

Rule-Based Expression in Copyright Law

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Should copyright be extended to a work of authorship that consists of rules for producing another work of authorship, or, conversely, to a work that owes its genesis to the application of such rules? If yes for either, are ‘A’ and ‘B’ two separate works, or two dimensions of the same work? In the leading case, *Southco, Inc. v. Kanebridge Corp.*,¹ the plaintiff claimed copyright protection for the individual serial numbers generated by a set of proprietary numbering rules; similar issues, however, are raised by any work whose claim to originality comes from how its literal elements are structured, such as compilations, games, recipes, blueprints, score sheets, taxonomies, price estimates, and computer programs. The more basic problem is the relationship between function and expression in works of authorship generally, and what freely willed self-expression in those works requires. I trace the doctrinal forebears of *Southco* to the seminal case of *Baker v. Selden*,² and focus on the question of how to evaluate the copyright status of a work whose rule-basis engenders its textual form in an invariant and predetermined manner.

INTRODUCTION: “THE FLOW OF THE STREAM”

It is true that property in the order of words is a mental abstraction, but so also are many other kinds of property; for instance, the property in a stream of water, which is not in any of the atoms of the water, but only in the flow of the stream.³

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1 390 F.3d 276 (3d Cir. 2004).

2. 101 U.S. 99 (1879).

3. *Jefferys v. Boosey*, (1854) 4 H. L. Cas. 815, 869, 10 Eng. Rep. 681, 703 (H.L.) (Erle, J.).

On December 3, 2004, the Third Circuit handed down its opinion in *Southco, Inc. v. Kanebridge Corp.*,⁴ a copyright case that dealt with the serial numbers that had been assigned by a parts manufacturer to its inventory of screws and fasteners. By the time it was resolved, the *Southco* case had been contested for more than five years, going back and forth between the trial court and the appellate courts before being finally decided by the Court of Appeals, sitting en banc, with a majority opinion by (then) Judge Samuel A. Alito, Jr., a concurring opinion by Judge Edward Becker based on considerably different reasoning, and a dissenting opinion by Judge Jane Richards Roth.⁵

Although the subject of the dispute could not have been more mundane—whether *Southco*'s individual serial numbers, as opposed to the parts catalogue in which they were listed, should be eligible for copyright protection—the court was deeply troubled by the far-reaching implications of the issues it raised. In the end, the fairly trivial inquiry that was the court's starting point broadened to encompass the most basic questions about authorship and creativity.

The first part of this Article describes the *Southco* case, and its Sixth Circuit counterpart, *ATC Distrib. Group, Inc. v. Whatever It Takes Transmission & Parts, Inc.*⁶ The focus

4. 390 F.3d 276 (3d Cir. 2004).

5. In the Court of Appeals, Judge Alito was the author of the first *Southco* opinion in *Southco, Inc. v. Kanebridge Corp. (Southco I)*, 258 F.3d 148 (3d Cir. 2001), and Judge Roth was the author of the second *Southco* opinion in *Southco, Inc. v. Kanebridge Corp. (Southco II)*, 324 F.3d 190 (3d Cir. 2003). The duel between the two was resolved by the en banc decision discussed here. Judge Roth coined the term "rule-based expression" in her dissenting opinion. See 390 F.3d at 296 (Roth, J., dissenting). Another parts numbering case, whose copyright issues were resolved by applying *Southco*, was being litigated almost concurrently. See *R&B Inc. v. Needa Parts Mfg., Inc.*, 418 F. Supp. 2d 684, 695 (E.D. Pa. 2005).

6. 402 F.3d 700 (6th Cir. 2005). Aside from *ATC*, the case most directly on point with *Southco* is the decision of the Eighth Circuit in *Toro Co. v. R & R Products Co.*, 787 F.2d 1208 (8th Cir. 1986). Both *Toro* and *ATC*, like *Southco*, involved unauthorized copying by a competitor of part numbers that had been published in a copyright-protected catalogue. These two cases went in the same direction as *Southco*, although the serial numbers in *Toro* were *not* systematically generated by a coding process, and the court in dicta signaled that it would have decided the case differently had the facts been otherwise. See *id.* at 1213. For a survey of cases that predate 1991, see John J. Voortman, *Copyrighting Parts Books: The Protection of Parts Information as Industriousness Collected or Compiled Data*, 10 J.L. & COM. 219, 228-38 (1991).

in the near perspective is on Judge Frank Easterbrook's influential opinion in *American Dental Association v. Delta Dental Plans Association*,⁷ and in the far one on the seminal nineteenth century case from which all else follows, *Baker v. Selden*.⁸ The second part widens the focus to encompass a controversial series of Second Circuit decisions, all but one from the 1990s, which addressed, in various contexts, the protectibility of numerical data, such as baseball statistics, used car valuations, and settlement prices. The third part takes up the "creativity question" of what the author in *Southco* did *between* idea and expression to create a work of authorship. How does one "express" the "idea" of using numbering rules to encode product information in serial numbers? If the numbering rules are expressive, are the numbers that result from applying the rules expressive as well?

I draw upon literary and aesthetic theory in my attempt to place these questions in the context of the twin challenges posed to copyright authorship by the "check" of rule-constraint and the "checkmate" of functionality. My premise is that the *work* is a formal concept, and *authorship* a type of agency; consequently, that authors *as* agents do not qualify for protection unless their expression is both freely willed and formally realized. This premise sets the stage for me to consider why the term "compilation," at least since the 1991 case of *Feist Publications, Inc. v. Rural Telephone Service Co.*,⁹ has come to serve not just as the label for a particular category of

7. 126 F.3d 977 (7th Cir. 1997).

8. 101 U.S. 99 (1879) (Bradley, J.).

9. 499 U.S. 340 (1991) (O'Connor, J.). *Feist* culminated a line of cases dealing with directories, such as telephone books, and has come to stand for the principle that originality alone does not make an author. The plaintiff, Rural Telephone, sued Feist, a purveyor of "yellow pages," for copying from its "white pages" directory, which had been compiled by Rural Telephone in its role as local telecommunications provider. *Id.* at 342-43. Justice O'Connor rejected Rural Telephone's infringement claim because the "industrious collection" of facts, in and of itself, does not provide the "creative spark" needed for copyright protection, even if all of the author's work is original, i.e., not copied from anyone else. *Id.* at 359-60. Justice O'Connor, however, did not rely solely on the "creative spark" theory; she also held that the "selection, coordination, and arrangement" of the names and numbers in the "white pages" directory was unoriginal—did not originate with the author—because it was standard and conventional. *Id.* at 362-63.

works assembled out of preexisting materials,¹⁰ but also as a metaphor for all works of authorship. The argument is that *all* works, under the microscope, dissolve into non-protected bits and pieces, inherently no more expressive than a lone digit. The compilation metaphor, of course, does not relieve our anxiety about the stability and coherence of the work, but instead sends us back to the author, looking for answers. Something that the author does has to hold the bits and pieces together, but what?

Ten years after the Supreme Court's decision in *Feist*, the Second Circuit applied the compilation metaphor to the design of an alphabet quilt, a work that obviously had not been submitted for protection as a compilation of letters. "[O]riginal works broken down into their composite parts would usually be little more than basic unprotectible elements like letters, colors and symbols," wrote the court in *Boisson v. Banian, Ltd.*¹¹ "This outcome—affording no copyright protection to an original compilation of unprotectible elements—would be contrary to the Supreme Court's holding in *Feist Publications*."¹²

10. See 17 U.S.C. §§ 101, 103 (2006) (defining compilations and their scope of protection).

11. 273 F.3d 262, 272 (2d Cir. 2001).

12. *Id.* at 272; see also *Yurman Design, Inc. v. PAJ, Inc.*, 262 F.3d 101, 109 (2d Cir. 2001); *Streetwise Maps, Inc. v. Vandam, Inc.*, 159 F.3d 739, 748 (2d Cir. 1998); *Knitwaves, Inc. v. Lollytogs, Ltd.*, 71 F.3d 996, 1003-04 (2d Cir. 1995); *CCC Info. Servs., Inc. v. Maclean Hunter Mkt. Reports, Inc.*, 44 F.3d 61, 70-72 (2d Cir. 1994). The "protection of a complex work's 'total concept and feel' [is] a necessary result of the Supreme Court's statement in *Feist* . . . that compilations of unprotectible elements merit copyright protection insofar as they contain an original and non-mechanical selection, coordination or arrangement of those elements." *Tufenkian Import/Export Ventures, Inc. v. Einstein Moomjy, Inc.*, 338 F.3d 127, 134 n.7 (2d Cir. 2003) (internal citation omitted). *Cf. Satava v. Lowry*, 323 F.3d 805, 811 (9th Cir. 2003) ("Our case law suggests, and we hold today, that a combination of unprotectible elements is eligible for copyright protection only if those elements are numerous enough and their selection and arrangement original enough that their combination constitutes an original work of authorship.") (citing *Feist*, 499 U.S. at 358); *Bucklew v. Hawkins, Ash, Baptie & Co.*, 329 F.3d 923, 929 (7th Cir. 2003) ("Every expressive work can be decomposed into elements not themselves copyrightable . . . it is the combination of elements, or particular novel twists given to them, that supply the minimal originality required for copyright protection.").

An early post-*Feist* case to apply the compilation metaphor to a rule-based work, specifically a videogame, was (then) Judge Ruth Bader Ginsburg's opinion in *Atari Games Corp. v. Oman*, 979 F.2d 242, 244-47 (D.C. Cir. 1992).

After reading *Boisson*, we have to ask what aesthetic or legal principle held the alphabet quilt together *as* a work, beyond the unoriginal selection and arrangement of letters that made up its textual form. Much of the thinking that follows this line of inquiry is analogical and even, as noted, metaphorical. If the sequence of an author's words is like the flow of a stream, the puzzle we continue to ponder is how the stream coheres as well as what it really *is*.

I. THE *SOUTHCO* CASE

Where is the painting before the painter has painted . . . it? Where is the symphony before the composer has conceived it? Where is the song before the singer has sung it? These questions have no meaning. They are like asking, 'Where is the walk before I have walked it?', 'Where is my life before I have lived it?'¹³

The essential facts of the *Southco* case were not in dispute.¹⁴ Southco manufactures screws and fasteners that are used by subcontractors who assemble computer and telecommunications equipment. It catalogues its inventory according to a process that encodes information about its products into their nine digit serial numbers.¹⁵ Kanebridge distributed low-cost imitations of Southco's parts; in order to encourage substitution, it published conversion charts

The compilation metaphor has also been applied to the work's fixation in digital copies, which are databases of binary numbers that can be reconstituted by programming rules into analog copies. See Dan L. Burk, *Expression, Selection, Abstraction: Copyright's Golden Braid*, 55 SYRACUSE L. REV. 593, 611-12 (2005).

13. Isaiah Berlin, *European Unity and its Vicissitudes*, in *THE CROOKED TIMBER OF HUMANITY: CHAPTERS IN THE HISTORY OF IDEAS* 175, 188 (Henry Hardy ed., 1990).

14. There was no trial; *Southco I* appealed the grant of a preliminary injunction, and *Southco II* appealed the denial of a motion for summary judgment. See *Southco, Inc. v. Kanebridge Corp.*, 390 F.3d 276, 277-78 (3d Cir. 2004).

15. "Southco has referred to one of the numbers at issue in this case, part number 47-10-202-10, to show how the system works. The first two digits ('47') show that the part falls within a class of captive screws. Other digits indicate characteristics such as thread size ('632'), composition of the screw (aluminum), and finish of the knob ('knurled')." *Id.* at 278. The listings of Southco's "class 47 captive screw fasteners," upon which its allegations of unauthorized copying were based, occupy thirty-two pages of the product literature. *Southco® Prism Series™ 4C Captive Screw*, <http://www.southco.com/resources/documents/47-4c.en.pdf>.

that listed Southco's serial numbers and its own in parallel columns so that customers could see that the parts were interchangeable.¹⁶ Southco alleged that this unauthorized reproduction of its serial numbers infringed its copyright, which is how more than five years of litigation began.¹⁷

The serial numbers in *Southco* were the textual level of what was likely a protectible work—Southco's parts catalogue—but on their face had little else to commend themselves as vehicles of expression except that they originated with Southco.¹⁸ The parts catalogue was literally a listing of individual serial numbers (along with other product information) that came from the same source and referred to the same type of thing, screws and fasteners. Each of these nine-digit numbers was claimed by Southco to be a discrete, protected work.¹⁹ The work, in its broader sense, was *also* a coding process embodied in a set of numbering rules that specified a unique number for each screw or fastener, and allowed a user to infer the characteristics of Southco's parts by decoding them. In other words, there were three distinct dimensions to the work in *Southco*: the individual part numbers, the numbering rules, and the coding process by means of which the "author" of a number applied the rules to the parts.

16. See *Southco*, 390 F.3d at 278-79.

17. See *id.* at 279-81.

18. In *Feist*, the copyright owner, Rural Telephone, had originated all the local telephone numbers and did not inherit or adopt preexisting ones, but did not claim, like Southco did, that these discrete textual elements were protected apart from their publication in the "white pages" directory, which had been copyrighted as a compilation of facts. See *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 361 (1991).

19. This claim raised the tangential issue of whether the individual serial numbers were analogous to the "words and short phrases" to which the Copyright Office asserted it routinely denies registration. *Southco*, 390 F.3d at 285-86. Judge Alito said yes. *Id.* at 287. Judge Becker and Judge Roth, however, both disputed the applicability of the Copyright Office's "words and short phrases" regulation to Southco's facts. See *id.* at 289-90 (Becker, J., concurring); *id.* at 297-300 (Roth, J., dissenting). The judges treated this issue more as one of administrative than copyright law, disagreeing about the degree of *Chevron* or *Skidmore* deference to which the Copyright Office was entitled. See *id.* at 286 (Alito, J., majority opinion); *id.* at 290 (Becker, J., concurring); *id.* at 299 (Roth, J., dissenting). If the case's primary holding tested the doctrinal line between patent and copyright, this secondary one tested that between copyright and trademark.

Judge Alito declined to consider whether the coding process itself was protectible—that is, whether the Supreme Court’s decision in the 1879 case of *Baker v. Selden*²⁰ allowed such protection—because he believed that Southco had waived this claim.²¹ Also, because Southco denied that its catalogue was a protected compilation of unprotected numbers, he did not have to consider whether the numbering rules were creative in the way they selected, coordinated, and arranged information about Southco’s products.²² He focused instead on the relationship between the individual numbers and the numbering rules, and concluded that “the Southco part numbers are not protected by copyright because they are mechanically produced by the inflexible rules of the Southco system.”²³ Southco failed to satisfy the “creativity requirement” of *Feist* because “once the rules of the system applicable to the particular product class are set, the numbers themselves are generated by a mechanical application of the rules and do not reflect even a

20. 101 U.S. 99 (1879). *See infra* text accompanying note 46.

21. Judge Alito quoted counsel for Southco as conceding that “[t]here is no monopoly on the system; anyone is free to use it . . . with impunity. It is only the particular expression that Southco seeks to protect—the precise nine digits which express the idea in each part number.” *Southco*, 390 F.3d at 285 n.4 (quoting Brief of Appellee at 14, *Southco*, 390 F.3d at 276 (No. 00-1102)).

Judge Roth, in her dissent, asserted that Southco had *not* intended to waive protection of its copyrighted expression, which she defined as the numbering rules it had created to describe its product line *in addition to* the individual part numbers it had created by applying the rules. She justified this interpretation of the record by distinguishing the coding process realized by Southco’s numbering rules from its “idea” of developing a coding process in the first place, which anyone was free to take. *Id.* at 292 n.9 (Roth, J., dissenting). She could also have pointed out that it would not have made any sense for Southco to concede that competitors were free to use its numbering rules since that concession in effect would have given away the part numbers as well. *See infra* text accompanying note 89.

22. The complaint focused on the unauthorized copying of individual numbers (viz., “the 51 part numbers for Southco’s ‘Class 47 captive screw fasteners’”), *Southco*, 390 F.3d at 280; the district court had found that the protectibility of the catalogue in which the numbers were compiled was not an issue in the case. *See infra* note 62. Since the complaint focused on the unauthorized copying of individual numbers or number sequences—“the 51 part numbers for Southco’s ‘Class 47 captive screw fasteners’”—the copyrightability of the catalogue itself was not an issue in the case and was not addressed by the Court of Appeals. *Southco*, 390 F.3d at 279 (citation omitted).

23. *Southco*, 390 F.3d at 285.

spark of creativity.”²⁴

This lack of creativity was a flaw in Southco’s claim to *be* an author, but the more basic problem was its difficulty explaining what its work of authorship *was*. What was Southco’s “idea” and how was it “expressed”? All authors have ideas before they write, and all works of authorship express those ideas in some determinate form, but there is more to a work than a preexisting set of rules that have been mechanically applied. A paint-by-the-numbers picture, for instance, does not change its nature from inexpressive to expressive after someone fills in the blanks.²⁵ Likewise, a genre precedes the creation of works in that genre, but the genre is not a process for generating works,²⁶ much less a machine for manufacturing them,²⁷ despite the promises of creative writing handbooks and the dreams of weary authors. A work does not exist before an author writes it, any more than it persists after the last copy has been lost.

Judge Learned Hand’s approach to literary works in the landmark case of *Nichols v. Universal Pictures Corp.*²⁸ was

24. *Id.* at 283.

25. If the person who fills in the blanks has discretion to choose the colors, however, he or she may be the author of a derivative work. *See Sargent v. Am. Greetings Corp.*, 588 F. Supp. 912, 918 (N.D. Ohio 1984).

26. *See Note, Pure Fiction: The Attempt to Patent Plot*, 19 HARV. J.L. & TECH. 231, 242 (2005) (claiming that plot patents “do not enable the process that yields the result they claim—a story”).

27. GEORGE GISSING, *NEW GRUB STREET* 89 (Irving Howe ed., Houghton Mifflin Co. 1962) (1891):

A few days ago her startled eye had caught an advertisement in the newspaper, headed ‘Literary Machine’; had it then been invented at last, some automaton to supply the place of such poor creatures as herself, to turn out books and articles? Alas! the machine was only one for holding volumes conveniently, that the work of literary manufacture might be physically lightened.

28. 45 F.2d 119 (2d Cir. 1930). *Nichols*, decided in 1930 by the Second Circuit, arose out of a complaint by Anne Nichols against the producers of a movie, *The Cohens and The Kellys*, whose story line resembled that of her long-running Broadway play, *Abie’s Irish Rose*, with the same theme (inter-ethnic marriage) and similar characters (young lovers and their parents). *See id.* at 120-21. Judge Hand closely compared the characters and plots of the two works and concluded that, although they told the same story at some high plane of generality or “level of abstraction,” the play and the movie were sufficiently different in their details so that they resembled each other only in idea and not in expression. *See id.* at 121-22.

to imagine a series of increasingly broad paraphrases. At some point, he reasoned, the paraphrase will coincide with the generic “story” behind the narrative “plot,” and thus describe both the plaintiff’s and the defendant’s writings.²⁹ Southco’s numbering rules, in contrast, were not a retrospective paraphrase of the numbers in its catalogue—or a story about the numbers that could have been told differently—but rather an embodiment of the coding process that produced them in the first place. Before any single serial number was expressed, it already existed, *in potentia*, as a literal element of the system.³⁰

Even so, the numbering rules could not be simply dismissed as irrelevant to Southco’s copyright claim. Although the part numbers may have been mechanically generated, they were not *randomly* generated.³¹ The numbering rules encoded information about the parts into the part numbers, which allowed Southco to claim that its numbers were the literal “expression” of a non-literal “idea,” and hence works of authorship. There was undoubtedly an intrinsic relationship of some sort between the numbering

29. See Michael D. Murray, *Copyright, Originality, and the End of the Scènes à Faire and Merger Doctrines for Visual Works*, 58 BAYLOR L. REV. 779, 790-91 (2006) (paraphrasing the two plots compared in *Nichols* at rising levels of abstraction). Judge Posner went so far as to suggest that *Nichols* gives the copyist some leeway to paraphrase himself out of trouble. See *Bucklew v. Hawkins, Ash, Baptie & Co.*, 329 F.3d 923, 930 (7th Cir. 2003).

30. In this respect, Southco’s predetermined numbering system is like the imaginary “Library of Babel,” which contained an infinite number of books that realized in textual form every possible alphabetical combination. Every book that ever *could* be written already *had been* written and shelved somewhere in the library, but because they had been randomly composed and arranged, most were gibberish and no particular book could ever be located. Instead of writing new books, denizens of the library vainly search for the one that will explain all the others, or the one that will justify their own lives. See JORGE LUIS BORGES, *The Library of Babel*, in COLLECTED FICTIONS 107-118 (Andrew Hurley, trans., Penguin Books 1998) (1941). As the narrator of the story reflects, “the certainty that everything has already been written annuls us, or renders us phantasmal.” *Id.* at 118.

31. The Eighth Circuit had rejected the plaintiff’s claim in the *Toro* case precisely because the “numbers were assigned to a part without rhyme or reason.” 787 F.2d at 1213. In *Southco*, Judge Alito declined to consider the suggestion made at oral argument that the plaintiff’s part numbers should be protected on the same principle that protects a “work of aleatoric art,” such as a “drip painting,” because the digits were *not* randomly selected, but rather systematically generated. See *Southco, Inc. v. Kanebridge Corp.*, 390 F.3d 276, 284 (3d Cir. 2004).

rules and the part numbers, but the metaphor of story and plot would do little to clarify what this relationship was.

