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The Random Muse: Authorship and Indeterminacy

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THE RANDOM MUSE: AUTHORSHIP AND INDETERMINACY

ALAN L. DURHAM*

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INTRODUCTION

One of the more elusive concepts in copyright law is that of "authorship." Authorship refers to the production of "original" works, meaning works which the author has newly created, as opposed to copied from other sources, and which possess at least some minimal degree of creativity.¹ Copyright protects "original works of authorship"² and extends only to what is original in such works.³ Fixing the boundary between private property and the public domain,⁴ the authorship/originality requirement has been described by the Supreme Court as "the very 'premise of copyright law'"⁵—the "touchstone,"⁶ "bedrock principle,"⁷ and "*sine qua non*" of copyright.⁸

Metaphors like "bedrock" suggest a concept of authorship that is immutable, sharply defined, and reassuringly solid. Authorship, however, is so often characterized by what it is not that it is sometimes difficult to say, positively, what authorship is. Consider a scholar who prepares a new English-language translation of the *Iliad*, with notes and an introduction based on the scholar's historical research. The scholar can claim no right to the original work, or to any aspect of the translation that accuracy compels.⁹ Nor

1. Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 345-46 (1991).

2. 17 U.S.C. § 102(a) (2000) ("Copyright protection subsists ... in original works of authorship fixed in any tangible medium of expression").

3. *Feist*, 499 U.S. at 348 ("The mere fact that a work is copyrighted does not mean that every element of the work may be protected.... [C]opyright protection may extend only to those components of a work that are original to the author.").

4. See Jessica Litman, *The Public Domain*, 39 EMORY L.J. 965, 1000 (1990) ("What we rely on in place of physical borders, to divide the privately-owned from the commons and to draw lines among the various parcels in private ownership, is copyright law's concept of originality.").

5. *Feist*, 499 U.S. at 347 (quoting *Miller v. Universal Studios, Inc.*, 650 F.2d 1365, 1368 (5th Cir. 1981)).

6. *Id.* at 347.

7. *Id.*

8. *Id.* at 345.

9. See 17 U.S.C. § 103(b) (2000) ("The copyright in a compilation or derivative work extends only to the material contributed by the author of such work, as distinguished from the preexisting material employed in the work, and does not imply an exclusive right in the preexisting material."). "Derivative work" means "a work based upon one or more preexisting works, such as a translation ... or any other form in which a work may be recast, transformed,

can the scholar prevent others from reciting the facts revealed by his research. The facts may be original in the sense of having appeared nowhere else, but they were not *created* by the scholar; they were *discovered* by him or, in a sense, "copied from the world."¹⁰ Even choices reflecting matters of taste (e.g., this poetic turn of phrase instead of that pedestrian one) are influenced, if not determined, by a variety of external factors: the books the scholar has read, the lectures he has attended, perhaps even the genes he has inherited. Examined too closely, the process of authorship can seem less a conscious and creative act than a mechanical confluence of forces. It can be difficult to locate the "maker"¹¹ who wills into existence that which is personal and new.¹²

On the other hand, the complexity of the *Iliad* and the richness of the English language mean that countless translations could be written. The facts revealed by the scholar's research could be expressed in a variety of ways. While the variations that mark the scholar's work may be determined by his chromosomes or his experience, his nature or nurture, they are still *his* variations. Like most copyrightable works, whether they are artistic creations, literary works, musical compositions, or some other form of expression, the scholar's translation of the *Iliad* bears characteristic attributes of authorship: the work is unique;¹³ it owes its existence to the scholar; it is the product of the scholar's intellectual labor; its form reflects the author's intentions and conveys his message; and

or adapted." *Id.* § 101.

10. *Feist*, 499 U.S. at 347. As the Court stated in *Feist*:

[F]acts do not owe their origin to an act of authorship. The distinction is one between creation and discovery: The first person to find and report a particular fact has not created the fact; he or she has merely discovered its existence.... Census takers, for example, do not "create" the population figures that emerge from their efforts; in a sense, they copy these figures from the world around them.

Id.

11. *Id.* at 346 (quoting *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 58 (1884)).

12. See MARK ROSE, *AUTHORS AND OWNERS: THE INVENTION OF COPYRIGHT* 127 (Harvard Univ. Press 1993) (relating questions of authorship to the problem of personal identity spawned in the writings of John Locke and David Hume).

13. Courts have long held, however, that works may be "original" even if they are indistinguishable from prior works, so long as they were not copied from those prior works and the similarity is mere coincidence. See *infra* notes 73-84 and accompanying text.

it reflects the scholar's individuality—his personality, his experiences, his “self.”

Yet consider the following hypotheticals, moving now from the field of scholarly translation to that of abstract painting, where unfettered originality would seem most feasible.

- Artist A notices a pleasing pattern on the floor of a hardware store, where countless people have carelessly dripped paint. Artist A purchases that section of the floor and hangs it in her studio.
- Artist B tosses paint buckets in the air and lets the paint fall where it may.
- Artist C paints a canvas with painstaking care, but the position and color of each drop of paint is determined by rolling a pair of dice.
- Artist D paints spontaneously, with little conscious thought, her brush guided by the inspiration of her subconscious mind.¹⁴

Except perhaps in the case of Artist A, the works are not copied, either from prior works or from the world. Each work is, in that sense, original. Each artist, again with the possible exception of Artist A, is physically involved in the creation of the work and is, therefore, a “maker.” Yet each work is to a substantial degree *indeterminate*—that is, it is formed by agencies other than the artist's conscious will. One could argue that Artist A is not the author of her work, any more than if she had acquired the work of another artist and claimed it as her own. In the terminology of *Feist*, she did not create the work, she discovered it.¹⁵ However, if that is true of Artist A, the same might be said of the remaining artists, who, in different ways, discovered their works as they were created. Are any of these artists authors of their works, and can they claim the intellectual property rights to which authors are entitled?

Although indeterminacy is an element in many conventional works of authorship,¹⁶ works dominated by random processes are comparatively exotic creatures, inhabiting the realm of what David

14. For further discussion of these hypotheticals, see *infra* Part IV.A.

15. See *Feist*, 499 U.S. at 347.

16. See *infra* notes 158-224 and accompanying text.

Nimmer calls "extreme copyright."¹⁷ They are useful, nevertheless, because they focus one's attention on some fundamental questions about the nature of authorship and the function of copyright. Wholly indeterminate works have been held uncopyrightable because some cognitive component essential to an original work of authorship is missing: mental effort, intention, personality, or meaning.¹⁸ In the discussion that follows, I will challenge that conclusion, or at least demonstrate its potential inconsistency with some broader principles of copyright doctrine. It is easy to say that works lacking that cognitive element are not works of authorship; it is surprisingly difficult to say *why not*. In fact, with only some facetiousness, one could argue that indeterminate works are authorship's purest expression—evidence that the deeper one digs, the more elusive the conceptual "bedrock" proves to be.

In Part I, I examine authorship and originality as the courts have defined them, including those instances where the subject of indeterminacy has been specifically addressed. With one notable exception,¹⁹ courts have generally viewed indeterminacy and authorship as incompatible. In Part II, I discuss the use of indeterminate processes in the arts, concentrating on the works of Jean Arp, Marcel Duchamp, and John Cage. Through their experiments with the processes of creation, these highly "original"²⁰ artists defied conventional expectations of authorship, while giving us some clues to the possible aesthetic function of indeterminacy. Part III examines, in abbreviated fashion, the theoretical foundations of copyright and intellectual property in general. I specifically discuss the natural rights and public benefits justifications for copyright and their relationship to the concepts of authorship and originality. In Part IV, I make the case for defining authorship in a way that includes, with significant caveats, at least some indeterminate works.

Issues of authorship have been much discussed in recent times, perhaps because of a sense of uncertainty as to the direction

17. David Nimmer, *Copyright in the Dead Sea Scrolls: Authorship and Originality*, 38 HOUS. L. REV. 1, 14 (2001).

18. See *infra* Part I.D.

19. See *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*, 191 F.2d 99, 101-03 (2d Cir. 1951).

20. "Original" in the nonlegal sense of "startling, novel or unusual, a marked departure from the past." *Alfred Bell*, 191 F.2d at 102 (contrasting that definition of "original" with the definition used for purposes of copyright).

intellectual property law is taking us. I share the view of many academics that expanding property rights encroaches too much on the public domain.²¹ I am therefore hesitant, in some respects, to tug at the foundations of copyright, for fear that another wall could tumble and even more things become “propertized.” At the same time, I believe that intellectual property law deserves as sound and consistent a theoretical basis as we can supply. We need to ask provocative questions, if only to confirm that we really understand what we think we understand. If nothing else, indeterminacy is a fertile source of provocative questions.

I. “AUTHORSHIP” AND “ORIGINALITY”

Article I, Section 8, Clause 8 of the United States Constitution empowers Congress “[t]o promote the Progress of Science ... by securing for limited Times to Authors ... the exclusive Right to their ... Writings”²² Although “science” now refers to the fruits of the scientific method, in the late-eighteenth century it referred to knowledge or learning in general.²³ The same clause permits Congress “[t]o promote the Progress of ... useful Arts” by granting “inventors,” for limited times, exclusive rights to their “discoveries.”²⁴ “[U]seful arts” might be described today as “technology.”²⁵ The language referring to authors and writings is the foundation of copyright law, as the language referring to inventors and discoveries is the foundation of patent law.²⁶

The Framers of the Constitution disfavored monopolies,²⁷ so the provision for “exclusive rights” is a limited one. Not only must those

21. See Alan L. Durham, *Speaking of the World: Fact, Opinion and the Originality Standard of Copyright*, 33 ARIZ. ST. L.J. 791, 794 n.20 (2001).

22. U.S. CONST. art. I, § 8, cl. 8.

23. See Karl B. Lutz, *Patents and Science: A Clarification of the Patent Clause of the U.S. Constitution*, 18 GEO. WASH. L. REV. 50, 51 (1949) (“The word ‘science,’ which comes from the Latin, *scire*, ‘to know,’ at the writing of the Constitution meant learning in general.”). Because copyright embraces fanciful as well as instructive works, the “science” promoted by copyright includes artistic expression. If the intellectual property clause of the Constitution were redrafted today, the words “knowledge and culture” might substitute for “science.”

24. U.S. CONST. art. I, § 8, cl. 8.

25. See Alan L. Durham, “Useful Arts” in the Information Age, 1999 BYU L. REV. 1419, 1437-44.

26. *Id.* at 1426.

27. See *id.* at 1455 n.185 (citing *In re Shoa Wen Yuan*, 188 F.2d 377, 380 (C.C.P.A. 1951)).

rights expire, enduring only for "limited times," they are confined to certain people (authors and inventors) for certain kinds of achievements (writings and discoveries) for an explicitly articulated goal (to "promote the progress" of knowledge and technology). The parallel threads that weave through the constitutional language, one referring to the writings of authors and the other to the discoveries of inventors,²⁸ establish a copyright/patent dichotomy useful for understanding the limits of either. Whatever an "author" may be, it must be something different than an "inventor" or the Constitution would refer to them collectively. By the same reasoning, a "writing" must be something other than a "discovery."²⁹

On the other hand, copyright law has never confined "author" and "writing" to their narrowest senses. The earliest copyright statutes included maps and charts as copyrightable subject matter.³⁰ As the copyright statutes have been revised, the list of explicitly recognized categories of copyrightable material has expanded. Today those categories include literary works, musical works, dramatic works, pantomimes and choreographic works, pictorial, graphic, and sculptural works, motion pictures and other audiovisual works, sound recordings, and architectural works.³¹ Although they are not listed explicitly, computer programs have been recognized as a form of literary work subject to copyright.³²

The Copyright Act of 1909 mirrored the constitutional language in its definition of copyrightable subject matter, referring to the

28. The clause provides, in its entirety, that Congress shall have the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. CONST. art. I, § 8, cl. 8. The clause is an example of an eighteenth-century literary device known as a "balanced sentence," which treats subjects in parallel to emphasize "related but distinct terms." Robert I. Coulter, *The Field of the Statutory Useful Arts* (pt. 2), 34 J. PAT. OFF. SOC'Y 487, 491-92 (1952); see EDWARD C. WALTERSCHEID, *TO PROMOTE THE PROGRESS OF USEFUL ARTS: AMERICAN PATENT LAW AND ADMINISTRATION, 1798-1836*, at 60-61 (1998).

29. See *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*, 191 F.2d 99, 100 (2d Cir. 1951) ("[T]he very language of the Constitution differentiates (a) 'authors' and their 'writings' from (b) 'inventors' and their 'discoveries.'").

30. See *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 57 (1884) ("These statutes certainly answer the objection that books only, or writing in the limited sense of a book and its author, are within the constitutional provision.").

31. 17 U.S.C. § 102 (2000). These categories are nonexclusive. See *Nat'l Basketball Ass'n v. Motorola, Inc.*, 105 F.3d 841, 846 (2d Cir. 1997).

32. See, e.g., *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1247-49 (3d Cir. 1983).

"writings of an author."³³ The 1976 Copyright Act, which is still used in modified form today, employs more specific language,³⁴ stating that "[c]opyright protection subsists ... in *original works of authorship* fixed in any tangible medium of expression"³⁵ Yet even before the Copyright Act referred to "original works," courts identified originality as an essential component of authorship.

A. *Works of Genius*

Three Supreme Court cases—the *Trade-Mark Cases*,³⁶ *Burrow-Giles Lithographic Co. v. Sarony*,³⁷ and *Bleistein v. Donaldson Lithographing Co.*³⁸—lay the foundation for much of our subsequent understanding of "authorship" and "originality."

In the *Trademark Cases*, the Court held existing federal trademark laws unconstitutional because they were supported neither by Congress' power to regulate interstate commerce nor by Article I, Section 8.³⁹ The Court's discussion of the latter might be considered dicta, at least insofar as it concerns copyright or patent law, but courts have cited it with approval in subsequent cases specifically dealing with questions of authorship.⁴⁰ Trademark rights are established by the use of a mark and the subsequent identification of the mark with a particular source of goods. Such rights may, therefore, be obtained in words or symbols that existed prior to their adoption by the trademark owner.⁴¹ A trademark, the Court held, cannot be classified as the "writing of an author" because it lacks, or may lack, the essential quality of "originality."⁴²

33. Copyright Act of 1909, Pub. L. No. 60-349, § 4, 35 Stat. 1075 (codified as amended at 17 U.S.C. § 102 (2000)).

34. See *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 355 (1991).

35. 17 U.S.C. § 102(a) (emphasis added).

36. 100 U.S. 82 (1879).

37. 111 U.S. 53 (1884).

38. 188 U.S. 239 (1903).

39. *The Trade-Mark Cases*, 100 U.S. at 94-99.

40. See, e.g., *Feist*, 499 U.S. at 346; *Boisson v. Banian, Ltd.*, 273 F.3d 262, 268 (2d Cir. 2001); *Urantia Found. v. Maaherra*, 114 F.3d 955, 959 (9th Cir. 1997).

41. See *The Trade-Mark Cases*, 100 U.S. at 94 ("At common law the exclusive right to it grows out of its use, and not its mere adoption.").

42. *Id.*

[W]hile 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. The writings which are to be protected are *the fruits of intellectual labor*, embodied in the form of books, prints, engravings and the like. The trade-mark may be, and generally is, the adoption of something already in existence as the distinctive symbol of the party using it.⁴³

Significantly, the passage suggests that a “writing” must be more than something new; it must be the product of intellectual effort or, perhaps, of the author’s imagination—the “creative powers of the mind.” However ingenious a trademark may be, rights to that mark do not depend upon such ingenuity. The right to a trademark does not require “novelty, invention, discovery, or any work of the brain. It requires no fancy or imagination, no genius, no laborious thought. It is simply founded on priority of appropriation.”⁴⁴ By implication, a copyright *does* depend on some “work of the brain,” though the Court did not specify the form that work must take—imagination, genius, laborious thought, or all of them combined.

Five years later, the Supreme Court returned to the subject of originality in *Burrow-Giles*.⁴⁵ The work in dispute was a photograph of Oscar Wilde, showing him posed in a chair with a book on his knee.⁴⁶ The defendant argued that a photograph is beyond the subject matter of copyright because “being a reproduction on paper of the exact features of some natural object or of some person, [it] is not a writing of which the producer is the author.”⁴⁷ Unlike a painting or print, which “embod[ies] the intellectual conception of its author,” a photograph, the defendant claimed, is a “mere mechanical reproduction” of the scene, involving “no originality of thought or any novelty in the intellectual operation connected with its visible reproduction in the shape of a picture.”⁴⁸ That, the

43. *Id.*

44. *Id.*

45. 111 U.S. 53 (1884).

46. Napoleon Sarony, *Oscar Wilde, No. 18* (1882).

47. *Burrow-Giles*, 111 U.S. at 56.

48. *Id.* at 58-59. The defendant’s argument, as summarized by the Court, continued: [W]hile the effect of light on the prepared plate may have been a discovery in the production of these pictures, and patents could properly be obtained for the combination of the chemicals, for their application to the paper or other surface,

defendant argued, deprived a photograph of the "authorship" necessary to a copyrightable work.

The Court did not adopt, nor did the defendant advocate, definitions of "author" or "writing" that would have excluded pictorial works in general. The first copyright statutes dispelled the notion that "books only, or writing in the limited sense of a book and its author, are within the constitutional provision."⁴⁹ The Court defined "author" in a broader sense, as "he to whom anything owes its origin; originator; maker; one who completes a work of science or literature."⁵⁰ Engravings, etchings, and other pictorial works qualify as "writings" because they are "literary productions," a term which includes "all forms of writing, printing, engraving, etching, & c., by which the ideas in the mind of the author are given visible expression."⁵¹ As to photographs, the Court "entertain[ed] no doubt that the Constitution is broad enough to cover an act authorizing copyright of photographs, so far as they are representatives of original intellectual conceptions of the author."⁵²

The Court rejected the argument that a photograph is merely the mechanical reproduction of a scene, divorced from any exercise of the photographer's intellect.⁵³ The photograph of Oscar Wilde was "made ... entirely from [the photographer's] own original mental conception," given form by choosing the costume and background, posing the subject, "evoking the desired expression," and "arranging and disposing the light and shade."⁵⁴ The resulting photograph, a "useful, new, harmonious, characteristic, and grace-

for all the machinery by which the light reflected from the object was thrown on the prepared plate, and for all the improvements in this machinery, and in the materials, the remainder of the process is merely mechanical, with no place for novelty, invention or originality. It is simply the manual operation, by the use of these instruments and preparations, of transferring to the plate the visible representation of some existing object, the accuracy of this representation being its highest merit.

Id. at 59.

49. *Id.* at 57.

50. *Id.* at 58 (citation omitted).

51. *Id.*

52. *Id.*

53. *Id.* at 59-60.

54. *Id.* at 60 (quoting findings of fact).

ful picture,"⁵⁵ constituted an "original work of art, the product of plaintiff's intellectual invention, of which plaintiff is the author...."⁵⁶

Burrow-Giles contains material for differing conceptions of "authorship." The "more enlarged definition" to which the Court found the term "author" susceptible is "he to whom anything owes its origin; originator; maker...."⁵⁷ That definition could be satisfied by "makers" with no intellectual investment in what they make—hikers whose boots leave footprints, for example. The constitutional pairing of "authors" with "writings," however, suggests that only certain forms of expressive material qualify for copyright.⁵⁸ Elsewhere, the Court contrasts the ease with which copyrights can be obtained, as contrasted with patents, which are rigorously examined in the application process. Because of the disparity, "[i]t is ... much more important that ... the existence of those facts of originality, of intellectual production, of thought, and conception on the part of the author should be proved, than in the case of a patent right."⁵⁹ From this language, it appears that an "author" is not only a maker, but a *thinker*.⁶⁰

55. *Id.* (quoting findings of fact). As to whether an "ordinary ... photograph" embodied similar qualities of authorship, the Court reserved judgment. *Id.* at 59.

