

A THEORY OF COPYRIGHT AUTHORSHIP

*Christopher Buccafusco**

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INTRODUCTION

THE U.S. Constitution gives Congress the power to extend copyright

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protection to “Authors” for their “Writings.”¹ And the current Copyright Act manifests this power by granting copyrights to “original works of authorship.”² Yet despite the obvious centrality of the concepts of authorship and writings to copyright law, courts and scholars are only beginning to pay them significant attention.³ Compared with other parts of the Constitution, including the term “speech” in the First Amendment or the term “commerce” elsewhere in Article I, the central terms of the copyright power have received little constitutional interpretation.⁴ Copyright jurisprudence did not begin with a theory of authorship, and it has not worked one out.⁵

¹ U.S. Const. art. I, § 8, cl. 8 (providing 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”).

² 17 U.S.C. § 102(a) (2012) (“Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.”). As explained below, Congress did not intend to exhaust its constitutional power with the statutory grant of rights in the 1976 Act. See *infra* text accompanying notes 37–41.

³ Jane C. Ginsburg, *The Concept of Authorship in Comparative Copyright Law*, 52 *DePaul L. Rev.* 1063, 1066 (2003) (“Few judicial decisions address what authorship means, or who is an author.”); David Nimmer, *Copyright in the Dead Sea Scrolls: Authorship and Originality*, 38 *Hous. L. Rev.* 1, 13 (2001) (“U.S. copyright law adopts a concept of authorship that is remarkably broad, albeit not completely unbounded. Its roots lie not in theory, but in an uncritical inquiry into whether the work in question owes its origin to the putative author.”). Peter Jaszi, one of the few scholars to discuss copyright theory, notes: “Legal scholars concerned with copyright occupy themselves not by analyzing copyright theory, but instead by debating the rights and wrongs of technical doctrinal issues presented by judicial opinions.” Peter Jaszi, *Toward a Theory of Copyright: The Metamorphoses of “Authorship,”* 1991 *Duke L.J.* 455, 458. This is certainly less true today than it was in 1991, but the assertion is still largely the case. See, e.g., Christopher Buccafusco, *Making Sense of Intellectual Property Law*, 97 *Cornell L. Rev.* 501 (2012) [hereinafter Buccafusco, *Making Sense*] (discussing intellectual property (“IP”) law’s differential treatment of the human senses).

⁴ As Dotan Oliar notes, however, “[i]ntellectual property is rapidly becoming constitutionalized.” Dotan Oliar, *Making Sense of the Intellectual Property Clause: Promotion of Progress as a Limitation on Congress’s Intellectual Property Power*, 94 *Geo. L.J.* 1771, 1773 (2006). See generally Lawrence B. Solum, *Congress’s Power to Promote the Progress of Science: Eldred v. Ashcroft*, 36 *Loy. L.A. L. Rev.* 1 (2002) (discussing issues of constitutional interpretation of the Copyright Clause before the Supreme Court in *Eldred v. Ashcroft*, 537 U.S. 186 (2003)).

⁵ To paraphrase, see Oliver Wendell Holmes, Jr., *The Common Law* 72 (Harvard Univ. Press 2009) (1881) (“The law did not begin with a theory. It has never worked one out.”). There have been some notable efforts to understand the nature of authorship in copyright law. See Abraham Drassinower, *What’s Wrong With Copying?* 111–13 (2015); Nimmer, *supra* note 3, at 6; Russ VerSteeg, *Defining “Author” for Purposes of Copyright*, 45 *Am. U.*

The lack of a coherent theory about the relationship between authors and writings in copyright law has created a number of difficulties over time. For example, without a theory of authorship, we cannot judge the boundaries of congressional power to extend copyright protection to new media. Does the constitutional grant empower Congress to provide copyright protection for a series of yoga poses or for a garden?⁶ In addition, without a theory of authorship, we cannot determine which aspects of a work are potentially copyrightable. When a programmer writes computer code, for example, what aspects of her behavior count as copyrightable authorship?⁷

In order to answer these questions, we need to understand the relationship between authors and writings. What is the relationship between some person and some work such that we can say that the person is an author and the work is her writing? What are the kinds of behaviors that constitute authorship and in what sorts of texts can they be embodied? This Article provides a theory of authorship that answers these questions. The nature of the inquiry is similar to First Amendment discussions about what behaviors constitute “speech.”⁸

The Supreme Court has offered some guidance. In order to be copyrightable, a work must be original, at least minimally creative, and fixed

L. Rev. 1323, 1326 (1996) (discussing, primarily, the nature of the contributions that qualify a person for “joint authorship” status).

⁶ Open Source Yoga Unity v. Choudhury, No. C03-3182 PJH, 2005 WL 756558, at *4 (N.D. Cal. Apr. 1, 2005); Kelley v. Chi. Park Dist., 635 F.3d 290, 292 (7th Cir. 2011); see also Christopher Buccafusco, Authorship and the Boundaries of Copyright: Ideas, Expressions, and Functions in Yoga, Choreography, and Other Works, 39 Colum. J.L. & Arts 421 (2016) (discussing the *Choudhury* case).

⁷ Oracle Am., Inc. v. Google, Inc., 750 F.3d 1339, 1348 (Fed. Cir. 2014). Many other copyright law issues involve questions of authorship, perhaps most obviously those involving joint authorship and works made for hire. For example, the theory offered here helps resolve the recent litigation in *Garcia v. Google, Inc.*, 786 F.3d 733 (9th Cir. 2015). Because of the scope of those issues, I am reserving them for a subsequent article.

⁸ Frederick Schauer, The Boundaries of the First Amendment: A Preliminary Exploration of Constitutional Salience, 117 Harv. L. Rev. 1765, 1769 (2004) (distinguishing First Amendment “coverage” and “protection”); Lawrence Byard Solum, Freedom of Communicative Action: A Theory of the First Amendment Freedom of Speech, 83 Nw. U. L. Rev. 54, 55–56 (1989) (arguing that freedom of speech is freedom to engage in communicative action, not strategic action). On the relationship between copyright law and the First Amendment, see Mark A. Lemley & Eugene Volokh, Freedom of Speech and Injunctions in Intellectual Property Cases, 48 Duke L.J. 147 (1998); Neil Weinstock Netanel, First Amendment Constraints on Copyright After *Golan v. Holder*, Melville B. Nimmer Memorial Lecture at the UCLA School of Law (Nov. 15, 2012), in 60 UCLA L. Rev. 1082, 1084 (2013).

in a tangible medium of expression.⁹ Original, in this sense, means that the work was not copied from another source.¹⁰ It is a binary distinction. Creativity is a scalar concept involving more or less novelty or cleverness.¹¹ The Court has explained, however, that the threshold for creativity in copyright law is very low.¹² And to constitute a fixed writing, a work must be made “sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration.”¹³

But these three requirements—originality, creativity, and fixation—are insufficient for determining whether a work is the writing of an author. A new brake pad for an automobile may be original (that is, not copied), at least minimally creative, and fixed in a tangible medium, but most people would not consider a brake pad to be a writing of an author. An additional element is necessary.

This Article argues that, to be an author of a writing, one must intend to produce some mental effect in an audience. Accordingly, a writing is any text, object, or medium that is capable of producing that mental effect. Copyright will subsist not in the mental effect produced but in the manner or form by which it is produced *if* that manner is original, minimally creative, and fixed in a tangible medium of expression. The Constitution grants Congress the power to extend copyright protection to those aspects of a person’s behavior that are intended to produce mental effects and that are original, minimally creative, and fixed. Behaviors, creations, utterances, depictions, expressions, or other representations made by a person that do not meet these criteria cannot constitutionally be granted copyrights.

⁹ See *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 345 (1991) (“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.”).

¹⁰ *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*, 191 F.2d 99, 102 (2d Cir. 1951) (“‘Original’ in reference to a copyrighted work means that the particular work ‘owes its origin’ to the ‘author.’”).

¹¹ Nimmer, *supra* note 3, at 14–15 (“[O]riginality’ means that the work derives from the copyright owner, as opposed to that individual having copied it from a previous source, while ‘creativity’ refers to a spark above the level of the banal.”).

¹² *Feist*, 499 U.S. at 345 (“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.” (citation omitted)).

¹³ 17 U.S.C. § 101 (2012).

This theory of authorship provides both an outer bound of congressional authority and a mechanism for delimiting the scope of copyright in protected works. It tells us whether Congress can extend copyright protection to certain classes of creativity and, if Congress has done so, which aspects of those works can receive protection. No component of a work that does not entail authorship can be copyrighted. Not all such aspects of a work will ultimately receive protection,¹⁴ but the authorship inquiry enables us to determine which parts of a work may be protected.

The details for this theory will be worked out below in Part II. For now, consider how it helps answer the questions posed above. Garden designers often intend that the appearance of their work produce a mental effect on those who experience it.¹⁵ In addition, gardens may produce mental effects through the other sensations that they create, whether touch, taste, sound, or smell.¹⁶ Accordingly, gardens can count as writings of authors capable of sustaining copyrights.¹⁷ With respect to the computer programmer, Congress has extended protection to software, and this seems acceptable according to my theory. The code that a programmer writes may entail authorship in two ways.¹⁸ First, the code may instruct a computer to produce audio or visual outputs that are meant to create mental effects. In this case, the outputs, if they meet the other requirements, would be copyrightable. Second, the code itself may be written in such a way as to produce mental effects on other readers of the code. These effects must be distinguished from the aspects of the code that are intended to instruct the computer in its operations and that are chosen for purposes of efficiency and functionality rather than to produce mental effects. Here, the authorship requirement limits copyright protection to certain aspects of the work in question.

Questions about authorship will arise with increasing frequency in coming years, as new media and artificial intelligence provide novel av-

¹⁴ This is due to limitations on the scope of copyright based on functionality concerns. See *id.* (limiting copyright to certain “useful article[s]”).

¹⁵ See Tom Turner, *Garden History: Philosophy and Design, 2000 BC – 2000 AD*, at 6–20 (2005) (discussing garden design theory).

¹⁶ *Id.* at 74 (“[T]here is a most beautiful grove of Apollo, with cultivated trees, and all those of which, although they bear no fruit, are pleasing to smell or look upon.” (quoting Pausanias (c. 160 AD))).

¹⁷ As will be discussed further below, gardens may still not merit copyright protection if they are insufficiently fixed or fall outside of the statutory grant of rights established by Congress.

¹⁸ I discuss the treatment of computer code extensively in Subsection III.B.3.

enues for creative production.¹⁹ Authorship questions are also at the heart of recent federal appellate court opinions involving the ownership of works, such as *Garcia v. Google, Inc.*²⁰ and *16 Casa Duse, LLC v. Merkin*.²¹ The theory proposed here can help answer these questions, although resolution of the latter cases will have to wait until a future article.²²

Part I of this Article explains the constitutional and statutory bases for copyright protection, and it shows why the accounts of courts and scholars about copyrightable authorship have been insufficient for generating a coherent theory of authorship. In Part II, this Article introduces and defends a new theory of copyrightable authorship based on categorial intentions to produce mental effects. It shows how this account of the writings of authors relates to other aspects of copyrightable authorship, including originality and creativity. Part III applies this theory of authorship to two central problems in copyright law: the scope of the constitutional grant of power and the aspects of works that count as copyrightable authorship.

I. COPYRIGHT LAW AND WRITINGS OF AUTHORS

Article I, Section 8, Clause 8 of the U.S. Constitution provides that “Congress shall have the power . . . To 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.”²³ This

¹⁹ See generally Annemarie Bridy, *Coding Creativity: Copyright and the Artificially Intelligent Author*, 2012 *Stan. Tech. L. Rev.* 5 (examining the effects of “artificially intelligent authorship” on copyright law); Jeanne C. Fromer, *An Information Theory of Copyright Law*, 64 *Emory L.J.* 71 (2014) (discussing how copyright may encourage the creation of expressive works by examining issues through the lens of information theory); James Grimmelmann, *Copyright for Literate Robots*, 101 *Iowa L. Rev.* 657 (2016) (discussing the impact of reading by computers on conceptions of copyright law); Matthew Sag, *Orphan Works as Grist for the Data Mill*, 27 *Berkeley Tech. L.J.* 1503 (2012) (discussing the implications of library digitization on copyright law). See also Ryan Calo, *Robotics and the Lessons of Cyberlaw*, 103 *Calif. L. Rev.* 513, 513, 523 (2015) (mentioning the role of robotics in intellectual property).

²⁰ 786 F.3d 733, 737 (9th Cir. 2015) (holding that an actress was not likely to succeed on her claim that her performance in a film was a copyrightable “work”).

²¹ 791 F.3d 247, 250–51 (2d Cir. 2015) (holding that a director’s contributions to a film did not constitute a work of authorship amenable to copyright protection).

²² Given length limitations, I also bracket discussion of the role of authorship in “useful articles” copyright cases.

²³ U.S. Const. art. I, § 8, cl. 8.

Clause accomplishes a number of goals. First, it establishes congressional power to grant copyrights and patents.²⁴ Next, when interpreted according to its parallel construction, it establishes separate realms for these two rights.²⁵ Copyright law addresses the efforts of “Authors” to promote “Science”²⁶ through their “Writings,” while patent law addresses “Discoveries” made by “Inventors” to improve the “useful Arts.”²⁷ Finally, the Clause creates limits on Congress’s power.²⁸ For example, the “limited times” language of the Clause prevents Congress from adopting copyrights or patents of infinite length.²⁹

In the two centuries since its ratification, Congress, courts, and scholars have grappled with the correct interpretation of this text.³⁰ They have attempted to work out the relationship between authors and writings in order to understand both the powers granted and their limits.³¹ This Part charts the history of these efforts and explains their theoretical and practical shortcomings.

²⁴ Solum, *supra* note 4, at 20 (“The Intellectual Property Clause, like every clause in the eighth Section of the first Article, grants a power with an infinitive phrase and a corresponding direct or indirect object.”).

²⁵ *Id.* at 11–12; see also L. Ray Patterson, *Understanding the Copyright Clause*, 47 *J. Copyright Soc’y U.S.A.* 365, 367 (2000) (“The parallel construction makes it easy to identify the copyright clause: ‘The Congress shall have Power . . . To promote the Progress of Science . . . by securing for limited Times to Authors . . . the exclusive right to their . . . Writings.’”).

²⁶ “Science” is to be understood with its eighteenth-century meaning of “knowledge.” Solum, *supra* note 4, at 51.

²⁷ *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*, 191 F.2d 99, 100 (2d Cir. 1951) (“But the very language of the Constitution differentiates (a) ‘authors’ and their ‘writings’ from (b) ‘inventors’ and their ‘discoveries.’”).

²⁸ Solum, *supra* note 4, at 13 (“[T]he Copyright Clause grants the power to pursue a goal and limits that power by specifying the means that may be employed.”).

²⁹ *Eldred v. Ashcroft*, 537 U.S. 186, 208–09 (2003) (upholding a twenty-year extension of a copyright term because it did not violate the “limited Times” language of the Constitution).

³⁰ For an excellent recent treatment and catalog of previous efforts, see Sean M. O’Connor, *The Overlooked French Influence on the Intellectual Property Clause*, 82 *U. Chi. L. Rev.* 733 (2015).

³¹ See Staff Members of the N.Y.U. Law Review Under the Guidance of Prof. Walter J. Derenberg, *The Meaning of “Writings” in the Copyright Clause of the Constitution* (Study No. 3), in Staff of S. Comm. on the Judiciary, 86th Cong., *Copyright Law Revision: Studies Prepared for the Subcomm. on Patents, Trademarks, and Copyrights of the Comm. on the Judiciary*, Studies 1–4, at 61, 74–83 (Comm. Print 1961).

A. From the Framers to Feist—Authorship as Expressing Ideas

The first U.S. Congress passed the country's initial copyright law in 1790, extending copyright protection to the authors of a "map, chart, [or] book" for a fourteen-year period, renewable for another fourteen years.³² The Act provided no sense of who could qualify as an author of any of these texts, and it gave little guidance as to the nature of the rights that were protected.³³ Nothing was said about the originality or creativity. In fact, two of the three classes of protectable works strike the modern reader as media in which originality and creativity would be harmful rather than beneficial.³⁴ Copyright law at the time was more focused on knowledge than on creativity and art.³⁵ Congress may have been more interested in encouraging people to explore the continent than to write novels, which could easily and freely be copied from English authors.³⁶

The narrow scope of the first Copyright Act introduces an important feature of copyright jurisprudence. Historically, Congress has not employed its full constitutional power when granting copyright protection.³⁷ The Constitution allows Congress to extend copyrights to any authors for their writings if doing so promotes the progress of science.³⁸ Congress, it seems, has not thought that all authors need copyright protection for their writings. Individual categories of works have been ex-

³² Act of May 31, 1790, ch. 15, § 1, 1 Stat. 124, 124 (entitled "An Act for the encouragement of learning") (repealed 1831).

³³ Authors were given the exclusive rights to "print, reprint, publish or vend" copies of their works. *Id.*

³⁴ Diane Zimmerman writes:

Maps and charts do not (indeed should not) necessarily reflect much originality or unique authorial input, but accurate ones were of enormous social value to a young country with vast, comparatively unexplored territories surrounding it, and protecting them may well have seemed quite consistent with the public-interest goals of intellectual property.

Diane Leenheer Zimmerman, *It's an Original! (?)*: In Pursuit of Copyright's Elusive Essence, 28 Colum. J.L. & Arts 187, 199 (2005).

³⁵ Solum, *supra* note 4, at 53 (noting that Congress seemed particularly attentive to promoting systematic knowledge and learning as compared to creativity). See generally Oren Bracha, *The Ideology of Authorship Revisited: Authors, Markets, and Liberal Values in Early American Copyright*, 118 Yale L.J. 186 (2008) (examining discourse on copyright in the nineteenth century and the development of the concept of authorship).

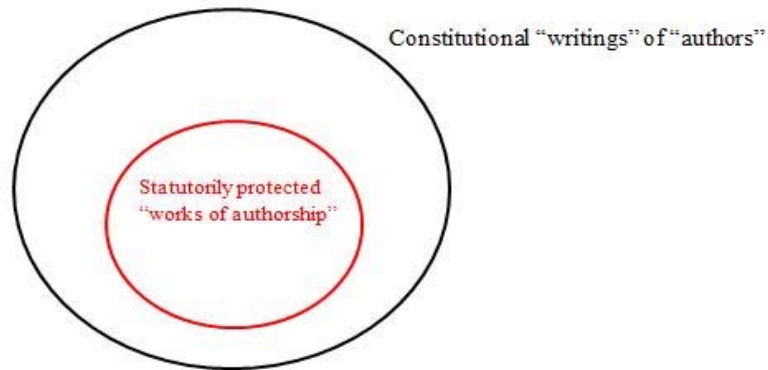
³⁶ Robert Spoo, *Without Copyrights: Piracy, Publishing and the Public Domain* 21–22 (2013).

³⁷ R. Anthony Reese, *Copyrightable Subject Matter in the "Next Great Copyright Act,"* 29 Berkeley Tech. L.J. 1489, 1521 (2014).

³⁸ Solum, *supra* note 4, at 20.

tended copyright protection over time, and even the 1909 Copyright Act, which extended protection to “all the writings of an author,” was typically construed as not employing full constitutional authority.³⁹ Accordingly, the realm of copyright law can be depicted in the following Venn diagram:

Figure 1: Constitutional Powers versus Statutory Action



Constitutional authority extends to all authors for all of their writings. But at any given time, Congress has only provided statutory protection for a limited class of works.⁴⁰ When discussing copyrightable subject matter, we must always keep in mind the distinction between constitutional subject matter and statutory subject matter. This Article proposes a theory for understanding the limits of the larger circle, the outer bound

³⁹ Act of Mar. 4, 1909, ch. 320, § 4, 35 Stat. 1075, 1076 (repealed 1976). Reese explains: Nevertheless, courts and the Copyright Office interpreted the 1909 Act as *not* extending protection to *all* of the “Writings” of “Authors” within Congress’s constitutional power to protect. In particular, courts declined to read the statute’s broad declaration of subject matter as granting copyright protection to sound recordings, which were not a class specifically enumerated in the statute but which courts did view as “Writings” of “Authors” within Congress’s constitutional power. Courts and the Copyright Office essentially viewed the scope of statutory subject matter under the 1909 Act as coextensive with the list of enumerated administrative classes.

