *Stone v. Williams (Stone I)*, 873 F.2d 620, 622 (2d Cir. 1989).

guardianship purposes. Professor Laurence Tribe has suggested that guardians could certainly be “appointed to speak for these voiceless [animal] rights-holders, just as guardians are appointed today for infants, or for the profoundly retarded, or for elderly people with advanced Alzheimer’s, or for the comatose.”¹⁵⁶ In practice, however, arguing the point to the courts has proven difficult, as Joyce Tischler, founding director of the Animal Legal Defense Fund, discovered when she represented a client whose standard poodle, Sterling, was the victim of veterinary malpractice. Tischler “moved for an order appointing Sterling’s owner to serve as his guardian ad litem. I was lucky I did not get involuntarily committed. It is something that I would think long and hard about before attempting again. The timing, the judge, and the facts would have to be just right.”¹⁵⁷

C. Ownership As Work-For-Hire

It might seem that copyright in animals’ works could simply vest in their caretakers under a concept analogous to employers and works made for hire. Animal “artists” could be treated as independent illustrators or as graphic designers often are. Although some members of that community object vehemently to the work-for-hire doctrine as “a highly problematic provision of the copyright law [because] the party doing [work-for-hire] loses all rights and can’t even terminate the rights transferred,”¹⁵⁸ it is well established and increasingly required by design clients.¹⁵⁹

Applied to animal artists, a work-for-hire theory would serve copyright law’s purpose of increasing creative output¹⁶⁰ by encouraging the person holding legal title to an artwork-creating animal to invest in broader distribution of its works. The public appears to care little about who owns copyrights in new works so long as those works continue to flow into the marketplace, and the Copyright Clause is intended to benefit the public by providing an incentive for such works.¹⁶¹ In this instrumentalist view, copyright provides a vehicle to

¹⁵⁶ Laurence H. Tribe, *Ten Lessons Our Constitutional Experience Can Teach Us About the Puzzle of Animal Rights: The Work Of Steven M. Wise*, 7 *Animal L.* 1, 3 (2001).

¹⁵⁷ Symposium, *Confronting Barriers to the Courtroom for Animal Advocates: Legal Standing for Animals and Advocates*, 13 *Animal L.* 61, 83 (2006) (discussing *Berg v. Gunn*, No. 258590, slip op. at 3 (Cal. Super. Oct. 27, 1981)).

¹⁵⁸ See Tad Crawford, *Copyright and Licensing*, in *AIGA Professional Practices in Graphic Design* 193, 198 (Tad Crawford ed., Allworth Press 1998) (recommending that work-for-hire “almost never be used [because] [work-for-hire] demeans the creative process. It says, in effect, that the party who created the work is not the artist . . . Corporate attorneys often rely on [work-for-hire] because they lack sophistication in parceling out the limited rights that their employers actually need.”).

¹⁵⁹ Aubrey Balkind, *Audits and the Design Firm*, in *Professional Practices in Graphic Design* 137, 138 (Tad Crawford ed., Allworth Press 1998).

¹⁶⁰ See Samuelson, *supra* n. 27, at 1226 (“Perhaps the best reason to allocate ownership interests to someone . . . is that someone must be motivated, if not to create the work, then to bring it into public circulation.”).

¹⁶¹ Patry, *supra* n. 19, at § 3.19, 3-53.

carry more works to market, and it likely does not matter at all to consumers of those works whether the entity analogous to a hiring party contributed to creation.

Such an approach, however, is incompatible with the work-for-hire exception carved out of the authorship requirement in 17 U.S.C. section 201(b).¹⁶² Works for hire are statutorily defined as either prepared by an employee within the scope of his or her employment or specially ordered or commissioned for use in one of nine enumerated categories under 17 U.S.C. section 101. Applying the concept to animals in captivity is a challenge under either prong of the statutory definition for two main reasons.

First, displaying animals in zoos or other places does not justify viewing them in “the conventional relation of employer and employee.”¹⁶³ In the well-known case of *Community for Creative Non-Violence v. Reid*, the Supreme Court determined that employees for purposes of work-for-hire are defined under “the conventional master-servant relationship as understood by common law agency doctrine”¹⁶⁴ Agency requires agreement and consent between parties that one will act on behalf of another and subject to the other’s control.¹⁶⁵ Because captive animals have no choice or independent ability to return to their natural habitats, any apparent consent that they might give must be considered for analytical purposes as invalid because obtained by duress. The “asymmetry of power,” as Professor Martha Nussbaum has described the human-nonhuman relationship, “is too great to imagine the bargain as a real bargain.”¹⁶⁶ No agency relationship between animals and their keepers can therefore be said to exist.

The Supreme Court in *Reid* rejected tests that could arguably have been extended to encompass animal created works.¹⁶⁷ Defining works for hire based on whether the hiring party retained the right to control the product or wielded control “with respect to the creation of a particular work” would arguably have corralled animal works inside section 201(b).¹⁶⁸ Unlike human artists, animals cannot simply obtain art materials with which to fix their works in tangible media. Animals are provided such materials and permitted to use them only at the discretion of their keepers. Their artworks are subject to such control in both initial creation and subsequent use that they would have likely

¹⁶² In works made for hire, “the employer or other person for whom the work was prepared is considered the author” and owns the copyright, unless there is a written agreement to the contrary. 17 U.S.C. § 201(b).

¹⁶³ *Community for Creative Non-Violence*, 490 U.S. at 731.

¹⁶⁴ *Id.* at 739–40.

¹⁶⁵ See *A. Gay Jensen Farms, Co. v. Cargill, Inc.*, 309 N.W. 2d 285, 290 (Minn. 1981) (citing *Restatement (Second) of Agency* § 1, cmt. b (1958)).

¹⁶⁶ Martha C. Nussbaum, *Beyond “Compassion and Humanity”: Justice for Nonhuman Animals*, in *Animal Rights: Current Debates and New Directions* 299, 301 (Cass R. Sunstein & Martha C. Nussbaum eds., Oxford U. Press 2004).

¹⁶⁷ *Community for Creative Non-Violence*, 490 U.S. at 742.