56. *Id.* at 60.

57. *Id.* at 57-58 (citation omitted); see also *Cnty. for Creative Non-Violence v. Reid*, 490 U.S. 730, 737 (1989) ("As a general rule, the 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.")

58. See *Burrow-Giles*, 111 U.S. at 58 ("By writings in that clause is meant the literary productions of those authors, and Congress very properly has declared these to include all forms of writing, printing, engraving, etching, &c., by which the ideas in the mind of the author are given visible expression.") (emphasis added).

59. *Id.* at 59-60 (emphasis added). As the Court specifically stated:

Nor is it to be supposed that the framers of the Constitution did not understand the nature of copyright and the objects to which it was commonly applied, for copyright, as the exclusive right of a man to the production of his own genius or intellect, existed in England at that time

Id. at 58 (emphasis added).

60. See *Nat'l Tel. News Co. v. W. Union Tel. Co.*, 119 F. 294, 297-98 (7th Cir. 1902). The Seventh Circuit held

that a mere "annal of events transpiring" is not copyrightable because, [g]enerally speaking, authorship implies that there has been put into the production something meritorious from the author's own mind; that the product embodies the thought of the author ... and would not have found existence in the form presented, but for the distinctive individuality of the mind from which it sprang.

Id.; see also *Oxford Univ. Press, N.Y., Inc. v. United States*, 33 C.C.P.A. 11, 19 (1945)

One could even conclude that "authorship" requires the level of thought or inspiration necessary to produce a genuine "work of art," as the Court judged the photograph of Oscar Wilde.⁶¹ However, any such exalted view of "authorship" was rejected in the third Supreme Court case, *Bleistein v. Donaldson Lithographing Co.*, where the works at issue were chromolithographs illustrating various circus acts.⁶² The trial court held that illustrations of such modest pretensions, used only for advertising, were beyond the protection of copyright.⁶³ The Supreme Court disagreed, calling it "a dangerous undertaking for persons trained only to the law to constitute themselves final judges of the worth of pictorial illustrations, outside of the narrowest and most obvious limits."⁶⁴ If courts were to judge aesthetics, some "works of genius" would go unappreciated because "[t]heir very novelty would make them repulsive until the public had learned the new language in which their author spoke."⁶⁵ At the same time, "copyright would be denied to pictures which

(discussing the meaning of "foreign authorship" for purposes of a tariff statute, and concluding that "for a thing to be the work of an 'author,' it must be something that is more or less the product of mental activity as distinguished from that which is purely mechanical"). The distinction between *maker* and *thinker* is further illustrated in *Nottage v. Jackson*, 11 Q.B.D. 627 (1883), an English case discussed in the *Burrow-Giles* opinion. The plaintiffs arranged a photograph of a cricket team and sold prints they made from the negative. Both the plaintiffs and the photographer who exposed the negative claimed to be the author of the photograph. The arguments of the latter prevailed:

Brett, M. R., said, in regard to who was the author: "The nearest I can come to, is that it is the person who effectively is as near as he can be, the cause of the picture which is produced, that is, the person who has superintended the arrangement, who has actually formed the picture by putting the persons in position, and arranging the place where the people are to be—the man who is the effective cause of that." Lord Justice Cotton said: "In my opinion, 'author' involves originating, making, producing, as the inventive or master mind, the thing which is to be protected, whether it be a drawing, or a painting, or a photograph;" and Lord Justice Bowen says that photography is to be treated for the purposes of the act as an art, and the author is the man who really represents, creates, or gives effect to the idea, fancy, or imagination.

Burrow-Giles, 111 U.S. at 61 (quoting *Nottage*, 11 Q.B.D. at 632, 635). In *Nottage*, it appears that both parties contributed to the thinking and the making, though at different stages.

61. See *Burrow-Giles*, 111 U.S. at 60.

62. "One of the designs was of an ordinary ballet, one of a number of men and women, described as the Stirk family, performing on bicycles, and one of groups of men and women whitened to represent statues." *Bleistein*, 188 U.S. at 248.

63. See *id.* at 240-41.

64. *Id.* at 251. Further, "[a] picture is none the less a picture and none the less a subject of copyright that it is used for an advertisement." *Id.*

65. *Id.*

appealed to a public less educated than the judge."⁶⁶ Such works should not be denied protection for their failure to "promote the progress" of the arts.⁶⁷ "[I]f they command the interest of any public, they have a commercial value ... and the taste of any public is not to be treated with contempt."⁶⁸

The most interesting aspect of the *Bleistein* opinion, other than the conclusion that copyrightability is not a question of aesthetic merit, is the discussion of authorial personality. Copyright could not be denied to the circus illustrations simply because they were said to be realistic portrayals drawn from life.⁶⁹ Others, if they wished, could make their own depictions of the same scenes, "copy[ing] the original," but they could not "copy the copy."⁷⁰ The "copy" is "the personal reaction of the individual upon nature," reflecting the unique personality of the author: "Personality always contains something unique. It expresses its singularity even in handwriting, and a very modest grade of art has in it something irreducible, which is one man's alone. That something he may copyright unless there is a restriction in the words of the act."⁷¹ The Court emphasized "personality" as a source of originality, that "something irreducible, which is one man's alone," but stopped short of declaring personality the essence of authorship.⁷² Perhaps it is the "singularity" of a work, a by-product of personality, which marks it as original. If so, some works devoid of personality might take their "singularity" from some other source—even a random source—and still qualify as original works of authorship. The Court, however, had no need in *Bleistein* to split hairs with such precision.

B. A Spark of Creativity

The modern authority on questions of authorship and originality is *Feist Publications, Inc. v. Rural Telephone Service Co.*⁷³ The

66. *Id.* at 251-52.

67. *See id.* at 253 (Harlan, J., dissenting).

68. *Id.* at 252.

69. *Id.* at 249. "The opposite proposition would mean that a portrait by Velasquez or Whistler was common property because others might try their hand on the same face." *Id.*

70. *Id.*

71. *Id.* at 250.

72. *Id.* at 250-51.

73. 499 U.S. 340 (1991).

defendant copied telephone listings from plaintiff Rural's white pages directory, in which names, addresses and telephone numbers were organized in the conventional, alphabetical format.⁷⁴ The issue was whether copyright protection could be claimed for facts such as telephone numbers, or even for a compilation of facts⁷⁵ when selected and arranged in such an obvious manner.

In an opinion by Justice O'Connor, the Supreme Court identified "originality" as the "*sine qua non* of copyright."⁷⁶ The Court held that the terms "authors" and "writings" in Article I, Section 8⁷⁷ presuppose "a degree of originality."⁷⁸ Adopting the *Burrow-Giles* definition of "author" as "he to whom anything owes its origin; originator; maker,"⁷⁹ the Court held that facts are not works of authorship:

[F]acts do not owe their origin to an act of authorship. The distinction is one between creation and discovery: The first person to find and report a particular fact has not created the fact; he or she has merely discovered its existence. To borrow from *Burrow-Giles*, one who discovers a fact is not its "maker" or "originator".... "The discoverer merely finds and records."⁸⁰

74. *Id.* at 342-44.

75. "Compilation" is defined in the Copyright Act as "a work formed by the collection and assembling of preexisting materials or of data that are selected, coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship." 17 U.S.C. § 101 (2000). Compilations are within the subject matter of copyright, but rights to a compilation "extend[] only to the material contributed by the author of such work" and "do[] not imply any exclusive right in the preexisting material." *Id.* § 103.

76. *Feist*, 499 U.S. at 345.

77. See U.S. CONST. art. I, § 8, cl. 8.

78. *Feist*, 499 U.S. at 346.

79. *Id.* (quoting *Burrow-Giles*, 111 U.S. at 57-58).

80. *Id.* at 347. On the other hand, *compilations* of facts may be original. As the *Feist* Court explained:

The compilation author typically chooses which facts to include, in what order to place them, and how to arrange the collected data so that they may be used effectively by readers. These choices as to selection and arrangement, so long as they are made independently by the compiler and entail a minimal degree of creativity, are sufficiently original that Congress may protect such compilations through the copyright laws. Thus, even a directory that contains absolutely no protect[able] written expression, only facts, meets the constitutional minimum for copyright protection if it features an original selection or arrangement.

Id. at 348 (citations omitted). Copyright may also be obtained for an original manner of *expressing* uncopyrightable facts. See *id.* ("Thus, if the compilation author clothes facts with an original collocation of words, he or she may be able to claim a copyright in this written

In its definition of "originality," *Feist* adds something to *Burrow-Giles*:

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.⁸¹

Rural's telephone book proved the exception, failing to exhibit even the dimmest spark of "creativity." The listings were "entirely typical" and "garden variety."⁸² Since Rural gathered and alphabetized the information, "technically speaking," the directory "owe[d] its origin to Rural."⁸³ However, the Court observed "there is nothing remotely creative about arranging names alphabetically in a white pages directory.... It is not only unoriginal, it is practically inevitable."⁸⁴ Lacking even a minimal level of creativity, Rural's directory failed the test of originality.

It is difficult to define that extra element of creativity without which a work is not original, nor its creator an author, even in the absence of copying from other works. Creativity is not the same as *novelty*. A work may be indistinguishable from its predecessors, but still creative and original, so long as the similarity is "fortuitous, not the result of copying."⁸⁵ If a poet who had never read Keats

expression. Others may copy the underlying facts from the publication, but not the precise words used to present them.").

81. *Id.* at 345 (citations omitted) (emphasis added).

82. *Id.* at 362.

83. *Id.* at 363.

84. *Id.*

85. *Id.* at 345; see also *Baltimore Orioles, Inc. v. Major League Baseball Players Ass'n*, 805 F.2d 663, 668 n.6 (7th Cir. 1986) ("A work is novel if it differs from existing works in some relevant respect. For a work to be copyrightable, it must be original and creative, but need not be novel."); *L. Batlin & Son, Inc. v. Snyder*, 536 F.2d 486, 490 (2d Cir. 1976) ("Originality is ... distinguished from novelty; there must be independent creation, but it need not be invention in the sense of striking uniqueness, ingeniousness, or novelty, since the Constitution differentiates 'authors' and their 'writings' from 'inventors' and their 'discoveries.'").

miraculously duplicated his "Ode on a Grecian Urn," the poet, in theory, could copyright his work.⁸⁶ Creativity appears, rather, to require some "work of the brain," or "intellectual labor."⁸⁷

Even if the alphabetizing were handled by a computer, some Rural employee must have supervised the process. Evidently, that kind of "intellectual labor" does not suffice. In fact, if Rural had alphabetized the listings by hand, a task that requires some mental effort, the Court would still have dismissed that activity as "so mechanical or routine as to require no creativity whatsoever."⁸⁸ "Creativity," as the *Feist* Court described it, seems to require not just "work of the brain" but an exercise of the imagination—the formation of a mental conception ultimately given tangible expression in a work of authorship.⁸⁹

The Court described Rural's alphabetical organization as supremely ordinary: "It is an age-old practice, firmly rooted in tradition and so commonplace that it has come to be expected as a matter of course.... This time-honored tradition does not possess the minimal creative spark required by the Copyright Act and the Constitution."⁹⁰ The emphasis on past practice seems, on its face, to contradict the Court's assurances that creativity does not require novelty.⁹¹ The unspoken assumption, and certainly a reasonable one, may be that Rural borrowed or "copied" its organizational scheme from the countless white pages directories that had been published before.⁹²

86. *Sheldon v. Metro-Goldwyn Pictures Corp.*, 81 F.2d 49, 54 (2d Cir. 1936) (L. Hand, J.).

87. See *Feist*, 499 U.S. at 347 ("[A] modicum of intellectual labor ... clearly constitutes an essential constitutional element." (quoting 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 1.08[C][1] (1990))); see also *Baltimore Orioles*, 805 F.2d at 668 n.6 ("A work is original if it is the independent creation of its author. A work is creative if it embodies some modest amount of intellectual labor.").

88. See *Feist*, 499 U.S. at 362 ("[O]riginality is not a stringent standard; it does not require that facts be presented in an innovative or surprising way. It is equally true, however, that the selection and arrangement of facts cannot be so mechanical or routine as to require no creativity whatsoever.").

89. *Id.* ("[A]n author who claims infringement must prove 'the existence of ... intellectual production, of thought, and conception.'" (quoting *Burrow-Giles*, 111 U.S. at 59-60)).

90. *Id.* at 363.

91. *Id.* at 345.

92. David Nimmer points out the many different ways that one could deal with geographical distinctions and unusual names even in an otherwise conventionally alphabetized telephone directory. So many choices must be made, he argues, that the resulting directory is necessarily "a profoundly unique compilation." Nimmer, *supra* note 17,

C. A Clap of Thunder

The cases discussed so far dealt with works that were deliberately conceived and purposefully executed—an artistically composed photograph, an elaborate circus illustration, a precisely organized, if unimaginative, telephone directory. A somewhat different take on authorship was provided by *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*,⁹³ a case which considered *unplanned* variations as a potential source of authorship.

The works at issue in *Alfred Bell* were mezzotint engravings of well-known paintings in the public domain.⁹⁴ The mezzotint process⁹⁵ requires labor, patience, and considerable skill, but in the right hands it can produce a faithful reproduction of a painting.⁹⁶ The defendant produced and sold color lithographs made from the mezzotints, prompting the producers of the mezzotints to file suit. The issue before the court was whether the mezzotint engravings were sufficiently “original” to be copyrighted.⁹⁷

As the district court explained, the mezzotint engravers attempted to reproduce the original painting, “so that the basic idea, arrangement, and color scheme of each painting are those of the original artist.”⁹⁸ Nevertheless, “[i]t is not ... possible to make a photographic copy of [a] painting by this method exact in all its details.”⁹⁹ The engraver must exercise “individual conception, judgment and execution” to produce the desired effect, and “[n]o two engravers [therefore] can produce identical interpretations of the same oil painting.”¹⁰⁰

at 97-98. Convincing as Professor Nimmer's point may be, *Feist* appears to overlook it, treating the plaintiff's directory as the “practically inevitable,” predestined, uncreative offspring of copied facts and a copied system. *Feist*, 499 U.S. at 363. Hence, unlike Professor Nimmer, I do not view *Feist* as strong support for the disassociation of originality and distinctiveness. See Nimmer, *supra* note 17, at 96-97.

93. 191 F.2d 99 (2d Cir. 1951).

94. *Id.*

95. A detailed description of the mezzotint process can be found in the opinion of the district court. See *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*, 74 F. Supp. 973, 975 (S.D.N.Y. 1947).

96. See *id.*

97. See *id.*

98. *Id.*

99. *Id.*

100. *Id.*

The Second Circuit held that an "original" work need not be "strikingly unique or novel," but merely a "distinguishable variation;"¹⁰¹ it must include something more than "trivial" contributed by the author and "recognizably 'his own.'"¹⁰² "Originality in this context 'means little more than a prohibition of actual copying.'"¹⁰³ One could debate the quantum of originality indicated by "distinguishable" or "[non]trivial," but the most interesting statements in *Alfred Bell* concern the *nature* of originality:

[The mezzotints] 'originated' with those who made them.... There is evidence that they were not intended to, and did not, imitate the paintings they reproduced. But even if their substantial departures from the paintings were inadvertent, the copyrights would be valid. A copyist's bad eyesight or defective musculature, or a shock caused by a clap of thunder, may yield sufficiently distinguishable variations. Having hit upon such a variation unintentionally, the "author" may adopt it as his and copyright it.¹⁰⁴

In a footnote, the court repeats a story told by Plutarch, where "[a] painter, enraged because he could not depict the foam that filled a horse's mouth from champing at the bit, threw a sponge at his painting; the sponge splashed against the wall—and achieved the desired result."¹⁰⁵

Lucky accidents are familiar in patent law, where the means of discovery are irrelevant to the patentability of the invention.¹⁰⁶ As the court in *Alfred Bell* observed, "[m]any great scientific discoveries have resulted from accidents, *e.g.*, the galvanic circuit and the x-ray."¹⁰⁷ The principle of the microwave oven is said to have been discovered when a scientist working with microwave

101. *Alfred Bell*, 191 F.2d at 102 (quoting *Gerlach-Barklow Co. v. Morris & Bendien, Inc.*, 23 F.2d 159, 161 (2d Cir. 1927)).

102. *Id.* at 103 (quoting *Chamberlin v. Uris Sales Corp.*, 150 F.2d 512, 513 (2d Cir. 1927)).

103. *Id.* (quoting *Hoague-Sprague Corp. v. Frank C. Meyer Co., Inc.*, 31 F.2d 583, 586 (E.D.N.Y. 1929)).

104. *Id.* at 104-05.

105. *Id.* at 105 n.23.

106. See 35 U.S.C. § 103(a) (2000) ("Patentability shall not be negated by the manner in which the invention was made.").

107. *Alfred Bell*, 191 F.2d at 105 n.25.

communications equipment found a candybar melted in his pocket.¹⁰⁸ But it is perhaps a leap to ask the reader to "[c]ompare" such technological discoveries to "inadvertent errors in a translation," a matter of literary expression rather than scientific advancement.¹⁰⁹

The comments in *Alfred Bell* may have been superceded by *Feist*'s notion of "creativity" or *Feist*'s distinction between "creation" and "discovery." On the other hand, *Alfred Bell* could suggest merely a broad interpretation of the principles that *Feist* announced. The artist who suffers from "defective musculature," or who is startled by a "clap of thunder," still produces something that would not exist if the artist did not exist. In terms of physical causation, if not intellectual planning, the artist could view the inadvertent product of his efforts as "created" rather than "discovered." The work could also be considered "creative" in a sense that Rural's white pages were not: slip-of-the-pen artistry tends to be unique and distinctive¹¹⁰—the antithesis of the predictable, "practically inevitable,"¹¹¹ product of "an age-old practice, firmly rooted in tradition."¹¹² Alternatively, if "creativity" requires deliberation, imagination, or other "work of the brain," one could find those attributes in the artist's after-the-fact recognition of the value in his "mistake." As the court said in *Alfred Bell*, "[h]aving hit upon such a variation unintentionally, the 'author' may adopt it as his and copyright it."¹¹³ Here, however, one risks crossing the line between "creation" and "discovery," because any discovery may be "adopted" as one's own. In any event, *Alfred Bell* suggests an approach to authorship which, though a fruitful source of speculation, has probably seen more life in law school hypotheticals—along the lines of the photograph snapped by the dropped camera—than in practical application. As the cases discussed in the next section

108. See Linda Kulman, *Ode to the Microwave*, U.S. NEWS & WORLD REP., April 7, 1997, at 16.

109. See *Alfred Bell*, 191 F.2d at 105 n.25.

110. See JOHN R. PIERCE, AN INTRODUCTION TO INFORMATION THEORY: SYMBOLS, SIGNALS AND NOISE 264 (1980) ("A completely random visual pattern, like a completely random acoustic wave or a completely random sequence of letters, is mathematically the most surprising, the least predictable of all possible patterns.").

111. *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 363 (1991).

112. *Id.*

113. *Alfred Bell*, 191 F.2d at 105 (emphasis added).

illustrate, courts generally view indeterminacy as inconsistent with authorship.