Reese, *supra* note 37, at 1518 (footnotes omitted).

⁴⁰ Reese, *supra* note 37, at 1519.

of constitutional authority.⁴¹ It also explains the scope of the copyrights granted to those works falling within the smaller circle.

Shortly after the 1790 Act, Congress began using more and more of its constitutional authority. Copyrightable subject matter expanded by statute first to engraving, etchings, and prints in 1802,⁴² then to musical compositions in 1831,⁴³ and to dramatic compositions in 1856.⁴⁴ Copyright became available for photographs in 1865⁴⁵ and for paintings, drawings, and statuary in 1870.⁴⁶ Although the Congresses enacting these laws seem to have thought little about their constitutional grounding, they created opportunities for litigants and judges to begin to develop a copyright jurisprudence.⁴⁷

In 1876, Congress attempted to enact federal trademark legislation on the basis of its Copyright Clause power in Article I.⁴⁸ When five defendants challenged their indictments under the law as unconstitutional, the Supreme Court agreed.⁴⁹ In the *Trade-Mark Cases*, Justice Miller explained:

[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.⁵⁰

A trademark, he noted, does not have to meet these standards: “It requires no fancy or imagination, no genius, no laborious thought.”⁵¹ It is not, then, a writing of an author in the constitutional sense.

Justice Miller’s opinion provided the first steps toward a theory of authors and writings. It, at least implicitly, declared that congressional ex-

⁴¹ The issue parallels the distinction that Frederick Schauer has made between “covered” and “protected” speech. See Schauer, *supra* note 8, at 1769.

⁴² Act of Apr. 29, 1802, ch. 36, § 2, 2 Stat. 171, 171.

⁴³ Act of Feb. 3, 1831, ch. 16, § 1, 4 Stat. 436, 436.

⁴⁴ Act of Aug. 18, 1856, ch. 169, § 1, 11 Stat. 138, 139.

⁴⁵ Act of Mar. 3, 1865, ch. 126, § 1, 13 Stat. 540, 540.

⁴⁶ Act of July 8, 1870, ch. 230, § 86, 16 Stat. 198, 212.

⁴⁷ See Bridy, *supra* note 19, at 5–6.

⁴⁸ Act of Aug. 14, 1876, ch. 274, 19 Stat. 141.

⁴⁹ *Trade-Mark Cases*, 100 U.S. 82, 82–83, 99 (1879).

⁵⁰ *Id.* at 94.

⁵¹ *Id.*; see also *Nat’l Tel. News Co. v. W. Union Tel. Co.*, 119 F. 294, 297–98 (7th Cir. 1902) (“[A]uthorship 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 . . .”).

pansion of copyrightable subject matter beyond literal “writing” was constitutional. And it established two requirements for copyrightable authorship: originality and intellectual labor. The opinion, however, as would become characteristic of those about copyright authorship, gave little guidance on either of these terms.⁵² During this period, if the author’s work was a book or other copyrightable subject matter, and it was original, it was generally considered copyrightable.⁵³

Having distinguished copyright law from trademark law in the *Trade-Mark Cases*, the Court was called on to distinguish copyright law from patent law a few years later in *Baker v. Selden*.⁵⁴ The plaintiff owned the copyright to a book describing a new system of bookkeeping, and the defendant produced a similar book describing the same system.⁵⁵ The Court was asked to determine the extent to which the copyright in the book gave its author exclusive rights to the use of the system described therein.⁵⁶ The answer was none. The grant of copyright to the author of the work extended only to the book “considered as a book, as the work of an author, conveying information on the subject.”⁵⁷ But the Court distinguished the copyright in “the book, as such, and the art which it is intended to illustrate.”⁵⁸ If the author wanted an exclusive right to use this new “art” or “method[] of operation,”⁵⁹ he would have to apply for a patent and prove its novelty.⁶⁰

Copyright law, then, protected the language with which the author conveyed his ideas. It also protected “ornamental designs, or pictorial illustrations addressed to the taste.”⁶¹ For these visual media, the Court said, “their form is their essence, and their object, the production of

⁵² This reading is derived from the opinion’s argument that novelty, imagination, and genius are lacking from trademarks while they do exist for copyrighted works.

⁵³ Pamela Samuelson, *The Story of Baker v. Selden: Sharpening the Distinction Between Authorship and Invention*, in *Intellectual Property Stories* 159, 176 (Jane C. Ginsburg & Rochelle Cooper Dreyfuss eds., 2006).

⁵⁴ 101 U.S. 99, 99 (1879).

⁵⁵ *Id.* at 100.

⁵⁶ *Id.*

⁵⁷ *Id.* at 102.

⁵⁸ *Id.*

⁵⁹ *Id.* at 103.

⁶⁰ See *id.* at 102. The Court explained, “To give to the author of the book an exclusive property in the art described therein, when no examination of its novelty has ever been officially made, would be a surprise and a fraud upon the public. That is the province of letters-patent, not of copyright.” *Id.*

⁶¹ *Id.* at 103.

pleasure in their contemplation.”⁶² By contrast, patent law protected “the teachings of science and the rules and methods of useful art [which] have their final end in application and use.”⁶³ The copyright-patent divide, in the eyes of the *Baker* Court, amounted to description and pleasure versus application and use.⁶⁴

The Court’s approach in *Baker* has guided copyright jurisprudence since.⁶⁵ According to the Court, authors express or convey information—ideas.⁶⁶ The ideas include principles, practices, and methods, and the expression of those ideas involves the author’s decisions about the language or images he chooses to convey them. Copyright extends to the author’s expression of the ideas, but not to the ideas themselves.⁶⁷ This has become known as the idea/expression dichotomy.⁶⁸ It is a central principle of copyright jurisprudence, although, as we will see, it has proved incredibly hard to apply.

In 1884, the Court was again asked to construe the terms “Authors” and “Writings,” this time with respect to photography. The defendant in *Burrow-Giles Lithographic Co. v. Saroni* argued that Congress exceeded its constitutional power in granting copyrights to photographs because they are not writings of an author.⁶⁹ Because a photograph simply represents the exact features of the world before the lens, in this case the likeness of Oscar Wilde, the defendant argued, it lacked the originality and intellectual effort required by copyright law.⁷⁰ The Court disagreed. An author, the Court declared, is “he to whom anything owes its origin; originator; maker; one who completes a work of science or literature.”⁷¹ The Court also provided a broad definition of the term “Writings”: “all

⁶² Id. at 103–04.

⁶³ Id. at 104.

⁶⁴ Samuelson, *supra* note 53, at 177–78.

⁶⁵ Id. at 180–81.

⁶⁶ See *Baker*, 101 U.S. at 103 (“The very object of publishing a book on science or the useful arts is to communicate to the world the useful knowledge which it contains.”).

⁶⁷ See *id.* at 100–01 (“Where the truths of a science or the methods of an art are the common property of the whole world, any author has the right to express the one, or explain and use the other, in his own way.”).

⁶⁸ Samuelson notes that *Baker* did not use the word “expression” in the opinion. Samuelson, *supra* note 53, at 177 n.111.

⁶⁹ 111 U.S. 53, 56 (1884) (“It is insisted in argument, that a photograph being a reproduction on paper of the exact features of some natural object or of some person, is not a writing of which the producer is the author.”); Christine Haight Farley, *The Lingering Effects of Copyright’s Response to the Invention of Photography*, 65 U. Pitt. L. Rev. 385, 386 (2004).

⁷⁰ *Burrow-Giles*, 111 U.S. at 56.

⁷¹ Id. at 58 (quoting Worcester’s Academic Dictionary) (internal quotation marks omitted).

forms of writing, printing, engraving, etching, &c., by which the ideas in the mind of the author are given visible expression.”⁷² Here, Napoleon Sarony had produced a “mental conception” of a scene, and, by posing his subject, selecting and arranging his costume, and disposing the light and shade, he gave that conception “visible form.”⁷³ Through all of these efforts and choices, Sarony became an author.⁷⁴

The Court noted in dicta, however, that not all photographs would qualify as copyrightable. Some “ordinary” photographs, produced by simply “manual operation,” aspiring only towards “accuracy of . . . representation” might fall short.⁷⁵ We are not told why, though. Do such photographs lack originality? Are they insufficiently creative? Does the nature of the creator’s intentions—accuracy versus art—affect their copyrightability? Whatever the case, the Court seemed to believe that creators had to clear some bar on their way to copyright protection.

In the twentieth century, that bar would be lowered nearly to the ground.⁷⁶ In *Bleistein v. Donaldson Lithographing Co.*, Justice Holmes upheld the copyrightability of an advertising poster.⁷⁷ Rather than searching for genius in the work—something he strongly cautioned judges against—Holmes discovered the requisite authorship in the “inherent uniqueness of human personality.”⁷⁸ He wrote, “[t]he copy is the personal reaction of an individual upon nature. Personality always contains something unique. . . . something irreducible, which is one man’s alone. That something he may copyright.”⁷⁹ As long as he does not copy from another, a creator has done enough to merit copyrightable authorship merely by placing his pen upon the paper.⁸⁰ That others are willing

⁷² *Id.*

⁷³ *Id.* at 55.

⁷⁴ Rebecca Tushnet explains: “In order to find that photographs are copyrightable, courts had to identify photographers as authors, adding expression rather than just copying facts from the world. They did this by emphasizing particular choices made by photographers, especially timing, angles, and similar decisions.” Rebecca Tushnet, *Worth a Thousand Words: The Images of Copyright*, 125 *Harv. L. Rev.* 683, 714 (2012).

⁷⁵ *Burrow-Giles*, 111 U.S. at 59.

⁷⁶ Bracha, *supra* note 35, at 208–09 (“Copyright doctrine came to place originality at the heart of the field, awarding it a privileged status, while, at the same time, reducing the reach of originality doctrine to negligible dimensions.”).

⁷⁷ 188 U.S. 239, 251 (1903).

⁷⁸ Bridy, *supra* note 19, at 6.

⁷⁹ *Bleistein*, 188 U.S. at 250.

⁸⁰ Jaszi, *supra* note 3, at 483 (“The *Bleistein* opinion, with its emphasis on the ‘work’ and its abdication of a judicial role as aesthetic arbiter, both effaces and generalizes ‘authorship,’

to copy his work is testimony to its economic, if not aesthetic, value.⁸¹ A similar result obtained in *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*, where Judge Frank upheld the copyright of a mezzotint of a public domain work as long as it contained something more than a trivial variation on the original.⁸² Frank also suggested that the creator need not even intend for the variation to arise, as long as, having “hit upon” it, he adopted it as his own.⁸³

As the bar to copyrightable authorship slipped lower, the scope of copyrightable subject matter broadened. Copyright protection was easily extended to motion pictures in 1912, since they were just the moving versions of photographs.⁸⁴ In 1971, Congress granted copyright protection to sound recordings with little discussion of how recording existing sounds amounts to authorship.⁸⁵ Perhaps more importantly, the twentieth century saw the growth of copyright protection for so-called “useful articles:” objects that have both a utilitarian function and aesthetic design features such as belt buckles, ashtrays, and coffeepots.⁸⁶

In 1954, the Supreme Court affirmed the copyrightability of a statuette of a Balinese dancer that had been modified to serve as a lamp base.⁸⁷ Importantly, however, the Court in *Mazer v. Stein* declined to

leaving this category with little or no meaningful content and none of its traditional associations.”).

⁸¹ *Bleistein*, 188 U.S. at 252.

⁸² 191 F.2d 99, 102–03 (2d Cir. 1951) (“All that is needed to satisfy both the Constitution and the statute is that the ‘author’ contributed something more than a ‘merely trivial’ variation, something recognizably ‘his own.’” (quoting *Chamberlin v. Uris Sales Corp.*, 150 F.2d 512, 513 (2d Cir. 1945))).

⁸³ Judge Frank writes:

There is evidence that [the mezzotints] 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

Id. at 104–05 (footnote omitted). It may be tempting to read this paragraph to suggest that the author’s intent is entirely irrelevant to the copyrightability of the work. The last phrase, however, suggests that Frank believes the author must “adopt” the variation as his own. So it appears as if the author must at least engage in the act of adopting the variation for it to count as part of his copyright.

⁸⁴ Act of Aug. 24, 1912, ch. 356, § 5, 37 Stat. 488, 488.

⁸⁵ Act of Oct. 15, 1971, Pub. L. No. 92-140, 85 Stat. 391, 391; H.R. Rep. No. 92-487, at 5 (1971), reprinted in 1971 U.S.C.C.A.N. 1566, 1570.

⁸⁶ Samuelson, *supra* note 53, at 181–82.

⁸⁷ *Mazer v. Stein*, 347 U.S. 201, 213–14 (1954).

address the issue of whether the lamp base fell within the scope of Congress's constitutional power to grant copyrights because it had not been raised by the parties.⁸⁸ Justice Douglas, in dissent, would have liked to hear arguments on the constitutional issue.⁸⁹ Noting that Congress's power to grant copyrights is circumscribed by the constitutional grant, he asked, "Is a sculptor an 'author' and is his statue a 'writing' within the meaning of the Constitution? We have never decided the question."⁹⁰ Justice Douglas explained that the Copyright Office had supplied a long list of registered articles, including bookends, clocks, lamps, inkstands, piggy banks, and casseroles. "Perhaps," he wrote, "these are all 'writings' in the constitutional sense. But to me, at least, they are not obviously so."⁹¹ The Supreme Court had passed up an opportunity to provide some guidance on the constitutional boundaries of authorship.

The 1976 Copyright Act, the most recent large-scale revision of U.S. copyright law, attempted to address a number of the major issues bubbling up through the case law.⁹² Section 102(a) announced that copyright subsists in "original works of authorship," although it did not define any of these words.⁹³ The Act included a list of seven categories of copyrightable works of authorship,⁹⁴ but the House report accompanying the legislation clarified that this list was not meant to be exhaustive.⁹⁵

⁸⁸ Id. at 206 n.5.

⁸⁹ Id. at 219 (Douglas, J., dissenting).

⁹⁰ Id. at 220.

⁹¹ Id. at 221.

⁹² See Jessica Litman, *Digital Copyright* 22–34 (2001) (describing the drafting of copyright legislation).

⁹³ Christopher M. Newman, *Transformation in Property and Copyright*, 56 *Vill. L. Rev.* 251, 292 (2011) ("The Copyright Act does not attempt to define the nature of the crucial *species* at the heart of all copyright doctrine—the work of authorship.").

⁹⁴ The list included:

- (1) literary works;
- (2) musical works, including any accompanying words;
- (3) dramatic works, including any accompanying music;
- (4) pantomimes and choreographic works;
- (5) pictorial, graphic, and sculptural works;
- (6) motion pictures and other audiovisual works; and
- (7) sound recordings.

17 U.S.C. § 102(a) (2012).

⁹⁵ H.R. Rep. No. 94-1476, at 53 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5666 ("The second sentence of section 102 lists seven broad categories which the concept of 'works' of authorship' is said to 'include.' The use of the word 'include,' as defined in section 101, makes clear that the listing is 'illustrative and not limitative,' and that the seven categories do not necessarily exhaust the scope of 'original works of authorship' that the bill is intended

Moreover, Congress explained that it was expressly avoiding exhausting its constitutional power.⁹⁶ Accordingly, there could be some constitutional “Writings” of “Authors” that would not receive statutory protection. This was made clear when Congress extended copyright protection to architectural works in 1990, increasing the list to eight categories.⁹⁷

The following subsection, 102(b), explained that not all aspects of a work would receive copyright protection. It reads, “In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.”⁹⁸ Section 102(b) is typically understood to involve two separate functions.⁹⁹ First, it separates copyrightable authorship from the public domain. Ideas, concepts, and principles cannot be owned by anyone and are free to all to use.¹⁰⁰ This is the so-called idea/expression dichotomy.¹⁰¹ Second, Section 102(b) attempts to distinguish copyrightable authorship from patentable subject matter in the same manner that *Baker* did.¹⁰² Procedures, processes, systems, methods of operation, and discoveries can only receive intellectual property (“IP”) protection if they meet the more stringent requirements of patent law.¹⁰³ Thus, Section 102(b) is sometimes said to be a “negative” element of copyrightability.¹⁰⁴

Despite the scope of the revision undertaken in the 1976 Act, Congress provided little guidance about important concepts and terms in the new law. Congress chose not to define the words authorship, original, process, or procedure, but instead adopted the definitions of these terms

to protect. Rather, the list sets out the general area of copyrightable subject matter, but with sufficient flexibility to free the courts from rigid or outmoded concepts of the scope of particular categories.”) (footnote omitted).

⁹⁶ *Id.* at 51 (“In using the phrase ‘original works of authorship,’ rather than ‘all the writings of an author’ now in section 4 of the statute, the committee’s purpose is to avoid exhausting the constitutional power of Congress to legislate in this field, and to eliminate the uncertainties arising from the latter phrase.”).

⁹⁷ Architectural Works Copyright Protection Act, Pub. L. No. 101-650, § 703, 104 Stat. 5133, 5133 (1990) (codified at 17 U.S.C. § 102(a) (2012)).

⁹⁸ 17 U.S.C. § 102(b) (2012).

⁹⁹ Julie E. Cohen et al., *Copyright in a Global Information Economy* 81 (3d ed. 2010).

¹⁰⁰ *Id.*

¹⁰¹ See *infra* notes 116–25 and accompanying text.

¹⁰² Cohen et al., *supra* note 99, at 81.

¹⁰³ See *Baker*, 101 U.S. at 102.

¹⁰⁴ Cohen et al., *supra* note 99, at 47.

as they had been worked out in case law.¹⁰⁵ The next Subsection will explore how recent courts have attempted to grapple with the idea/expression dichotomy and Section 102(b) in the face of the limited guidance Congress has provided.

The Supreme Court's most substantial discussion of authorship in the 1976 Act era came in the 1991 case of *Feist Publications, Inc. v. Rural Telephone Service Co.*¹⁰⁶ The plaintiff, Rural, had produced a white pages telephone directory that the defendant copied. According to the Court, the plaintiff's directory was not copyrightable, because it was not "original," and originality is a constitutionally imposed limitation on copyright law.¹⁰⁷ The Court explained:

The *sine qua non* of copyright is originality. To qualify for copyright protection, a work must be original to the author. 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.¹⁰⁸

Congress could not constitutionally extend copyright protection to works that were not independently created and that demonstrated less than minimal creativity. For works like the plaintiff's, which was a compilation of uncopyrightable facts about people, their addresses, and their phone numbers, the requisite originality and creativity must arise in

¹⁰⁵ H.R. Rep. No. 94-1476, at 51 (1976), reprinted in 1976 U.S.C.C.A.N. 5659, 5664 ("The phrase 'original works of authorship,' which is purposely left undefined, is intended to incorporate without change the standard of originality established by the courts under the present copyright statute."); Newman, *supra* note 93, at 292.

¹⁰⁶ 499 U.S. 340 (1991).

¹⁰⁷ *Feist*, 499 U.S. at 346, 364. The Court explained:

Originality is a constitutional requirement. The source of Congress' power to enact copyright laws is Article I, § 8, cl. 8, of the Constitution, which authorizes Congress to "secur[e] for limited Times to Authors . . . the exclusive Right to their respective Writings." In two decisions from the late 19th century—*The Trade-Mark Cases*, 100 U.S. 82 (1879); and *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53 (1884)—this Court defined the crucial terms "authors" and "writings." In so doing, the Court made it unmistakably clear that these terms presuppose a degree of originality.

Id. at 346 (alteration in original).