A. *ATC Distribution*

In 2005, the Sixth Circuit, in *ATC Distribution Group, Inc. v. Whatever It Takes Transmission & Parts, Inc.*,³² considered a nearly identical parts numbering case. ATC was a distributor of automotive transmission parts. One of its employees went into business with a competitor and took with him an electronic copy of ATC's catalogue. Although no copies of the competing catalogue were distributed to the public, the competitor copied ATC's individual part numbers in its internal documents and advertising.³³ As did Southco, ATC pleaded for the court to find a protected "middle ground" between its individual part numbers and the abstract idea of a coding process.³⁴

As a last resort, ATC suggested during oral argument that even if neither the ideas that gave rise to the part numbers, nor the individual part numbers, qua expressions of those ideas, are copyrightable, the part numbers taken as a whole were somehow copyrightable as a middle ground between the two, much in the same way that while neither the basic idea behind a novel nor the individual words used to write it are protected, the story that those words form when taken together is copyrightable.³⁵

This theory, however, did not impress the Sixth Circuit, which denied ATC's copyright claim for the catalogue in its entirety as well as for the individual part numbers.³⁶ "The flaw . . . is that there is no such middle ground in this case,"

32. 402 F.3d 700 (6th Cir. 2005).

33. *See id.* at 704.

34. *Cf. Southco*, 390 F.3d at 292 (Roth, J., dissenting) ("I believe that a more sensible middle ground is available.").

35. *ATC*, 402 F.3d at 710.

36. *Id.* Judge Boggs probably went too far when he implied in this passage that ATC's catalogue ("the part numbers taken as a whole") was inexpressive because it did not have a discernible structure. *Id.* Compilations have structures, even though they are not *narrative* structures. Nevertheless, his ruling was justified by the district court's finding that the catalogue had been substantially copied from an earlier version by a different author, and also that the manner in which its part numbers were arranged was insufficiently creative to merit copyright protection. *See id.* at 711.

wrote Judge Danny Boggs.³⁷ “Unlike the words that comprise a novel, which add up to a story, the numbers used in ATC’s catalog only add up to a long list of numbers. Putting all the numbers together does not make them expressive in the way that putting words together makes a narrative.”³⁸

The dilemma for ATC, as for Southco, was that its numbering rules *gave* literal form *to* its part numbers by dictating the sequence of digits for each one, but the numbering rules did not, in addition, *take* the literal form *of* the part numbers they engendered in the way that a generic story takes the literal form of a narrative plot. For purposes of copyright protection, the literal form of the numbering rules would have been a textual statement of them—that is, a written text explaining how to write a part number, or decode one—rather than a particular number that had been realized by applying the rules. This asymmetry was a clue that the numbering rules were literal elements of the system that produced the numbers, but *not* non-literal elements of the numbers the system produced.³⁹

Judge Alito’s reasoning went one step further.⁴⁰ That

37. *Id.* at 710.

38. *Id.*; *cf.* *Southco, Inc. v. Kanebridge Corp.*, No. CIV. A. 99-4337, 2000 WL 21257, at *4 (E.D. Pa. Jan. 12, 2000) (arguing that “each part number tells the story of a part’s size, finish, and utility”).

39. “[T]he plot [of a novel] is part of the work itself. The user interface [of a program] is not part of the work itself.” *Navitaire, Inc. v. Easyjet Airline Co.*, [2004] EWHC (Ch.) 1725 ¶ 94 (Pumfrey, J.), *available at* 2004 WL 3200228, at *347; *cf.* Pamela Samuelson, *Allocating Ownership Rights in Computer-Generated Works*, 47 U. PITT. L. REV. 1185, 1215 (1986) (“[C]omputer-generated works do not incorporate recognizable blocks of expression from the underlying program.”). In general, a computer program’s code generates its ‘user interface,’ but the program is an automated process that *produces* the interface, not a non-literal element *of* the interface. “The user interface . . . is not an element of the *encoded* program—that is to say, the program code—although the two are intricately related; and, therefore, copying the interface is not, strictly speaking, copying the program *code* literally or nonliterally.” Lloyd L. Weinreb, *Copyright for Functional Expression*, 111 HARV. L. REV. 1149, 1156 (1998).

40. Judge Boggs in *ATC* was more intent on the random designation of the individual part numbers within the functional parameters of the coding process than on the systematic nature of the process itself. *See* 402 F.3d at 709 (“ATC’s allocation of numbers to parts was an essentially random process, serving only to provide a useful shorthand way of referring to each part.”). His reasoning, on

copyright should be withheld from Southco's part numbers followed from the critical fact that its coding process, once in place, *mechanically* produced them.⁴¹ Southco's numbering rules would always specify the same number for the same part, no matter who was applying the rules or how often they were applied. As a consequence, all part numbers based on Southco's inventory and generated by Southco's coding process would be Southco's part numbers.

The point, moreover, is not simply that "work[s] of art," as Judge Alito put it, convey "complex and indeterminate ideas" as opposed to "a few objective characteristics of the subject,"⁴² such as the length, composition, and thread of a screw or fastener. A work does not qualify for copyright protection because the ideas that comprise its non-literal dimension are more complex or indeterminate than those in one that conveys only simple and definite information. What copyright law requires of authors is that they make freely willed choices during the writing of their works.⁴³ The underlying ideas in such works are only "indeterminate" in the sense that they do not predetermine how they are going to be expressed. In contrast, a coding process like Southco's leaves *no* choices to the author, except, perhaps, the initial one to abide by Southco's rules.⁴⁴

the whole, was closer to Judge Becker's in *Southco* than to Judge Alito's. See *infra* note 70 and accompanying text.

41. *Southco, Inc. v. Kanebridge Corp.*, 390 F.3d 276, 285 (3d Cir. 2002).

42. *Id.* at 284. "Indeterminate" usually means that a text or artwork is open to various, equally defensible interpretations. Judge Alito was asserting here that the photograph in *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53 (1884), was a work of art, in contrast to the Southco parts catalogue, which was not. *Id.*; see *infra* note 247 and accompanying text. This comment would seem to run afoul of *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 251 (1903), in which Justice Holmes advised that judges should not try to calibrate a work's copyright protection to its aesthetic merits.

43. This is why it did not help for Judge Roth to point out that "Southco's original work had to be completed *before* its numbers were actually expressed." 390 F.3d at 296 (emphasis added). Copyright protects the author's expression, not the "systematic or rule-driven" plans that may have *preceded* expression. *Id.* "One does not infringe the secret, undisclosed thoughts of an author. One infringes the literary product in which his original thoughts have found expression." *Cain v. Universal Pictures Co.*, 47 F. Supp. 1013, 1016 (S.D. Cal. 1942).

44. Southco's response, of course, would be that the copyright "author" was the person who designed the numbering rules, not the person who actually used

Southco relied on a coding process to confer creativity on its part numbers, but the process was invariant and functional rather than freely willed and self-expressive. If the coding process embodied in the numbering rules was inexpressive, so too were the numbers it generated. The true “middle ground” between the coding process and the individual part numbers wasn’t the “story” about the parts that could be inferred from their numbers, but the numbering rules themselves. These rules, however, were categorically ineligible for protection, by virtue of *Baker v. Selden*.⁴⁵

Although the individual part numbers conveyed information about the size, finish, and utility of a part, they were otherwise utterly inexpressive outputs of a system rather than works of authorship. In order to serve its purpose, the coding process had to be mechanically implemented, and how could *any* mechanism, no matter how ingeniously devised, routinely endow its products with self-expression? The problem was to find a way of separating the dancer from the dance.

B. “*The Expression Side of the Line*”

The only way out of this quandary lies at the problem’s source, in a more nuanced reading of *Baker v. Selden*. Charles Selden, the plaintiff in *Baker*, was a Cincinnati accountant who had devised a bookkeeping system, which he explained in a series of copyrighted books. The books

the numbering rules to generate the individual part numbers. On this rationale, the individual part numbers in *Southco* should have been protected by copyright precisely *because* the numbering rules did not leave any discretion to the user of the system.

An analogous point has been made in cases challenging the copyright protection of computer games. Computer games that have repeatable graphic elements, characters, and “sequence of play” are protectible as audiovisual works. *Atari Games Corp. v. Oman*, 979 F.2d 242, 244-45 (D.C. Cir. 1992). As long as the game’s output is predictable and fixed within parameters set by the author, then it is protected by copyright, even though the game appears to be different each time it is played. *See, e.g., Stern Elecs., Inc. v. Kaufman*, 669 F.2d 852, 856 (2d Cir. 1982) (“[T]he player’s participation does not withdraw the audiovisual work from copyright eligibility.”). The rebuttal to this response (to close this imaginary debate) would be that copyright was not claimed for Southco’s numbering rules, but for the part numbers themselves.

45. 101 U.S. 99, 103 (1879).

included copies of his sample ledger forms. William C. Baker, the defendant, developed his own bookkeeping system, allegedly derived from Selden's, and marketed a version of the forms to municipalities throughout the state. Baker succeeded in business where Selden had failed. After Selden's death, his widow pursued Baker all the way to the Supreme Court in a futile effort to achieve vindication.⁴⁶

The issue as framed by the court in *Baker* was whether the inventor of a bookkeeping system could obtain a monopoly over its *use* by asserting his copyright in a treatise that contained the system's *explanation*. The answer was no. "The description of the art in a book, though entitled to the benefit of copyright, lays no foundation for an exclusive claim to the art itself," wrote Justice Joseph P. Bradley.⁴⁷ The "essence" of a literary composition or book lies in its "statement" *about* the rules and methods of a useful art rather than in the practice *of* the useful art.⁴⁸ "This alone," he warned, "is what is secured by the copyright."⁴⁹

Of course, Southco's work of authorship was not a treatise or a "how-to" manual that explained the "useful art" of part numbering. Southco asserted its copyright to prevent Kanebridge from publishing a conversion table for replacement parts; in essence, this was the same as denying the public any opportunity to apply its coding process to non-Southco screws and fasteners. There was, however, no reason why the realization of Southco's *idea* of a coding process in the form of its numbering rules, which generated the individual part numbers, could not be treated as if those

46. What gave a measure of suspense to the outcome was that the specimen pages supplied by the author, Selden, were not identical to those published by Baker, although they were substantially similar. *See Baker v. Selden*, 101 U.S. 99, 100 (1879); Pamela Samuelson, *The Story of Baker v. Selden: Sharpening the Distinction Between Authorship and Invention*, in *INTELLECTUAL PROPERTY STORIES* 159-93 (Jane C. Ginsburg & Rochelle Cooper Dreyfuss eds., 2006). The possible implications of this fact, however, were passed over in silence; the opinion did not address the issue of liability for non-literal copying. One of its lingering ambiguities is whether the outcome would have been less favorable to Baker had he directly reproduced Selden's forms instead of devising his own. *See Weinreb, supra* note 37, at 1175 n.104.

47. *Baker*, 101 U.S. at 105.

48. *Id.* at 104.

49. *Id.*

rules were a textual statement *about* the coding process as well as an operational element *of* the process.

In her *Southco* dissent, Judge Roth embraced the claim that the numbering rules were a protected element of the work because they expressed and thereby gave form to Southco's ideas about how to organize an assortment of parts, in addition to generating particular part numbers.⁵⁰ "Once Southco's numbering rules are properly placed on the expression side of the line," she wrote, "the distinction between Southco's rules and the resulting numbers is legally insignificant. The numbers are part of Southco's original expression, even if they are dictated by another part of that expression—the numbering rules."⁵¹ The majority's position, in contrast, was "akin to limiting copyright protection in a novel to the words as they appear on the page."⁵² If this is true, one could justifiably accuse the Third Circuit in *Southco* of reverting to the primitive theory of the work espoused by its nineteenth-century predecessor in *Stowe v. Thomas*,⁵³ at least for those types of works it disfavors. "[I]f the majority's division of Southco's rules from their expression were applied generally," complained Judge Roth, "large swaths of rule-based original works would be denied protection."⁵⁴

50. *Southco, Inc. v. Kanebridge Corp.*, 390 F.3d 276, 291-92 (3d Cir. 2002) (Roth, J., dissenting).

51. *Id.* at 296. Professor Weinreb, in a different context, explained the awkward locution as follows. The idea-expression dichotomy implies "idea" as the level of generality at which infringement was avoided, and "expression" as the level at which infringement occurred, while, in fact "the true content of the distinction was between the abstract (idea) and the concrete (idea), both of which could be expressed in words. Calling the concrete idea 'expression' meant that for copyright purposes, there was expression (words) of the expression (concrete idea) of the idea (abstract idea)." Weinreb, *supra* note 37, at 1170.

52. *Southco*, 390 F.3d at 292.

53. See *Stowe v. Thomas*, 23 F. Cas. 201 (C.C.E.D. Pa. 1853) (No. 13,514). In 1853, Harriet Beecher Stowe was denied relief for the unauthorized translation of her novel, *Uncle Tom's Cabin*, because the translated German text was not a literal copy of the original English text. Justice Grier defined the work of authorship as "that particular combination of characters which exhibits to the eyes of another the ideas intended to be conveyed." *Id.* at 206-07. The work's "identity," he said, does not consist in the "ideas, knowledge or information communicated, but in the same conceptions clothed in the same words, which make it the same composition." *Id.* at 207.

54. *Southco*, 390 F.3d at 297.

Southco's copyright, moreover, did not monopolize the art of parts numbering or the field of coding processes; it only monopolized its own particular numbering rules. A better analogy would be to the copyright granted to the author of a novel. Thomas Pynchon's copyright on *Gravity's Rainbow*, for example, did not confer a monopoly on the publication of novels—only a monopoly on the publication of *Gravity's Rainbow*.⁵⁵ Likewise, Southco only claimed a monopoly on its own part numbers and its own numbering rules, not a monopoly on *all* part numbers and *all* numbering rules. The monopoly did not extend to other coding processes—which would require other numbering rules and generate other part numbers—or to the idea of applying numerical codes to screws and fasteners. “Granting Southco the exclusive right to create encoded part numbers would stifle innovation,” Judge Roth conceded.⁵⁶ “But is it not equally clear that the majority's approach—which would limit expression to the literal elements of a work and then bar copyrightability for lack of originality—is too narrow?”⁵⁷

C. *Compilation as a Metaphor*

Even if *Baker v. Selden* could be neutralized in this way, however, the basic question remained unanswered of what is creative, original, or expressive about a set of numbering rules as such or the coding process it embodies. What exactly does it mean to “express” an “idea” about a coding process? The word “express” refers to something more than applying or even creating a method for generating data. It's not difficult to identify what a coding process encodes—the physical specifications of an item, or other factual information that can be conveyed by numbers—but that is not the same as identifying what the creator of the process “expresses.”

Judge Roth responded initially to this objection with an exceedingly modest standard of what counts as expression on the literal or textual level. On this point, she found support from Judge Frank Easterbrook's opinion for the

55. THOMAS PYNCHON, *GRAVITY'S RAINBOW* (1973).

56. *Southco*, 390 F.3d at 293.

57. *Id.*

Seventh Circuit in *American Dental Ass'n v. Delta Dental Plans Ass'n*.⁵⁸ One of the issues in *American Dental* was whether the American Dental Association's (ADA) numerical code for dental procedures was an original work of authorship.⁵⁹ The *American Dental* court had held that even these unembellished numbers were protectible works because the authors of the code exercised discretion in picking which particular numbers to use and how many digits to assign to each procedure.⁶⁰ Likewise in *Southco*, Judge Roth observed that "while the selection of product specifications to be encoded in a given product line may be dictated largely by industry considerations, there would seem to be no limit to the number of ways those specifications could be encoded."⁶¹ Hence, she thought it significant that there was "nothing predetermined about the length of a part number."⁶² Choosing the number of digits for part numbers and assigning values to them were "relatively mundane choices,"⁶³ but enough to satisfy the *Feist* standard for creativity. The cause of defending an author whose expressive urges were spent on such feeble

58. 126 F.3d 977 (7th Cir. 1997). In her opinion for the panel in *Southco II* (i.e., the opinion reversed by the Third Circuit sitting en banc), Judge Roth had instructed the district court to reconsider the relevance of *American Dental*. See *Southco*, 324 F.3d at 197.

59. In addition, that is, to the ADA's underlying categorization of dental practices and to the verbal descriptions that accompanied its numerical ones.

60. See *Am. Dental*, 126 F.3d at 979. As an example, Judge Roth pointed to the following passage in Judge Easterbrook's opinion:

The number assigned to any one of these 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 a taxonomy, and another author could do things differently.

Southco, 390 F.3d at 294 n.13 (citing 126 F.3d at 979).

61. *Southco*, 390 F.3d at 293-94. In part, this statement was a response to Judge Becker's concurring opinion. Judge Becker's position, which relied on *Mitel, Inc. v. Iqtel, Inc.*, 124 F.3d 1366, 1375 (10th Cir. 1997)—a case that dealt with four digit telephone "command codes"—was that the numbering rules were unoriginal under the *scènes à faire* doctrine because they were determined by something outside the author's control, manufacturing standards in the telecommunications and computer industries. See 390 F.3d at 287-88 (Becker, J., concurring).

62. *Southco*, 390 F.3d at 294 (Roth, J., dissenting).

63. *Id.*

preferences, of course, is not a particularly compelling one. Judge Becker, in contrast, argued that “[a]rbitrary choices such as these do not satisfy the originality requirement. As far as the purpose of the Copyright Clause is concerned, there is no reason to give an incentive to churning out arbitrary symbols, for purely arbitrary decisions do not advance ‘science.’”⁶⁴

There was more to Southco’s position, however, because the coding process was not just the way its part numbers were generated, but also the way its work of authorship was structured. The coding process realized in the numbering rules was the formal principle underlying the part numbers, in the same way that Judge Hand in *Nichols* suggested that the “characters and sequence of incident” in a dramatic work is the “skeleton” that supports and pervades the whole.⁶⁵ As I proposed earlier, the vehicle for this claim is an analogy between the original work of authorship and a compilation based on preexisting materials—by the use, that is, of compilation as a metaphor. The argument is that any rejection of a numbering system as a formal principle, and one that is independently protectible as an expressive element of the work, would be inconsistent with *Feist v. Rural Telephone Service Co.*

Admittedly, Southco had distanced itself from any claim that its parts catalogue actually *was* a compilation for the obvious reason that such a claim would have left its discrete elements—the individual part numbers—unprotected.⁶⁶ In her dissent, however, Judge Roth argued

64. *Id.* at 288; *cf.* *Toro Co. v. R & R Products Co.*, 787 F.2d 1208, 1213 (8th Cir. 1986) (“We are left, then, with the accidental marriage of a part and a number. We do not believe that such a marriage produces an original work of authorship.”). The arbitrary choices reflected in Southco’s numbering rules sound more like those that go into selecting a trademark, where arbitrariness is a virtue (*see, e.g.*, *Abercrombie & Fitch Co. v. Hunting World, Inc.*, 537 F.2d 4, 9 n.6 (2d Cir. 1976)), than into creating a work of authorship, where arbitrary choice is a telling sign of inexpressiveness.

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

66. The district court reported that “Southco offered no evidence that any of the Handbook registrations were under the Compilation provisions of the Copyright Act, under which only the selection, coordination, and arrangement of the Handbook would be protected,” and further that “Southco credibly maintains that the entire content of each Handbook is original authorship, not

that Southco's parts catalogue was *like* a compilation in the sense that its numbering system was the non-literal dimension of a text that gave expressive value to the work as a whole. Therefore, a decision in favor of Southco was required by the Supreme Court's decision in *Feist* as well as by the Copyright Act itself.⁶⁷

Although ideas about selection, coordination, and arrangement are often the *only* original element contributed by the author of a compilation, compilations are nonetheless eligible for copyright protection. Once the author's ideas are applied to a particular body of information—even if the application itself is systematic or mechanical—they become protectible as ideas that are textually realized in the form of the compilation. Judge Roth inferred what she thought was the obvious relevance of *Feist* to the *Southco* case: if compilations qualify for copyright because their non-textual dimension is original to the author, so too must rule-based works, such as Southco's, which may have lacked any pretense of expressive value on the textual level of the individual part numbers, but all the same expressed the author's intentions and choices on the non-textual level of the coding process and its numbering rules.⁶⁸

D. *American Dental*

This conclusion, again, was consistent with the Seventh Circuit's position in *American Dental*. The ADA's Code on Dental Procedures and Nomenclature represented in numerical form its classification of dental procedures; the principal question, as Judge Easterbrook saw it, was whether the underlying plan was expressive.⁶⁹ If it was, then it did not matter whether the work's literal text was

a compilation of material in the public domain." See *Southco, Inc. v. Kanebridge Corp.*, No. CIV. A. 99-4337, 2000 WL 21257, at *3 (E.D. Pa. Jan. 12, 2000).

67. "[A] broad rule limiting 'expression' to the literal elements of a work would substantially deny protection to compilations, notwithstanding the express provision of the copyright statute conferring protecting [sic] such works." *Southco*, 390 F.3d at 297 (citing *CCC Info. Servs. v. Maclean Hunter Mkt. Reports, Inc.*, 44 F.3d 61 (2d Cir. 1994)).

68. *Id.* at 297.

69. *Am. Dental Ass'n v. Delta Dental Plans Ass'n*, 126 F.3d 977, 981 (7th Cir. 1997)

generated afterwards. Judge Easterbrook and Judge Roth would agree that “[c]reativity marks the expression even after the fundamental scheme has been devised.”⁷⁰

Judge Easterbrook also stipulated that the “work” was not a copyrighted compilation,⁷¹ although plainly it was *like* a compilation in the sense that its expressive value, under *Feist*, was based on classification, that is, the selection, coordination, and arrangement of information. Instead, Judge Easterbrook called the ADA’s Code, a “taxonomy.”⁷² The test for originality when dealing with a taxonomy is whether the scheme is expressive, which, in a minimal sense, can be reduced to the question of whether it could have been done differently: “[t]here can be multiple, and equally original, biographies of the same person’s life, and multiple original taxonomies of a field of knowledge.”⁷³

What made the ADA’s classification scheme original was that it originated with the author and was not imposed by the inherent structure of the subject. “Butterflies may be grouped by their color, or the shape of their wings, or their feeding or breeding habits, or their habitats, or the attributes of their caterpillars, or the sequence of their DNA,” wrote Judge Easterbrook, “each scheme of

70. *Id.* at 979.