D. Random Numbers

*Toro Co. v. R & R Products Co.*¹¹⁴ concerned a manufacturer's system of numbering lawn care machines and replacement parts. Although *Toro* was decided before *Feist* and it appears to endorse the now discredited "sweat of the brow" approach to factual compilations,¹¹⁵ its discussion of random numbering schemes bears consideration. The defendant published a catalog of parts that could be substituted for Toro's. The catalog reproduced the names and numbers of Toro's original parts and, next to each, the number of the defendant's substitute part. The defendant's numbers were identical to Toro's, except preceded by the letter "R."¹¹⁶ Toro alleged that the unauthorized reproduction of its part numbers—generally "five or six digit numbers with a hyphen inserted somewhere"—constituted a copyright infringement.¹¹⁷

The court found that Toro had assigned part numbers arbitrarily: "There was no evidence that a particular series or configuration of numbers denoted a certain type or category of parts or that the numbers used encoded any kind of information at all. In short, numbers were assigned to a part without rhyme or reason."¹¹⁸ The court held the numbers themselves to be in the public domain,¹¹⁹ as the words in a dictionary are in the public domain, and concluded that "[t]he random and arbitrary use of numbers in the public domain does not evince enough originality to distinguish authorship."¹²⁰ The court did not go so far as to deny protection to all

114. 787 F.2d 1208 (8th Cir. 1986).

115. See *id.* at 1213 (referring to a prior case in which the court found a white pages telephone directory original because "the directory's author had 'solicited, gathered, filed, sorted, and maintained the information' used in the directory") (citation omitted).

116. *Id.* at 1210.

117. *Id.*

118. *Id.* at 1213.

119. *Id.* ("There is no variation, other than the trivial hyphen, to establish authorship.").

120. *Id.* The court explained:

[I]t is clear that no effort or judgment went into the selection or composition of the numbers, which distinguishes this case from the [pre-*Feist*] telephone directory cases. We are left, then, with the accidental marriage of a part and a number. We do not believe that such a marriage produces an original work of

numbering systems, but regarded only those numbering systems "that use[] symbols in some sort of meaningful pattern, something by which one could distinguish effort or content" as copyrightable "original work[s]."¹²¹

Toro's claim was certainly problematic. Although its catalog might be considered a copyrightable work, its parts *numbers* are less obviously "works of authorship." Considered in the aggregate, its numbering scheme could be considered a "system,"¹²² which is uncopyrightable under § 102(b) of the Copyright Act.¹²³ Considered individually, its parts numbers could be considered facts, which likewise are uncopyrightable.¹²⁴ Yet, rather than focus on these peculiar characteristics of numbering schemes, the Eighth Circuit offered broader observations on the nature of "authorship," which would cast into doubt, for example, the copyrightability of a randomly-generated piece of music. Those observations are subject to criticism.

authorship. Appellant simply has not added enough to its parts numbers to make them original and remove them from the public domain.

Id.

121. *Id.*

122. The Seventh Circuit might dispute that characterization. In *American Dental Ass'n v. Delta Dental Plans Ass'n*, 126 F.3d 977 (7th Cir. 1997), the court held that a taxonomy codifying dental procedures was not an uncopyrightable "system," apparently because it did not "come with instructions for use, as if [it] were a recipe for a new dish." *Id.* at 980. The court may have understood "system" to apply only to processes as opposed to logical organizations; however, the Copyright Act explicitly provides that copyright does not apply to "procedure[s], process[es] [and] method[s] of operation." 17 U.S.C. § 102(b) (2000). If "system" is limited as the Seventh Circuit implied, it would render an already redundant list even more so. One might also argue that a random numbering scheme is not a "system" because its very nature is unsystematic. Yet, once the random numbers take on meaning by their association with particular parts, the use of those numbers to refer to those parts does seem, in ordinary terms, a "system" for referring to those parts. All one can really say is that the meaning of "system" is debatable.

123. "In no case does copyright protection for an original work of authorship extend to any ... system ... regardless of the form in which it is described, explained, illustrated, or embodied in such work." 17 U.S.C. § 102(b).

124. See *supra* notes 75-80 and accompanying text. This point is also highly debatable. The prohibition of copyrighting facts is based on the distinction between "creation" and "discovery." See *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 347 (1991). An arbitrarily-assigned part number is not a "discovery;" it has to be devised. On the other hand, once the number is assigned, it becomes a point of information to which others may have legitimate reasons to refer. Rather than treat this information as a "fact," one should perhaps apply a "fair use" analysis. See *infra* notes 152-53 and accompanying text.

First, even if numbers as such are in the public domain, it does not follow that a system of assigning those numbers to lawnmower parts must also be in the public domain. Unlike the numbers, the system of assigning them had its origin with the employees of Toro.¹²⁵ If the system reflected no “rhyme or reason,” Toro could still say of it “[a] poor thing but mine own.”¹²⁶ Further, *Toro* suggests that an “original” work must have “content” that communicates information, or at least reflects judgment in its design—a suggestion contrary to the spirit of *Bleistein*, which recognizes copyright in the humblest of creative efforts,¹²⁷ and *Alfred Bell*, which finds any “distinguishable variation[]” sufficiently original, even if caused by a slip of a pen.¹²⁸ Finally, *Toro* provides an odd contrast to other cases implying that the constraints imposed by “rhyme or reason” would diminish, rather than enhance, claims of authorship.¹²⁹ In *American Dental Ass’n*, for example, Judge Easterbrook found that the numerous choices available to the author of a guide describing and numbering dental procedures rendered the guide “original.”¹³⁰ The choices were discretionary; they were not a case of “knuckling under to an order imposed on language by some ‘fact’ about dental procedures.”¹³¹ *Toro* seems to hold that a numbering scheme is “original” *only* if it “knuckl[es] under” to the influence of some external order.¹³² Yet the “accidental marriage of a part and a number”¹³³ would seem to produce a more original offspring than a marriage imposed by some aspect of the parts themselves.

125. *Toro*, 787 F.2d at 1210-13.

126. *Detective Comics, Inc. v. Bruns Publ’ns, Inc.*, 111 F.2d 432, 433 (2d Cir. 1940) (finding the character of Superman copyrightable, even if it is a modest addition to the literature of heroic figures).

127. See *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 251 (1903).

128. See *supra* text accompanying notes 101-02.

129. *Toro*, 787 F.2d at 1213. If an idea can be expressed in only a limited number of ways, “merger” bars exclusive rights in any particular form of expression. See *Herbert Rosenthal Jewelry Corp. v. Kalpakian*, 446 F.2d 738, 742 (9th Cir. 1971) (“When the ‘idea’ and its ‘expression’ are thus inseparable, copying the ‘expression’ will not be barred, since protecting the ‘expression’ in such circumstances would confer a monopoly of the ‘idea’ upon the copyright owner”).

130. See *Am. Dental Ass’n v. Delta Dental Plans Ass’n*, 126 F.3d 977, 979 (7th Cir. 1997).

131. *Id.*

132. *Id.*

133. *Toro*, 787 F.2d at 1213.

A subsequent case from the Tenth Circuit, *Mitel, Inc. v. Iqtel, Inc.*,¹³⁴ demonstrates that the reluctance to characterize random numbers as works of authorship continues after *Feist*. Mitel sought to protect a set of four-digit "command codes" used to control its telecommunications equipment.¹³⁵ Iqtel concluded that its own systems must be controlled by the same codes; because Mitel dominated the market, technicians who installed the systems might be unwilling to learn a second set of command codes.¹³⁶ The Tenth Circuit affirmed the denial of Mitel's request for a preliminary injunction.¹³⁷ Although Mitel's system could be characterized as a "method of operation,"¹³⁸ the system's details might include elements of "protectable expression."¹³⁹ The court, nevertheless, held the assignment of command codes too arbitrary to be original.¹⁴⁰ "[P]laintiff's own expert testified that Mitel's registers were arbitrary and 'real close to random,' and that there is no evidence of anyone trying to 'put their mark' on the codes."¹⁴¹ This requirement that authors "put their mark" on their creations is a curious inversion of *Bleistein*, which observed that authors *do* put their mark on their works, almost involuntarily: "[A] very modest grade of art has in it something irreducible, which is one man's alone."¹⁴²

134. 124 F.3d 1366 (10th Cir. 1997).

135. As the court stated:

Mitel and Iqtel manufacture competing call controllers. A call controller is a piece of computer hardware that enhances the utility of a telephone system by automating the selection of a particular long distance carrier and activating optional features such as speed dialing....

... In order to activate and manipulate the features of its call controller, Mitel devised an instruction set of over sixty four-digit numeric command codes. Mitel published and copyrighted manuals describing how to program its call controller by using these command codes.

Id. at 1368.

136. *See id.* at 1369.

137. *Id.* at 1376.

138. 17 U.S.C. § 102(b) (2000) ("In no case does copyright protection for an original work of authorship extend to any ... method of operation ... regardless of the form in which it is described, explained, illustrated, or embodied in such work.").

139. *Mitel*, 124 F.3d at 1372.

140. *See id.* at 1374.

141. *Id.*; *see also id.* at 1373-74 ("Scott Harper, a Mitel marketer who selected some of the 'registers' and 'descriptions,' testified that he selected the numbers arbitrarily, without any attempt to place his mark on them.").

142. *Bleistein*, 188 U.S. at 250.

In *Southco, Inc. v. Kanebridge Corp.*,¹⁴³ a federal district court in Pennsylvania recently held a numbering system to be original and copyrightable. In this case, the numbers designated various fasteners, or "retractable captive-screw assemblies," which Southco offered for sale.¹⁴⁴ Each part was described by a nine-digit number: the first two described the product class, and the others described "functional characteristics" of the part, such as "installation type, thread size, recess type (Phillips or slotted), grip length, type of material, and knob finish."¹⁴⁵ In a sense, the numbers formed "a language, communicating functional details of the hardware."¹⁴⁶ Because the system was *not* random, it could be copyrighted:

The numbers are not assigned at random or in sequence; they are assigned based on the properties of the parts. The Numbering System is a complex code expressing numerous detailed features of Southco hardware products; each part number tells the story of a part's size, finish, and utility.... The Numbering System evidences creativity and effort reflecting the judgment the *Toro* and *Mitel* courts found lacking in those cases.¹⁴⁷

The Third Circuit reversed on appeal,¹⁴⁸ distinguishing between the numbering *system*, which Southco had conceded to be uncopyrightable,¹⁴⁹ and the particular *numbers* assigned to particular Southco parts.¹⁵⁰ Because of the inflexible nature of the numbering system, assigning numbers to parts was an inevitable, mechanical, and uncreative process and therefore uncopyrightable.¹⁵¹

143. 53 U.S.P.Q. 2d 1490 (BNA) (E.D. Pa. 2000), *rev'd*, 258 F.3d 148 (3d Cir. 2001).

144. *Id.* at 1491.

145. *Id.*

146. *Id.*

147. *Id.* at 1494.

148. *Southco, Inc. v. Kanebridge Corp.*, 258 F.3d 148, 149 (3d Cir. 2001).

149. *See id.* at 152 n.6. The reason for the concession was probably § 102(b) of the Copyright Act, which disallows copyright on any "system." 17 U.S.C. § 102(b) (2000).

150. *See Southco*, 258 F.3d at 151 ("For purposes of copyright law ... Southco's numbering system itself and the actual numbers produced by the system are two very different works.").

151. *Id.* at 153. The court explained:

Southco unquestionably devoted time, effort, and thought to the creation of the numbering *system*, but Southco's system makes it impossible for the numbers themselves to be original. Under that system, there is simply no room for creativity when assigning a number to a new panel fastener. The part has

The subtext of each of these cases is the defendant's desire to facilitate competition with a market leader, either by numbering its own parts according to their ability to substitute for the plaintiff's parts, or, as in *Mitel*, to produce a functional compatibility. Yet whether or not the numbering scheme is random has little to do with the issue of competition. One could argue, in either case, that the plaintiff's market dominance has rendered its numbering scheme a "fact" to which others must refer in order to compete.¹⁵² Indeed, competitors might have an even greater need to refer to a numbering scheme that reflects some "rhyme or reason." At the same time, the dismissal of random works as "unoriginal" denies copyrights to works that do not raise external competitive issues, such as randomly generated works of art. If the goal really is to ensure competition in separate products such as lawnmower parts or telephone systems, it would be preferable to treat the defendant's use of the plaintiff's numbering scheme as a "fair use of a copyrighted work."¹⁵³

certain relevant characteristics, and the numbering system specifies certain numbers for each of those characteristics. As a result, there is only one possible part number for any new panel fastener that Southco creates. This number results from the mechanical application of the system, not creative thought.

Id.

152. Treating an "original" arrangement, such as a numbering scheme, as the equivalent of a fact may be controversial, even if the arrangement has become a standard which one must adopt in order to compete. In Arthur Miller's view:

The parallel to a standardization argument is apparent: popular systems are to lose their copyright protection merely because their popularity denominates them "standards," a proposition that would not be taken seriously if the copyrighted works were Steinbeck's *Grapes of Wrath*, Hemingway's *The Sun Also Rises*, or Miller's *Death of a Salesman*.

Arthur R. Miller, *Copyright Protection for Computer Programs, Databases, and Computer-Generated Works: Is Anything New Since CONTU?*, 106 HARV. L. REV. 977, 1020 (1993). Miller referred to the Ninth Circuit's recognition of a "market" for Sega-compatible video game cartridges in *Sega Enterprises Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1523 (9th Cir. 1993), amended by 1993 U.S. App. LEXIS 78 (9th Cir. Jan. 6, 1993), apparently because Sega offered one of a small number of popular video game formats. Treating a product numbering scheme as a copyable standard, however, would be far less objectionable than treating a popular novel, or even a popular videogame format, as a standard. The competition made possible by the free adoption of a numbering scheme would be in a separate product, not in a market defined by the fruits of the first author's expression.

153. 17 U.S.C. § 107 (2000); see Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and its Predecessors*, 82 COLUM. L. REV. 1600, 1602 (1982) ("Fair use" ... seeks to accommodate the author's need for remuneration and control while recognizing that in specific instances the author's rights must give way before

Although such competitive issues clearly motivated the parties in these random-number cases, the decisions reflect something more fundamental and, in a sense, more philosophical: the unwillingness of the courts to associate authorship with accident. Perhaps, even after *Bleistein* and *Feist*, courts sense that random creations are unworthy of recognition because they lack "something by which one could distinguish effort or content."¹⁵⁴ Perhaps courts consider random creations inherently worthless, in spite of the parties' willingness to litigate. Or perhaps they see randomly generated works as too mechanical or *inhuman* to be encompassed within the idea of "authors" and their "writings."

The Copyright Office seems to share the latter sentiment, categorizing at least some random works as works "not originated by a human author."¹⁵⁵ The *Compendium of Copyright Office Practices* states the following:

In order to be entitled to copyright registration, a work must be the product of human authorship. Works produced by mechanical processes or random selection without any contribution by a human author are not registrable. Thus, a linoleum floor covering featuring a multicolored pebble design which was produced by a mechanical process in unrepeatable, random patterns, is not registrable. Similarly, a work owing its form to the forces of nature and lacking human authorship is not registrable; thus, for example, a piece of driftwood even if polished and mounted is not registrable.¹⁵⁶

This statement might provide room for indeterminate works that include some "contribution by a human author," either in defining the parameters of the random processes, setting them in motion, or

a social need for access and use."). The recent case of *Sony Computer Entertainment, Inc. v. Connectix Corp.*, 203 F.3d 596 (9th Cir. 2000), suggests such an approach. Although the plaintiff's PlayStation BIOS computer software was copyrightable subject matter, the court held that copying that software in order to "reverse engineer" it and produce a competitive (or partially competitive) product was a "fair use." *Id.* at 608. In *Southco*, the Third Circuit declined to consider whether the defendant's use of Southco's parts numbers, which had become an industry standard, should be considered fair use. *Southco*, 258 F.3d at 151.

154. *Toro*, 787 F.2d at 1213.

155. COPYRIGHT OFFICE, COMPENDIUM II: COMPENDIUM OF COPYRIGHT OFFICE PRACTICES § 503.03(a) (1984).

156. *Id.*

sifting through the results. The rule also fails to state whether a work devised by a human but having no "rhyme or reason" is "the product of human authorship."¹⁵⁷

Before considering the theoretical justifications for recognizing—or denying—authorship in indeterminate works, it is worth a brief survey of the use of indeterminate processes in the arts. In spite of the courts' apparent low regard for indeterminate works—though expressed in the context of numbering systems rather than more elaborate creations—at least some artists, writers, and composers have viewed indeterminacy as a legitimate aspect of creativity.

II. INDETERMINACY AND THE ARTS

The use of indeterminacy as a creative element has a longer history than one would suspect. In the eighteenth century, Mozart created a *Musikalisches Würfelspiel* (Musical Dice Game) consisting of a series of musical fragments and a table¹⁵⁸ to guide their assembly.¹⁵⁹ One can "compose" one's own version of the work, a minuet and trio, by rolling a pair of dice and using the outcome to select the next measure of the piece as directed by the table.¹⁶⁰ Mozart provided 176 measures from which to choose for the minuet and ninety-six measures for the trio.¹⁶¹ The number of possible combinations is approximately 1.3×10^{29} ¹⁶²—a number so vast it essentially guarantees that every "new" version of the work has never been experienced before, even by Mozart, and will never be experienced again.

If chance composition was a game for Mozart, some twentieth century artists elevated indeterminacy to a philosophical principle. Jean Arp, an artist associated with the Dada movement, is famous for a series of collages said to have been arranged by the "law of

157. *Id.*

158. The table is reproduced in JOHN CAGE 101 (Richard Kostelanetz ed., 1970).

159. John Chuang has prepared a website devoted to Mozart's dice game. The site allows visitors to "compose" and play their own realizations of Mozart's minuet. John Chuang, *Mozart's Musikalisches Würfelspiel: A Musical Dice Game for Composing a Minuet*, at <http://www.worldvillage.com/jchuang/Music/Mozart/mozart.cgi> (last visited Aug. 30, 2002).

160. *Id.*

161. *Id.*

162. *Id.*

chance."¹⁶³ According to the story,¹⁶⁴ Arp discovered the "law of chance" in 1916 when, frustrated at his inability to compose a drawing in the manner he wished, he tore the paper to pieces and let the scraps fall to the floor.¹⁶⁵ Afterwards, in the chance arrangement of discarded paper, Arp recognized the very composition he had been unable to achieve.¹⁶⁶

Arp's collages are not entirely random. Although there is no record of precisely how they were made,¹⁶⁷ the works themselves show signs of conscious intervention. As one historian observed, "the homogeneity of collage elements, the care with which they are pasted, the absence of overlapping, and the harmonious balance of the compositions attest to Arp's deliberate aesthetic choices."¹⁶⁸ Even if Arp simply let the pieces fall and pasted them where they lay, he must have selected the size, shape, and color of the pieces. These are "chance works" only in the sense that Arp "tipped [the] balance between accident and deliberation more than usual in the direction of accident."¹⁶⁹ They are significant, primarily, as expressions of the *idea* of chance as an aesthetic principle.¹⁷⁰

Arp found that idea compelling. By "eliminating all volition" in favor of the workings of chance, Arp believed that he could summon quasi-divine forces to his aid.¹⁷¹ Arp described the "law of chance" as the supreme law "which 'comprises all other laws and surpasses our

163. Jane Hancock, *Arp's Chance Collages*, in *DADA/DIMENSIONS* 47 (Stephen C. Foster ed., 1985) (quoting Jean Arp). For an example of Arp's work, see *id.* at 49.

164. Some are skeptical of that story. See *id.* at 48 ("If Arp did make collages that way, they are not the same ones that we know today.").

165. *Id.* at 47.

166. See HARRIETT ANN WATTS, *CHANCE: A PERSPECTIVE ON DADA* 51 (1980). The story mirrors the Plutarch anecdote recounted in *Alfred Bell*. See *supra* text accompanying note 105.

