

QUESTIONING COPYRIGHTS IN STANDARDS

PAMELA SAMUELSON*

Abstract: Widespread adoption of uniform standards is essential to the smooth operation of our modern global economy. When private organizations develop such standards, copyright protection of those standards often creates a conflict between private intellectual property rights and society's need for standards. This conflict is especially apparent when a local or state government adopts a privately drafted standard as law. This Article considers whether coding system standards should be eligible for copyright protection as a matter of U.S. copyright law by examining the case law's treatment of copyright protection for coding system standards and considering the policy concerns implicated by copyrights in standards. The Article concludes that, in light of case law, the statutory exclusion of systems from U.S. copyright protection, the scenes a faire and merger of idea and expression doctrines, and broader policy considerations, standards should fall outside the scope of U.S. copyright protection.

INTRODUCTION

Standards are essential to the operation of the Internet, the World Wide Web, and, indeed, the modern information society, an integral part of the largely invisible infrastructure of the modern world that makes things work.¹ Every time someone sends an e-mail, for example, more than two hundred formally adopted Internet standards are implicated.² With the rise of the information economy, copyright has become a newly prominent factor in the longstanding

* Richard M. Sherman '74 Distinguished Professor of Law, University of California at Berkeley. I am grateful to Jennifer Lane and Sara Terheggen for research assistance, Robert J. Glushko for guidance, and the Boston College Law School symposium participants for insightful comments and observations.

¹ See GEOFFREY C. BOWKER & SUSAN LEIGH STAR, SORTING THINGS OUT: CLASSIFICATION AND ITS CONSEQUENCES 13-15 (1999); Marcus Maher, *An Analysis of Internet Standardization*, 3 VA. J.L. & TECH. 5, ¶¶ 12, 14, 75 (1998), http://www.vjolt.net/vol3/issue/vol3_art5.pdf.

² BOWKER & STAR, *supra* note 1, at 7.

debate over intellectual property rights in standards,³ as standard-setting organizations ("SSOs") increasingly claim and charge substantial fees for access to and rights to use standards such as the International Organization for Standardization ("ISO") country, currency, and language codes, and medical and dental procedure codes promulgated by the American Medical Association (the "AMA") and the American Dental Association (the "ADA").⁴

The importance of claims of copyright in standards is illustrated by a "clarification" of ISO's intellectual property policy that it published in July 2003.⁵ This policy would have required all software developers and commercial resellers of data, who embedded data elements from ISO's standard country, language, and currency codes, to pay an annual fee (or a one-time fee plus regular maintenance fees) for doing so.⁶ Tim Berners-Lee, Director of the World Wide Web Consortium ("W3C"), wrote a letter to ISO's president to object to this policy because of its negative impact on the evolution of the Web:

These and similar codes are widely used on the Web. In particular the language and country codes are of direct interest to W3C and the users of W3C Recommendations in the context of HTTP, HTML and XML and various other technologies. Language and country codes currently provide a single, standard way of identifying languages (and locales) throughout the Web. Multilingual Web sites and Web pages,

³ Compliance with standards has often implicated patent rights, and many thorny questions have arisen as to patent rights in standards. See generally, e.g., Herbert Hovenkamp, *Standards Ownership and Competition Policy*, 48 B.C. L. REV. 87 (2007) (evaluating the use of antitrust law to remedy alleged abuses of patent rights in standards); Mark A. Lemley, *Ten Things to Do About Patent Holdup of Standards (and One Not to)*, 48 B.C. L. REV. 149 (2007) (proposing several solutions to the problem of patent ownership interfering with the use of standards).

⁴ For a discussion of the AMA and ADA codes, see *infra* notes 18–70 and accompanying text.

⁵ Rosemary Maginnis, Dir. of Elec. Sales & Mktg., ANSI, Summary Regarding the Use of ISO Codes 3–4 (July 9, 2003), <http://www.incits.org/archive/2003/in030912/in030912.pdf>.

⁶ Robin Cover, *Standards Organizations Express Concern About Royalty Fees for ISO Codes*, COVER PAGES, Sept. 20, 2003, <http://xml.coverpages.org/ni2003-09-20-a.html>. ISO standard 3166, for example, represents Afghanistan as AF, Albania as AL, Australia as AU, and Austria as AT within this code. See ISO, English Country Names and Code Elements, ISO 3166 Code List, <http://www.iso.org/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/list-en1.html> (last visited Oct. 20, 2006). ISO standard 639-2 represents the modern German language as deu, modern Greek as gre, Hawaiian as haw, and Italian as ita within this code. See Registration Auth., Library of Cong., Codes for the Representation of Names of Languages, <http://www.loc.gov/standards/iso639-2/php/code-list.html> (last visited Oct. 20, 2006).

as well as internationalization and localization features, would be particularly affected.

Any charges for the use of these standards are going to lead to fragmentation, delay in deployment, and in effect a lack of standardization. In particular, those users who depend upon multi-lingual or non-English language services will suffer.

....

Given that this policy would have profound impact not only on ISO, but also on industry and users of the Web at large, we urge ISO to further consider this policy and its broader implications and consequences, and to reassure the community as quickly as possible that there will be no charges for the use of these standards.⁷

The ISO policy would also have devastating consequences for open source developers.⁸ After several other organizations published statements of concern about the policy,⁹ ISO tabled it—for now. But ISO did not commit itself to continuing to make these codes available without charge for software, Internet, and Web applications, and it continues to charge substantial fees for downloads of the standards and for reproductions of the full standards.¹⁰

This Article considers whether standards such as these, especially those whose use is mandated by government rules, should be eligible for copyright protection as a matter of U.S. copyright law. Part I reviews lawsuits that challenged copyrights in numbering systems devised to

⁷ Tim Berners-Lee, Dir., W3C, Message to Oliver Smoot (Sept. 18, 2003), <http://lists.w3.org/Archives/Public/www-international/2003JulSep/0213.html>.

⁸ Kendall Grant Clark, *ISO to Require Royalties?*, XML.com, Sept. 24, 2003, <http://www.xml.com/lpt/a/2003/09/24/deviant.html>.

⁹ Cover, *supra* note 6. The Unicode Technical Committee, the InterNational Committee for Information Technology Standards, and the Internet Architecture Board were among the other objectors. *Id.*

¹⁰ *Id.* ISO does not charge for reproduction of two-digit ISO codes in academic work and for internal use within firms. For example:

(a) a hospital may require a patient to enter a country code and a language code when registering for admittance; (b) a company may program a drop-down menu on its website as part of a registration or ordering page for proper identification of its worldwide visitors; (c) a company or an individual may use country codes as part of a mailing address; (d) a bank may use the currency codes in its system for identifying funds in various locations.

enable efficient communication.¹¹ This Part argues that two decisions upholding copyrights in the AMA and ADA codes were incorrectly decided in light of other case law, the statutory exclusion of systems from copyright, and various policy considerations.¹² Part II then presents case law and policy considerations that have persuaded courts to exclude standards from the scope of copyright protection under the scenes a faire and merger of idea and expression doctrines.¹³ Part II suggests that government mandates to use certain standards should affect the ability to claim copyright in standards.¹⁴ Part III considers whether SSOs need copyright incentives to develop and maintain industry standards they promulgate, and whether arguments based on incentives should prevail over other considerations.¹⁵ This Part then identifies competition and other public policy concerns that call into question the policy of allowing SSOs to own standards, particularly those whose use is required by law.¹⁶

I. STANDARDS MAY BE UNPROTECTABLE SYSTEMS UNDER § 102(b)

Copyright protection has sometimes been claimed in coding systems. Such coding systems typically use numbers, abbreviations, or other symbols to represent certain data elements in accordance with rules or organizing principles. Sometimes such systems have been collectively drafted to serve as industry standards, although some systems drafted by one person or firm have become, or their drafters intended them to become, de facto standards in the market. This Part argues that two appellate court decisions upholding copyrights in number coding systems were wrongly decided in light of other case law, the statutory exclusion of systems from copyright protection under § 102(b) of the U.S. Copyright Act, longstanding precedents interpreting this exclusion, and copyright policies.¹⁷

A. *Case Law Upholding Copyright in Numbering Systems*

The AMA has developed and refined a coding system for standard-terminology for medical procedures over several decades, which

¹¹ See *infra* notes 18–91 and accompanying text.

¹² See *infra* notes 92–153 and accompanying text.

¹³ See *infra* notes 154–186 and accompanying text.

¹⁴ See *infra* notes 187–196 and accompanying text.

¹⁵ See *infra* notes 197–200 and accompanying text.

¹⁶ See *infra* notes 201–211 and accompanying text.

¹⁷ See *infra* notes 92–153 and accompanying text.

it publishes in print form and online as the *Current Procedural Terminology* (the “CPT”).¹⁸ The stated purpose of the CPT is “to provide a uniform language that accurately describes medical, surgical, and diagnostic services, and thereby serves as an effective means for reliable nationwide communication among physicians, and other healthcare providers, patients, and third parties.”¹⁹ The CPT is widely used in “report[ing] medical procedures and services under public and private health insurance programs . . . [and] for administrative management purposes such as claims processing and developing guidelines for medical care review.”²⁰ In the 1980s, the federal government’s Health Care Financing Administration (“HCFA”), now the Centers for Medicare and Medicaid Services (the “CMS”), mandated use of the CPT when reporting services for Medicare and Medicaid reimbursement.²¹ The CPT has thus become a standard in two senses: the AMA promulgated it to be a standard coding system for physicians and other health professionals and services, and it has been mandated as a standard for doing a certain kind of business with the U.S. government.

The CPT classifies more than six thousand procedures into one of six groups: evaluation, anesthesia, surgery, radiology, pathology, and medicine.²² Within each group, “procedures are arranged to enable the user to locate the code number readily.”²³ For example, within the surgery category, the CPT arranges subsections by body part.²⁴ Within each body part subcategory is an organized list of different kinds of procedures pertinent to that body part.²⁵ The CPT sets forth a standard name for each medical procedure and assigns a unique five-digit number to each procedure. Removing an implant

¹⁸ AM. MED. ASS’N, CURRENT PROCEDURAL TERMINOLOGY 2005 STANDARD EDITION (2004). The online version of the CPT is access-controlled.