71. “Note that we do *not* conclude that the Code is a compilation covered by 17 U.S.C. § 103. It could be a compilation only if its elements existed independently and the ADA merely put them in order.” *Id.* at 980. Although the dental procedures classified in the ADA’s Code of course existed independently of the Code, Judge Easterbrook was correct that the Code’s categories and descriptions of them did not. Likewise, Southco’s parts catalogue was not a compilation of screws and fasteners, but a work of authorship that assigned numerical descriptions to an inventory of screws and fasteners.

This distinction does not rule out the possibility, however, of characterizing Southco’s catalogue as a compilation of part numbers, or the ADA’s Code as a compilation of billing numbers, just as the telephone directory in *Feist* was a compilation of phone numbers (albeit one that lacked originality). See *ATC Distrib. Group, Inc. v. Whatever It Takes Transmission & Parts, Inc.*, 402 F.3d 700, 710 n.6 (6th Cir. 2005) (questioning Judge Easterbrook’s assumption that “the elements of a compilation must exist independently of the act of compilation”). Part numbers, billing numbers, and phone numbers are all types of data that can be protected in the form of compilations against unauthorized wholesale reproduction.

72. *Am. Dental*, 126 F.3d at 980.

73. *Id.* at 979.

classification could be expressed in multiple ways.”⁷⁴ Likewise, “[d]ental procedures could be classified by complexity, or by the tools necessary to perform them, or by the parts of the mouth involved, or by the anesthesia employed, or in any of a dozen different ways.”⁷⁵

In terms of Southco’s copyright claim, the issue was whether its product line *could have been* classified differently. Judge Roth avoided using the term “taxonomy” with good reason because Judge Becker, in his concurring opinion, had the better side of the argument on this point; putting aside insignificant variations, there apparently *was* only one correct way to do it. The thought process behind Southco’s numbering system, as Judge Becker put it, amounted to little more than “Screw X is the same material as Screw Y, but a different material from Screw Z; Screw A is the same amount longer than Screw B as Screw C is longer than Screw D.”⁷⁶ The classification scheme was “dictated by industry standards, customer preferences, or the objective characteristics of the captive screw itself. The *scènes à faire* doctrine, therefore, dispels the notion that there was the requisite originality in Southco’s selection of characteristics and values to merit copyright protection.”⁷⁷

1. *The Distinction of Taxonomies From Systems.* Even if

74. *Id.*

75. *Id.*

76. *Southco, Inc. v. Kanebridge Corp.*, 390 F.3d 276, 289 (3d Cir. 2004); *cf. ATC*, 402 F.3d at 707 (“[T]he only way to express the prediction that a maximum of four additional types of sealing ring might be developed is to leave four numbers unallocated, and the only way to express the idea that a novel part should be placed with the sealing rings rather than with the gaskets is to place that part with the sealing rings.”). *See supra* note 38.

77. 390 F.3d at 289 (Becker, J., concurring). The *scènes à faire* doctrine, as originally defined by Judge Yankwich, was only applicable to conventional scenes in works of fiction. “The French refer to them as *scènes à faire*,—that is, scenes which *must* follow a certain situation.” Leon R. Yankwich, *Originality in the Law of Intellectual Property (Its Meaning From a Literary and Legal Standpoint)*, 11 F.R.D. 457, 462 (1952). The term became more commonly used after 1976, when the Second Circuit applied it in *Reyher v. Children’s Television Workshop*, 533 F.2d 87, 92 (2d Cir. 1976). *See* Leslie A. Kurtz, *Copyright: The Scenes a Faire Doctrine*, 41 FLA. L. REV. 79, 88 (1989). The doctrine, however, has been extended in more recent cases (as here, in Judge Becker’s *Southco* concurrence) to describe any features in a work that are dictated by functional considerations; in this guise, the doctrine—not limited to the narrative arts—is merger by another name.

the classification scheme is original, however, as it possibly was in *American Dental*, we have to ask whether it is protectible as a work of authorship or whether, to the contrary, it is *not* protectible as a procedure, process, system, or method of operation because it falls under the rule of *Baker v. Selden*.⁷⁸ Bypassing the Section 102(b) categories in favor of the word “taxonomy” helped Judge Easterbrook to avoid any implication that the ADA’s work was functional rather than expressive. “[W]hat could it mean to call the Code a ‘system’?” he asked.⁷⁹ “This taxonomy does not come with instructions for use, as if the Code were a recipe for a new dish. . . . The Code is a taxonomy, which may be put to many uses. These uses may be or include systems; the Code is not.”⁸⁰ His rationale was that “[a] taxonomy is a way of *describing* items in a body of knowledge or practice; it is not a collection or compilation of bits and pieces of ‘reality.’”⁸¹

The problem with this rationale is that taxonomies are not so much freely imagined accounts of nature or society as they are products of an empirically-based, scientific method of classification.⁸² In botany and zoology, taxonomies are based on seven mandatory categories: kingdom, phylum, class, order, family, genus, and species.⁸³ Within these taxonomic categories, the scientist must conform to the evolutionary relations between organisms (i.e., their phylogeny) as well as to the framework of classification and nomenclature set up by taxonomists of the past. Even if the

78. A work of authorship, under current law, does not encompass 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.” 17 U.S.C. § 102(b) (2006). This provision of the Copyright Act of 1976 codifies *Baker’s* holding.

79. *Am. Dental*, 126 F.3d at 980.

80. *Id.* at 980-81.

81. *Id.* at 980. Judge Easterbrook maintained that “the actual description is original to the ADA, not knuckling under to an order imposed on language by some ‘fact’ about dental procedures.” *Id.* at 979. Of course, there are facts about dental procedures that must have imposed significant constraints on the ADA’s classification of them.

82. See, e.g., KENNETH D. BAILEY, *TYPOLOGIES AND TAXONOMIES: AN INTRODUCTION TO CLASSIFICATION TECHNIQUES* (1994).

83. See Encyclopædia Britannica Online, Taxonomy, <http://www.search.eb.com/eb/article-9110579> (last visited Jan. 21, 2009).

word “taxonomy” is used in a broader sense as the science of classifying *anything*, not just plants and animals, it serves as a system or rule-basis for putting bits and pieces of reality—an assorted box of screws and fasteners, for example—into their proper order.

Aside from this general objection, one might begin by questioning Judge Easterbrook’s distinction between a coding *system* and a code that is merely put to use *within* a system. This is especially so if the code was created for the purpose of being used in a recordkeeping system, just as Selden’s ledger pages were created for the purpose of being used in a bookkeeping system.⁸⁴ Even though the ADA’s Code does not come with instructions for use, the Code’s function should be obvious to anyone using it for recordkeeping work. (The insurance form itself may supply instructions for how to use the Code.)⁸⁵ In addition, the possibility of different approaches to the job of constructing a code does not mean that any particular construction is less systematic—and therefore less subject to *Baker v. Selden*—than if there were no alternatives.⁸⁶

Judge Easterbrook’s illustrations, moreover, did not entirely support the distinction of taxonomies from systems. He claimed, for example, that “[t]he *Maroon Book* and the

84. “No one would read the ADA’s Code for pleasure; it was designed and is used for business (for records of patients’ dental history or making insurance claims) rather than aesthetic purposes.” *Am. Dental*, 126 F.3d at 978. The ADA publishes a blank form for reporting dental services to a patient’s dental benefit plan (line 29 is the “procedure code”). Besides the forms themselves, the ADA publishes “comprehensive form completion instructions” in a copyrighted booklet, *CDT—Current Dental Terminology*, which may be ordered at <http://www.ada.org/prof/resources/topics/claimform.asp> (last visited Jan. 21, 2009).

85. Some insurers specifically explain how to fill out line 29: “Use appropriate dental procedure code from current version of *Code on Dental Procedures and Nomenclature*.” ADA Dental Claim Form, <http://unhealthcare.org/site> (click on “Human Resources”; then follow “Employee Benefits” hyperlink; then follow “Employee Benefit Forms” hyperlink; then follow “NC Flex Claim Form: Dental Care” hyperlink) (last visited Jan. 21, 2009).

86. “The availability of a variety of ways for classifying dental procedure information should not make a particular choice copyright protectable any more than the availability of a large number of accounting systems made Selden’s particular system protectable.” Dennis S. Karjala, *Distinguishing Patent and Copyright Subject Matter*, 35 CONN. L. REV. 439, 498 (2003).

Bluebook offer different taxonomies of legal citations.”⁸⁷ In fact, the *Bluebook*’s subtitle is “A Uniform System of Citation,”⁸⁸ and both citation manuals provide rules for generating new, correct citations rather than for classifying old ones. Another illustration of a taxonomy was the West Key Number System, “which is designed as a comprehensive index to legal topics.”⁸⁹ It is true that the West Key Number System is a descriptive statement *about* American law in the form of a topical outline, but it is also a “finding tool,” i.e., a literal element of West’s method for performing legal research. As embodied in textual form, the Key Number System is a compilation of self-generated data (the key numbers), and it is also the non-literal dimension of West’s digests of its federal, regional, and state reporters. Copyright does not allow competitors to copy the entire compilation of key numbers or to write their own competing digests based on West’s topics. Lawyers, however, are encouraged to use West’s *system* of key numbers even if that means copying individual ones as needed.

Finally, Judge Easterbrook’s approach to “taxonomies” did not seem to take Justice Bradley’s admonitions about the limits of copyright fully into account. It is doubtful that a lepidopterist would have any cause to complain because a museum organized an exhibit of butterfly specimens taxonomically, *using* his or her taxonomy.⁹⁰ This is because

87. *Am. Dental*, 126 F.3d at 979.

88. THE BLUEBOOK: A UNIFORM SYSTEM OF CITATION (Columbia Law Review Ass’n et al. eds., 18th ed. 2005) (emphasis added). Similarly, the first sentence of the *Maroon Book* (i.e., *The Chicago Manual of Legal Citation*) states that, “The following set of guidelines provides a simple, workable *system* of citation for legal writing.” Richard A. Posner, *Goodbye to the Bluebook*, 53 U. CHI. L. REV. 1343 app. at 1353 (1986) (emphasis added) (quoting THE UNIVERSITY OF CHICAGO MANUAL OF LEGAL CITATION 7 (Univ. of Chicago Law Review et al. eds., 1989)). Also, postdating the 1997 *American Dental* case, the *ALWD Citation Manual* is subtitled *A Professional System of Citation*. See DARBY DICKERSON & ASS’N OF LEGAL WRITING DIRECTORS, *ALWD CITATION MANUAL: A PROFESSIONAL SYSTEM OF CITATION* (3d ed. 2006) (2000).

89. *Am. Dental*, 126 F.3d at 978.

90. The reproduction of a chapter or diagram from a scholarly paper or textbook would be considered copyright infringement if done without the publisher’s permission and beyond the bounds of fair use, but *using* the taxonomy for scholarly or curatorial pursuits is generally permissible, as long as proper attribution is provided. If a scholar published a modified version of the taxonomy without attributing credit to the primary author, the charge would likely be academic plagiarism rather than copyright infringement.

the taxonomy would be considered a system of classification, not the expression of a system. The author's "expression" would be the writing that *explained* the taxonomy, rather than the taxonomy itself.⁹¹

2. *Necessary Elements of the System.* All the same, Judge Easterbrook's ruling in *American Dental* can be reconciled with *Southco*, even though his rationale supports Judge Roth's dissent rather than Judge Alito's majority opinion. This is apparent when the facts in *American Dental* are compared to those of *Baker v. Selden*, the tributary that feeds both *American Dental* and *Southco*. The problem with Selden's infringement claim was that Baker could not use the system described by Selden's accounting treatise without copying his forms in some manner. The ADA, on the other hand, had no objection to "any dentist, any insurer, anyone at all"⁹² using the Code's numbers on billing forms or elsewhere, which meant literally copying them. The grievance behind the ADA's lawsuit arose from publication of an adulterated version of the Code under a different title—that is, an unauthorized derivative work⁹³—which had the effect of diluting the Code's value as the core of a standardized billing system.⁹⁴

91. Although the non-literal dimension of *any* compilation could loosely be called a "taxonomy," a taxonomy is textually realized when its classification scheme is *explained*, while a compilation is not textually realized until its classification scheme is *used* to organize a particular body of facts. This makes taxonomies appear more descriptive, and compilations more systematic. The authorship of a compilation, moreover, has two distinct phases: an analytical phase that establishes its categories, and an application phase that inserts facts *into* the categories. (These two phases, indeed, may have two different "authors.") On the use-explanation dichotomy in *Baker*, see *infra* note 204 and accompanying text.

92. *Am. Dental*, 126 F.3d at 981.

93. *Id.* ("Section 102(b) . . . does not permit Delta to copy the Code itself, or make and distribute a compilation of billing numbers."). See *supra* note 65. Indeed, Judge Easterbrook described Baker's near-reproductions of Selden's forms as unauthorized derivative work based on the Code, any more than Baker could copy Selden's book. See Samuelson, *supra* note 46, at 193 (describing Baker as a "second comer" who built upon Selden's work).

94. *Am. Dental*, 126 F.3d at 981 ("The fact that Delta used most of the Code but made modifications is the reason ADA objects, for variations salted through a convention impede communication."). Professor Samuelson, who was otherwise critical of Judge Easterbrook's opinion in *American Dental*, agreed that the ADA's Code was designed to be a standard billing code. She drew the

Hence Southco's copyright claim was different from the ADA's in *American Dental*. The ADA conceded that the dental profession, its constituency, had the right to *use* its numbering system, even if using it meant *copying* its numbers. In contrast, Southco was seeking to prevent Kanebridge, its competitor, from copying the part numbers of its screws and fasteners. Neither Kanebridge nor anyone else had an interest in plagiarizing Southco's parts catalogue, as such. What Kanebridge did have an interest in doing was in using (i.e., standardizing) Southco's part numbers, either individually or in sequence on a conversion table, to identify the items referenced by the numbers for the purpose of selling interchangeable components.⁹⁵

There is another way of describing this problem. The doctrine of merger in copyright law states the proposition that in some situations there is only one way to express an idea. The doctrine goes back to the puzzle of how the work's literal and non-literal levels are related. The merger doctrine's application to the *Southco* case follows from *Baker v. Selden*.⁹⁶ Southco's numbering rules were the

opposite conclusion, though, arguing that standardization weighs heavily against, and perhaps even precludes, copyright protection:

[I]ndustry standard codes promulgated by organizations such as the AMA and ADA may be unprotectable systems under § 102(b). Such codes and other systematic organizations of information are certainly uncopyrightable . . . when systematizing the information will produce social benefits from uniformity and the social costs of diversity would be high. Standard systems of this sort are born uncopyrightable.

Pamela Samuelson, *Questioning Copyrights in Standards*, 48 B.C. L. REV. 193, 214-15 (2007).

95. The same could be said about the purpose of the defendant in *Pantone, Inc. v. A.I. Friedman, Inc.*, 294 F. Supp. 545 (S.D.N.Y. 1968), a case that may have been wrongly decided in light of *Southco*. In *Pantone*, the work was a booklet in the form of seventy-two pages of color samples that pictorially depicted a system for matching printing inks. The *Pantone* defendant (much like Kanebridge) provided a conversion table that listed serial numbers in parallel columns for the plaintiff's and defendant's inks. *Id.* at 553. The court took the conversion table as evidence of wrongful copying rather than as a permissible cross-reference between different numerical product designations. *Id.* at 550.

96. In his majority opinion, Judge Alito, without mentioning *Baker v. Selden* by name, determined that Southco had conceded that case's relevance to the coding process and therefore was precluded from claiming a copyright on the numbering rules. See *Southco Inc. v. Kanebridge Corp.*, 390 F.3d 276, 285 n.4 (3d Cir. 2004). However, he did not take the next step, which I sketch out here, of applying the merger doctrine by explaining that Southco's individual part

embodiment of a coding process—a system or method of operation—and the system could not be used without copying an aspect of Southco’s expression, the individual part numbers produced by the system.

This is because Southco’s numbering rules provided only one way to “express” a particular part number. Southco may have been entitled to a copyright for a work that explained its coding process and may even have been entitled to a copyright for a work that simply stated the numbering rules (although such an unadorned statement might have been too inexpressive to qualify for copyright). It could not, however, invoke its copyright to prevent the public from applying its coding process to non-Southco components, just as Selden could not prevent the public from using his bookkeeping system.⁹⁷

The objection, of course, could have been raised that Kanebridge did not use Southco’s numbering rules, but merely copied its part numbers.⁹⁸ The lawsuit was based on copying the numbers, not on using the rules. The difference between the two, however, is inconsequential because *using* Southco’s numbering rules or *copying* its part numbers would amount to exactly the same thing—an identical number. It would be impossible for a court to determine

numbers were likewise precluded from copyright protection because they were comparable to Selden’s blank forms—necessary components of the system that had to be reproduced in order for the public to use it.

97. Judge Roth argued that if this limitation were to be broadly applied,

Weight Watcher’s point system for rating foods could be appropriated by Jenny Craig or any other competitor if it could be shown that Weight Watcher’s point allotments followed predetermined formulae (based on calories per ounce or other considerations). Also, many compilations that would seem to pass *Feist*’s low creativity threshold would be denied protection if they happen to be the product of predetermined rules.

Southco, 390 F.3d at 297 (Roth, J., dissenting). Exactly, but—as the Eleventh Circuit recognized in *Warren Publishing, Inc. v. Microdos Data Corp.*, 115 F.3d 1509, 1516-17 (11th Cir. 1997)—these outcomes are a consequence of Section 102(b) of the Copyright Act. *See also infra* note 151. In addition, the latter concern is overstated; the author of a compilation can always prevent others from applying the work’s rules for selection, coordination, and arrangement to the *same* facts to recreate the *same* work, which should be adequately protective for most purposes.

98. And, in fact, it *was* raised, but Judge Alito did not think this attempt by Southco to circumvent *Baker* made any difference to the outcome. *See Southco, Inc. v. Kanebridge Corp.*, 258 F.3d 148, 152 (3d Cir. 2001).

whether Kanebridge had or had not mechanically implemented the numbering rules, and it would not greatly matter whether it had or had not jumped through the hoop of doing so.⁹⁹

II. "THE SPECIAL CASE OF MERGER"

I have heard many People say Give me the Ideas. It is no matter what Words you put them into & others say Give me the Design it is no matter for the Execution. These People know <Enough of Artifice but> Nothing Of Art. Ideas cannot be Given but in their minutely Appropriate Words nor Can a Design be made without its minutely Appropriate Execution[.]¹⁰⁰

The doctrine of merger, which is understood to be a "special case"¹⁰¹ of the idea-expression dichotomy, deals with constraints on expression in a way that includes *Southco*, but covers a far broader range of situations in which the author's expressive options are restricted by the inherent limitations of the work's subject matter rather than by a preexisting formula or rule-basis which the author is required to apply. The doctrine was foreshadowed by the unprotected status of Selden's blank forms. Indeed,

99. This is also true more generally:

If the copyright system were to recognize rights in uncreative work, courts would be overwhelmed by difficult evidentiary disputes. Two parties would come forward with remarkably similar works of authorship, and the court would find it virtually impossible to determine whether one copied from the other (impermissible infringement) or whether, instead, any similarity between the works was just a natural outgrowth of the fact that both works lack creativity.

Douglas Lichtman, *Copyright as a Rule of Evidence*, 52 DUKE L.J. 683, 686-87 (2003).

100. WILLIAM BLAKE, *Chaucers Canterbury Pilgrims Being a Complete Index of Human Characters as They Appear Age After Age*, in THE POETRY AND PROSE OF WILLIAM BLAKE 560, 565 (David V. Erdman ed., 3d prtg. 1968) (1965).

101. *Kregos v. Associated Press*, 937 F.2d 700, 712 (2d Cir. 1991) (Sweet, J., dissenting in part):

[T]he *Baker* Court's initial holding, distinguishing between an 'art' and an explanation of that art, has not been seriously challenged, and has steadily evolved and been refined into what is commonly referred to today as the idea/expression dichotomy, a concept which includes within its bounds the special case of merger.

as Judge Richard Posner pointed out, “[t]he standard citation remains *Baker v. Selden*”¹⁰² because Selden’s method merged with his realization of it in the sample ledger pages.¹⁰³

The usual explanation is that merger occurs because the literal and non-literal dimensions of the work have become impossible to separate. The form of the author’s expression has “merged” into its substance and copyrighting the expression would take the idea out of the public domain. My account differs from the usual explanation in its emphasis. The accepted rationale is that the public domain would be impoverished if a copyright were to be awarded to the first person to express an idea that can only be expressed in one way. My emphasis is on self-expression; when there is only one way to express an idea, the form of expression will be predetermined by the work’s substance rather than freely chosen by its author.¹⁰⁴

The merger doctrine for literary works is perhaps better described as a special case of the fact-expression dichotomy, rather than idea-expression, because the author’s unique selection of words or numbers becomes a fact itself as well as a representation of one. In 2002, the Fifth Circuit applied this fact-based version of the merger doctrine in *Veeck v. Southern Building Code Congress International, Inc.*¹⁰⁵ to hold that a municipal building code was ineligible for copyright, even though it was essentially

102. *Bucklew v. Hawkins, Ash, Baptie & Co.*, 329 F.3d 923, 928 (7th Cir. 2003); *see also Arica Inst., Inc. v. Palmer*, 970 F.2d 1067, 1076 (2d Cir. 1992); *Kohus v. Mariol*, 328 F.3d 848, 856 (6th Cir. 2003); MARSHALL LEAFFER, UNDERSTANDING COPYRIGHT LAW § 2.14[B][2] (4th ed. 2005) (“[T]he doctrine of *Baker v. Selden* implies that there are some instances where the use of a system or process necessitates the identical copying of the author’s expression of the system or process.”).