¹⁰⁸ *Id.* at 345 (citations omitted).

the manner by which the author selects, coordinates, and arranges the relevant facts.¹⁰⁹ In this case, however, the plaintiff's directory failed to meet these low standards. The Court described it as "entirely typical," "garden-variety," and "devoid of even the slightest trace of creativity."¹¹⁰

The Court's opinion in *Feist* has proven unsatisfactory on a number of grounds. It seems to conflate the requirements of originality (that is, independent creation) and creativity (that is, a threshold of cleverness or novelty).¹¹¹ It has also provided very little guidance on what creativity means and how it is to be judged.¹¹² Just as importantly, the Court's opinion says virtually nothing about the *kind* of creativity that matters for authorship.¹¹³ The Court never asked whether any of the decisions the plaintiff made constituted "authorship." Did Rural actually do anything that we can call authorship when it compiled and listed names, addresses, and phone numbers? People select, coordinate, and arrange things all of the time and for all sorts of reasons, but not all compilations are authorship. As noted in the Introduction of this Article, many innovations are independently created and more than trivially creative. Many decisions that creators make were not copied from other sources and demonstrate some degree of novelty and cleverness. But clearly all of these are not copyrightable authorship. Authorship must entail something more than originality and more than trivial creativity.

¹⁰⁹ Id. at 348 ("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.").

¹¹⁰ Id. at 362.

¹¹¹ Bridy, *supra* note 19, at 8.

¹¹² Id. Bridy writes, "Copyright scholars have been nearly uniformly critical of the Court's failure in *Feist* to give any real content to the creativity requirement." Id.; see also Russ Ver-Steeg, Originality and Creativity in Copyright Law, in 1 Intellectual Property and Information Wealth: Issues and Practices in the Digital Age, 1, 4 (Peter K. Yu ed., 2007) ("Although the opinion established a rule that requires 'creativity' as an element required for originality (and hence copyrightability), *Feist* does not define 'creativity.'").

¹¹³ The Court quotes *Burrow-Giles* for the proposition that "an author who claims infringement must prove 'the existence of . . . intellectual production, of thought, and conception.'" *Feist*, 499 U.S. at 362 (alteration in original) (quoting *Burrow-Giles*, 111 U.S. at 59–60).

B. Ideas, Expression, and Unconstrained Choice

To the extent that copyright law has worked out a theory of authorship, that theory seems to propose that authors express ideas.¹¹⁴ Copyright attaches to the original and more than minimally creative aspects of authors' expression, but not to the underlying ideas themselves. Below I argue that this account of what authors do is incorrect.¹¹⁵ Authors do much more than merely express ideas. Here, though, I aim to show that even if the theory were correct, it cannot provide satisfactory answers to fundamental doctrinal questions in copyright law.

1. Ideas and Expression in Traditional Media

To begin, consider the easiest and most central varieties of copyright authorship—fiction, music, and painting. According to the idea/expression dichotomy, an author of a novel cannot copyright the novel's ideas, only the particular way that he has expressed those ideas.¹¹⁶ He cannot copyright what the novel is "about," but rather how he expresses what it is about.¹¹⁷ But how should we draw the line? One possibility is that the author's copyrightable expression is limited to the specific, literal way in which he expressed some idea. But as Judge Learned Hand claimed, "It is of course essential to any protection of literary property . . . that the right cannot be limited literally to the text, else a plagiarist would escape by immaterial variations. That has never been the law."¹¹⁸ Then how far into the nonliteral elements of the novel does the concept of expression extend? Surely Joseph Heller cannot obtain a copyright in "war satire" based on his authorship of *Catch-22*. But what about the novel's plot, its characters, or even the term "catch-22"? At what point does Heller's work in writing the book stop being an uncopyrightable "idea" and become his copyrightable "expression"? Judge Hand, himself, admitted to considerable uncertainty and even dismay:

¹¹⁴ See *Holmes v. Hurst*, 174 U.S. 82, 86 (1899) (noting that copyright protects "that arrangement of words which the author has selected to express his ideas").

¹¹⁵ See *infra* Section II.B.

¹¹⁶ Amy B. Cohen, *Copyright Law and the Myth of Objectivity: The Idea-Expression Dichotomy and the Inevitability of Artistic Value Judgments*, 66 *Ind. L.J.* 175, 212 (1990) [*hereinafter* Cohen, *Objectivity*].

¹¹⁷ See *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930).

¹¹⁸ *Id.*

Upon any work, and especially upon a play, a great number of patterns of increasing generality will fit equally well, as more and more of the incident is left out. The last may perhaps be no more than the most general statement of *what the play is about*, and at times might consist only of its title; but there is a point in this series of abstractions where they are no longer protected, since otherwise the playwright could prevent the use of his 'ideas,' to which, apart from their expression, his property is never extended. Nobody has ever been able to fix that boundary, and nobody ever can.¹¹⁹

Yet as difficult as these questions are for fiction,¹²⁰ they may be even more complicated for music or paintings. We might be able to struggle towards general statements of what *Blank Space* and *Guernica* are about. But how can we even say what a painting by Piet Mondrian or a composition by Arnold Schoenberg is "about" so we can begin the process of differentiating ideas from expression?

As numerous judges and scholars have described, application of the idea/expression dichotomy has been woefully unsatisfactory.¹²¹ Amy Cohen and Rebecca Tushnet have separately cataloged numerous instances in which courts have reached nonsensical or contradictory opinions about which aspects of a work constitute its "ideas" and which its "expression."¹²² In *Kaplan v. Stock Market Photo Agency*, the court held

¹¹⁹ *Id.* (emphasis added) (citation omitted).

¹²⁰ Benjamin Kaplan, *An Unhurried View of Copyright* 48 (1967) ("We are in a viscid quandary once we admit that 'expression' can consist of anything not close aboard the particular collocation in its sequential order.").

¹²¹ *Williams v. Crichton*, 84 F.3d 581, 587–88 (2d Cir. 1996) ("The distinction between an idea and its expression is an elusive one."); *Herbert Rosenthal Jewelry Corp. v. Kalpakian*, 446 F.2d 738, 742 (9th Cir. 1971) ("At least in close cases, one may suspect, the classification the court selects may simply state the result reached rather than the reason for it."); *Fournier v. Erickson*, 202 F. Supp. 2d 290, 295 (S.D.N.Y. 2002) ("[T]he distinction between the concept and the expression of the concept is a difficult one . . ."); Cohen, *Objectivity*, supra note 116, at 212 (arguing that in differentiating ideas from expression in visual arts cases, courts inevitably apply aesthetic judgments); Julie E. Cohen, *Creativity and Culture in Copyright Theory*, 40 U.C. Davis L. Rev. 1151, 1172 (2007) ("[D]isputes about copyright scope become disputes about identifying those expressions that should be treated 'like' ideas."); Robert Yale Libott, *Round the Prickly Pear: The Idea-Expression Fallacy in a Mass Communications World*, 14 UCLA L. Rev. 735, 736 (1967); Eva E. Subotnik, *Originality Proxies: Toward a Theory of Copyright and Creativity*, 76 Brook. L. Rev. 1487, 1489–90 (2011); Tushnet, supra note 74, at 715.

¹²² Cohen, *Objectivity*, supra note 116, at 210–20; Tushnet, supra note 74, at 724–32. For example, Tushnet shows how courts treat "realist" and "non-realist" art differently. And

that plaintiff's photo of a businessman's shoes and lower legs, taken from the top of a building looking down at the street below, was not infringed by a similar photo by the defendant, because all of the similarities came from the ideas and not their expression.¹²³ In a later case, however, Judge Kaplan tried to determine what the idea of the plaintiff's photo really was:

Is it (1) a businessman contemplating suicide by jumping from a building, (2) a businessman contemplating suicide by jumping from a building, seen from the vantage point of the businessman, with his shoes set against the street far below, or perhaps something more general, such as (3) a sense of desperation produced by urban professional life?¹²⁴

The idea/expression dichotomy does not provide the answer, motivating the judge to suggest that the entire distinction between ideas and expression breaks down in visual arts.¹²⁵ Presumably he would agree about music, as well.

2. *Systems, Processes, and Taxonomies*

And yet the task of separating idea from expression gets more intractable as we move away from core copyright media, especially those that potentially run afoul of Section 102(b)'s prohibition on copyright protection for systems and processes. To deal with these challenges, judges have sought different doctrinal approaches to the question of authorship. Consider the situation in *American Dental Ass'n v. Delta Dental Plans Ass'n*.¹²⁶ The plaintiffs asserted a copyright in a "Code on Dental Procedures and Nomenclatures," which classified dental procedures into groups and assigned each a five-digit code number.¹²⁷ The defendant argued that the code was an uncopyrightable "system," and the district court agreed.¹²⁸ Judge Easterbrook of the Seventh Circuit, however,

courts in the same circuit have reached opposing conclusions about whether the design of toys constituted ideas or expression. See Cohen, *Objectivity*, supra note 116, at 213–15.

¹²³ 133 F. Supp. 2d 317, 323 (S.D.N.Y. 2001).

¹²⁴ *Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444, 456 (S.D.N.Y. 2005).

¹²⁵ *Id.* at 458. Judge Kaplan explained, "[I]t is not clear that there is any real distinction between the idea in a work of art and its expression. An artist's idea, among other things, is to depict a particular subject in a particular way." *Id.*

¹²⁶ 126 F.3d 977 (7th Cir. 1997).

¹²⁷ *Id.* at 977.

¹²⁸ *Id.* at 980.

viewed the code as a “taxonomy” rather than a system and upheld its copyright.¹²⁹ But what ideas were the authors of the code trying to express? Perhaps something about the relationship between “guided tissue regeneration” and “pulp therapy, primary anterior.” Interestingly, Judge Easterbrook never asks. Instead, he notes that “[c]lassification is a creative endeavor,”¹³⁰ and he focuses on *choices* that the authors made in the way they arranged the code. He explains:

The number assigned to any one of the three descriptions could have had four or six digits rather than five; guided tissue regeneration could have been placed in the 2500 series rather than the 4200 series; again any of these choices is original to the author of the taxonomy, and another author could do things differently.¹³¹

Because the procedures could be classified in “any of a dozen different ways,” Easterbrook presumes that the choices made by the authors were “creative,” and thus copyrightable.¹³²

The focus of the opinion in *American Dental Ass’n* on authorial choice is, most likely, the progeny of *Burrow-Giles*, the nineteenth-century photography case.¹³³ As in that case, so too here the author’s contribution is deemed to emerge from the choices that he makes about the creation of the work. In neither case, however, do the courts interrogate *why* those choices were made. In *Burrow-Giles*, presumably the answer was to create a “harmonious, characteristic, and graceful picture.”¹³⁴ But why did the American Dental Association (“ADA”) authors make the choices that they did? Easterbrook does not care, as long as

¹²⁹ *Id.* (“This taxonomy does not come with instructions for use, as if the Code were a recipe for a new dish. A dictionary cannot be called a ‘system’ just because new novels are written using words, all of which appear in the dictionary.” (citation omitted)).

¹³⁰ *Id.* at 979.

¹³¹ *Id.*

¹³² *Id.*

¹³³ See *supra* notes 69–74.

¹³⁴ *Burrow-Giles*, 111 U.S. at 54.

they and others could have made other choices.¹³⁵ Copyright authors no longer express ideas; they choose among options.¹³⁶

Interestingly, Judge Easterbrook distinguishes the copyrightable taxonomy at issue in *American Dental Ass'n* from culinary recipes, which he deems uncopyrightable processes.¹³⁷ A year earlier, a different panel of the Seventh Circuit held that new recipes created by the plaintiff were uncopyrightable.¹³⁸ The court wrote:

The identification of ingredients necessary for the preparation of each dish is a statement of facts. There is no expressive element in each listing; in other words, the author who wrote down the ingredients for “Curried Turkey and Peanut Salad” was not giving literary expression to his individual creative labors. Instead, he was writing down an idea, namely, the ingredients necessary to the preparation of a particular dish.¹³⁹

The court continues, “The recipes at issue here describe a procedure by which the reader may produce many dishes featuring Dannon yogurt. As such, they are excluded from copyright protection as either a ‘procedure, process, [or] system.’”¹⁴⁰ Importantly, the court never considers the plaintiff’s choices with respect to which ingredients to include in each

¹³⁵ Judge Easterbrook’s focus on choice and the range of available options is likely a product of his economic approach to the law. As long as other ways of doing what the author did are available to others, the strength of the copyright monopoly will tend to not be excessively anticompetitive. But Easterbrook never asks whether the other options were as good, as efficient, and as functional. If not, the copyright in the code could have substantial anticompetitive effects.

¹³⁶ A similar approach is taken in *Matthew Bender & Co. v. West Publishing Co.*, 158 F.3d 674, 682–83 (2d Cir. 1998) (“In sum, creativity in selection and arrangement therefore is a function of (i) the total number of options available, (ii) external factors that limit the viability of certain options and render others non-creative, and (iii) prior uses that render certain selections ‘garden variety.’”); see also *Bucklew v. Hawkins, Ash, Baptie & Co.*, 329 F.3d 923, 928 (7th Cir. 2003) (upholding copyright in “tables configured in an optional way, tables that are the product of format choices that are not unavoidable, for which indeed there were an immense number of alternative combinations any one of which HAB was free to use in lieu of Bucklew’s”). Judge Kaplan made a similar reference in *Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444, 456 (S.D.N.Y. 2005) (“It is possible to imagine any number of depictions of a black man wearing a white T-shirt and ‘bling bling’ that look nothing like either of the photographs at issue here.”).

¹³⁷ He writes, “This taxonomy does not come with instructions for use, as if the Code were a recipe for a new dish.” *Am. Dental Ass'n*, 126 F.3d at 980.

¹³⁸ *Publ'ns Int'l v. Meredith Corp.*, 88 F.3d 473, 482 (7th Cir. 1996).

¹³⁹ *Id.* at 480.

¹⁴⁰ *Id.* at 481 (quoting 17 U.S.C. § 102(b) (2012)).

dish. As with the procedures at issue in *American Dental Ass'n*, ingredients do not supply their own principles of organization. Yet, these decisions are deemed a process or system, while the choices for how to arrange dental procedures were deemed expressive.

3. Software

The devolution of authorship from creative expression to unconstrained choice in copyright jurisprudence is especially evident in the context of computer software. Computer programs have been deemed to be copyrightable literary works since the 1960s.¹⁴¹ They were granted copyright protection following a congressionally-commissioned report by the National Commission on New Technological Uses of Copyrighted Works.¹⁴² The report's discussion of the constitutionality of extending copyright to computer programs is very brief. It notes that "a program is created, as are most copyrighted works, by placing symbols in a medium. In this respect, it is the same as a novel, poem, play, musical score, blueprint, advertisement, or telephone directory."¹⁴³ This analogy was deemed sufficient for accepting software as a writing of an author.

Even though software is copyrightable, its author cannot receive a copyright in every aspect of the program. According to the House report, programs are copyrightable "to the extent that they incorporate authorship in the programmer's expression of original ideas, as distinguished from the ideas themselves."¹⁴⁴ The trick, however, has been in determining which aspects of "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result"¹⁴⁵ are ideas and which are expression.¹⁴⁶ This inquiry is further

¹⁴¹ See Pamela Samuelson, *CONTU Revisited: The Case Against Copyright Protection for Computer Programs in Machine-Readable Form*, 1984 *Duke L.J.* 663, 692–99 (discussing the history of computer software copyright).

¹⁴² Nat'l Comm'n on New Tech. Uses of Copyrighted Works, Final Report (1979) [hereinafter *CONTU*].

¹⁴³ *Id.* at 15.

¹⁴⁴ H.R. Rep. No. 94-1476, at 54 (1976), *reprinted in* 1976 *U.S.C.C.A.N.* 5659, 5667. Also, note the House report's odd suggestion that the ideas must be original rather than that the expression must be original.

¹⁴⁵ 17 *U.S.C.* § 101 (2012).

¹⁴⁶ Pamela Samuelson discusses four different ways that courts have attempted to distinguish between copyrightable expression and patentable function in computer programs. Pamela Samuelson, *Functionality and Expression in Computer Programs: Refining the Tests for Software Copyright Infringement 3* (U.C. Berkeley Pub. L. Research Paper No. 2667740, 2015), <http://ssrn.com/abstract=2667740> [<https://perma.cc/Q8UC-AKYY>].

complicated by the nature of computer programs, which are instructions intended to produce a given set of functional results—for example, to add numbers or display text and graphics.¹⁴⁷ These functional elements are not part of a program’s protectable expression and must be filtered out.¹⁴⁸

Some commentators have suggested that “computer programs of great elegance and complexity can be written. The choice of logic elements, their pattern, sequence, and significance are as fundamental to programmers’ expression as the choice of words, their sequence, and significance are to the poets’ expression.”¹⁴⁹ Judges apparently have not felt up to the task of appreciating the elegance of software. Instead, they have typically focused their attention on the programmer’s choices and their relationship to the program’s function.¹⁵⁰

The ongoing litigation in *Oracle America, Inc. v. Google, Inc.*¹⁵¹ offers an ideal example of the authorship-as-choice paradigm and a demonstration of its limits.¹⁵² The plaintiff, Oracle, claims the copyright in thirty-seven packages of computer software that function as an appli-

¹⁴⁷ Pamela Samuelson et al., A Manifesto Concerning the Legal Protection of Computer Programs, 94 Colum. L. Rev. 2308, 2316 (1994) [hereinafter Samuelson et al., Manifesto] (“A crucially important characteristic of [computer] programs is that they behave; programs exist to make computers perform tasks.”).

¹⁴⁸ Comput. Assocs. Int’l v. Altai, Inc., 982 F.2d 693, 707–10 (2d Cir. 1992).

¹⁴⁹ Anthony L. Clapes et al., Silicon Epics and Binary Bards: Determining the Proper Scope of Copyright Protection for Computer Programs, 34 UCLA L. Rev. 1493, 1533 (1987). Samuelson has expressed skepticism about the importance of elegance to computer software: “No one would want to buy a program that did not behave, i.e., that did nothing, no matter how elegant the source code ‘prose’ expressing that nothing.” Samuelson et al., Manifesto, supra note 147, at 2317.

¹⁵⁰ See *Lotus Dev. Corp. v. Borland Int’l*, 49 F.3d 807, 816 (1st Cir. 1995) (“The district court held that the Lotus menu command hierarchy, with its specific choice and arrangement of command terms, constituted an ‘expression’ of the ‘idea’ of operating a computer program with commands arranged hierarchically into menus and submenus.”); *Whelan Assocs. v. Jaslow Dental Lab.*, 797 F.2d 1222, 1230 (3d Cir. 1986) (“As the program structure is refined, the programmer must make decisions about what data are needed, where along the program’s operations the data should be introduced, how the data should be inputted, and how it should be combined with other data.”).

¹⁵¹ 750 F.3d 1339 (Fed. Cir. 2014).

¹⁵² For a helpful primer on the case, see Christopher Jon Sprigman, *Oracle v. Google: The High Stakes Legal Fight for the Software Industry*, 58 Comm. ACM, May 2015, at 27, 27; see also Pamela Samuelson, Three Fundamental Flaws in CAFC’s *Oracle v. Google* Decision, 37 Eur. Intell. Prop. Rev. 702, 702, 706–08 (2015) (critiquing the Federal Circuit’s decision).

ation programming interface (“API”).¹⁵³ Google copied parts of the API into its own Android software, and Oracle filed suit for copyright infringement. The district court ruled that the programs were uncopyrightable because each is “a command structure, a system or method of operation.”¹⁵⁴

On appeal to the Federal Circuit, the court had to determine whether the programs contained any copyrightable authorship. First, the court explained that just because a program looks like a “method of operation,” and even if its developers refer to it as a “method,”¹⁵⁵ it will not automatically fall afoul of Section 102(b).¹⁵⁶ Commands to a computer to carry out a task may be copyrightable if they contain “any separable expression.”¹⁵⁷ Next, the court suggests that it should look for this separable expression in the creative choices made by the programmers. As with other copyright cases, the court does not define “creative.” It notes, however, that the “developers had a vast range of options for the [program’s] structure and organization.”¹⁵⁸ For example, the authors “had to determine whether to include a java.text package in the first place, how long the package would be, what elements to include, how to organize that package, and how it would relate to other packages.”¹⁵⁹ Moreover, the court repeatedly notes that the defendant, Google, also had plenty of ways it could have written the program other than the ones used by the plaintiff.¹⁶⁰ This suggests that the plaintiff’s choices were creative and not constrained. Accordingly, the court found that the programs are expressive and not a system or method in violation of Section 102(b).¹⁶¹

¹⁵³ *Oracle Am.*, 750 F.3d at 1347. APIs “allow programmers to use the pre-written code to build certain functions into their own programs, rather than write their own code to perform those functions from scratch.” *Id.* at 1349.