¹⁹ Am. Med. Ass’n, CPT Process—How a Code Becomes a Code, <http://www.ama-assn.org/ama/pub/category/print/3882.html> (last visited Oct. 21, 2006).

²⁰ *Id.*

²¹ *Id.*; see 42 C.F.R. § 433.112(b)(2) (2006) (requiring compliance with Part 11 of the State Medicaid Manual, which requires states applying for Federal Medicaid funding to adopt the CPT as their exclusive medical procedure coding system). HCFA incorporated the CPT into its Common Procedure Coding System. See Medicaid Management Information System Requirements for Physician and Supplier Services, 50 Fed. Reg. 40,895, 40,897 (Oct. 7, 1985); Medicaid Management Information System Proposed System Requirements, 48 Fed. Reg. 16,750, 16,753 (proposed Apr. 19, 1983).

²² Practice Mgmt. Info. Corp. v. Am. Med. Ass’n (*PMIC*), 121 F.3d 516, 517 (9th Cir. 1997).

²³ *Id.*

²⁴ AM. MED. ASS’N, *supra* note 18, at viii–ix.

²⁵ See *id.* at 45–215.

from an elbow joint, for example, is designated by the number 24160.²⁶

Practice Management Information Corp. ("PMIC") decided to publish the *CPT* in one of its medical practice books. After the AMA threatened legal action against this publication,²⁷ PMIC sought a declaratory judgment that the AMA code had become uncopyrightable after HCFA mandated its use, or alternatively, that the AMA misused its copyright by an exclusive license that forbade the agency to use "any other system of procedure nomenclature . . . for reporting physicians' services."²⁸ A trial judge issued a preliminary injunction against PMIC's publication of the AMA code.²⁹ The U.S. Court of Appeals for the Ninth Circuit affirmed in part and reversed in part.³⁰

PMIC's invalidity argument rested mainly on U.S. Supreme Court case law about the uncopyrightability of judicial opinions and statutes.³¹ In 1888 in *Banks v. Manchester*, for example, the Supreme Court decided that judicial opinions could not be copyrighted.³² The Ninth Circuit distinguished *Banks* as involving government employees who did not need copyright incentives to write judicial opinions.³³ The AMA, by contrast, was a private entity that claimed copyright incentives were important to it.³⁴ *Banks* also rejected copyright claims in judicial opinions on due process grounds (that is, on a theory that people should have unfettered access to the law).³⁵ There was, however, "no evidence that anyone wishing to use the [AMA code] has any

²⁶ *Id.* at 74. The 10000–60000 series within the *CPT* are for surgical procedures. Surgical procedures, in turn, are organized by parts of the human body. Surgeries on upper arms and elbows, for example, are numbered between 23930 and 24999. *Id.* at 74–76. Introduction of items to, and removal of items from, upper arms and elbows are coded between 24160 and 24220. *Id.* at 74–75. Sometimes, procedures are designated by numbers that are close together (for example, removing an item from the radial head of an upper arm is 24164, four numbers away from removing an item from an elbow joint), while other numbers are farther away (for example, 24200 is the next procedure for removal of foreign bodies from the upper arm or elbow area). *Id.* at 74.

²⁷ Had the AMA not threatened suit, PMIC would have lacked standing to bring a declaratory judgment action. That the AMA did not sue may be some evidence that it was nervous about the legal status of its copyright claim in the *CPT* as a federally mandated numbering system.

²⁸ *PMIC*, 121 F.3d at 517–18 (quoting the contract between the AMA and HCFA).

²⁹ *Id.* at 518.

³⁰ *Id.* at 521.

³¹ *Id.* at 518–20.

³² 128 U.S. 244, 254 (1888).

³³ *PMIC*, 121 F.3d at 518.

³⁴ *Id.*

³⁵ *Banks*, 128 U.S. at 253.

difficulty obtaining access to it" and the AMA has "no incentive to limit or forego publication" of the code.³⁶ PMIC was "not a potential user denied access to the [code], but a putative copier wishing to share in the AMA's statutory monopoly."³⁷ The court was wary of "terminat[ing]" the AMA's copyright based on the risk that the AMA would restrict access to the *CPT* when other remedies, such as mandatory licensing at a reasonable royalty rate, were available to contend with misuse.³⁸

The court expressed concern that "invalidating [the AMA's] copyright on the ground that the *CPT* entered the public domain when HCFA required its use would expose copyrights on a wide range of privately authored model codes, standards, and reference works to invalidation."³⁹ Because the Supreme Court had never considered whether private actors could enforce copyrights in rules they had drafted after government adoption, and two other courts had, in the Ninth Circuit's view, "declined to enjoin enforcement of private copyrights in these circumstances,"⁴⁰ the Ninth Circuit ruled against PMIC's challenge to the AMA's copyright.⁴¹

Yet, the Ninth Circuit lifted the preliminary injunction because it agreed with PMIC that the AMA had misused its copyright by entering

³⁶ *PMIC*, 121 F.3d at 519.

³⁷ *Id.* The court also perceived PMIC's lawsuit as a vengeful response to the AMA's unwillingness to give it a volume discount. *Id.* at 518.

³⁸ *Id.* at 519.

³⁹ *Id.* Other SSOs and drafters of systematic codes filed amicus briefs arguing that their copyrights would be jeopardized by an invalidity ruling in *PMIC*. *Id.* at 519 n.6. The court also quoted from the *Nimmer on Copyright* treatise, which disapproved of invalidating copyrights in privately drafted standards. 1 MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* § 5.12[A], at 5-92 to -93 (2006).

⁴⁰ *PMIC*, 121 F.3d at 519. See generally *CCC Info. Servs., Inc. v. Maclean Hunter Mkt. Reports, Inc.*, 44 F.3d 61 (2d Cir. 1994); *Bldg. Officials & Code Adm. v. Code Tech., Inc. (BOCA)*, 628 F.2d 730 (1st Cir. 1980). CCC was a database developer that copied used-car prices from Maclean's "redbook," which some states relied upon in setting damages in tort cases or insurance claims. *CCC*, 44 F.3d at 64. The Second Circuit was "not prepared to hold that a state's reference to a copyrighted work as a legal standard for valuation results in loss of the copyright." *Id.* at 74. *BOCA* involved a privately drafted building code adopted by Massachusetts and digitized by the defendant in its commercial product. 628 F.2d at 732. The First Circuit lifted a preliminary injunction against Code Technology, Inc.'s appropriation of the code because it doubted the validity of *BOCA*'s copyright after enactment of the code as law. *Id.* at 736.

Because *BOCA* questioned the validity of copyright in an enacted standard, the Ninth Circuit in *PMIC* should not have cited it as supportive. The ruling in *PMIC* is further undermined by *Veck v. S. Bldg. Code Cong. Int'l, Inc.*, discussed *infra* notes 187-196 and accompanying text, which invalidated copyright in a privately drafted code after its enactment into law. 293 F.3d 791, 802 (5th Cir. 2002).

⁴¹ *PMIC*, 121 F.3d at 521.

into an exclusive licensing deal with HCFA.⁴² This misuse limited the AMA's right to enforce the copyright until the misuse had been purged.⁴³

On appeal,⁴⁴ PMIC belatedly argued that the AMA code had become uncopyrightable because the HCFA mandate had caused the *CPT* to become an unprotectable "idea" under § 102(b) of the U.S. Copyright Act, the merger doctrine, and *Sega Enterprises Ltd. v. Accolade, Inc.*⁴⁵ The court's articulation of PMIC's § 102(b)/merger theory is too cryptic to be decoded, but the court distinguished *Sega* as having involved an effort to suppress creativity:

[T]he AMA's copyright does not stifle independent creative expression in the medical coding industry. It does not prevent [PMIC] or the AMA's competitors from developing comparative or better coding systems and lobbying the federal government and private actors to adopt them. It simply prevents wholesale copying of an existing system.⁴⁶

PMIC apparently did not make the more straightforward argument that the *CPT* was an unprotectable coding *system* under § 102(b), which provides that "in no case does copyright protection . . . extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is . . . embodied in such work."⁴⁷ This is curious given that the AMA and the Ninth Circuit repeatedly referred to the *CPT* as a "system."⁴⁸

Section 102(b) played a more prominent role in a 1997 sister case to *PMIC*, *American Dental Ass'n v. Delta Dental Plans Ass'n (ADA II)*, that arose in the Seventh Circuit after Delta Dental published a book containing standard dental procedure nomenclature and associated numbers from the Code of Dental Procedures and Nomenclatures

⁴² *Id.* at 520-21.

⁴³ *Id.* at 521 n.9. The AMA may have sought to purge the misuse by removing the exclusivity clause from its contract with HCFA. As a practical matter, however, misuse of this sort cannot be readily purged by a change in contract provisions because of sunk-cost investments made by physicians and others in using the AMA standard to comply with HCFA regulations.

⁴⁴ *Id.* at 520 n.8.

⁴⁵ *Sega Enterprises Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1993).

⁴⁶ *PMIC*, 121 F.3d at 520 n.8. This statement ignores that the very point of developing a standard coding system such as the *CPT* is to gain the benefits of uniformity. See *infra* notes 132-135 and accompanying text.

⁴⁷ 17 U.S.C. § 102(b) (2000).

⁴⁸ *PMIC*, 121 F.3d at 518, 520 n.8. The Ninth Circuit referenced coding systems thirteen times in *PMIC*.

(the "Code") developed by the ADA.⁴⁹ The ADA sued Delta for copyright infringement and sought an injunction to stop Delta from publishing the ADA's Code and money damages for past infringements.⁵⁰

The trial judge in the lower court had ruled against the copyrightability of the ADA Code,⁵¹ saying it did not qualify for copyright protection because it comprehensively cataloged a field of knowledge, rather than creatively selecting information about it.⁵² Although the Code's arrangement of data was creative, the arrangement was systematic and highly useful, and hence unprotectable under § 102(b).⁵³ The Code was, moreover, the collaborative work product of a committee, not an expression of the judgment of an author, and Delta had participated in the drafting of the ADA standard, which further supported its right to reuse the ADA Code.⁵⁴

Judge Easterbrook, writing for the Seventh Circuit, disagreed.⁵⁵ In his view, the ADA's "taxonomy" of dental procedures was creative enough to qualify for copyright protection.⁵⁶ He stated that "[c]reativity marks the expression even after the fundamental scheme has been devised."⁵⁷ Because there are many different ways to organize types of dental procedures—"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"—the way chosen by the ADA was a creative expression not dictated by functional considerations.⁵⁸ The usefulness of a taxonomy did not disqualify it from protection, in Judge Easterbrook's view, because only pictorial, sculptural, and graphic works were disqualified from copyright on account of their utility.⁵⁹ The trial court's reasoning would imperil copyrights in many other works, such as standards promulgated by the Financial Accounting Standards Board (the "FASB"),⁶⁰ the West key numbering system,

⁴⁹ *Am. Dental Ass'n v. Delta Dental Plans Ass'n (ADA II)*, 126 F.3d 977 (7th Cir. 1997).

