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Copyrighting Facts

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INTRODUCTION

According to traditional copyright principles, the only copyrightable elements of a factual work are the author's presentation, selection, and arrangement of facts. The underlying facts themselves cannot be copyrighted.[1] In the past, this approach was

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1. Feist Publ'ns v. Rural Tele. Serv. Co., 499 U.S. 340, 347-48 (1991); Harper & Row

sufficient to protect factual works against the most opportunistic forms of copying by competitors. Because facts were usually displayed narratively or in tables, authors generally made enough decisions concerning presentation, selection, and arrangement to protect their factual works against wholesale appropriation.

But the rise of electronic and on-line databases has cast doubt upon the validity of the traditional approach. These databases collect and display facts in a pure form, allowing the user to extract them as she sees fit. By dispensing with conventional modes of presentation, selection, and arrangement, they can easily fail to satisfy traditional standards for copyrightability, leaving them with virtually no legal protection against copying.[2]

This problem has led some to recommend protection for the facts that compilations convey.[3] Protection of this sort currently exists in the European Union, through its 1996 Database Directive.[4] The Directive applies to databases for which there has been "a substantial investment in either the obtaining, verification or presentation of the contents," even if the selection and arrangement of the contents fail to satisfy the standards for copyrightability.[5] For this reason, the Directive characterizes such protection as *sui generis*, that is, as standing outside of the copyright regime. Facts are themselves protected in the sense that "extraction and/or re-utilization of the whole or

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Publishers, Inc. v. Nation Enters., 471 U.S. 539, 556 (1985); Nihon Keizai Shimbun, Inc. v. Comline Bus. Data, Inc., 166 F.3d 65, 70 (2d Cir. 1999); 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT §§ 2.11[D], 3.03 (2003).

2. *See, e.g.*, John Tessensohn, *The Devil's in the Details: The Quest for Legal Protection of Computer Databases and the Collections of Information Act, H.R. 2652*, 38 IDEA 439, 452 (1998); G.M. Hunsucker, *The European Database Directive: Regional Stepping Stone to an International Model?*, 7 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 697, 715-17 (1997); J.H. Reichman & Pamela Samuelson, *Intellectual Property Rights in Data?*, 50 VAND. L. REV. 51, 64-66 (1997); Jeffrey C. Wolken, Note, *Just the Facts, Ma'am. A Case for Uniform Federal Regulation of Information Databases in the New Information Age*, 48 SYRACUSE L. REV. 1263, 1275-80 (1998); Laura D'Andrea Tyson & Edward F. Sherry, Statutory Protection for Databases: Economic and Public to Policy Issues (undated) (unpublished manuscript, included in *Collections of Information Antipiracy Act; Vessel Hull Design Protection Act; Trade Dress Protection Act; and Internet Domain Trademark Protection: Hearings on H.R. 2652, H.R. 2696, and H.R. 3163 Before the Subcomm. on Courts and Intellectual Prop. of the House Comm. on the Judiciary*, 105th Cong. 74-97 (1999) (statement of Laura D'Andrea Tyson)), *at* http://www.house.gov/judiciary/41118.htm.

3. *See, e.g.*, PAUL GOLDSTEIN, COPYRIGHT'S HIGHWAY 211-17 (1994); Elliott M. Abramson, *How Much Copying Under Copyright? Contradictions, Paradoxes, Inconsistencies*, 61 TEMP. L. REV. 133, 142-45 (1988); Glynn S. Lunney, Jr., *Reexamining Copyright's Incentives-Access Paradigm*, 49 VAND. L. REV. 483, 561-70 (1996); J.H. Reichman, *Legal Hybrids Between the Patent and Copyright Paradigms*, 94 COLUM. L. REV. 2432, 2525-27 (1994); Alfred C. Yen, *The Legacy of* Feist*: Consequences of the Weak Connection Between Copyright and the Economics of Public Goods*, 52 OHIO ST. L.J. 1343, 1369-73 (1991); Wolken, *supra* note 2, at 1291; Tyson & Sherry, *supra* note 2; *infra* text accompanying notes 5-6; *infra* text accompanying notes 22-29.

4. Council Directive 96/9 on the Legal Protection of Databases, art. 7, 1996 O.J. (L 77) 20, 25-26 [hereinafter Council Directive]. For a description of the Directive, see generally Mark Powell, *The European Union's Database Directive: An International Antidote to the Side Effects of* Feist*?*, 20 FORDHAM INT'L L.J. 1215, 1228-47 (1997).

5. Council Directive, *supra* note 4, art. 7, §1.

of a substantial part . . . of the contents" of a database is prohibited.[6]

A number of bills similar to the Directive have been introduced in Congress.[7] But none has yet made it into law. The debate concerning these proposals has remained at an impasse to a large extent because of three puzzles, which have hampered our ability to assess the proposals' costs and benefits in a rigorous fashion.

The first puzzle concerns what it means to protect the contents of a database rather than its selection and arrangement of the contents. The Directive speaks of protecting not individual facts, but only "the whole" or a "substantial part" of the contents of a database. But this "whole" or "substantial part" is created by selecting and arranging individual facts. Only two conclusions appear possible: Either selections and arrangements are what is really protected, in which case the Directive does not protect contents after all, or these contents are indeed protected, in which case the protection must somehow extend to individual facts.

Because of the first puzzle, the debate over the protection of the contents of databases tends to devolve into a debate about protection for individual facts. This would appear to spell defeat for those advocating such protection. Protecting individual facts, after all, is contrary to two foundational principles of copyright law. The first is the *idea/expression distinction.* According to this distinction, the expression of an author's ideas is protectable, but the underlying ideas expressed are not. The standard justification for the distinction is the "building-block" argument—that is, that ideas are too *valuable* as components for subsequent authors' works to have access to them restricted by property rights.[8] The distinction is commonly used to reject property rights in facts because, like ideas, facts are thought to be valuable components for future works.[9]

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6. *Id.*

7. Collections of Information Antipiracy Act, H.R. 354, 106th Cong. (1999); Collections of Information Antipiracy Act, H.R. 2652, 105th Cong. (1997); Database Investment and Intellectual Property Antipiracy Act of 1996, H.R. 3531, 104th Cong. (1996). These bills are in part motivated by the desire to protect Americans' share of the database market in the European Union ("EU"). Under the Directive, only EU producers and producers from countries offering "comparable protection" to EU database producers receive this heightened protection in the EU itself. Council Directive, *supra* note 4, art. 11. Without reciprocal protection for EU databases in the United States, American database producers are at a distinct competitive disadvantage within the EU.

8. CCC Info. Servs., Inc. v. Maclean Hunter Mkt. Reports, Inc., 44 F.3d 61, 71-72 (2d Cir. 1994); I PAUL GOLDSTEIN, COPYRIGHT: PRINCIPLES, LAW AND PRACTICE § 2.3.1.1, at 78-79 (1989); Niva Elkin-Koren, *Of Scientific Claims and Proprietary Rights: Lessons From the* Dead Sea Scrolls *Case*, 38 HOUS. L. REV. 445, 450-51 (2001); Wendy J. Gordon & Robert G. Bone, *Copyright, in* II ENCYCLOPEDIA OF LAW AND ECONOMICS 189, 195 (Boudewijn Bouckaert & Gerrit De Geest eds., 2000); Dennis S. Karjala, *Federal Preemption of Shrinkwrap and On-Line Licenses*, 22 U. DAYTON L. REV. 511, 520-21 (1997); William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325, 347-50 (1989); Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 996-99 (1997); Pierre N. Leval, *An Assembly of Idiots?*, 34 CONN. L. REV. 1049, 1059 (2002).

9. Feist Publ'ns v. Rural Tele. Serv. Co., 499 U.S. 340, 349-51, 356-57 (1991); Arica Inst., Inc. v. Palmer, 970 F.2d 1067, 1074-75 (2d Cir. 1992); Landsberg v. Scrabble Crossword Game Players, Inc., 736 F.2d 485, 488-89 (9th Cir. 1984); Hoehling v. Universal City Studios, Inc., 618 F.2d 972, 978-79 (2d Cir. 1980); Niva Elkin-Koren, *Copyright Policy and the Limits of*

But, so understood, the building-block argument itself raises a puzzle. The heart of the building-block argument is that it is better to give authors unlimited access to the storehouse of ideas, even at the cost of reducing their incentive to add to that storehouse, than it is to encourage them to produce new ideas through property rights that limit other authors' access. The puzzle is how the increasing *value* of a component for future works would give one reason to believe that this is the case.