103. The case also gave rise to the rule, enforced by U.S. Copyright Office regulations, that blank forms are not protectible per se. *See* 37 C.F.R. § 202.1(c) (2008); *Bibbero Sys., Inc. v. Colwell Sys., Inc.*, 893 F.2d 1104, 1106-07 (9th Cir. 1990).

104. A different way of putting this would be to say that a simple rule, such as “apply hook to wall,” fails the creativity requirement because it is so obvious in substance and invariant in form that it elicits no intellectual labor from the author. *See* CONTU REPORT, *infra* note 229, at 20; *cf. Feist v. Rural Tel. Serv. Co.*, 499 U.S. 340, 362 (1991).

105. *Veeck v. S. Bldg. Code Cong. Int’l, Inc.*, 293 F.3d 791, 801-02, 806 (5th Cir. 2002).

the same text as a copyright-protected model code. “The codes are ‘facts’ under copyright law,” wrote the court; “They are the unique, unalterable expression of the ‘idea’ that constitutes local law.”¹⁰⁶ *Veeck* was the rare instance where the merger doctrine was applied to a literary work to exonerate the defendant from verbatim copying.¹⁰⁷

Another noted example, and perhaps the first to apply the merger doctrine in this way, was the 1967 case of *Morrissey v. Procter & Gamble Co.*,¹⁰⁸ in which the First Circuit held that a simple set of rules for a sweepstakes contest was too elementary to be expressed in any other form of words.¹⁰⁹ A similar concern lies behind the regulation that rejects registrations for words and short phrases, such as names, titles, and slogans, and arguably

106. *Id.* at 801. *Veeck* may have been a case of function-expression as well as fact-expression merger. While a statute need not be copied to be “used” as a guide to lawful conduct, the “function” of a statute is also to serve the due process of law, which requires public notice, i.e., the copying and distribution of its text. In its principal holding, the *Veeck* court cited a due process rationale. *Id.* at 799. It did not, however, go so far as to say that unlimited free publication of a statute is necessary to satisfy due process. *See id.* The court, moreover, put greater emphasis on the legal fiction of “citizen authorship” than on any concern about due process. *See id.* This is why generalizing from *Veeck* could be misleading; just because a text describes, or even prescribes, a function, even a legal one, does not mean that it is not protectible as a *text*, as long as the exercise of the function does not require wholesale and verbatim copying of the text. *See infra* note 221.

107. Less than six months after *Veeck* was decided, the Second Circuit rejected a similar fact-based merger argument in *Merkos L'Inyonei Chinuch, Inc. v. Otsar Sifrei Lubavitch, Inc.*, 312 F.3d 94, 99 (2d Cir. 2002), which was premised on the somewhat dubious claim that a prayer book translation authorized by the chief rabbi was the sole viable version within the Lubavitch community.

108. *Morrissey v. Procter & Gamble Co.*, 379 F.2d 675, 678-79 (1st Cir. 1967); *see* John Shepard Wiley Jr., *Copyright at the School of Patent*, 58 U. CHI. L. REV. 119, 127 (1991).

109. *Morrissey*, however, may have been a “blank forms” rather than a “game rules” case. The simple entry instructions were unprotected for the same reason that any blank entry form (had one been provided by the sponsor) would have been unprotected. Both would be equally literal elements of the game because the game rules were little more than an explanation of how the contestant could draft a homemade entry. The rules described a blank form and were the legal equivalent of one, as well.

applies to Southco's serial numbers as well.¹¹⁰ The claim would be that the numbers were "facts" about the parts listed in Southco's catalogue and, as such, could not be "expressed" in any other way.¹¹¹

Most courts, however, make use of the merger doctrine as a rule of thumb rather than a bright-line rule, and are inclined to limit the scope of protection rather than deny protection altogether;¹¹² a residual "thin" copyright still can be enforced against literal or self-confessed copyists.¹¹³ The paradox is that the concept of merger, in

110. See 37 C.F.R. § 202.1 (2008); cf. Justin Hughes, *Size Matters (or Should) in Copyright Law*, 74 *FORDHAM L. REV.* 575, 591-600 (2005). On this issue in *Southco*, see *supra* note 17.

111. Cf. Alan L. Durham, *The Random Muse: Authorship and Indeterminacy*, 4 *WM. & MARY L. REV.* 569, 594 (2002) ("One could argue . . . that the plaintiff's market dominance has rendered its numbering scheme a 'fact' to which others must refer in order to compete."); Justin Hughes, *Created Facts and the Flawed Ontology of Copyright Law*, 83 *NOTRE DAME L. REV.* 43, 67 (2007) ("[I]f these part names had become industry standards, the names were social facts—facts by common agreement . . . that had become basic to carrying out nonexpressive activities.").

112. See, e.g., *Apple Computer, Inc. v. Microsoft Corp.*, 35 F.3d 1435, 1444 (9th Cir. 1994); *Landsberg v. Scrabble Crossword Game Players, Inc.*, 736 F.2d 485, 488 (9th Cir. 1984).

113. The Second Circuit's policy of applying the merger doctrine at the infringement stage, rather than applying it to the threshold determination of copyrightability, likewise has the effect of preventing literal copyists from availing themselves of the merger defense if their copying has been admitted or proven. The doctrine of merger comes into play only if the infringing work *could have been* independently created, and there is no way for the court to evaluate the merits of this defense because any attempt to express the author's idea would have produced an identical form of expression. Cf. *Kregos v. Associated Press*, 937 F.2d 700, 716 (2d Cir. 1991) (Sweet J., dissenting in part) (complaining that "if a defendant has actually copied the plaintiff's work, it is unlikely to be allowed to rely on merger to avoid liability" and arguing that "[t]his approach owes little if anything to the strictures of § 102(b), and instead depends on the fundamental principle of copyright law that independent creation is never infringement"). Another way of putting it would be to say that an identical *copy* is *always* infringing as long as it *was* copied from the plaintiff's work, while an identical *work* is *never* infringing as long as it *was not* copied from the plaintiff's work. Merger is only needed when we do not know whether the identical work is a work or just a copy of one.

This approach's merits are illustrated by the shortcomings of an opinion that did not use it—Judge Posner's, in *Gracen v. Bradford Exchange*, 698 F.2d 300 (7th Cir. 1983). In *Gracen*, the plaintiff had painted her impression of Dorothy from *The Wizard of Oz*, based on stills from the MGM movie. She claimed the defendant had plagiarized her painting, to which he admittedly had access. *Id.*

theory at least, could be used to justify the literal copying of works of imaginative literature and art. For much creative writing, idea and expression are uniquely “merged” because a different form of words would convey a different meaning.¹¹⁴ Likewise, a different set of lines, shapes, and colors would make an artwork into a different aesthetic experience. A simplistic application of the merger doctrine could result in a policy that would perversely deny protection to the most creative of works; to the contrary, they are expressive precisely because their distinct identities are inseparable from their “minutely Appropriate Words” or “minutely Appropriate Execution.”¹¹⁵

The problem is similar, although not identical, for representational artworks when the artist’s goal is accurate portrayal of a natural or human-made thing, and the constraint is the character of the thing being portrayed.¹¹⁶

at 301-02. Judge Posner concluded that her painting was ineligible for protection as a derivative work because it had effectively “merged” with the stills (although he did not use this term), which made it impossible to tell whether the defendant had copied her painting or copied her source material. *Id.* at 304-05. He decided the case, however, without ever looking at the alleged “piratical copy,” which the defendant inexplicably had failed to produce. *Id.* at 301; see also Robert A. Gorman, *Copyright Courts and Aesthetic Judgments: Abuse or Necessity?*, 25 COLUM. J. L. & ARTS 1, 6 (2001); Wiley Jr., *supra* note 102, at 137 (inferring that Bradford’s plate indeed was a “piratical copy” of Gracen’s painting).

114. Wiley Jr., *supra* note 102, at 123:

In common usage, an idea is an intangible and abstract thought. But an idea inevitably becomes a concrete expression as soon as a human states it. That is, an idea cannot be defined or communicated to another person without becoming an expression, a particular and precise collection of meaningful symbols.

115. See BLAKE, *supra* note 94; cf. Cleanth Brooks, *The Heresy of Paraphrase*, in *THE WELL WROUGHT URN: STUDIES IN THE STRUCTURE OF POETRY* 182-85 (Reynal & Hitchcock 1947); Thomas F. Cotter, *Gutenberg’s Legacy: Copyright, Censorship, and Religious Pluralism*, 91 CAL. L. REV. 323, 362 (2003) (“To a devotee of modern poetry . . . a paraphrase of T.S. Eliot’s *The Waste Land* simply will not do: the reader needs to engage the actual text. But it would be perverse to conclude that, in the case of a highly original work such [sic] as Eliot’s poem, the merger doctrine strips the work of copyright protection.”); Shubha Ghosh, *Legal Code and the Need for a Broader Functionality Doctrine in Copyright*, 50 J. Copyright Soc’y U.S.A. 71, 103 (2003) (“Since the idea of the poem is equivalent to its expression . . . there [would be] no copyright in Keats’s *Ode to a Grecian Urn*.”).

116. The semiotic distinction follows. In literary works, the “signified” (the author’s mental concept or idea) merges with its “signifier” (the form of words

To the extent that the artist subordinates freely willed self-expression to mimetic accuracy, the portrait will tend to “merge” with its subject.¹¹⁷ The ideal sculpture of a Brillo box, for example, would look exactly like a real Brillo box.¹¹⁸ When the portrait is perfectly accurate, it will be indiscernible from the thing it depicts, which is the conceit of *trompe l’oeil* in traditional art as well as the “simulacrum” or “virtual reality” in postmodern art.¹¹⁹ If the merger doctrine were to be indiscriminately applied in the visual arts, such works, including many photographs and works of photo-realism, would be ineligible for copyright protection, which is not at all the case, although it is the case that highly realistic pictorial, graphic, and sculptural works may not be protected much beyond literal copying.¹²⁰

A. *Kregos*

Once more, Judge Alito’s decision in *Southco* reflected the boundaries imposed on copyright authorship by the Scylla of rule-constraint and the Charybdis of functionality. On one side, *Southco*’s part numbers were generated by

chosen to express the idea), while in representational artworks, the “sign” (the linguistic composite of sound-image and the mental concept it signifies) merges with its “referent” (the non-linguistic object to which the sign refers). See Barton Beebe, *The Semiotic Analysis of Trademark Law*, 51 UCLA L. REV. 621, 633-38 (2004) (explaining linguistic theories of Ferdinand de Saussure and Charles Sanders Peirce).

117. Cf. *Meshwerks, Inc. v. Toyota Motor Sales U.S.A., Inc.*, 528 F.3d 1258, 1265 (10th Cir. 2008) (denying protection to digital car models that “depict nothing more than unadorned Toyota vehicles—the car *as car*”).

118. See MARTHA BUSKIRK, *THE CONTINGENT OBJECT OF CONTEMPORARY ART* 59-105 (2003) (providing illustrations and examples).

119. To further complicate the picture, some contemporary artists play a subversive shell game with works, objects, and copies, exploiting the viewer’s disorientation to critique the transformation of intangible artistic expressions into tangible artistic commodities. See Anne Barron, *Copyright Law and the Claims of Art*, 4 INTELL. PROP. Q. 368, 396-97 (2002); Jeffrey Malkan, *What is a Copy?*, 23 CARDOZO ARTS & ENT. L.J. 419, 425-35 (2005).

120. See, e.g., *Satava v. Lowry*, 323 F.3d 805, 812 (9th Cir. 2003) (holding that the author of a jellyfish sculpture “may prevent others from copying the original features he contributed, but he may not prevent others from copying elements of expression that nature displays for all observers, or that the glass-in-glass medium suggests to all sculptors”). See also Murray, *supra* note 29, at 798-848 (collecting and critiquing visual arts cases).

fixed numbering rules that left little or no discretion to their authors. On the other, the numbering rules themselves were determined by the practical requirements of the coding process. Judge Alito's acknowledgment of these limits on copyright echoed and extended Justice Bradley's, in *Baker v. Selden*, one hundred twenty-five years earlier.¹²¹ Was there an alternative? In fact, yes. A different approach had been taken in 1991 by Judge Jon Newman in *Kregos v. Associated Press*.¹²² In *Kregos*, the Second Circuit in its typically resourceful manner had begun to explore the possibility of broadening the concept of the compilation in a way that would insulate rule-based works from the challenge of the doctrine that had evolved from *Baker*.¹²³

At issue in *Kregos* was the copyright claimed for a baseball pitching form, a blank score sheet with spaces into which *Kregos* could insert data about nine designated categories of statistics belonging to the opposing pitchers in a pending game.¹²⁴ The score sheet, once filled in, was supposed to help the reader predict the outcome of the day's contest. These facts, of course, summoned the specter of *Baker v. Selden*, and the Associated Press's obvious defense was that *Kregos*'s copyright was precluded by the merger doctrine as well as the blank form rule.¹²⁵ Specifically, the blank pitching form was a literal element of *Kregos*'s system for picking the winners of baseball games, just as the blank ledger page was a literal element of *Selden*'s method for keeping accounts. Since the system could not be used without using the form, a copyright on the form would impermissibly copyright the system as well.

The initial surprise about Judge Newman's opinion was

121. Justice Bradley said that *systems* cannot be protected by copyright, and Judge Alito said that the *products* of systems cannot be protected by copyright. See *Baker v. Selden* 101 U.S. 99, 107 (1879); *Southco Inc. v. Kanebridge Corp.*, 390 F.3d 276, 282 (3d Cir. 2004).

122. 937 F.2d 700 (2d Cir. 1991).

123. See *supra* cases listed in note 12.

124. See 937 F.2d at 702-03. Samples of the forms themselves, as they had appeared in newspapers, were reproduced in the district court's opinion, *Kregos v. Associated Press*, 731 F. Supp. 113 (S.D.N.Y. 1990), *aff'd in part, rev'd in part*, 937 F.2d at 700.

125. On the blank form rule, see *supra* note 97.

that he accepted Kregos's claim that the blank form was in reality a compilation of data.¹²⁶ The term "compilation," in other words, wasn't just a metaphor for the rule-based expression in the score sheet, but rather was what the score sheet actually was. This premise brought the case out from under *Baker's* shadow. Ironically, it would have been a stretch for Kregos to say that his score sheet was a data compilation *after* he had filled in the blanks, although, at that point, it would at least have been a non-random sequence of numbers arranged on a page. The Second Circuit, however, had recently rejected just such a claim in *Financial Information, Inc. v. Moody's Investor's Service, Inc.*¹²⁷

The forms in that case were "Daily Bond Cards," index cards with five blank spaces for filling in information about municipal bond redemptions. "The researchers had five facts to fill in on each card," wrote the court, "nothing more and nothing less."¹²⁸ Since the researchers were "clerks with no special skills who exercised no discretion in their jobs,"¹²⁹ the cards they filled in were not protectible as compilations. If a "Daily Bond Card" with five filled-in data points did not qualify for protection, one might reasonably expect that a baseball score sheet with nine *blank* spaces would be an even less worthy candidate.

The scales were tipped by Judge Newman in Kregos's favor by his decision to forgo this reading of the *Financial Information* case.¹³⁰ Beyond calling the score sheet a

126. This opened up a split with the Ninth Circuit, which one year earlier had held that individual forms with blank spaces for categories of information cannot be copyrighted as compilations. See *Bibbero Sys., Inc. v. Colwell Sys., Inc.*, 893 F.2d 1104, 1108 n.3 (9th Cir. 1990).

127. 808 F.2d 204 (2d Cir. 1986).

128. *Id.* at 208.

129. *Id.* at 206.

130. Judge Newman justified his disagreement with the district court by citing a case that predated *Financial Information*, 808 F.2d at 204, by two years. In *Eckes v. Card Prices Update*, 736 F.2d 859 (2d Cir. 1984), the Second Circuit had held that a compilation of 5,000 "premium" baseball cards, out of a universe of 18,000, was entitled to copyright protection. *Id.* at 863. Eckes had selected approximately one out of every three and a half cards. Judge Newman thought that Kregos's choice of nine pitching statistics out of a universe of possibly twenty was close enough to *Eckes* to qualify for protection as well, ignoring that Kregos had selected *categories* of facts rather than *compiled* facts,

compilation, however, the court would still have to answer the crucial question of what the copyrighted work *was*, and, more to the point, what the author *expressed*. In order to decide whether the merger doctrine applied, the Second Circuit would first have to determine what was merging with what. The wider the separation between “idea” and “expression,” the better the chances for Kregos’s copyright to survive. He needed to define the idea very generally and the expression very specifically, and the Associated Press had to do the opposite.

In particular, as in *Southco*, the battle would be over where to draw the line between idea and expression, and which side of the line the rule-basis would wind up on. In addition, Kregos needed to show that his score sheet was not merely a literal element of a system, as was the arrangement of ruled lines and columns in *Baker*. Finally, he would have to show that the nine categories he had chosen were not entirely predetermined by the purpose his work was meant to serve—that there was more than one way of framing an outcome predictive score sheet, and that other authors could make different creative choices.

The Associated Press claimed that Kregos’s score sheets were exactly like Selden’s blank ledger pages.¹³¹ If they were expressive at all, they only expressed his system for predicting winners. To the extent that the constraints of function made their design inevitable or nearly inevitable, the *scènes à faire* version of the merger doctrine would preclude copyright protection. Even if Kregos *could have* chosen a different set of pitching statistics that would have generated the same prediction, he would still have to answer to the merger doctrine because his rule-basis was

and left blank spaces on his form in lieu of the facts themselves. *See Kregos*, 937 F.2d at 704. But Judge Newman’s elision of the difference between *facts* and *factual categories* reflected a more basic question about authorship that eluded all the judges who looked at the *Financial Information* case. Was the author of the bond cards the supervisor who had specified the five data points *for* the cards or the clerks who each day entered new data *on* the cards? A similar question bedeviled the *Southco* court, where the numbering rules and part numbers were two dimensions of the same work, but were created by two different authors.

131. *See Kregos*, 937 F.2d at 713 (Sweet, J., dissenting in part). Indeed, one of the two British cases cited in *Baker v. Selden* had expressly held that a blank form for scoring cricket matches was ineligible for copyright protection. *See Baker v. Selden*, 101 U.S. 99, 106-07 (1879).

still a “system” under *Baker v. Selden*, and there was no other way of expressing *that* system except through a score sheet listing *those* nine categories.

Kregos responded that even though his score sheets were useful to a wagering sports fan, they were also informative and entertaining, like other news items on the sports page. Although there may not have been much reason to study the score sheets unless one were trying to predict the winner of a baseball game (just as there was not much reason to consult the ADA’s *Code on Dental Procedures and Nomenclature* unless one were filling out an insurance claim or a patient’s dental record), they did not themselves constitute a system for predicting winners because they did not instruct the reader how to weigh the nine categories.¹³² In addition, Kregos argued that he *could have* chosen a different rule-basis that would have generated the same prediction, or at least that possibility had not been eliminated.¹³³ As long as there is more than one way of making a prediction, giving Kregos a monopoly

132. See *Kregos*, 937 F.2d at 706 (Newman, J., majority opinion). Cf. *Bookmakers’ Afternoon Greyhound Serv., Ltd. v. Wilf Gilbert (Staffordshire) Ltd.*, [1994] F.S.R. 723 (Ch.), available at 1994 WL 1061783. In *Bookmakers’* the court considered whether race cards used to calculate the odds at greyhound races were protectible. The race cards, like Kregos’s score sheets, had blank spaces for the player’s statistics, but, unlike Kregos’s score sheets, expressly incorporated a formula that had to be applied to the day’s races for every contest. The court held (or rather opined) that the rule-basis for calculating the odds (or “forecast dividends”) was protectible because “thought, labor, and skill went into its derivation” and it had been continuously refined since its inception. *Id.* at 734. The plaintiff was not claiming infringement of the formula, however, but infringement of the forecast dividends themselves, produced at the end of each racing day. Hence, as in *Southco*, protection was not claimed for the rule-based process, but rather for the numbers produced by the process.

As did the Third Circuit in *Southco*, the judge in the *Bookmakers’* case rejected this claim:

I have already indicated that I do not believe that once the formula was derived, sufficient skill, labour and judgment is used when calculating the dividends from the starting prices supplied to acquire copyright. It is a repetitive job requiring a certain amount of education and thereafter a meagre amount of labour. Further I cannot believe that the person who, day after day, year after year, does the calculation is producing what the statute calls “an original literary work.”

Id. at 736.

133. See *Kregos*, 731 F. Supp. at 119.

on his system of picking winners through a copyright on his score sheets would be no more contrary to the principles of copyright than giving any author a monopoly on any other work of authorship.

B. *What a Work of Authorship Is*

The debate in *Kregos* between Judge Newman and Judge Sweet (in dissent) over whether the score sheet was protectible—whether, that is, Kregos’s idea had merged with his expression—took the same track that Judge Alito and Judge Roth would repeat more than a decade later in *Southco*, although the roles of winner and loser in the Second Circuit would be reversed in the Third. What was troubling about both these decisions was not that the results were doctrinally indeterminate, as they often are in close cases, but that the debates between the prevailing and dissenting judges in both *Kregos* and *Southco* were so detached from any author’s concept of what a work of authorship is.

In arguing for or against the copyright plaintiff, all of the lawyers and judges in the two cases did what lawyers are trained to do with texts: they proposed broad or narrow interpretations of their meanings. The work in question was laid on the examining table as if it were a judicial opinion being dissected for its precedential value, and the task was to extract a holding. In legal analysis, a broad interpretation of the holding means that the precedent case will cover many possible future cases, while a narrow interpretation means that it will apply to very few, or maybe none. The narrowest, most case-specific holding “merges” the facts of the precedent case with its rule; the case will have no progeny because it is one of a kind.