⁵⁰ *Id.*

⁵¹ *Am. Dental Ass'n v. Delta Dental Plans Ass'n (ADA I)*, 39 U.S.P.Q.2d (BNA) 1714, 1727 (N.D. Ill. 1996), *rev'd*, 126 F.3d 977 (7th Cir. 1997).

⁵² *ADA I*, 39 U.S.P.Q.2d at 1725.

⁵³ *Id.* at 1726.

⁵⁴ *Id.* at 1726–27.

⁵⁵ *ADA II*, 126 F.3d at 979.

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.* at 980.

⁶⁰ The copyrightability of FASB standards is questioned in Lawrence A. Cunningham, *Private Standards in Public Law: Copyright, Lawmaking and the Case of Accounting*, 104 MICH. L. REV. 291, 323–30 (2005).

the *Uniform System of Citation* for legal materials,⁶¹ and even computer software.⁶²

The *ADA II* opinion went into considerable detail about the perceived creativity of the ADA's numbering system.⁶³ The ADA assigned five-digit numbers to procedures, when it could have made them four or six digits long, and the ADA decided the first number should be a zero to leave room for future expansion of the Code as more procedures were developed or discovered.⁶⁴ The second and third numbers represented a particular grouping of procedures, and the remaining two digits identified the specific procedure associated with that grouping.⁶⁵ Thus, "[a] catalog that initially assigns 04266, 04267, [and] 04268 to three procedures will over time depart substantively from one that initially assigns 42660, 42670, [and] 42680 to the same three procedures."⁶⁶ Judge Easterbrook was so taken with the creativity of the ADA Code that he opined that the name of each procedure and the number assigned to it were themselves original works of authorship entitled to copyright protection.⁶⁷

To Delta's argument that § 102(b) rendered the ADA's system unprotectable, Judge Easterbrook flippantly responded:

But what could it mean to call the Code a "system"? This taxonomy does not come with instructions for use, as if the

⁶¹ Cornell's Legal Information Institute has reimplemented this system and posted it on the Web. PETER MARTIN, INTRODUCTION TO BASIC LEGAL CITATION (2006), <http://www.law.cornell.edu/citation>.

⁶² *ADA II*, 126 F.3d at 978. See *infra* note 136 for an explanation of why computer software copyrights are valid, even if copyright in the ADA's coding system is not.

⁶³ *ADA II*, 126 F.3d at 979. Judge Easterbrook used the term "numbering system" to describe the ADA Code. *Id.* at 977. Others have done the same. See *Southco, Inc. v. Kanebridge Corp.* (*Southco I*), 258 F.3d 148, 155 (3d Cir. 2001); see also Karen Matherlee, *From Diagnosis to Payment: The Dynamics of Coding Systems for Hospital, Physician, and Other Health Services*, NAT'L HEALTH POLICY FORUM BACKGROUND PAPER (Nat'l Health Policy Forum, George Washington University, Washington, D.C.), Jan. 25, 2002, at 8, available at http://www.nhpf.org/pdfs_bp/BP_Coding_1-02.pdf. Recall that the Ninth Circuit repeatedly described the AMA code as a coding system. See *supra* note 48.

⁶⁴ *ADA II*, 126 F.3d at 979.

⁶⁵ See *ADA I*, 39 U.S.P.Q.2d at 1726.

⁶⁶ *ADA II*, 126 F.3d at 979.

⁶⁷ Judge Easterbrook wrote, "[W]e think that even the short description [that is, the name of the procedure] and the number are original works of authorship." *Id.* Justin Hughes has criticized *ADA II* for treating names of dental procedures and associated numbers as "microworks" of authorship in contravention of the longstanding copyright policy of not allowing copyright protection for titles, short phrases, and the like. See Justin Hughes, *Size Matters (or Should) in Copyright Law*, 74 *FORDHAM L. REV.* 575, 578, 595-97 (2005).

Code were a recipe for a new dish. . . . The Code is a taxonomy, which may be put to many uses. These uses may or may not be or include systems; the Code is not.⁶⁸

Judge Easterbrook seemed to think that § 102(b) made unprotectable only those systems presenting a danger of monopolization of a widely used practice such as bookkeeping, as in *Baker v. Selden*.⁶⁹ He perceived no danger that the ADA would monopolize dental practice. Under § 102(b), dentists were free to use the ADA Code in their forms, and even Delta was free "to disseminate forms inviting dentists to use the ADA's Code when submitting bills to insurers. But [§ 102(b)] does not permit Delta to copy the Code itself, or make and distribute a derivative work based on the Code."⁷⁰

B. Case Law Rejecting Copyright Claims in Numbering Systems

Southco manufactures a variety of products such as latches, handles, and rivets.⁷¹ After its competitor, Kanebridge, reproduced in its catalog product names and numbers from Southco's copyrighted catalog, Southco sued Kanebridge for copyright infringement.⁷² Kane-

⁶⁸ *ADA II*, 126 F.3d at 980–81.

⁶⁹ 101 U.S. 99 (1879). Judge Easterbrook thought that "[p]rotecting variations on the [Selden] forms could have permitted the author of an influential accounting treatise to monopolize the practice of double-entry bookkeeping." *ADA II*, 126 F.3d at 981. Selden was not, in fact, the author of an "influential accounting" treatise (Baker was), and protecting Selden's system by copyright would not have affected use of double-entry bookkeeping, an innovation that dates back to the twelfth century. See Pamela Samuelson, *The Story of Baker v. Selden: Sharpening the Distinction Between Authorship and Invention*, in *INTELLECTUAL PROPERTY STORIES* 159, 160–61 (Jane C. Ginsburg & Rochelle Cooper Dreyfuss eds., 2006).

⁷⁰ *ADA II*, 126 F.3d at 981. Professor Justin Hughes has observed that the *ADA II* decision

may follow our intuitions on unfair competition and seems to give the ADA an [*International News Service v. Associated Press*]-like quasi-property right against competitors, but not against individuals. Yet, the distinction makes a hash out of § 106 rights; it would be more sensible to say that an individual practitioner's form-filling never produces a work substantially similar to the ADA Code as a whole.

Hughes, *supra* note 67, at 597.

Judge Easterbrook, however, considered each number to be an original work of authorship. See *supra* note 67 and accompanying text. Under this view, entry of each number in a form, whether by a dentist or by Delta, would arguably be infringement unless saved by fair use. Judge Easterbrook thus makes a hash of § 102(b), as well as of § 106.

⁷¹ *Southco, Inc. v. Kanebridge Corp. (Southco III)* (en banc), 390 F.3d 276, 278 (3d Cir. 2004).

⁷² *Id.* at 277–79.

bridge's principal defense was that Southco's numbering system was uncopyrightable under § 102(b).⁷³ Southco asserted that its names and numbers were original enough to be copyrightable because they were the product of skilled judgment, and, because there were many different ways to design numbering systems for such a catalog, there was no "merger" of idea and expression to disqualify the work from copyright.⁷⁴

A retired Southco engineer who designed the Southco numbering system explained the creativity in the numbering system, pointing out that "each particular digit or group of digits signifies a relevant characteristic of the product."⁷⁵ The first two digits represent the product type (for example, 47 = captive screws), while other digits "indicate characteristics such as thread size (632), composition of the screw (aluminum), and finish of the knob ('knurled')."⁷⁶

Writing for the Third Circuit, Judge Alito (now a Justice of the U.S. Supreme Court) held in *Southco, Inc. v. Kanebridge, Inc.* (*Southco III*) that Southco's numbering system—that is, the pairing of product names with numbers representing the products—was unprotectable under § 102(b).⁷⁷ The court accepted that Southco

had to identify the relevant characteristics of the products in the class (that is, the characteristics that would interest prospective purchasers); it had to assign one or more digits to express each characteristic; and it had to assign a number or

⁷³ Kanebridge's arguments are outlined in *Southco I*, 258 F.3d at 151.

⁷⁴ Judge Roth's dissent articulates Southco's arguments. See *Southco III*, 390 F.3d at 290–97 (Roth, J., dissenting).

⁷⁵ *Id.* at 278 (majority opinion).

⁷⁶ *Id.*

⁷⁷ See *id.* at 282–85. Southco also claimed copyright in the individual product names and numbers, but the court found these unprotectable under the longstanding exclusion of short phrases and titles from copyright protection. *Id.* at 285–87; see Hughes, *supra* note 67, at 599 ("Southco III finally put the brakes—at least in one circuit—on the dangerous reasoning that an individual number might be protectable because of the research, analysis, and judgment involved in each valuation or designation.").