¹⁵⁴ *Id.* at 1352. The district court also found that “there is only one way to write” the relevant code, so the “merger doctrine bars anyone from claiming exclusive copyright ownership of that expression.” *Id.* (internal quotation marks omitted) (citation omitted).

¹⁵⁵ *Id.* at 1349.

¹⁵⁶ *Id.* at 1366 (citing *Toro Co. v. R & R Prods. Co.*, 787 F.2d 1208, 1212 (8th Cir. 1986); *Apple Comput. v. Franklin Comput. Corp.*, 714 F.2d 1240, 1250–52 (3d Cir. 1983)).

¹⁵⁷ *Id.* at 1367. The court appears to require a version of the functional separability test applied to useful articles in copyright jurisprudence but typically deemed inappropriate to literary works. See *Am. Dental Ass’n*, 126 F.3d at 980.

¹⁵⁸ *Oracle Am.*, 750 F.3d at 1356; see also *id.* at 1361 (“The focus is . . . on the options that were available to [the author] at the time it created the API packages.”).

¹⁵⁹ *Id.* at 1361 n.6.

¹⁶⁰ *Id.* at 1361.

¹⁶¹ *Id.* at 1368.

In so holding, the court did not engage in a hunt for actual expressive content in the programs. Instead of analyzing the programs, the court rested its opinion on a syllogism: Programs are expressive if they are creative; programs are creative if they involve unconstrained choices; the plaintiff made unconstrained choices so its programs are expressive. At no point, however, did the court inquire into the nature of the choices that the plaintiff's programmers made. It notes, for example, that they had to choose what elements to include in the programs, but it does not pause to wonder why they chose to include the elements that they did. If authorship means anything more than simple freedom to choose, then courts presumably need to interrogate the nature of the choices that putative authors make. Perhaps the court's approach should be blamed on *Feist's* focus on originality and creativity without asking *what* was original or creative.

American copyright law has failed to work out a coherent theory of authorship in its two centuries of existence. Faced with narrow disputes or concerned about practical issues, courts have generally ignored larger questions about the constitutional boundaries of the terms "Authors" and "Writings." In their failure to address broader theoretical questions, though, the courts have left us with uncertainty and arbitrariness. How do we distinguish ideas from expression in photographs and works of visual art? Why is a code a copyrightable taxonomy but a recipe is an uncopyrightable process? And which decisions of a computer programmer matter for determining whether software is copyrightable? Questions like these will become increasingly frequent in the years to come. New media and the Internet are continuing to provide novel opportunities for creativity. Artificial intelligence is challenging traditional notions of authorship. And big data and the "Internet of Things" are opening up new and lucrative arenas in which computer code and copyright law interact.

II. A THEORY OF AUTHORS AND WRITINGS

The doctrinal challenges addressed above are not fundamentally intractable. They arise, instead, because courts and scholars have done an insufficient job of understanding the relationship between authors and writings. The theory of authorship put forward here solves these prob-

lems by offering a coherent and comprehensive account of the author-writing relationship.

A. *What Kind of Theory?*

Authorship is a central aspect of contemporary aesthetic theory and literary criticism, and the approach to authorship that this Article propounds borrows from those bodies of work. But lawyers are asking different kinds of questions from critics and philosophers when they write about authorship, so my approach will also diverge from aesthetic and literary theory in important ways. Copyright law needs a theory of authorship that is consistent with its broader constitutional principle of optimizing creative production by balancing the interests of creators and the public.

The concept of authorship has provided fodder for philosophers for centuries,¹⁶² but authorship emerged as a site of deep theoretical assessment in the second half of the twentieth century.¹⁶³ Philosophers of aesthetics debated the nature of art, authorship, and authority.¹⁶⁴ They offered definitions of “art” and analyzed the meaning of authorship in the context of “appropriation art,” where artists repurpose other artists’ work.¹⁶⁵ Film scholars developed and challenged *auteur* theory to describe which of the many people involved in a movie should count as its author.¹⁶⁶ And, perhaps most importantly, literary scholars contested the role of authorial intent and the meaning of texts in debates that spilled

¹⁶² Stephen Donovan et al., Introduction: Author, Authorship, Authority, and Other Matters, in *Authority Matters: Rethinking the Theory and Practice of Authorship* 1, 1 (Stephen Donovan et al. eds., 2008) (“But what authorship is, how it should be determined, and why it is important have actually been the subjects of contentious cultural debates for centuries.”).

¹⁶³ See *Authorship: From Plato to the Postmodern* xv–xvi (Seán Burke ed., 1995).

¹⁶⁴ See, e.g., Jerrold Levinson, Music, Art and Metaphysics 3–11 (1990); Monroe C. Beardsley, An Aesthetic Definition of Art, in *What is Art?* 15, 17 (Hugh Curtler ed., 1983); Arthur C. Danto, Artwork and Real Things, 39 *Theoria* 1, 12–14 (1973).

¹⁶⁵ Arthur Danto, The Artworld, 61 *J. Phil.* 571, 580–81 (1964) (discussing ready-made works and Warhol); Darren Hudson Hick, Appropriation and Transformation, 23 *Fordham Intell. Prop. Media & Ent. L.J.* 1155, 1157–58 (2013) [hereinafter Hick, *Appropriation*]; Sherri Irvin, Appropriation and Authorship in Contemporary Art, 45 *Brit. J. Aesthetics* 123, 125–26 (2005) (“The appropriation artists are interesting because their authorship relation to their work appears to be compromised from the start by the inclusion of large components of other people’s artworks, sometimes almost unmediated.”).

¹⁶⁶ Robert Stam, *Film Theory: An Introduction* 85 (2000); Jack Stillinger, Multiple Authorship and the Myth of Solitary Genius 178–79 (1991); Peter Wollen, Signs and Meaning in the Cinema 74 (3d ed. 1972).

onto the pages of newspapers and other popular fora.¹⁶⁷ The critic Roland Barthes went so far as to declare the “death of the author.”¹⁶⁸

The theories that have emerged from these fields have produced important new ways of thinking about art and authorship, and they have even influenced legal scholars¹⁶⁹ and judges.¹⁷⁰ As valuable as they have been, however, they do not necessarily provide answers for all of the kinds of questions that copyright law asks. When aesthetic philosophers attempt to define “art,” their definitions do not necessarily map onto the constitutional category of “Writings,”¹⁷¹ although the techniques and arguments they use may prove helpful for copyright scholars.¹⁷² The same goes for critical discussions of interpretation, meaning, and authorial intentions. Constitutionally, copyright law requires authors;¹⁷³ it cannot

¹⁶⁷ See Noël Carroll, *Anglo-American Aesthetics and Contemporary Criticism: Intention and the Hermeneutics of Suspicion*, 51 *J. Aesthetics & Art Criticism* 245, 245–47 (1993); W.K. Wimsatt, Jr. & Monroe C. Beardsley, *The Intentional Fallacy*, in *The Verbal Icon: Studies in the Meaning of Poetry* 3, 4–5 (1954) (“A poem can be only through its meaning—since its medium is words—yet it is, simply is, in the sense that we have no excuse for inquiring what part is intended or meant.”).

¹⁶⁸ Roland Barthes, *The Death of the Author*, in *Image, Music, Text* 142, 142–48 (Stephen Heath trans., 1977); see also Michel Foucault, *What Is an Author?*, in *Textual Strategies: Perspectives in Post-Structuralist Criticism* 141, 149–50 (Josué V. Harari ed., 1979) (discussing the function of authorship in literary interpretation).

¹⁶⁹ See Stanley Fish, *Doing What Comes Naturally: Change, Rhetoric, and the Practice of Theory in Literacy and Legal Studies* 87–102 (1989); Paul J. Heald, *Guide to Law and Literature for Teachers, Students, and Researchers* 3–6 (1998); Martha C. Nussbaum, *Upheavals of Thoughts: The Intelligence of Emotions* 236 (2001); Richard Weisberg, *Poethics and Other Strategies of Law and Literature* 3–10 (1992).

¹⁷⁰ Richard A. Posner, *Law and Literature: A Misunderstood Relation* 1–9 (1988).

¹⁷¹ Darren Hudson Hick, *Toward an Ontology of Authored Works*, 51 *Brit. J. Aesthetics* 185, 197 (2011) [hereinafter Hick, *Ontology*] (“Although there is a great deal of overlap between the class of art works and the class of authored works, there are many objects protected by copyright that we do not normally want to call art works . . .”).

¹⁷² See Mark Rose, *Authors and Owners: The Invention of Copyright* 58 (1993); James D.A. Boyle, *The Search for an Author: Shakespeare and the Framers*, 37 *Am. U. L. Rev.* 625, 628–33 (1988); Michael W. Carroll, *Whose Music Is It Anyway?: How We Came to View Musical Expression as a Form of Property*, 72 *U. Cin. L. Rev.* 1405, 1450 (2004); Peter Jaszi & Martha Woodmansee, *Introduction*, in *The Construction of Authorship: Textual Appropriation in Law and Literature* 1, 2–10 (Martha Woodmansee & Peter Jaszi eds., 1994); Jaszi, *supra* note 3, at 455–56; Martha Woodmansee, *The Genius and the Copyright: Economic and Legal Conditions of the Emergence of the ‘Author,’* 17 *Eighteenth-Century Stud.* 425, 426 (1984); Alfred C. Yen, *Copyright Opinions and Aesthetic Theory*, 71 *S. Cal. L. Rev.* 247, 266 (1998) (cataloguing the use of different aesthetic theories in resolving copyright cases).

¹⁷³ Nimmer, *supra* note 3, at 210 (“[C]opyright law needs an author—or, rather, a certain notion of ‘authorship’ as its principle of thrift.” (footnote omitted)).

simply kill them off. Moreover, it need not do so, at least not in the way that literary theories describe. What copyright law needs is a theory of authorship and writings that is consistent with and responsive to its constitutional goals.

My approach to interpreting the constitutional text uses a variety of different modalities of interpretation, including historical, textual, structural, and prudential.¹⁷⁴ My goal is to interpret the words “Authors” and “Writings” in a way that is most consistent with how they were originally understood, how they have been understood over the past two centuries, and how they should be understood in light of changing technology, media, and creativity. When these sources disagree, I prefer interpretations that are consistent with copyright law’s fundamental goal of optimizing creative production.

Most courts and scholars agree that, in the United States, copyright law is founded on consequentialist principles involving the optimization of creative production.¹⁷⁵ This is implied by the Constitution’s grant of powers to promote the progress of science.¹⁷⁶ The law exists to ensure that creators have the opportunity to recover the costs of their efforts by providing them with a period of exclusive rights that allows them to charge higher prices for their works.¹⁷⁷ But copyright law also recognizes that the provision of rights is costly, and authors’ interests must be

¹⁷⁴ See Philip Bobbitt, *Constitutional Interpretation* 12–13 (1991) (identifying six constitutional modalities: historical, textual, structural, doctrinal, ethical, and prudential).

¹⁷⁵ *Twentieth Century Music Corp. v. Aiken*, 422 U.S. 151, 156 (1975). The Court explained:

The limited scope of the copyright holder’s statutory monopoly . . . reflects a balance of competing claims upon the public interest: Creative work is to be encouraged and rewarded, but private motivation must ultimately serve the cause of promoting broad public availability of literature, music, and the other arts. 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.

Id. (footnote omitted); see also *Comput. Assocs. Int’l v. Altai, Inc.*, 982 F.2d 693, 711 (2d Cir. 1992) (“The interest of the copyright law is not in simply conferring a monopoly on industrious persons, but in advancing the public welfare through rewarding artistic creativity, in a manner that permits the free use and development of non-protectable ideas and processes.”).

¹⁷⁶ *Oliar*, *supra* note 4, at 1773; *Solum*, *supra* note 4, at 11.

¹⁷⁷ According to the Court in *Mazer v. Stein*: “The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in ‘Science and useful Arts.’” 347 U.S. 201, 219 (1954).

balanced with those of the public and of future creators.¹⁷⁸ Accordingly, copyright law involves a trade-off between these competing interests, and its doctrines should reflect that balance.

My theory of authorship and writings embraces the consequentialist foundation of U.S. copyright law.¹⁷⁹ It attempts to understand the constitutional terms “Authors” and “Writings” in a way that is consistent with such a foundation. My theory is not narrowly confined to the meanings of these terms as fixed at the time of the Founding. Neither Congress nor the courts have ever adopted such a strategy given the constant stream of new media.¹⁸⁰ Nor does my approach treat these concepts as entirely unconstrained by the constitutional text. Congress cannot declare anyone an author or anything a writing by fiat, even if doing so would promote the progress of science.¹⁸¹ As the Supreme Court has repeatedly recognized, these terms place limits on congressional authority.¹⁸² Just because “Writings” are not limited to the technologically available means of the Framing generation does not imply that the term is not limited at all.¹⁸³

¹⁷⁸ *Id.*

¹⁷⁹ This is not to say that the theory is inappropriate for other legal systems grounded in natural rights principles. For a theory of authorship that shares some features of mine but which is grounded in a Kantian rights-based approach, see Drassinower, *supra* note 5, at 112–13.

¹⁸⁰ H.R. Rep. No. 94-1476, at 51 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5664 (“Authors are continually finding new ways of expressing themselves, but it is impossible to foresee the forms that these new expressive methods will take.”); *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 56–57 (1884). Lawrence Solum, who adopts an originalist approach to interpreting the Copyright Clause, even rejects such a strict interpretation of the term “Writings.” He notes:

Although an argument might be made that the copyright power is limited to the particular forms of writing used at the time of the framing, this crabbed construction would seem inconsistent with the term chosen, “Writings,” in light of the technological variety already present at the time of the framing

Solum, *supra* note 4, at 43.

¹⁸¹ 1 Melville B. Nimmer & David Nimmer, *Nimmer on Copyright* § 2.10[A][2](b) (2009) (“Nor may Congress simply create a legal fiction that a record producer is an ‘author’ if in fact he is not.”); Oliar, *supra* note 4, at 1778–79.

¹⁸² *Feist Publ’ns v. Rural Tel. Serv. Co.*, 499 U.S. 340, 346 (1991); *Mazer*, 347 U.S. at 220 (Douglas, J., concurring) (“The power is thus circumscribed: it allows a monopoly to be granted only to ‘authors’ for their ‘writings.’”).

¹⁸³ The constitutional references to “Authors” and “Writings” specify the means by which Congress is empowered to promote the progress of science. If Congress wishes to promote the progress of science by granting certain rights to people who are not authors or for things that are not writings, it must locate that authority in another clause of the Constitution. See *United States v. Martignon*, 346 F. Supp. 2d 413, 418–19 (S.D.N.Y. 2004), *rev’d*, 492 F.3d

My goal, then, is to offer a theory of copyright authorship that is grounded in the law's founding principles, and that understands the constitutional text in a way that is consistent with those principles and the manner in which the text has been traditionally understood. It departs from accepted understandings when necessary to construct the best possible reading of the constitutional text in light of new developments in creativity, technology, and media.

B. Authors and Writings

For purposes of copyright law, an author is a human being who intends to produce one or more mental effects in an audience by an external manifestation of behavior. A writing is any medium through which the mental effects are to be conveyed. Copyright can subsist not in the mental effects produced but rather in the *manner* by which the effects are produced *if* that manner is original to the author, at least minimally creative, and fixed for a period of more than merely transitory duration. The remainder of this Section explicates aspects of this theory.

1. Intentions

The theory proposed here adopts an intentionalist account of authorship. I will explain what kinds of intentions matter, why intentions should matter, and briefly, how they may be ascertainable. To begin, however, I should point out that my theory assumes that people can have intentions to perform behaviors and that their intentions are ascertainable by others. These assumptions are consistent with IP doctrine and with legal theory in general.¹⁸⁴

140, 141–42 (2d Cir. 2007) (upholding constitutionality of antbootlegging statute on Commerce Clause grounds).

¹⁸⁴ IP law distinguishes certain classes of conduct as “willful” on the assumption that people have certain aims and that they are capable of acting on those aims. See 17 U.S.C. § 504(c)(2) (2012) (discussing damages for willful infringement of copyright). It also assumes that others, in particular, courts, can ascertain what people's intentions are. The possibility of intentional behavior is broadly assumed by the law even if it is occasionally questioned. There is an enormous literature on the philosophy of intentions and actions that I do not grapple with in this Article. See G.E.M. Anscombe, *Intention* (2d ed. 2000). This literature considers the relationship between actors' mental states, behaviors, and their results in the world. The implications of this field for copyright law remain to be explored. For work in a similar vein, see Shyamkrishna Balganes, *Causing Copyright*, 117 *Colum. L. Rev.* (forthcoming 2017), <http://ssrn.com/abstract=2735850> [<https://perma.cc/6Z6U-E79W>].

Not all of a person's intentions matter for purposes of deciding whether she is an author or not. The philosopher Jerrold Levinson distinguishes two categories of intentions that people may have about the works that they create: *semantic intentions* and *categorial intentions*.¹⁸⁵ Semantic intentions are those having to do with the meaning or interpretation of the work.¹⁸⁶ For example, a person may intend that the song she has written be understood as a parody. Depending on a number of factors, including the writer's abilities and the sophistication of her audience, she may succeed or fail at having her audience appreciate the song's parodic character. Semantic intentions have been at the center of aesthetic and literary theory for the past half-century, but they are not important for determining whether a person is an author.¹⁸⁷

The intentions that matter for copyright authorship are a person's categorial intentions. As the term suggests, categorial intentions are those about what kind of work the person has created.¹⁸⁸ Levinson explains:

Categorial intentions involve the maker's framing and positioning of his product vis-à-vis his projected audience; they involve the maker's conception of what he has produced and what it is for, on a rather basic level; they govern not what a work is to mean but how it is to be fundamentally conceived or approached.¹⁸⁹

For example, when a person strings together a series of words on a page, she may intend that the words be taken as a poem or as a grocery list or as a law review article. This intention for how the string of words is to be conceptualized is different from any particular meaning that the person intends those words to convey.¹⁹⁰ And, as Levinson argues, unlike semantic intentions, categorial intentions "virtually cannot fail—so long as the text in question at least allows of being taken, among other things,

¹⁸⁵ Jerrold Levinson, *The Pleasures of Aesthetics: Philosophical Essays* 188 (1996).

¹⁸⁶ Id. He writes, "An author's intention to *mean* something in or by a text T (a semantic intention) is one thing, whereas an author's intention that T be *classified* or *taken* in some specific or general way (a categorial intention) is quite another." Id.

¹⁸⁷ This does not mean that semantic intentions are never important for copyright law. Semantic intentions may matter for determining whether the defendant's copying was wrongful and whether it should qualify as fair use.

¹⁸⁸ Levinson, *supra* note 185, at 188.

¹⁸⁹ Id.

¹⁹⁰ Mark Rollins, *What Monet Meant: Intention and Attention in Understanding Art*, 62 *J. Aesthetics & Art Criticism* 175, 177–78 (2004) ("[T]o intend for an object to be conceptualized under a general heading does not require, nor is it identical to, intending that a specific meaning be attributed to it.").

as a poem[.]” grocery list, or law review article.¹⁹¹ Finally, a person’s categorial intentions about something she creates are extrinsic to the work that she has created. They cannot necessarily be discovered within the work itself, but rather are manifest by the person’s behaviors and mental states (although the resulting work may provide evidence of those behaviors and mental states).¹⁹²

For purposes of copyright law, then, a person may be considered an author when she has the categorial intention that her creation is capable of producing mental effects in an audience. The next Subsection will explain what is meant by mental effects. For now, though, it is enough to understand that a putative author must decide and register to herself that the thing that she has created, or some aspect of it, should produce an effect on the minds of audience members that experience it. Of course, some creators, including diarists, may never intend for their works to be perceived by an audience. Nonetheless, their behaviors fall within my schema as well. More fully but less aesthetically put, the intentions that matter for copyright authorship are the intentions to produce mental effects in an audience should an audience perceive the work.¹⁹³

Importantly, we need not care *what* mental effect the putative author intends to create. Particular mental effects, such as particular meanings or emotions, are the province of semantic intentions and are irrelevant to determining whether a person is an author. Consider the following examples. Alice constructs a three-dimensional object intending that when people interact with it, by looking at it and touching it, they will experience certain feelings, thoughts, and sensations. Bill constructs a similar three-dimensional object intending that it will serve as a part of a house where, after it is installed, no one will see it or interact with it. Cass also constructs a similar object. He intends that it will be used to hold flow-

¹⁹¹ Levinson, *supra* note 185, at 188.