The copyright of a work of authorship is like the holding of a case. A copyright, like a holding, can be broad or narrow. The plaintiff in an infringement action will attempt to construct a broad enough “holding” for his or her work so that the scope of its copyright will encompass as many similar and potentially infringing works as possible, without being so broad that the copied elements wind up on

the “idea”—or public domain—side of the line.¹³⁴ The defendant, on the other hand, will argue for a narrow “holding” of the copyrighted work so that even a very similar work will be found non-infringing as long as its expressive elements are non-identical.¹³⁵ In a merger defense, the defendant will go further and claim that even an identical copy would be non-infringing because the singularity of the work’s “idea” allows for only one form of expression, while the plaintiff must respond that the copyright extends at least to identical copies of the work because the “idea” behind it *could have been* realized in more than one literal form.

If the work’s idea in *Kregos* was something so broad as the notion that pitching statistics could be relevant to predicting winners, or, in *Southco*, that serial numbers could be devised that would encode the characteristics of screws and fasteners, then the expression of those ideas in the form of any given score sheet or any given part number would be immune from the merger doctrine. If, on the other hand, the work’s idea in *Kregos* was a *particular* system for predicting winners or, in *Southco*, a *particular* coding process, then the expression of those ideas in the form of *Kregos*’s score sheets or *Southco*’s part numbers could be seen as an inevitable byproduct of the system’s use, which would preclude copyright protection.

The procession of judges who have made a practice of reading works of authorship this way goes all the way back to *Nichols* because that is what Judge Hand was doing in

134. Likewise, patent claims may be drafted broadly to give the patent wider effect, or narrowly to avoid the prior art. See 69 C.J.S. Patents § 287 (2003). The difference is that a patent, unlike a copyright, is a separate text that makes claims *about* the invention; it is the *patent* that is broadly or narrowly construed, not the invention itself.

135. To be more specific about my analogy, the equivalent in a judicial opinion of an “idea” is a basic legal principle or black letter rule; such ideas doctrinally inform the opinion, but are not to be confused with its case-specific point of law, or holding. Readers of a judicial opinion can interpret the holding on different levels of abstraction because the holding is an “expression” of what the case means. At a sufficiently high level of abstraction, the holding becomes a new rule of law, i.e., an “idea,” that will be widely applicable to future cases. Put differently, the black letter rules in a case are Professor Weinreb’s “abstract ideas” and its holdings “concrete ideas.” See *supra* note 51. Holdings are part of the case, just as concrete ideas are part of the work, while black letter rules may be present *in* the opinion, but are not products *of* the opinion.

that case—demonstrating that *Abie's Irish Rose* could be assigned a broad or a narrow holding and construed broadly as a comedic variant of the Romeo and Juliet motif, which would put the plot on the “idea” side of the line, or narrowly as a contemporary urban drama, which would put it on the “expression” side. This practice of constructing broad and narrow holdings for literary works is reasonably effective when the project is to compare two works in an infringement claim because such a work-to-work comparison requires a type of analogical reasoning to determine whether any similarities between the two works are legally relevant.

It also resonates with the notion that expression comes from unique images and distinctive words rather than from general statements and abstract ideas.¹³⁶ It is of dubious value, however, in a case like *Southco*, where the scrutiny of a single work must determine whether it is eligible for copyright protection in the first place, and where the assessment of how to draw the line between idea and expression in the challenged work is unchecked by the practical consideration of whether one work can serve as a market substitute for the other.¹³⁷

C. CCC Information Services

Neither Judge Alito in *Southco* nor Judge Newman in *Kregos* was inclined to look too deeply into the question of what is expressive about the description of a screw or fastener in the form of a part number, or advice to the reader about how to pick a winner in the form of nine

136. See JOHN DEWEY, ART AS EXPERIENCE 90-91 (G.P. Putnam's Sons 1958) (1934) (“There is [a] great difference between expression and statement. The latter is generalized. An intellectual statement is valuable in the degree in which it conducts the mind to many things all of the same kind. It is effective in the extent to which, like an even pavement, it transports us easily to many places. The meaning of an expressive object, on the contrary, is individualized. . . It has a *local* habitation.”).

137. Market substitution is the economic rationale for why courts must apply the “substantial similarity” standard in the context of whether a potential consumer (the “average lay observer” or “intended audience”) can discern a meaningful resemblance between the protected work and the offending one. See, e.g., *Arnstein v. Porter*, 154 F.2d 464, 468 (2d Cir. 1946); *Dawson v. Hinshaw Music, Inc.*, 905 F.2d 731, 736-37 (4th Cir. 1990).

unembellished data points.¹³⁸ The low threshold for copyright authorship springs to the rescue when the expressive and the functional come uncomfortably close to converging, as they did in these two cases. This is why the key consideration for the Second Circuit in *Kregos* (as it would be for the Third Circuit in *Southco*, with different but analogous facts) was not simply whether the score sheets were components of a system under *Baker v. Selden*, but whether a system for predicting winners had predetermined the nine categories *Kregos* selected for his score sheets, leaving him with no freely willed expressive choices.¹³⁹

In *Kregos*, Judge Newman concluded that the answer to this question was no.¹⁴⁰ By chance, another Second Circuit panel was at the very same time considering a similar “score sheet” case, and delivered its opinion two days later. The decision went the opposite way, but was consistent with *Kregos*. In *Victor Lalli Enterprises, Inc. v. Big Red Apple, Inc.*,¹⁴¹ the Second Circuit was presented with a compilation of statistics, designed to help gamblers pick winning numbers at local race tracks, which had been copied and published by a competitor without permission. Lalli’s copyrighted works, the “Brooklyn Handle” and the “3-5-7 Old Way,” were forms that contained blank spaces for inserting information about the total sum of money wagered on horse races in New York on a given day. Each of these charts or score sheets embodied a formula for generating a lucky number from the raw betting statistics.¹⁴² The authorship claim was based on Lalli’s

138. “Personality-based characterizations of many low authorship informational works seem contrived,” wrote Professor Ginsburg, in an article published shortly before the *Feist* case was decided. Jane C. Ginsburg, *Creation and Commercial Value: Copyright Protection of Works of Information*, 90 COLUM. L. REV. 1865, 1868-69 (1990). “More importantly, these characterizations seem wholly beside the point. Even if one could discern subjective ‘arrangement’ in works such as maps, address directories, and compilations of judicial decisions, that arrangement may bear little, if any, connection to the work’s central importance as a source of information.” *Id.*

139. Compare *Kregos v. Associated Press*, 937 F.2d 700, 704 (2d Cir. 1991), with *Southco, Inc. v. Kanebridge Corp.*, 258 F.3d 148, 152 (3d Cir. 2001).

140. See *Kregos*, 937 F.2d at 704.

141. 936 F.2d 671 (2d Cir. 1991) (per curiam). *Kregos* was decided on June 11, and *Victor Lalli Enters.* on June 13.

142. *Id.* at 672-73.

culling of data from newspapers and other sources, placing it on the chart, and applying a formula to calculate lucky numbers. The court held that this rearrangement of factual data on a functional grid, to which a fixed rule-basis was mechanically applied, offered no opportunity for variation and therefore did not satisfy the *Feist* standard of originality.¹⁴³

Three years later, in *CCC Information Services v. Maclean Hunter Market Reports, Inc.*,¹⁴⁴ a similar situation came up yet again in the Second Circuit, and Judge Pierre Leval answered the copyright question again the same way, by focusing on whether the work's rule-basis had predetermined the author's form of expression. The rule-based work this time was a book of used car valuations called the "Red Book," published by Maclean Hunter eight times a year, which covered a wide variety of car models sold in different regions of the country. The defendant, CCC, had incorporated the Red Book's valuations into its database without permission. Maclean Hunter sued CCC, claiming that its copyright on the Red Book had been infringed.¹⁴⁵

The question in the case was not just whether the compilation as a whole, the Red Book, was eligible for copyright (the Second Circuit's answer was an unequivocal yes),¹⁴⁶ but whether the individual price numbers were as well. CCC argued, and the district court had agreed, that the price numbers were "ideas" that merged with Maclean Hunter's expression of them since they could only be

143. *See id.* at 673.

144. 44 F.3d 61 (2d Cir. 1994).

145. *Id.* at 63-64.

146. *Id.* at 67 ("We find that the selection and arrangement of data in the Red Book displayed amply sufficient originality to pass the low threshold requirement to earn copyright protection."). Similarly, the Third Circuit in *Southco* applied this low threshold requirement to "Handbooks" in which the part numbers were compiled, *see Southco, Inc. v. Kanebridge Corp.* (Southco I), 258 F.3d 148, 150 n.3 (3d Cir. 2001), but the Sixth Circuit in *ATC* did *not* do likewise. *Compare Southco I*, 258 F.3d at 148, *and Southco, Inc. v. Kanebridge, Corp.* (Southco II), 324 F.3d 190 (3d Cir. 2003), *with ATC Distrib. Group, Inc. v. Whatever It Takes Transmission & Parts, Inc.*, 402 F.3d 700, 712 (6th Cir. 2005) ("To be sure, ATC could have arranged the parts information in other ways that were potentially less clear or useful, but this fact alone is insufficient to demonstrate the creativity necessary for copyright protection."). *See also supra* note 36.

expressed in one way, or, alternatively, “facts” about the market value of used cars that could not be owned by anyone under the guise of copyright,¹⁴⁷ while Maclean Hunter responded that the price numbers were not ideas or facts but “approximative statements of opinion by the Red Book editors.”¹⁴⁸ This disagreement raised the same concern that Judge Alito would focus on in *Southco*—how were the numbers generated? Were they the mechanical products of a numbering system, or were they products of an author’s freely willed self-expression?¹⁴⁹

Judge Leval found that they were the latter. Although Maclean Hunter’s appraisal process involved fifteen predetermined factors, the factors did not devolve into a system because there was no formula for how to combine them.¹⁵⁰ The price numbers, accordingly, were “neither reports of historical prices nor mechanical derivations of historical prices or other data.”¹⁵¹ Moreover, that they were “expressed in numerical form” was “immaterial to originality.”¹⁵² Even if a price number could be characterized as Maclean Hunter’s idea of how much a particular used car was worth, this type of idea would lie on the expression side of the line.¹⁵³

In the most memorable part of his opinion in *CCC Information Services*, Judge Leval distinguished between “building block” ideas and “soft” ideas, suggesting that the building block type should be denied copyright protection,

147. 44 F.3d at 64.

148. *Id.* at 72.

149. *Southco, Inc. v. Kanebridge Corp.*, 390 F.3d 276 (3d Cir. 2004).

150. 44 F.3d at 67.

151. *Id.*

152. *Id.* at 67 n.6.

153. Five years later, the Ninth Circuit expressly relied on *CCC Info. Servs.* in a case that involved price estimates for collectible coins. *See* *CDN Inc. v. Kapes*, 197 F.3d 1256 (9th Cir. 1999). In familiar rhetoric, the court characterized the individual coin prices as “compilations of data,” and concluded that, like the car values in *CCC Info. Servs.*, they “fall on the expression side of the line.” *Id.* at 1260, 1262. The court did not fully explain its reasoning, but perhaps thought that if *any* work of authorship can be metaphorically decomposed into a compilation of unprotectible elements, then any single *element* of a compilation (such as an individual price estimate) might be further decomposed into a compilation of the bits of information that went into making it. *See supra* note 12 and accompanying text.

while the soft type, “infused with taste or opinion,” should be protected.¹⁵⁴ The basis for this distinction, which Judge Leval ascribed to Judge Newman, was in part that building block ideas, “directed to the understanding of phenomena or the solving of problems,” were far too important to slip into private ownership, while “those that merely represent the author’s taste or opinion and therefore do not materially assist the understanding of future thinkers” could be taken out of the public domain without “inflict[ing] serious injury on the policy . . . that forbids granting protection to an idea.”¹⁵⁵

Just because building block ideas are valuable to the public, however, does not mean that the public should have them for free.¹⁵⁶ The more convincing rationale for Judge Leval’s distinction is that building block ideas are components of systems that can be applied by *any* user to achieve a predetermined result.¹⁵⁷ In contrast, “soft ideas”

154. See *CCC Info. Servs.*, 44 F.3d at 71-72.

155. *Id.* at 71.

156. In *Kregos*, for instance, Judge Newman gave the example of “a doctor who publishes a list of symptoms that he believes provides a helpful diagnosis of a disease.” *Kregos v. Associated Press*, 937 F.2d 700, 707 (2d Cir. 1991). Whether such a diagnostic tool could be protectible should not depend on whether it contains “building block” ideas about the disease, but instead on whether it provides a technique for generating a diagnosis, in which case it would be considered a “process” or “system” and fall under the rule of *Baker v. Selden*. The text that described the technique, however, would still be protectible.

157. The Eleventh Circuit, like the Third, has adopted something close to a per se rule that a copyright claim cannot be enforced if the infringed work includes an express formula or “system” for converting its unprocessed data into refined data, predictions, or other useful information. In *Warren Publ’g., Inc. v. Microdos Data Corp.*, 115 F.3d 1509 (11th Cir. 1997), the court, on a rehearing en banc, denied copyright protection to a “Factbook” that contained “1,340 pages of factual data on 8,413 cable systems throughout the country and their owners.” *Id.* at 1511.

The key to the outcome of the case was this statement by the trial judge: “Warren has developed a *system for selecting communities* which is original in the industry. This selection process represents a part of the format of the compilation which is copyrightable.” *Id.* at 1516 (quoting district court’s ruling, emphasis added by appellate court). Judge Birch held that the trial judge, if correct in his finding of fact, was wrong in his conclusion of law. “If Warren actually does employ a system to select the communities to be represented in the book, then section 102(b) of the Act bars the protection of such a system.” *Id.* at 1517.

do not arise from any formula or lead to any determinate outcome. Maclean Hunter's valuations were soft ideas because they "explain[ed] nothing, and describe[d] no method, process or procedure."¹⁵⁸ Maclean Hunter made no attempt "to monopolize the basis of its economic forecasting or the factors that it weighs; the Red Book's entries are no more than the predictions of Red Book editors of used car values for six weeks on a rough regional basis."¹⁵⁹

D. NYMEX

The most recent skirmish over copyright for rule-based expression is consistent with this suggested rationale, although the plaintiff did not prevail this time. On August 1, 2007, the Second Circuit handed down its opinion in *New York Mercantile Exchange, Inc. v. IntercontinentalExchange, Inc.*,¹⁶⁰ a case that dealt with the settlement prices for open futures contracts that are calculated by NYMEX at the end of each business day.¹⁶¹ NYMEX claimed that each individual settlement price was eligible for copyright as an original work of authorship, which was just like Southco's claim for each individual part

In dissent, Judge Godbold argued that the trial judge's use of the word "system" was imprecise, and, in any event, did not *necessarily* preclude protection for the book, if the author's "idea" of selecting and arranging data in a functional manner was expressed in a sufficiently original form. *Id.* at 1530. He could have gone on to say that the book's rule-basis, i.e., its rules for selection, coordination, and arrangement, looked like a "system" only because they could have been used to replicate essentially the same book. The author of *any* compilation, however, has the right to prevent others from applying his or her rule-basis to the same raw data for the purpose of creating a competing work.

158. 44 F.3d at 73.

159. *Id.*

160. 497 F.3d 109 (2d Cir. 2007), *cert. denied*, 128 S. Ct. 1669 (2008).

161. NYMEX's proprietary interest was time-sensitive, i.e., the settlement prices were not only facts but news. "[B]etween the time of creating the prices and the required public disclosure the following day, NYMEX supplies them to market data vendors such as Reuters pursuant to license agreements. These vendors then disclose the prices to their subscribers." *Id.* at 112. For an argument that misappropriation could have provided a remedy that would have better suited NYMEX's injury, see generally Jeremy V. Murray, Note, *The Death of Copyright Protection in Individual Price Valuations, a Flawed Merger Doctrine, and Financial Market Manipulation: New York Mercantile Exchange v. IntercontinentalExchange, Inc.*, 57 BUFF. L. REV. 279 (2009).

number.¹⁶² From the perspective of intracircuit precedent, the issue was whether the *NYMEX* case was on-point with *CCC Information Services*—that is, whether NYMEX's settlement prices were directly analogous to Maclean Hunter's used car valuations. If so, then *stare decisis* would require that NYMEX's settlement prices be copyright-protected as were Maclean Hunter's used car valuations.

The facts of *NYMEX* left ample room for the Second Circuit to distinguish it from *CCC Information Services*. The court went further, however, and not only distinguished *CCC Information Services*, but came close to overruling it by relegating Judge Leval's entire discussion of originality to dicta.¹⁶³ The most obvious distinction between *NYMEX* and *CCC Information Services* was that NYMEX's settlement prices were binding on the brokers and customers who did business on the exchange, while Maclean Hunter's car valuations were not binding on anyone.¹⁶⁴ Hence the settlement prices were immutable facts stated in numerical form, in contrast to Maclean Hunter's car valuations, which were merely opinions about

162. "In March 2002, NYMEX sought a copyright for its database including the settlement prices. After the Copyright Office informed NYMEX that it was unwilling to provide a copyright in settlement prices, NYMEX filed a replacement application and obtained a copyright for its database only." *N.Y. Mercantile Exch., Inc.*, 497 F.3d at 112. In other words, NYMEX's compilation of data was registered, but not the internal data points (the individual settlement prices). The ensuing complaint, however, was based on the defendant's (ICE's) copying of the individual settlement prices—which ICE had been forwarding to the London Clearing House that cleared its customers' trades—not on the copying of NYMEX's database as a whole. *Id.*

163. In his *NYMEX* opinion, Judge Katzmann observed that Maclean Hunter's Red Book was protected as a compilation of data, and the whole book had been copied in CCC's database; hence "it was not necessary [for the court in *CCC Info. Servs.*] to also hold that the individual estimates were copyrightable." *Id.* at 115 n.5.

164. While NYMEX now argues that settlement prices are merely opinion, we note that NYMEX itself treats the prices as news of the day. Within minutes of determining the settlement prices it disseminates them to its internal Clearing House. In turn, the Clearing Members calculate customers' margins based on the settlement prices. NYMEX also provides the prices to newspapers which publish them alongside other market facts. All customers with NYMEX accounts are bound by NYMEX's calculation.

Id. at 115 n.6.

the price that a used car *might* or *should* fetch.¹⁶⁵ The merger of fact and expression would preclude copyright protection in the former case, but not the latter.¹⁶⁶

Apart from the merger doctrine, the court touched upon various additional justifications, both explicit and implicit, for finding that NYMEX's settlement prices were not the product of freely willed self-expression, including the words and short phrases regulation that had been inconclusively debated in the *Southco* case.¹⁶⁷ One was that

165. This, even though state regulations required insurance companies to use CCC's Red Book, or an average of the Red Book and Bluebook estimates ("unless another approved valuation method is employed"), to calculate payments due the insured upon total loss of a vehicle. See CCC Info. Servs., Inc. v. Maclean Hunter Mkt. Reports, Inc., 44 F.3d 61, 73 (2d Cir. 1994). The Second Circuit had ruled that this legal reference to an extrinsic standard did not convert it from an opinion into a fact. See *id.* at 73-74.

166. See *N.Y. Mercantile Exch.*, 497 F.3d at 116-17. The Second Circuit could have applied the rationale of the Fifth Circuit's *Veeck* opinion here. See *supra* text accompanying note 99. The argument would be that NYMEX's settlement prices were analogous to the model codes in *Veeck*. A model code differs from a municipal ordinance—even if the text of the two is exactly the same—because legislative enactment of a model code transforms a mere opinion of what the law *should be* into the fact of what the law *is*.

As stated by the trial judge in *NYMEX*, the merger doctrine's application was just as straightforward as it had been in *Veeck*, if not more so. Since there is only one way to express the "fact" or "idea" of a NYMEX settlement price—a single number which is the actual price at which a futures contract *must* be settled—the idea of a NYMEX settlement price "merges" with its numerical expression. See *N.Y. Mercantile Exch., Inc.*, 497 F.3d at 112-13.

The Second Circuit affirmed this holding, which was correct, but muddled the analysis. Judge Katzmann focused on the "range of possible expressions" for a settlement price and found that "[b]ecause any settlement price for a particular futures contract would be based on the same underlying market facts, any dissension would be exceptionally narrow." *Id.* at 117-18. He concluded that the merger doctrine must therefore be applied because copyright protection would prevent NYMEX's competitors from independently valuing NYMEX's contracts. *Id.* at 118.

This would be a valid rationale for limiting the *scope* of NYMEX's copyright protection to the actual settlement price, but it is not a valid rationale for applying the merger doctrine to deny protection altogether. Under the principle of independent creation, a competitor who arrived at exactly the same settlement price as NYMEX would be held innocent of copyright infringement as long as it could establish that it did not copy NYMEX's work. See *supra* note 107 and accompanying text.

167. *N.Y. Mercantile Exch., Inc.*, 497 F.3d at 113; *cf.* ATC Distrib. Group, Inc. v. Whatever It Takes Transmission & Parts, Inc., 402 F.3d 700, 710-11 (6th Cir. 2005). See *supra* note 19 for how the issue was addressed in *Southco*.

“NYMEX is required by law to record settlement prices, and it does not challenge the legality of that rule.”¹⁶⁸ The court applied the rationale that NYMEX needed no copyright incentive to author its settlement prices,¹⁶⁹ but failed to point out that the Supreme Court’s ruling in *Feist* might actually dictate that protection be denied whenever the rule-basis for generating or selecting data is a legal requirement.¹⁷⁰

An even better justification was that NYMEX’s settlement prices for the vast majority of its futures contracts—that is, those due for delivery in high-volume months—are based on a predetermined formula, “a weighted average of all trades done within the closing range.”¹⁷¹ The *NYMEX* court did not cite Judge Alito’s

168. *N.Y. Mercantile Exch., Inc.*, 497 F.3d at 118.