167. Hancock, *supra* note 163, at 54.

168. *Id.* at 48. According to Jane Hancock:

Arp incorporated an element of chance in most of his works, a fact known from his essays and accounts of his methods. Yet, he exerted a great degree of conscious control and aesthetic judgment over the final results in his reliefs and sculptures, a fact most evident in their suave contours and unblemished finish. Arp explained elsewhere that accidents alone could not produce art; art required the imprint of human aspirations.

Id. at 65.

169. *Id.* at 48.

170. *Id.*

171. *Id.* at 55 (citation omitted).

understanding,"¹⁷² the source of life and "primal cause."¹⁷³ Chance results, Arp insisted, are anything but meaningless; they are the tangible product of "providential guidance."¹⁷⁴ "Chance' in the art of our time," said Arp, "is nothing accidental, but a gift of the Muses."¹⁷⁵ Arp viewed his experiments with chance as a kind of collaborative endeavor. The abandonment of conscious volition calls into play both the subconscious mind¹⁷⁶ and external forces that speak through the subconscious.¹⁷⁷ The most successful artist, Arp believed, is the artist most attentive to those external influences.¹⁷⁸ To a degree, chance composition is an exercise in self negation, or, in Arp's terms, "restoring the artist to an attitude of humility vis-à-vis man's experience of the world and his role as a creator within that world."¹⁷⁹

Marcel Duchamp is another artist of the Dada movement who experimented with chance operations. In one instance, marks left by matchsticks shot from a toy cannon became an element of the

172. *Id.* at 65 (citation omitted).

173. *Id.* (citation omitted).

174. *Id.*

175. *Id.* (citation omitted). Arp further stated:

Moving poems, sculptures, paintings, songs that were sent to me from the Muses apparently accidentally, "on approval" and with no obligation to buy, fell to the dreamers as beautiful chance.... He who can still experience life in our times as a dream still has the good fortune to encounter the Muses.

Id.

176. Arp's references to a dream-like state as the most receptive to divine favors suggests a powerful role for the subconscious in artistic creation. *See id.* ("This spiritual gift falls only to dreamers.") (citation omitted). "Arp's emphasis on chance is ... a means of getting at these 'processes of creation' on a level more profound than that of totally conscious, controlled creation." WATTS, *supra* note 166, at 71.

177. *See* Hancock, *supra* note 163, at 65.

178. *See id.*

179. WATTS, *supra* note 166, at 70. Arp did not resign himself to complete passivity. *See id.* at 52.

[M]uch of Arp's most fruitful experimentation with chance consists in his allowing random intrusions to offer him new points of departure, which he then controls in their development. Chance does not have the opportunity to make any absolute formal decisions.... Chance for Arp is a stimulus to further variations, not to a "canned," inalterable result.

Id. When working on his *papiers déchirés* (Torn Papers) series of collages, in which his sensibilities interfered least with the workings of chance, Arp felt himself contented but diminished as an artist: "When I make *papiers déchirés*, I feel happy. What diverts me once again from these procedures is the fact that there is no longer a person forming within me. I gain peace and calm but lose as a creator." Hancock, *supra* note 163, at 65 (citation omitted).

composition.¹⁸⁰ In another, Duchamp allowed dust to settle on the work, where it was affixed to and made a part of the work.¹⁸¹ Duchamp is best known for his "ready-mades"¹⁸²—mundane objects that Duchamp discovered and, with a minimum of manipulation, presented as works of art. The most notorious of these is the inverted urinal on display at the Centre Georges Pompidou in Paris.¹⁸³ The ready-mades are not indeterminate in the way that works constructed by random processes are indeterminate; presumably the objects were carefully designed, if not for the purposes of art. They are indeterminate only in the sense that the objects are *faits accomplis*, and are for that reason, beyond Duchamp's ability to control. The objects were, of course, selected by Duchamp, but in his selection Duchamp labored to suppress his conscious judgment:

I had to pick an object without it impressing me and, as far as possible, without the least intervention of any idea or suggestion of aesthetic pleasure. It was necessary to reduce my personal taste to zero. It is very difficult to select an object that has absolutely no interest to us not only on the day we pick it but which never will and which, finally, can never have the possibility of becoming beautiful, pretty, agreeable or ugly.¹⁸⁴

Chance operations seem to make a work less personal, by taking some of the artist's aesthetic judgment "out of the loop," but Duchamp, paradoxically, saw chance as a means for uncovering a deeper individuality.¹⁸⁵ Chance is an antidote to "taste," which Duchamp condemned as habit.¹⁸⁶ The surest way to avoid habit, to produce "the exception, the unique, unreproducible event,"¹⁸⁷ is to

180. See WATTS, *supra* note 166, at 37.

181. See *id.*

182. *Id.* at 41.

183. See *id.* at 42.

184. *Id.* (citation omitted).

185. See *id.* at 41 ("Duchamp, who demanded anonymity on other levels, turns to chance for the final distinctive individual stamp, an individuality that can be conveyed beyond the plane of the artist's 'aesthetic consciousness.'") (citation omitted).

186. *Id.* at 34. "Une habitude. La répétition d'une chose déjà acceptée." *Id.* at 35 (quoting Marcel Duchamp).

187. *Id.* at 38.

rely on chance.¹⁸⁸ Moreover, Duchamp, like Arp, regarded chance operations as an outlet for the subconscious.¹⁸⁹ By whatever means, the artist's subconscious mind, his true self unburdened by "habit," influences the outcome of seemingly random events.¹⁹⁰ As Duchamp succinctly put it: "Your chance is different from mine."¹⁹¹

The techniques employed by some modern artists introduce an element of chance, whether or not the artist cultivates accident for its own sake. To create his best-known works, American artist Jackson Pollock poured, dripped, and spattered paint onto canvases he had placed on the floor.¹⁹² Pollock insisted that the splattering technique, despite appearances, is highly controlled.¹⁹³ Certainly

188. See *supra* note 110 and accompanying text.

189. See WATTS, *supra* note 166, at 40.

190. See *id.* ("The individual difference is revealed in the moment of the artist's lack of conscious control over the real, or figurative, dice throw.").

191. *Id.* (citation omitted).

192. See Robert Goodnough, *Pollock Paints a Picture*, ART NEWS, May 1951, at 38-41, 60-61, reprinted in JACKSON POLLOCK: INTERVIEWS, ARTICLES, AND REVIEWS 75 (Pepe Karmel ed., 1999) [hereinafter POLLOCK: INTERVIEWS]. The article describes Pollock's unique technique, explaining:

He has found that what he has to say is best accomplished by laying the canvas on the floor, walking around it and applying paint from all sides. The paint—usually enamel, which he finds more pliable—is applied by dipping a small house brush or stick or trowel into the can and then, by rapid movements of the wrist, arm and body, quickly allowing it to fall in weaving rhythms over the surface. The brush seldom touches the canvas, but is a means to let color drip or run in stringy forms that allow for the complexity of design necessary to the artist.

Id.

193. See Interview by William Wright with Jackson Pollock, The Springs, Long Island, NY (1950), reprinted in JACKSON POLLOCK: INTERVIEWS, ARTICLES, AND REVIEWS 22 (Pepe Karmel ed., 1999).

WW: Well, isn't [the dripping technique] more difficult to control than a brush? I mean, isn't there more a possibility of getting too much paint or splattering or any number of things? Using a brush, you put the paint right where you want it and you know exactly what it's going to look like.

JP: No, I don't think so. I don't—ah—with experience—it seems to be possible to control the flow of the paint, to a great extent, and I don't use—I don't use the accident—'cause I deny the accident.

Id.; see also MATTHEW L. ROHN, VISUAL DYNAMICS IN JACKSON POLLOCK'S ABSTRACTIONS 39-40 (1987) ("Although [Pollock] sought a degree of freedom and serendipity as he worked, most of his activity remained under his sensitive and controlled judgment.... Genuinely random, freely generated strokes of paint would have produced uninteresting, static imagery rather than anything resembling the verve and life of a Pollock."). Pollock could achieve specific effects "by modulating his movements, by paying heed to how far above the canvas he let loose with the paint, and by regulating the force with which he propelled it." *Id.* at 41; see also

Pollock's works were more deliberate than Max Ernst's *Non-Euclidian Fly*, produced by suspending a punctured paint can on a string and swinging it like a pendulum.¹⁹⁴ Yet Pollock could not, as he flung paint at his canvas, control every detail of the work that emerged.¹⁹⁵ Pollock's painting seems to have involved a give-and-take between accident and deliberation; in part he "discovered" the work as it progressed and adjusted his intentions accordingly.¹⁹⁶

[A]t some point in the process various physical factors over which he had little or no control—the viscous nature of the medium, how it would puddle or flow after it struck the surface—would come to the fore.... [At times he] allowed the pure motor activity of pouring paint and the unpredictable consequences of its actions to take over. Proceeding back and forth between rational action (the conscious choice of where to pour, creating a given type of stroke) and irrational or arbitrary action outside his ken (paint landing even a little off a mark, puddling in unexpected ways, or dripping across the surface as the can or stick is pulled away) Pollock achieved highly improvisational working methods that produced a related open and improvisational structure to his abstractions. The essential,

CLAUDE CERNUSCHI, JACKSON POLLOCK: MEANING AND SIGNIFICANCE 109, 128 (1992). Opinions vary on the results. Some critics perceive Pollock's work as utterly chaotic. See FRANCIS V. O'CONNOR, JACKSON POLLOCK 54-55 (1967) (quoting the remarks of critic Bruno Alfieri).

194. See William Rubin, *Jackson Pollock and the Modern Tradition*, ARTFORUM, Feb. 1967, at 14-22, reprinted in POLLOCK: INTERVIEWS, *supra* note 192, at 167.

195. See ROHN, *supra* note 193, at 107 ("Among Pollock's abstractions, there is not one where unexpected, accidental effects cannot be found.").

196. See Jackson Pollock, *My Painting*, POSSIBILITIES, Winter 1947-48, at 78, reprinted in POLLOCK: INTERVIEWS, *supra* note 192, at 18. Pollock explained:

When I am in my painting, I'm not aware of what I'm doing. It is only after a sort of "get acquainted" period that I see what I have been about. I have no fears about making changes, destroying the image, etc., because the painting has a life of its own. I try to let that come through. It is only when I lose contact with the painting that the result is a mess. Otherwise there is pure harmony, an easy give and take, and the painting comes out well.

Id. As Matthew Rohn noted:

[Pollock] promoted the arbitrary and the accidental and then held both in check through the development of structural integrity.... To the extent that he left a certain amount of accident and randomness visible in the finished works, he wanted these qualities to serve specific dynamic and expressive functions.... Pollock's paintings are filled with these accidental and random irregularities, which the artist has generally resolved by a counterbalancing element that lies off center.

ROHN, *supra* note 193, at 108.

composed structure always hovered foremost in his mind, while free and often risky activity substantially modified and embellished that conception.¹⁹⁷

Pollock's technique may have "tipped [the] balance ... more than usual in the direction of accident,"¹⁹⁸ but the principle is also true of works created by more conventional techniques. Often some aspects of a work of art are carefully planned, some are artifacts of the materials or the technique, and some are attributable to chance.¹⁹⁹

Music has perhaps been the most fertile ground for aesthetic experiments with chance,²⁰⁰ and the most famous exponent of chance-derived or "aleatory" music is American composer John Cage. Cage employed a number of chance devices in the composition of his works. In *Music for Piano* (1952-1956), Cage began with the imperfections in blank sheets of paper. As explained by composer Michael Nyman:

Cage asked the *I Ching*²⁰¹ ... how many notes should be used from each page; whether they are to be played normally, or are muted or plucked; whether they are sharp, flat or natural, or are noises to be produced by hand or beater, inside or outside the piano construction. The corresponding number of imperfections on a blank sheet of transparent paper were then marked out,

197. ROHN, *supra* note 193, at 118-119.

198. See Hancock, *supra* note 163, at 48.

199. See Litman, *supra* note 4, at 1010 (suggesting that "transformation is the essence of the authorship process" and that "[s]ome of this transformation is purposeful; some of it is inadvertent; much of it is the product of an author's peculiar astigmatic vision").

200. See MICHAEL NYMAN, *EXPERIMENTAL MUSIC: CAGE AND BEYOND* 3 (1981) ("Experimental composers have evolved a vast number of processes to bring about 'acts the outcome of which are unknown' (Cage).... Processes may range from a minimum of organization to a minimum of arbitrariness, proposing different relationships between chance and choice, presenting different kinds of options and obligations.").

201. The *I Ching*, or Book of Changes, is an ancient Chinese divinatory text used to interpret "hexagrams" constructed by coin tosses or similar chance procedures. THE AUTHENTIC I-CHING, at xxiii-xv (Henry Wei trans., 1987). Cage used coin tosses and the *I Ching* in the construction of many of his works. See FOR THE BIRDS: JOHN CAGE IN CONVERSATION WITH DANIEL CHARLES 43 (Richard Gardner trans., Tom Gora & John Cage eds., 1981) [hereinafter FOR THE BIRDS]; CHRISTOPHER SHULTIS, SILENCING THE SOUNDED SELF: JOHN CAGE AND THE AMERICAN EXPERIMENTAL TRADITION 93 (1998) (describing the *I Ching*-derived process used in the composition of *Imaginary Landscape No. 4*). For a more complete description of *Imaginary Landscape No. 4*, see *infra* text accompanying notes 207-08.

and registered on a master page on which stave systems had been drawn.²⁰²

For *Atlas Eclipticalis* (1961-1962), Cage used the positions of stars in an atlas to determine the notes of the composition.²⁰³ Other pieces took their cue from shuffled cards (*Theater Pieces*, 1960) and computer programs (*HPSCHD*, 1969).²⁰⁴

These works owe their form to chance occurrences, but the compositions are fixed and reproducible. Sometimes Cage rejected even that much determinacy, preferring works that took shape only as they were performed.²⁰⁵ In a "happening" entitled *Black Mountain Piece*, for example, Cage provided the performers with "time-brackets" in which to perform, but otherwise allowed the performers to mold their own contributions.²⁰⁶ A more extreme example of performance indeterminacy is Cage's *Imaginary Landscape No. 4* (1951), a piece for twelve radios.²⁰⁷ The "performers" are instructed to tune certain frequencies, for certain times, at certain volumes—parameters determined, incidentally, by chance operations. In spite of the directions, the piece will never sound the same twice, because the sounds available on the selected frequencies will differ with every performance.²⁰⁸

202. NYMAN, *supra* note 200, at 53.

203. *See id.* at 5; Edward Downes, *Atlas Eclipticalis with Winter Music (Electronic Version)*, in JOHN CAGE, *supra* note 158, at 143 (noting that the composition "involved chance operations, including the placing of transparent templates on the pages of the atlas and inscribing the positions of the stars").

204. *See* NYMAN, *supra* note 200, at 5.

205. Richard Kostelanetz, *John Cage: Some Random Remarks*, in JOHN CAGE, *supra* note 158, at 203.

[Cage's] "scores" for these recent pieces, though published by a music company, offer not a precise plan for articulating sound but descriptive (often prose) instructions for generating activities that, like a football play, are likely to run out of intentional control—that produce "indeterminate" results. "I never imagine anything until I experience it," Cage once declared

Id.

206. As Cage described it in an interview: "[B]etween minute four and minute eight, say, someone or a group of people had that time-bracket free. What they were going to do I didn't know. I knew roughly, but not specifically. I knew that Merce [Cunningham] would be dancing, but I didn't know what he'd be dancing." JOHN CAGE, *supra* note 158, at 27. Performer improvisation is, of course, common in many forms of music, and might be considered a form of coauthorship as opposed to indeterminacy.

207. *See* PAUL GRIFFITHS, CAGE 24-25 (1981).

208. NYMAN, *supra* note 200, at 53.

Perhaps the ultimate statement in performance indeterminacy, as well as Cage's most notorious "composition," is 4'33" (1960). The title refers to the length of the piece, during which period the performer(s) produce nothing but silence.²⁰⁹ The work was originally "performed" by a pianist, who indicated the beginning and end of "movements" by, respectively, closing and opening the keyboard lid.²¹⁰ In the score, however, Cage observes that the work "may be performed by any instrumentalist(s) and the movements may last any lengths of time."²¹¹ The purpose of the piece, to the extent that it has or needs a purpose, is to allow the audience to experience and appreciate the sounds that occur in the hall even when the musician is silent.²¹² 4'33" thus advances indeterminacy to the point that the composer *and* the "performer" are taken out of the equation.²¹³

Cage's randomizing techniques far surpass what Mozart attempted in the *Musikalisches Würfelspiel*. Mozart ensured a pleasing composition, however the dice fell, by composing fragments that would inevitably match.²¹⁴ Like Duchamp in the selection of a

209. The score shows a work in three movements, but the notation for each movement is identical—simply the word "tacet." The score bears a copyright notice, but this may refer to the performance notes rather than the composition.

210. This is explained in the performance notes accompanying the score.

211. John Cage, 4'33" (1952).

212. See GRIFFITHS, *supra* note 207, at 28.

Cage has said, and often repeated, that "the music I prefer, even to my own or anyone else's, is what we are hearing if we are just quiet." 4'33" was thus not just a comic stunt but a demonstration that the sounds of the environment have a value no less than that of composed music, for in truth there is no silence

Id.; see also NYMAN, *supra* note 200, at 53 ("Cage had found that 'silence' is full of (unintentional) sounds which may be of use to the composer and listener.").

213. As recently reported on National Public Radio's *All Things Considered*, British composer Mike Batt inserted a silent track on his compact disc recording *Classical Graffiti* to separate the principle works from a set of bonus tracks. He jokingly entitled the silent track *A One Minute Silence* and attributed it to himself and "Cage." A British performing rights organization, not amused, accused Batt of infringing the copyright on John Cage's 4'33". Interview by Robert Siegel with composer Mike Batt *All Things Considered* (NPR radio broadcast, July 2, 2002); see also *Listen Hard*, THE ECONOMIST, Aug. 31, 2002, at 67. Although subsequent news reports referred to a six-figure settlement, BBC News World Edition, *Silent Music Dispute Resolved* (Sept. 23, 2002), available at <http://news.bbc.co.uk/1/hi/entertainment/music/2276621.stm>, one would like to think the figures was \$000000.

214. See Henry Cowell, *Current Chronicle*, in JOHN CAGE, *supra* note 158, at 100 ("Mozart eliminated many of the hazards accepted by Cage, for he composed and set down all the measures that might be called for by the dice; a typical collection of opening measures for the first cast, a typical set of second measures for the second cast, and so on.").

ready-made,²¹⁵ Cage sought to suppress any aesthetic judgment or expectation about the outcome of his chance operations.²¹⁶ As Cage's philosophy developed, his "views gradually changed from 'particular ideas as to what would be pleasing, toward no ideas as to what would be pleasing—a position where all results are acceptable and accepted and 'an error is simply a failure to adjust immediately from a preconception to an actuality.'"²¹⁷ Cage's intention, it seems, was "non-intention."²¹⁸

Cage's motivations are difficult to pin down, but he appears to have sought an abolition of ego, which he regarded as a barrier between the self and an unmediated experience of the cosmos.²¹⁹ At a less profound level, he simply disliked telling other people what to do.²²⁰ Whatever his thinking, Cage's methodology alters the traditional relationships between composer, performer, and audience.²²¹ The composer, ultimately, "becomes a proposer, one who

215. See *supra* text accompanying note 182.

216. Cage's composition for radios, see *supra* text accompanying notes 207-08, illustrates his refusal to intervene.

Because the figures obtained [by chance operations] do not always correspond to the center of the band for any given station, the station might happen to be heard rather vaguely, from the peripheral point along the dial that was established by the tossing. Similarly, the amplitude numbers are sometimes too low for audibility. Cage, however, insists on consistency in allowing the operation of chance, and sticks faithfully to its decisions.