That a component is "valuable" for new works suggests that authors need access to the component, or the works they produce will be worth substantially less to consumers. It is certainly true that the more valuable a component is, the greater the costs of protecting it with a property right. Property rights in components will mean that only those authors who obtain a license from a component's owner can make use of it in their works. The more valuable a component is, the greater the economic loss when authors are unwilling or unable to obtain licenses. On the other hand, the more valuable a component is, the greater are the costs of *rejecting* a property right in it. Rejecting a property right in a component increases the risk that it will not be created. And the more valuable a component is, the greater the economic loss if this risk materializes. The puzzle, once again, is how the fact that a component is valuable gives one a reason to believe that the first costs will outweigh the second.

Indeed, there is a stronger argument for denying protection to components that are *not* valuable. Although the absence of property rights for such components would reduce authors' incentives to create them, this would have no serious costs, since works of equivalent value can still be created without them.

This second puzzle has generated some skepticism about the building-block argument.[10] This skepticism, combined with courts' and copyright scholars' self-admitted inability to distinguish ideas from expression in a satisfying manner,[11] has led some to recommend that the idea/expression distinction be reconsidered or even rejected, opening up the possibility of copyrights in facts.[12]

Freedom of Contract, 12 BERKELEY TECH. L.J. 93, 98-101 (1997); Robert A. Kreiss, *Accessibility and Commercialization in Copyright Theory*, 43 UCLA L. REV. 1, 10-14 (1995); Pierre N. Leval, *Toward a Fair Use Standard*, 103 HARV. L. REV. 1105, 1109-10 (1990); Jessica Litman, *After* Feist, 17 U. DAYTON L. REV. 607, 613-14 (1992) [hereinafter Litman, *After* Feist]; Jessica Litman, *The Public Domain*, 39 EMORY L.J. 965, 1014-17 (1990) [hereinafter Litman, *Public Domain*].

10. *See, e.g.*, Lunney, *supra* note 3, at 556-61.

11. Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1253 (3d Cir. 1983); Nichols v. Universal Pictures Corp., 45 F.2d 119, 121 (2d Cir. 1930) ("Nobody has ever been able to fix that boundary, and nobody ever can."); Peter Pan Fabrics, Inc. v. Martin Weiner Corp., 274 F.2d 487, 489 (2d Cir. 1960); *see, e.g.* BENJAMIN CARDOZO, THE NATURE OF THE JUDICIAL PROCESS 174 (1921); Leslie A. Kurtz, *Speaking to the Ghost: Idea and Expression in Copyright*, 47 U. MIAMI L. REV. 1221, 1225 (1993); Robert Yale Libott, *Round the Prickly Pear: The Idea-Expression Fallacy in a Mass Communications World*, 14 UCLA L. REV. 735, 738 (1967); John Shepard Wiley, Jr., *Copyright at the School of Patent*, 58 U. CHI. L. REV. 119, 121-29 (1991); Alfred C. Yen, *A First Amendment Perspective on the Idea/Expression Dichotomy and Copyright in a Work's "Total Concept and Feel"*, 38 EMORY L.J. 393, 396-97 (1989).

12. Abramson, *supra* note 3, at 142-45; John Kay, *The Economics of Intellectual Property Rights*, 13 INT'L REV. L. & ECON. 337 (1993); Edward C. Wilde, *Replacing the Idea/Expression Metaphor With a Market-Based Analysis in Copyright Infringement Actions*, 16 WHITTIER L.

Another traditional argument against copyrights in facts is that they fail the *originality* requirement for protection, because facts are not authored or created by anyone.[13] But this argument also generates a puzzle, because it appears to depend upon an outdated conception of the objectivity of scientific inquiry. We do not have unmediated epistemic access to the world. To the extent that we know the world at all, we do so only through our representations of it. These representations depend upon the energy, intelligence, and resourcefulness of the representer. It is these representations, not the world itself, that are the "facts" that would be protected by copyright.[14] Since these facts are just as much works of authorship as fiction, copyrights in facts once again seem justifiable.[15]

The three puzzles are a recipe for stalemate. As a result of the first puzzle, the debate over protection for the contents of factual compilations is transformed into a debate about copyrights in individual facts. But because of the second and third puzzles, the justifiability of the traditional refusal to protect individual facts is put into doubt.

The collection and sale of information is an industry worth many billions of dollars a year to American companies and is a primary engine of economic growth.[16] Unauthorized copying of databases has already reached significant levels.[17] For these and other reasons, the debate over the proper level of copyright protection for databases is not trivial. My goal is to propose enough of a solution to our three puzzles to allow for a principled assessment of the protection for databases offered by the Directive and its American analogues.

I begin in Part I with a simple economic account of limitations on copyright protection.[18] Although copyrights generate wealth, by providing authors with the

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REV. 793 (1995).

13. *Feist*, 499 U.S. at 347; NIMMER & NIMMER, *supra* note 1, § 2.11[A] n.7.1; Robert C. Denicola, *Copyright in the Collection of Facts: A Theory for the Protection of Nonfiction Literary Works*, 81 COLUM. L. REV. 516, 525 (1981).

14. *See infra* Part IV.C.2.

15. Alan L. Durham, *Speaking of the World: Fact, Opinion and the Originality Standard of Copyright*, 34 ARIZ. ST. L.J. 791 (2001); Jane C. Ginsburg, *Sabotaging and Reconstructing History: A Comment on the Scope of Copyright Protection in the Works of History after* Hoehling v. Universal City Studios, 29 J. COPYRIGHT SOC'Y USA 647, 658 (1982); Wendy J. Gordon, *Reality as Artifact: From* Feist *to Fair Use*, 55 LAW & CONTEMP. PROBS. Spring 1992, at 93; Litman, *Public Domain*, *supra* note 9, at 996-97.

16. *See* Hunsucker, *supra* note 2, at 700 n.2 (1997); Wolken, *supra* note 2, at 1267-68; Tyson & Sherry, *supra* note 2, at text accompanying notes 7-20.

17. *Hearing on Violations of Intellectual Property Rights Before the House Subcomm. on Int'l Econ. Policy & Trade of the Comm. on Int'l Relations*, 105th Cong. (1999) (statement of Rep. Ileana Ros-Lehtinen, R-Illinois) ("The International Intellectual Property Alliance estimated that in 1998 losses [due to foreign database piracy] were about $5 billion for businesses.").

18. Noneconomic arguments for copyright—for example, those that appeal to an author's right to control her creations—are popular among copyright scholars. *E.g.*, Alfred C. Yen, *Restoring the Natural Law: Copyright as Labor and Possession*, 51 OHIO ST. L.J. 517 (1990); *but see* Lawrence C. Becker, *Deserving to Own Intellectual Property*, 68 CHI.-KENT L. REV. 609 (1993); Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 YALE L.J. 1533 (1993). But they are largely

incentive to produce a work whenever consumer demand will compensate them for their trouble, they also have costs.[19] Limitations on copyright are economically justified when these costs exceed the benefits. Following many other copyright scholars, I identify these costs as monopolization, transaction, and enforcement costs, and show how certain limitations on copyright can be explained by means of them.

In Parts II and III, I use this model to offer economic interpretations of the two limitations on copyright that are our primary concern—the originality requirement and the idea/expression distinction. Drawing upon these interpretations, and upon the reconceptualization of facts as representations, discussed above, I argue in Part IV that the traditional approach is correct in arguing that individual facts cannot be copyrighted. The originality requirement and the idea/expression distinction argue against copyrighting facts, but for reasons other than those commonly appealed to in the literature. Individual facts are indeed ideas, but *not* because they are "valuable" components for creating new works. And they are unoriginal, but *not* because they are not created by authors. The real reasons these two limitations apply to individual facts

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ignored when limitations on copyright are discussed. The popularity of noneconomic justifications for copyright is surprising given the explicitly economic argument for copyright that can be found within the Copyright Clause in the Constitution itself, which gives Congress the power to enact copyright law "[t]o promote the progress of science and the useful arts." U.S. CONST. art. I, § 8, cl. 8. The economic underpinnings of copyright law have often been recognized by the Supreme Court. *See, e.g.*, Fogerty v. Fantasy, Inc., 510 U.S. 517, 525-26 (1994); Mazer v. Stein, 347 U.S. 201, 219 (1954);. Sony Corp. of America v. Universal City Studios, 464 U.S. 417, 429 (1984).