169. *Id.*

170. See *Feist Publ’ns, Inc. v. Rural Tel. Serv., Co.*, 499 U.S. 340, 363 (1991) (“one could plausibly conclude that this selection was dictated by state law, not by Rural”); see also *Sinai v. Bureau of Auto. Repair*, No. C-92-0274-VRW, 1992 WL 470699, at *2 (N.D. Cal. Dec. 21, 1992) (denying infringement claim for automotive chart that listed the equipment required by state emission control laws); *Tastefully Simple, Inc. v. Two Sisters Gourmet, L.L.C.*, 134 F. App’x. 1, 5 (6th Cir. 2005) (same for spreadsheet that alphabetically listed sales tax rates, and the names, addresses, and telephone numbers of state tax departments).

On the other hand, the Seventh Circuit has been hesitant to deny copyright protection for materials that are authored to comply with a legal requirement, as long as the legal rule-basis does not entirely foreclose authorial discretion. In *Bucklew*, Judge Posner observed:

If *Bucklew* were claiming copyright in the tabular presentation of the summary data required by HUD, this case would be governed by *Baker v. Selden*. But he is not. He is claiming copyright in tables configured in an optional way, tables that are the product of format choices that are not unavoidable

Bucklew v. Hawkins, Ash, Baptie & Co., 329 F.3d 923, 928 (7th Cir. 2003). Likewise, in *Mid Am. Title Co. v. Kirk*, 991 F.2d 417, 420 (7th Cir. 1993), the Seventh Circuit reinstated an infringement claim that was based on the copying of real estate title reports—in essence, boilerplate forms filled in with factual information required by law—over the defendant’s objection that “[t]here is no room for creative choice . . . when all title examiners must cover the same ground and the examiner has a duty to make a diligent search of, and include in the commitment, all information bearing on the parcel.”

171. *N.Y. Mercantile Exch., Inc.*, 497 F.3d at 111. NYMEX’s rules provide that its Settlement Price Committee is authorized to override the mathematical formula; NYMEX argued that this authority represented a measure of authorial discretion that rescued the settlement price as a work of authorship. See *id.* at

Southco opinion, but Judge Alito's rationale could have been usefully summoned here: that unless NYMEX's mathematical rule-basis for formulating the settlement prices itself was copyright-protected (which it was not, under *Baker v. Selden*), then the data generated by mechanically applying the rule-basis could not be copyright-protected either.¹⁷²

This rationale is also why—as well as how—*CCC Information Services* can be reconciled with *Southco*. In *Southco*, the part numbers were the products of a system. Anyone using *Southco*'s system would come up with exactly the same number for a given part. That was the only rationale for denying protection to *Southco*'s part numbers because, certainly, a part number is not a “building block” idea, nor is it an invariant fact of nature or history. Even if a Kanebridge part had been designed to be interchangeable with a *Southco* part, and it would have been beneficial for Kanebridge and its customers to be able to identify the two matching parts, there would be no basis in copyright law for allowing Kanebridge to copy *Southco*'s part numbers unless they were not in the first place protected as works of authorship.¹⁷³

120-21 (Hall, J., concurring in part). Judge Katzmman, however, did not comment about the override provision, beyond noting that the frequency of its use was disputed. *Id.* at 112 (majority opinion). As for the “low volume months,” the extent of NYMEX's “creative judgment” was also disputed, but ICE (the defendant) contended that,

there is little judgment involved because the subcommittees only review “objective market data,” and, in practice, “look at settlement prices for the near month contracts—*i.e.*, those that are determined by mathematical formula—and then extrapolate to determine the remainder of the settlement prices based on the changes in the month-to-month spread relationships in the various contracts compared to the previous day.”

Id. at 111.

172. *Cf.* *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998) (validating patent for “the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price”).

173. It is possible, of course that copying the individual numbers could have been justified as a fair use. Also, a decision limiting the scope of *Southco*'s copyright might have been tempered by other policy considerations. “[T]hese manufacturers are not competitors in the sale of catalogs, but rather in the sale of machine parts. . . . Denying copyright protection for parts numbering systems promotes robust competition in the market for machine parts.” Pamela

In contrast, the Second Circuit in both *CCC Information Services* and *Kregos* expressly held that there was *no* system behind either Maclean Hunter's Red Book or Kregos's score sheets. What was missing from both works was a rule-basis that would crystallize the data supplied by the author into a system and automatically generate the price of a used car or the winner of a baseball game. One could certainly wonder, of course, how much room for non-systematic judgment was to be had after "x" number of categories of information had been selected and arranged by the author and presented to the reader for a defined purpose. This, however, was how the Second Circuit left it.¹⁷⁴

III. FREELY WILLED SELF-EXPRESSION

In variety theaters I have often watched, before my turn came on,
a couple of acrobats performing on trapezes high in the roof. They

Samuelson, *Why Copyright Law Excludes Systems and Processes from the Scope of its Protection*, 85 TEX. L. REV. 1921, 1975 n.351 (2007).

Twenty years earlier, Judge Becker himself had made much the same point in a misappropriation case, in which the U.S. Golf Association had sued a competitor who was using its numerical formula for calculating golfers' handicaps:

Although the plaintiffs spend some time and effort updating their formulas, and also compute results by means of their formulas, the primary value of the results produced are not their inherent value in performing the underlying functions, but rather in the fact that they enable the public to discuss the underlying matters . . . by means of a common set of terms.

U.S. Golf Ass'n v. St. Andrews Sys., Data-Max, Inc., 749 F.2d 1028, 1037 (3d Cir. 1984). In addition, he noted, "The U.S.G.A. is not in the business of selling handicaps to golfers, but is primarily interested in the promotion of the game of golf, and in its own position as the governing body of amateur golf." *Id.* at 1038.

174. In fact, this was not *exactly* how the Second Circuit left it, at least in the *Kregos* case. On remand, the district court once again granted the AP's motion for summary judgment, *see Kregos v. Associated Press*, 795 F. Supp. 1325, 1325 (S.D.N.Y. 1992), but, on Kregos's appeal of the post-remand dismissal, the Second Circuit this time affirmed the district court, holding that Kregos's form had virtually no protection beyond verbatim copying because of the narrow range of creative options available for drafting an outcome predictive score sheet. *See Kregos v. Associated Press*, 3 F.3d 656 (2d Cir. 1993). "As we suspected in *Kregos II*," wrote Judge George C. Pratt, referring to Judge Newman's opinion, "much of the similarity between the AP and Kregos forms is necessitated because there are a limited number of statistics generally considered outcome-predictive by those familiar with the sport." *Id.* at 664.

swung themselves, they rocked to and fro, they sprang into the air, they floated into each other's arms, one hung by the hair from the teeth of the other. "And that too is human freedom," I thought, "self-controlled movement." What a mockery of holy Mother Nature! Were the apes to see such a spectacle, no theater walls could stand the shock of their laughter.¹⁷⁵

Kafka's story describes the aesthetic paradox lingering in the background of the doctrinal debate over rule-based expression. Nothing appears more freely willed than arbitrary choice, and Kafka's acrobats hurtling through the air seem to be free from all constraints, including the force of gravity. The truth, however, is that the acrobats are more constrained than anyone else in the theater. Their "self-controlled movement," or freely willed self-expression, is a carefully orchestrated imitation of flight rather than flight itself. An ape, even from within the confined space of his cage, would laugh at the spectacle of the acrobats whose every movement is timed and executed with split-second precision to avert the consequences of falling to the ground.

The concept of rule-based expression in copyright law requires that we give some thought to a theme that is played out with great fanfare in other areas of law, most notably torts and criminal law,¹⁷⁶ but not so often considered in the context of copyright authorship. When copyright searches a work of authorship for self-expression, it presumes that expression must be freely willed and formally realized, not coerced or predetermined by authority or circumstances.¹⁷⁷ The author is the source of the work and the sole cause for its creation. If the author's

175. FRANZ KAFKA, *A Report to an Academy*, in THE COMPLETE STORIES 250, 253 (Nahum N. Glatzer ed., Willa & Edwin Muir trans., Schocken Books 1988) (1983).

176. In both these areas, the elements of a cause of action or crime include an intent or *mens rea* requirement (the defendant must have exercised some degree of free will) and a causation requirement (the harmful consequences must not have been determined by causes other than the defendant's conduct).

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

Durham, *supra* note 105, at 610-11.

choice of words, numbers, notes, lines, colors, or shapes is entirely controlled by the requirements of a preexisting system or formula, or by the nature of the work's subject matter, then the author is not *truly* an author, but rather a clerk, a scribe, an artisan, or a copyist.¹⁷⁸

A. *The Creativity Question*

As Kafka's story illustrates, however, the appearance of free flight is merely a circus act that is put on by the acrobats to please the naïve spectators, and one that is laughable to the knowing and cynical apes. Every form of self-expression takes place against the resistance of an intractable medium or an obdurate reader. An author's self-expression depends on how he or she manages the tension between what is internally self-motivated and externally imposed. Without this tension, there would be no need or opportunity for self-expression.¹⁷⁹ If, for example, a baseball player decided to break from convention by circling aimlessly around the bases, he might think he was expressing himself more freely than if he had waited until the ball was pitched to him and he'd hit it, but in that case he would just be running in circles rather than playing baseball, and he would not be considered free, but crazy.

178. I am not considering here the legal fiction known as the "work made for hire" doctrine, under which an employer is deemed to have authored an employee's writings. See Oren Bracha, *The Ideology of Authorship Revisited: Authors, Markets, and Liberal Values in Early American Copyright*, 118 YALE L.J. 186, 248-264 (2008) (critiquing romantic authorship model); Catherine L. Fisk, *Authors at Work: The Origins of the Work-For-Hire Doctrine*, 15 YALE J.L. & HUMAN. 1, 11-56 (2003) (describing nineteenth century developments); Justin Hughes, *The Personality Interest of Artists and Inventors in Intellectual Property*, 16 CARDOZO ARTS & ENT. L.J. 81, 149-161 (1998) (discussing the equivocal role of author's intention in the context of commissioned works).

179. "In a finished world," wrote John Dewey, "sleep and waking could not be distinguished." DEWEY, *supra* note 130, at 17. Stanley Fish would "put the matter as simply as possible" and say that

[i]n such a world communication itself would be beside the point, since the circuit of knowledge would always and already be established and no one would be outside it; there would be no gap to be bridged, no secret to be revealed, no message to be completed. No one would speak in order either to inform or persuade another, because every other would already know what you know and be where you are.

STANLEY FISH, *HOW MILTON WORKS* 495 (2001).

The rule-based performances of athletes, actors, and musicians do not trouble us with questions about determinism and free will because they do not result in works of authorship.¹⁸⁰ Southco's coding process, in contrast, raised exactly those questions for the obvious reason that Southco claimed to be the author of its part numbers, even though the literal form of those numbers was predetermined by its numbering rules.

Since *Baker v. Selden*, and no doubt long before that,¹⁸¹ the premise that a work consists of a literal dimension sustained by a non-literal one has been the foundation of copyright law's theory of authorship.¹⁸² This relationship, however, has never been entirely understood, either by literary scholars or copyright lawyers. In 1879, the very year of the *Baker* decision, Eaton S. Drone's attempt to explain what gives a work of authorship its unique identity ended with a curious aside about the Bible, which he implied was the exalted prototype of *all* works of authorship in its mysterious union of the literal and the non-literal:

There can . . . be no property in a production of the mind unless it is expressed in a definite order of words. But the property is not in the mere words alone,—not alone in the one form of expression chosen by the author. It is in the intellectual creation, which language is merely a means of expressing and communicating. . . . The means of communication are manifold; but the invisible,

180. An actor's non-improvisatory performance will realize a literary work, and a musician's a musical one. But neither is, by virtue of the work's performance, its author. The written score of Gustav Mahler's Fourth Symphony and Claudio Abbado's performance of it, for instance, are equally literal realizations of the same musical work, but Mahler is the work's author, not Abbado.

181. See, e.g., AUGUSTINE BIRRELL, SEVEN LECTURES ON THE LAW AND HISTORY OF COPYRIGHT IN BOOKS 167 (1899) ("Ideas, it has always been admitted, even by the Stationers' Company, are as free as air. If you happen to have any, you fling them into the common stock, and ought to be well content to see your poorer brethren thriving upon them.").

182. The exception that proves the rule is Judge Learned Hand's opinion in *Reiss v. National Quotation Bureau*, 276 F. 717 (S.D.N.Y. 1921), a case that involved a book of 6,325 "coined" or nonsense words that could be used as a secret code by telegraph operators, who would assign private meanings to the meaningless words. "These words," wrote Judge Hand, "have a prospective meaning, but as yet they have not received, it, like an empty pitcher." *Id.* at 718. The "work" in *Reiss* was the rare instance of one that had *no* non-literal dimension, or at least none supplied by the author, which is exactly why it was unintelligible and useful for its intended purpose.

intangible, incorporeal creation of the author's brain never loses its identity. The Bible has been translated into all tongues; but its truths, its eloquence, its poetry, have been the same to all nations.¹⁸³

The mystery is how the work becomes an “intellectual creation” distinct from both the literal sequence of its words and its non-literal meaning, or, put differently, how the work's form and content instantiate each other to produce something that is dependent on both, but different from either.¹⁸⁴ On one hand, the non-literal dimension of a work determines whatever appears on the literal, and hence *constrains* the author, while on the other, the non-literal dimension makes possible what appears on the literal, and hence *enables* the author. The author, whose originality is the *sine qua non* of copyright protection,¹⁸⁵ presides over the process that transforms idea into expression.

To say that the author is the origin of the work, though, defers rather than answers the creativity question—that question being, what the author does *between* idea and expression.¹⁸⁶ Every act of authorship could be described as

183. EATON S. DRONE, A TREATISE ON THE LAW OF PROPERTY IN INTELLECTUAL PRODUCTIONS IN GREAT BRITAIN AND THE UNITED STATES 97-98 (1879). Cf. Bracha, *supra* note 172, at 228 (contending that the need to protect derivative works, such as translations, encouraged nineteenth century jurists to adopt “the modern notion of the work as a shape-shifter, an elusive intellectual entity that could assume an infinite variety of concrete forms”).

184. In Ernest J. Weinrib's words:

Form and content are correlative and interpenetrating. If any content were formless it would lack the very determinateness which makes it possible to experience it as a something, and it would therefore be, so far as we are concerned, an indeterminate something or other that is nothing in particular. If a form, on the other hand, were without content, it would not be a form of anything and therefore not a form at all. Form therefore *is* content and content form, with the distinction between them being notional, not ontological.

Ernest J. Weinrib, *Legal Formalism: On the Immanent Rationality of Law*, 97 YALE L.J. 949, 959 (1988).

185. See *Feist Publ'ns, Inc. v. Rural Tel. Serv., Co.*, 499 U.S. 340, 345 (1991).

186. Cf. Ralph D. Clifford, *Random Numbers, Chaos Theory, and Cogitation: A Search for the Minimal Creativity Standard in Copyright Law*, 82 DENV. U. L. REV. 259, 270-80 (2004) (assessing relevance of human psychology and neurobiology); Roberta Rosenthal Kwall, *Inspiration and Innovation: The Intrinsic Dimension of the Artistic Soul*, 81 NOTRE DAME L. REV. 1945, 1949-70 (2006) (comparing theological and secular perspectives on creativity); Jessica

a rule-based performance in some sense, but clearly not every rule-based performance creates—or even realizes—a work of authorship. Once more, a game provides the classic example. A game must be played by the game’s rules or it isn’t a game, but a brawl; and a player is a type of performer who is constrained by the game’s rules, but not mechanically so. Nevertheless, game players are not authors,¹⁸⁷ nor are their performances the realization of works.¹⁸⁸

B. *A Non-Literal Stratum of Ideas*

Why isn’t a game a type of work? A game—like a coding process—requires a fixed rule-basis. Rules are instructions for how to play. Players, however, do not realize the game’s rules in the form of a game, but implement those rules in order to *win* the game.¹⁸⁹ This is why verbal or pictorial depictions of a particular game may be protectible, as may be the textual form of the game’s rules, but not the game itself. In contrast, Southco’s coding process enabled a user of its numbering rules to realize a non-literal stratum of ideas—messages, structures, and functions—in the textual form of a part number. This made it seem like the person

Litman, *The Public Domain*, 39 EMORY L.J. 965, 1007-12 (1990) (describing conscious and subconscious creative processes); Russ VerSteeg, *Rethinking Originality*, 34 WM. & MARY L. REV. 801, 824-45 (1993) (dealing with cognitive science and psychiatry). *But see* Dennis Karjala, *Copyright and Creativity*, 15 UCLA ENT. L. REV. 169, 189 (2008) (denying that creativity was an issue in *Southco*).

187. The player’s participation in a videogame, for example, does not detract from the programmer’s authorship of the underlying software, let alone make the player a co-author of the audiovisual work generated by the software. *See Williams Elecs., Inc. v. Artic Int’l, Inc.*, 685 F.2d 870, 874 (3d Cir. 1982). *But see* W. Joss Nichols, *Painting Through the Pixels: The Case for a Copyright in Videogame Play*, 30 COLUM. J.L. & ARTS 101, 128 (2006) (“[A]s a user’s interaction increases, gaming becomes more akin to writing a game rather than playing it.”).

188. *See Allen v. Academic Games League of Am., Inc.*, 89 F.3d 614, 616-17 (9th Cir. 1996) (playing a game is not a public performance of the game’s rules).

189. The exception might be a fully imagined game, like a chess problem or a crossword puzzle, or, for that matter, the fictitious “Glass Bead Game,” which was an artwork in the form of a game. *See* HERMANN HESSE, *THE GLASS BEAD GAME* (Richard & Clara Winston trans., Holt, Rinehart & Winston 1969) (1943). The text of the chess problem, etc., is the fixation of an actual game, but it is also a protectible work; the problem’s creator is an author as well as a player.

applying the rules was an author who was “expressing” something, and made the products of that “expression”—the individual part numbers—seem like protectible works of authorship.

First, the *informational* dimension of a part number, its paraphrasable message or statement, was the description of the part that could be inferred by decoding its number. Second, the *structural* dimension of a part number was the sequence of digits dictated by Southco’s numbering rules.¹⁹⁰ Third, the *functional* dimension of a part number was the coding process that generated it, which includes the rules that comprised the numbering system as well as the purpose the system served. The problem is that many human-made artifacts, like Southco’s part numbers, convey information, have structures, or embody functions, but all the same are *not* works of authorship.

If the “message” or subject matter is the idea behind a work, we have to ask whether freely willed self-expression is possible if the information the work conveys predetermines its form as well as its substance. This is the underlying concern of the merger doctrine, as well as what Judge Alito must have had in mind when he suggested that simple works like part numbers should be deemed ineligible for protection, with copyright reserved for those that express more complex and indeterminate ideas.¹⁹¹

Although numbers have the potential for serving as vehicles of expression, they also reside at the lowest level of expression in situations where they simply designate a part or quantify factual information about it, such as the length of a screw or the number of threads it has. The same might be said about a work whose message is a prediction about the winner of a baseball game or a horse race. If the work is no more than a vehicle for delivering a predetermined result, then the author’s expressive contribution might be little or none. Another way of putting this is to say that even though the work communicates information, this type of communication is more functional than expressive to a point that tips the balance against an authorship claim.

190. See *Southco, Inc. v. Kanebridge Corp.*, 258 F.3d 148, 149 n.2 (decoding, as an example, part number 47-10-202-10).

191. See *supra* text accompanying note 42.

If, as an alternative, the *structure* of a work is the idea behind it, we need to consider whether the work's structure can be independently expressive, apart, that is, from the textual form through which it is realized. From a copyright perspective, the determination of whether structure is expressive or inexpressive depends, in the first place, on the type of work. In compilations, the work's structure as a principle of selection, organization, and arrangement is deemed expressive for legal purposes as long as the author has the discretion to substitute one structure for another.¹⁹²

What makes a compilation different from other works is that its structure—the non-literal dimension of the text—is deemed its *sole* expressive component, as long as the structure is applied to a particular body of information. The author has the right to prevent others from applying his or her rule-basis to the same unorganized data for the purpose of creating a competing work. In this sense, a compilation is like a literary work turned inside-out, with the protected element (selection, organization, and arrangement) being essentially non-literal and the non-protected element (facts or raw data) being essentially literal, rather than vice-versa. The structure of a compilation moves to the idea side of the idea-expression dichotomy only if it is imposed on the author by the compilation's subject matter in the way, for example, that the alphabetical arrangement of names listed in a garden-variety white pages directory is traditional and commonplace enough to be practically inevitable.¹⁹³

Structure, in addition, serves to disqualify a compilation from copyright protection whenever, in conjunction with a formula for combining information into an answer or other type of literal result—such as a price estimate or a part number—it devolves into a system, process, or method of operation. A consequence, exemplified by *Southco*, is that the textual components of a rule-based work, although original to the author, are not independently protectible if the work's rule-basis systematically preempts any variation of the preconceived plan. “Indeed, if any creativity were allowed to creep into the numbering process,” wrote Judge Alito, “the system

192. See *Feist Publ'ns, Inc. v. Rural Tel. Serv., Co.*, 499 U.S. 340, 362-63 (1991).

193. See *id.*

would be defeated.”¹⁹⁴

In pictorial, graphic, and sculptural works, structure is the non-literal element of form and is protected to the extent that it is literally manifested in shape.¹⁹⁵ The limitations imposed by the formal requirements of an artform and the material substance of an artistic medium of course may burden and even predetermine to some extent what the artist can do in a work of art, but this kind of physical or rule-constraint is not contrary to freely willed self-expression.¹⁹⁶ One could fancifully imagine, for instance, that the finished sculpture already exists within the block of marble,¹⁹⁷ but no one would seriously say that the job of chiseling a sculpture out of stone is merely laborious rather than expressive.