¹⁶⁸ *Id.* at 739.

met either proposed test. The Court, however, adjudged both the actual control test and the right to control test incompatible with the second prong of the work-for-hire definition.¹⁶⁹

That prong applies to works created outside employment relationships. A work created by an independent contractor in such a situation qualifies as a work-for-hire only if the hiring party commissions it for use in at least one of the nine categories deemed by Congress most likely to have been “ordinarily prepared ‘at the instance, direction, and risk of a publisher or producer.’”¹⁷⁰ Several of these categories could conceivably apply to works by animal creators instigated by their keepers. Perhaps the most likely are contributions to collective works and parts of motion pictures or other audiovisual works. Consider the work of the Asian Elephant Art & Conservation Project (AEACP), a Thailand-based nonprofit organization with the mission of promoting elephant-created paintings “as a safe, creative alternative source of income to other activities many out-of-work elephants and their caretakers must resort to, such as illegal logging or begging for handouts on city streets.”¹⁷¹ AEACP works with domesticated elephants to support improved veterinary care, further the education of traditional elephant caretakers or “mahouts,” and assist conservation efforts to protect wild elephants.¹⁷² It develops and publishes training materials, including handbooks and videos, on subjects that it describes as including “the gentle teaching of various painting techniques to elephants and caretakers using non-toxic art supplies.”¹⁷³

If such materials incorporated elephant paintings specifically made as demonstrations for particular publications or video productions, it would seem plausible to fit them within the two work-for-hire categories cited above. The copyright statute, however, requires an additional step: a written agreement between hiring party and contractor “that the work shall be considered a work made for hire,” confirming the parties’ intent to so treat the work.¹⁷⁴ While an owner’s agent may execute transfers of copyright ownership,¹⁷⁵ an agency relationship between an animal and its keeper is, as noted, unlikely.

Even if applying the work-for-hire doctrine to animals could satisfy statutory requirements, it would require significant breaks with

¹⁶⁹ *Id.* at 741–42.

¹⁷⁰ *Id.* at 746 (quoting Reg. of Copyrights, 89th Cong., Supplementary Rep. on the Gen. Revision of the U.S. Copy. Law 66–67 (H.R. Jud. Comm. Print 1965)). Categories under which specially ordered or commissioned works may be works made for hire are: contributions to collective works, parts of motion pictures or other audiovisual works, translations, supplementary works, compilations, instructional texts, tests, answer material for tests, and atlases. 17 U.S.C. § 101.

¹⁷¹ AEACP, *Mission Statement*, <http://www.elephantart.com/catalog/mission.php> (last accessed Nov. 8, 2008).

¹⁷² *Id.*

¹⁷³ *Id.*

¹⁷⁴ 17 U.S.C. § 201(b).

¹⁷⁵ See 17 U.S.C. § 204(a) (providing that “owner’s duly authorized agent” may sign transfer).

copyright's doctrinal traditions.¹⁷⁶ Copyright law generally identifies whoever fixes the work as the author.¹⁷⁷ An animal's keeper would not fix the animal's works in tangible media. While some examples exist of works in which animals are used—or abused—as tools to create works conceived entirely by humans,¹⁷⁸ such works are distinguishable from those this article has described. They present no question of whether authorship in anyone but human beings exists, unlike works in which humans were involved peripherally, if at all. In the works on which this article has focused, the keeper's involvement is similar to that of a computer programmer, whose involvement in a work created by the program's user is, as Samuelson describes, limited to creating “the *potentiality* for the creation of the output, but not its *actuality*.”¹⁷⁹

Moreover, the unpredictability inherent in animal works exceeds that found in computer-created works, even if such devices execute randomization algorithms. Keepers are unlikely to be able to conceive of the output an animal will produce, and therefore can make no claim to authorship in the creative product. Thus, no logically sound basis for designating keepers as authors exists.

Lacking a recognized author at the moment of fixation or under a traditional work-for-hire theory, the work presumably falls into the public domain.¹⁸⁰ One commentator has suggested that an absence of recognizable authorship demonstrates that “the intellectual property system has assumed no one deserves to be rewarded for it.”¹⁸¹ When computer-generated work is involved, perhaps this is of little concern. Animal art, however, may present a path by which humans can pass through, or at least press against, the language barrier between species. Like Koko, Michael participated in a project designed to teach American Sign Language to gorillas.¹⁸² He appeared to have learned to communicate and, like most human artists, he titled some of his works.¹⁸³ His ability to hold their legal title would be unquestionable but for his identity. If our system of allocating rights has assumed that he deserves no reward, its assumption may be erroneous.

¹⁷⁶ See Samuelson, *supra* n. 27, at 1208–09 (discussing doctrinal problems with extending copyright ownership of computer-generated works to computers rather than their programmers or users).

¹⁷⁷ Nimmer & Nimmer, *supra* n. 15.

¹⁷⁸ See e.g., Teresa Annas, *Animals Earn Their Keep in Hampton Roads and Abroad with Art*, *Virginian-Pilot* (Aug. 11, 2007) (describing Virginia Living Museum's snakes and turtles, “which have their bodies and feet painted and then are let loose on clean paper”).

¹⁷⁹ Samuelson, *supra* n. 27, at 1209 (emphasis in original).

¹⁸⁰ Clifford, *supra* n. 33, at 1695 (citing Michael A. Epstein, *Modern Intellectual Property* § 12.02[A][3][c] (3d ed. 1995)) (“For works not falling within the 1976 Act's scope . . . [an] author is free to use such works without legal worry.”).

¹⁸¹ Samuelson, *supra* n. 27, at 1224.

¹⁸² The Gorilla Found., *Michael's Biography*, http://www.koko.org/world/michael_bio.html (last accessed Nov. 8, 2008) (Michael died of natural causes on April 19, 2000).

¹⁸³ The Gorilla Found., *KokoMart*, http://www.koko.org/friends/kokomart_art.koko.html; *select info* (last accessed Nov. 8, 2008) (paintings by Michael, generally).