Southco visited the Third Circuit three times before being resolved by the court en banc. In 2001, *Southco I*, 258 F.3d at 156, vacated a preliminary injunction against Kanebridge because the court thought Southco was unlikely to succeed on the merits due to doubts about the originality of its numbering system. The 2003 *Southco, Inc. v. Kanebridge, Inc.* (*Southco II*), 324 F.3d 190, 197 (3d Cir. 2003), reversed summary judgment for Kanebridge because an affidavit about the system created a triable issue of fact about its originality. In 2004, *Southco III*, 390 F.3d at 287, reconsidered *Southco II* en banc and affirmed summary judgment for Kanebridge. The Supreme Court denied the petition for certiorari, 126 S. Ct. 336 (2005).

other symbol to represent each of the relevant values of each characteristic.⁷⁸

These steps did require some skill and judgment, but “[o]nce these decisions were made, the system was in place, and all of the products in the class could be numbered without the slightest element of creativity.”⁷⁹ Insofar as any originality could be discerned, it lay in Southco’s development of rules for the numbering system, not in the pairing of numbers and products.⁸⁰

In the subsequent 2005 case of *ATC Distribution, Inc. v. Whatever It Takes Transmissions & Parts, Inc.*, ATC tried to distinguish its numbering system from Southco’s and take cover under *ADA II* by characterizing its system as a “taxonomy.”⁸¹ As in *Southco III*, ATC alleged that its competitor was a copyright infringer because it reproduced ATC’s taxonomy in its catalog of transmission parts.⁸² ATC claimed creativity in

(1) deciding what kind of information to convey in part numbers; (2) predicting future developments in the transmission parts industry and deciding how many slots to leave open in a given sub-category to allow for those developments; (3) deciding whether an apparently novel part that doesn’t obviously fit in any of the existing classifications should be assigned a new category of its own or placed in an existing category, and if the latter, which one; (4) designing the part numbers; and (5) devising the overall taxonomy of part numbers that places the parts into different categories.⁸³

The Sixth Circuit accepted that “[a]t least some of the decisions made by ATC are arguably ‘non-obvious choices’ made from ‘among more than a few options,’”⁸⁴ but nevertheless ruled against the copyrightability of the taxonomy because “the creative aspects of the ATC classification scheme” lay in its ideas.⁸⁵ Original ideas, the court held,

⁷⁸ *Southco III*, 390 F.3d at 282.

⁷⁹ *Id.*

⁸⁰ *See id.*

⁸¹ 402 F.3d 700, 705–06 (6th Cir. 2005).

⁸² *Id.* at 704.

⁸³ *Id.* at 706.

⁸⁴ *Id.* at 707 (quoting *Matthew Bender & Co. v. West Publ’g Co.*, 158 F.3d 674, 682 (2d Cir. 1998)).

⁸⁵ *ATC*, 402 F.3d at 707.

are not copyrightable under § 102(b).⁸⁶ ATC could not "copyright its prediction of how many types of sealing rings will be developed in the future, its judgment that O-rings and sealing rings should form two separate categories of parts, or its judgment that a new part belongs with the retainers as opposed to the pressure plates."⁸⁷

Nor was the court persuaded that the numbers themselves were original works of authorship entitled to copyright protection. Characterizing Judge Easterbrook's rationale for this holding in *ADA II* as "rather opaque,"⁸⁸ the Sixth Circuit doubted its soundness.⁸⁹ Yet, the court went on to explain that even if

some strings of numbers used to designate an item or procedure could be sufficiently creative to merit copyright protection, the part numbers at issue in the case before us do not evidence any such creativity. 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.⁹⁰

The court expressed concern that allowing copyright in part numbers "would provide a way for the creators of otherwise uncopyrightable ideas or works to gain some degree of copyright protection through the back door simply by assigning short numbers or other shorthand phrases to those ideas or works (or their component parts)."⁹¹ The real competition between ATC and Whatever It Takes, after all, was in sales of uncopyrightable transmission parts, not in sales of catalogs.

C. *Why Are Systems Uncopyrightable?*

The copyright claims discussed above rested on assertions of creativity in the pairing of particular numbers with discrete phenomena in accordance with rule-based systems for efficiently organizing information for a specific purpose. Three of the four systems were, moreover, promulgated with the intent that they would become in-

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.* at 708.

⁸⁹ *See id.*

⁹⁰ *ATC*, 402 F.3d at 709.

⁹¹ *Id.*

dustry standards.⁹² The Ninth and Seventh Circuits in *PMIC* and *ADA II*, respectively, erred in not seriously analyzing the § 102(b) challenges to these systems. The Third Circuit in *Southco III* and the Sixth Circuit in *ATC II* correctly recognized that systematic ways of assigning numbers to phenomena are unprotectable by copyright law under § 102(b).⁹³ Their analyses would have been even stronger had they invoked the long history of copyright cases denying protection to systems and had they discussed policy rationales for excluding systems and their component parts from the scope of copyright protection.

Even before the landmark *Baker* decision in which the U.S. Supreme Court ruled that bookkeeping systems and their constituent parts (embodied in sample ledger sheets) were unprotectable by copyright law,⁹⁴ the Supreme Court in *Perris v. Hexamer* in 1878 ruled that copyright did not protect a symbol system for representing specific types of information on maps of urban areas prepared to assess fire insurance risks.⁹⁵ Perris, who had mapped certain wards of New York City, sued Hexamer for infringement because the latter used the same symbol system in his comparable map of urban Philadelphia.⁹⁶

The maps were made after a careful survey and examination of the lots and buildings in the enumerated wards of the cities, and were marked with arbitrary coloring and signs, explained by a reference or key, so that an insurer could see at a glance the general characteristics of the different buildings within the territory delineated, and many other details of construction and occupancy necessary for analyzing risks.⁹⁷ The Court described the maps as “useful contrivances for the despatch of business, but of no value whatever except in connection with the identical property they purport to describe.”⁹⁸

The Court concluded:

The complainants have no more an exclusive right to use the form of the characters they employ to express their ideas upon the face of the map, than they have to use the form of type they select to print the key. Scarcely any map is pub-

⁹² *Id.* at 703; *ADA II*, 126 F.3d at 981; Am. Med. Ass’n, *supra* note 19. The fourth system was also an industry standard, but the court decision did not indicate whether its drafters intended it to be so. See *Southco III*, 390 F.3d at 279.

⁹³ *ATC*, 402 F.3d at 707; *Southco III*, 390 F.3d at 282–85.

⁹⁴ 101 U.S. at 107.

⁹⁵ *Perris v. Hexamer*, 99 U.S. 674, 676 (1878).

⁹⁶ *Id.* at 675.

⁹⁷ *Id.*

⁹⁸ *Id.*

lished on which certain arbitrary signs, explained by a key printed at some convenient place for reference, are not used to designate objects of special interest, such as rivers, railroads, boundaries, cities, towns, &c.; and yet we think it has never been supposed that a simple copyright of the map gave the publisher an exclusive right to the use upon other maps of the particular signs and key which he saw fit to adopt for the purposes of his delineations. That, however, is what the complainants seek to accomplish in this case. The defendant has not copied their maps. All he has done at any time has been to use to some extent their system of arbitrary signs and their key.⁹⁹

The comprehensibility of maps would be impeded if subsequent developers had to use entirely different symbol systems for each map. *Perris* is an example of a system held unprotectable by copyright law, notwithstanding the fact that its component parts were not dictated by functional considerations, as Judge Easterbrook seemed to think was necessary for a system to be ineligible for protection under § 102(b).¹⁰⁰

In explaining why bookkeeping and other useful systems should not be protected by copyright law, the Court in *Baker* observed that to give the author of a book an exclusive right in a useful art, such as a bookkeeping system, depicted in the book "would be a surprise and a fraud upon the public. That is the province of letters-patent, not of copyright."¹⁰¹ This was relevant because Selden had filed a patent on his bookkeeping system, although no patent had apparently issued.¹⁰² The Court did not want to allow Selden to misuse his copyright by getting patent-like protection for the system through the copyright in his book. Selden could protect his description of the system through copyright, but not the system itself.¹⁰³

Although useful arts can generally "only be represented in concrete forms of wood, metal, stone, or some other physical embodiment," the principle that copyright does not protect useful systems still applies even when, as with Selden's forms, they are embodied in a book.¹⁰⁴ In *Baker*, the Court deemed the selection and arrangement of headings and columns to be too useful to be protected by copy-

⁹⁹ *Id.* at 676.

¹⁰⁰ See *ADA II*, 126 F.3d at 979.

¹⁰¹ 101 U.S. at 102.

¹⁰² See Samuelson, *supra* note 69, at 174.

¹⁰³ *Baker*, 101 U.S. at 102-04.

¹⁰⁴ *Id.* at 105.

right.¹⁰⁵ Because some systematic organizations of information have been patented,¹⁰⁶ *Baker's* concerns about possible misuses of copyright to obtain patent-like protection may have some significance in information systems cases.

Many cases after *Baker* applied its system/description distinction.¹⁰⁷ Especially pertinent to the numbering system cases are *Griggs v. Perrin*¹⁰⁸ and *Brief English Systems v. Owen*.¹⁰⁹ In these cases, plaintiffs sued authors of competing books on the shorthand systems each plaintiff had devised.¹¹⁰ Both systems involved the assignment of particular abbreviations and symbols to represent particular letters, words, phrases, and the like, for such purposes as stenographic transcription.¹¹¹ The courts ruled against the copyright claims in both cases, citing *Baker*.¹¹² These cases are notable because in neither case was the particular shorthand system at issue dictated by specific rules or functionality. Many shorthand systems have, in fact, been developed over time, just as many bookkeeping systems have been developed. Contrary to Judge Easterbrook's conclusion, the fact that other systems might be devised does not entitle a particular system to obtain copyright protection.¹¹³

When faced with assessing whether a particular information artifact is an uncopyrightable "system," courts should start by recognizing that systems, by their nature, consist of interdependent, interrelated

¹⁰⁵ *Id.* at 104–05. This contradicts Judge Easterbrook's assumption that the utility of an information artifact is only relevant to pictorial, sculptural, and graphic works. See *supra* text accompanying note 59.

¹⁰⁶ See *Taxonomy Generation for Document Collections*, U.S. Patent No. 6,446,061 (filed June 30, 1999) (issued Sept. 3, 2002).

¹⁰⁷ See Samuelson, *supra* note 69, at 183.

¹⁰⁸ 49 F. 15 (C.C.N.D.N.Y. 1892).

¹⁰⁹ 48 F.2d 555 (2d Cir. 1931).

¹¹⁰ See *Brief English Sys.*, 48 F.2d at 555; *Griggs*, 49 F. at 15.

¹¹¹ See *Brief English Sys.*, 48 F.2d at 555; *Griggs*, 49 F. at 15.

¹¹² *Brief English Sys.*, 48 F.2d at 556 ("[T]he plaintiff's shorthand system, as such, is open to use by whoever will take the trouble to learn and use it."); *Griggs*, 49 F. at 16 ("[C]omplainant has no right to a monopoly of the art of short-hand writing.").