John Dewey fell back on the example of an athlete engaged in a competitive sport to explain how creative freedom can be reconciled with formal integrity:

Any skilled observer of a pugilist or a golf-player will, I suppose, institute distinctions between *what* is done and *how* it is done—between the knock-out and the manner of the delivery of a blow; between the ball driven so many yards to such and such a line and the way the drive was executed. The artist, the one engaged in doing, will affect a similar distinction when he is interested in correcting an habitual error or learning how better to secure a given effect. Yet the act itself is exactly *what* it is because of *how* it is done. In the act there is no distinction, but perfect integration of manner and content, form and substance.¹⁹⁸

The formal aspects of an artistic or literary work become ideas, according to Judge Hand in *Nichols*, only at a

194. *Southco, Inc. v. Kanebridge Corp.*, 390 F.3d 276, 282 (3d Cir. 2004).

195. “Form. . . can be defined roughly as *structure manifesting itself in shape*.” ERICH KAHLER, *THE DISINTEGRATION OF FORM IN THE ARTS* 4 (1968) (emphasis in original).

196. “If where the rules not far enough extend,/ (Since rules were made but to promote their end)/ Some lucky LICENCE answers to the full/ Th’ intent propos’d, that licence is the rule.” ALEXANDER POPE, *AN ESSAY ON CRITICISM* 11 (facs. ed., Scholar Press 1970) (1711).

197. “The Greeks reasoned that the perfect statue already existed in the block of marble, and that it required only the genius of the sculptor to develop its proportions.” *Werckmeister v. Am. Lithographic Co.*, 134 F. 321, 324 (2d Cir. 1904).

198. DEWEY, *supra* note 130, at 109.

high level of abstraction from the literal text, which is arrived at through a layperson's retrospective paraphrase of the work rather than an expert's elucidation of the conventions and genres that were available to the author.¹⁹⁹ At this high level of abstraction, however, the structural attributes of aesthetic form lie on the far side of the idea-expression dichotomy, that is to say, in the public domain.²⁰⁰

C. *What Took the Form of a Treatise*

Finally, if the idea behind the work of authorship is how to perform a function, we have to ask what the author intended the work to mean and to be. Any interpretation of a work is also one of the intent behind it;²⁰¹ this is why the author's intention is always the elusive missing link that bridges the gap between expression and idea.²⁰² The nature and quality of this intention becomes a copyright issue when the facts of the case are poised between expression and function. This is because expression and function are both accomplished by an *agent* who has an intention to *make* or to *do* something, and therefore, in this context at least, do not stand on opposite sides of a dichotomy,²⁰³ but

199. "The testimony of an expert upon such issues," he wrote, "cumbers the case and tends to confusion, for the more the court is led into the intricacies of dramatic craftsmanship, the less likely it is to stand upon the firmer, if more naive, ground of its considered impressions upon its own perusal." See *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 123 (2d Cir. 1930).

200. See *id.* at 121.

201. See Steven Knapp & Walter Benn Michaels, *Against Theory*, in *AGAINST THEORY: LITERARY STUDIES AND THE NEW PRAGMATISM* 5, 26 (W.J.T. Mitchell ed., Univ. of Chicago Press 1985) (1982); Stanley Fish, *Intention Is All There Is: A Critical Analysis of Aharon Barak's Purposive Interpretation in Law*, 29 *CARDOZO L. REV.* 1109, 1110-16 (2008).

202. David Nimmer, *Copyright in the Dead Sea Scrolls: Authorship and Originality*, 38 *HOUS. L. REV.* 1, 204-205 (2001):

In short, for a defendant to be held an infringer, intent is not a necessary ingredient. Nonetheless, it would seem that intent is a necessary element of the act of authorship. Thus, although the defendant need not copy intentionally to be held liable, the plaintiff must intend to author in order for a work of authorship to emerge.

203. The function-expression dichotomy is a variant of the idea-expression dichotomy and is often applied in merger cases, as Judge Becker did in *Southco*,

on the same side.²⁰⁴ Thus, when considering whether a work is eligible for copyright—that is, whether it is the product of freely willed self-expression—two basic questions need to be asked. First, was the author’s conduct intentional? Second, if it was, did the author intend to express him or herself, or did the author intend to perform a function?

The first question raises two possibilities that lie at the extreme ends of a spectrum. Conduct can be non-intentional either because it is arbitrary and random, or predetermined and coerced. Both these types of non-intentional conduct must be considered inexpressive and the agent disqualified as a copyright author.²⁰⁵ In the *Southco* case, the court identified both types of non-intentional conduct. Southco’s assignment of numbers to parts, if arbitrary and random, was inexpressive because there was no reason for choosing one number rather than another.²⁰⁶ Southco’s assignment of numbers to parts, if systematically generated by a coding process, was inexpressive because it was predetermined by

under the guise of the *scènes à faire* doctrine. See *supra* note 71 and accompanying text.

204. A question for another day is why we perceive a dichotomy between function and expression in the first place. Larry Shiner suggested that the dichotomy is a byproduct of the modern system of the arts. “For Aristotle, what painting and tragedy have in common as imitations does not separate them in their *procedures* from arts like shoemaking or medicine,” he wrote. “As offensive as it may be to our postromantic sensibilities, Aristotle believed that the artisan/artist takes a particular raw material (human character/leather) and uses a particular set of ideas and procedures (plot/shoe form) to produce a product (tragedy/shoes).” LARRY SHINER, *THE INVENTION OF ART: A CULTURAL HISTORY* 21 (2001). Indeed, one might define artworks as human-made artifacts that have an expressive function. See *infra* note 223 and accompanying text.

205. Cf. Hughes, *supra* note 172, at 114 (“Something will be considered ‘creative’ only when it appears to come from neither a purely mechanical process, nor a purely random one.”).

206. *Southco, Inc. v. Kanebridge Corp.*, 390 F.3d 276, 288 (3d Cir. 2004) (Becker, J., concurring) (“Arbitrary choices such as these do not satisfy the originality requirement.”).

This is not to say, however, that *seemingly* random choices that reflect subconscious creative processes are inexpressive. See Durham, *supra* note 105, at 629-631. Also it will not do to press too hard on this point because *all* linguistic signs are basically arbitrary; for example, there is no intrinsic reason why “cat” signifies a pet and “snow” a weather condition, rather than vice-versa. This type of arbitrary choice, of course, occurs on the social rather than the personal level, except in the exceptional case of trademark authorship.

the application of the numbering rules.²⁰⁷ The conclusion either way was that the work was not the product of an author's intention and therefore not an incarnation of freely willed self-expression.

The second question takes us to an alternative path that likewise branches in two directions. Suppose *Southco* had established that its work *was* the product of an author's intention. The nature and quality of that intent then comes under scrutiny. Not all intentional conduct is expressive; the other possibility is that the author's conduct was functional. In a manner of speaking, *Baker's* use-explanation dichotomy was a suitable template for the idea-expression dichotomy as it evolved in the twentieth century because "use" is analogous to "idea" and "explanation" to "expression."²⁰⁸ The problem, however, is that expression realizes the author's idea in the form of the work. What authors *do* is express themselves. In contrast, an author may explain or describe the *use* of a process, system, method of operation, etc., but this functionality is what the explanation refers to, not what the explanation embodies, much less what the author does. An author who invents a method of bookkeeping is engaged in the practice of bookkeeping, not the practice of authorship.

The method explained in Selden's treatise wasn't his idea *about* bookkeeping, but rather his system *of* bookkeeping. Even though the book conveyed Selden's explanation of his system, the system was not an expressive element of the book, either non-literal or literal, in the way that plot and characters are non-literal elements of novels, or lines, shapes and colors are literal elements of paintings. Selden could expound upon his system of accounting in any number of treatises, but his accounting system did not take the form of a treatise. What took the form of a treatise was his *explanation* of the system, which was all that his

207. *Southco*, 390 F.3d at 282 (Alito, J., majority opinion) ("an essential attribute of the numbering process and the resulting numbers is an utter absence of creativity").

208. See Samuelson, *supra* note 167, at 1953-61 (tracing *Baker's* emergence as the seminal idea-expression case and critiquing Melville B. Nimmer's tendentious reading of *Mazer v. Stein*, 347 U.S. 201, 217 (1954)); Weinreb, *supra* note 39, at 1174-76 (same).

copyright protected.²⁰⁹

His accounting system, however, *did* take the form of the blank ledger pages in his treatise, which were tools of the trade that the treatise explained. The blank ledger pages were literal elements of Selden's accounting system. Selden's readers were allowed to copy and use these pages in order to practice the art of bookkeeping.²¹⁰ A tool is understood to be a functional object; neither the agent who creates the tool, nor the one who uses it to perform a function, is an author. An author nevertheless may have "ideas" *about* a tool and express those ideas *in the form of* a picture. A pictorial, graphic, or sculptural work that depicts a purely functional thing, a hammer, for example, may be eligible for copyright, even if the thing depicted, the hammer, is not.²¹¹

209. *Cf.* 17 U.S.C. § 113(b) (2006) (stating that the owner of a copyright in a pictorial, graphic, or sculptural work that portrays a useful article has no exclusive rights to the making, distribution, or display of the object so portrayed). Although it is inconsistent with the principle of Section 113(b), Congress in 1990 enacted *sui generis* legislation to protect architectural works. *See* 17 U.S.C. §§ 102(a)(8), 120(a), (b) (2006) (codifying the Architectural Works Copyright Protection Act of 1990). The 1990 amendment overruled such cases as *Demetriades v. Kaufmann*, 680 F. Supp. 658, 663-66 (S.D.N.Y. 1988), which had applied *Baker v. Selden* to limit the copyright of architectural designs to protection against unauthorized copying of the plans themselves.

210. A similar right to copy could be inferred that would allow players to copy the boards of copyrighted games, like Scrabble in particular. If game boards are literal elements of board games, and games cannot be played without them, the merger doctrine should allow players to make their own. This is because the game board is an element of the game, not an element of the game's explanation. "Doesn't Baker v. Seldin [sic] apply here? If you can't play the game 'Scrabble' without using a substantially similar board, and if the game itself is not copyrightable, then how is the board protected at all?" *See* Posting of tfcotter to The Patry Copyright Blog, <http://williampatry.blogspot.com/2008/01/scrabbling-copyright.html> (Jan 16, 2008, 16:51 EST). Likewise, Scrabble's individual game pieces—letters and numbers printed on wooden tiles—are not works of authorship either, but rather are literal elements of the game, just as Southco's part numbers were literal elements of its coding process.

211. The result is different in the U.K., where the copyright on rule-based pictorial works, such as blueprints or architectural plans, extends to objects produced by applying the rules, even if the article is purely functional, as long as it would be recognizable from the picture to an average observer. *See, e.g.,* *Dorling v. Honnor Marine Ltd.*, [1965] Ch. 1; *cf. British Leyland Motor Corp. v. Armstrong Patents Co. Ltd.*, [1986] A.C. 577, 625-27 (H.L.) (holding that Armstrong's manufacture of spare car parts infringed British Leyland's copyright in mechanical drawings of the parts because the parts were "indirect

D. *Communication and Expression*

What makes for confusion in copyright doctrine is that the rhetoric of the idea-expression dichotomy can be tailored to accommodate functional as well as expressive conduct, and, in some cases, makes for an equally good (or bad) fit. This is illustrated by Judge Roth's dissent in *Southco*. She posed the question of what the idea was behind the work. "Is Southco's 'idea,'" she asked, "the use of a code to describe products, or is it the use of predetermined numbers to portray given characteristics of a particular product?"²¹² She believed that the first, more general idea was the correct answer, but, in order to reach this conclusion, or even to make this argument, it was necessary for her to begin from the dubious premise that Southco had an "idea" in the first place, rather than simply having a purpose.

Her premise, however, was well-grounded in Third Circuit precedent, specifically, *Whelan Associates Inc. v. Jaslow Dental Laboratory, Inc.*,²¹³ in which the court had concluded that a program's function should be considered its "idea." Other courts have agreed that the idea for *any* utilitarian work, not just software, is to perform the function for which the work was designed. Hence, for example, in *Kregos* Judge Newman observed that "[e]very

copies" of the drawings, but declining to enforce the copyright claim on the principle of a motorist's supervening right to repair).

In 1983, Professor Paul Goldstein suggested that, despite *Baker v. Selden*, the adaptation right could provide this kind of protection for rule-based works if U.S. courts would learn to "view the relationship between bookkeeping texts, dress designs and architectural plans on the one hand, and blank bookkeeping forms, dresses and buildings on the other, as a relationship between underlying works and derivative works." Paul Goldstein, *Derivative Rights and Derivative Works in Copyright*, 30 J. COPYRIGHT SOC'Y U.S.A. 209, 230 (1983). He acknowledged that his proposal was "complicated by the fact that blank forms, dresses and buildings . . . are generally viewed as uncopyrightable subject matter because of their perceived utilitarian content," but argued that "[t]he short answer to this is that the Act does not require that the derivative work be protectible for its preparation to infringe." *Id.* at 231, 231 n.75. *But see* Samuelson, *supra* note 39, at 1216-18 (countering with "the mandate of *Baker v. Selden*").

212. *Southco*, 390 F.3d at 291.

213. 797 F.2d 1222, 1236 (3d Cir. 1986) ("[T]he purpose or function of a utilitarian work would be the work's idea and everything that is not necessary to that purpose or function would be part of the expression of the idea.").

compiler of facts has the idea that his particular selection of facts is useful.”²¹⁴ This kind of “idea,” unfortunately, is like an all-purpose garment that conveniently suits all occasions, but is not very comfortable for any particular one, least of all the occasion of assessing the line between idea and expression.²¹⁵

Indeed, the same bad fit is evident when one tries to identify the idea behind a musical work; even if the music is undoubtedly expressive, the idea that can be inferred from it is often nothing more than that the composer intended to write that piece of music, and not something else. Many years ago, Justice Oliver Wendell Holmes defined music as “a rational collocation of sounds apart from concepts;”²¹⁶ more recently, the Ninth Circuit observed that “[m]usic is an art form that ‘produces sounds and expresses moods,’ but it does not necessarily communicate separately identifiable ideas.”²¹⁷ In some cases, of course, the author of a musical work does intend to convey an identifiable idea, especially in pieces that have some didactic, programmatic, or ideological substance. It makes sense, for instance, to say that Dmitri Shostakovich’s *Seventh Symphony* was *about* the siege of Leningrad, but what was his *String Quartet Number One* about? Probably nothing more than that he

214. *Kregos v. Associated Press*, 937 F.2d 700, 706 (2d Cir. 1991). The nine “useful” categories Kregos had chosen were expressive because “there are a sufficient number of ways of expressing the idea of rating pitchers’ performances to preclude a ruling that the idea has merged into its expression.” *Id.* at 707. (This, of course, was a dubious assertion. *See supra* note 168.) Shortly after *Kregos*, however, the Second Circuit staked out a disagreement with the Third Circuit and narrowed the scope of copyright protection for software by holding that the non-literal dimension of a computer program—the idea—should be found in the specific structures of its interacting subroutines rather than in the program’s ultimate function or purpose. *See Computer Assocs. Int’l, Inc. v. Altai, Inc.*, 982 F.2d 693, 705-06 (2d Cir. 1992).

215. *Cf. Weinreb, supra* note 39, at 1197-98 (“[T]he notion that the selection and arrangement of facts may be, and usually are, creative expression founders on the reality that most compilations are for a particular use, which dictates both selection and arrangement.”). A second uncomfortable “reality” about the authorship of compilations is that even if the selection and arrangement rules are granted to be creative rather than merely functional, the process of realizing the compilation in textual form by applying the rules to a particular body of facts, almost never is.

216. *White-Smith Music Publ’g Co. v. Apollo Co.*, 209 U.S. 1, 20 (1908) (Holmes, J., concurring).

217. *Swirsky v. Carey*, 376 F.3d 841, 848 (9th Cir. 2004) (citation omitted).

wanted to try his hand at a string quartet.²¹⁸

A similar difficulty led Judge Lewis Kaplan to comment, in *Mannion v. Coors Brewing Co.*,²¹⁹ that the idea-expression distinction “breaks down” in the visual arts because “it is impossible in most cases to speak of the particular ‘idea’ captured, embodied, or conveyed by a work of art” and “[f]urthermore, it 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.”²²⁰ In *Baker v. Selden*, Justice Bradley had voiced much the same misgiving. “Of course,” he cautioned, “these observations are not intended to apply to ornamental designs, or pictorial illustrations addressed to the taste. Of these it may be said, that their form is their essence, and their object, the production of pleasure in their contemplation. This is their final end.”²²¹

The problem is that communication and expression are allied but distinct concepts, and that expressive works do not necessarily communicate information or make statements, while functional—that is, inexpressive—works

218. “The First String Quartet is ‘a particular exercise in the form of a quartet.’” WILLIAM T. VOLLMAN, EUROPE CENTRAL 762 n.91 (2005) (citation omitted).

219. 377 F. Supp. 2d 444 (S.D.N.Y. 2005). The case was an infringement claim brought by the owner of a copyrighted photograph against a billboard advertiser.

220. *Id.* at 458. It is not just the idea-expression distinction that breaks down in the visual arts, but the expression-fixation one as well. In pictorial, graphic, and sculptural works, the physical object in which the work is embodied is not merely a copy of the work, but the work itself. The artist’s expression cannot be separated from its first fixation in pigment or marble, which is the only authentic one. This is why a painting or sculpture can be copied accurately or inaccurately—making an exact or inexact copy—or copied with or without authorization, but cannot be “authentically” copied or repeated.

If, for instance, Mark Rothko had painted *Ochre and Red on Red* again, the second painting would have been a work by Mark Rothko, but would not have been *Ochre and Red on Red*. This is also why pictorial, graphic, and sculptural works are susceptible to forgery, while literary or musical ones are not: the first fixation of a painting or sculpture is unique, unlike literary or musical works, where the author’s expression is first fixed but not uniquely realized in the manuscript copy. See NELSON GOODMAN, THE LANGUAGES OF ART: AN APPROACH TO A THEORY OF SYMBOLS 112-13 (2d ed. 1976).

221. *Baker v. Selden*, 101 U.S. 99, 103-04 (1879).

sometimes do. The abiding example of a work that functioned by assisting communication was the ledger page in *Baker*, which recorded and conveyed information about the user's accounts, but was otherwise devoid of an author's expression. Even when an author's expression does convey information, that information may be tied so closely to the form of the work that it cannot be restated or paraphrased as an idea or message. A useful article in the form of a pictorial, graphic, or sculptural work, for example, may be expressive enough to qualify for copyright protection if its function is to portray its own appearance,²²² but such witless self-display hardly makes the grade as an informative statement, for it could be ascribed, with a little special pleading, not just to a work of authorship, but to almost any human-made object.²²³

CONCLUSION: THE ASPECT OF FORM

I repeat: in order for a book to exist, it is sufficient that it be possible. Only the impossible is excluded. For example, no book is also a staircase, though there are no doubt books that discuss and deny and prove that possibility, and others whose structure corresponds to that of a staircase.²²⁴

The difficulty perhaps stems from the uniquely human ability to have "ideas" about functions and to represent them in textual or graphic form. As Erwin Panofsky pointed out, "Beavers build dams. But they are unable, so far as we know, to separate the very complicated actions involved from a premeditated *plan* which might be laid down in a

222. See, e.g., *Hart v. Dan Chase Taxidermy Supply Co.*, 86 F.3d 320, 323 (2d Cir. 1996); *Superior Form Builders, Inc. v. Dan Chase Taxidermy Supply Co.*, 74 F.3d 488, 494 (4th Cir. 1996).

223. René Magritte's painting, *The Treason of Images*, portrays a pipe and is paradoxically captioned "Ceci n'est pas une pipe" ("This is not a pipe"). See ROBERT HUGHES, *THE SHOCK OF THE NEW* 245 (1980). The caption is contrary to common sense, but nonetheless correct: although the painting is *of* a pipe, the *painting* is not a pipe. The painting is meant to portray its own appearance *as well as* the pipe's. If the painting's only function was to portray its subject, the pipe could simply have been displayed as itself. This lazy person's strategy, in fact, was tested by Marcel Duchamp with his "readymades," utilitarian objects—such as urinals and bottle racks—that he exhibited, albeit with a little special pleading, as realistic representations of themselves.

224. BORGES, *supra* note 28, at 117 n.3.

drawing instead of being materialized in logs and stones.”²²⁵ That a function can be portrayed in the textual form of a description or a drawing means that there will inevitably be a blurring of the line between works that express an author’s ideas and those that merely convey useful information or implement a utilitarian plan.²²⁶ In *Southco*’s case, as noted earlier, the numbering rules were perhaps a textual statement *about* the coding process as well as an operational element *of* the process.²²⁷ In addition, the physical object in which the “work” is “fixed” may happen to have functional characteristics as well as expressive ones; as just noted, the useful articles doctrine in copyright law²²⁸ wrestles with the problem of disentangling these qualities from each other in pictorial, graphic, and sculptural works.²²⁹

225. ERWIN PANOFSKY, *The History of Art as a Humanistic Discipline*, in MEANING IN THE VISUAL ARTS: PAPERS IN AND ON ART HISTORY 5 (Doubleday & Co. 1955).

226. Even with this blurring, we can safely agree with Borges that a book about staircases will always take the form of a book, rather than the form of a staircase (although one could imagine the odd case of an exasperated reader using a book about hammers to hammer down an obtruding nail). This formal distinction is also true of computer programs, despite the statute’s blurring of the line between expression and function by its designation of software as a type of literary work. A program in development will predictably take a verbal or schematic textual form, but the digitized program, after being loaded into a computer and activated in its electronic circuitry, will always be an operational element *of* the computer’s functionality in a non-textual electromagnetic form, rather than a statement *about* the computer’s functionality in any kind of textual one.

227. What is true of numbering rules and programming rules might also be true of legal rules, such as the model building code at issue in the *Veeck* case, which lost its copyright protection when it was enacted into law by a municipality. See *Veeck v. S. Bldg. Code Cong. Int’l, Inc.*, 293 F.3d 791, 801 (5th Cir. 2002). A model code is like a software program in development, a plan for what the law could or should be. The paradox in *Veeck* was that the model code and the enacted code were literally the same, but conceptually different: the former a textual statement *about* the law and the latter an operational element *of* the law.