D. Ownership As Animal Offspring

Even if the application of the work-for-hire doctrine to animal authors were doctrinally sound, it would seem inequitable to extend it to “employees” who cannot bargain with their “employers.” If the analytical obstacles could be overcome, however, most courts and commentators would likely assert that U.S. copyright law would make short work of such an amorphous equitable barrier. William Patry, author of a seven-volume treatise on U.S. copyright law, suggests that protecting the “author as author” is a romantic notion incompatible with the American copyright regime.¹⁸⁴ The Second Circuit has emphasized the economic basis that underlies Patry’s criticism: copyright exists “to expand human knowledge for the general good by giving creative persons—authors—exclusive control of the copying of their creations *as a financial incentive to create.*”¹⁸⁵ Others would disagree. Professor Jane Ginsburg has written that

[copyright] is both an inducement to publication and a reward for creativity . . . the copyright clause does not design authors (creators) as mere, and even suspect, tools in furtherance of dissemination, to be tolerated only so long as that goal is achieved. Whatever the practical merits of the work-for-hire doctrine, the constitutional text supplies no grounding for it.¹⁸⁶

American copyright law nevertheless appears to approach the authorship concept with a pragmatism that contrasts sharply with a more philosophical view of authorship in international copyright law.¹⁸⁷ Under that view, copyright protects an individual author’s interest in personality, in the unique traits expressed through the author’s work. As the 1948 Universal Declaration of Human Rights provides, “[everyone] has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.”¹⁸⁸ Despite recognition of limited “droit moral” (moral right) interests in controlling the “distortion, mutilation, or other modification” of certain works in the Visual Artists Rights Act (VARA),¹⁸⁹ however, there is no equivalent federal protection reflecting the international perspective. As one district court held in dismissing an author’s assertion of such rights in his written work, “VARA . . . protects only authors of a work of visual art.”¹⁹⁰

Since its inception, however, U.S. copyright law has demonstrated mutability. Advances in technology have led to recognition of rights in new categories of works, and there seems little doubt of the law’s ca-

¹⁸⁴ Patry, *supra* n. 19, at § 3:19, 3-54, 3-56 (“Our cultural artifact of authorship for copyright purposes is commercial, and as such is consistent with for-hire authorship.”).

¹⁸⁵ *Attia v. Socy. of N.Y. Hosp.*, 201 F.3d 50, 54 (2d Cir. 1999) (emphasis added).

¹⁸⁶ Ginsburg, *supra* n. 29, at 1090.

¹⁸⁷ Miller, *supra* n. 24, at 1065–66.

¹⁸⁸ Universal Dec. of Human Rights, G.A. Res. 217 (III), art. 27(b) (Dec. 10, 1948).

¹⁸⁹ 17 U.S.C. § 106A(a)(2) (2006).

¹⁹⁰ *Choe v. Fordham U. Sch. of L.*, 920 F. Supp. 44, 49 (S.D.N.Y. 1995).

capacity for change if the underlying constitutional goals are served.¹⁹¹ Even categories that do not necessarily press against the technological envelope have altered radically over time; works designated “writings,” for example, now include modes of expression that were once completely unknown.¹⁹² There seems to be no reason why the modern category of “authors” could not similarly transform to reflect the modern understanding that nonhumans are capable of creating copyrightable works if that transformation would increase access to such works. Indeed, the existing paradigm in which authorship is restricted to humans may unnecessarily constrain copyright’s ability to achieve its policy goals.¹⁹³

How is that possible? Assuming animals do indeed produce creative output, they need no economic incentives to do so. Copyright exists to “[promote] the progress of [science] and useful [arts],”¹⁹⁴ and, the views of some commentators aside, the Court has emphasized that copyright’s monopoly is an incentive, not a reward.¹⁹⁵ “[Copyright] law . . . makes reward to the owner a secondary consideration.”¹⁹⁶ As economic incentives do not motivate animals, reward appears a more realistic justification in their case. How then can copyright protection for animal works fit within the incentive justification while still affecting the quantity of work animals produce?

A comparison to artificial intelligence again provides a useful starting point. Computers that need incentives to produce do not exist. Thus, the courts and Congress must consider whether any copyright extended to them would be consistent with the Constitution.¹⁹⁷ While it may not always be the case that computers will lack discretion over generation of original works, there is no immediate inconsistency with copyright’s Constitutional purpose in refusing to recognize them as authors.¹⁹⁸ The human programmers and users who enable computers to approximate or even to achieve human levels of creativity, however, probably do require incentives.¹⁹⁹ While authors may well pursue in-

¹⁹¹ See Peter S. Menell, *Envisioning Copyright Law’s Digital Future*, 46 N.Y. L. Sch. L. Rev. 63, 197 (2002–03) (“Following the printing press and the wireless, the digital age represents the third great wave of technology justifying, challenging, and, ultimately, reshaping copyright law.”).

¹⁹² *Id.*

¹⁹³ See Miller, *supra* n. 24, at 1067 (“To recognize the legitimacy of copyright in computer-generated works simply acknowledges that desirable works also may be created under vastly different circumstances.”).

¹⁹⁴ U.S. Const. art. I, § 8.

¹⁹⁵ *Sony Corp. of Am. v. Universal City Studios*, 464 U.S. 417, 429 (1984) (“The sole interest of the United States and the primary object in conferring monopoly lie in the general benefits derived by the public from the labors of authors.”) (internal citations omitted).

¹⁹⁶ *U.S. v. Paramount Pictures, Inc.*, 334 U.S. 131, 158 (1948).

¹⁹⁷ Andrew J. Wu, *From Video Games to Artificial Intelligence: Assigning Copyright Ownership to Works Generated by Increasingly Sophisticated Computer Programs*, 25 AIPLA Q.J. 131, 156 (1997).

¹⁹⁸ *Id.*

¹⁹⁹ Miller, *supra* n. 24, at 1066–67.

centives other than economic,²⁰⁰ some create for financial reward, and most probably seek it.

Like computers, animals need no economic motivation, at least not as the copyright law perceives it.²⁰¹ Yet humans must provide animals the means to realize any creative potential they might exercise if the public is to realize the full benefits of that potential through greater access to animal works. In addition to the acquisition costs for the particular animals involved, the costs of housing, food, and veterinary care stand between production and potential. Humans who take responsibility for captive animals must bear those costs while also taking the risk of others benefiting from distributed animal works. If copiers are not compelled to pay rent in the form of licenses for derivative works, rational copiers will not do so. Instead, they will act as free riders, externalizing costs of fostering creation of the work upon those who introduce it.

Under the existing paradigm of nonprotection of animal works, zoos and others asserting ownership of animals simply exploit the creative output, selling originals and creating derivative works limited only by their own investment capital. Because an animal could not likely sue for infringement on its own behalf even if it were recognized as owning rights in the work, the zoo has nothing to fear from it.