19. Of course, it may be that intellectual works are so unlike physical products that copyrights are unnecessary to encourage their creation and proper utilization. Skepticism about the value of copyrights has long existed and is increasing in strength. *See, e.g.*, LAWRENCE LESSIG, THE FUTURE OF IDEAS: THE FATE OF THE COMMONS IN A CONNECTED WORLD (2001); Stephen G. Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs*, 84 HARV. L REV. 281 (1970); Robert M. Hurt & Robert M. Schuchman, *The Economic Rationale of Copyright*, 56 AM. ECON. REV. 421 (1966); Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263 (2002); Tom G. Palmer, *Intellectual Property: A Non-Posnerian Law and Economics Approach*, 12 HAMLINE L. REV. 261 (1989); Arnold Plant, *The Economic Aspects of Copyright in Books*, 1 ECONOMICA 167 (1934); Eric Schlachter, *The Intellectual Property Renaissance in Cyberspace: Why Copyright Law Could Be Unimportant on the Internet*, 12 BERKELEY TECH. L.J. 15, 38-49 (1997).

For example, the competitors' copies might be inferior to the author's, either for technological reasons or, as is the case with concert performances and much visual art, because consumers find value in versions that originate from the author herself, no matter how similar the competitors' versions are to the author's. Market lead times can also give authors a sufficiently lengthy protection against copying to allow them to recoup their production costs. *See, e.g.*, Breyer, *supra*, at 300. In addition, there are contractual alternatives to copyright. An author can condition access to her product upon acceptance of an obligation not to copy. For example, purchasers of tickets to a theatrical performance could be contractually obligated to refrain from copying what they see. *Id.* at 302.

But justifying copyright law in general is not the purpose of this Article. I will assess the justifiability of copyrights for facts and factual compilations assuming—as our current copyright regime does—that copyright protection is necessary to encourage the creation of other intellectual works.

are far more complex.

Furthermore, the idea/expression distinction and the originality requirement are not reasons to refuse protection to all individual components of databases and factual works. In particular, we have no reason to reject property rights in scientific theories. If all we had were these two limitations on copyright to appeal to, Einstein's theory of relativity should be copyrightable. The reason it is not, I argue, has less to do with the idea/expression distinction and the originality requirement than the doctrine of fair use.

Having solved our second and third puzzles, we can accept the bedrock principle of copyright law that the *individual* components of factual compilations are uncopyrightable. This brings us back to our first puzzle. How can the factual contents of databases be protected without protecting either individual facts or the selections and arrangements of those facts?

I argue in Part V that the first puzzle is based upon a fallacy. Consider copyright protection for the story in a novel. Such protection is not the same as protecting the primary elements of character, plot, and setting out of which the story was composed—nor is it the same as protecting the way the story was created through selecting and arranging these primary elements. The story—that is, the collective fictional content of the novel—can be protected in a way that cannot be reduced to these other forms of protection. I argue that the collective factual content of a database can be protected in the same manner. As a result, there is a place within the principles of copyright law for the type of protection for databases offered by the Directive and its American analogues.

I. THE COSTS OF COPYRIGHT

Copyrights exist because without them intellectual works would be nonexcludable: an author could not prevent competitors and consumers from appropriating the economic value of her work through unauthorized copying.[20] By making an author's work excludable, a copyright gives her the incentive to incur the costs of producing it whenever these costs are less than or equal to the value that consumers put on it. Consumers themselves benefit as a result.

In addition to encouraging authors to create new works, copyrights also encourage authors to efficiently *utilize* constituents of works that already exist. For example, if no one had a property right in the character Superman, authors could freely create works in which Superman appeared as a character without concern for the effect their works had on the value of actual and potential Superman-based works. They would have no incentive not to create pornographic films starring Superman or commercials in which Superman endorses hemorrhoid creams, even though these works would have a negative effect on the value of other Superman-based works. They would also be inclined to produce works that, although not tarnishing Superman's image, would still reduce excessively the value of the remaining stock of unrealized works about Superman. Since consumers' appreciation of Superman-based works is exhaustible, efficient production of these works must take into account the tendency of each work

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20. *See* ROBERT COOTER & THOMAS ULEN, LAW AND ECONOMICS 128 (2000); Gordon & Bone, *supra* note 8, at 192-93; Landes & Posner, *supra* note 8, at 326; Yen, *supra* note 3, at 1365-69.

to reduce the value of Superman-based works that can be produced in the future. A property right in Superman assures that this will happen. The owner of a copyright in Superman will have an incentive to produce, or license the production of, only those Superman-based works that best satisfy consumer demand.[21]

But copyrights generate costs as well as benefits. A limitation on the scope of copyrights is economically justified when the costs of copyright protection will exceed the benefits. Three costs are most frequently mentioned by copyright scholars: (1) the deadweight loss resulting from copyright holders' monopolies on works; (2) the transaction costs incurred when those who wish to use or consume a protected work must identify and obtain licenses from the copyright holder; and (3) the costs of adjudicating and enforcing copyrights.[22] If these costs are great enough, limitations on copyright are justified even though they will keep an author from internalizing all the economic value (and costs) of her creations, leaving her without the motivation to create all works whose production costs are less than their value to consumers. In this Part, I will outline these three economic costs of copyright, showing how various limitations follow from them.

A. Monopolization Costs

In order to understand the extent to which copyrights generate monopolization costs, it is useful to have a clear conception, in a noncopyright context, of the differences between a monopolist and a producer subject to competitive pressures.

Consider a competitive producer of chicken salad sandwiches. This producer will continue to produce sandwiches as long as a consumer can be found who is willing to pay *marginal cost*, that is, the producer's total costs of production minus what his total costs would have been had he produced one fewer sandwich. It is fruitless for this producer to refuse to provide a sandwich to someone willing to pay marginal cost in the hope that this reduction in supply would drive up prices and increase his profits, since any reduction will simply be made up for by competitors.

In contrast, a monopolistic producer of chicken salad sandwiches has market power—the absence of rival producers of substitutes for his good. Because of this market power, he will refuse to provide his sandwiches to consumers willing to pay marginal cost. This is because, by creating artificial scarcity, he can identify and serve those willing to pay more than marginal cost for the good, thereby increasing his profits.[23]

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21. This neglected function of copyrights is emphasized in WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW (forthcoming 2003); *cf.* Roberta Rosenthal Kwall, *The Right of Publicity vs. the First Amendment: A Property and Liability Rule Analysis*, 70 IND. L.J. 47, 108-09 (1994) (arguing that the right of publicity exists in part to prevent overexposure that dilutes the value of a persona).

22. *See, e.g.*, Gordon & Bone, *supra* note 8, 194-96.

23. *E.g.* RICHARD A. POSNER, ANTITRUST LAW, AN ECONOMIC PERSPECTIVE 9-32, 287-308 (2001); F.M. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 14-21 (1980). Were the monopolist able to perfectly price discriminate, that is, identify how much each consumer is willing to pay and charge her an individualized price on the basis of her demand, he would no longer have a reason to create any artificial scarcity. He would, like the producer subject to competition, provide sandwiches even to those willing to pay only marginal

In addition to providing a sandwich to anyone willing to pay marginal cost, a competitive producer will, in the long run, charge a price equal to his *average total cost*, that is, his total cost of production (including risk-bearing and opportunity costs) divided by the total number of units produced.[24] To the extent that the market price is more than is necessary to cover his costs, new producers will be drawn into the market, increasing supply and lowering prices. To the extent that it is less than is necessary to cover his costs, producers will leave the market, lowering supply and increasing prices. In contrast, the barriers to entry enjoyed by the monopolist will allow him to charge more than his average total cost indefinitely.[25]

Let us distinguish between these two senses of monopolization: (1) refusing to sell to those willing to pay marginal cost and (2) charging more than average total cost. This distinction is important because, as we shall see, a copyright holder is always a monopolist in the first sense, but may or may not be a monopolist in the second sense.

An important characteristic of a copyrighted work that distinguishes it from chicken salad sandwiches is its *nonrivalrousness*—the fact that the consumption of the work by one person does not, in general, diminish it, but leaves it free to be consumed by others.[26] Making works excludable through copyrights does not change their nonrivalrousness.[27]

We have seen that there is a sense in which a copyrighted *constituent* of a work can be a rivalrous good. Since the use of Superman in a work can reduce the value of the remaining stock of commercially viable Superman-based works, this use can be partially rivalrous with respect to other uses. Nevertheless, a copyrighted work remains nonrivalrous in the sense that the marginal cost of allowing another consumer to enjoy the work is zero. Despite the fact that there are some marginal (as well as fixed) costs involved in *instantiating* the work in a particular product for sale,[28] as far as the work itself is concerned, there are no marginal costs to increased access at all.