Cowell, *supra* note 214, at 99.

217. NYMAN, *supra* note 200, at 53 (citation omitted).

218. See JOHN CAGE, *supra* note 158, at 27 (referring to the *Black Mountain Piece*: "What kind of intention were you dealing with at that time? Non-intention.").

219. See GRIFFITHS, *supra* note 207, at 36. As Paul Griffiths explains:

[Cage] begins from the premise that if art is to be useful ... it must not be separate from life. The artist is to alert his audience to the beauties of everyday life, not substitute some beauty of his own, and he can best do this if he takes as his guide the unwilling creative processes in the world

Id.

220. As Cage once remarked, "A composer is simply someone who tells other people what to do. I find this an unattractive way of getting things done." NYMAN, *supra* note 200, at 111 (citation omitted).

221.

D.C.: It's true that many works signed John Cage served as the basis for performances that differ in every respect according to who performs it. So for you the performer becomes the composer.

J.C.: Yes, and the audience can become the performer.

D.C.: What does the composer become?

J.C.: He becomes a member of the audience. He starts to listen.

D.C.: Sounds exist before the composer, and they even lead to him; but the

creates 'opportunities for experience' while denying himself ... intentions of expressing, limiting, and shaping....²²²

Although the interest of some respected artists in chance operations should make us pause before dismissing indeterminate works as inherently worthless, the legal questions essential to copyright remain. A common theme in these experiments with chance is the suppression of the artist's conscious will. Artists who so purposefully distance themselves from what they produce—removing, in Duchamp's phrase, "the least intervention of any idea or suggestion of aesthetic pleasure"²²³—have perhaps distanced themselves so far as to renounce any claim of ownership. Perhaps the very point of these experiments is to abolish authorship of the kind required by the laws of copyright. Certainly, claims of property seem crude next to the mystical aspirations many of these artists profess.²²⁴

In the following Parts, I consider how works influenced by various forms and degrees of indeterminacy might fare as "works of authorship." As we have seen, courts generally view authorship, by virtue of the originality requirement, as requiring some form of intellectual labor, imagination, or planning. Few cases have addressed that requirement in the context of indeterminacy, but those that have, with the exception of *Alfred Bell*, conclude that wholly indeterminate works lack the essential ingredient. I will address, from a broader theoretical perspective, whether intellectual labor *should* be considered essential to originality and when, if ever, indeterminate works can be found to satisfy that requirement. I

*composer is none other than the performer, who is none other than the audience.
Henceforth it is impossible to distinguish among various roles.*

J.C.: They interpenetrate.

FOR THE BIRDS, *supra* note 201, at 127.

222. GRIFFITHS, *supra* note 207, at 37.

223. WATTS, *supra* note 166, at 41.

224. Some who deal in the products of chance are driven more by commerce than by art. For example, businesses have arisen to provide statisticians, cryptographers, scientists, and others with sequences of random numbers. Truly random numbers are not as easily obtained as one might think, because many *seemingly* random numbers, like those generated by computers, are actually the product of highly deterministic processes. See George Johnson, *Connoisseurs of Chaos Offer a Valuable Product: Randomness*, N.Y. TIMES, June 12, 2001, at F1. Purveyors of genuine random numbers derive them from unpredictable physical phenomenon, such as radioactive decay, radio static, or, in one case, the chaotic bubbling of lava lamps. See *id.* Whether or not such numbers fit within the regime of copyright, their compilers would not—most likely—be philosophically opposed to ownership rights.

begin by examining the justifications for intellectual property in general.

III. AUTHORSHIP AND PROPERTY RIGHTS

Often tangible things can be fully enjoyed only when property rights ensure exclusivity. One's home would not be one's "castle" if anyone who wished could enter and occupy it; it would not provide the privacy, security, or other benefits expected of a home, nor would one have much incentive to improve it. Ideas, on the other hand, are a *public good*, because they may be enjoyed by others without in any way diminishing their value.²²⁵ Just as navigating by the beam of a lighthouse takes nothing away from the builder of the lighthouse or from other sailors, possessing an idea takes nothing away from the originator of the idea or from anyone else. Thomas Jefferson, in a famous passage, compared an idea to the flame of a candle, which can ignite other candles without dimming its own light.²²⁶ One might say the same of the intangible expressions of ideas that are subject to copyright. As long as the author possesses a copy of her work, perhaps she has no reason to complain when others possess their own copies. Yet the law does convey to authors a property interest in the form of the exclusive rights to reproduce, distribute, perform, display, and adapt their copyrighted work. Justifications for those exclusive rights can be roughly grouped into the categories of natural rights and public benefit theories.

225. See Stephen Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs*, 84 HARV. L. REV. 281, 288-89 (1970); Mark A. Lemley & Eugene Volokh, *Freedom of Speech and Injunctions in Intellectual Property Cases*, 48 DUKE L.J. 147, 184-85 (1998).

226. Jefferson stated:

[The] peculiar character [of an idea] is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me. That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature, when she made them, like fire, expansible over all space, without lessening their density in any point, and like the air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation.

Graham v. John Deere Co., 383 U.S. 1, 8-9 n.2 (1966) (quoting VI WRITINGS OF THOMAS JEFFERSON 180-81 (Washington ed., 1903)).

A. The Natural Rights of Authors and the Social Benefits of Authorship

Natural-rights theories of property often begin with John Locke's *Second Treatise of Government*,²²⁷ where he conceded that the world had been "given ... to men in common....,"²²⁸ but held that the fruits of nature could be owned individually.²²⁹ Locke argued that "every man has a property right in his own person."²³⁰ From this, Locke reasoned that "[t]he labor of [a man's] body and the work of his hands" are also "properly his."²³¹

Whatsoever ... he removes out of the state that nature had provided and left it in, he has mixed his labor with, and joined to it something that is his own, and thereby makes it his property. It being by him removed from the common state nature has placed it in, it has by this labor something annexed to it that excludes the common right of other men.²³²

Locke qualified his statement with the assumption that there would be "enough and as good left in common for others."²³³

Locke observed that some form of private property is necessary if the fruits of nature are to be enjoyed.²³⁴ An obvious place to draw a distinction between private property and the commons is where the addition of labor has distinguished a part of nature from the rest.²³⁵

227. See Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 YALE L.J. 1533, 1540 (1993) (discussing the influence of Locke's theories on American law).

228. JOHN LOCKE, *THE SECOND TREATISE OF GOVERNMENT* 17 (1952).

229. *Id.*

230. *Id.*

231. *Id.*

232. *Id.*

233. *Id.*; see Gordon, *supra* note 227, at 1560-72 (discussing Locke's famous "proviso"). "It is the proviso ... that gives Locke's theory much of its moral force. Locke here takes a step that helps to justify an exclusion right, for, with the proviso satisfied, the public's fundamental entitlements will not be impaired if the owner excludes it from the owned resource." *Id.* at 1565 (footnote omitted).

234. "[The fruits of nature] being given for the use of men, there must of necessity be a means to appropriate them some way or other before they can be of any use or at all beneficial to any particular man." LOCKE, *supra* note 228, at 17. In fact, property may be viewed, in Locke's system, as a necessary adjunct to the right and duty of self-preservation. See STEPHEN BUCKLE, *NATURAL LAW AND THE THEORY OF PROPERTY: GROTIUS TO HUME* 174 (1991).

235. Asking where a man begins to own the acorns or apples that he consumes, Locke

Moreover, Locke perceived a divine plan to bequeath nature to "the industrious and rational"—the sort of people most likely to exert themselves in improving the commons.²³⁶ Labor, rationally applied, increases the value of what God has bestowed.²³⁷ Hence, Locke regarded the "private right"²³⁸ of the laborer as almost self-evidently just.

Labor is often expended in the creation of intellectual property, at least if "labor" includes mental as well as physical exertion. It is no easy task to write a book, compose a symphony, or invent a better mousetrap. A person who undertakes such labor may feel deserving of an exclusive interest.²³⁹ Creative effort also improves the commons by bringing into existence new things. If it is ever a just metaphor to speak of "mixing" one's labor with the commons, it is in the context of creative work.

Feist rejected labor, or "sweat of the brow," as the ultimate justification for copyright.²⁴⁰ Even if the compiler of a telephone

answered: "[I]t is plain, if the first gathering made them not his, nothing else could. That labor put a distinction between them and [the] common; that added something to them more than nature, the common mother of all, had done; and so they became his private right." LOCKE, *supra* note 228, at 18.

236.

God gave the world to men in common; but since he gave it them for their benefit and the greatest conveniences of life they were capable to draw from it, it cannot be supposed he meant it should always remain common and uncultivated. He gave it to the use of the industrious and rational—and labor was to be his title to it—not to the fancy or covetousness of the quarrelsome and contentious.

Id. at 20. Thus labor entitles the laborer to a property interest not so much in compensation for hardship, but as a consequence of divine planning. See BUCKLE, *supra* note 234, at 150.

237. See BUCKLE, *supra* note 234, at 150-51; LOCKE, *supra* note 228, at 24-25. Even in the absence of divine intentions, ownership based on the investment can be logically grounded on the "no-harm principle." Gordon, *supra* note 227, at 1545 ("If you take the objects I have gathered you have also taken my labor, since I have attached my labor to the objects in question. This harms me, and you should not harm me. You therefore have a duty to leave these objects alone."). The no-harm principle is harder to apply in the context of intellectual property, where the creator arguably suffers no direct harm when the intangible objects are taken. See *id.* at 1545, 1548.

238. LOCKE, *supra* note 228, at 17.

239. But see Breyer, *supra* note 225, at 289 n.29 (noting the potential Lockean justification of intellectual property based on the investment of labor, but observing that "the difficulty with this theory is that it neither explains *why* property ought to be created on this basis nor does it describe our actual practice"). Moreover, "the fact that [a] book is the author's *creation* [does not] seem a sufficient reason for making it his *property*. We do not ordinarily create or modify property rights, nor even award compensation, solely on the basis of labor expended." *Id.* at 289 (footnotes omitted).

240. See *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., Inc.*, 499 U.S. 340, 352-53 (1991)

directory labors long and hard, removing, in Locke's terms, the compiled information from "the state that nature has provided and left it in,"²⁴¹ if the directory lacks "originality" it falls short of what copyright requires.²⁴² Still, one might consider labor as an essential component of authorship. Indeed, *Feist* refers to a "modicum of intellectual labor" as "an essential constitutional element."²⁴³ As long as the labor is creative, as opposed to the kind of labor exerted in discovering what already exists in the commons, a Lockean point of view can be generally reconciled with *Feist*.

Another version of natural rights relies on personality rather than labor. The personalities of creative people are often reflected in their work, particularly when the work is of the expressive variety subject to copyright. To the extent that the work is shaped by the personality of the creator, the work may be considered, in a sense, an extension of the creator. To exploit or interfere with the creation is then to exploit or interfere with the creator.

As Locke is the philosopher most closely associated with natural rights based on labor, Hegel is most closely associated with natural rights based on personality.²⁴⁴ Hegel viewed property as a necessary expression of human "will"; by marking external objects as "mine," the will expresses its individuality and freedom.²⁴⁵ One way in

(criticizing the "sweat of the brow" theory as applied to factual compilations, describing the theory as based on the mistaken notion "that copyright [is] a reward for the hard work that went into compiling [the] facts.").

241. LOCKE, *supra* note 228, at 17.

242. See *supra* text accompanying notes 76-84.

243. *Feist*, 499 U.S. at 347.

244. Hegel, however, was well aware of the social benefits rationale specifically applicable to copyrights and patents. See GEORG HEGEL, *PHILOSOPHY OF RIGHT* 30 (T.M. Knox trans., 1952). According to Hegel:

The purely negative, though the primary, means of advancing the sciences and arts is to guarantee scientists and artists against theft and to enable them to benefit from the protection of their property, just as it was the primary and most important means of advancing trade and industry to guarantee it against highway robbery.

Id.

245. "[P]roperty is the first embodiment of freedom and so is in itself a substantive end."

Id. at 23. Hegel continues:

In property my will is the will of a person; but a person is a unit and so property becomes the personality of this unitary will. Since property is the means whereby I give my will an embodiment, property must also have the character of being 'this' or 'mine.' This is the important doctrine of the necessity of private property.

which the will "occupies" external objects²⁴⁶ is by giving them form.²⁴⁷ An object formed by the will of an artist can be transferred to a new owner, and the new owner may, with the object, take possession of "the thoughts communicated in it" as well as "the universal methods of so expressing himself and producing numerous other things of the same sort."²⁴⁸ Alternatively, the artist can choose to transfer the object while *keeping* the "universal ways and means of multiplying such [objects] ... reserv[ing] them to himself as means of expression which belong to him."²⁴⁹ Thus Hegel recognized, in addition to tangible property, intellectual property shaped and possessed by the will.

More recent theories invoke "personhood" rather than "will," while still viewing property as, at least in some cases, an instrument of self-realization.²⁵⁰ People subjectively experience certain material objects as closely bound with their identities—particularly unique objects with sentimental associations, such as wedding rings, family heirlooms, and private homes.²⁵¹ Possessions more subject to standardization—cars, clothing, books, or furniture—can by their selection also proclaim the character of their owners.²⁵² If advertisements are to be taken seriously (and perhaps, at some level, they should be), we exhibit our values even in our choice of beverage. To interfere with our *things* is, therefore, to interfere with us, and perhaps property rights are sometimes necessary to guard

Id.

246. "Since property is the *embodiment* of personality, my inward idea and will that something is to be mine is not enough to make it my property; to secure this end occupancy is requisite. The embodiment which my willing thereby attains involves its recognizability by others." *Id.* at 25.

247. "We take possession of a thing (α) by directly grasping it physically, (β) by forming it, and (γ) by merely marking it as ours." *Id.* at 25. "Marking" is the most symbolic form of taking possession; accordingly, "[i]n its objective scope and its meaning, this mode of taking possession is very indeterminate." *Id.* at 27.

248. *Id.* at 29.

249. *Id.* at 30 (emphasis omitted).

250. See Margaret Jane Radin, *Property and Personhood*, 34 STAN. L. REV. 957, 957 (1982) ("The premise underlying the personhood perspective is that to achieve proper self-development—to be a *person*—an individual needs some control over resources in the external environment.").

251. See *id.* at 959. Such objects "are closely bound up with personhood because they are part of the way we constitute ourselves as continuing personal entities in the world." *Id.*

252. See *id.* at 968.

against such interference.²⁵³ Trespass may hinder our development as persons, or may inflict on us feelings of intrusion akin to a breach of privacy. Although this might seem a disturbingly materialistic point of view, when the thing is *made* by us the connection between personality and material object seems particularly apt. It is perhaps even more apt when the thing with which we identify is an abstraction formed in our own mind.

To a very limited extent, copyright law has embraced property interests based on the author's right of personality. Section 106A of the Copyright Act²⁵⁴ provides, with respect to certain works of visual art,²⁵⁵ rights of attribution²⁵⁶ and integrity.²⁵⁷ Some courts have also advanced tentative steps in the direction of "moral rights" for authors.²⁵⁸ Still, the primary justification for copyright law is not the creator's interests—based on labor, will, or personhood—but society's interests in the things that are created.

The Constitution explicitly states that the object of the copyright laws is "[t]o promote the Progress of Science,"²⁵⁹ meaning the progress of knowledge.²⁶⁰ The grant of exclusive rights to authors "is

253. Of course, personality interests do not account for *all* property interests. The proprietor of a jewelry store owns the stock, even though the proprietor's interest is, for the most part, commercial rather than personal. *See id.* at 986-87 (discussing a potential hierarchy of entitlements).

254. 17 U.S.C. § 106A (2000).

255. The term "work of visual art" is limited in substantial ways by the definition provided in § 101. It includes limited edition paintings, drawings, prints, sculptures, and still photographs. It does not include, among other things, maps, motion pictures, books, electronic publications, or works for hire. *Id.* § 101.

256. The author of a protected work has the right to claim authorship of his or her work, and to prevent the use of his or her name as the author of any work that he or she did not create. *Id.* § 106A(a)(1).

257. Within limits, the author of a protected work can "prevent any intentional distortion, mutilation, or other modification of that work which would be prejudicial to his or her honor or reputation...." *Id.* § 106A(a)(3)(A).

258. *See Gilliam v. Am. Broad. Co., Inc.*, 538 F.2d 14 (2d Cir. 1976). In *Gilliam*, the court found that the edited version of *Monty Python* broadcast by the defendant "impaired the integrity of appellants' work and represented to the public as the product of appellants what was actually a mere caricature of their talents." *Id.* at 25. The court conceded that "American copyright law, as presently written, does not recognize moral rights or provide a cause of action for their violation, since the law seeks to vindicate the economic, rather than the personal, rights of authors." *Id.* at 24. The plaintiff prevailed, however, on theories of license and misrepresentation, seen as alternative means to "properly vindicate the author's personal right to prevent the presentation of his work to the public in a distorted form." *Id.*

259. U.S. CONST. art. I, § 8, cl. 8.

260. *See supra* note 23 and accompanying text.

intended to motivate the creative activity of authors ... by the provision of a special reward, and to allow the public access to the products of their genius after the limited period of exclusive control has expired."²⁶¹ Copyright "rewards the individual author in order to benefit the public."²⁶²

If the focus of copyright law is on public benefits, as opposed to the natural rights of authors, then referring to copyright as a property interest almost overstates the case. After his famous comparison of an idea to a candle flame²⁶³ and his conclusion that "[i]nventions ... cannot, in nature, be a subject of property," Jefferson grudgingly admitted that society may choose to grant exclusive rights to inventors "as an encouragement to men to pursue ideas which may produce utility...."²⁶⁴ But the grant of such rights to inventors, he said, "may or may not be done, according to the will and convenience of the society, without claim or complaint from any body."²⁶⁵ One could take the same view of copyright: Society grants rights to authors only as it sees fit to encourage new works. Copyright laws may compensate authors for their labors, or may defend authors from injuries to their "personhood," but they do so not for the normative reason that they must, but for the practical reason that such deference to authors enhances their productivity.²⁶⁶

261. *Sony Corp. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984); see also *Harper & Row v. Nation Enters.*, 471 U.S. 539, 546 (1985).

262. *Sony*, 464 U.S. at 477 (Blackmun, J., dissenting) (citations omitted); see also *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975) ("The immediate effect of our copyright law is to secure a fair return for an 'author's' creative labor. But the ultimate aim is, by this incentive, to stimulate artistic creativity for the general public good."); *Goldstein v. California*, 412 U.S. 546, 555 (1973); *Mazer v. Stein*, 347 U.S. 201, 219 (1954); *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 158 (1948).

263. See *supra* note 225 and accompanying text.

264. *Graham v. John Deere Co.*, 383 U.S. 1, 9 n.2 (1966) (quoting VI WRITINGS OF THOMAS JEFFERSON 181 (Washington ed., 1903)).

265. *Id.*

266. See Nimmer, *supra* note 17, at 136. Nimmer explains:

Under this [instrumentalist] view [adopted by the Supreme Court], the purpose of copyright is to provide an incentive for individuals to create. Therefore, it is not the author who enjoys a "natural" right to the fruits of her labor, but society that will benefit in the long-run through the encouragement of authorship by affording a temporary "personal gain" during the term of copyright protection.

Id. (footnotes omitted). But see Wendy J. Gordon, *An Inquiry Into the Merits of Copyright: The Challenges of Consistency, Consent, and Encouragement Theory*, 41 STAN. L. REV. 1343, 1438, 1446-47 (1989) (criticizing "encouragement theorists" for marginalizing individual desert).