Exploitation, of course, may be inherently limited if buyers prefer original works and have little interest in copies. Owning the *physical* product of an artist probably adds some measure of value to an animal-created work for those whose interests are sparked by the work's non-human origin. If that is so, then copyright might be made redundant by the intrinsic scarcity of works created by inaccessible animals. Zoos effectively monopolize by owning the artists, even if not the rights in the works. They can thus charge amounts substantially greater than their marginal costs, and some buyers who would have paid prices more in line with those costs will be priced out of the market.²⁰² The result would be a net loss. But there is probably a theoretical risk in

²⁰⁰ See William M. Landes & Richard A. Posner, *The Economic Structure of Intellectual Property Law*, 48 (The Belknap Press 2003) ("Many authors derive substantial benefits from publication that are over and beyond any royalties. This is true not only in terms of prestige, celebrity, and other forms of nonpecuniary income, but also in terms of pecuniary income in such forms as a higher salary for a professor who publishes than one who does not, or greater consulting income, or, for popular authors, performers, or other creators . . . income from lectures and even product endorsements.").

²⁰¹ See David P. Watts, *Reciprocity and Interchange in the Social Relationships of Wild Male Chimpanzees*, 139 *Behaviour* 343, 344 (2002) (noting that "[whenever] individual [primates] cannot forcibly appropriate valuable social resources from others, and the ability of others to provide these resources varies, they should compete for partners and negotiate about resource distribution in biological markets. Market effects, like 'shopping' for alliance partners by male baboons may be common among primates.") (internal citations omitted).

²⁰² See Neil Weinstock Netanel, *Copyright and a Democratic Civil Society*, 106 *Yale L.J.* 283, 293 (1996–97) (describing copyright as an imperfect remedy for the free rider problem).

extending even greater monopoly power by making copyright available to the works in this case. The rational modern zoo motivated by animal conservation is unlikely to force animal creators onto assembly lines when it can reach broader markets with fewer original works by licensing. Some number of visitors and others are likely to purchase the prints, posters, books, magnets, apparel, and similar derivative works that licensees could produce. As respected artists have observed, animal art has a certain aesthetic appeal, and galleries have successfully shown that a market for original works exists.²⁰³ It therefore seems a fair conclusion that an audience for derivatives would exist as well.

Given a market potential and no legal barrier to copying, there is no reason to expect that copiers will not do to zoos what zoos do to the animal creators in their charge. A competitor who purchased an original animal work would be able to freely use it. As sellers own no rights in the works themselves, competitors could reproduce and distribute them at prices below what sellers could afford. Because access to animals like Congo and Siri is limited, if their human “patrons” found themselves needing the benefits of copyright in their work but unable to obtain it, society would likely find that fewer original works would be made available.

If incentives for those whose “patronage” facilitates animal artistry are appropriate, then appropriate forms for those incentives must be determined. As this article has discussed, traditional work-for-hire is unsuitable. Another possible alternative is the “Fictional Human Author” theory that has been proposed in the artificial intelligence context.²⁰⁴ As one writer posited, this concept suggests that “after presuming the existence of [a] fictional human author [in a computer-created work], the court should ‘assign appropriate fractions of the copyright rights to the owner of the . . . software copyrights, the problem-specifier or the computer owner, either individually, jointly, or in part.’”²⁰⁵ Patent and anti-trust practitioner Andrew Wu has advanced a modified version of the theory, recognizing criticisms related to its administrability and denial of standing to all but the designated “author.”²⁰⁶ Wu’s approach eliminates apportionment; when “a given output . . . is ‘authored’ by the [computer] rather than a person, the court should presume the existence of a fictional human author and assign the copyright to the owner of the [computer].”²⁰⁷ Wu admits, however, that both versions suffer for lack of any statutory basis for recognizing fictional human authorship.²⁰⁸

²⁰³ Annas, *supra* n. 178.

²⁰⁴ Wu, *supra* n. 197, at 161 (quoting Timothy L. Butler, Note, *Can a Computer be an Author? Copyright Aspects of Artificial Intelligence*, 4 J. Communs. Ent. L. 707, 744–45 (1981–82)).

²⁰⁵ Wu, *supra* n. 197, at 161.

²⁰⁶ *Id.*

²⁰⁷ *Id.* at 159.

²⁰⁸ *Id.* at 160.

A theory that would promote the incentive justification while avoiding the legal fictions in the concepts proposed by Butler and Wu is one that might be called “biological-work-for-hire.” By substituting traditional notions of animals as property for the notion of employers as creators underlying work-for-hire, an analogous analytical and conceptual framework may be developed. This framework could provide legal support for recognizing copyrightability in works created by members of those species who have thus far demonstrated creative abilities: elephants, gorillas, and chimpanzees.

These animals are listed in the Convention on International Trade in Endangered Species in Fauna and Flora (CITES).²⁰⁹ This worldwide convention, to which the United States is a party, regulates trade in species threatened with extinction or likely to become threatened unless trade is restricted. Under the categories established by multinational agreement, elephants and gorillas are Appendix I species and “may be traded only in exceptional circumstances, and . . . never . . . for ‘primarily commercial purposes.’”²¹⁰ Chimpanzees are listed under Appendix II, which prohibits commercial trade without proper permits.²¹¹ A party in the United States who seeks to import an elephant or gorilla must obtain both a “foreign export permit” issued by the animal’s country of origin and an “import permit” issued by the U.S. Fish and Wildlife Service (FWS).²¹² Importing a chimpanzee does not appear to require FWS approval, but does require the animal’s country of origin to issue a “foreign export permit” or the country of re-export to issue a “foreign re-export certificate.”²¹³

CITES regulation, however, does not apply to the captive-bred offspring of even those animals listed in Appendix I.²¹⁴ A zoo or other successful importer may trade or sell animal offspring produced in captivity. Thus, while an importer must satisfy certain legal requirements when acquiring a CITES-regulated animal, future generations resulting from its breeding begin their lives as lawfully acquired property. As such, control of their reproductive abilities and of the products of those abilities vests in the human or organization controlling them.

²⁰⁹ *Convention on International Trade in Endangered Species in Fauna and Flora* apps. I–II, (opened for signature Mar. 3, 1973), 27 U.S.T. 1087, 1118–43 [hereinafter *CITES*].

²¹⁰ Dianne M. Kueck, *Using International Political Agreements to Protect Endangered Species: A Proposed Model*, 2 U. Chi. L. Sch. Roundtable 345, 347 (1995) (citing *CITES*, art. III, § 5(c), 27 UST at 1095).

²¹¹ *U.S. v. Kum*, 309 F. Supp. 2d 1084, 1086 (E.D. Wis. 2004).