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cost. But perfect price discrimination is impossible: not only must one compel unwilling consumers to reveal their true preferences, one must also prevent arbitrage, that is, the resale of the monopolized good from low- to high-demand consumers. Because the monopolist cannot perfectly price discriminate, the only way that he could provide his good to low-demand consumers is by lowering his price to everyone. This would reduce his total profits.

24. *See* JEFFERY L. HARRISON, LAW AND ECONOMICS IN A NUTSHELL 234-35 (2d ed. 2000); SCHERER, *supra* note 23, at 13-14; Paul L. Joskow & Alvin K. Klevorick, *A Framework for Analyzing Predatory Pricing Policy*, 89 YALE L.J. 213, 252-53 (1979).

25. Provided that one excludes the costs that the monopolist might have incurred buying, creating, or maintaining his monopoly. *See*; RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 303-04 (5th ed. 1998); SCHERER, *supra* note 23, at 14-15; Lunney, *supra* note 3, at 556 n.282.

26. *E.g.*, COOTER & ULEN, *supra* note 20, at 40; LESSIG, *supra* note 19, at 95-96; Gordon & Bone, *supra* note 8, at 194-95; Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 HARV. L. REV. 501, 526 (1999); Glynn S. Lunney, Jr., *Fair Use and Market Failure:* Sony *Revisited*, 82 B.U. L. REV. 975, 979 (2002). Rivalrousness with respect to the use or enjoyment of a copyrighted work is not inconceivable. If the value of a copyrighted work, like the value of some luxury goods, lies in part in exclusivity of access, then consumption of the work would be partially rivalrous. But luxury copyrighted works, if they exist at all, are rare.

27. Goods that are excludable but nonrivalrous, such as a copyrighted work, a park, or a bridge, are often called *imperfect* public goods, in contrast with perfect public goods, such as national defense or clean air, which are both nonrivalrous and nonexcludable.

28. Even after a novel is written, it costs something to create individual copies.

Therefore, unless they allow consumers access to their works for free, producers of copyrighted works are always monopolists in the first sense—they charge more than marginal cost.[29] But if they charged only marginal cost, they would never be able to recover their production costs, and works would be underproduced. A copyright avoids underproduction by allowing an author to prohibit the sale of unauthorized copies that would drive the price of access to her work down to marginal cost.[30]

The only way this problem could be avoided is if the copyright holder could engage in price discrimination—that is, sell access to a work at marginal cost to low demand consumers while receiving enough from those who value the work at more than marginal cost to pay for her production costs.[31] Although price discrimination occurs to some extent with copyrightable works (expensive hardback versions of a book are sold before cheap paperback versions, the cost of a ticket to the movies is more than the price of a video rental), it is not so common that works are available to everyone who values them at marginal cost.

But if the copyright holder charges a price that is no higher than what is necessary to cover production costs, she is not earning monopoly rents and therefore is *not* a monopolist in the second sense of the term.[32] The ability of a copyright holder to charge more than average total cost will be a function of the nonsubstitutability of her work. Her work must lack substitutes to some extent, or she would be unable to charge more than marginal cost.[33] But it remains possible that the copyright holder, although having *some* market power, has only enough to charge average total cost.

With these distinctions in mind, we can now identify two possible monopolization costs to copyrights: underutilization and overproduction.

Because a monopolist of chicken salad sandwiches refuses to provide consumers with his sandwiches even though they would pay for his marginal costs, he is inefficient. Consumers priced out of the market for his sandwiches will buy something else, despite the fact that they could be provided with sandwiches more cheaply. The wealth of society as a whole is reduced.

A copyright holder generates similar monopolization costs because she too creates artificial scarcity of access. Because the marginal cost of providing one more person with access to a copyrighted work is zero, the minute a copyright holder charges anything for access, the wealth of society as a whole is reduced.

As we have seen, however, simply because a copyright holder charges more than

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29. *E.g.*, Julie E. Cohen, *Copyright and the Perfect Curve*, 53 VAND. L. REV. 1799, 1801-03 (2000); Elkin-Koren, *supra* note 8, at 99-100; William W. Fisher III, *Property and Contract on the Internet*, 73 CHI.-KENT L. REV. 1203, 1234-36 (1998); Neil Weinstock Netanel, *Copyright and a Democratic Civil Society*, 106 YALE L.J. 283, 292-93 (1996).

30. *E.g.*, Lunney, *supra* note 26, at 994-95; Stewart E. Sterk, *Rhetoric and Reality in Copyright Law*, 94 MICH. L. REV. 1197, 1204-05 (1996).

31. It is largely for this reason that some copyright scholars have recommended a legal system that encourages authors to engage in price discrimination. *See, e.g.*, Tom W. Bell, *Fair Use vs. Fared Use: The Impact of Automated Rights Management on Copyright's Fair Use Doctrine*, 76 N.C. L. REV. 557, 561 (1998); Fisher, *supra* note 29, at 1237-40.

32. *E.g.*, Richard A. Posner, *Antitrust in the New Economy*, 68 ANTITRUST L.J. 925, 938 (2001).

33. *See* Yochai Benkler, *An Unhurried View of Private Ordering in Information Transactions*, 53 VAND. L. REV. 2063, 2068 (2000).

marginal cost does not mean that she is able to earn monopoly rents. But if she can earn such rents, there will very likely be a second monopolization cost aside from underutilization. The lure of these excess profits can generate new inefficiencies, because it draws producers into the market for copyrightable works even though their resources would be best used elsewhere.[34] The second monopolization cost of copyrights, therefore, is that they, paradoxically, reduce wealth by encouraging *too many* people to become authors.[35]

This second monopolization cost of copyrights is similar to the costs generated by patent races.[36] Although patents can encourage research and development, the lure of monopoly profits from patents can motivate firms to engage in duplicative efforts or to allocate resources inefficiently in order to be the first to obtain the patent.[37]

The question of the extent to which copyrights generate monopoly rents that could overencourage entry[38] is complicated by the fact that, while some copyright holders (such as Stephen King or John Grisham) enjoy income greatly in excess of their production costs,[39] most authors receive income that is far less than their production costs. This is in part the result of authors' inability to identify, before creating a work, whether consumers will value it. It would be improper to identify all of the income in excess of costs enjoyed by Messrs. King and Grisham as monopoly rents that

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34. POSNER, *supra* note 23, at 11, 242.

35. Scott Abrahamson, *Seen One, Seen Them All? Making Sense of the Copyright Merger Doctrine*, 45 UCLA L. REV. 1125, 1150-51 (1998); Lunney, *supra* note 3, at 655-56; Netanel, *supra* note 29, at 333-35.

36. *See generally* Yoram Barzel, *Optimal Timing of Innovations*, 50 REV. ECON. & STAT. 348 (1968); Mark F. Grady & Jay I. Alexander, *Patent Law and Rent Dissipation*, 78 VA. L. REV. 305, 307-10 (1992) (explaining how a number of features of patent law can be understood in terms of their reduction of rent dissipation); Jack Hirshleifer, *The Private and Social Value of Information and the Reward to Inventive Activity*, 61 AM. ECON. REV. 561 (1971); Dean Lueck, *The Rule of First Possession and the Design of the Law*, 38 J.L. & ECON. 393, 394-95 (1995).

37. Copyrights differ from patents in ways that should make genuine copyright *races* far less likely. First of all, unlike the first person to create a patentable invention, the first person to create a copyrightable work has no ability to exclude those who create the same work later. The "independent creation" requirement for copyrightability can be satisfied by a work that, by happenstance, is identical to another work, as long as it was not copied from the other work. *See, e.g.*, Sheldon v. Metro-Goldwyn Pictures Corp., 81 F.2d 49, 54 (2d Cir. 1936). Therefore, aside from the benefits of early entry into the market (which would exist even without copyrights), there is no incentive to race. Nevertheless, monopoly rents can still overencourage entry into the market for copyrightable works.

38. It is tempting to think that because a copyrightable work is unique its author must have a great deal of market power. But the mere fact that copyrightable works tend to be different from one another does not necessarily mean they lack substitutes. For example, consumers of romance novels may be primarily interested in a novel's being *new* (that is, different from what has been offered on the market in the past), rather than in its satisfying specific aesthetic criteria—provided, of course, that it satisfies the general criteria required for membership in that genre. Because consumers would treat two different but equally new romance novels as substitutes to some extent, the authors of romance novels may not be able to charge more than their average total cost. *See* SCHERER, *supra* note 23, at 14-15; *cf.* Roger E. Meiners & Robert J. Staaf, *Patents, Copyrights, and Trademarks: Property or Monopoly?*, 13 HARV. J.L. & PUB. POL'Y 911, 915-17 (1990) (rejecting characterization of copyrights as monopolies).