Authorial rights in most works can be justified by any of the preceding theories. A typical work of authorship embodies labor and personality, and society's interest in possessing the work justifies the grant of exclusive rights. Indeterminate works are not typical. When chance substitutes for conscious judgment, the justifications for private ownership come into question; one has to determine what is truly essential to authorship and the rights that flow from it. Before considering that question in the context of indeterminate works, it is worth a brief discussion of the romantic ideal of authorship and potential alternatives.

B. Romantic and Un-Romantic Authorship

Professor Martha Woodmansee argues that the contemporary notion of "authorship" is a recent invention, connected with the appearance of writers in the eighteenth century who could support themselves by sales of their work.²⁶⁷ In the former era of patronage, writers more often assumed the role of craftsmen rather than original thinkers.²⁶⁸ When a work transcended the ordinary, the credit belonged to the muses or other supernatural agencies.²⁶⁹

It is noteworthy that in neither of these conceptions is the writer regarded as distinctly and personally responsible for his creation. Whether as a craftsman or as inspired, the writer of the Renaissance and neoclassical period is always a vehicle or instrument: regarded as a craftsman, he is a skilled manipulator of predefined strategies for achieving goals dictated by his audience; understood as inspired, he is equally the subject of independent forces²⁷⁰

In contrast, the new breed of writers credited their achievements to their own unique inner vision, or "original genius."²⁷¹ Here was born the romantic notion of the writer as an uncommonly wise, sensitive,

267. Martha Woodmansee, *The Genius and the Copyright: Economic and Legal Conditions of the Emergence of the "Author,"* 17 EIGHTEENTH-CENTURY STUD. 425, 426 (1984).

268. *Id.* at 426-27.

269. *Id.* at 427 ("To explain such moments a new concept was introduced: the writer was said to be inspired—by some muse, or even by God.").

270. *Id.*

271. *See id.*

truth-telling, sometimes misunderstood individual whose message enlightens the world.²⁷² When a writing is understood as an expression of the author's individual genius, "the *writer* becomes an *author* (Lat. *auctor*, originator, founder, creator),"²⁷³ and the writer's claim to a property interest, particularly one based on natural rights, becomes more credible.

The romantic ideal of authorship has influenced copyright law,²⁷⁴ though the degree of such influence is debated.²⁷⁵ The limited protection of "moral rights," at least, may be premised on the view that art is a reflection of individual genius.²⁷⁶ Other aspects of copyright law are more difficult to reconcile with the romantic model. The work-for-hire doctrine, for example, treats employers as the "authors" of works created by their employees.²⁷⁷ One might imagine an individual writer or artist as an "author-genius" with privileged access to the numinous,²⁷⁸ but one cannot imagine a corporate employer "author" in quite the same way. The recognition of authorship in such humble creations as circus advertisements²⁷⁹ also serves to disassociate authorship from the higher forms of genius.²⁸⁰ In copyright law, the romantic notion of authorship maintains, at best, an uneasy coexistence with a less personal, more

272. See James D.A. Boyle, *The Search for an Author: Shakespeare and the Framers*, 37 AM. U. L. REV. 625, 629 (1988) ("The author is presumed to have an almost transcendental insight—something which cuts beneath the mundane world of everyday appearance.").

273. Woodmansee, *supra* note 267, at 429.

274. See Jane C. Ginsburg, *Creation and Commercial Value: Copyright Protection of Works of Information*, 90 COLUM. L. REV. 1865, 1867 (1990) ("[The] personality concept of copyright continues—often subconsciously, but certainly pervasively—to inform our ideas about copyright today....").

275. See Peter Jaszi, *Toward a Theory of Copyright: The Metamorphoses of "Authorship,"* 1991 DUKE L.J. 455, 456 ("British and American copyright presents myriad reflections of the Romantic conception of 'authorship'—even if they sometimes remind one of images in fun-house mirrors."); Mark A. Lemley, *Romantic Authorship and the Rhetoric of Property*, 75 TEX. L. REV. 873, 894 (1997) (arguing that romantic authorship may "affect[] decision-making somewhere below the conscious level by inclining judges and members of Congress to support the 'author,'" but questioning its value as "an overarching theory explaining intellectual property....").

276. See *supra* note 258 and accompanying text.

277. 17 U.S.C. § 201(b) (2000); see also *Cnty. for Creative Non-Violence v. Reid*, 490 U.S. 730, 737 (1989).

278. Jaszi, *supra* note 275, at 459 (referring to the Wordsworthian notion of authorship).

279. See *supra* text accompanying notes 62-68.

280. See Jaszi, *supra* note 275, at 483.

consumer-oriented model—a model in which the marketplace is the arbiter of progress.

Literary theorists have also challenged the romantic model of authorship. Roland Barthes announced the “death of the author” in a famous essay concerning the interpretation of texts.²⁸¹ The romantic model of authorship implies that a writing or a work of art has a single *true* interpretation corresponding to the message that the author/genius intended to convey. Barthes disputed that idea: “We now know that a text is not a line of words releasing a single ‘theological’ meaning (the ‘message’ of the author-God) but a multidimensional space in which a variety of writings, none of them original, blend and clash.”²⁸² Authorship, according to this “un-romantic” point of view, is less a manifestation of the author’s personal vision, created *ex nihilo*, than it is a synthesis of prior texts and cultural influences.²⁸³ The text produced by such a synthesis is not simply a communication from its creator; it is an object that exists on its own terms, independent of its origins—a cultural artifact. The meaning intended by the author is only one way to understand such a text.²⁸⁴

Accordingly, recent critical analysis has seen decreased emphasis on the author-genius and increased emphasis on the text. Professor Peter Jaszi perceives a similar movement in copyright law, marked by the displacement of the author in favor of the work.²⁸⁵ For

281. Roland Barthes, *The Death of the Author*, in IMAGE-MUSIC-TEXT (Stephen Heath trans., 1977).

282. *Id.* at 146 (“The text is a tissue drawn from the innumerable centers of culture.”).

283. See Litman, *supra* note 4, at 966. Jessica Litman states:

To say that every new work is in some sense based on the works that preceded it is such a truism that it has long been a cliché, invoked but not examined. But the very act of authorship in any medium is more akin to translation and recombination than it is to creating Aphrodite from the foam of the sea.

Id. (footnote omitted).

284. From this point of view, the author, if not dead, is so diminished that writer and reader are, in a sense, coequals. See Jaszi, *supra* note 275, at 458 n.9. “The ‘text’ may be literary, visual, or aural (or any combination of these); whatever form it takes, it is created not in the act of writing but in the act of reading. It ‘asks of the reader a practical collaboration.’” *Id.* (quoting Roland Barthes, *From Work to Text*, in IMAGE-MUSIC-TEXT, *supra* note 281, at 163); see also Nimmer, *supra* note 17, at 167 (“Literary theory has moved beyond the revelation from on-high of ‘authority (the *auctoritas* of authorship)’ to a realm in which it is the interpretive community that constitutes the text, and the reader reigns supreme.” (footnotes omitted)).

285. See Jaszi, *supra* note 275, at 475 (“For many purposes, the ‘work’ displaced the ‘author’ as the central idea of copyright law, facilitating the redefinition of the boundary between

example, publishers or others who obtain copyrights by assignment rather than by authorship acquire "a general dominion over the imaginative territory of a particular literary or artistic production"²⁸⁶—an imaginative territory defined by the characteristics of the work rather than by the identity of its creator. Their dominion can be exercised *against* authors, even the author of the original work, if they trespass on the protected territory by authoring similar or derivative works.²⁸⁷ In Jaszi's view, this emphasis on the work, accompanied by the unwillingness of courts to judge aesthetic merit,²⁸⁸ "both effaces and generalizes 'authorship,' leaving this category with little or no meaningful content and none of its traditional associations."²⁸⁹

Jaszi expresses misgivings about the dilution of "authorship,"²⁹⁰ typified by *Alfred Bell's*²⁹¹ recognition of authorship by accident,²⁹² and the commercialization of culture,²⁹³ facilitated by the "democratized," nonjudgmental approach of *Alfred Bell* and *Bleistein*.²⁹⁴ Yet in some ways the un-romantic, text-centered model seems more in tune with the social benefits rationale said to be at the heart of copyright.²⁹⁵ The satisfaction of public needs—including the need to "promote the progress" of knowledge—depends upon the content of the works available to the public. It does not depend, directly, on the circumstances of their creation. Whether a work took great effort or no effort to produce, whether it is personal or impersonal, whether it is the product of genius or incompetence is of little consequence to the consuming public, however important it

proprietary control and free public access.").

286. *Id.* at 478.

287. *See id.*

288. *See supra* text accompanying notes 61-68.

289. Jaszi, *supra* note 275, at 483.

290. *See id.* at 501 ("The prevailing view of 'authorship' is often that which best serves the immediate interests of copyright proprietors who distribute the works as commodities.").

291. *See supra* Part I.C.

292. *See* Jaszi, *supra* note 275, at 483-84.

293. *See id.* at 484-85 ("[T]hese decisions [*Bleistein* and *Alfred Bell*] represent the last stage in the commercialization of cultural production. Under *Alfred Bell's* 'minimalist' and 'democratized' vision of 'authorship,' copyright doctrine offers no sound basis for distinguishing between oil paintings, art reproductions, motion pictures, lamp bases, poems, and inflatable plastic Santa Clauses.").

294. *See supra* text accompanying notes 61-68.

295. *See supra* note 262.

might be to the author. Genius, personality, and effort may produce superior works, but it is the product that is important to society.²⁹⁶

C. *The Role of "Originality"*

Copyright doctrine defines authorship primarily in terms of originality. As we have seen, an original work is one that is made, as opposed to discovered or copied.²⁹⁷ Whether originality requires *only* that, or whether it also requires some form of intellectual contribution to the making, is a question one must address in the context of indeterminate works. In the leading cases on originality, one finds abundant rhetorical support for the position that more is required—some “work of the brain,”²⁹⁸ or “intellectual production ... thought, and conception.”²⁹⁹ If that is a correct reading of originality, one should find a clear relationship between the “work of the brain” requirement and the overall function played by originality in the copyright scheme. In the spirit of inquiry, I offer the following as some *potential* functions of the originality requirement.³⁰⁰ Some explain the originality requirement best in a context of authorial natural rights; others match best with a social benefits model of copyright.

296. If works of authorship are treated as objects, their value determined by the operations of the marketplace, one may fear that art will become too commercialized and the tastes of the masses substituted for genuine progress. On the other hand, any system designed to promote the progress of knowledge by exclusive rights, the value of which depends upon consumer demand, necessarily defers to the marketplace to decide what does or does not constitute “progress.”

297. See *supra* Parts I.A. & I.B.

298. *The Trade-Mark Cases*, 100 U.S. 82, 94 (1879).

299. *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 59-60 (1884).

300. One explanation of the originality requirement is that it matches the likely expectations of those who drafted the Constitution. In the Supreme Court's view, the term “author,” as employed in the Constitution, implies originality. See *Feist Publ'n, Inc. v. Rural Tel. Serv. Co., Inc.*, 499 U.S. 340, 346 (1991). If original means “not copied,” the conclusion is a reasonable one; probably the Framers distinguished between authorship and copying as readily as we do. Searching for the Framers' intent cannot, however, take us very far towards answering questions that they probably never thought to pose, such as whether an indeterminate work could qualify as the writing of an author. Perhaps the best we can do is to keep in mind their expressed objective: “[t]o promote the Progress of Science [i.e., knowledge].” U.S. CONST. art. I, § 8, cl. 8.

1. *Diversity of Expression*

Copyright law has no novelty requirement, as any treatise will confirm.³⁰¹ A poet who miraculously reproduces *Ode on a Grecian Urn*, innocent of any knowledge of Keats, can in theory obtain a copyright, even though there is nothing new about the poem.³⁰² The crucial fact imposed by the originality requirement is the absence of copying. Except, however, in the case of works so simple that expression and idea merge,³⁰³ every author who does not slavishly copy from another source is likely to introduce something unique.³⁰⁴ The prohibition on copying, therefore, serves as a gentle nudge in the direction of novelty, ensuring the public a more diverse selection of works than would be the case if copied works were copyrightable.

The creativity requirement, which *Feist* identified as a component of originality,³⁰⁵ also hints at novelty. *Feist* determined that Rural's white pages telephone directory lacked creativity because the organization was "entirely typical" and "garden-variety,"³⁰⁶ "an age-old practice, firmly rooted in tradition and so commonplace that it has come to be expected as a matter of course"³⁰⁷—all rhetoric consistent with a novelty threshold. On the other hand, as previously discussed, the Court may simply have inferred from the typicality of the organization that it must have been *copied*.³⁰⁸ Therefore, the "creativity" component of originality could be primarily a reaffirmation or corollary of the copying prohibition.³⁰⁹

301. See, e.g., NIMMER, *supra* note 87, at § 2.01[A].

302. See *supra* note 86 and accompanying text.

303. Because facts and ideas are not subject to copyright, if those facts or ideas can be expressed in only a small number of ways even the expression is unprotectable.

When the uncopyrightable subject matter is very narrow, so that "the topic necessarily requires," if not only one form of expression, at best only a limited number, to permit copyrighting would mean that a party or parties, by copyrighting a mere handful of forms, could exhaust all possibilities ... of the substance.

Morrissey v. Procter & Gamble Co., 379 F.2d 675, 678 (1st Cir. 1967) (citations omitted); see *Durham*, *supra* note 21, at 801.

304. See *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 250 (1903) ("[A] very modest grade of art has in it something irreducible, which is one man's alone.").

305. See *Feist*, 499 U.S. at 345.

306. *Id.* at 362.

307. *Id.* at 363.

308. See *supra* text accompanying notes 91-92.

309. Although Rural did not copy its directory from another source, one could view the

2. Identification

Original works bear an individual stamp³¹⁰—an author's "trademark," so to speak—which helps to identify the source of the work. This can be important in establishing infringement, which requires evidence of copying.³¹¹ If an admirer of a public domain novel could copy it verbatim and then copyright the result, it would be difficult to determine if an accused infringer had copied from the copy or from the original; in either case, the accused work would look the same. Similar problems would arise if one could copyright facts copied from the world—i.e., determined by research.³¹² It might be difficult to determine if the same facts appeared in an accused work because they had been copied, or because they had been re-discovered through the accused infringer's own research. If copyright is limited to original works, similarities between the copyrighted work and the accused work have greater significance as evidence of infringement. Useful as this may be, however, there is little to suggest that it is the ultimate purpose of the originality requirement.³¹³

directory as merely the union of facts copied from the world and an organizational scheme copied from numerous prior works. Even if, in the strictest sense, the combination was new, copyright protection would raise issues of merger. See *supra* note 115.

310. See *Feist*, 499 U.S. at 350 ("[C]opyright is limited to those aspects of the work—termed 'expression'—that display the stamp of the author's originality.") (quoting *Harper & Row v. Nation Enters.*, 471 U.S. 539, 547 (1985)); Ginsburg, *supra* note 274, at 1881-82 (discussing the notion that each work of expression is a singular reflection of the author's unique personality).

311. See *Selle v. Gibb*, 741 F.2d 896, 901 (7th Cir. 1984) ("Proof of copying is crucial to any claim of copyright infringement because no matter how similar the two works may be (even to the point of identity), if the defendant did not copy the accused work, there is no infringement.").

312. See Robert C. Denicola, *Copyright in Collections of Facts: A Theory for the Protection of Nonfiction Works*, 81 COLUM. L. REV. 516, 525 (1981).

313. In *Gracen v. Bradford Exchange*, 698 F.2d 300 (7th Cir. 1983), Judge Posner advocated a high standard of originality for derivative works in order to alleviate confusion as to the source of the allegedly infringing work. "[T]he purpose of the term ['original'] in copyright law is not to guide aesthetic judgments but to assure a sufficiently gross difference between the underlying and the derivative work to avoid entangling subsequent artists depicting the underlying work in copyright problems." *Id.* at 305.

3. *Natural Rights*

The originality requirement may ensure that the potential copyright owner deserves exclusivity as a matter of natural right. It may ensure, for example, that the author invested labor, because devising an original work is likely to require greater effort than copying. But originality is a poor measure of labor. A work that is "unoriginal" because "copied from the world" may reflect much more labor than an "original" work of modest ambitions. Possibly all labor is not the same and those whose labor is "creative" have stronger moral claims to compensation, but it is difficult to justify such a distinction if labor, *per se*, is really the issue. In any event, something more than labor-based entitlement is necessary to explain the Supreme Court's conception of originality as the "bedrock principle of copyright."³¹⁴ In spite of its requirement of "a modicum of intellectual labor,"³¹⁵ the Court soundly rejected "sweat of the brow" as the principle justifying ownership.³¹⁶

Alternatively, originality may ensure the presence of the author's personality in the work. A faithful copy reflects nothing of the copier's personality, whereas an original work, however humble, reflects "the personal reaction of [the] individual upon nature."³¹⁷ If copyright law existed primarily to protect the personality, privacy, or "personhood" of authors, this might explain why originality is the bedrock principle of copyright. On the other hand, if it is true that the primary justification for copyright is the benefit conferred on the consuming public,³¹⁸ the originality requirement should bear a closer relationship to societal interests than to individual interests. Protecting "the personal reaction of the individual" should be a means to an end, not the end itself.

4. *Defining the Commons*

I have saved for last the point that I believe comes closest to explaining why there is an originality requirement and why it is

314. *Feist*, 499 U.S. at 347.

315. *Id.*

316. *Id.* at 352-53.

317. *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 250 (1903).

318. *See supra* note 262.

such an essential principle of copyright. Locke qualified his theory of ownership with the proviso that "enough and as good" be left in the commons for others to enjoy.³¹⁹ Copyright law exhibits a similar and necessary concern for the exhaustion of resources.³²⁰ Facts and ideas are uncopyrightable, and, as far as copyright law is concerned, belong to the commons. An author's individual expression, embodying an idea or communicating a fact, is copyrightable, so long as a multitude of other potential expressions are available. If there is only one way, or a few ways, to express an idea or to communicate a fact, so that exclusive rights to the expression would effectively preempt the idea or the fact, then "merger" is said to apply and the expression is uncopyrightable.³²¹

In most cases, one can imagine expression as an inexhaustible resource. Historians, for example, can describe the same event (e.g., the sinking of the *Titanic*) and communicate the same facts (1,513 lives were lost) without ever choosing precisely the same words. Copyright law encourages such diversity by allowing facts to be duplicated but not expression. More unique works are produced and progress marches on.³²² "Copied" material is, generally speaking, a more limited resource. There may be other shipwrecks to describe, or other facts about the *Titanic* to recount, but they are not substitutes. Hence, if the first author to describe the loss of life on the *Titanic* were the last permitted to do so (until the first author's copyright had expired), the "progress" of knowledge might be hindered more than abetted. The originality requirement seems to reflect the distinction between the inexhaustible and the finite, particularly when, as in *Feist*, it is applied in the context of material "copied from the world."

Perhaps this is not the whole story. If it is true that every snowflake differs from every other, one might run out of words to describe snowflakes before one ran out of snowflakes to describe.³²³

319. See *supra* note 233 and accompanying text.

320. See Gordon, *supra* note 227, at 1581-82 (linking prohibitions on the ownership of abstract ideas with Locke's "proviso").

321. See *supra* note 129.

322. See Litman, *supra* note 4, at 968 ("The public domain should be understood not as the realm of material that is undeserving of protection, but as a device that permits the rest of the system to work by leaving the raw material of authorship available for authors to use.").

323. If, that is, one considered one snowflake as good as another—a position that the very uniqueness of snowflakes seems to contradict.