²¹² *Id.*

²¹³ *Id.*

²¹⁴ *CITES* art. VII(4), *supra* n. 209, at 1100 (“Specimens of an animal species included in Appendix I bred in captivity for commercial purposes . . . shall be deemed to be specimens of species included in Appendix II.”); *see also* Karl Jonathan Liwo, *The Continuing Significance of the Convention on International Trade in Endangered Species of Wild Fauna and Flora During the 1990’s*, 15 *Suffolk Transnatl. L. Rev.* 122, 145–47 (1991) (discussing *CITES* exemptions from trade protection).

The Missouri Court of Appeals held in *Animal Protection, Education, and Information Foundation v. Friends of the Zoo (APEIF)* that such control included “the right to determine how and to what extent [an animal] will be used for breeding purposes, including whether a charge will be made for those services.”²¹⁵ In *APEIF*, the court considered an organization’s claim of entitlement to a portion of proceeds derived from breeding an elephant called Onyx.²¹⁶ A private importer acquired Onyx and later assigned his rights in the elephant to the organization. After Onyx began “a behavioral pattern [called] ‘[musth],’” the owner sought to place him in a local zoo.²¹⁷ Musth is an annual period during which male elephants experience heightened sexual activity and aggression.²¹⁸ Under an agreement providing for “[all] breeding or sperm collection” to be split equally between the organization and the zoo, the zoo accepted ownership.²¹⁹

Affirming the trial court’s finding that the original owner’s donation of the elephant gave the zoo the exclusive right to control the extent and manner of Onyx’s breeding, including whether to charge for his “breeding services,” the court rejected the organization’s claim that its contract entitled it to half the value of those services.²²⁰ The zoo had provided Onyx for breeding with elephants at other city zoos but charged no fees.²²¹ The court found the zoo’s decision within its discretion as the elephant’s owner.²²²

Captive animals thus have less right to reproduce than medieval infringers. In medieval times, the maxim “to every cow her calf and accordingly to every book its copy” prohibited copying of the works of monastery scribes.²²³ However, when cow and calf are captive animals they are soon parted, and neither has a cause of action.²²⁴ If law recognizes an owner as controlling an animal’s reproductive potential, it would seem to follow *a fortiori* that the controlling owner also enjoys the right to control the animal’s “brain children.” Thus, if an animal produced creative work, ownership of that work would vest in the party reducing the animal to possession.

This “biological-work-for-hire” scheme would provide an easy analytical and conceptual resolution to the puzzle of ownership of animal authors’ works. What it would not do, however, is accord the creativ-

²¹⁵ *Animal Protec., Educ., & Info. Found. v. Friends of the Zoo of Springfield, Mo., Inc.*, 891 S.W.2d 177, 180 (1995) [hereinafter *APEIF*].

²¹⁶ *Id.* at 179.

²¹⁷ *Id.* at 178.

²¹⁸ See D.R. Greenwood, D. Comeskey, M.B. Hunt & L.E. Rasmussen, *Chirality in Elephant Pheromones*, 438 *Nature* 22/29, 1097 (Dec. 2005) (discussing chemical signals and resultant behavior in the opposite sex throughout an elephant’s life cycle).

²¹⁹ *APEIF*, 891 S.W.2d at 178–79.

²²⁰ *Id.* at 179–80.

²²¹ *Id.*

²²² *Id.* at 180.

²²³ Augustine Birrell, *Seven Lectures on the Law and History of Copyright in Books*, 41–42 (G.P. Putnam’s Sons 1899).

²²⁴ *Id.*

ity—which almost certainly exists in at least some animal works—the respect that copyright places on such societal contributions.

The rote response to this perspective is to assert the incentive justification. Traditionally, exclusive rights in authors are justified on the ground that copyright provides incentives to create and distribute works in which society has interest.²²⁵ But that rationale has never provided the *sole* reason for recognizing rights in authors.²²⁶ As Professor William Fisher has noted, although “the utilitarian theory” is the cornerstone of copyright jurisprudence, the “conception of authors’ entitlements, though it has never dominated the Anglo-American law of intellectual property, has long had a place in it.”²²⁷

Moreover, an incentive-based justification appears at times to be inconsistent with its own application.²²⁸ It has been argued that protection of architectural works, for example, added to Section 102 of the Copyright Act in 1990, cannot realistically be said to rest on genuine need to provide greater incentives.²²⁹ Professor Stewart Sterk has suggested that because an architect must serve clients’ needs in a competitive business environment, “[copyright] protection adds little to the incentives for excellence that already compel the architect.”²³⁰ Thus, if the compensation, prestige, publicity, and referrals that are likely to follow the design of significant buildings are sufficient motivations, then Congress overprotected architectural works by providing unneeded incentives. The very long extensions of the copyright term added under the Sonny Bono Copyright Term Extension Act²³¹ are another example of rights that may not foster production of creative works commensurate with their protections.²³²

A different, noneconomic justification asserts that authors “deserve” to enjoy the benefits of their works as rewards for bringing them into public existence. Although, as noted, the Supreme Court has consistently stressed the instrumental approach indicated by the Copyright Clause and viewed rewards to authors as less important than

²²⁵ Stewart E. Sterk, *Rhetoric and Reality in Copyright Law*, 94 Mich. L. Rev. 1197, 1203 (1996), reprinted in *A Copyright Anthology: The Technology Frontier*, at 435 (Richard H. Chused, ed., 1998).

²²⁶ See Ginsburg, *supra* n. 29, at 1063 (“Nor does a view of copyright as a necessary incentive to invest in dissemination of copy-vulnerable productions adequately account for the nature and scope of legal protections”).

²²⁷ William W. Fisher III, *Reconstructing the Fair Use Doctrine*, 101 Harv. L. Rev. 1659, 1688–89 (1988).

²²⁸ See Sterk, *supra* n. 225, at 1197 (comparing incentive rationale with desert theory, under which “copyright rewards authors, who simply *deserve* recompense for their contributions whether or not recompense would induce them to engage in creative activity”) (emphasis in original).

²²⁹ *Id.* at 1226 (“[The] attempt to reconcile architectural protection with the incentive justification . . . is patent nonsense.”).

²³⁰ *Id.*

²³¹ 17 U.S.C. § 302 (1998). The Act extended the copyright term by twenty years.