39. Lunney, *supra* note 3, at 556 n.282.

overencourage entry. Since winners in the copyright contest do not know that they will be winners when they start, allowing them to receive only what is necessary to cover their actual costs would mean that no one would undertake the risk of entering the contest at all.

What is needed is enough income to induce to enter the contest all and only those for whom the social benefit of their entering (that is, the increase in the expected value of the winner's work that would result from their talents entering the competitive mix) is greater than the social costs (that is, the value of what they could have produced in another job). Since having only one participant in the contest cannot assure that a John Grisham book will be produced, the expected social benefit of further entrants into the contest can be greater than the costs, even though it means that there will be some copyright winners and losers. Furthermore, the prize might have to be rather large if one assumes, reasonably, that the potential entrants will be risk-averse and so likely to prefer a lower but more certain expected income stream as a lawyer or a banker over one that is higher but more uncertain.

Although allowing John Grisham only his actual costs will clearly underencourage entry into the market, the income he would earn from an unlimited property right in his works might overencourage entry. The reason is that each potential entrant compares the amount she could earn in another occupation with her expected returns by entering, *not* with the amount that her entry increases the expected value of the works of the ultimate winner. Although an individual's expected income from entering the contest will decrease with each new entrant, so that eventually people will be motivated to pursue alternative careers, the contribution that each new entrant will make to the expected value of the works of the ultimate winner will decrease even more quickly. This is because, like the purchaser of a lottery ticket, a person can have expected income from entering simply by reducing the other participants' chances of winning, even though her entry fails to increase the size of the jackpot.[40]

Dramatic differences between the incomes of copyright winners and losers can also be due, not to the lack of information that each entrant has about the value that consumers will find in his works, but to the fact that consumers often prefer relative rather than absolute value in copyrighted works.[41] Even though the quality of the winner's works may not be significantly higher than that of the losers', consumers will purchase only the works of the winner. The spoils that the winner enjoys can encourage not merely excessive entry into the market for copyrighted works, but also costly expenditures that only marginally increase the quality of the works produced. These expenditures will be economically rational from an individual competitor's perspective (because they increase her chances of ending up at the top of the heap), but not from the perspective of consumers, since, without the expenditures, a work that was only marginally worse would have emerged victorious.

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40. *See* ROBERT H. FRANK & PHILIP J. COOK, THE WINNER TAKE ALL SOCIETY: WHY THE FEW AT THE TOP GET SO MUCH MORE THAN THE REST OF US 101-23 (1995); Barzel, *supra* note 36, at 348; Partha Dasgupta & Joseph Stiglitz, *Uncertainty, Industrial Structure, and the Speed of R&D*, 11 BELL J. ECON. 1, 25 (1980); Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 266, 277 (1977).

41. FRANK & COOK, *supra* note 40, at 23-25; Sherwin Rosen, *The Economics of Superstars*, 71 AM. ECON. REV. 845, 846, 857 (1981). This phenomenon that has been increased by the globalization of markets. *Id.* at 857.

An example of a limitation on copyright that is justified by concerns about monopolization costs is a copyright's limited duration.[42] Since the present value of income is less the further in the future it is received, the ability of a copyright to allow an author to recover her production costs declines over time. Eventually the benefits from continued protection should become so small that the costs of creating an artificial scarcity of access would overcome them.[43] Limiting the duration of copyrights for this reason will mean that, to a small extent, fewer and worse copyrightable works will be produced, because authors will not be able to internalize the entire economic value of their works. It will also mean that some components of these works may be inefficiently exploited after the copyright in them ends. But these losses are made up for by the benefits of increased access to works. Limited duration can also solve the problem of overencouraging the production of copyrighted works, by reducing the monopoly rents that copyright holders enjoy.

B. Transaction Costs

Another cost of copyright protection is the resources that must be devoted to identifying and contracting with copyright holders in order to obtain licenses to use or consume their works. Certain limitations on copyright, most notably fair use, are probably tied to these costs. Fair use allows copying and distributing a copyrighted work for the purpose of "criticism, comment, news reporting, teaching . . . , scholarship, or research."[44] These uses would typically be allowed by a copyright holder for free or for a small fee. But often the transaction costs of obtaining the appropriate licenses would exceed the economic benefit to the licensee. Requiring licenses would simply mean that copying would not occur at all.[45] It is preferable, therefore, to allow copying without a license, even though this means authors will not recover the full economic value of the works they create, resulting in some underproduction of works and inefficient utilization of their components.[46]

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42. *See, e.g.*, Landes & Posner, *supra* note 8, at 361-63. This is currently the life of the author plus seventy years. *See* The Sonny Bono Copyright Term Extension Act of 1998, 17 U.S.C. 302(a) (2000).

43. In addition to deadweight loss, the transaction costs of copyright probably increase over time, since it is more difficult to identify and obtain licenses from the owner of a copyright the further in the past the work was created. *See* Landes & Posner, *supra* note 8, at 361-63.

44. 17 U.S.C. § 107 (2000).

45. *See* Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the* Betamax *Case and its Predecessors*, 82 COLUM. L. REV. 1600, 1615 (1982); William M. Landes, *Copyright, Borrowed Images, and Appropriation Art: An Economic Approach*, 9 GEO. MASON L. REV. 1, 10 (2000).

46. Transaction costs can include more than the simple costs of identifying and contracting with the owner of the copyrighted material. Some costs result from the inability of licensors to overcome collective action problems. Assume that you need one passage from ten canonical articles for your article on the same topic. Even if you can easily and cheaply identify the copyright holders of these articles, it may be difficult to get them to coordinate their prices for licenses in a way that would allow your article to go forward. To the extent that each passage makes the other nine passages more valuable to you, each licensor may demand this increase in value in the price of his license, resulting in a total price for licenses far in excess of their aggregate value. This is easiest to see by focusing on the extreme situation where each passage

Other examples of fair use can be explained not in terms of excessive transaction costs but by of the complementarity of the original and the copy. The review of a book, rather than being a substitute for the book, is actually its complement, in the sense that the demand for the book and the review rise or fall together.[47] This means that the reviewer does not appropriate the economic value of the book at all by copying. As a result, copyright protection in such cases is unnecessary.

C. Enforcement Costs

The final cost is that of administering and enforcing copyright protection, including the costs of adjudicating cases of infringement. An example of a limitation on copyright that results from balancing the benefits of copyright against this cost is the permissibility of copying a *de minimis* portion of a copyrighted work.[48] Even though the *de minimis* copier still can appropriate some of the economic value created by the author of the original, and so can discourage production of copyrighted works to some extent, this cost is small enough to be outweighed by the costs of adjudicating and enforcing copyright protection in such cases.

II. THE ORIGINALITY REQUIREMENT

With these benefits and costs of copyright in mind, let us hazard an economic account of the originality requirement for copyrightability.[49] Two things are required for originality. The first is "independent creation"—the material must be created by the author rather than borrowed from someone else.[50] The second is the requirement that the material "possesses at least some minimal degree of creativity,"[51] excluding

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is worthless without the inclusion of each of the other nine. Since each licensor will be inclined to demand the difference between the value of the passages with and without his contribution, the total price for the passages will be ten times their actual value. The coordination between the licensors needed to overcome this problem is itself a transaction cost. If this cost becomes too excessive, it may be better simply to allow borrowing without licenses, despite the fact that some underproduction will result. *See* Ben Depoorter & Francesco Parisi, *Fair Use and Copyright Protection: A Price Theory Explanation*, 21 INT'L REV. L. & ECON. 453 (2002).

47. *See, e.g.*, Ty, Inc. v. Publ'ns Int'l Ltd., 292 F.3d 512, 517-21 (7th Cir. 2002); Lessig, *supra* note 26, at 528.

48. *See, e.g.*, Vault Corp. v. Quaid Software Ltd., 847 F.2d 255, 267-68 (5th Cir. 1988).

49. 17 U.S.C. § 102(a) (2000).

50. Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 345 (1991). The independent creation requirement can be satisfied by a work that, by happenstance, is identical to another work, as long as it was not copied from it. Judge Learned Hand famously claimed that if another happened to compose a poem identical to Keats's *Ode on a Grecian Urn*, that person would be able to copyright the work. Sheldon v. Metro-Goldwyn Pictures Corp., 81 F.2d 49, 54 (2d Cir. 1936).