¹¹³ Dental procedures could, of course, 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." *ADA II*, 126 F.3d at 979. Judge Easterbrook may be right that a multitude of systems for organizing dental procedures are possible, but the purpose for which a system is designed will influence the appropriate choice of categories. Because the ADA Code was developed to make it easier for dentists, insurers, and the like to record data for billing and related purposes, the rules for constructing such a system will differ substantially from rules for constructing systems of dental procedures for other purposes.

parts that are integrated into a whole scheme.¹¹⁴ This is true of book-keeping systems,¹¹⁵ shorthand systems,¹¹⁶ burial insurance systems,¹¹⁷ systems for teaching how to play musical instruments,¹¹⁸ systems for reorganizing insolvent life insurance companies,¹¹⁹ systems for issuing bonds to cover replacement of lost securities,¹²⁰ systems for consolidating freight tariff information,¹²¹ and systems for teaching problem-solving techniques,¹²² among others. Strategies for playing games are another kind of unprotectable system under § 102(b).¹²³ Interestingly, although rules of games structure the players' interactions, outcomes of games are not mechanically deterministic.¹²⁴

Mathematical formulae and the periodic table of chemical elements are other examples of systematic arrangements of information

¹¹⁴ The *Oxford English Dictionary Online* defines a system as "a set or assemblage of things connected, associated, or interdependent, so as to form a complex unity; a whole composed of parts in orderly arrangement according to some scheme or plan; rarely applied to a simple or small assemblage of things." OXFORD ENGLISH DICTIONARY ONLINE, <http://www.oed.com> (last visited Nov. 24, 2006) (access is password-protected). The *McGraw-Hill Dictionary of Scientific and Technical Terms* defines the term "system," when used in the science and technology realm, as "a method of organizing entities or terms; in particular, organizing such entities into a larger aggregate." MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS 2092 (McGraw-Hill ed., 6th ed. 2003). Similarly, *Webster's Third New International Dictionary* defines "system" as "a complex unity formed of many often diverse parts subject to a common plan or serving a common purpose," as "an aggregation or assemblage of objects joined in regular interaction or interdependence . . . a coherent unification," and as "the structure or whole formed by the essential principles or facts of a science or branch of knowledge or thought; an organized or methodically arranged set of ideas, theories, or speculations." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY OF THE ENGLISH LANGUAGE, UNABRIDGED 2322 (Merriam-Webster ed., 2002) [hereinafter WEBSTER'S DICTIONARY].

¹¹⁵ See generally *Baker*, 101 U.S. 99.

¹¹⁶ See generally *Brief English Sys.*, 48 F.2d 555.

¹¹⁷ See generally *Burk v. Johnson*, 146 F. 209 (8th Cir. 1906).

¹¹⁸ See generally *Jackson v. C.G. Conn Ltd.*, 9 U.S.P.Q. (BNA) 225 (W.D. Okla. 1931).

¹¹⁹ See generally *Crum v. Pac. Mut. Life Ins. Co.*, 140 F.2d 182 (7th Cir. 1944).

¹²⁰ See generally *Com'l Casualty Co. v. Beardsley*, 253 F.2d 702 (2d Cir. 1958).

¹²¹ See generally *Guthrie v. Curlett (Guthrie II)*, 36 F.2d 694 (2d Cir. 1929). That Guthrie was trying to protect the method or system of consolidating this information is evident from the fact that he had gotten a patent on this method, a patent he tried to enforce against Curlett. After the Second Circuit held the patent invalid in *Guthrie v. Curlett (Guthrie I)*, 10 F.2d 725 (2d Cir. 1926), Guthrie sued Curlett for copyright infringement. *Guthrie II*, 36 F.2d at 695.

¹²² See generally *Kepner-Tregoe, Inc. v. Carabio*, 203 U.S.P.Q. (BNA) 124 (E.D. Mich. 1979).

¹²³ See generally *Landsberg v. Scrabble Crossword Game Players, Inc.*, 736 F.2d 485 (9th Cir. 1984).

¹²⁴ *Southco III*, 390 F.3d at 282, implies that unprotectable systems are mechanically deterministic, but the game example shows that this is not necessary.

that are unprotectable under § 102(b).¹²⁵ Considerable originality may underlie formulae, but mathematical precision and comprehensibility of mathematical ideas are better served by standardizing the language elements of formulae.¹²⁶ The periodic table is a useful tool for teaching students about the fields of chemistry and physics precisely because of its standardized representation of atomic phenomena. Gratuitous differences in the fields of mathematics and science would impede effective communication.

Elsewhere, I have argued that computer languages, such as the macro command language at issue in *Lotus Development Corp. v. Borland International, Inc.*, are unprotectable systems under copyright law.¹²⁷ An earlier lawsuit involving Lotus 1-2-3 recognized that "the exact hierarchy—or structure, sequence and organization—of the menu system is a fundamental part of the functionality of the macros"¹²⁸ and that the Lotus menu command hierarchy was an integral part of the Lotus macro command language.¹²⁹ Use of exactly the same command terms in exactly the same order and hierarchical structure, as in 1-2-3, was necessary for users to be able to reuse macros constructed in the Lotus macro language for commonly executed sequences of functions when using other programs.¹³⁰ User investments

¹²⁵ The periodic table of elements is in the public domain and is widely available on the Internet. See, e.g., Periodic Table of the Elements, <http://www.csudh.edu/oliver/chemdata/periodic/periodic-1.htm> (last visited Oct. 23, 2006); WebElements Periodic Table, <http://www.webelements.com> (last visited Oct. 23, 2006). Professor Hughes agrees that mathematical formulae are uncopyrightable subject matter. See Hughes, *supra* note 67, at 599.

¹²⁶ When analyzing a new mathematical formula created by math whiz A, math whiz B should not have to use different notations (for example, N instead of X, O instead of Y, P instead of Z) to convey insights about flaws in A's analysis or uses to which the formula might be put.

¹²⁷ See generally Pamela Samuelson, *Computer Programs, User Interfaces, and Section 102(b) of the Copyright Act of 1976: A Critique of Lotus v. Paperback*, 55 LAW & CONTEMP. PROBS. 311 (1992), *republished in revised form* in 6 HIGH TECH. L.J. 209 (1991). See generally Brief of Copyright Law Professors as Amici Curiae Supporting Respondent, *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 516 U.S. 233 (1996) (No. 94-2003), *reprinted* in 3 J. INTELL. PROP. L. 103 (1995); Brief of Copyright Law Professors as Amici Curiae, *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 49 F.3d 807 (1st Cir. 1995) (No. 93-2214), *reprinted* in 16 HASTINGS COMM. & ENT. L.J. 657 (1994); Pamela Samuelson, *Some New Kinds of Authorship Made Possible by Computers and Some Intellectual Property Questions They Raise*, 53 U. PITT. L. REV. 685 (1992). Languages and their component parts are essential inputs to expression that copyright law ought not to protect.

¹²⁸ *Lotus Dev. Corp. v. Paperback Software Int'l*, 740 F. Supp. 37, 65 (D. Mass. 1990).

¹²⁹ *Id.*

¹³⁰ *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 49 F.3d 807, 817-18 (1st Cir. 1995), *aff'd by an equally divided court*, 516 U.S. 233 (1996). The First Circuit, however, characterized the

in their macros and their desire to reuse the macros when using Borland's software were factors in the First Circuit's ruling that the Lotus command hierarchy was unprotectable under § 102(b).¹³¹

Thus, it may be relevant that the AMA characterized the purpose of the *CPT* as "to provide a uniform *language* that accurately describes medical, surgical, and diagnostic services, and thereby serves as an effective means for reliable nationwide *communication* among physicians, and other healthcare providers, patients, and third parties."¹³² Similarly, the ADA had encouraged use of its Code by dentists, insurers, and others because "standardization of *language* promotes interchange among professionals."¹³³ The AMA and ADA developed uniform standard names and numbers for medical and dental procedures, respectively, to enable more effective and efficient recordkeeping and information processing for these procedures. These standards promoted interoperability of data among many professionals who had to exchange information on a daily basis. HCFA mandated use of the *CPT* to lower its costs for processing Medicare and Medicaid claims, standardize payments to doctors for the same procedures, and avert fraud arising from nonuniform reporting procedures.¹³⁴ Facilitating efficient recordkeeping is among the reasons that copyright law precludes protection of blank forms,¹³⁵ and this reinforces the rationale for denying copyright to numbering systems.

Judge Easterbrook may be right that merely calling an intellectual artifact a "system" should not automatically disqualify it from

Lotus menu command hierarchy as an unprotectable "method of operation" under § 102(b). *Id.* at 818.

¹³¹ *Id.*

¹³² Am. Med. Ass'n, *supra* note 19 (both emphases added).

¹³³ ADA II, 126 F.3d at 981 (emphasis added). Interchange is, in this context, a synonym for communication. Thus, the ADA's Code has essentially the same data interoperability purpose as the AMA's *CPT*.

¹³⁴ See Medicaid Management Information System Requirements for Physician and Supplier Services, 50 Fed. Reg. 40,895, 40,897 (Oct. 7, 1985). See generally Matherlee, *supra* note 63; Am. Med. Ass'n, *supra* note 19. For a discussion of the benefits of implementing standardized business processes, see ROBERT J. GLUSHKO & TIM McGRATH, DOCUMENT ENGINEERING § 16.2, at 554-70 (2005).

¹³⁵ The *Nimmer on Copyright* treatise considers lack of originality the only basis for denying copyright to blank forms. See 1 NIMMER & NIMMER, *supra* note 39, § 2.08[D][1], at 2-112 to -113. Other policy considerations support denial of copyright in forms: forms may embody systems, standard forms lower training and information-processing costs, and such forms may be useful in facilitating uncopyrightable transactions. See *Bibbero Sys., Inc. v. Colwell Sys., Inc.*, 893 F.2d 1104, 1108 (9th Cir. 1990) (medical-billing form held uncopyrightable).

copyright protection.¹³⁶ If plaintiffs characterize it as a system, however, as the AMA did in its contract with HCFA¹³⁷ and the Ninth Circuit did in *PMIC*,¹³⁸ and it fits standard definitions of "system,"¹³⁹ courts should at least consider whether the artifact is the kind of system that should be ineligible for copyright protection. Also, merely calling a numbering system a "taxonomy" should not avert the inquiry.¹⁴⁰ Taxonomies are, by definition, systematic classifications of information that group subcomponents into logical categories based on similarities in clusters of phenomena.¹⁴¹ The Sixth Circuit in *ATC* recognized the interchangeability of "taxonomy" and "system" in connection with the numbering scheme at issue there.¹⁴²

Revisiting the claimed creativity in the ADA's "taxonomy" in light of *ATC*, it becomes evident that the creativity of the ADA Code also lies in the creation of the system ("the fundamental scheme," as *ADA* calls it¹⁴³). Judge Easterbrook claimed the ADA's decision to use five digits instead of four or six was creative.¹⁴⁴ Yet five digits was an obvious choice if dental professionals participating in the Code development process thought it likely that new categories of procedures might be developed beyond the four-digit codes already in the Code. The most reasonable way to accommodate this possibility was to make the first digit a zero.¹⁴⁵ The second and third digits represented a par-

¹³⁶ Computer programs, for example, may literally be "processes," but they are copyrightable under legislation passed by Congress. See *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1253-54 (3d Cir. 1983) (operating system programs held copyrightable).