¹⁹² Rollins, *supra* note 190, at 178; C. Paul Sellors, Collective Authorship in Film, 65 J. Aesthetics & Art Criticism 263, 263 (2007) (“Authorship is not a concept to be derived from a text but an *intentional action of an intending agent that causes* a text.”).

¹⁹³ Prior to the adoption of the 1976 Act, unpublished works were excluded from the federal copyright system and were protected, if at all, by state common law copyright. See William M. Landes, Copyright Protection of Letters, Diaries, and Other Unpublished Works: An Economic Approach, 21 J. Legal Stud. 79, 88 (1992). Starting with the 1976 Act, however, works receive protection from the moment they are fixed in a tangible medium of expression. Although a theory of authorship could require publication as a criterion of copyrightability, my approach assumes that Congress did not act unconstitutionally when it extended protection to unpublished works. See Dan L. Burk, Patenting Speech, 79 Tex. L. Rev. 99, 127–28 (2000).

ers, and he also intends that when people see it they will experience certain feelings, thoughts, and sensations. Alice and Cass have engaged in authorship, while Bill has not. Further, Bill has not engaged in authorship even if a construction worker installing his object decides that it is beautiful and uses it as a centerpiece on his kitchen table. Since Bill never had the categorial intention that the object produce ideas or feelings, whether of beauty or of anything else, he lacks the requisite mental state for authorship.

To be clear, the intentions that matter at this point of the inquiry are creators' categorial intentions to produce mental effects, not their intentions about the specific effects they intended. To determine whether a given text is the writing of an author, copyright law need not concern itself with *what* someone thinks he has authored; it only needs to be concerned with *whether* he deemed himself as authoring. A sculptor may intend to produce a representation of a lion, although to most viewers it looks like a house cat.¹⁹⁴ If he did not copy it from another work and if it is at least minimally creative, the sculpture is clearly the writing of an author, no matter how bad it is or how badly the author's semantic intentions failed.¹⁹⁵

But why should a person's intentions matter at all? Why not count as an author any person who *does* create mental effects, whether she intended to do so or not? First, as a matter of common usage, most people would not refer to someone as an author who did not intentionally adopt that stance for herself.¹⁹⁶ A monkey might accidentally snap a cute "selfie" on a smartphone or a toaster may happen to produce a likeness of the Virgin Mary, but most people would not call the monkey or the toaster "authors."¹⁹⁷

Second, interpreting the term "Authors" in light of the constitutional purpose of promoting the progress of science, it makes little sense to extend authorial rights to people who do not intend that their creations be treated as writings of authors. Copyright law promotes progress by

¹⁹⁴ For examples of hilariously bad sculptural efforts, see Alanna Okun, 22 Statues That Don't Quite Look Right, BuzzFeed (Apr. 25, 2013, 5:29 PM), <http://www.buzzfeed.com/alannaokun/statues-that-dont-quite-look-right#.gdVdGGGvz> [<https://perma.cc/Y4ZG-LWHZ>].

¹⁹⁵ As others have pointed out, the author's intentions with respect to what he has created may matter for other areas of copyright law. See Zahr K. Said, Reforming Copyright Interpretation, 28 Harv. J.L. & Tech. 469, 495–96 (2015); Yen, *supra* note 172, at 251–52.

¹⁹⁶ Nimmer, *supra* note 3, at 204 ("[I]t would seem that intent is a necessary element of the act of authorship.").

¹⁹⁷ See *infra* notes 217–20 with respect to human vs. nonhuman authors.

providing incentives to people to create new works of authorship.¹⁹⁸ These incentives work, if they do at all, *ex ante*—before the creative work has been produced.¹⁹⁹ But the rights that copyright law establishes are costly to society.²⁰⁰ Accordingly, copyright law should limit the extension of rights to those people who are plausibly going to be affected by the incentives it creates. If people do not intend their creations to be treated as works of authorship, they obviously are not creating them because of the incentives that the law provides to works of authorship. Granting such people copyrights generates social costs without any concomitant incentive benefit.²⁰¹ For this reason, a putative author's intentions should be assessed at the time of creation.²⁰² A creator should not be able to assert different intentions or adopt different readings of her work after she has created it—at least not for purposes of subsequently establishing a copyright.²⁰³

Ascertaining whether and how a given person intended to produce mental effects in her audience may prove challenging, but it is not likely to be more challenging than other situations in which the law must de-

¹⁹⁸ Christopher Buccafusco, Zachary Burns, Jeanne C. Fromer & Christopher Jon Sprigman, *Experimental Tests of Intellectual Property Laws' Creativity Thresholds*, 92 *Tex. L. Rev.* 1921, 1935 (2014) (discussing the role of creative incentives in copyright and patent law).

¹⁹⁹ *Id.* at 1924.

²⁰⁰ *Comput. Assocs. Int'l v. Altai, Inc.*, 982 F.2d 693, 711 (2d Cir. 1992). (“The interest of the copyright law is not in simply conferring a monopoly on industrious persons, but in advancing the public welfare through rewarding artistic creativity, in a manner that permits the free use and development of non-protectable ideas and processes.”).

²⁰¹ Think about the role of copyright incentives for distribution of created works.

²⁰² 17 U.S.C. § 101 (2012) states that:

A work is “created” when it is fixed in a copy or phonorecord for the first time; where a work is prepared over a period of time, the portion of it that has been fixed at any particular time constitutes the work as of that time, and where the work has been prepared in different versions, each version constitutes a separate work.

²⁰³ The issue here is similar to the one discussed by Judge Frank in *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*. See *supra* notes 82–83. For Frank, an author need not intend to create the aspects of the work that made it original and sufficiently creative as long as, having accidentally produced them, she then adopted them as her own. Similarly, if a designer, intending to produce a functional bike rack, discovered that the object he produced was beautiful and harmonious in addition to functional, he should be allowed to adopt those aspects of the work, and qualify as the author of a writing, if he does so at the time the work is created. See *Brandir Int'l v. Cascade Pac. Lumber Co.*, 834 F.2d 1142, 1143 (2d Cir. 1987) (denying copyright protection for a bicycle rack that started as a sculpture). The creative process is too deeply driven by unconscious factors to allow for so strict a requirement. If, however, six months later, a friend told him that his bike rack was beautiful and harmonious, the creator could not then claim the intention to have produced those effects.

termine an actor's intentions.²⁰⁴ As always, opportunities for strategic pleading may exist.²⁰⁵ In many situations, determining people's categorical intentions will be straightforward. Composers of music generally intend that notes and melodies create effects in the minds of those who hear the music. The same principle holds for poets, photographers, and chefs.²⁰⁶ The reverse is generally true for the creators of internal machine parts. Since these parts are rarely displayed to people, they are unlikely to be designed in such a way as to produce particular mental effects on people. Instead, their design is exclusively motivated by efficiency and functionality. Furthermore, creators may tout their products' efficiency in ways that will make it difficult to disclaim later on.

The range of available design options can provide a proxy for whether a work or some aspect of it was intended to create mental effects, although it should not become the sole criterion of analysis as it did in *American Dental Ass'n v. Delta Dental Plans Ass'n* and *Oracle America, Inc. v. Google, Inc.*²⁰⁷ For example, the diameter of a compact disc is dictated by the constraints of the hardware on which it is played, so the decision to give it that diameter was not likely to have been motivated by the desire to create a particular mental effect in people who look at or hold the CD. By looking at the number of available design options or the degrees of design freedom involved in producing a given work, we can get a sense of the likelihood that the aspects of the design that were selected were chosen on the basis of the desire to create mental effects rather than because of external constraints. While the creator of a painting can select among a nearly infinite array of options in producing a work, the creator of a tennis racquet is substantially more limited in her design choices. Ultimately, however, the question courts should be asking is

²⁰⁴ See *Meshwerks, Inc. v. Toyota Motor Sales U.S.A.*, 528 F.3d 1258, 1268–69 (10th Cir. 2008) (inquiring into the creator's intentions when designing a model of a car).

²⁰⁵ For examples of strategic pleading, see Amy Adler's discussion of Jeffrey Koons's approach to fair use. Amy Adler, *Fair Use and the Future of Art*, 91 N.Y.U. L. Rev. (forthcoming 2016) (manuscript at 8), http://its.law.nyu.edu/faculty/profiles/representativeFiles/AAlder-FairUseFutureofArt-forthcoming_B86991AB-DC76-AD68-3D6776511B35B60A.pdf [<https://perma.cc/BU8E-ZFZ3>].

²⁰⁶ The appropriation artist Richard Prince disclaimed any particular "meaning" associated with his work. See *Cariou v. Prince*, 784 F. Supp. 2d 337, 349 (S.D.N.Y. 2011) ("Prince testified that he has no interest in the original meaning of the photographs he uses. . . . Prince testified that he doesn't 'really have a message' he attempts to communicate when making art."), judgment rev'd in part, vacated in part, 714 F.3d 694 (2d Cir. 2013).

²⁰⁷ *Am. Dental Ass'n v. Delta Dental Plans Ass'n*, 126 F.3d 977, 979 (7th Cir. 1997); *Oracle Am., Inc. v. Google, Inc.*, 750 F.3d 1339, 1356 (Fed. Cir. 2014).

whether aspects of the work were intentionally chosen to produce mental effects in an audience.

2. *Mental Effects*

What is it that authors do when they produce writings? What are the aspects of writing poems, composing and performing music, filming movies, and choreographing dances that make all of these diverse activities authorship? Moreover, how are the things that make each of these behaviors authorship different from the behaviors associated with creating a new form of plastic, developing a light bulb, and improving the fuel economy of an automobile such that the latter activities constitute patentable inventorship? The answer given here is that the former were all designed to produce mental effects in an audience while the latter were not. The latter produce their effects not in the mind but in the rest of the world.

The distinction in IP law between the objects of the copyright power and the objects of the patent power reflects, in a way, the Cartesian distinction between mind and body/world.²⁰⁸ Copyrightable works of authorship produce effects²⁰⁹ in people's minds. They generate thoughts, feelings, emotions, and other states of cognition.²¹⁰ Patentable inventions do their work elsewhere. They make things stronger, lighter, faster, more efficient, and easier to use. Although having a faster computer may make people happy,²¹¹ the emotion or mental state is not produced directly by an invention that increases the processing power of computer hardware. Copyrightable works, by contrast, produce (or at least they are intended to produce) direct mental effects on those who experience

²⁰⁸ For a critique of this distinction in the context of contemporary neuroscience, see Antonio Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain* 87–88 (1994).

²⁰⁹ Philosophers and psychologists might instead use the term "images" here. See, e.g., VerSteeg, *supra* note 5, at 1340 ("As a precursor to the communication component of being an author, an author generally, consciously or subconsciously, conceives a mental image (either visual or auditory) of his original expression."). I worry that the term "images" excessively connotes visual media and denigrates works that are not as easily understood as visualized.

²¹⁰ See Hick, *Appropriation*, *supra* note 165, at 1183 ("If we take an idea to be, roughly, the content of a thought, feeling, emotion, desire, and/or other cognitive state or event, and an expression to be the manifestation or embodiment of such an idea or ideas in a perceptible form, then 'expression' will always be an ellipsis for 'expression-of-an-idea' or 'expression-of-ideas.'").

²¹¹ A proposition that I doubt.

them.²¹² The claim here is similar to the distinction that Abraham Drassinower makes between copyrightable works and patentable inventions. He writes, “[T]he distinction between patent and copyright is a distinction between subject matter involving a relation between persons and objects (patent), and subject matter involving a relation between persons (copyright).”²¹³

This distinction between mental effects and nonmental effects is intended to replace the notion that copyright law concerns “expression” while patent law covers “function.”²¹⁴ As the discussion of processes and methods in Part I showed, distinguishing expression from function has proven difficult.²¹⁵ Rather than attempting to discern whether the outcome of a sequence of steps is expressive or functional, we should instead consider *where* the sequence produces its effect. If the effect is in the mind, the sequence contains potentially copyrightable authorship.²¹⁶

In producing mental effects, copyrightable works are aimed at human audiences, while patentable inventions are not.²¹⁷ This premise is easily grasped in the context of objects that incorporate both copyrightable el-

²¹² Christopher Newman has described authorship in a similar manner. He writes:

A work of authorship is a *planned sensory experience*, designed by its author to give rise to an *expressive experience* in the mind of one or more intended audiences. The sensory experience consists of a specific selection and arrangement (spatial and/or temporal) of sensory inputs that is perceived by the person “consuming” the work. The expressive experience consists of a specific set (and for some works, a specific sequence) of intellectual responses that the sensory experience is designed to arouse in the mind of the audience.

Newman, *supra* note 93, at 292.

²¹³ Drassinower, *supra* note 5, at 65.

²¹⁴ For further discussion of this distinction see Buccafusco, *Making Sense*, *supra* note 3, at 531–41.

²¹⁵ *Id.* For example, Judge Richard Posner had no problem finding that a “sex aid”—or as he preferred to call it, a “sexual device”—was useful. *Ritchie v. Vast Res., Inc.*, 563 F.3d 1334, 1336 (Fed. Cir. 2009) (“Nevertheless . . . the plaintiffs’ invention is useful . . .”). There is, however, no attempt to explain why tactile pleasure is “useful” but visual or auditory pleasure is not.

²¹⁶ Difficult questions about the copyrightability of pharmaceuticals that affect mental states exist. My theory suggests that if a pharmaceutical is produced with the intention of creating a particular set of mental effects, then the drug contains potentially copyrightable authorship.

²¹⁷ Cf. Lloyd L. Weinreb, *Copyright for Functional Expression*, 111 *Harv. L. Rev.* 1149, 1170 n.75 (1998) (“One may ask why expression must have a human object. Why not expression to a machine? One may, of course, employ such a metaphor if he chooses. But why do so?”).

ements and patentable elements.²¹⁸ Consider aspects of a motorcycle, or even a particular part of a motorcycle: the gas tank. Some aspects of the gas tank's design are not addressed to a human audience. A gas tank must be hollow in order to hold gas, and it should be of a certain size to hold enough gas, not weigh down the vehicle, and minimize drag. These aspects of its design are potentially patentable inventions.²¹⁹ Other aspects of its design, however, *are* addressed to a human audience. The shape may be designed in such a way as to produce a sensation of sexiness, the color might be chosen to appear aggressive, and the curves of the tank might produce a feeling of arousal when stroked. These aspects of the design are potentially copyrightable authorship.²²⁰

In addition to clarifying the relationship between copyrightable authorship and patentable inventorship, the mental effects approach also provides a better account of the idea/expression dichotomy. As described in Part I, courts and copyright scholars have tended to think of authorship (if they have at all) as the expression of ideas.²²¹ What copyright authors do is express ideas, and copyright attaches to the expression, but not to the underlying ideas. I prefer to avoid this language for two principle reasons, one practical and one logical. As a practical matter, courts have found it incredibly difficult to apply the distinction between ideas and expression.²²² Although these terms *may* work relatively well for works like plays (the idea of *Romeo and Juliet* is “star-crossed lovers” and the expression involves the particular words, plot, and char-

²¹⁸ See J.H. Reichman, Charting the Collapse of the Patent-Copyright Dichotomy: Premises for a Restructured International Intellectual Property System, 13 *Cardozo Arts & Ent. L.J.* 475, 511 (1995) (discussing legal hybrids).

²¹⁹ They are patentable if they meet the constitutional and statutory requirements for patent protection, including novelty, utility, and nonobviousness.

²²⁰ They are copyrightable if they meet the other requirements, including originality, minimal creativity, and fixation, and also fit within the statutorily protected categories of works.

²²¹ See, e.g., *Compt. for Creative Non-Violence v. Reid*, 490 U.S. 730, 737 (1989) (“[T]he 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.”); *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 58 (1884); Abraham Drassinower, *Authorship as Public Address: On the Specificity of Copyright Vis-à-Vis Patent and Trade-Mark*, 2008 *Mich. St. L. Rev.* 199, 204 (“[W]orks of authorship . . . invite and elicit dialogue about the ideas to which they give expressive form.”); Hick, *Appropriation*, supra note 165, at 1183.

²²² *Williams v. Crichton*, 84 F.3d 581, 587–88 (2d Cir. 1996) (“The distinction between an idea and its expression is an elusive one.”); *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930) (“Nobody has ever been able to fix that boundary, and nobody ever can.”); *Fournier v. Erickson*, 202 F. Supp. 2d 290, 295 (S.D.N.Y. 2002) (“[T]he distinction between the concept and the expression of the concept is a difficult one . . .”).

acters that Shakespeare used),²²³ they are much more difficult to apply to other copyrightable works.²²⁴ The idea/expression dichotomy asks us to distinguish what a work is about from how that subject is made manifest.²²⁵ But what is the idea in a particular photograph, and how is it distinct from the expression of that idea?²²⁶ What a photograph or a nonobjective painting is “about” is often the particular manner of expression used. The two terms collapse into each other. Similar problems arise with computer software,²²⁷ sound recordings, and taxonomies.²²⁸ The language of ideas and expressions does not provide firm and consistent grounds for declaring which aspects of a work are potentially subject to copyright.²²⁹

The mental effects language that I prefer is substantially easier to apply. Rather than asking which aspects of a work are ideas and which are expressions of those ideas, we should ask which aspects of a work were intended to create mental effects. For works like photographs, where the creation of a mental effect was obviously intended, we need only consider the manner by which that effect was created. As I will explain below, copyright attaches to the manner or form by which the photogra-

²²³ But see Said, *supra* note 195, at 32 (questioning whether these inquiries are any easier for fiction than for other works).

²²⁴ See *Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444, 458 (S.D.N.Y. 2005) (noting that “[t]he idea/expression dichotomy arose in the context of literary copyright” and that it is most useful there).

²²⁵ *Nichols*, 45 F.2d at 121.

²²⁶ *Mannion*, 377 F. Supp. 2d at 458–59 (“[T]hose elements of a photograph, or indeed, any work of visual art protected by copyright, could just as easily be labeled ‘idea’ as ‘expression.’”).

²²⁷ According to Weinreb:

A basic premise of the [CONTU] report is the proposition that a program expresses the process that it generates as operations of a computer, much as the text of a book expresses its plot or ideas. . . .

. . . .

The representation of a program in code or some other symbolic form, like a flowchart, may be copyrightable, to the extent that its concrete expression is original. The program that is represented, however, contains no expression and is not copyrightable. . . .

Weinreb, *supra* note 217, at 1167–68.

²²⁸ *Southco, Inc. v. Kanebridge Corp.*, 390 F.3d 276, 291 (3d Cir. 2004) (en banc) (Roth, J., dissenting) (“Is Southco’s ‘idea’ the use of a code to describe products or is it the use of predetermined numbers to portray given characteristics of a particular product?”).