51. *Feist*, 499 U.S. at 345. Howard B. Abrams argues, in *Originality and Creativity in Copyright Law*, 55 LAW & CONTEMP. PROBS. 3, 9-14 (1992), that *Feist* was responsible for introducing a distinct creativity requirement, where previously only the independent creation requirement would have applied. Justice O'Connor argues that both the independent creation and creativity requirements are constitutionally mandated. *Feist*, 499 U.S. at 346. Congress has the power to enact laws to "secur[e] for limited Times to Authors . . . the exclusive Right to

material "in which the creative spark is utterly lacking or so trivial as to be virtually nonexistent."[52]

A. The Independent Creation Requirement

The "independent creation" requirement is easy to understand. It addresses a situation where the benefits of copyright protection are outweighed by the costs, for the simple reason that there are no benefits at all. If I did not create some material, but simply copied it from another author's work, then providing me with a property right in that material will do nothing to encourage future authors. Indeed, by rewarding copiers with property rights in the material they appropriated, a copyright regime without the independent creation requirement would, perversely, provide people with an *extra* incentive to copy other authors' works.

B. The Creativity Requirement

In contrast, the creativity requirement addresses a set of cases where copyright protection does provide benefits, but they are outweighed by transaction and enforcement costs.

1. Creativity, Economically Understood

Consider the case of *Magic Marketing, Inc. v. Mailing Services of Pittsburgh, Inc.*[53] Copyright protection was denied on creativity grounds to Magic Marketing's design for envelopes, which had bold black strips within which the words "GIFT CHECK," "TELEGRAM," and "PRIORITY MESSAGE" occurred in white letters.[54] Even when one assumes that this work was independently created, there are at least four reasons to think that the enforcement and transaction costs of protecting it outweigh the benefits.

The first two are reasons to think that the wealth that would be created by protecting such material would be minimal. The smaller the amount of wealth generated by protecting material, the more likely it is this wealth will be outweighed by the transaction and enforcement costs of protection.

The first and most obvious reason is that the material itself is worth little. Few people would be willing to pay much for what Magic Marketing had to offer. The second reason is that, whatever its market value, it involved very little cost (that is, psychological effort, time, and resources) to create. The less it costs to create material, the less likely it is that unauthorized copying will discourage the creation of similar

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their respective Writings . . . ." U.S. CONST. art. I, § 8, cl. 8. She argues that the *Trade-Mark Cases*, 100 U.S. 82, 94 (1879), determined originality, in the sense of independent creation and creativity, to be mandated by the Constitution's use of the word "writings," while *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 58 (1884), determined it to be mandated by the Constitution's use of the word "authors." *Feist*, 499 U.S. at 346.

52. *Feist*, 499 U.S. at 359.

53. 634 F. Supp. 769 (W.D. Pa. 1986); *cf.* Toro Co. v. R & R Prods. Co., 787 F.2d 1208, 1216 (8th Cir. 1986) (holding system of randomly assigning numbers to lawnmower replacement parts to lack originality).

54. *Magic Mktg.*, 634 F. Supp. at 771.

material in the future and thus the smaller the benefits of protection against copying. Furthermore, the easier material is to produce, the less people will be motivated to copy it in the first place. Even copying has some costs, particularly the search costs of finding and assessing candidates for copying. As the expected costs of independently creating material decline, it becomes more likely that competitors will simply create the material themselves.[55]

The third reason is its conventionality—that is, the likelihood that the material would be independently created by more than one person. The likelihood of parallel independent creation both reduces the benefits and increases the costs of protection. The benefits are reduced because even if the work is protected by copyright, its creator will still be unable to internalize its full economic value. The value of the work will have to be shared among all those who independently created it. The incentive to create the work will be further reduced, because of the very real chance that its author will nevertheless be found to have infringed upon some other author's copyright. Although independent creation remains a defense against a suit for infringement, juries routinely rely upon similarity when inferring copying, and so the chance of such a suit succeeding is not negligible.[56]

The likelihood of parallel independent creation also increases transaction costs. If material has been created only once, it is easier to identify the person from whom one should obtain a license. But if there are many creators of the material, someone seeking to insulate herself from an infringement suit must expend a great deal of time and effort tracing the ultimate provenance of the material she borrowed—or obtain a license from every creator. Furthermore, if the work is likely to be created by many people independently, the enforcement costs will be greater because the fact-finder in an infringement case will have to expend time and effort excluding the possibilities that the defendant came up with the work herself and that the plaintiff in fact copied the work from a third party.[57]

The fourth reason concerns the character of the work itself. It is very difficult to identify just what Magic Marketing added to those elements that it copied. Because the independently created material is difficult to identify, any attempt to protect it is likely to be overinclusive, protecting elements that were in fact copied. Overinclusiveness reduces the benefits of protection, by encouraging copiers to borrow from works created by others. Furthermore, the difficulty of delineating the material that was independently created increases transaction and enforcement costs because of the time and effort that both borrowers and courts must devote to identifying protected elements

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55. Of course, the costs of creating a work must take into account long-term choices concerning habit, lifestyle, and education. Much inadvertent creation would not occur had these costly long-term choices not been made. Therefore, an examination of the costs of creation must look to these long-term as well as short-term costs. It is undoubtedly for this reason that copyright law has long protected some inadvertently created works. *See, e.g.*, Alfred Bell & Co. v. Catalda Fine Arts, Inc. 191 F.2d 99, 105 (2d Cir. 1951) ("A copyist's bad eyesight or defective musculature, or a shock caused by a clap of thunder, may yield sufficiently distinguishable variations. Having hit upon such a variation unintentionally, the 'author' may adopt it as his and copyright it."); Rockford Map Pub., Inc. v. Directory Serv. Co. of Colo., 768 F.2d 145, 148 (7th Cir. 1985) (holding that copyright can be given to work of an instant).

56. *See* Lunney, *supra* note 3, at 509-17.

57. *Id.*

and determining their ultimate provenance.

Although refusing to protect works for these four reasons makes economic sense, these reasons overlap only imperfectly with the creativity requirement as it has been articulated by the courts.[58] The case law on the creativity requirement is muddled largely because courts have attempted to articulate the psychological nature of creativity, without considering the economic role that the requirement plays in balancing the benefits of copyright protection against the costs.

2. Creativity in the Courts

In general, three conceptions of creativity have emerged, each of which captures only some of the considerations outlined above. The first, which Justice O'Connor appears to apply in *Feist*, is a psychological requirement that one's work involve the "existence of . . . intellectual production, of thought, and conception."[59] This standard looks to the process of creation, demanding of it some appropriate psychological element. In addition to encouraging courts to engage in awkward and often embarrassing speculations about the creative process,[60] this standard directly captures only the idea that the creation of a work must be sufficiently costly. Indeed it does a poor job of capturing even this idea, since grunt work that lacks significant psychological creativity can be an important cost of creating a work. Nevertheless, it is very likely that courts, when applying this standard, also tend to take into account the other three considerations listed above. In particular, if a work is susceptible to parallel independent creation, then it is likely that a court will think it is too "conventional" to satisfy the creativity requirement.

A second conception is that of "distinguishable variation."[61] Rather than looking to the process of creation, this looks to the nature of the work itself to see whether the author has "contributed something more than a 'merely trivial' variation [on its public domain constituents], something recognizably 'his own.'"[62] This appears to directly capture the fourth aspect of creativity only, although once again, it probably indirectly captures the other three considerations listed above, particularly the requirement that

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58. *See generally*, Mitzi S. Phalen, *How Much is Enough? The Search for a Standard of Creativity in Works of Authorship Under Section 102(a) of the Copyright Act of 1976*, 68 NEB. L. REV. 835 (1989); Russ VerSteeg, *Rethinking Originality*, 34 WM. & MARY L. REV. 801 (1993).

59. Feist Publ'ns Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 362 (1991) (quoting Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53, 59-60 (1884)). A psychological test of creativity has been employed in many copyright cases. *See, e.g.*, Baltimore Orioles, Inc. v. Major League Baseball Players Ass'n, 805 F.2d 663, 668 n.6 (7th Cir. 1986) ("A work is creative if it embodies some modest amount of intellectual labor."); Amsterdam v. Triangle Publ'ns, Inc., 189 F.2d 104, 106 (3d Cir. 1951) ("[I]n order for a map to be copyrightable its preparation must involve a modicum of creative work.").