¹³⁷ *PMIC*, 121 F.3d at 517; see *supra* note 48 (noting the Ninth Circuit's frequent use of the term "system").

¹³⁸ See *supra* note 48 and accompanying text.

¹³⁹ See *supra* note 114.

¹⁴⁰ Judge Easterbrook mainly called the ADA Code a "taxonomy," but he also referred to it as a numbering system. *ADA II*, 126 F.3d at 977.

¹⁴¹ *Webster's Dictionary* defines "taxonomy" as "systematic distinguishing, ordering, and naming of type groups within a subject field." *WEBSTER'S DICTIONARY*, *supra* note 114, at 2345.

¹⁴² *ATC*, 402 F.3d at 704-06. Few copyright cases involve taxonomies. *Lipton v. Nature Co.*, 71 F.3d 464 (2d Cir. 1995), did not involve a taxonomy in the *Webster's Dictionary* sense, because Lipton had compiled his collection of vernery from fifteenth-century texts and manuscripts and arranged them based on their "lyrical and poetic potential." *Lipton*, 71 F.3d at 467; see *supra* note 141.

¹⁴³ *ADA II*, 126 F.3d at 979.

¹⁴⁴ *Id.*

¹⁴⁵ The Sixth Circuit perceived no creative expression in *ATC*'s decision to leave some blanks in its numbering system to leave room for future transmission parts. See *ATC*, 402 F.3d at 707.

ticular category of dental procedures, while the fourth and fifth represented specific procedures within each category.¹⁴⁶

Restorative procedures, for example, were represented by the number 21.¹⁴⁷ Numbering specific procedures within this category reflected the number of surfaces being restored. 02110, for example, was the number assigned for restorative amalgams for one primary surface, while 02120 was for amalgams for two primary surfaces, and so forth.¹⁴⁸ In general, the ADA Code left ten spaces between procedures, presumably because there was some likelihood that, in the future, new procedures might need to be added in the restoration or other categories. In some cases, procedures had only one space between them (for example, 02130 for three-surfaced amalgams, but 02131 for four-surfaced amalgams),¹⁴⁹ but this decision seems as arbitrary as decisions that ATC made about whether aluminum screws should be numbered 10 or 11. The ADA Code, moreover, drew substantially from preexisting codes on dental procedures, most notably the California Dental Service's three-digit code.¹⁵⁰

The naming and numbering of dental procedures in the ADA's Code were also products of an incremental collaborative effort of skilled practitioners in the field to determine that these were (or should be) standard names for dental procedures organized by logical class.¹⁵¹ Judge Easterbrook may be right that "[b]lood is shed in the ADA's committees about which [procedure name] is preferable,"¹⁵² but blood is no more a sign of original expression in copyright law than sweat is in the aftermath of *Feist Publications, Inc. v. Rural Telephone Service Co.*¹⁵³

To sum up, industry 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 if they are dictated by rules or

¹⁴⁶ See *ADA I*, 39 U.S.P.Q.2d at 1725-26.

¹⁴⁷ See *id.*

¹⁴⁸ *Id.*

¹⁴⁹ *Id.*

¹⁵⁰ *Id.* at 1716.

¹⁵¹ *ADA I*, 39 U.S.P.Q.2d at 1716-17.

¹⁵² *ADA II*, 126 F.3d at 979. Standards often emerge from tough negotiations. BOWKER & STAR, *supra* note 1, at 9 (noting that decades of negotiations were required to standardize sizes and capacities of compact discs ("CDs"), and the speed, electrical settings, and amplification rules for CD players).

¹⁵³ 499 U.S. 340, 353-54 (1991) (rejecting "sweat of the brow" industrious compilation copyrights).

functionality. Yet, other factors may be relevant to whether systematic organizations of information are unprotectable under § 102(b): (1) when the system is a useful art and copyright in it would give patent-like protection, (2) when second-comers need to use the system to compete or communicate effectively, (3) when systematizing information is necessary to achieve efficiencies, (4) when the system is incidental to uncopyrightable transactions or processes, and (5) 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.

II. STANDARDS MAY BE OR BECOME UNPROTECTABLE BY COPYRIGHT UNDER THE SCENES A FAIRE OR MERGER DOCTRINES

Alternative theories for deciding that industry standards, such as the AMA and ADA codes, as well as ISO country, language, and currency codes, may be ineligible for copyright protection come from the scenes a faire and merger doctrines and the policies that underlie them. The scenes a faire doctrine, originally developed to recognize that certain plot structures are to be expected from works exploring certain literary or dramatic themes,¹⁵⁴ has been adapted, especially in the software copyright case law, to recognize that expressive choices of subsequent authors may become constrained over time by the emergence of industry standards.¹⁵⁵ The merger doctrine holds that if there is only one or a very small number of ways to express an idea, copyright protection will generally be unavailable to that way or those few ways in order to avoid protecting the idea.¹⁵⁶ Although most merger cases involve works that are uncopyrightable when first created,¹⁵⁷ some courts have held that an initially copyrightable work may be disqualified for copyright protection over time, as the Fifth Circuit did in holding that governmental enactment of a privately drafted model law caused the idea of this law and its expression to merge.¹⁵⁸

¹⁵⁴ See Leslie A. Kurtz, *Copyright: The Scenes a Faire Doctrine*, 41 FLA. L. REV. 79, 79–80 (1989).

¹⁵⁵ See *infra* notes 174–181 and accompanying text.

¹⁵⁶ See 1 PAUL GOLDSTEIN, GOLDSTEIN ON COPYRIGHT § 2.3.2, at 2:34–35 (3d ed. 2005).

¹⁵⁷ See, e.g., *Herbert Rosenthal Jewelry Corp. v. Kalpakian*, 446 F.2d 738, 742 (9th Cir. 1971) (jeweled bee held uncopyrightable for lack of expressive alternatives).

¹⁵⁸ See *Veeck v. S. Bldg. Code Cong. Int'l, Inc.*, 293 F.3d 791, 802 (5th Cir. 2002) (model building code held unprotectable by copyright law upon its enactment by cities as law); see

The scenes a faire doctrine struck the concurring Judge Becker in *Southco, Inc. v. Kanebridge, Inc.* (*Southco III*) as a plausible alternative basis for ruling that Kanebridge's catalog did not infringe Southco's copyright.¹⁵⁹ Southco had "selected characteristics for its system based on customer demand," and once these characteristics were chosen, "values—such as screw thread sizes, screw lengths, or ferrule types—were determined by industry standards rather than through any exercise of originality by Southco," and although finishes were specific to Southco, they were "determined solely by the part identity, rather than through some exercise of creative expression."¹⁶⁰

Judge Becker relied on the Tenth Circuit's instructive analysis of scenes a faire in *Mitel, Inc. v. Iqtel, Inc.*¹⁶¹ Mitel was in the business of manufacturing call controllers, "computer hardware that enhances the utility of a telephone system by automating the selection of a particular long distance carrier and activating optional features such as speed dialing."¹⁶² Long distance carriers buy call controllers to install them on customer premises to "automate that customer's access to the carrier's long distance service."¹⁶³ Mitel developed a set of sixty-some four-digit numeric command codes and published them in manuals describing how to program its call controllers using the command codes.¹⁶⁴ Mitel claimed that its copyright in the software and manuals protected the command codes as its creative work product.¹⁶⁵

Iqtel initially devised its own call controller instruction set,¹⁶⁶ but ultimately concluded that "it could compete with Mitel only if its IQ200+ controller were compatible with Mitel's controller."¹⁶⁷ Iqtel came to realize that "technicians who install call controllers would be unwilling to learn Iqtel's new set of instructions in addition to the

also *BOCA*, 628 F.2d 730, 736 (1st Cir. 1980) (vacating preliminary injunction because of doubts about the copyrightability of a model code adopted by Massachusetts).

¹⁵⁹ 390 F.3d 276, 287–89 (3d Cir. 2004) (Becker, J., concurring).

¹⁶⁰ *Id.* at 288.

¹⁶¹ 124 F.3d 1366 (10th Cir. 1997). The Tenth Circuit rejected the trial court's § 102(b) analysis derived from the First Circuit's conclusion in *Lotus Development Corp. v. Borland International, Inc.*, 49 F.3d 807, 817–18 (1st Cir. 1995), that a command set constituted an unprotected method of operating a computer program. *Mitel*, 124 F.3d at 1372–73. Yet, the Tenth Circuit affirmed the trial court's denial of a preliminary injunction based on the scenes a faire doctrine. *Id.* at 1376.

¹⁶² *Mitel*, 124 F.3d at 1368.

¹⁶³ *Id.*

¹⁶⁴ *Id.*

¹⁶⁵ *Id.* at 1373.

¹⁶⁶ *Id.* at 1369.

¹⁶⁷ *Mitel*, 124 F.3d at 1373.