²³² See Landes & Posner, *supra* n. 200, at 69–70 (asserting that short copyright protections will tend to increase the amount of material in the public domain from which later authors can borrow, thereby increasing the production of new works).

increases in social welfare, it is not necessarily correct to suppose that intellectual property rights for authors are unjustified without concomitant public gain.²³³ The Supreme Court has implied that authors deserve rewards for their efforts regardless of whether they would have made them without incentives, stating that “rights conferred by copyright are designed to assure contributors to the store of knowledge a ‘fair return for their labors.’”²³⁴ And in an earlier case, the Court emphasized that while the Copyright Clause ultimately benefits the public, it reflects a balancing of interests including encouraging and rewarding creative work.²³⁵

As Gordon has suggested, while the

dominant purpose of American statutory copyright law *is* to provide incentives . . . we may seek to maximize wealth, subject to some constraints. One such constraint may be some creators’ claims to deserve a degree of control or payment; while desert may not be the only component of justice, it does have a weight that deserves respect.”²³⁶

Sterk has described a desert approach as resting on “the premise that . . . creators have, by virtue of their contributions, an entitlement to the benefits associated with those contributions.”²³⁷

Combined with an incentive component that comports with the principal goal advanced by U.S. copyright law of fostering creative production, a desert approach would balance the analytical efficiencies of the “biological-work-for-hire” theory with the equitable considerations of respecting animal contributions. This blended approach, discussed more fully below, would satisfy the main purpose of copyright without devaluing the sentient creators of socially beneficial works, instead creating a vehicle that would benefit creators as well as the public. If, unlike patent protection, a copyright does not impede progress of the arts because its holder receives no right to prevent use of the *ideas* in the work, then greater protection than justified by “incentives” would not undermine copyright’s purpose.²³⁸

V. EQUITABLE COPYRIGHT OWNERSHIP FOR ANIMAL AUTHORS

Society has an interest in animal works. There is an international trend toward promoting animal art,²³⁹ with zoos and other facilities

²³³ Wendy J. Gordon, *An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent, and Encouragement Theory*, 41 Stan. L. Rev. 1343, 1438 (1989).

²³⁴ *Harper & Row Publishers v. Nation Enters.*, 471 U.S. 539, 546 (1985); *see also* Gordon, *supra* n. 233, at 1447–50 & n. 461 (suggesting that in *Harper & Row* the Court “seems to have promoted fair return to “being an independently important goal” of copyright).

²³⁵ *Twentieth Cent. Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975).

²³⁶ Gordon, *supra* n. 233, at 1439 (emphasis in original).

²³⁷ Sterk, *supra* n. 225, at 447.

²³⁸ Gordon, *supra* n. 233, at 1449 & n. 461.

²³⁹ Annas, *supra* n. 178 (reporting Virginia art gallery’s showing of art by elephants in Thailand, Cambodia and Indonesia); *see also* *Trunk Call for a Masterpiece*, Birmingham-

conducting animal art activities with a wide variety of captive species. While some reported examples appear to be little more than marketing gimmicks presented as enhancements to confined creatures' well-being,²⁴⁰ some zoos aim to benefit animals in their care while providing an economic vehicle to reduce the costs.²⁴¹ Projects with painting elephants, such as those by Vitaly Komar and Alex Melamid, go even further.²⁴² Not only are Komar and Melamid developing means for elephants formerly used in Southeast Asian logging operations to generate income for their care and trainers, they are also calling into question fundamental presumptions of the meaning of art.²⁴³

If interest in animal works is significant enough to promote substantial economic activity, policy should favor exploiting copyright's potential to foster that activity.²⁴⁴ It therefore becomes necessary to identify some standard for managing the rights extended. An appropriate standard would resolve the question of ownership of copyright interests in animals' works, thus enabling enforceability of rights for animals' benefit and distribution of works for public good.

The "biological work-for-hire relationship" this article has described might provide a conceptual framework. This article suggests, however, that if the interest in animal art comes from its unique ability to break through language barriers to interspecies understanding, then a model recognizing greater respect for nonhuman creators is worth exploring. Two such models may exist in some form. The first is based on acts by the individuals who hold property interest in animal creators; the individual decides to alter the animal's property status by express agreement. Under this concept, articulated as a broad notion of equitable self-ownership by Professor David Favre, an individual may prepare an instrument transferring equitable title of the animal to the animal.²⁴⁵ In a narrower form, the person or institution holding legal title to the animal might assign at least an equitable interest in some or all of the exclusive rights in works created by the animal.

The second model would require the judicial action of interpreting the Copyright Clause to include certain animals in the category of "persons" for copyright purposes. The Supreme Court could determine,

ham Mail 20 (Oct. 18, 2007) (describing paintings of captive African elephant at West Midland Safari and Leisure Park).

²⁴⁰ See e.g. Laura Johnston, *Zoo Animals Brush up Skills for a Good Cause*, Cleveland Plain Dealer B1 (Aug. 20, 2007) (reporting zoo event organizer's characterization of such activities as applying nontoxic tempera paint to lips of rhinoceroses before directing them toward "treats of carrots and apple slices" set on blank paper as "enrichment that exercises their brains").

²⁴¹ *Id.*

²⁴² CNN.com, *supra* n. 7.

²⁴³ Eggers, *supra* n. 21.

²⁴⁴ See *id.* and discussion *supra* Part IV A. Works by Ruby, an elephant kept at the Phoenix Zoo, have reportedly generated nearly \$500,000 in sales.

²⁴⁵ David Favre, *A New Property Status for Animals: Equitable Self-Ownership*, in *Animal Rights: Current Debates and New Directions* 234, 238-45 (Cass R. Sunstein & Martha C. Nussbaum eds., 2004).

for example, that the scientific evidence concerning the nature of the great apes supports the proposition that animals like Congo or Michael are entitled to a share of the rights in copyrightable works they may create.²⁴⁶

The operative principles for the first model exist under trust law.²⁴⁷ Trusts are a form of property transfer useful for managing property for those who cannot or choose not to manage an asset themselves.²⁴⁸ A trust “separates the responsibility of ownership of specific property from the benefit of ownership.”²⁴⁹ A trustee holds legal title to the asset, while the equitable title in the same trust property is held by beneficiaries.²⁵⁰ This custodial model allows exploitation of the duality that law recognizes in property interests. Property that is divisible into legal and equitable aspects allows owners to separate the power to control from the right to receive benefits incident to exercise of that control. A trustee accepts control, subject to a duty of loyalty to the trust beneficiaries, to administer the trust assets solely in their interest and to exclude considerations of his or her own interests or those of third parties.²⁵¹ A trust may be created by will or during life, in which case the trustee’s responsibilities depend on the terms set forth by the person seeking to create a trust in certain property to which he or she holds legal and equitable titles. This person is called the settlor,²⁵² and the living trust that he or she may organize is the form on which this article will focus in discussing the management of the copyright interest in animal-created works.