60. For criticism of the psychological standard, see Robert A. Gorman, *Copyright Protection for the Collection and Representation of Facts*, 76 HARV. L. REV. 1569, 1603 (1963); VerSteeg, *supra* note 58, at 818-24 (criticizing vagueness of psychological creativity standard).

61. Atari Games Corp. v. Oman, 979 F.2d 242, 246 (D.C. Cir. 1992); Alfred Bell & Co. v. Catalda Fine Arts, Inc., 191 F.2d 99, 102 (2d Cir. 1951); *see also* Andrews v. Guenther Pub. Co., 60 F.2d 555, 557 (S.D.N.Y. 1932).

62. *Alfred Bell*, 191 F.2d at 102-03.

the work not be susceptible to parallel independent creation.

A final candidate is what we can call the "copyworthiness" standard, although this is less a standard for creativity than evidence in favor of creativity. Admitted copiers of material are often estopped from introducing the defense that the borrowed material lacked creativity, on the ground that its "copyworthiness" is strong evidence that it was sufficiently creative to be protected.[63] This criterion best captures the requirements that material be valuable and costly to produce, since material that fails to satisfy these requirements is unlikely to be thought worthy of copying.

III. THE IDEA/EXPRESSION DISTINCTION

If the creativity requirement can be given an economic justification, what about the idea/expression distinction?[64] One problem is determining which elements of a work are ideas and which are expression. The distinction is universally recognized to be blurry[65]—and indeed is sometimes claimed to be unanalyzable.[66] This means that we must engage in two related inquiries at the same time: determining what material falls within the scope of the term "idea" and determining why that material should be refused protection.

A. Ideas and Thoughts

One argument that stands in the background of much discussion of the idea/expression distinction is that ideas are equivalent to *thoughts* and that thoughts should not be protected, most notably because of First Amendment considerations.

Outside copyright law having an idea often means having a thought,[67] in the sense of mentally representing certain states of affairs.[68] Furthermore, the term "expression" often means putting thoughts into a public medium of communication. To express a thought is to generate something external to the self (writing, speech, pictures) that communicates the thought to others by representing the same states of affairs that the thought does. For example, if I have the "idea" of Superman, I can "express" that idea

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63. *See* Drop Dead Co. v. S.C. Johnson & Son, Inc., 326 F.2d 87, 93 (9th Cir. 1963) (finding that defendant's desire to copy plaintiff's copyrighted "Pledge" label was sufficient evidence of label's creativity).

64. *See generally* 17 U.S.C. § 102(b) (2000) ("In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work."); Mazer v. Stein, 347 U.S. 201, 217 (1954); Baker v. Selden, 101 U.S. 99, 102-03 (1880); Nichols v. Universal Pictures Corp., 45 F.2d 119, 121 (2d Cir. 1930).

65. *See, e.g.*, Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240, 1253 (3d Cir. 1983); CARDOZO, *supra* note 11, at 174; Kurtz, *supra* note 11, at 1225; Libott, *supra* note 11, at 738.

66. *See* Peter Pan Fabrics, Inc. v. Martin Weiner Corp., 274 F.2d 487, 489 (2d Cir. 1960); *Nichols*, 45 F.2d at 121 ("Nobody has ever been able to fix that boundary, and nobody ever can."); Yen, *supra* note 11, at 396-97.

67. *See* Kurtz, *supra* note 11, at 1241-51.

68. These states of affairs need not exist nor be considered to exist by the person thinking, of course: I can have *fictional* thoughts.

by publicly disseminating writing, speech, or pictures that represent Superman.

Copyright scholars commonly speak of the idea/expression distinction as if it were equivalent to this distinction between thoughts and their communication in a public medium[69]—perhaps because it makes otherwise thorny First Amendment problems evaporate. For example, Nimmer argues that copyright law, although putting clear limitations on one's liberty of expression, is not in tension with the First Amendment, because the ideas expressed are not protected, and only ideas are of First Amendment concern: "It is exposure to ideas, and not to their particular expression, that is vital if self-governing people are to make informed decisions."[70]

Certainly it is exposure to *thoughts* that is vital for First Amendment purposes and if copyright does not prevent thoughts from being exchanged freely between people, it is unlikely to generate First Amendment concerns. But copyright does limit the free exchange of thoughts. Consider the thought (or set of thoughts) about what every character said and did in the novel *Gone with the Wind*.[71] I am obviously limited in my ability to bring about this thought in other people through a public medium of communication. Were I to publicly disseminate this thought in *any* medium (a novel, a movie, a comic book), it would be a clear case of copyright infringement.[72]

This should not surprise us. As we have seen, a copyright exists to allow an author to internalize the economic value of the work she created. Many works are *representational*, in the sense that their primary value to consumers is their ability to represent states of affairs, either fictional or factual. When I read a novel, I do not merely enjoy the words on the page—the way I would enjoy sounds when listening to a symphony—I also, indeed primarily, enjoy the fictional states of affairs these words represent.

Therefore competitors can appropriate the economic value of a work not merely by copying its physical form (for example, its words), but also by copying the states of affairs that the physical form represents. A book can infringe upon another book even if the two do not share the same words, provided that they have the same characters,

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69. *See* Jed Rubenfeld, *The Freedom of Imagination: Copyright's Constitutionality*, 112 YALE L.J. 1, 13-14 (2002). On conflicts between copyright and the First Amendment, see C. Edwin Baker, *First Amendment Limits on Copyright*, 55 VAND. L. REV. 891 (2002); Yochai Benkler, *Free as the Air to Common Use: First Amendment Constraint on Enclosure of the Public Domain*, 74 N.Y.U. L. REV. 354 (1999); Litman, *Public Domain*, *supra* note 9; Netanel, *supra* note 29; Diane Leenheer Zimmerman, *Information As Speech, Information As Goods: Some Thoughts on Marketplaces and the Bill of Rights*, 33 WM. & MARY L. REV. 665 (1992).

70. Melville B. Nimmer, *Does Copyright Abridge the First Amendment Guarantees of Free Speech and Press?*, 17 UCLA L. REV. 1180, 1191 (1970). Fair use is also often presented as a way of accommodating copyright with the First Amendment. *See, e.g.*, Robert C. Denicola, *Copyright and Free Speech: Constitutional Limitations on the Protection of Expression*, 67 CAL. L. REV. 283, 293-99 (1979).

71. MARGARET MITCHELL, GONE WITH THE WIND (McMillan Anniversary ed., 1975) (1936).

72. In Alice Randall, *The Wind Done Gone* (2001), the author makes use of the characters, plot, and major scenes of the novel *Gone with the Wind* but views them from the perspective of a slave in order to critique that work. It is not the same as the hypothetical work under consideration, since its critical approach means that the thoughts it communicates are substantially different from the thoughts communicated by *Gone with the Wind*. It is very likely an example of fair use. *See* Suntrust Bank v. Houghton Mifflin Co., 268 F.3d 1257, 1277 (11th Cir. 2001).

plot, and setting. By the same token, a Superman comic book can be infringed by a movie about Superman because the two represent Superman, even though the movie and the comic book share no physical form in common.

We must therefore conclude that "ideas," as this term is used in copyright law, are not equivalent to thoughts. Some thoughts, such as the thought of Superman, are protected expression, in the sense that these thoughts cannot be conveyed through a public medium of communication without risking copyright infringement. Other thoughts, such as the thought of a superhero, are unprotected ideas, in the sense that they can be conveyed without fear of infringement.[73]

Indeed, if ideas were equivalent to thoughts, the merger doctrine would lapse into incoherence. According to the merger doctrine, if there are only a few ways of expressing an idea, then the expression itself is denied protection, even if it would be protected if it were considered on its own. For example, in the case of *Baker v. Selden*, a chart was the means by which the unprotected idea (an accounting method) was expressed.[74] Prima facie, one would have thought that the chart itself would be protected against copying. But because the accounting method could be expressed only through the chart, the chart lost copyright protection as well.[75]

The language of the merger doctrine reinforces the view that expression is somehow always a public means of communication and the idea is always the thought communicated. But if that were the case, then no expression would be protected. Consider the words in the novel *Gone with the Wind*.[76] These words communicate a unique set of thoughts about what the characters in that novel said and did. If this set of thoughts is considered at a sufficient level of concreteness and specificity, only the actual words used in the novel could communicate it. Genuine synonyms are, after all, extremely rare. The "ideas" communicated by the novel would have merged with the means of expressing them.[77]

But once it is recognized that some thoughts are ideas and others expressions, the merger doctrine makes a good deal of sense. One must refuse protection to a means of communication if it is one of the few ways of communicating an *unprotected* thought. Although any means of communication will merge with a thought that is sufficiently concrete and particular, these concrete and particular thoughts are protected expression, not unprotected ideas.