²²⁹ Consider this language from *Fournier v. Erickson*: “[D]efendants conclude that Fournier cannot assert copyright protection, to the extent that he does, over the *expression* of businessmen in traditional dress on their way to work, an *idea* which originated with McCann in any event.” 202 F. Supp. 2d 290, 295 (S.D.N.Y. 2002) (emphasis added).

pher attempted to achieve the production of a mental effect. For works like computer code, instead of attempting to discern the code's ideas from the expression of those ideas, we should instead inquire into which aspects of the code were intended to create mental effects. Perhaps the programmer intended that those reading the code experience a feeling of sadness, or perhaps she hoped that those viewing the code's visual structure would be struck by its similarity to the calligrammes of Guillaume Apollinaire.²³⁰ If so, then the choices that the programmer made about *how* to produce those effects or impressions are the appropriate subject of copyrightable authorship if they meet the other constitutional and statutory requirements.²³¹

The second and more fundamental objection to the language of ideas and expressions is that it misconceives the nature of at least some kinds of authorship. In order to distinguish ideas from expression, we are told to ask what the copyrightable work is about.²³² But some works are not about anything.²³³ That is to say, some works are not intended to express or communicate any semantic content at all.²³⁴ Instead, they are intended to generate thoughts, feelings, or emotions in those who experience them.²³⁵ A piece of classical music is not necessarily "about" anything, nor is a painting by Jackson Pollock.²³⁶ These sorts of works do not necessarily have any meaning or any particular "ideas" embedded in

²³⁰ Recall that we need not care whether the code was actually successful in producing these particular effects. These are the effects that emerge from the programmer's semantic intentions. All that matters to this theory is that the programmer had the categorial intention that the program create some mental effects.

²³¹ See *Comput. Assocs. Int'l v. Altai, Inc.*, 982 F.2d 693, 708–09 (2d Cir. 1992) (filtering out of the copyright analysis aspects of a computer program that were dictated by efficiency concerns).

²³² *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930).

²³³ And this includes more than the television program *Seinfeld*.

²³⁴ The appropriation artist Richard Prince steadfastly refused to say what his reworkings of another artist's photographs were about. See *Cariou v. Prince*, 784 F. Supp. 2d 337, 349 (S.D.N.Y. 2011) ("Prince testified that he has no interest in the original meaning of the photographs he uses. Prince testified that he doesn't 'really have a message' he attempts to communicate when making art.") (citation omitted).

²³⁵ In this way, my account of authorship differs from Abraham Drassinower's. For him, authorship is "a communicative act." Drassinower, *supra* note 5, at 8.

²³⁶ Writing about photography and the visual arts, Judge Kaplan explained, "[I]t is not clear that there is any real distinction between the idea in a work of art and its expression. An artist's idea, among other things, is to depict a particular subject in a particular way." *Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444, 458 (S.D.N.Y. 2005).

them.²³⁷ They do, however, produce a variety of feelings and emotions, and they can lead to the generation of other thoughts and meanings.²³⁸

Although only certain kinds of authorship are intended to express ideas, all authorship is intended to produce mental effects. The production of mental effects at the heart of my account of authorship incorporates the expression of ideas and the communication of semantic content, but it also recognizes the aspects of works that generate feelings and emotions. The expression of ideas is merely a subset of the ways in which copyrightable authorship produces mental effects. Thus, my approach rejects the traditional dichotomy between reason and emotion while preserving at least some aspects of the dichotomy between the mind and the rest of world.²³⁹

In so doing, my theory recognizes a much broader array of ways in which a person can engage in authorship and of the kinds of objects that can count as “Writings.” Other accounts of authorship limit authorial activity to visual and auditory creations. In *Burrow-Giles Lithographic Co. v. Sarony*, the Supreme Court explained that constitutional “writings” “include all forms of writing, printing, engraving, etching, &c. [sic], by which the ideas in the mind of the author are given visible expression.”²⁴⁰ The D.C. Circuit upheld the rejection of the copyrightability of the “feel” of a Koosh Ball, because it determined that the tactile sensation was functional.²⁴¹ And Pamela Samuelson has argued that objects

²³⁷ Judge Learned Hand appreciated this:

There has of late been prose written, avowedly senseless, but designed by its sound alone to produce an emotion. Conceivably there may arise a poet who strings together words without rational sequence—perhaps even coined syllables—through whose beauty, cadence, meter, and rhyme he may seek to make poetry. Music is not normally a representative art, yet it is a “writing.”

Reiss v. Nat’l Quotation Bureau, 276 F. 717, 718 (S.D.N.Y. 1921).

²³⁸ Darren Hudson Hick recognizes that ideas do not necessarily include semantic content nor do they deny emotional content. He writes:

If we take an idea to be, roughly, the content of a thought, feeling, emotion, desire, and/or other cognitive state or event, and an expression to be the manifestation or embodiment of such an idea or ideas in a perceptible form, then ‘expression’ will always be an ellipsis for “expression-of-an-idea” or “expression-of-ideas.”

Hick, Appropriation, supra note 165, at 1183. If the idea/expression dichotomy is so understood, then it presents no logical problem.

²³⁹ See Damasio, supra note 208, at 250.

²⁴⁰ 111 U.S. 53, 58 (1884).

²⁴¹ See *OddzOn Prods. v. Oman*, 924 F.2d 346, 347, 350 (D.C. Cir. 1991) (holding that the Copyright Office did not abuse its discretion in refusing to register a copyright for the Koosh Ball where the Copyright Office examiners refused to consider the feel of the ball as a basis for registration on the grounds that the feel was “a functional part of the work”).

can only be authors' writings if they "portray appearances—visible or audible—or convey information."²⁴² But no reason is ever given for distinguishing between ideas or information conveyed visually and ideas and information conveyed tactilely, gustatorily, or aromatically.

In a prior article, I explained the ways in which these other senses are similarly capable of conveying information as are sight and hearing.²⁴³ The same claim is clearly true for their ability to produce mental effects. The flavors of a dish or the aromas of a perfume can just as richly produce feelings of joy, lust, or danger as can the notes of a concerto or the images of a movie.²⁴⁴ An entire realm of "tactile art" has emerged that is intended for the consumption of both unsighted and sighted people.²⁴⁵ No valid arguments can be offered for why these works are constitutionally incapable of serving as the writings of authors.

Accordingly, a writing is any fixed medium that produces mental effects in an audience. If a medium is capable of producing feelings, ideas, thoughts, or emotions then it is constitutionally capable of serving as a writing. As the Supreme Court observed in *Goldstein v. California* in 1973, "[A]lthough the word 'writings' might be limited to script or printed material, it may be interpreted to include any physical rendering of the fruits of creative intellectual or aesthetic labor."²⁴⁶ Thus, a culinary dish, perfume, or tactile object can serve as a writing of an author in the same way that a book, photograph, or dance can. Once again, however, the extent of the copyright protection available for a work fixed in any of these media will reach only to the aspects of it that constitute authorship, that is, those that create mental effects. The functional aspects of a dish are no more copyrightable than are the functional aspects of a book.²⁴⁷

As discussed in greater detail below, just because a work entails some degree of authorship does not mean that it must receive copyright pro-

²⁴² Samuelson, *supra* note 141, at 733.

²⁴³ Buccafusco, *Making Sense*, *supra* note 3, at 537–41.

²⁴⁴ See Christopher J. Buccafusco, *On the Legal Consequences of Sauces: Should Thomas Keller's Recipes Be Per Se Copyrightable?*, 24 *Cardozo Arts & Ent. L.J.* 1121, 1156 (2007) [hereinafter Buccafusco, *Recipes*].

²⁴⁵ Oliver Sacks, *The Mind's Eye: What the Blind See*, in *Empire of the Senses: The Sensual Culture Reader* 25, 25–41 (David Howes ed., 2005) (describing the experiences of several blind persons and concluding that visual, auditory, intellectual, emotional, and linguistic experiences are fused together in one's mental landscape, rather than being separate).

²⁴⁶ 412 U.S. 546, 561 (1973).

²⁴⁷ Functional, in this context, refers to the effects of the dish on nonmental factors, such as its caloric content or its nutritional benefits.

tection.²⁴⁸ Congress need not use the power the Constitution has given it to extend protection to all categories of works. In addition, just because Congress has extended protection to a given category of works, it need not extend protection to all works in the category. For example, Congress provides protection for pictorial, graphic, and sculptural works, but it screens out some of these under the “useful articles” doctrine, because it deems them excessively functional.²⁴⁹ This it may continue to do under my approach as well.

3. *The Work as Manner or Form*

Authoring a writing is an act of intending to produce mental effects in an audience through the fixed, original, and creative selection of elements capable of producing those effects.²⁵⁰ Copyright subsists, then, in the manner by which the elements are selected and the form that they take. Depending on the medium, this involves the arrangement of shapes, colors, notes, words, images, tastes, smells, or tactile sensations. It is the painter’s selection of colors and shapes; the author’s choice of genre, syntax, and diction; or the chef’s arrangement of meats, vegetables, and sauces that constitutes the copyrightable “work.”²⁵¹

As described above, copyright law must exclude functional aspects of a work from protection.²⁵² It also excludes the foundational building

²⁴⁸ See *infra* Section III.B.

²⁴⁹ See Robert C. Denicola, *Applied Art and Industrial Design: A Suggested Approach to Copyright in Useful Articles*, 67 *Minn. L. Rev.* 707, 741–42 (1983).

²⁵⁰ My definition is similar to one proposed by Drassinower of a work of authorship. He notes that “a work [of authorship] is not a thing, whether intangible or otherwise, but an act whereby a person addresses others through speech.” Drassinower, *supra* note 5, at 8.

²⁵¹ Although the work of authorship is composed of formal features and components, the work does not arise simply from the formal elements alone. What makes something a work of authorship is that it was created by a person with the intent that it produce mental effects in an audience. The right in the work, however, extends to the combination of formal elements by which the author intended to produce those effects. In this sense, my approach is not “formalist” as that term is used in aesthetic theory. See Zahr K. Said, *Reforming Copyright Interpretation* 13 (July 25, 2014) (unpublished manuscript), <http://ssrn.com/abstract=2472500> [<https://perma.cc/PHH6-6J8Z>]. Said writes, “Formalism refers to an interpretive method that emphasizes as the source of interpretive meaning the work itself (really, the *form* of the work, hence the method’s name). Works are interpretively ‘free-standing, self-subsistent objects’ whose analysis can be objective, correct, and devoid of evidence from outside the text.” *Id.* (footnote omitted).

²⁵² The mechanisms by which copyright excludes functionality are discussed *infra* Section III.B.

blocks of works of authorship, the formal elements of creativity.²⁵³ This principle preserves from exclusive control elements, ideas, and concepts that are deemed essential to authorship.²⁵⁴ In the same way that the idea/expression dichotomy excludes from copyright those things it calls ideas, my theory excludes mental effects from copyright protection. The mental effects produced by works of authorship are not copyrightable and for the same reason often given for why “ideas” are not copyrightable.²⁵⁵ Allowing people to have exclusive control over the production of particular mental effects would be terrible for creativity and social welfare. This point is so obvious that it needs little argument. Limiting access to mental effects, including to thoughts, ideas, and emotions, would severely impair downstream creators, and it would produce significant costs for the consuming public that would be unrelated to any incentive gain. Mental effects themselves remain in the public domain.

The copyrightable aspect of a work of authorship, then, exists in the manner by which it produces mental effects. All works of authorship are created from uncopyrightable component parts or formal elements—colors, notes, words, shapes, chemicals, and other substances. Authors select among these parts and combine them to produce mental effects. Conceived of in this fashion, all works of authorship are like the compilations at issue in *Feist Publications, Inc. v. Rural Telephone Service Co.*,²⁵⁶ the bringing together of otherwise uncopyrightable elements in a copyrightable way. And, as in *Feist*, the copyright attaches to the manner by which the creator selects, coordinates, and arranges to produce mental effects. It is the creator’s choice about *how* to produce a given mental effect that receives copyright protection. These choices are embodied in the formal arrangement of work, and it is to the form that the copyright attaches.

The Court’s opinion in *Feist* notes, in the context of originality, that only some selections, coordinations, and arrangements of facts will trig-

²⁵³ *Feist Publ’ns v. Rural Tel. Serv. Co.*, 499 U.S. 340, 346–48 (1991).

²⁵⁴ See *Eichel v. Marcin*, 241 F. 404, 408 (S.D.N.Y. 1913) (“If an author, by originating a new arrangement and form of expression of certain ideas or conceptions, could withdraw these ideas or conceptions from the stock of materials to be used by other authors, each copyright would narrow the field of thought open for development and exploitation, and science, poetry, narrative, and dramatic fiction and other branches of literature would be hindered by copyright, instead of being promoted.”).

²⁵⁵ The notion, sometimes asserted, that ideas are not original to an author seems blatantly incorrect, at least if originality in the copyright context means only not copied.

²⁵⁶ 499 U.S. 340.

ger copyright protection—that is, those that are done “in such a way” that they are original and minimally creative.²⁵⁷ Similarly, in the context of authorship itself, only some selections, coordinations, and arrangements of components will trigger protection—that is, those that are done “in such a way” as to produce mental effects. Again, choices directed towards other considerations are not copyrightable authorship.²⁵⁸

C. Authorship, Originality, and Creativity

With this conception of authorship in mind, we can get a clearer sense of the elements of copyrightable subject matter and their relationship to one another. As described above, the Supreme Court in *Feist* clarified that in order to be copyrightable, a work has to be original.²⁵⁹ It further broke down originality into two separate concepts. The work could not be copied from another source, and it had to be at least minimally creative.²⁶⁰ Although the Court did little to clarify what it meant by creativity,²⁶¹ it seemed to require some degree of cleverness or nonobviousness.²⁶² For purposes of this Article, I prefer to treat these two concepts as separate elements called “originality” (that is, not copied) and creativity.²⁶³ In addition to these two elements, the Court has declared fixation to be a third constitutional requirement.

²⁵⁷ *Id.* at 358 (internal quotation marks omitted).

²⁵⁸ In my approach, then, the idea/expression dichotomy is instead the effect/manner dichotomy.

²⁵⁹ 499 U.S. at 345.

²⁶⁰ *Id.*

²⁶¹ Bridy, *supra* note 19, at 8 (“Copyright scholars have been nearly uniformly critical of the Court’s failure in *Feist* to give any real content to the creativity requirement.”); Ver-Steeg, *supra* note 112, at 4 (“Although the opinion established a rule that requires ‘creativity’ as an element required for originality (and hence copyrightability), *Feist* does not define ‘creativity.’”).

²⁶² The Court distinguishes creative works from those that are “crude, humble, or obvious.” *Feist*, 499 U.S. at 345 (internal quotation mark omitted) (quoting Nimmer & Nimmer, *supra* note 181, § 1.08[C][1]); see also *Matthew Bender & Co. v. West Publ’g Co.*, 158 F.3d 674, 682 (3d Cir. 1998) (“Thus, when it comes to the selection or arrangement of information, creativity inheres in making non-obvious choices from among more than a few options.”).

²⁶³ Courts and scholars use this bifurcating approach. According to the Seventh Circuit, “Although the requirements of independent creation and intellectual labor both flow from the constitutional prerequisite of authorship and the statutory reference to original works of authorship, courts often engender confusion by referring to both concepts by the term ‘originality.’” *Balt. Orioles v. Major League Baseball Players Ass’n*, 805 F.2d 663, 668 n.6 (7th Cir. 1986). David Nimmer seems to prefer this separation as well: “[O]riginality’ means that the work derives from the copyright owner, as opposed to that individual having copied it from a

To these elements my theory adds a fourth—authorship. In order to be copyrightable a given work must be (1) original (independently created), (2) creative (at least minimally clever), (3) fixed in a tangible medium of expression, and (4) authored (created with intention of producing mental effects). Authorship stands out as a separate element of a work that makes it subject to the constitutional grant of powers in Article I. It asks a different question from those addressed by the Court in *Feist*. The authorship element further inquires into whether those choices were made with the intention of producing mental effects in an audience.

Consider how the different elements work together. Someone might be an author but not have produced a writing if the work that she created was not fixed, for example by whistling a new tune. The resulting work would not be constitutionally copyrightable until it was fixed by or under the authority of the author.²⁶⁴ In addition, there might be writings without authors. Photographs taken by monkeys or images of the Virgin Mary on toast might produce mental effects in an audience, but they were not created by people who intended that they do so. Only those creations which embody the act of authorship can receive copyright protection.

This reading of the Constitution is consistent with the language Congress used in the 1976 Act. According to Section 102(a), “copyright subsists in original works of authorship.”²⁶⁵ As Michael Madison has pointed out, this construction, with the modifier “original,” implies that there could be nonoriginal works of authorship.²⁶⁶ Similarly, the construction implies that there might be original things that are not works of authorship. Something might not be copied from another source and it

previous source, while ‘creativity’ refers to a spark above the level of the banal.” Nimmer, *supra* note 3, at 14–15.

²⁶⁴ 17 U.S.C. § 101 (2012) (“A work is ‘fixed’ in a tangible medium of expression when its embodiment in a copy or phonorecord, by or under the authority of the author, is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration.”).

²⁶⁵ 17 U.S.C. § 102(a) (2012).

²⁶⁶ Michael J. Madison, *IP Things as Boundary Objects: The Case of the Copyright Work* 9 (U. Pitt. Sch. of Law, Legal Studies Research Paper Series, Working Paper No. 2013-12, 2013), <http://ssrn.com/abstract=2256255> [<https://perma.cc/FS62-YMLQ>] (“Some works of authorship are not original, both according to the logic of the statute (one might have a ‘work of authorship’ not prefaced by the word ‘original’) and according to the Supreme Court in *Feist*[.]”); see also *Meshwerks, Inc. v. Toyota Motor Sales U.S.A.*, 528 F.3d 1258, 1262 (10th Cir. 2008) (“[N]ot every work of authorship, let alone every aspect of every work of authorship, is protectable in copyright; only original expressions are protected.”).

might evince substantial creativity, but it still might lack the features of authorship.

In the 1976 Act, Section 102(b) has been asked to play the role of gatekeeper of authorship. It declares: “In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.”²⁶⁷ Some authors treat this as a “negative” element—as a limitation or clawback on the scope of copyrightable subject matter.²⁶⁸ It is better seen, in my view, as an implicit recognition of the authorship requirement. Procedures, processes, systems, and methods of operation are not copyrightable because they are not authorship. Or, to be more precise, they are not copyrightable to the extent that they are not authorship. A given creation is a potentially copyrightable work of authorship, rather than an uncopyrightable process, to the extent that it produces mental effects in an audience. To put it obversely, a “process” or “method” that produces mental effects in an audience is potentially copyrightable to the extent that it does so; if it does not, however, it is not copyrightable. In this sense, Section 102(b) is no more essential than the word “original” in Section 102(a)—the Constitution itself demands that unauthored and unoriginal creations cannot receive copyright. The implications of this approach are explored in Section III.B.

III. APPLYING THE THEORY OF AUTHORSHIP

A valuable theory of authorship should be able to successfully resolve important issues in copyright law. Such a theory need not, however, make all legal questions simple, and this theory does not do so. The theory of authorship as categorial intentions to create mental effects provides a coherent and workable approach to understanding the contours of copyrightable authorship at two separate levels. First, it explains the extent of Congress’s Article I power to grant copyright to certain sorts of people (“Authors”) and to certain categories of works (“Writings”). Second, for any particular work, my theory helps determine which aspects of the work are potentially copyrightable. All works contain copyrightable and uncopyrightable elements; my theory provides a useful test for differentiating them. Nonetheless, difficult questions—both factual and

²⁶⁷ 17 U.S.C. § 102(b) (2012).

²⁶⁸ Cohen et al., *supra* note 99, at 47.

empirical—remain, as they will with any attempt to comprehend the nature of copyright law.

A. *Constitutional Writings*

Just as the Constitution limits Congress’s power to grant copyrights only to “Authors,” it also limits Congress’s power to grant copyrights solely for “Writings.” If a given thing is not a writing, it cannot be a copyrighted work of authorship. As alluded to in Section II.B above, my theory establishes a broad range of media that are capable of instantiating writings. Any object, text, or medium that is capable of producing mental effects in an audience can serve as a writing.²⁶⁹ Moreover, since mental effects can be produced in a variety of different ways and through each of the human senses, the range of constitutional writings extends to any method of generating those effects for any of the senses.²⁷⁰

My theory provides a much broader and more inclusive sense of writings than has been previously recognized.²⁷¹ According to my approach, virtually any object is capable of embodying authorship and serving as a writing. This is a benefit of the theory, not a limitation. Human creativity is vast and constantly evolving.²⁷² People communicate with one another in a multitude of different forms, and technological developments are providing an ever-expanding range of new media.²⁷³ Any approach to authorship that categorically excludes these techniques or that limits

²⁶⁹ As noted above, the “Writings” requirement of the Constitution demands that works of authorship be fixed in a tangible medium of expression. The remainder of this Section assumes that this is the case for all examples discussed.