If an animal were permitted to hold equitable title in its works, then the legal titleholder of those works, presumably the animal’s keeper, would be obligated to manage the copyright interest in the work as a trust asset. He or she would have to consider the effects on the animal creator of decisions concerning that animal’s work. Additionally, the trustee would seek a return from the work to serve the animal’s interest. This would entail licensing the animal’s exclusive rights under 17 U.S.C. section 106 to obtain the greatest benefit.

As author, however, the animal would be both settlor and ostensible beneficiary. A trust in oneself is invalid, and an attempt to create one is said to fail for lack of a beneficiary.²⁵³ Thus, some means must exist by which owners, who hold all rights in animals they have reduced to possession, can relinquish their equitable interests. Trust law

²⁴⁶ See generally Lee Hall & Anthony Jon Waters, *From Property to Person: The Case of Evelyn Hart*, 11 Seton Hall Const. L. J. 1 (2000) (arguing the hypothetical case of a chimpanzee seeking recognition as a legal person).

²⁴⁷ Favre, *supra* n. 245, at 238–45.

²⁴⁸ William M. McGovern, Jr. & Sheldon F. Kurtz, *Wills, Trusts and Estates*, 341 (3d ed., Thompson West 2004).

²⁴⁹ Paul G. Haskell, *Preface to Wills, Trusts and Administration*, 73 (2d ed., Found. Press 1994).

²⁵⁰ *Id.*

²⁵¹ *Id.*

²⁵² *Id.* at 75, 80.

²⁵³ *Id.* at 83.

presents a problem akin to that presented by copyright authorship because it generally requires a human beneficiary. Courts recognize the concept of an “honorary trust,”²⁵⁴ a gift made with the donor’s expectation that it will be used to care for an animal, but such a trust may or may not be enforceable. Under the Uniform Trust Code²⁵⁵ (UTC), promulgated in 2000 and now adopted in a number of states, however, an animal may be a beneficiary of an enforceable trust. The court can substitute trustees if necessary and ensure that trustees carry out their obligations on the animal’s behalf.²⁵⁶ As the UTC’s official comment notes, “[unlike] honorary trusts created pursuant to the common law of trusts, which are arguably no more than powers of appointment, the trusts created . . . are valid and enforceable.”²⁵⁷ Favre has called this provision “a conceptual breakthrough for the United States legal system. Animals have been granted legal personhood for purposes of trust enforcement.”²⁵⁸ Thus, at least in the jurisdictions that have adopted the UTC, states have removed one conceptual barrier to allowing animals to benefit from equitable interests.

An analogous concept may exist under the Copyright Act of 1976. Section 201(d)(1) provides that “ownership of a copyright may be transferred in whole or in part by any means of conveyance or by operation of law”²⁵⁹ Thus, a copyright owner need not retain every exclusive right granted, but may transfer ownership of any particular right. Copyright in rights granted in a single work may be “owned” by one other than the “copyright owner.” Under section 101, a “[copyright] owner, with respect to any one of the exclusive rights comprised in a copyright, [is] the owner of that particular right.”²⁶⁰

Assuming an animal’s keeper obtains ownership of the copyright under a “biological-work-for-hire” theory, he or she could then transfer the section 106 right, such as the reproduction right, to the animal. Although owning an exclusive right without the concomitant ability to exploit it would not benefit the animal, an after-the-fact transfer would allow the animal’s human guardian and copyright owner to make the reproduction decision with the animal’s interest in mind.

²⁵⁴ See e.g., *In re Searight’s Estate*, 95 N.E.2d 779, 782 (Ohio App. 1950) (“To call this bequest for the care of [a] dog . . . a trust in the accepted sense . . . is, we know, an unjustified conclusion Whether called an ‘honorary trust’ or whatever terminology is used, we conclude that the bequest for the care of the dog, Trixie, is not in and of itself unlawful.”).

²⁵⁵ Unif. Trust Code §§ 101–1106 (2000).

²⁵⁶ Unif. Trust Code § 408; see also Alan Newman, *The Intention of the Settlor Under the Uniform Trust Code: Whose Property is It, Anyway?*, 38 Akron L. Rev. 649, 687–88 (2005) (discussing creation of enforceable pet trusts).

²⁵⁷ *Id.* at cmt.

²⁵⁸ David Favre, *Integrating Animal Interests into our Legal System*, 10 Animal L. 87, 93–94 (2004).

²⁵⁹ 17 U.S.C. § 201(d)(1).

²⁶⁰ William F. Patry, *Patry on Copyright* vol. 2, § 5:102 (Thompson-West 2008) (criticizing Nimmer as missing “the central innovation on ownership brought about by the 1976 Act[] by asserting that an exclusive licensee is not a copyright owner”).

While a writing is required to validate the transfer, it need not be signed by the transferee.²⁶¹ Patry notes that “virtually all courts permit written confirmation of an earlier oral agreement to transfer an exclusive right,”²⁶² and at least one Ninth Circuit court has held such transfers valid so long as “the party alleging that prior oral negotiations took place . . . [presents] evidence showing the same.”²⁶³ If legislatures and courts have recognized previously unknown protections for animal interests, in what Favre has called “the most conservative of legal arenas—trusts and estates,”²⁶⁴ it should be possible to advance similar theories in the equally venerable but more dynamic area of copyright law.²⁶⁵

Nor does the Constitution foreclose the second model, which requires judicial action interpreting the Copyright Clause to include certain animals in the category of “persons” for copyright purposes. Just as the copyright statute does not define “author,” the Constitution does not define “person.”²⁶⁶ Time has altered the meaning of “person” without destroying the document, sometimes with sweeping changes. The Fourteenth Amendment, for example, has been called the “second Constitution,” and its guarantees of due process and equal protection may be the most significant alterations ever made to the original.²⁶⁷ Constitutional meaning develops through cases and controversies; antecedent rules are not its forge.²⁶⁸ This organic process affects the copyright power to the same extent it affects any other.