Further, if facts were copyrightable but infringement limited to *copying* the facts, the possibility of rediscovering the facts through independent research would make the facts, in some sense, inexhaustible.³²⁴ Such inconsistencies are reduced if one regards facts not only as a more finite resource than expression, but as a more essential component of the public domain. Speaking in broad terms, facts concern the world in which we all live; hence our freedom to share, discuss, and build upon facts is perhaps more important to the progress of knowledge than the freedom to share, discuss, or build upon something as personal as the expression of a particular author.³²⁵ The balance that best satisfies the constitutional mandate may be that which favors incentive in the case of expression, but access in the case of discoveries. Hazards do exist, of course, in attempting to draw such distinctions.³²⁶ Still, the concern for diversity of expression and free access to the universal seems nearest to what *Feist* had in mind in discussing originality, and nearest to the explicit constitutional purpose of copyright—promoting the advancement of knowledge for the ultimate benefit of the public.

IV. SEEKING AUTHORSHIP IN INDETERMINATE WORKS

In this Part, I consider whether indeterminacy and authorship are compatible, focusing on indeterminate or quasi-indeterminate works of the following kinds: (1) works discovered by the would-be

324. Referring to ownership of ideas, which like facts are uncopyrightable apart from their particular expression, Professor Gordon states, "[i]t might be supposed that one way to satisfy [Locke's] proviso while still giving ownership in ideas would be to restrict owners' exclusive rights to control *copying*, and give owners no rights against persons who independently happen to recreate or rediscover the idea;" yet she concludes that "[o]nce put into the cultural stream by an initial creative person," certain ideas are irretrievable, because any other result "could close off some of the best opportunities otherwise open to others." Gordon, *supra* note 227, at 1581-82; see also *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 122 (2d Cir. 1930) ("Though the plaintiff discovered the vein [of ideas], she could not keep it to herself"). *Feist's* approach to facts, perhaps by similar reasoning, not only preserves the commons but improves access to the commons by forced contribution; once a discovery has been reported in a work of authorship, others are relieved of the effort of duplicative research.

325. See *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 563 (1985) ("The law generally recognizes a greater need to disseminate factual works than works of fiction or fantasy.").

326. For example, it may be difficult to distinguish between universal fact and individual opinion. See Durham, *supra* note 21, at 838-42.

author after they already exist;³²⁷ (2) works that owe their existence to the author, but whose form is determined, to a greater or lesser degree, by forces beyond the author's control; and (3) works that may appear random, but whose form is determined by the author, either consciously or unconsciously. I will begin by revisiting the hypotheticals first seen in the introduction.³²⁸

A. Hypotheticals

1. Artist A

Artist A discovered her abstract masterpiece on the floor of a hardware store, where generations of customers had dripped paint. Artist A purchased that section of the floor, hung it in her gallery, and claimed the rights usually reserved to authors. Her case resembles that of the unsteady draftsman hypothesized in *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*,³²⁹ with the difference that Artist A had no physical role in the creation of the work she "adopted."

Although one would be hard pressed to find any authority for deeming Artist A the author of the work, from a theoretical perspective she might advance a claim. If authorship requires "intellectual labor,"³³⁰ Artist A could point to the mental effort and imagination necessary to recognize the aesthetic merits of the piece—merits evidently overlooked by other patrons of the hardware store. In Lockean terms, she "improved the commons" by singling out this section of floor as one with expressive potential. Artist A's claim to a personality or "personhood" interest is equally plausible. Her selection reflects her tastes and proclaims her individual vision; this work might be her most prized, and, in a sense, most personal possession.³³¹ Finally, applying the more utilitarian consumer-

327. Such works are "indeterminate" in the sense that the "author" is not responsible for their form.

328. See *supra* text accompanying notes 14-15.

329. 191 F.2d 99 (2d Cir. 1951).

330. *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 347 (1991).

331. See Radin, *supra* note 250, at 987 (remarking that a hierarchy of property interests based on "personhood" "focuses on the person with whom [the thing] ends up—on an internal quality in the holder or a subjective relationship between the holder and the thing, and not on the objective arrangements surrounding production of the thing").

oriented criteria that copyright law favors, one could argue that awarding Artist A exclusive rights would promote the progress of the arts. Perhaps her discoveries are turned into prints that regularly outsell Jackson Pollock's. If exclusive rights belong to Artist A, she will have the financial incentive to visit more hardware stores, her eyes open to the possibilities of art.

What Artist A cannot claim is a role in the physical creation of the work. One could argue that, in an abstract sense, the work was created when Artist A saw the potential in it; without her intervention, it would have been a soundless tree falling in a metaphorical forest. After all, copyright is not about ownership of the physical medium—whether paper, celluloid, canvas, or, in this case, linoleum—it is about ownership of an abstraction, which might be said to exist only when it is perceived.³³² The problem lies in the lengths to which one might take such an argument. If appreciation or selection is the key, every flower in a meadow or galaxy in the sky is a potentially copyrightable work. *Feist's* dichotomy of creation and discovery³³³ prevents an overbroad conception of authorship. It keeps copyright within reasonable bounds, forestalling the erosion of the commons and improving access. Human imagination may be limitless, but the discoverable world, including hardware stores, is finite.

One must also consider the potential claims of those who actually dripped the paint, ignorant of their contributions to art. If authorship and discovery mingle, questions of competing claims inevitably arise. If Artist A had found her masterpiece on the easel of an obscure painter (Artist O) rather than on the floor of a hardware store, her theoretical claims of authorship could be much the same: she still used her imagination, exercised her personality, and advanced the "progress" of art by bringing an unknown work to the attention of the public. Yet, even if Artist A's theoretical justifications for a property interest were *similar* to those of an author, Artist O would still contend, and probably everyone would agree, that Artist O, not Artist A, is the author of the work.

332. See Nimmer, *supra* note 17, at 99 (discussing the "fundamental distinction" between the copyrighted work and "the material object in which it is embodied," as recognized in the legislative history of the Copyright Act).

333. See *supra* text accompanying note 80.

On the other hand, in this case Artist A is unlikely to face such competing claims; she can reasonably demand exclusive credit for a potentially valuable work. Moreover, unlike a flower or a galaxy, her work at least resembles, and may be indistinguishable from, works that are routinely afforded copyright protection. She might still ask: Should the law care, if the consuming public does not, how the work came about?

2. Artist B

If Artist A is reminiscent of Duchamp and his "ready-mades,"³³⁴ Artist B, who achieved his masterpiece by tossing buckets of paint into the air, is reminiscent of Jackson Pollock. We can assume for purposes of the hypothetical that Artist B's work looks just like Artist A's.³³⁵ Artist B should have little difficulty in convincing a court that his work is a "work of authorship." In literal terms, Artist B, who physically caused the work to exist, is the "maker"³³⁶ of the work. Even if his technique produces unpredictable results, the work is still, to a degree, under Artist B's control. Artist B chose the canvas and the paint, directed the paint in the general direction of the canvas, and decided when the work was finished. Perhaps his control was not complete, but such is the nature of his method. Paint runs and drips even when applied by a brush.³³⁷

Artist B can also select a particular work as a success, perhaps after rejecting a multitude of failures. Such selection, or weeding out, is a typical component of authorship, comparable to what writers and filmmakers do in the process of editing.³³⁸ Yet, post hoc

334. See *supra* text accompanying note 182.

335. This would not prevent either from being considered "original." See *supra* notes 302-03 and accompanying text.

336. See *supra* text accompanying note 57.

337. Serendipity often plays a role in art. Ansel Adams' famous *Moonrise* image, for example, could only be captured because of Adams' technical facility, quick thinking, and good fortune to be present just as nature presented an unusual photographic opportunity. See ANSEL ADAMS, *EXAMPLES: THE MAKING OF 40 PHOTOGRAPHS* 41-43 (1983).

338. Even an abridgement of an existing work may be considered a copyrightable work of authorship, assuming that the abridger had the right to use the original and that the abridgement involves a minimal degree of creativity.

Compilations and abridgments may also be copyrightable if they contain new work of authorship. When the collecting of the preexisting material that makes up the compilation is a purely mechanical task with no element of editorial

selection is close to "discovery." To distinguish himself from Artist A, Artist B would have to rely primarily on other factors, such as his physical involvement in the creation of the work or the limited control he exercised.³³⁹

3. Artist C

Artist C is far more meticulous than Artist B in terms of technique; he controls the location of every dab of paint. Yet the process is as mechanical as the faithful completion of a paint-by-the-numbers landscape. All of the aesthetic decisions are made for Artist C by the roll of the dice. Unless one accepts the mystical notion that divine or subconscious forces speak through the operation of chance,³⁴⁰ Artist C's method seems inconsistent with the romantic ideal of the author/genius. If Artist C takes things to Cage-inspired extremes, even the color of the paint and the dimensions of the canvas will have been determined by random processes. Surely no "message" can be conveyed when everything is random.

Yet before one dismisses the romantic ideal entirely, it is worth considering the respect that an artist like Cage can command, as suggested by the number of books devoted to his ideas. Even if Cage's random works are intrinsically devoid of a message, which seems to have been Cage's intention,³⁴¹ his system of composition itself may convey meaning. If, for example, 4'33" is as empty a

selection, or when only a few minor deletions constitute an abridgment, copyright protection for the compilation or abridgment as a new version is not available.

Copyright Office General Information and Basics of Registration § 21.01, reprinted in NIMMER, *supra* note 87, at § 5:21.01[H].

339. Professor Russ VerSteeg believes that communication is the essential component of authorship. See Russ VerSteeg, *Defining "Author" for Purposes of Copyright*, 45 AM. U. L. REV. 1323, 1339 (1996). He does not, however, conclude that a mental image must precede the physical creation of the work.

When a pop artist throws paint at a canvas, he does not necessarily picture in his mind what the expression will look like after the paint settles. Nevertheless, his failure to conceptualize the expression mentally before its physical creation does not prevent the work from being copyrightable, nor does it prevent him from being an author.

Id. at 1340.

340. See *supra* notes 170-79 and accompanying text.

341. See *supra* note 218 and accompanying text.

composition as could possibly be contrived, the fact of its composition and performance is thought provoking. Cage evidently had a message to convey about the *idea* of composition.³⁴² Similarly, Artist C's explorations of technique might themselves qualify him as a "genius." On the other hand, devising a system is not necessarily the same as "authoring" the work produced by that system. Section 102(b) of the Copyright Act distinguishes between a copyrightable work of authorship and an uncopyrightable "idea, procedure, process, system, method of operation, concept, principle, or discovery."³⁴³ We can, in any case, hypothesize that the system used by Artist C was devised by someone else.

If we assume that Artist C's role is purely mechanical, his Lockean claims would be based on physical labor, and perhaps mental concentration, but not on any higher or more creative form of intellectual effort.³⁴⁴ His personality interest would be nil, except to the extent of any post hoc "adoption" of the work, similar to what we hypothesized for Artist A. Invoking the public benefits point of view, however, Artist C can claim sole responsibility for the existence of a work that the public, potentially, finds valuable. The work may look like one produced by more conventional means, and it may even bear similar meaning, if meaning is what an audience finds in a work, as opposed to what its creator intends.³⁴⁵ Artist C's role in the creation of the work may differ from that of a traditional

342. See Dan Rosen, *A Common Law for the Ages of Intellectual Property*, 38 U. MIAMI L. REV. 769, 804 (1984) ("The decision[] to allow chance to decide [the form of a musical composition] is itself an artistic decision—one that is no less deserving of copyright protection in principle or in conformity with the Act.").

343. 17 U.S.C. § 102(b) (2000).

344. Discussing Locke, Professor Gordon argues:

Aimless effort is not labor. Appropriative labor involves altering what was in the common in a way that makes it usable and thus more valuable to humanity.... Most important from the perspective of the laborer's claim, however, is the laborer's purposiveness. A stranger's taking of another's labored-on objects is likely to merit legal intervention only if the taking interferes with a goal or project to which the laborer has purposely directed her effort.

Gordon, *supra* note 227, at 1547 (footnotes omitted). Even if this is true, Artist C could reply that his efforts *are* purposeful, as intended to produce a desirable work of art. Chance is merely a tool for achieving that purpose.

345. Professor VerSteeg states that "[o]n the most elementary level, a copyright author is a communicator." VerSteeg, *supra* note 339, at 1339. Perhaps it would be more in line with contemporary thought to say that an author is the creator of that which communicates. See generally *supra* notes 251-54 and accompanying text.

painter, but the same could be said of an employer who is treated as the "author" of a work-made-for-hire.³⁴⁶

There is still the question of whether Artist C's creation is "original." Unlike Artist A, Artist C is responsible for the physical existence of the work. He is a "maker" in that sense, whether one considers the system a tool employed by Artist C or Artist C a tool employed by the system. Artist C's work is not copied from another work. In fact, if his system is sufficiently complex, the random element itself promotes a unique, unpredictable, unprecedented result.³⁴⁷ What may be lacking is the right kind of mental engagement by Artist C, who in that respect is more like a slavish copier than a creative genius. The origin of the work is in Artist C's labor, not in his mind. Yet Artist C might argue that romantic notions of authorial creativity are outmoded and inappropriate to a public-benefits oriented copyright law. It is the work, he might say, that counts.

4. Artist D

Artist D, who heeds her subconscious urges, seems an easy case. Instinct, emotion, daydreams, and nightmares are such ubiquitous sources of creativity, authorship can by no means be limited to what is conscious and calculated.³⁴⁸ Although one could, perhaps, demand a minimum of deliberate control or conscious oversight, denying copyright to a hypothetical artist who paints in her sleep, it is difficult to see what goal would be served. The subconscious mind is as much a part of the individual as the conscious mind, and the products of the subconscious may be compelling. Coleridge's dream-composed *Xanadu* is as worthy of copyright as any other poem.³⁴⁹

346. See *supra* note 277 and accompanying text.

347. If Artist C's system produced an inevitable, non-random result, it might be appropriate to consider the "expression" merged with the system, as idea and expression merge when the alternatives are few. See *supra* note 129.

348. Novelists often say that their characters seem to determine their own fates. See JOHN FOWLES, *THE FRENCH LIEUTENANT'S WOMAN* 96-97 (1969) ("It is only when our characters and events begin to disobey us that they begin to live."); see also Jessica Litman, *Copyright as Myth*, 53 U. PITT. L. REV. 235, 244-45 (1991).

349. The poem apparently came to Coleridge in a dream:

The Author continued for about three hours in a profound sleep, at least of the external senses, during which time he has the most vivid confidence, that he could not have composed less than from two to three hundred lines; if that

The random numbers cases, such as *Toro*³⁵⁰ and *Mitel*,³⁵¹ suggest that a work lacking "rhyme or reason" fails the test of originality. This could be interpreted in several ways. It could mean that order or meaning must be present in the work and evident to the viewer—a test that Artist D's work, and a substantial amount of modern art, is likely to fail. In the context of the First Amendment, the Supreme Court observed that "a narrow, succinctly articulable message is not a condition of constitutional protection, which if confined to expressions conveying a 'particularized message,' would never reach the unquestionably shielded painting of Jackson Pollock, music of Arnold Schoenberg, or Jabberwocky verse of Lewis Carroll."³⁵² Copyright law also disfavors tests that require a work to communicate a message. As the Court said in *Bleistein*, "some works of genius would be sure to miss appreciation" because "[t]heir very novelty would make them repulsive until the public had learned the new language in which their author spoke."³⁵³

Alternatively, the "rhyme or reason" test could require an order *consciously imposed* on the work, even if *not* evident to the viewer. Works with private meaning would qualify as "original works of authorship;" works without consciously intended meaning would fail. This test might suffice for numbering schemes, where any meaning is likely to be of the consciously rational rather than the subconsciously expressive variety, but it does not match well with works of art, like Artist D's. The subconscious is too important a part of creativity to be banished from the realm of authorship.

One could broaden the test, simply requiring that the work possess "meaning" of some kind, whatever its source. This would be a difficult test to apply, given the elusive nature of meaning. One would also wonder how to treat works that exhibit "rhyme or

indeed can be called composition in which all the images rose up before him as *things*, with a parallel production of the correspondent expressions, without any sensation or consciousness of effort.

1 SAMUEL TAYLOR COLERIDGE, *THE COMPLETE POETICAL WORKS* 295-96 (Ernest Hartley Coleridge ed., 1912).

350. *Toro Co. v. RiR Products Co.*, 787 F.2d 1208 (8th Cir. 1986); *see supra* notes 114-33 and accompanying text.

351. *Mitel, Inc. v. Igtel, Inc.*, 124 F.3d 1366 (10th Cir. 1997); *see supra* notes 134-42 and accompanying text.

352. *Hurley v. Irish-American Gay, Lesbian and Bisexual Group of Boston, Inc.*, 515 U.S. 557, 569 (1995) (citations omitted).

353. *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 251 (1903).

reason," but not as a consequence of human decision making. Artist C's work, for example, could be guided by mathematical equations rather than by chance. Such a work would be equally devoid of intellectual contribution, conscious or subconscious, and any "expression" could be said to have merged with the process, given the inevitability of the result. Yet, seemingly, the *Toro* and *Mitel* courts would be more receptive to the calculated work than they would be to Artist D's creativity, at least if their reasoning extends beyond simple numbering schemes.³⁵⁴

B. The Random Muse

If it is true, as the courts have insisted, that the purpose of copyright is primarily to benefit the public rather than to defend the natural rights of authors,³⁵⁵ and if it is also true, as I have suggested myself,³⁵⁶ that the purpose of the originality requirement is primarily to preserve, enhance, and define the commons, one should not accept too hastily the conclusion that indeterminate works are uncopyrightable. In fact, indeterminate works have much in common with works shaped by the freest exercise of an author's imagination.

To illustrate this point, I will offer a rather extreme example. One can access a website that allows visitors to "compose" their

354. Focusing on abstract paintings, as I have in the hypotheticals, may prompt an unfairly broad conception of authorship. Many people would feel unqualified to judge modern art or to draw any conclusions about the occult sources of an artist's creativity. Sometimes it seems that the only rule for the avant-garde is "anything goes"—an impression that experiments like Duchamp's "ready-mades" or Cage's 4'33" may reinforce. But the subject-matter scope of copyright is so vast that copyright principles must embrace both high and low art. The cases discussing the status of indeterminate works, like *Toro* and *Mitel*, deal with some of the least impressive, least intimidating works on the spectrum of expression. Anyone could devise a random list of parts numbers or haphazardly assign code numbers to the functions of a telephone system. Perhaps we can more confidently dismiss such works as not what we mean by "works of authorship." We should not, however, confuse our comparatively low regard for such works in general with our attitude toward indeterminacy. If randomly-generated parts numbers seem too trivial to bear the weight of the term "works of authorship," is it because they are randomly-generated or because they are parts numbers? If the numbers in *Toro* had meant something, would their status be transformed? Although I can agree with the result in these cases, I cannot see that the result depends on whether the numbers were randomly-generated or, for example, devised by some irrelevant but "creative" system of numerology which only *seems* entirely random.

355. See *supra* notes 258-62 and accompanying text.

356. See *supra* notes 319-22 and accompanying text.

own music according to the rules of Mozart's *Musikalisches Würfelspiel*,³⁵⁷ using a randomizing computer program in place of the customary pair of dice.³⁵⁸ If I were to visit that site and, by clicking on the button provided, generate my own "compositions," it is unlikely that either the courts or the Copyright Office would consider those compositions "original works of authorship," even if someone saw fit to reproduce them without my authority. There would be no "work of the brain" or "creativity" involved—at least not on my part. Yet it is difficult to justify less favorable treatment of my random compositions than others I deliberately pieced together. On the contrary, the lack of design inherent in the random compositions could justify *broader* rights.