²⁷⁰ See Buccafusco, *Making Sense*, supra note 3, at 508.

²⁷¹ See supra notes 240–47 & accompanying text. For example, Drassinower’s theory of authorship would presumably exclude cuisine and perfumes from the realm of copyrightability. See Drassinower, supra note 5235, at 90–91, 238 n.9.

²⁷² H.R. Rep. No. 94-1476, at 51 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5664 (“Authors are continually finding new ways of expressing themselves, but it is impossible to foresee the forms that these new expressive methods will take.”).

²⁷³ See, e.g., Matthew J. Hertenstein et al., *Touch Communicates Distinct Emotions*, 6 *Emotion* 528, 528 (2006); Mark Paterson, *Haptic Geographies: Ethnography, Haptic Knowledges and Sensuous Dispositions*, 33 *Progress in Hum. Geography* 766, 766 (2009); see also David Howes, *Sensual Relations: Engaging the Senses in Culture and Social Theory*, at xii (2003) (“In the last few decades there has occurred a remarkable florescence of theoretically engaged (and engaging) work on the senses in a wide range of disciplines: from history and philosophy to geography and sociology, and from law and medicine to literature and art criticism.”).

authorship to those that are currently popular or economically valuable ignores enormous swathes of creativity, communication, and interaction.²⁷⁴

The variety of potentially copyrightable works of authorship is truly enormous. When pyrotechnic designers create fireworks displays, they are intentionally creating a series of mental effects for an audience, so the fireworks program is potentially copyrightable. Although the particular bursts of light may be too fleeting to satisfy the fixation requirement, designers can describe the series of fireworks, including their order and timing, along with any musical or performative accompaniment, to make them sufficiently fixed. The same is true for chefs creating new dishes or perfume designers generating new scents. The underlying ingredients of these works are not copyrightable—whether foie gras, asparagus, or isobornyl cyclohexanol²⁷⁵—but combinations of them are, if they are combined in ways that are original, minimally creative, and intended to create mental effects. Again, notation in the form of recipes or cocktails specifying the ingredients to be used and the manner of their combination will satisfy the fixation requirement. These recipes are no different from musical or dance notations that instruct people about how to perform those works.²⁷⁶

In a recent case, *Kelley v. Chicago Park District*, the Seventh Circuit rejected a copyright lawsuit by the creator of a public flower garden on the ground that “a living garden lacks the kind of authorship . . . normally required to support copyright.”²⁷⁷ The court asserted that “gardens are planted and cultivated, not authored.”²⁷⁸ It continued:

Most of what we see and experience in a garden—the colors, shapes, textures, and scents of the plants—originates in nature, not in the mind of the gardener. . . . To the extent that seeds or seedlings can be considered a “medium of expression,” they originate in nature, and natural forces—not the intellect of the gardener—determine their form, growth, and appearance.²⁷⁹

²⁷⁴ See Buccafusco, *Making Sense*, supra note 3, at 501, 536–37.

²⁷⁵ A chemical with an aroma similar to sandalwood.

²⁷⁶ Buccafusco, *Recipes*, supra note 244, at 1131, 1133.

²⁷⁷ 635 F.3d 290, 303 (7th Cir. 2011).

²⁷⁸ *Id.* at 304.

²⁷⁹ *Id.*

Surprisingly, the court makes no attempt to distinguish the efforts of a gardener in carefully selecting and arranging a variety of different elements with the goal of creating an experience from those of someone who photographs the garden or someone who sets up an audio recording device to capture the sounds in the garden. Both of the latter people would be considered authors.²⁸⁰ The gardener may not be able to fully anticipate every form the work may take during its existence, but that is equally true of someone who paints a mural on the outside of a building. The gardener in *Kelley*, like all other copyright authors, created, selected, and arranged various elements in such a way that they would produce mental effects in an audience. Nothing more is needed to call him an author.²⁸¹

At this point, an important qualification is necessary. In the previous discussion, I have argued that all of these creations—recipes, perfumes, and gardens—are *potentially* copyrightable and not that they are copyrightable per se. This is because Congress need not and should not utilize its full constitutional power in establishing copyright protection for all writings of authors.²⁸² The constitutional grant of powers produces a limit on the extent of the powers that have been granted. The terms “Writings” and “Authors” establish a constitutional outer bound for congressional action. But, since the first Copyright Act of 1790, Congress has chosen not to utilize its full power.

The 1790 Act granted copyright protection only to “maps, Charts, And books.”²⁸³ Most recently, the 1976 Act extended protection to sev-

²⁸⁰ Photographs and sound recordings are both copyrightable subject matter under 17 U.S.C. § 102(a) (2012). It is possible that the photograph or sound recording would fail on other copyright grounds. See, e.g., *Kim Seng Co. v. J & A Imps.*, 810 F. Supp. 2d 1046, 1053 (C.D. Cal. 2011) (holding that photographs of bowls of food were insufficiently original to qualify for copyright protection).

²⁸¹ The court was also concerned that the garden failed to meet the fixation requirement established in the statute. 635 F.3d at 304–05 (“[A] garden is simply too changeable to satisfy the primary purpose of fixation; its appearance is too inherently variable to supply a baseline for determining questions of copyright creation and infringement.”). Again, I am skeptical that there is insufficient permanence in the garden to satisfy the fixation requirement. One would like to know if other gardeners, having seen the plaintiff’s plans or photos of the garden, would understand what it would look like at various times throughout the year and over time. Just because works are subject to changes does not mean that they are not sufficiently fixed for copyright purposes if the changes can be anticipated.

²⁸² See Reese, *supra* note 37, at 1521–22.

²⁸³ Act of May 31, 1790, ch. 15, 1 Stat. 124, 124 (repealed 1831).

en, and then eight, categories of “original works of authorship.”²⁸⁴ The House report on the Act notes that this term was chosen “to avoid exhausting the constitutional power of Congress to legislate in this field.”²⁸⁵ Accordingly, not every writing of an author will receive copyright protection (see Figure 1 above). There will be some creations that qualify constitutionally as authored writings but that are not within the scope of the current statutory scheme.²⁸⁶ These works, unless protected by state laws, are in the public domain and are free to use. The garden at issue in *Kelley* may fall into this category if it does not qualify as a “pictorial, graphic, [or] sculptural work[.]” under Section 102.²⁸⁷ That is, it would fall inside of the large circle but outside of the small circle in Figure 1.

This is as it should be.²⁸⁸ Copyright law exists to solve a particular economic problem—optimizing creative production through the balanced provision of incentives.²⁸⁹ But these incentives are costly and should only be applied when necessary to generate public goods. Some creative fields may exist and even thrive despite having little or no copyright protection. A large and growing body of scholarship has described intellectual property law’s negative spaces,²⁹⁰ such as fashion,²⁹¹

²⁸⁴ Copyright Act of 1976, Pub. L. No. 94-553, 90 Stat. 2541 (codified as amended at 17 U.S.C. § 102(a)).

²⁸⁵ H.R. Rep. No. 94-1476, at 51 (1976), *reprinted in* 1976 U.S.C.C.A.N. 5659, 5664. The 1909 Act had extended copyright protection to “all the writings of an author,” and courts had struggled to interpret the scope of this language. See discussion *supra* note 39.

²⁸⁶ See Reese, *supra* note 37, at 1521.

²⁸⁷ *Kelley*, 635 F.3d at 299 (quoting 17 U.S.C. § 102(a)(5)).

²⁸⁸ Reese, *supra* note 37, at 1521. (“[B]ecause Congress should affirmatively decide which subject matter it wishes to protect by copyright, and should protect only that subject matter, Congress should not take the route of simply granting protection to all of the subject matter that the Constitution would empower it to protect.”).

²⁸⁹ Christopher Buccafusco & David Fagundes, *The Moral Psychology of Copyright Infringement*, 100 *Minn. L. Rev.* 2433 (2016).

²⁹⁰ See generally Kal Raustiala & Christopher Sprigman, *The Knockoff Economy: How Imitation Sparks Innovation* (2012) (examining whether creativity can coexist with copying).

²⁹¹ See Kal Raustiala & Christopher Sprigman, *The Piracy Paradox: Innovation and Intellectual Property in Fashion Design*, 92 *Va. L. Rev.* 1687, 1722 (2006) (arguing that fashion progresses more rapidly through copying than it would without it).

cooking,²⁹² magic,²⁹³ and stand-up comedy,²⁹⁴ where creativity abounds even in the absence of formal legal rights.²⁹⁵ Because of informal norms or specific aspects of markets or creative production, these fields are not currently subject to pressures from copying that substantially undermine creators' efforts.²⁹⁶ So where copyright protection cannot be shown to be a good, its anticompetitive effects are an evil that should be avoided.

Just because copyright protection is not currently necessary for a number of creative fields does not mean that it never will be. Markets can change, and technologies can produce new pressures on creators. Throughout much of copyright history, the performers of musical works were not given separate copyrights in their performances, in part because performances were technologically difficult to copy.²⁹⁷ This changed in the second half of the twentieth century, as handheld recording devices became cheaply available. Congress responded by extending copyright to sound recordings in 1972.²⁹⁸ Similarly, chefs do not currently require copyright protection to ensure a steady stream of income from their creative efforts. Copying elite cuisine is incredibly difficult for home cooks, and informal social norms limit copying among professionals. The economic situation could change, however, if consumers could purchase 3D culinary printers capable of cheaply recreating dishes from their favorite restaurants at home. My approach, which recognizes

²⁹² See Buccafusco, Recipes, *supra* note 244, at 1150; Emmanuelle Fauchart & Eric von Hippel, Norms-Based Intellectual Property Systems: The Case of French Chefs, 19 *Org. Sci.* 187, 187–88 (2008).

²⁹³ Jacob Loshin, Secrets Revealed: How Magicians Protect Intellectual Property Without Law 26 (July 25, 2007) (unpublished manuscript), <http://ssrn.com/abstract=1005564> [<https://perma.cc/33LW-3S5L>].

²⁹⁴ Dotan Oliar & Christopher Sprigman, There's No Free Laugh (Anymore): The Emergence of Intellectual Property Norms and the Transformation of Stand-up Comedy, 94 *Va. L. Rev.* 1787, 1790 (2008).

²⁹⁵ See, e.g., David Fagundes, Talk Derby to Me: Intellectual Property Norms Governing Roller Derby Pseudonyms, 90 *Tex. L. Rev.* 1093, 1093, 1096–97 (2012); Aaron Perzanowski, Tattoos & IP Norms, 98 *Minn. L. Rev.* 511, 532, 539 (2013); Elizabeth L. Rosenblatt, Intellectual Property's Negative Space: Beyond the Utilitarian, 40 *Fla. St. U. L. Rev.* 441, 460–61 (2013).

²⁹⁶ Raustiala & Sprigman, *supra* note 290, at 39, 78, 105.

²⁹⁷ See Barbara A. Ringer, The Unauthorized Duplication of Sound Recordings (Study No. 26), in Staff of S. Comm. on the Judiciary, 86th Cong., Copyright Law Revision: Studies Prepared for the Subcomm. on Patents, Trademarks, and Copyrights of the Comm. on the Judiciary, Studies 26–28, at 1, 2–8, 21–37 (Comm. Print 1961).

²⁹⁸ Act of Oct. 15, 1971, Pub. L. No. 92-140, 85 Stat. 391, 391; H.R. Rep. No. 92-487 (1971), *reprinted in* 1971 U.S.C.C.A.N. 1566.

dishes and other creative works as copyrightable but not currently protected works of authorship,²⁹⁹ gives Congress the flexibility to provide or withhold copyright protection when appropriate.

B. Copyrightable Aspects of Works

Although many categories of works fall within the statutory protection scheme, not all aspects of these works are copyrightable.³⁰⁰ Copyright law employs a variety of doctrines to exclude from ownership certain aspects of a work. Only those aspects of a work that are independently created, more than minimally creative, and in a fixed form are eligible for protection.³⁰¹ Copyright law also uses various mechanisms to screen out functional components of a work. My theory adds to these the requirement that only those aspects of a work that constitute authorship (that is, that were intended to produce mental effects) are eligible for protection.

In this sense, authorship serves as a claiming mechanism in copyright law.³⁰² Because copyright cannot extend to any aspect of a work that does not constitute authorship, the authorship inquiry delimits the scope of copyright protection. When an author has produced a work, she can only claim copyright in the aspects of that work that entail original, creative, and fixed authorship. This approach to copyright claiming is much easier and more valid than those that have been applied in the past.

Feist Publications, Inc. v. Rural Telephone Service Co. clarified that the copyrightable aspects of works had to be original and more than trivially creative.³⁰³ It said nothing more about the aspects of works that could qualify for copyright. This has been left to Section 102(b)'s limitations on ideas, methods, and processes.³⁰⁴ Figuring out which elements

²⁹⁹ The distinction here is similar to the one made by Frederick Schauer between “covered” speech and “protected” speech. See Schauer, *supra* note 8, at 1769.

³⁰⁰ Reese, *supra* note 37, at 1491 (“Not everything within copyright’s subject matter will actually be protected by copyright, of course. Under the current statute, while copyright protects ‘works of authorship,’ not every work of authorship qualifies—only works that are both original and fixed in a tangible medium of expression can actually obtain copyright.”).

³⁰¹ *Feist Publ’ns v. Rural Tel. Serv. Co.*, 499 U.S. 340, 345, 355 (1991).

³⁰² See generally Jeanne C. Fromer, *Claiming Intellectual Property*, 76 U. Chi. L. Rev. 719 (2009) (discussing the different claiming mechanisms for copyright and patent); Mark A. Lemley & Mark P. McKenna, *The Scope of IP Rights*, 58 Wm. & Mary L. Rev. (forthcoming 2016), <http://papers.ssrn.com/abstract=2660951> [<https://perma.cc/RE6E-VP5H>] (discussing the scope of protection offered to authors).

³⁰³ *Feist*, 499 U.S. at 345.

³⁰⁴ See *supra* text accompanying note 267.

of works fail under Section 102(b) has proved deeply challenging.³⁰⁵ Distinguishing ideas from expression has proved so hopelessly difficult in the visual arts that one federal judge has given up the attempt.³⁰⁶ In addition, what looks like a method to one court appears to be a taxonomy to another.³⁰⁷ Dance notation, culinary recipes, accounting techniques, and computer software are all lists of instructions for how to do things. They are all “methods.” What makes some of them copyrightable and others not? Section 102(b) cannot tell us. The answer is that some of them produce mental effects or are ways of fixing works that produce mental effects.

The authorship inquiry examines the claimant’s categorial intentions for what she has produced. It considers the choices that she made to combine elements in certain ways, and it asks why she made them. It is not sufficient that she or another person could have made other choices. She must have made them for a specific reason—to produce mental effects in an audience. By asking this question, we obviate the need for further analysis of expression, ideas, systems, processes, and methods.

Importantly, however, this does not mean that all authorial aspects of a work or all protectable works will end up receiving copyright protection. In certain cases, copyright law screens out certain, otherwise protectable, works due to concerns about excessive functionality. The principle example of where this functionality screening occurs is for “pictorial, graphic, and sculptural” (“PGS”) works.³⁰⁸ To the extent that a PGS work constitutes a “useful article,” it may be deemed too functional to merit protection.³⁰⁹ Although the work in question may incorporate copyrightable authorship, the useful articles doctrine prevents the work from obtaining protection even for these parts. Accordingly, a bi-

³⁰⁵ See, e.g., *Mitel, Inc. v. Iqtel, Inc.*, 124 F.3d 1366, 1372 (10th Cir. 1997) (“We conclude that although an element of a work may be characterized as a method of operation, that element may nevertheless contain expression that is eligible for copyright protection.”).

³⁰⁶ *Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444, 459 (S.D.N.Y. 2005) (“For all of these reasons, I think little is gained by attempting to distinguish an unprotectible ‘idea’ from its protectible ‘expression’ in a photograph or other work of visual art.”).

³⁰⁷ See *supra* text accompanying notes 126–40.

³⁰⁸ 17 U.S.C. § 101 (2012). Recently, the Ninth Circuit applied a version of this sort of functionality screening to a series of yoga poses, ruling that although the series was “beautiful,” it “remains unprotectable as a process the design of which primarily reflects function, not expression.” *Bikram’s Yoga Coll. of India, L.P. v. Evolution Yoga, LLC*, 803 F.3d 1032, 1040 (9th Cir. 2015).

³⁰⁹ *Brandir Int’l v. Cascade Pac. Lumber Co.*, 834 F.2d 1142, 1148–49 (2d Cir. 1987); *Carol Barnhart, Inc. v. Econ. Cover Corp.*, 773 F.2d 411, 422–23 (2d Cir. 1985).

cycle rack that incorporates both copyrightable expression and unprotectable function might be denied copyright because its design was excessively motivated by functional considerations.³¹⁰

Nothing in my authorship theory affects the useful articles doctrine or other efforts by Congress to screen out certain kinds of works from copyright. Just as Congress need not offer copyright protection to all classes of authorial works,³¹¹ it need not offer copyright protection to all instances of authorship within an otherwise protected class of works. That is, in the same way that Congress may choose not to extend copyright protection to culinary dishes, it may also decide that, having extended protection to some PGS works, it need not extend protection to all of them.

Other than for PGS works, Congress has not generally used this sort of functionality threshold for determining copyrightability. For other classes of works, including literary works such as computer code, the law attempts to screen functionality incrementally. Copyright extends to all expressive aspects of such works, once the functional portions have been screened out. My theory makes this task easier. Rather than screening out aspects of a work that are “functional” or that count as ideas, systems, or processes, my theory only allows in aspects of a work that constitute authorship in the first place. The following subsections illustrate this analysis.

1. Traditional Creative Works

Understanding the copyrightability of works of visual art has consistently proved befuddling for courts.³¹² This has been especially true for photography.³¹³ Since the nineteenth-century case *Burrow-Giles Lithographic Co. v. Sarony*, courts have struggled to understand the nature of copyrightable authorship in a photograph.³¹⁴ In large part, the idea/expression dichotomy has been to blame.³¹⁵

³¹⁰ *Brandir Int'l*, 834 F.2d at 1148–49.

³¹¹ See *supra* Section III.A.

³¹² Judge Kaplan catalogs many of these difficulties in his opinion in *Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444, 458–59 (S.D.N.Y. 2005).

³¹³ See Farley, *supra* note 69.

³¹⁴ See *id.*; Tushnet, *supra* note 74, at 715; see also Zahr Kassim Said, Only Part of the Picture: A Response to Professor Tushnet’s *Worth a Thousand Words*, 16 *Stan. Tech. L. Rev.* 349 (2013) (arguing that many of the problems Tushnet finds in visual art jurisprudence appear in other areas as well).

³¹⁵ *Mannion*, 377 F. Supp. 2d at 459.

Judge Kaplan, in *Mannion v. Coors Brewing Co.*, attempts to explain the nature of photographic copyrights—in this case, of a posed photograph of basketball star Kevin Garnett dressed in “bling bling.”³¹⁶ The defendant produced a similar image and denied infringement on the ground that copyright law conveys no rights over the subject matter of the photograph, because a photo’s subject is an unprotectable “idea.”³¹⁷ Wisely, Judge Kaplan eschews the idea/expression dichotomy as unworkable for the same reasons that I articulated above.³¹⁸ Instead, he asks a different question: How can photographs be “original”?³¹⁹ He lists three ways. A photograph can be original in its *rendition* (how the photographer depicts a subject), in its *timing* (that the photographer was in the right place at the right time), and in the *creation of its subject* (the bringing together of different objects in the world).³²⁰ In this case, because the photographer instructed Garnett to wear certain clothes and to stand in a certain way (he told him to look “chilled out”), the image embodied original creation of a subject that the defendant was prohibited from copying.³²¹ In this sense, the copyright protects not just *how* the subject was depicted but *what* was depicted.