In *Mitchell Bros. Film Group v. Cinema Adult Theater*,²⁶⁹ for example, the Fifth Circuit held that Congress could constitutionally promote science and the useful arts under the copyright power by protecting writings regardless of their obscene content.²⁷⁰ In *Mitchell*

²⁶¹ 17 U.S.C. § 204(a) (2006).

²⁶² Patry, *supra* n. 268, at § 5:111, 5-223 (collecting cases).

²⁶³ *A & A Plush Inc. v. SKM (USA) Enters. Inc.*, 47 U.S. Pat. Q. 2d 1438, 1441-42 (1998).

²⁶⁴ *The Evolving Legal Status of Chimpanzees*, 9 *Animal L.* 1, 35 (2003) (uncredited remarks from the Chimpanzee Collaboratory Legal Committee’s symposium Sept. 30, 2002, discussing the right of chimpanzees to some degree of legal status.).

²⁶⁵ See Menell, *supra* n. 191, at 64 (“Copyright law has served as a principal means for protecting works of authorship for nearly three centuries. It would be a mistake, however, to view copyright as a static body of law. Its very contours have been shaped by advances in the technologies of creating, reproducing, and disseminating such works.”).

²⁶⁶ Hall & Waters, *supra* n. 246, at 15 (citing Laurence H. Tribe, *American Constitutional Law* § 15-3, 1308 (1988)).

²⁶⁷ Garrett Epps, *Democracy Reborn*, 268 (Henry Holt & Co. 2006) (quoting the term “second Constitution” from James E. Bond, *The Original Understanding of the Fourteenth Amendment in Illinois, Ohio, and Pennsylvania*, 18 *Akron L. Rev.* 435, 435 (1985)).

²⁶⁸ See Cass R. Sunstein, *An Eighteenth Century Presidency in a Twenty-First Century World*, 48 *Ark. L. Rev.* 1, 19-20 (1994) (discussing how methods of Constitutional construction and interpretation have evolved over time).

²⁶⁹ 604 F.2d 852 (5th Cir. 1979) [hereinafter *Mitchell Bros.*].

²⁷⁰ *Id.* at 859.

Bros., an adult motion picture was exhibited without the owners' permission. When the owners sued, the infringers asserted as an affirmative defense that the film's obscenity acted as a bar to its copyright protection.²⁷¹ Considering the question of "whether Congress [had] exceeded its constitutional powers in enacting an all-inclusive copyright statute," the Fifth Circuit refused to "find that Congress has exceeded its power so long as the means adopted . . . for achieving a constitutional end are 'appropriate' and 'plainly adapted' to achieving that end."²⁷² Relying on the similar result reached by the Supreme Court in the patent case of *Graham v. John Deere Co.*,²⁷³ the Fifth Circuit explained that Congress may use its judgment in implementing the framers' purposes through policy choices that it determines best accomplish those purposes.²⁷⁴ The Supreme Court explained in *Graham* that "[within] the scope established by the Constitution, Congress may set out conditions and tests" for protection under its Copyright and Patent Clause power.²⁷⁵

Whatever objective criteria might inform a test of the legal definition of personhood for copyright purposes, it would align with the great apes' capacities. Some apes have demonstrated sign language vocabularies of hundreds of words and achieved significant success in many other possible measures of intelligence and personhood, including symbolic communication, skills in counting, imitation, logic, teaching, and using tools.²⁷⁶ Koko scored in the range of eighty-five to ninety-five²⁷⁷ on the Stanford-Binet Intelligence Scale, a standardized psychological test of intelligence and cognitive abilities regularly used to place children in appropriate educational settings.²⁷⁸ Her mental age has shown steady growth, indicating that she may be able to understand principles at the foundation of abstract thought.²⁷⁹ Subjective qualities such as concern for others, curiosity, and a sense of past and future likewise signal that, as attorney Lee Hall and Professor Anthony Waters have argued, "continued classification of non-human great apes as mere property is both morally and legally intolerable."²⁸⁰

Beyond considerations about what animals *are*, however, are considerations of what they *have done* through their works. Animals have made measurable contributions to commerce, human knowledge, and the meaning of art itself. Copyright would protect these works but for

²⁷¹ *Id.* at 854.

²⁷² *Id.* at 860 (quoting *McCulloch v. Md.*, 17 U.S. (4 Wheat.) 316, 421 (1819)).

²⁷³ 383 U.S. 1 (1966).

²⁷⁴ *Mitchell Bros.*, 604 F.2d, at 860 (citing *Graham*, 383 U.S. at 6).

²⁷⁵ *Graham*, 383 U.S. at 6.

²⁷⁶ See generally Wise, *supra* n. 109, at 179–237 (discussing aspects of chimpanzee and bonobo minds).

²⁷⁷ Patterson & Gordon, *supra* n. 120, at 58 (reporting IQ tests administered in 1975–76, when Koko was approximately five years old).

²⁷⁸ W. Bruce Walsh & Nancy E. Betz, *Tests and Assessment*, 65, 166 (4th ed., Prentice Hall 1990) (scores equivalent to "low average" to "average" range for a human).

²⁷⁹ Patterson & Gordon, *supra* n. 120, at 60–61.

²⁸⁰ Hall & Waters, *supra* n. 246, at 20–27.

their creators' inability to qualify as "authors." That ambiguous copyright term ought not—and need not—work such a patent injustice.

VI. CONCLUSION

The greatest barriers to recognizing animals as authors and allowing them to benefit from the copyright statute's exclusive rights are not doctrinal. Neither the Constitution nor the courts present insurmountable obstacles. The normative separateness characterizing interspecies understanding, however, generally prevents serious consideration of proposals for expanding the legal rights of animals. Like the ravines or cage bars separating visitors from animals in zoos, the concept of human and animal separateness, embodied in law in animals' status as property, denies attempts to draw nearer than strictly designated distances.

Art is a form of language that could begin to bridge that ideological barrier. Its ability to communicate unhindered by words may allow ideas to pass from animal to human minds. Recognizing animals as authors would enrich the way we as humans view the world and those with whom we share it. If copyright law is willing to extend complete protection far beyond what is reasonably required to motivate creativity, it should extend minimal protection to those whose contributions are now offered without reward and taken without legal recourse. If Congo, Michael, Koko, Siri, Ruby, and others are reaching across the interspecies divide with brushes and paint, surely there are ways for us to reach back with a stick from the bundle of rights.