Mitel command code set, and the technicians' employers would be unwilling to bear the cost of additional training."¹⁶⁸ So, Iqtel programmed its controllers to accept the Mitel command codes and translate them into Iqtel codes.¹⁶⁹ Its manual included an appendix that listed and cross-referenced the Iqtel and Mitel command codes.¹⁷⁰ Iqtel then copied Mitel's command codes for all of the call controllers' common functions.¹⁷¹

Yet, the Tenth Circuit concluded that Iqtel was not an infringer.¹⁷² In part, this was because the court questioned the originality of the Mitel command codes insofar as the symbols either were arbitrarily assigned to functions or exhibited *de minimis* creativity.¹⁷³ But to the extent the Mitel codes were original, the Tenth Circuit concluded that they were unprotectable under the *scenes a faire* doctrine.¹⁷⁴ This doctrine "exclude[s] from protection . . . those elements of a work that necessarily result from external factors inherent in the subject matter of the work," such as "hardware standards and mechanical specifications, software standards and compatibility requirements, computer manufacturer design standards, industry programming practices, and practices and demands of the industry being served."¹⁷⁵

The *scenes a faire* doctrine "plays a particularly important role [in functional writing cases] in ensuring that copyright rewards and stimulates artistic creativity in a utilitarian work 'in a manner that permits the free use and development of non-protectable ideas and processes' that make the work useful."¹⁷⁶ Applying this doctrine to the Mitel command codes, the court concluded that "much of the expression in Mitel's command codes was dictated by the proclivities of technicians and limited by significant hardware, compatibility, and

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

¹⁷⁰ *Id.*

¹⁷¹ *Id.* at 1369.

¹⁷² *Mitel*, 124 F.3d at 1376.

¹⁷³ *Id.* at 1373-74.

¹⁷⁴ *Id.* at 1375-76.

¹⁷⁵ *Id.* at 1375 (citing *Gates Rubber Co. v. Bando Chem. Indus. Ltd.*, 9 F.3d 823, 838 (10th Cir. 1993); *Computer Assocs. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 709-10 (2d Cir. 1992); *Plains Cotton Coop. Ass'n v. Goodpasture Computer Serv., Inc.*, 807 F.2d 1256, 1262 (5th Cir. 1987)).

¹⁷⁶ *Id.* (citation omitted).

industry requirements."¹⁷⁷ The *Mitel* codes embodied industry standards, and were thus unprotectable by copyright law.¹⁷⁸

Industry standards serve an important function by allowing those in the industry or field to use the standard for effective communication. The interoperability case law, of which *Mitel* is one instance, recognizes that the design of computer program interfaces may be the product of considerable skill and judgment, and thus might seem to qualify for copyright protection.¹⁷⁹ Once an interface has been developed, however, the parameters it establishes for the effective communication of information between one program and another constrain the design choices of subsequent programmers. The interface thus becomes an unprotectable functional design,¹⁸⁰ and the *scènes à faire* doctrine is often invoked in decisions coming to this conclusion.¹⁸¹

Also relevant to determining whether copyright should protect industry standards is the extent of user investments in the standard. In ruling against Lotus's lawsuit against Borland for copying the command hierarchy of its 1-2-3 software program, the First Circuit emphasized the significant investments users had made in developing macros with Lotus's macro command language:

[U]sers employ the Lotus menu command hierarchy in writing macros. Under the district court's holding, if the user wrote a macro to shorten the time needed to perform a certain operation in Lotus 1-2-3, the user would be unable to use that macro to shorten the time needed to perform that same operation in another program. Rather, the user would have to rewrite his or her macro using that other program's menu command hierarchy. This is despite the fact that the macro is clearly the user's own work product. . . . That programs can offer users the ability to write macros in many different ways does not change the fact that, once written, the

¹⁷⁷ *Mitel*, 124 F.3d at 1375.

¹⁷⁸ *Id.*

¹⁷⁹ See *Altai*, 982 F.2d at 697-98 (describing the considerable judgment involved in the process of computer program design).

¹⁸⁰ See *id.* at 709-10; see also Pamela Samuelson et al., *A Manifesto Concerning the Legal Protection of Computer Programs*, 94 COLUM. L. REV. 2308, 2402 (1994) (stating that program interfaces are "information equivalents to the gears that allow physical machines to interoperate").

¹⁸¹ See, e.g., *Mitel*, 124 F.3d at 1374-76; *Gates*, 9 F.3d at 838; *Altai*, 982 F.2d at 709-10.

macro allows the user to perform an operation automatically.¹⁸²

Although Judge Boudin was not fully persuaded by the majority's § 102(b) analysis, he concurred in its holding, observing:

Requests for the protection of computer menus present the concern with fencing off access to the commons in an acute form. A new menu may be a creative work, but over time its importance may come to reside more in the investment that has been made by *users* in learning the menu and in building their own mini-programs—macros—in reliance upon the menu. Better typewriter keyboard layouts may exist, but the familiar QWERTY keyboard dominates the market because that is what everyone has learned to use.¹⁸³

Professor Paul Goldstein has analogized the copyright case law on industry standards to trademark law's genericide doctrine.¹⁸⁴ Under that doctrine, a once-viable trademark may become unprotectable because widespread public use of the mark as a common name for a product or service causes it to lose its source significance.¹⁸⁵ *Mitel* and *Borland* demonstrate that industry standards may likewise become unprotectable over time.¹⁸⁶

Government adoption of a privately drafted standard, such as a model building code, may similarly cause it to become uncopyrightable upon its adoption as law under the merger of idea and expression doctrine, as happened in *Veeck v. Southern Building Code Congress International, Inc.*¹⁸⁷ SBCCI published a standard building code, which

¹⁸² *Borland*, 49 F.3d at 818.

¹⁸³ *Id.* at 819–20 (Boudin, J., concurring).

¹⁸⁴ 1 GOLDSTEIN, *supra* note 156, § 2.3.2.1, at 2:41. Some courts reject merger defenses if there were more than a few expressive choices when the plaintiff's work was created. *Id.* at 2:39–40. Other courts, notably the Second Circuit, however, "appear hospitably inclined to the proposition that merger should be tested at the time the expression was copied rather than at the time it was created." *Id.* at 2:40.

¹⁸⁵ See *King-Seely Thermos Co. v. Aladdin Indus., Inc.*, 321 F.2d 577, 579 (2d Cir. 1963).

¹⁸⁶ See *Mitel*, 124 F.3d at 1375–76; *Borland*, 49 F.3d at 817–18.

¹⁸⁷ 293 F.3d at 800–02; see also *BOCA*, 628 F.2d at 734–36 (expressing hesitation over copyrightability of a model code to the extent it has been adopted as law). Some commentators support the ruling in *Veeck*, even if critical of some aspects of the court's reasoning. See generally Cunningham, *supra* note 60; Shubha Ghosh, *Copyright as Privatization: The Case of Model Codes*, 78 TUL. L. REV. 653 (2004); Jessica C. Tones, Note, *Copyright Monopoly vs. Public Access—Why the Law Should Not Be in Private Hands*, 55 SYRACUSE L. REV. 371 (2005); see also generally L. Ray Patterson & Craig Joyce, *Monopolizing the Law: The Scope of Copyright*

the towns of Anna and Savoy, Texas, adopted as their laws.¹⁸⁸ Veeck purchased an electronic copy of SBCCI's building code and posted it on his website.¹⁸⁹ After receiving a cease-and-desist letter from SBCCI, Veeck sought a declaratory judgment that SBCCI's code had become uncopyrightable upon its adoption as law.¹⁹⁰ The Fifth Circuit, sitting en banc, reversed a grant of summary judgment to SBCCI, holding that "as law, the model codes enter the public domain and are not subject to the copyright holder's exclusive prerogatives."¹⁹¹

The Fifth Circuit gave three reasons for its ruling: (1) not protecting enacted codes was consistent with Supreme Court decisions that laws are not subject to copyright protection;¹⁹² (2) upon its adoption as law, the ideas expressed in SBCCI's code had merged with its

Protection for Law Reports and Statutory Compilations, 36 UCLA L. REV. 719 (1989) (criticizing the policy of extending copyright protection to legal information); Malla Pollack, *Purveyance and Power, or Over-Priced Free Lunch: The Intellectual Property Clause as an Ally of the Takings Clause in the Public's Control of Government*, 30 SW. U. L. REV. 1 (2000) (arguing against government extension of intellectual property protection to private entities performing law-making functions because this form of government spending is shielded from public scrutiny). But see generally Maryjane Boone Bonfield, Casenote, *Can the Law Be Copyrighted?—Fifth Circuit Holds that Model Building Codes Lose Copyrights upon Adoption into Law—Veeck v. SBCCI*, 56 SMU L. REV. 1025 (2003) (arguing the Fifth Circuit overstepped its bounds in *Veeck* by ruling that a model code should lose copyright protection once enacted into law); Katie M. Colendich, Note, *Who Owns "the Law"? The Effect on Copyrights When Privately-Authorized Works Are Adopted or Enacted by Reference into Law*, 78 WASH. L. REV. 589 (2003) (arguing the Fifth Circuit's *Veeck* decision created an unsupported exception to copyright law by contradicting decisions in other circuits and legislative and executive policies).

¹⁸⁸ *Veeck*, 293 F.3d at 793–94. The *Standard Building Code* was drafted with the intent that state and local governments would adopt it by reference. S. BLDG. CODE & CONG. INT'L, INC., *Preface to STANDARD BUILDING CODE*, at iii (1994).

¹⁸⁹ *Veeck*, 293 F.3d at 793. Veeck's motivation for posting the law is somewhat unclear from the court's decision. He had apparently tried to go to public offices in Anna and Savoy to get a copy of the code, but was unable to find it in one town and was only able to find the incorrect code at the other. *Id.* at 809. Veeck paid \$72 for his copy of the SBCCI code that came with a license forbidding copying or distributing it. *Id.* at 793. Judge Higginbotham dissented from the Fifth Circuit's ruling because Veeck violated express provisions of the license. *Id.* at 808 (Higginbotham, J., dissenting). The majority opinion did not address the license issue.

¹⁹⁰ *Id.* at 794 (majority opinion).

¹⁹¹ *Id.* at 793. A Fifth Circuit panel initially ruled to affirm, but upon rehearing, the majority en banc voted to reverse. *Id.* at 793–94. Six judges (Davis, Dennis, Higginbotham, King, Stewart, & Wiener, J.J.) dissented. See *id.* at 806–08 (Higginbotham, J., dissenting); *id.* at 808–26 (Weiner, J., dissenting).