While Judge Kaplan’s rejection of the idea/expression dichotomy is laudatory, his approach to originality is potentially problematic and needlessly complex. Copyright law never protects objects or things in the world. It protects relationships between them. Copyright law always protects only the manner or form in which uncopyrightable elements are brought together via selection, coordination, and arrangement by an author, and fixed in a tangible medium. Authorship is an act—of expressing, representing, or arranging—and it is the act that is potentially copyrightable. In this sense, the only way that photographs are copyrightable is through what Judge Kaplan called “rendition”—*how* something is depicted, not *what* is depicted.³²² Moreover, this is the only way in which any work is copyrightable.

Accordingly, we need to inquire into the manner in which the uncopyrightable elements of the photograph are composed. We need to

³¹⁶ Id. at 447.

³¹⁷ Id. at 450 (citing *Caratzas v. Time Life*, No. 92 Civ. 6346 (PKL), 1992 WL 322033, at *4 (S.D.N.Y. Oct. 23, 1992)).

³¹⁸ Id. at 459. See *supra* notes 221–39 and accompanying text.

³¹⁹ *Mannion*, 377 F. Supp. 2d at 450.

³²⁰ Id. at 452–54.

³²¹ Id. at 454–55.

³²² Id. at 452.

understand the relationship that the photographer created between the objects in the image (Garnett, his clothes, the sky, etc.) and how they were depicted (from what angle, in what light, etc.).³²³ This, and no more, is the extent of the photographer's authorship. Having determined the scope of the photographer's authorship, we would next apply copyright law's other criteria, the requirements of originality and minimal creativity.³²⁴ Only those aspects of authorship that are also not copied and sufficiently creative obtain protection. Although few if any *individual* aspects of a photograph will be original, we can ask whether the "total concept and feel" of these relationships, arrangements, and depictions is original and creative.³²⁵

The proposed analysis considers the relationship between creators' categorical intentions to create mental effects and the choices they made to do so. At the inquiry's initial stage, where the court determines the metes and bounds of the copyrighted work, creators' semantic intentions—what they tried to express, represent, or produce—are irrelevant. Semantic intentions only matter, if they do, when the court is asked to consider whether the defendant's work infringes the plaintiff's work.³²⁶

2. *Systems, Processes, and Taxonomies*

The same sort of inquiry applies to cases dealing with codes and directories for arranging and systematizing information such as *Feist* and

³²³ We must also exclude from analysis any aspects of the work that were not produced with the intention of creating mental effects. For example, if the image was printed on a certain kind of paper to make it function as a billboard, this aspect of the work would not constitute authorship.

³²⁴ I am assuming that the photograph is sufficiently fixed in a tangible medium.

³²⁵ *Roth Greeting Cards v. United Card Co.*, 429 F.2d 1106, 1110 (9th Cir. 1970) (articulating the "total concept and feel" test). The "total concept and feel" test has been criticized by Rebecca Tushnet, among others, both for its underlying logic and its practical effects. Tushnet, *supra* note 74, at 733–38. These are important criticisms, but ultimately I believe that some form of "intrinsic" analysis of copyright works is inevitable. Creative authorship involves the selection and combination of unprotectable elements into a potentially protectable whole. Only by contemplating the ways in which these elements are brought together can we appreciate the actual creative work that may have been done.

³²⁶ Semantic intentions may matter, for example, for determining whether the plaintiff's and defendant's works are too similar to one another or whether the defendant's work should be considered a fair use. See 17 U.S.C. § 107 (2012) (defining fair use). Whether or not semantic intentions matter, though, depends on the infringement standard the court applies. In Tushnet's suggested solution, where all that matters for infringement of the reproduction right is exact copying, even semantic intentions may not matter. See Tushnet, *supra* note 74, at 739–40.

American Dental Ass'n v. Delta Dental Plans Ass'n. A judge hearing these cases should first ask whether the plaintiff engaged in any authorship. The judge should consider the decisions that the plaintiff made and inquire into why it made them. In the selection, coordination, and arrangement of elements, did it intend to produce any mental effect on an audience? In *Feist*, the names, addresses, and phone numbers were selected to create a mental effect—conveying information about these facts.³²⁷ But since these elements themselves were not original to the author, Rural Telephone Company, the plaintiff could not obtain a copyright in them.³²⁸ Rural instead claimed that the way it selected, coordinated, and arranged the names and information was copyrightable.³²⁹ So we should consider *why* it arranged the names in the manner that it did—alphabetically by last name. The answer, of course, is convenience and efficiency. A white pages directory is arranged alphabetically in order to ease its use. Rural was not attempting to express anything about the relationship between different names or addresses.³³⁰ It was not trying to produce particular feelings in readers of the text *by the manner* in which it organized the names and numbers. Accordingly, Rural's coordination and arrangement of facts was not authorship. The Court never even had to determine whether they were also original and creative.³³¹

In *Feist*, we can see the benefits of my authorship theory as well as the limitations of the authorship-as-choice approach.³³² Rural could have chosen any number of ways in which it coordinated and arranged facts. It could have arranged them alphabetically by first name, numerically by phone number, or randomly. The number of available options is limit-

³²⁷ *Feist*, 499 U.S. at 348.

³²⁸ *Id.* at 361–62.

³²⁹ *Id.* at 362.

³³⁰ Rural was certainly conveying information by way of reproducing facts, but it was not trying to convey information by way of its particular arrangement of those facts.

³³¹ See also *Toro Co. v. R & R Prods. Co.*, 787 F.2d 1208, 1213 (8th Cir. 1986) (holding that the random or arbitrary assignment of parts numbers was insufficiently original to establish copyright). Instead, the court should have held in *Toro* that the assignment of parts numbers was not authorship—it was not intended to convey any particular information about the relationship between the different parts. This is not to suggest, however, that randomness is always a bar to copyrightability. If an author intentionally incorporates randomness into her creation for purposes of communicating something about the randomness, for example, that would clear the authorship bar. See Alan L. Durham, *The Random Muse: Authorship and Indeterminacy*, 44 *Wm. & Mary L. Rev.* 569 (2002).

³³² See *supra* text accompanying notes 129–36.

less. Only by considering *why* Rural made the choices that it did can we see that those choices are not constitutive of authorship.

Now consider *American Dental Ass'n*. We begin by asking what the ADA did and why it did it. The ADA coordinated and arranged dental procedures, and it assigned code numbers to these procedures based on their arrangement. It would be helpful to know more about why the ADA made these decisions, though. Did the ADA place two procedures next to each other in its system to make the system easier to use (for example, because dentists looking up the first procedure often look up the second procedure)? If so, its arrangement would not constitute authorship. Instead, if the ADA placed procedures in the same category in order to convey information about the relationship to one another, then their decision would amount to authorship.³³³ This is the taxonomic function that Judge Easterbrook noted, but it is not a “function” in a way that disqualifies it for copyrightability.³³⁴ The same inquiry into intentions is appropriate for the code numbers that were assigned to the procedures. Were they assigned arbitrarily or were they intended to convey information about the procedures? Only if the court determines that the arrangement of procedures or the assignment of code numbers constituted authorship should it proceed to determine whether the manner of the arrangement or the manner of assigning code numbers were not copied and more than minimally creative.³³⁵

My approach suggests that while the Seventh Circuit may have been correct in *American Dental Ass'n*, the Third Circuit was incorrect in a similar case involving parts numbering. In *Southco, Inc. v. Kanebridge Corp.*, the Third Circuit incorrectly determined that parts numbers were functional.³³⁶ It wrote: “The Southco numbers are purely functional; . . . [They] convey information about a few objective characteristics of mundane products—for example, that a particular screw is one-eighth of

³³³ Conveying information is not sufficient to qualify as authorship. Authorship involves the manner or form in which the information is conveyed. The author must select and arrange the information “in such a way” that it is original and creative for authorship to arise. See *supra* notes 250–58.

³³⁴ One of the key benefits of my approach is that it looks not to definition and names but rather to effects. It does not ask whether something is a process or an idea or an expression but rather, it asks: How does the thing do its work?

³³⁵ The approach taken here is relevant to questions about the copyrightability of games as well. See Bruce E. Boyden, *Games and Other Uncopyrightable Systems*, 18 *Geo. Mason L. Rev.* 439, 477 (2011).

³³⁶ 390 F.3d 276, 284, 299 (3d Cir.2004).

an inch in length.”³³⁷ Conveying information, however, is not a function in the copyright sense. It is authorship in that it produces a mental effect. Of course, the manner by which that information was conveyed may not have been original or more than trivially creative.

3. *Computer Software*

Understanding copyrightable authorship as the manner by which mental effects are produced also makes analyzing cases involving computer software substantially easier. Consider a simple example. A programmer writes a string of computer code that instructs a computer to produce a visual display, for example, a video game character. The programmer would obtain a copyright in the visual image of the character if the character is original and more than minimally creative. It is a pictorial or graphic work³³⁸ that is clearly intended to produce mental effects. That the work was “fixed” in computer code rather than on paper is irrelevant. Either method of fixing the work produces a “copy” of the work that others are prevented from duplicating.³³⁹ The same result would hold if the creator provided detailed textual instructions for drawing the character.³⁴⁰

But what about the code used to create the visual image? Can the code be a copyrightable work in its own right, or is it simply a copy of the work that it fixes? Do the specific lines of code or anything else about them evince copyrightable authorship? It depends on why those lines of code were chosen. The judge should consider whether the manner in which the programmer selected and arranged the various elements of the code—the letters, numbers, units, and modules—was done with the intention of creating mental effects in an audience. The judge should ask whether the elements were arranged in such a way that the programmer intended that a human reader would experience some particular thoughts, feelings, or emotions. If not, then the lines of code are not

³³⁷ *Id.* at 284.

³³⁸ See 17 U.S.C. § 102(a) (2012) (listing the categories of copyrightable subject matter).

³³⁹ 17 U.S.C. § 101 (2012) (defining “[c]opies” as “material objects, other than phonorecords, in which a work is fixed by any method now known or later developed, and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. The term ‘copies’ includes the material object, other than a phonorecord, in which the work is first fixed.”).

³⁴⁰ Here, the “work” is the character, and the various descriptions of it are “copies.” Hick helpfully refers to this relationship as one between types and tokens. Hick, *Ontology*, *supra* note 171, at 188.

copyrightable authorship. They are, instead, merely the method of fixing copyright authorship (of the character) and are not copyrightable in themselves. Further, it is not sufficient that a person is capable of “reading” the code to understand what instructions it is conveying to the computer. Being able to follow along the instructions for the production of an outcome is not the same thing as producing mental effects by the manner in which those instructions are drafted.³⁴¹

To understand the relationship between software and authorship, consider an analogy to a culinary dish and its recipe. The culinary dish, like the video game character, is a potentially copyrightable work of authorship if it is original, more than trivially creative, and fixed. Just as the character is intended to create mental effects, so too the combination of flavors, colors, textures, and aromas of the dish is intended to create mental effects. Both the video game character and the dish are capable of being fixed in a number of ways, that is, in various kinds of copies. Either could be depicted visually, and either could be described linguistically in terms of how to create it via computer code or a recipe, respectively. If the works (character and dish) are copyrightable, their creators will have the exclusive right to produce copies of them.³⁴²

If, however, the underlying works are not copyrightable, the method of fixing the work still may be copyrightable. That is, the “copy” may itself be a “work of authorship” to the extent that it contains separate copyrightable authorship from that which it fixes. For this to be the case, there must be something about the ways in which the elements of the code or the recipe were arranged that produce separate mental effects.

This is easiest to understand in the case of a recipe. The recipe may read: “Make a mound of a cup of flour, and create a well in the center of the mound. Add nine egg yolks to the well and combine the ingredients.” Foodie readers may immediately recognize this as the beginning of a pasta recipe. But their ability to recognize it as such, even if the pasta dish is copyrightable, does not mean that the recipe itself is copyrightable. This is because we are discussing two different works composed of

³⁴¹ This is what Samuelson and her co-authors mean by programs “behaving.” Samuelson et al., *Manifesto*, supra note 147, at 2316. The behavior of the program is no more a work of authorship than the information conveyed in a database. Authorship only inheres in the form or manner in which the behavior or information is conveyed.

³⁴² 17 U.S.C. § 106(1) (2012) (granting the copyright owner the exclusive right to reproduce the work in copies). This means that the authors would have the exclusive right to generate versions of the work, for example, by distributing copies of the recipe or of the source code.

separate elements. The dish is a work composed of starches, fats, and proteins. The recipe is a copy of that work. The recipe may also be a separate work composed of words and numbers. The dish is a work of authorship if the manner by which the starches, fats, and proteins were arranged creates mental effects. The recipe is a work of authorship if the manner by which the words and numbers were arranged creates mental effects. This might be the case if, for example, the author of a recipe for smoked brisket used Texan idioms to compose the recipe.³⁴³ Those aspects of the recipe would be independently copyrightable authorship if original and creative. If, however, the words and numbers were chosen because they were the easiest to understand and follow, the recipe would not constitute separate authorship.

The same rules apply to computer software. Software, according to the Copyright Act, is a set of instructions to a computer to produce an outcome.³⁴⁴ Like the recipe, the instructions can serve two roles—they provide the method of fixation for the outcome and they may be independent copyrightable authorship. The outcome of a computer program is copyrightable authorship if it is intended to produce mental effects and is original and more than trivially creative. If the outcome of the program is an audio-visual display, then it is probably copyrightable authorship.³⁴⁵ If the outcome of the program is a method for adding together two sets of numbers, then it is not copyrightable authorship.³⁴⁶ So, too, for the software code as such. If the manner by which the programmer arranged the elements of the code was intended to create mental effects analogous to the Texas lingo in the brisket recipe, then those aspects of the program are independently copyrightable authorship if they meet the other requirements.

Returning to *Oracle America, Inc. v. Google, Inc.*,³⁴⁷ we can consider how this theory of authorship would apply to Oracle's API. The issue was not whether the outcomes of the programs were copyrightable, but whether the specific lines of code were copyrightable.³⁴⁸ Recall that the

³⁴³ See *Barbour v. Head*, 178 F. Supp. 2d 758, 760, 766 (S.D. Tex. 2001) (upholding copyright of Texas barbeque recipes for "Armadillo Eggs," "Cattle Baron Cheese Dollars," and "Gringo Gulch Grog").

³⁴⁴ See 17 U.S.C. § 101 (defining "computer program").

³⁴⁵ Again, assuming it meets the demands of originality and minimal creativity.

³⁴⁶ This is because the goal of the program is not to produce mental effects but rather to accomplish a task in the world.

³⁴⁷ 750 F.3d 1339 (Fed. Cir. 2014).

³⁴⁸ *Id.* at 1347.

Federal Circuit asked whether Oracle made “creative” choices, where creative seemed to mean only that they selected from the many options that were available.³⁴⁹ Instead, the court should have considered the reasons why Oracle made the decisions that it did.³⁵⁰ Were there any aspects of the code that were intended to create particular thoughts, feelings, or emotions in human readers separate from a recognition of the function and results of the code? Or, instead were the elements of the code chosen solely for purposes of ease, efficiency, and functionality? The plaintiff should be made to specify which elements were chosen to produce mental effects. Although we need not care *whether* the arrangement of elements did in fact produce the intended effects in readers,³⁵¹ we must determine that the arrangement of elements *was intended* to produce effects.

Only if Oracle can point to specific aspects of the program that were intended to produce mental effects separate from the program’s outcome will it be deemed to have engaged in authorship. Having isolated these aspects of the program, the judge should then inquire whether each one is (1) original to Oracle or copied from another source; and (2) more than trivially creative. In order for any element of the programs to be copyrightable, it must meet each of these requirements. Because Oracle was not required to specify the aspects of the program that were intended to produce mental effects, we cannot easily judge the case from the available record. The case should be returned to the trial court for further factfinding.

This Part has applied my theory of authorship to a series of important problems in copyright jurisprudence. Under this theory, the realm of copyrightable authorship is both broader and narrower than previously conceived. Some kinds of creativity that have not been heretofore rec-

³⁴⁹ Id. at 1356; see also id. at 1361 (“The focus is . . . on the options that were available to [the author] at the time it created the API packages.”).

³⁵⁰ Unfortunately the court explicitly chose not to consider one important reason why the programmers arranged elements in the way that they did: interoperability. To the extent that Oracle made the decisions it did in order to allow its programs to work with other programs, this is not an authorship-relevant decision and should be excluded from copyrightability. See Samuelson, *supra* note 152, at 3.

³⁵¹ This relates to the programmer’s semantic intentions. See *supra* notes 185–91 and accompanying text.

ognized as copyrightable authorship fall within Congress's constitutional power. If the appropriate circumstances arise, Congress could grant copyright to a wider class of creative works, including perfumes, tactile works, and culinary dishes. In other respects, however, some works that would have received protection under the unconstrained-choice approach may now appear to lack the necessary features of authorship. Courts reviewing visual arts, methods, and computer code must inquire more deeply into creators' motivations and decisions than they previously have. Asking not simply whether creators made unconstrained choices, but instead analyzing why those choices were made will likely yield a narrower range of protection in some classes of copyright works.

CONCLUSION

Who can be an "Author" and what counts as a "Writing" are fundamental issues in copyright doctrine, but they have received little systematic examination. This Article defends a theory of authorship and applies it to a number of important copyright disputes, including the constitutional limit of powers and the scope of copyrightable authorship in particular works. This theory has broad applicability in a number of other central intellectual property areas.

Recently, the ownership of copyright works has become a matter of considerable dispute. For example, if an actor performs a role in a movie, can she qualify as the author of her performance?³⁵² What about the director of the movie?³⁵³ To what extent can the appropriation artist who re-photographs another's image claim authorship of the resulting picture?³⁵⁴ In all of these situations, the answer turns on how the law conceives of authorship.

In addition, copyright law must often determine whether a work that combines utilitarian features with authorship should receive protection. These "useful articles" include belt buckles,³⁵⁵ bicycle racks,³⁵⁶ and mannequin forms.³⁵⁷ Courts have developed numerous tests to answer

³⁵² *Garcia v. Google, Inc.*, 786 F.3d 733, 733 (9th Cir. 2015).

³⁵³ *16 Casa Duse, LLC v. Merkin*, 791 F.3d 247, 247 (2d Cir. 2015).

³⁵⁴ Christopher Buccafusco, *Appropriation Art Meets Instagram: Is Copyright Law Ready?*, MSNBC.com (May 26, 2015, 7:41 PM), <http://www.msnbc.com/msnbc/appropriation-art-meets-instagram-copyright-law-ready> [<https://perma.cc/SM6V-YCFW>].

³⁵⁵ *Kieselstein-Cord v. Accessories by Pearl*, 632 F.2d 989, 989 (2d Cir. 1980).

³⁵⁶ *Brandir Int'l v. Cascade Pac. Lumber Co.*, 834 F.2d 1142, 1148–49 (2d Cir. 1987).

³⁵⁷ *Carol Barnhart, Inc. v. Econ. Cover Corp.*, 773 F.2d 411, 411, 422 (2d Cir. 1985).

this question, but, in so doing, they have failed to ground their approaches in a coherent theory of authorship.³⁵⁸ Only by understanding what it is that authors do can we determine whether these useful articles contain separable copyrightable features.

Finally, the approach to authorship that I take in this Article has important implications for other areas of IP, including utility patent law, design patent law, and trademark law. In these areas, the constitutional text also imposes restrictions on congressional power. More work is necessary to appreciate the scope of that power. For example, to what extent does the IP Clause impose limitations on Congress's power to enact design protection laws?³⁵⁹ Does the authority to grant design patents emerge from the references to "Authors" and "Writings" or from "Inventors" and "Discoveries"? To answer these questions the law needs fully developed and coherent theories of authorship and inventorship.

³⁵⁸ See Yen, *supra* note 172, at 247.

³⁵⁹ For a recent discussion, see Ralph D. Clifford & Richard J. Peltz-Steele, *The Constitutionality of Design Patents*, 14 *Chi.-Kent J. Intell. Prop.* 553 (2015) (discussing the constitutional authority for design patents).