228. See 17 U.S.C. § 101 (2006) (defining “[p]ictorial, graphic, and sculptural works” to include “works of artistic craftsmanship insofar as their form but not their mechanical or utilitarian aspects are concerned,” but only if the work’s artistic features “can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article”).

229. See *Pivot Point Int’l, Inc. v Charlene Prods., Inc.*, 372 F.3d 913, 919-34 (7th Cir. 2004) (summarizing the conceptual separability doctrine as applied by federal courts, particularly the Second Circuit).

I would like to suggest, in conclusion, that the type of agency exerted by the author must be the factor that finally decides whether the work is expressive or functional, or, if both, whether one or the other represents the work's true character and quality.²³⁰ Panofsky's view was that, at least where artworks are concerned, the aspect of form looms ever larger as the work moves from functional to expressive. "If I write to a friend to ask him to dinner," he observed,

[M]y letter is primarily a communication. But the more I shift my emphasis to the form of my script, the more nearly does it become a work of calligraphy; and the more I emphasize the form of my language (I could even go so far as to invite him by a sonnet), the more nearly does it become a work of literature or poetry.²³¹

This approach to artworks resonates with copyright's policy of seeking the identity of a work in the form of words freely chosen by an author.²³² The principle of expression unfolds in mirror image from the same premise, that authors intend to give form to their works through the words they freely choose. To lose sight of this premise would be like praising a traffic light for its vivid colors instead of heeding its warning to step on the brakes.²³³ Therefore, to paraphrase Panofsky again and for the final time, where the sphere of functionality ends and that of copyright

230. My suggestion is consistent with the position adopted by the Seventh Circuit in the *Pivot Point* case. The court relied on Professor Robert Denicola's argument that copyright's statutory limitations embody "an attempt to identify elements whose form and appearance reflect the *unconstrained perspective of the artist*," and his conclusion that copyright protection therefore should "ultimately . . . depend on the extent to which the work reflects *artistic expression uninhibited by functional considerations*." *Id.* at 927 (quoting Robert Denicola, *Applied Art and Industrial Design: A Suggested Approach to Copyright in Useful Articles*, 67 MINN. L. REV. 707, 741-42 (1983)) (emphasis added).

231. PANOFSKY, *supra* note 219, at 12.

232. This policy's outermost boundary was marked by *Stowe v. Thomas*, 23 F. Cas. 201 (C.C.E.D. Pa. 1853) (No. 13,514). Once more, this was the notorious infringement action brought unsuccessfully by Harriet Beecher Stowe against a Pennsylvania German newspaper for an unauthorized translation of *Uncle Tom's Cabin*; see *supra*, note 53. She wrote the book in English, not German, so her copyright protected the form of English words in which she chose to write it, but not the form of German words into which someone else chose to translate it.

233. PANOFSKY, *supra* note 219, at 11.

begins, depends on the intention of the author, which must be freely willed and formally realized.²³⁴ What this intention *is* should be the first question we ask about the work, even if it is not necessarily the last.

234. *Id.* at 12.

APPENDIX

1. *Games and Computers*. A “rule-based” work can be defined as any work that is made up, textually, *of* rules, or produced, textually, *by* rules. In *Southco*, the numbering rules were the former, and the part numbers were the latter. This definition implies that computer programs should be classified as rule-based works. “They consist of sets of instructions which, when properly drafted, are used in an almost limitless number of ways to release human beings from . . . diverse mundane tasks,” wrote the National Commission on New Technological Uses of Copyrighted Works (CONTU) in its report to Congress in 1978.²³⁵ “The instructions that make up a program may be read, understood, and followed by a human being.”²³⁶

If computer programs are rule-based works, an obvious question is whether *Southco*’s part numbers should be equated to the binary digits of software code, which is also functional, numerical, and rule-based. Comparing both to the rules of a game might bridge the distance between numbering rules and programming rules. A game is a basic example of a rule-based work, which would include both the game’s rules and games that are played under the auspices

235. NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS, FINAL REPORT OF THE NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS 9-10 (1978) (hereinafter CONTU REPORT). CONTU had been empanelled by Congress to report on how emerging technologies could be accommodated by the 1976 Copyright Act. The statute, as amended in 1980, pursuant to CONTU’s recommendations, defines a “computer program” as “a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.” 17 U.S.C. § 101 (2006) (definitions).

CONTU was exaggerating to make its point when it claimed that the instructions comprising a computer program can be “followed” by a human being, as well as “read” and “understood” by one. A program can give instructions to a person by means of an interface, and vice versa, but a person cannot implement a program’s instructions to a computer. Only the computer can do that. “Although a screen display may contain instructions to the user, it does not contain a set of instructions to be used in the computer to produce a certain result. Rather, the screen display is itself the result produced by the computer program.” 1 PAUL GOLDSTEIN, COPYRIGHT § 2.15.3 (3d ed. 2005) (last supplemented July 27, 2007). As noted above, *see* note 39, *supra*, the output is not an element of the encoded program, but rather its product.

236. CONTU REPORT, *supra* note 229, at 10.

of the rules. CONTU took it for granted that game rules are protectible,²³⁷ while games played *by* the rules are not.²³⁸ This means that the rule-basis of a game may be protected in its textual form, despite the non-protected status of an actual contest between players.

237. Copyright, however, has been denied to simple game rules for lack of originality. *See, e.g.,* *Morrissey v. Procter & Gamble Co.*, 379 F.2d 675, 678-79 (1st Cir. 1967) (applying merger doctrine); *Milligan v. Worldwide Tupperware, Inc.*, 972 F. Supp. 158, 162 (W.D.N.Y. 1997) (same). It has also been denied to a book explaining the rules of a game that was in the public domain. *See* *Affiliated Hosp. Prods., Inc. v. Merdel Game Mfg. Co.*, 513 F.2d 1183, 1188-89 (2d Cir. 1975).

On the other hand, the National Basketball Association publishes a book of “Official Rules” as well as a “Case Book” of questions and answers to NBA rules, that together comprise eighty-five pages of dense typeface in its 2008-09, *Officials Media Guide*, available at <http://www.nba.com/media/2008-09-RefereeGuide.pdf>. It is difficult to imagine that these complex rules would be denied copyright protection under the rationale of the *Morrissey* opinion.

238. *See, e.g.,* *Nat’l Basketball Ass’n v. Motorola, Inc.*, 105 F.3d 841, 848 (2d Cir. 1997) (“[G]ame broadcasts are copyrightable while the underlying games are not.”); *cf. Russell v. Ne. Publ’g Co.*, 7 F. Supp. 571, 572 (D. Mass. 1934) (protecting the text of a game problem, but not its solution).

In 1960, a New Hampshire district court judge worried that the obvious analogy between game rules and narrative forms was being overlooked—that rules are non-literal elements of games, just like plots are non-literal elements of dramas.

If the copyright law can protect dramas . . . there is no reason why it cannot protect certain forms of public presentations in the form of games or sports involving activity rather than mere words. It is a question of drawing a line through the spectrum at one end of which is the copyrightable television drama, at the other the T.V. quiz program involving merely doubling the prize money after each correct answer. In between are various sorts of plans, systems, and games involving varying degrees of originality, imagination, and detail.

Briggs v. N.H. Trotting & Breeding Ass’n., 191 F. Supp. 234, 236 (D.N.H. 1960).

An updated version of this line-drawing question might ask how to classify the televised reality series—as drama or game? In her *Southco* dissent, Judge Roth assumed that T.V.’s *Survivor* as well as *The Amazing Race*, *Fear Factor*, and *Temptation Island* are protected rule-based works, more like dramatic performances than sporting events. *See* *Southco, Inc. v. Kanebridge Corp.*, 390 F.3d 276, 291 (3d Cir. 2004) (Roth, J., dissenting). A response to this assumption, however, had been framed years earlier in a 1938 California case involving a set of regulations for running a race: “Basically these pamphlets have no fixed plot or storyThe mere fact that the race as staged is entertaining or thrilling or arouses great excitement cannot in itself change the essential nature of the composition so as to make it a drama.” *Seltzer v. Sunbrock*, 22 F. Supp. 621, 629-30 (S.D. Cal. 1938).

As CONTU would have it,

[t]he copyright status of the written rules for a game or a system for the operation of a machine is unaffected by the fact that those rules direct the actions of those who play the game or carry out the process. . . . It follows, therefore, that there should likewise be no distinction made between programs which are used in the production of further copyrighted works and those which are not. Should such a distinction be made, the likelihood is that entrepreneurs would simply require that programs produce a written and, by that token, an unquestionably copyrightable version of their output to obtain copyright in the programs themselves.²³⁹

If this is so, no distinction should be made between *other* rule-based works depending on whether instruction set A generates protectible work B. The text of a cookbook, for example, may be copyrighted as a literary work,²⁴⁰ while the non-textual dish prepared from following a recipe (i.e., the recipe's output) clearly may not be. In an Australian case, the court made light of the notion that "everybody who made a rabbit pie in accordance with the recipe in *Mrs. Beeton's Cookery Book* would infringe the literary copyright in that book."²⁴¹ The same holds true for dress patterns and

239. See CONTU REPORT, *supra* note 229, at 21. In this statement, CONTU was rejecting Melville Nimmer's argument that a computer program should be protected only if its output would also qualify as a work of authorship. *Id.* at 27. CONTU thought this suggestion was based on a misguided analogy between computer programs and other machine-readable artifacts, like phonorecords or videotapes. *Id.* at 21. If the output of a sound recording is a musical work, which itself is protectible, wrote Nimmer, then the output of a computer program should likewise be some kind of protectible work. *Id.* at 27.

What Nimmer's analogy overlooked was that sound recordings in the form of phonorecords and audiovisual programs in the form of videotapes are machine-readable *copies* of works, rather than works themselves; this is why their "output" *must* take the perceptible form of works. In contrast, a computer program is itself a work, not just a copy of one. Therefore, its output need not take the form of another work. It does not follow, however, as CONTU seemed to think, that every computer program encoded in software is *necessarily* a work of authorship, rather than a functional machine part.

240. See *Barbour v. Head*, 178 F. Supp. 2d 758, 761-64 (S.D. Tex. 2001) (distinguishing *Publ'ns Int'l, Ltd. v. Meredith Corp.*, 88 F.3d 473, 480 (7th Cir. 1996)); U.S. COPYRIGHT OFFICE, FL-122, RECIPES (2006), available at <http://www.copyright.gov/fls/fl122.html>.

241. *Cuisenaire v. Reed*, (1962) 5 F.L.R. 180, available at <http://law.atolaw.gov.au/atolaw/view.htm?DocID=JUD%2F5FLR180%2F00002>. *But*

finished garments; the pattern can be protected, but not the dress.²⁴²

see Malla Pollack, Note, *Intellectual Property Protection for the Creative Chef, or How to Copyright a Cake: A Modest Proposal*, 12 CARDOZO L. REV. 1477, 1499-1500 (1991) (arguing, perhaps whimsically, that a cake should be protected as the performance of its recipe); 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, 1131-37 (2007) (considering same, but ultimately disagreeing).

A recipe is a literary work that takes the form of an order of words—a text—but the text is also a set of instructions for realizing a cooked dish. Why is the cooked dish itself not a protectible work, or at least protectible as a copy, performance, or adaptation of the recipe? If anything, the author's expression is embodied in the cooked dish, not in the recipe for it. A diner perceives the "work" by eating the dish, not by reading the recipe. The argument for copyright protection would be that a recipe is a rule-based work, a set of instructions for producing another rule-based work, a cooked dish. Although the cooked dish is completely tangible (the recipe is not the "idea" behind the dish, nor is it a restatement of the dish at a higher level of abstraction), this tangibility is equally characteristic of works of art that have only one authentic copy—like paintings and sculptures—without detracting from their protectible status. See *supra* note 214.

The first problem with this argument is that the cooked dish is not a *copy* (i.e., a fixation) of the recipe, but rather an implementation of it. The copy of the recipe is what the diner does not eat, the recipe's written text. The preparation of the dish is not a *performance* of the recipe either; a performance would be a public reading of it, not using it in the kitchen to cook a meal. In addition, the cooked dish is not *any* kind of work precisely because it *has* a recipe. A painting, in contrast, is the product of an artist's self-expression. Processes, such as recipes, are perhaps less mechanical than systems, but both are functional, invariant, and inexpressive. The person who creates a process is an inventor, not an author, and the person who uses one is an artisan, not an artist. (The person who *writes* a recipe, however, *is* an author—the author of a *recipe*, not the author of a cooked dish.)

Finally, there is the obvious functionality problem: it seems implausible even to suggest that an edible work that is not merely perceived by the senses but physically consumed by the perceiver is anything but functional. Maybe this concern about functionality could be dismissed if the dish were like a perfume, meant only to be savored and not eaten. Cf. *Lancôme Parfums et Beauté et cie S.N.C. v. Kecofa B.V.*, I.A ¶ 2 (Dutch Ct. App., Den Bosch, 2004), available at <http://www.piercelaw.edu/assets/pdf/idea-vol45-no1-field-jr.pdf>.

242. See, e.g., *Galiano v. Harrah's Operating Co.*, 416 F.3d 411, 419-22 (5th Cir. 2005); *Jack Adelman, Inc. v. Sonners & Gordon*, 112 F. Supp. 187, 188-90 (S.D.N.Y. 1934); cf. Allan L. Schwartz, Annotation, *Fabric and Dress Designs as Protected by Copyright under Federal Copyright Act*, 26 A.L.R. FED. 408 (1976). Since the dress in the *Jack Adelman* case was a useful article, it could not be copyrighted, although the graphic instructions from the designer to the tailor could be and were. See also *Baker v. Selden*, 101 U.S. 99, 107 (1879) (criticizing *Drury v. Ewing*, 7 F. Cas. 1113 (C.C.S.D. Ohio 1862) (No. 4095)).

The *difference* between computer programs and coding processes, however, is that the literal text of a program—the software code—is undoubtedly protected against verbatim copying. The dispute is about the extent to which the program's non-literal dimension (its structures and functions) is also embraced by the work's copyright. The issue raised by Southco's claim, in contrast, was the more basic one of whether the literal text—the part numbers—could be protected at all, given that the numbers were generated by the non-protected coding process.²⁴³ Southco, in other words, was trying to assert that Kanebridge infringed its copyright by copying the part numbers generated by the coding process, even though it did not copy the numbering rules that implemented the coding process, which was like trying to claim infringement of a game without claiming that anyone copied the game's rules, or of a cooked dish without claiming that anyone copied the recipe.

2. *Translation Machines and Cameras.* Translations are protectible as derivative works.²⁴⁴ This presumes that a translator is a type of author and that translation of a book from English into German, for example, is an expressive rather than a mechanical activity. If, however, the translation were to be generated by a machine, then it would *not* be protectible. The Sixth Circuit in *ATC Distribution* gave the example of a book translated into numerical code. "These numbers are no more copyrightable than would be the fruit of an author's labors if she wrote a book and then 'translated' it into numbers using a random number generator for each letter in every word," wrote

243. See *Southco*, 390 F.3d at 296. Cf. *Lotus Development Corp. v. Borland Int'l Inc.*, 49 F.3d 807 (1st Cir. 1995). The *Lotus* court held that the user interface of a spreadsheet program was an unprotectible method of operation. *Id.* at 815. Unlike *Southco*, *Lotus* did *not* claim that the output of its work—the screen displays that visualized the user interface—constituted original expression. *Id.* at 816 n.10. In fact, however, the program's screen displays *did* embody (i.e., give form to) the program's menu command hierarchy, which would have made it plausible for *Lotus* to argue that the screen displays were protectible, even if the menu commands they "expressed" were not. What *generated* the screen displays was not the user interface or its menu commands, but the operation of the software in the computer.

244. See 17 U.S.C. § 101 (2006) (defining "derivative work" to include "a translation").

Judge Boggs.²⁴⁵ “Even if the text in English was copyrightable, the randomly generated list of numbers that comprised the ‘translation’ could not be.”²⁴⁶

In the Third Circuit, Southco had tried to parry a similar concern about the mechanical quality of the coding process by citing the Supreme Court’s decision in *Burrow-Giles Lithographic Co. v. Sarony*.²⁴⁷ In 1884, the *Burrow-Giles* court sustained the Copyright Act’s protection of photographs against the challenge that a photograph is a machine-product rather than a work of authorship. Even though the camera used to take a picture is undoubtedly a machine, the *Burrow-Giles* court had held that the photographer, in that case at least, was the picture’s *author* and not just the machine’s operator.

While Southco admitted that its numbering rules had predetermined all the possible numerical combinations needed to produce any particular part number, it denied that the resulting numbers were any less worthy of protection than the photograph whose copyright had been upheld in the *Burrow-Giles* case. This is because creating a new part number by applying Southco’s numbering rules was analogous to clicking the shutter on a camera after the picture has been framed in the viewfinder. Judges Roth and Becker found the *Burrow-Giles* analogy persuasive; as Judge Becker put it, “we should not pass by any of Southco’s choices evincing originality simply because they were made before any part numbers were actually computed and written down.”²⁴⁸

The flaw in the *Burrow-Giles* analogy, however, was that it confused the author’s expression of an idea with the work’s fixation in a tangible medium of expression.²⁴⁹

245. *ATC Distrib. Group, Inc. v. Whatever It Takes Transmission & Parts, Inc.*, 402 F.3d 700, 709 (6th Cir. 2005).

246. *Id.*; cf. *supra* note 200.

247. 111 U.S. 53 (1884). The *Burrow-Giles* case dealt specifically with the unauthorized reproduction of a photograph of Oscar Wilde taken by a celebrity photographer, Napoleon Sarony. The Supreme Court held that the Wilde photograph was comparable to a hand-painted portrait because of the artistic choices made in preparing the setting and posing the subject. *Id.* at 60-61.

248. 390 F.3d at 288.

249. Judge Alito, alone on the panel, explicitly rejected the *Burrow-Giles* analogy, which was the correct result, but for the wrong reason. He thought

When, for instance, authors dictate their works, the expression lies in the order of words spoken by the author, and it does not matter whether the words are fixed in tangible form by voice recognition software or by a scribe holding a quill pen.²⁵⁰ In like manner, the expression in the *Burrow-Giles* photograph was realized when the portrait was posed and the photographer clicked the shutter.²⁵¹ Although at this point a camera mechanically fixed the portrait on film, the camera did not render the photographer's creative process mechanical as well. To claim otherwise would be like saying that the brush painted the picture instead of the artist.²⁵² In contrast, the intangible sequence of digits that made up a Southco part number was the author's expression *itself* rather than the tangible fixation of an author's expression—that is, a physical copy of a number in written or printed form.²⁵³

that the analogy of Sarony's photograph to Southco's part numbers was inapposite because "[t]he Southco numbers are purely functional [while] the portrait of Oscar Wilde, whatever its artistic merit, was indisputably a work of art." *Id.* at 284. The correct distinction in the context of this analogy was between expression and fixation, not expression and function.

250. "When a blind poet dictates her poetry to a personal secretary, although the secretary is responsible for the words gaining their existence in a tangible form, the poet is the copyright author, not the secretary." Russ VerSteeg, *Defining "Author" for Purposes of Copyright*, 45 AM. U. L. REV. 1323, 1349 (1996).

251. See Christine Haight Farley, *The Lingering Effects of Copyright's Response to the Invention of Photography*, 65 U. PITT. L. REV. 385, 427 (2004). To be more precise, photography—at least in its pre-digital mode—is an art in which the photograph is first fixed in the form of a negative, but must be printed from the negative before it is fully realized. It is thus a two-stage art like printmaking, and not a one-stage art like painting, because the form of the work's original fixation, the negative, is not the form in which the work is meant to be perceived. See GOODMAN, *supra* note 214, at 113-14.

252. A better example of a mechanism that mimics a creative process would be a kaleidoscope. Software programs that transform raw data into abstract visual imagery turn computers into something like high-tech kaleidoscopes. See Tim McKeough, *Frame that Spam! Data-Crunching Artists Transform the World of Information*, (2008) http://www.wired.com/special_multimedia/2008/ff_dataart_1603.

253. In yet another analogous dispute, the page numbers in West's National Reporter System—a compilation of judicial opinions—were mechanically generated as a byproduct of its printing process, but the selection and organization of the cases in its books was made through an editorial process, and the page numbers inevitably reflected this deliberative arrangement. West argued that its page numbers represented a virtual copy of the compilation because a list of its citations would enable a reader to reconstitute all of the

3. *Coda*.—On this last page, I would like to venture an answer to the question with which I began, many pages ago: if A is a set of rules and B a text or performance generated by A—and at least one of the two is a ‘work’—are A and B two separate works, or two aspects of the same work? Consider three possibilities. First, B is an intangible form of expression given tangible form as A but A can only be decoded by a machine, which must generate a perceptible version of B. (Example: a performance of a symphony is digitally encoded on a phonorecord, to be played back on a phonograph.) Then A and B would be the same work, or, more precisely, A a mechanical copy of B. Second, A was created before B, and generates B, but B could have been generated by a different A. (Example: a software program produces a video game, but different software could emulate that game without any copying of the first program’s code.) Then A and B would be two different, although intertwined, works, A a literary work and B an audiovisual work. Third, A existed prior to B and engenders B as well. (Example: a set of numbering rules generates a range of individual serial numbers.) Then A is protectible as a literary work, but not protectible as a system or process, while B is not a work of any kind. The reader will recognize this last example as the *Southco* case.

cases in the same order. *See* Matthew Bender & Co., Inc. v. West Publ’g Co., 158 F.3d 693, 695-701 (2d Cir. 1998).

Nevertheless, it was implausible—and ultimately unavailing—for West to say that these mechanically generated numbers deserved protection as freestanding texts, apart from the books in which they served the simple function of identifying pages in sequence. This, one might infer, is because the formula that generated the page numbers came from the machine that automatically inserted page breaks in the books, rather than from the compilation embodied in the books. West was not the author of these numbering rules.