¹⁹² *Id.* at 795–800 (majority opinion). The court concluded that *Banks v. Manchester*, 128 U.S. 244 (1888), and other precedents rendered ordinances and regulations adopted by state and municipal governments as unprotectable by copyright law as statutes and judicial opinions. *Veeck*, 293 F.3d at 800. Commentators have expressed concern about the outsourcing of governmental legislative functions to private entities. See, e.g., Cunningham, *supra* note 60, at 294; Ghosh, *supra* note 187, at 684–86.

expression, and the code had, for purposes of copyright law, become a "fact";¹⁹³ and (3) the balance of case law and relevant policies supported its ruling.¹⁹⁴ After enactment, the only way to express the building code laws of Anna and Savoy was with the precise text of SBCCI's code.¹⁹⁵ Hence, the merger doctrine forbade SBCCI to claim copyright in the enacted code.¹⁹⁶ *Veech* calls into question the Ninth Circuit's ruling in *Practice Management Information Corp. v. American Medical Ass'n (PMIC)* because federal law required use of the AMA's standard, thereby limiting the range of choices of codes that could be used by medical and health professionals.

Thus, industry standards such as the AMA and ADA codes may be unprotectable by copyright law under the scenes a faire or merger doctrines. Considerations that may affect such decisions include: (1) whether industry demand or practices effectively constrain expressive choices of subsequent developers, (2) whether reuse of the standard is necessary for effective competition, (3) whether user investments in the standard are substantial enough to give rise to the right to reuse the standard, and (4) whether the government mandates use of the standard or has embodied the standard in its legal code.

III. INCENTIVES AND COMPETITION POLICY CONCERNS ABOUT COPYRIGHTS IN STANDARDS

The principal argument in favor of copyright protection for industry standards is the claim SSOs make that they need copyright incentives to develop standards.¹⁹⁷ The U.S. Supreme Court's 1991 decision in *Feist Publications, Inc. v. Rural Telephone Service Co.*, however, informs us that copyright protection is not available to information artifacts just because they are products of industrious efforts and their developers assert the need for copyright incentives.¹⁹⁸ Several consid-

¹⁹³ *Veech*, 293 F.3d at 800-03.

¹⁹⁴ *Id.* at 803-06. The Fifth Circuit regarded *BOCA* as providing strong support for its ruling. *Id.* at 803. It distinguished *CCC Information Services, Inc. v. Maclean Hunter Market Reports, Inc.*, 44 F.3d 61 (2d Cir. 1994), as a case involving state regulations that merely referred users to a book. *Veech*, 293 F.3d at 804-05. *PMIC*, 121 F.3d 516 (9th Cir. 1997), was, in its view, a closer case, but it did not involve "the wholesale adoption of a model code" that had been developed and promoted "for use as legislation." *Veech*, 293 F.3d at 804-05.

¹⁹⁵ *Veech*, 293 F.3d at 802; see also Cunningham, *supra* note 60, at 308.

¹⁹⁶ *Veech*, 293 F.3d at 802.

¹⁹⁷ See *ADA II*, 126 F.3d 977, 978 (7th Cir. 1997). See generally David Friedman, *Standards as Intellectual Property: An Economic Approach*, 19 U. DAYTON L. REV. 1109 (1994) (discussing economic arguments for and against protecting standards as a unique form of property).

¹⁹⁸ 499 U.S. 340, 349-50 (1991).

erations reinforce doubts about incentive-based arguments for copyright in standards.¹⁹⁹

First, SSOs generally have ample incentives to develop standards for use by professionals in their fields.²⁰⁰ It is simply not credible to claim that organizations like the AMA and ADA would stop developing standard nomenclature without copyright protection. The fields they serve need these standards for effective communication with other health care providers, insurers, and government agencies.

Second, SSOs generally do not actually develop the standards in which they claim copyrights.²⁰¹ Rather, they typically rely upon volunteer service by experts in the field to develop standards and require volunteers to assign any copyright interests to the SSOs. The community development of a standard is a reason to treat the standard itself as a shared resource.²⁰²

Third, SSOs generally use the revenues they derive from selling or licensing the standards to subsidize other activities of their organizations, rather than to recoup investments in making the standards.²⁰³ Even without copyright in the standards, SSOs can derive revenues from sales of print materials embodying the standard and value-added products or services.²⁰⁴

Fourth, the Internet and World Wide Web now make it very cheap and easy to disseminate standards. The rise of volunteer infor-

¹⁹⁹ Professor Cunningham has proposed an administrative process to determine whether particular government-adopted standards should be eligible for copyright protection. Cunningham, *supra* note 60, at 293. Courts may, however, be better suited to dealing with challenges to copyrights in standards.

²⁰⁰ See I GOLDSTEIN, *supra* note 156, § 2.5.2.1, at 2:59. Furthermore, "it is difficult to imagine an area of creative endeavor in which copyright incentive is needed less. Trade organizations have powerful reasons stemming from industry standardization, quality control and self-regulation to produce these codes; it is unlikely that without copyright they will cease producing them." *Id.*; see also *Veeck v. S. Bldg. Code Cong. Int'l, Inc.*, 293 F.3d 791, 805-06 (5th Cir. 2002) (explaining why the court is "unpersuaded" by SBCCI's argument that SSOs require economic incentives to develop standards).

²⁰¹ See, e.g., *S. BLDG. CODE CONG. INT'L, INC.*, *supra* note 188, at iii ("This Standard Building Code is dedicated to the organizations and individuals, including code officials, architects, engineers and industry representatives, who have volunteered their time and knowledge to make this the most comprehensive and up-to-date code available."); see also *BOCA*, 628 F.2d 720, 732 (1st Cir. 1980) (explaining the BOCA model code was developed "through the joint efforts of representatives from industry, code enforcement officials, design professionals and other interested parties").

²⁰² Professor Cunningham observes that copyright controls over standards may impede the ability of those in the field to make incremental improvements to the standard. Cunningham, *supra* note 60, at 311-12.

²⁰³ *Veeck*, 293 F.3d at 794.

²⁰⁴ *Id.* at 806.

mation posting on the Web gives reason to be confident that users of a successful standard will make the standards available online for all to use.

Fifth, once a standard has achieved success through widespread adoption, this very success enables the SSO to charge monopoly rents for use of or access to the code.²⁰⁵ The availability of copyright protection for standards may give SSOs excess incentives to invest in the creation of standards to get monopoly rents.²⁰⁶

Sixth, copyrighting standards may create perverse incentives, causing SSOs to invest in persuading governments to mandate use of their standards.²⁰⁷ *Veeck v. Southern Building Code Congress International, Inc.* illustrates this temptation. Under the deal SBCCI offered, local governments such as those in Anna and Savoy got royalty-free rights to use the code and one or more copies to make available in a public office.²⁰⁸ But SBCCI charged a substantial fee to anyone else who wanted a copy of the code or access to it, and got referrals from building inspectors and other public officials, making public employees into a kind of free sales force for SBCCI.²⁰⁹ The perverse incentives problem is of particular concern because of the increasing frequency with which governments are actively encouraging government adoption of privately drafted industry standards.²¹⁰

The long-term credibility of SSOs depends on their ability not only to produce sound standards, but also to produce standards in

²⁰⁵ See, e.g., Press Release, Nat'l Insts. of Health, U.S. Nat'l Library of Med., HHS Launches New Efforts to Promote Paperless Health Care System (July 1, 2003), available at http://www.nlm.nih.gov/news/press_releases/paperlesspr03.html (U.S. government paid \$32.4 million for a five-year perpetual license to use and allow U.S.-based private organizations to use Systematized Nomenclature for Medicine ("SNOMED")). This license was negotiated to overcome burdensome licensing requirements experienced prior to its adoption. See Nat'l Insts. of Health, U.S. Nat'l Library of Med., FAQs: Inclusion of SNOMED CT in the UMLS, at FAQ 9, http://www.nlm.nih.gov/research/umls/Snomed/snomed_faq.html (last visited Oct. 24, 2006).

²⁰⁶ Cunningham, *supra* note 60, at 310–11.

²⁰⁷ Private firms may also have incentives to invest in getting SSOs to bless their proprietary system as a standard to gain market power over the standard. Private firms may also be tempted to gain a competitive edge for their proprietary designs by taking them to an SSO and organizing efforts to gain adoption as a standard. See Maher, *supra* note 1, ¶ 18. This enhances profitability. *Id.* ¶ 27.

²⁰⁸ *Veeck*, 293 F.3d at 794, 808–09. Veeck discovered that some public offices did not have copies of the code or had the wrong versions. *Id.* at 809 (Wiener, J., dissenting).

²⁰⁹ Nonmembers of SBCCI had to pay \$72 per copy for the code; members paid \$48. *Id.* at 809 n.1.

²¹⁰ *BOCA*, 628 F.2d at 736; see OMB Circular A-119, 63 Fed. Reg. 8546, 8554 (Feb. 19, 1998) (urging government adoption and use of privately drafted industry standards).

which the SSOs do not have such a strong financial interest that they succumb to the temptation to abuse the standards process by making their standards into a cash cow that must be purchased by anyone affected by the standard.²¹¹

CONCLUSION

The rise of the information economy has caused copyright law to become a new actor in the intellectual property rights and standards debate because SSOs increasingly claim copyrights in standards and charge substantial fees for access to and rights to use standards such as ISO country, currency, and language codes, and standard medical and dental procedure codes promulgated by the AMA and the ADA.

This Article has questioned whether standards such as these, especially those whose use is mandated by government rules, should be eligible for copyright protection as a matter of U.S. copyright law. Part I reviewed several lawsuits that challenged copyrights in numbering systems devised to enable efficient communication and argued that the decisions upholding copyrights in the AMA and ADA codes were incorrectly decided in light of past and subsequent case law, the statutory exclusion of systems from copyright, and various policy considerations. Part II analyzed copyright case law and policies that have persuaded courts to exclude standards from the scope of copyright protection under the scenes a faire and merger of idea and expression doctrines. It argued that government mandates to use certain standards should affect the ability to claim copyright in those standards. Part III questioned whether SSOs need copyright incentives to develop and maintain industry standards they promulgate and whether arguments based on incentives should prevail over other considerations. It identified some competition and other public policy concerns about allowing private entities to own standards, particularly those whose use is required by law.

²¹¹ Antitrust problems arising from abuses of standard-setting processes are well-documented and longstanding. See generally Hovenkamp, *supra* note 3.