We can assume that the random compositions have some value, either because I happened upon unusually pleasing combinations or because the public, for whatever reason, appreciates my undistinguished efforts. In any case, if the compositions have little value, the imposition of exclusive rights is small in proportion.³⁵⁹ We can further assume that exclusive rights would encourage me to invest more time and effort in generating the compositions. Without such reward, I would direct my energies elsewhere and the public would be denied works it evidently desires. So far, there is little reason to distinguish between these compositions and my more conventional efforts; in either case, exclusive rights would "promote

357. See *supra* notes 158-62 and accompanying text.

358. We will assume that the results are actually random, even though computer programs, unassisted, produce only pseudo-random numbers that seem random but, which are generated by deterministic mathematical processes. See Johnson, *supra* note 224.

359. Professor Jaszi observes that "[s]eemingly, at least, the goals of the 'law and economics' theory might be well served by awarding copyright protection liberally and allowing worthy artistic productions to prove their claims over inferior ones in the marketplace." Jaszi, *supra* note 275, at 462 n.20. The objection can be made that rights too liberally granted may *inhibit* authors, to the extent that borrowing or allusion is an aspect of authorship. See *id.* That may be true, but there is no reason to think that it is particularly true of indeterminate works. On the contrary, one suspects that curtailing allusion to randomly-generated works would be less inhibiting than the same limitation applied to more traditional works.

the progress" of the arts.³⁶⁰ But how can these works be deemed "original?"

One way to think of originality is as an antidote to merger, either of idea and expression or of fact and expression. Because they are universal and finite, facts and ideas are committed to private ownership only reluctantly,³⁶¹ and never in the context of copyright. Unimpeded access to facts and ideas is too critical to the advancement of knowledge. Original expression is the personal element that an author, borrowing Locke's image, "mixes" with the universal to produce something capable of ownership. As long as the facts or ideas can be expressed by others in their own fashion, the facts and ideas remain in the commons, unexhausted and inexhaustible.

In works that are indeterminate in a *random* fashion, the kind of works that the courts seem most reluctant to consider original, the random element serves as a counterpart, in many respects, to the personal element contributed by an author's imagination. As long as they are generated by a system of moderate complexity, random works are essentially unique. A new *Musikalisches Würfelspiel* composition is no more likely to duplicate a prior composition than a new poem is likely to duplicate Keats; perhaps less so, to the extent that Keats' idea is capable of a limited range of expression. Repetition is so improbable that no one could reasonably claim to have generated my compositions independently.³⁶² More importantly, other would-be composers could create their own pseudo-Mozart compositions without my copyrights impeding their efforts. Access to the universal, in the form of Mozart's idea, is unaffected.

To be sure, the vagaries of randomness are not "expression" in the ordinary sense, because they do not convey any message formed by my intellect; but if the purposes of originality are as I have described, random compositions are, in some ways, *superior* to

360. Patent law, which derives its authority from the constitutional directive "[t]o promote the Progress of ... useful Arts," U.S. CONST. art. I, § 8, cl. 8, does not require that the invention be devised through any particular thought process, so long as the result is new, useful, and non-obvious. See 35 U.S.C. § 103(a) (2000) ("Patentability shall not be negated by the manner in which the invention was made.").

361. Patent law, in a sense, permits ideas to become property, but only when those ideas are applied in specific, useful applications. See *Diamond v. Diehr*, 450 U.S. 175, 187-88 (1981). Even then, rights are relatively short lived and difficult to obtain.

362. See *supra* notes 162-73 and accompanying text.

expressive compositions in terms of their suitability for copyright. Conventional works, which are creative but not random, stray closer to merger; "rhyme or reason" is more universal, closer to a fact or idea, than pure chance. The more ordered a work is—one could even say, the more *meaningful* a work is—the greater the threat that exclusive rights to a particular form of expression will preempt uncopyrightable facts or ideas. Perhaps the most original works are those least constrained by design, even to the point of having no design whatsoever.

In his seminal work on information theory, mathematician Claude Shannon proposed that the information in a message is proportional to its *disorder*.³⁶³ One could conceive of authorship and disorder, or originality and disorder, as equally interdependent. If the author-as-genius is truly dead,³⁶⁴ perhaps we should cry, in the context of copyright at least, "long live anarchy!"

C. Suggestions

Having approached the edge of that theoretical abyss, it is time for an orderly retreat. One cannot eliminate the conventional notion of authorship as a purposeful, intellectual activity without leaving something in its place; fair interpretation of the Constitution and the Copyright Act, if not common sense, requires some limitations on the subject matter of copyright. Randomness is everywhere in nature, but surely "authorship" is not.

To begin with, a work of authorship has to be made, not discovered, by a human being.³⁶⁵ One could argue that the only difference between discovering something already in existence (e.g., a hitherto unknown bird song) and discovering something produced by an indeterminate process (e.g., a minuet produced by Mozart's dice game) is one of timing, but at least the latter owes its existence, if not its form, to human intervention.³⁶⁶ It can reasonably fit within

363. See CLAUDE E. SHANNON & WARREN WEAVER, *THE MATHEMATICAL THEORY OF COMMUNICATION* 103 (1963) ("The quantity which uniquely meets the natural requirements that one sets up for information turns out to be exactly that which is known in thermodynamics as *entropy*.").

364. See *supra* note 281 and accompanying text.

365. See *supra* text accompanying note 80.

366. Cf. *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 361 (1991) ("[T]hese bits of information are uncopyrightable facts; they existed before Rural reported them and would

a broad definition of "authorship," and it makes sense to think of copyright as an incentive to generate such works. Human responsibility for the existence of an object is not, however, *sufficient* to make that object a "work of authorship" for purposes of copyright. Human beings create many things, from thumbprints, to machines, to plates of spaghetti. Copyright law was never intended to be a grand unified theory of property, encompassing everything made by the hand of man. If it were, copyrights would probably expire sooner and be more difficult to obtain. Copyright only applies to "writings."

If "writings" are not defined by their intellectual origins, they must be defined by some inherent characteristic—something that distinguishes the work of art from the heap of pasta. One approach is to limit copyright to the kinds of works that Congress has already identified as "works of authorship" in § 102 of the Copyright Act³⁶⁷—literary works, musical works, dramatic works, and so forth. This would suffice in many cases. One could protect a poem, for example, whether it was written by conventional means or by a process that the author did little or nothing to control. This approach would expand, slightly, the scope of copyrightable subject matter, but it would hardly be revolutionary in effect. There are at least two objections. First, in some cases it might be difficult to decide if a work legitimately belonged in a traditional category. "Sculptural work," for example, could potentially embrace any three-dimensional object created by a human being. This vagueness already exists—a chef might claim his plate of spaghetti as an expression of his artistic vision—but it would perhaps be exacerbated if the intellectual component were made irrelevant. Second, the categories listed in § 102 are not meant to be exclusive.³⁶⁸ "Works of authorship" should be defined in a manner that allows room for expansion, as well as justification for the categories already explicit.

Instead, one could categorize as "writings" and "works of authorship" those human creations that have an aesthetic or "expressive" quality, judged from the perspective of the audience. Even objects

have continued to exist if Rural had never published a telephone directory.").

367. The term "works of authorship," however, has been construed as a narrower category than the "writings" referred to in the Constitution. See NIMMER, *supra* note 87, at § 2.03[A] n.5.

368. See *id.*

shaped by chance may be perceived as beautiful or meaningful. But here too there are difficulties. Expressive qualities may be difficult to find in untalented or utilitarian works, both of which are copyrightable. Worse, they may be found, by a willing audience, in nearly anything, returning us to the situation in which anything made by a person could be considered a "work of authorship."

Perhaps the best argument for defining "works of authorship" according to their intellectual origins is the lack of any clearly superior alternative. Also, terms such as "author," "writing," and "expression," suggest an expectation by Congress, as well as by the Framers, that the works subject to copyright would be works of imagination, mental exertion, and the purposeful communication of ideas. Regardless of the tension between conventional notions of authorship and the public benefits emphasis of copyright, I would not, therefore, advocate any radical changes in the subject matter scope of copyright. On the other hand, I do suggest greater recognition of indeterminacy as an aspect of authorship, at least under the following circumstances: where the "work" is (1) made by a human being, directly or indirectly; (2) similar in kind to works ordinarily given copyright protection, and (3) subject to the "creative control" of that human being, in a manner I will explain.

Condition (1) preserves the basic distinction between creation and discovery. It would mean that Artist A could not copyright the pattern she found on someone else's floor, though she could, without violating this condition, copyright a pattern she found on her own floor, where she had dripped her own paint. The distinction may be difficult to defend on policy grounds, but lines must be drawn somewhere. If recognizing the expressive potential in an existing object were to be considered "authorship"—blurring to a considerable degree the acts of creation and consumption—the nexus between the individual and the work would be so weakened that it would often be difficult to determine who, among all those who appreciate the object, should be considered the "author." Moreover, the requirement that an author be involved in the creation of the work preserves the notion of a natural commons. By "made ... indirectly" I include situations where the author employs an external agency, which could include a power tool, a computer program, the force of gravity, a trained staff of assistants, or a tumbling pair of dice. Any such agency introduces an element

beyond the control of the author, but it is sufficient to satisfy condition (1) that the author is ultimately responsible for the work being made.³⁶⁹

Condition (2), which requires that the work be similar in kind to works that are usually recognized as copyrightable, is a safeguard against unchecked expansion of copyrightable subject matter. Suppose, for example, that a breeder attempted to copyright a new type of parakeet. Although the breeder might be responsible, indirectly, for the existence of the bird and its progeny, it is unlikely that a court would consider a parakeet an original work of authorship or a writing, even if the breeder managed to emphasize certain features expressing his conception of avian beauty. Certainly caution is in order, given the significant differences between a living creature and the traditional vehicles of expression listed in § 102 of the Copyright Act, not to mention what the Framers of the Constitution might have approved. Even if breeders should have their due, the balances struck in copyright law may not be appropriate to the task. To the extent that de-emphasizing the role of intention in authorship distances copyright from its traditional roots, adherence to previously recognized categories of copyrightable subject matter seems advisable. However, in most cases, indeterminate works could be grouped with the traditionally crafted works that they resemble—musical compositions, paintings, poetry, and so forth.

Condition (3) calls for a minimal exercise of “creative control” by the author. By “creative control,” I refer to choices made by the author that are reflected in the form of the work. These choices might be made before the fact, as when John Cage established the rules of one of his indeterminate systems, based on star atlases or the *I Ching*, only to let chance take over in determining the ultimate form of the composition.³⁷⁰ Or the choices might be made after the fact, as when the author edits the product of an indeterminate

369. Questions of proximate cause might arise. The landlord who rented property to the owners of the hardware store might claim that in drafting the lease agreement he, in some sense, “caused” the paint-splatter masterpiece to exist. The problem is real, but should largely be taken care of by condition (3).

370. See *supra* notes 200-04 and accompanying text.

process, or selects from various alternatives, as Jean Arp may well have done in producing his indeterminate collages.³⁷¹

If one could accept without qualification the idea that copyright exists for the benefit of the public, rather than authors, and that "originality" is primarily concerned with the commons,³⁷² condition (3) might be discarded. One could be satisfied as long as the author made the work, and it resembles in form a traditional mode of expression. Even if "authorship" or "originality" require intellectual labor—imagination, purpose, or "work of the brain"—it can be found in most, if not all, seemingly indeterminate works. Creativity can coexist with indeterminacy, and a mixture is probably the rule in authorship, rather than the exception.

The most problematic case is that of the simple "adoption" posited in *Alfred Bell*, where the result is unintended and no editing or selection takes place.³⁷³ But even here one could argue, and a court might find, that the "adoption" was a purposeful, imaginative, "creative" act.

D. Caveats

Although I believe that indeterminate works can be "works of authorship," at least under the limited circumstances outlined above, certain qualifications or caveats must be noted.

1. Systems

When indeterminate works are generated by some kind of system—like the systems that John Cage employed in generating his compositions³⁷⁴—authorial rights should not be so broad that other uses of the system are preempted. "Systems," like "ideas," are uncopyrightable.³⁷⁵ In some cases it may be difficult to distinguish between the system and the product of the system, particularly when the author's creativity is expressed in the former. If my genius lies in devising a compositional system that yields unpredictable but

371. See *supra* notes 167-70 and accompanying text.

372. See *supra* Part III.C.4.

373. See *supra* text accompanying notes 101-04.

374. See *supra* notes 201-04 and accompanying text.

375. 17 U.S.C. § 102(b) (2000).

distinctive results, any other works produced by my system might be considered substantially similar and an intrusion on my exclusive rights.³⁷⁶ Perhaps the solution here would be to recognize a continuum between “system” and “expression” similar to that between “idea” and “expression,” which would permit other uses of broadly similar, if not identical, systems.³⁷⁷ Of course, such issues would only arise where the author who used the system also devised it.

The nature of the system is also important to the problem of merger. The more random the system, the more inexhaustible the possibilities. A system of composition based on thousands of coin flips could produce so many distinct pieces of music that granting copyright to one would do nothing to preempt the system. A system of composition based on the sequence of prime numbers, however random the result might *sound*, may have only one possible outcome. If this method of composing were treated as a system, rather than as a kind of expression, merger would prevent any copyright in the product of the method.

2. Competing Claims

Even if the public benefits model of copyright suggests that the work is more important than the creator, copyrights are still awarded to people. Accordingly, one must ensure that the right person receives credit as the “author” of an indeterminate work. In some cases—like that of Artist C, assuming the system is his own creation—there is only one person who could claim to be the author

376. See Rosen, *supra* note 342, at 804. Rosen referred to a programmer/artist who programs computers to produce drawings, claiming that

[a]lthough the machines make decisions on their own, those decisions are made within confines established by the programmer/artist. A programmer who wanted different types of pictures would provide different rules of drawing to his computer. Thus, while it is true that [the programmer], unlike a photographer, does not anticipate the precise appearance of the final product, he contributes that without which the endproduct would not exist at all.

Id.

377. In *Southco Inc. v. Kanebridge Corp.*, 258 F.3d 148 (3d Cir. 2001), the Third Circuit drew a sharp distinction between the numbering system and the numbers themselves. See *id.* at 151. Yet, if there is creativity in the system, perhaps creativity of a purely aesthetic nature, it is oversimplifying to hold that the product of the system lacks creativity simply because it is inevitable *once the system has been devised*.

of the work, because one person is solely responsible for the existence of the work. But in the case of my ersatz-Mozart minuet, various people might claim credit for the work: me, the creator of the website, the programmer of the computer, or Mozart himself, as the author of the system. Had I composed my piece by traditional methods, even based on preexisting materials by Mozart, I could rely on the correspondence between the form of the work and my mental conception as the link that establishes me as the "author" of the piece. Here, however, I had no preconceived conception of the work, and my only affirmative contribution toward its creation was the rather trivial act of clicking on a button in order to set the software in motion. This, I admit, is a difficult problem, though I do not concede that the solution is necessarily to deny that there is any author or any copyrightable work. In cases with multiple claimants, it may be appropriate to identify as the author of the work the person who is a proximate cause of the work's existence and whose reward of copyright is most consistent with the constitutional goal of advancing the arts.³⁷⁸ If it takes many clicks to generate a *Musikalisches Würfelspiel* composition of unusual merit, it would not be unreasonable or inconsistent with the constitutional goal of copyright to treat the clicker as the "author," or at least a "coauthor" of the composition.

378. When person A conceives of a work but person B puts it into tangible form, taking direction entirely from A, it is sensible to think of A as the "author" of the work—a position supported by § 101 of the Copyright Act, which refers to a "fixed" work in a tangible medium of expression "by or under the authority of the author." 17 U.S.C. § 101; see *Adrien v. S. Ocean Cty. Chamber of Commerce*, 927 F.2d 132, 135 (3d Cir. 1991). According to the court in *Adrien*:

Poets, essayists, novelists, and the like may have copyrights even if they do not run the printing presses or process the photographic plates necessary to fix the writings into book form. These writers are entitled to copyright protection even if they do not perform with their own hands the mechanical tasks of putting the material into the form distributed to the public.

Id. Exclusive rights give person A, the most important contributor to the work, an incentive to undertake such creative efforts. From this, one could conclude that communication of thought, as opposed to mechanical creation, is the hallmark of authorship, and perhaps, *in this situation*, it is. See VerSteeg, *supra* note 339, at 1365 ("To ascertain whether someone is an author, we must ask whether he has communicated original expression, either directly (through personal fixation) or indirectly (through authorizing another to fix it). That is what makes someone a copyright author. Without communication, a person cannot be an author."). When the issue is not one of choosing between rival claimants but of determining whether an indeterminate work has *any* author, it is far more problematic to rely on communication, at least if we remain faithful to the instrumentalist model of copyright.

3. *Other Issues*

Even if indeterminate works are "original," courts should not lose sight of other issues that could make indeterminate works inappropriate for copyright in particular cases. Some works are indeterminate not for any aesthetic reason but because the *utilitarian function* of the work is fulfilled by an arbitrary plan. This is the case, for example, with random codes or catalog numbers.

Copyright cannot prevent the use of a practical system³⁷⁹ nor, perhaps, should it entrench a competitive advantage that has nothing to do with the work per se. If parts numbers *of any kind* are copyrightable, and if competitors can compete only by making reference to the parts numbers used by the market leader, such reference should be considered a "fair use."³⁸⁰ Otherwise, the legitimate monopoly conferred by the copyright could have an unintended impact on competition in markets other than that for the copyrighted work. On the other hand, these concerns are really no different for indeterminate works than for works produced by more traditional means. A parts numbering scheme that "means something" raises the same issues as a random scheme. In either case, copyright in "the work" should not monopolize the facts, preempt the system, or hobble competition in unintended ways.

CONCLUSION

In a recent article, Professor David Nimmer considered the potential copyright interest of contemporary scholars in the reconstructed text of the *Dead Sea Scrolls*.³⁸¹ Although the scholars did not write the ancient text, they claim that *their version* is original, in a sense, because of the many educated guesses that the fallible process of reconstruction necessitates. Professor Nimmer rejects that claim, because those guesses are on the "objective plane" rather than the "subjective plane" which is the stuff of authorship.³⁸²

379. 17 U.S.C. § 102(b); *Baker v. Seldon*, 101 U.S. 99, 102-05 (1879) (holding that a copyright on a book describing a practical system of accounting conveys no exclusive rights to the system; such rights can be secured, if at all, only by patent).

380. See *supra* note 153 and accompanying text.

381. See Nimmer, *supra* note 17.

382. See *id.* at 22.

In other words, the scholars are offering judgments about preexisting *facts*, which they did not create and cannot own. In that conclusion I wholeheartedly concur.³⁸³ However, Professor Nimmer and I may part company when it comes to identifying “intent to imbue subjective expression into the mix”³⁸⁴—a standard which disqualifies randomly generated works—as the key to authorship. Romantic authorship, natural rights, and personality interests match well with that emphasis on the interior workings of the creator’s imagination, but the public benefits model of copyright, which is supposed to predominate, stubbornly refuses to fall in line. As far as the public interest is concerned, randomly-generated Bingo cards—which Professor Nimmer gives as an example of an “unoriginal,” because unintended, creation—are neither more nor less worthy of incentives than identical cards produced by intentional, subjective, and imaginative means.³⁸⁵

Perhaps no theory of authorship can account for everything, or be consistent with all that courts have said or lawmakers intended. Few would-be authors would be denied their copyright simply because a modicum of intellectual engagement is required. On the other hand, copyright application should be as consistent with copyright theory as it can be. I suggest, therefore, that courts keep an eye on the stated policies of copyright, and an open mind about the random muse.

383. See Durham, *supra* note 21, at 839-42.

384. Nimmer, *supra* note 17, at 208.

385. Professor Nimmer does propose that an artist could “adopt” a random pile of garbage and thereby make it a copyrightable expression, “because of the magical infusion of intent.” *Id.* Perhaps he would accept my suggestions so long as the “creative control” factor is maintained.