It remains possible that the idea/expression distinction nevertheless plays an important role in avoiding conflict with the First Amendment, because those thoughts that are labeled ideas will be those whose free communication are most important from a First Amendment perspective. But the line cannot be drawn, and the First Amendment cannot be trivially satisfied, by equating the idea/expression distinction

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73. *See* Lloyd L. Weinreb, *Copyright for Functional Expression*, 111 HARV. L. REV. 1150, 1169-70 (1998).

74. 101 U.S. 99, 102-03 (1880).

75. *Id. See also* Herbert Rosenthal Jewelry Corp. v. Kalpakian, 446 F.2d 738, 742 (9th Cir. 1971) (applying the merger doctrine to jeweled bee pin); Morrissey v. Procter & Gamble Co., 379 F.2d 675, 678-79 (1st Cir. 1967) (applying the merger doctrine to verbal representation of contest rules).

76. MITCHELL, *supra* note 71.

77. *Cf.* Wiley, *supra* note 11, at 123 (arguing that the merger doctrine is incoherent because ideas and expression are uniquely correlated).

with the distinction between a thought and its communication.[78]

B. Ideas and the Independent Creation Requirement

We clearly need another method of distinguishing ideas and justifying why they should be denied protection. One possibility is the independent creation requirement. As we have seen, it follows from copyright's economic purpose that an author should receive a copyright only in material that she created. If a component of an author's work was not independently created by her, she should not receive a copyright in it, since such protection will do nothing to stimulate the creation of new components in the future.

Many copyright cases that appeal to the idea/expression distinction could have been decided on the basis of a lack of independent creation. Consider *Nichols v. Universal Pictures Corp.*[79] This was an infringement suit brought by the author of the play *Abbie's Irish Rose* against the producer of the movie *The Cohens and the Kellys*. Both the play and the movie concerned the marriage between a child of a Jewish and a child of an Irish family, conflict between the families, birth of grandchildren, and ultimate reconciliation.[80] When arguing that the elements that the two works have in common were not protectable, Judge Hand suggests that they were not independently created by the plaintiff: "If the defendant took so much from the plaintiff, it may well have been because her amazing success seemed to prove that this was a subject of enduring

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78. There is another everyday distinction between idea and expression that tends to muddle the distinction as it is used in copyright law, particularly in connection with non-representational works. "Expression" can often mean bringing to fruition or making concrete a general intention. This intention, in turn, is often called one's "idea." Thus "expressing one's idea" can mean taking one's general conception of what one's work should be like and giving this conception greater detail by providing an example of its concrete instantiation. Courts often equate the idea/expression distinction with this distinction between conception and realization by suggesting that the general conception of the work one wants to create cannot be protected by copyright, but the particulars of one's realized creation can be. This is particularly true for computer programs. *See, e.g.* Apple Computer, Inc. v. Franklin Computer Corp. 714 F.2d 1240, 1253 (3d Cir. 1983) ("If other programs can be written or created which perform the same function as Apple's operating system program, then that program is an expression of the idea and hence copyrightable."). The court appeared to suggest that the idea is the programmer's conception, namely to create a program that performs a certain function, and the expression is how that conception is realized.

But a conception could be so specific and detailed (a complete blueprint for the work itself) that it would have to contain protected elements. By the same token, there may be elements of a work that were created only during the process of realization that can nevertheless be borrowed by competitors without fear of copyright infringement. A conception can be expression and a realization can be an idea.

79. 45 F.2d 119, 121 (2d Cir. 1930).

80. *Cf.* Walker v. Time Life Films, Inc., 784 F.2d 44, 50 (2d Cir. 1986) (holding that depictions of "cockfights, drunks, stripped cars, prostitutes and rats; . . . third- or fourth-generation Irish policemen who live in Queens and frequently drink; [and] disgruntled, demoralized police officers and unsuccessful foot chases of fleeing criminals" in book about South Bronx are ideas).

popularity."[81] The plaintiff, he suggests, simply borrowed these elements from other works herself.[82]

Hand makes the same point concerning the plaintiff's characters. He notes that

> [i]t is indeed scarcely credible that [the plaintiff] should not have been aware of those stock figures, the low comedy Jew and Irishman. The defendant has not taken from her more than their prototypes have contained for many decades. . . . [T]o generalize her copyright, would allow her to cover what was not original with her.[83]

The characters, he argues, were simply lifted by the plaintiff from other works.

Many copyright scholars also suggest that at least some ideas should not be protected because they are not independently created. For example, Landes and Posner offer as an example of ideas a novelist

> combining stock characters and situations (many of which go back to the earliest writings that have survived from antiquity) with his particular choice of words, incidents, and dramatis personae. [The novelist] does not create the stock characters and situations, or buy them. Unlike the ideas for which patents can be obtained, they are not new and the novelist acquires them at zero cost, either from observation of the world around him or from works long in the public domain.[84]

But lack of independent creation is clearly not sufficient either to identify ideas or to justify why they should be refused protection. After all, those ideas that are currently in the public domain must have been originally created at *some* time. The independent creation of an idea is clearly *possible*. The question therefore remains why these independently created ideas should not be protected.

It is doubtless for this reason that Hand argues in *Nichols* that even on the implausible assumption that the themes in the plaintiff's play were independently created by her, they nevertheless should be denied protection:

> [G]ranting that the plaintiff's play was wholly original . . . there is no monopoly in such a background. Though the plaintiff discovered the vein, she could not keep it to herself; so defined, the theme was too generalized an abstraction from what she wrote. It was only a part of her "ideas."[85]

Even if they were independently created, the ideational character of these elements is sufficient to deny them protection. The idea/expression distinction cannot be reduced to the independent creation requirement.

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81. *Nichols*, 45 F.2d at 122.

82. *Id.* It is for this reason that some have sought to reduce the idea/expression distinction to the independent creation requirement. *See* Wiley, *supra* note 11, at 156-66; Douglas Y'Barbo, *The Heart of the Matter: The Property Right Conferred by Copyright*, 49 MERCER L. REV. 643, 668-73 (1998).

83. *Nichols*, 45 F.2d at 122.

84. Landes & Posner, *supra* note 8, at 349-50.

85. *Nichols*, 45 F.2d at 122.

C. Ideas and the Creativity Requirement

A more promising justification for refusing to protect ideas is precisely the same set of concerns standing behind the creativity requirement. In the courts, a primary criterion for distinguishing ideas from expression has been abstractness.[86] And abstract material tends to be uncreative in the sense outlined in Part II: It is cheap to produce, susceptible to parallel independent creation, and difficult to distinguish from material that was not independently created. All these are reasons to deny it protection, because the benefits are likely to be outweighed by transaction and enforcement costs.

Consider the idea of a superhero. Anyone who creates the character Superman will create the idea of a superhero as well. This suggests that, at times, ideas may be created inadvertently in the course of creating expression. Even if that is not true, the cost of creating ideas will generally be low compared to the cost of creating expression. Ease and inadvertence of creation, as we have seen, are reasons to deny protection to material, since they mean that the possibility of copying will do little to discourage the material's creation.[87]

Furthermore, the more abstract material is, the more vulnerable it is to multiple independent creations. The chance of abstract material being independently created by any one person is the *sum* of that person's chances of independently creating each of the concrete examples that fall under it. For example, my chance of independently creating the idea of a superhero is the sum of the chances of my independently creating each particular superhero—my chance of creating Superman *plus* my chance of creating Aquaman *plus* my chance of creating the Green Lantern, and so on. The more abstract material becomes, the more likely it is that more than one author is going to come up with it.

As we have seen, parallel independent creation increases the costs and reduces the benefits of protection. For example, if material is likely to be created only once, it is easier to identify the person from whom one should obtain a license. If there are many creators of the material, however, someone seeking to insulate herself from an infringement suit must expend a great deal of time and effort tracing the ultimate provenance of the material she borrowed—or obtain a license from every possible creator.[88]

Finally, abstract material is difficult to distinguish from material that was not independently created by the author. Consider Dashiell Hammett's creation of the "hard-boiled" detective story. It is undoubtedly true that there is *something* new for which Hammett was responsible. Hammett was the first to take "murder out of the Venetian vase and drop[ ] it into the alley. . . . [He] gave murder back to the kind of people that commit it for reasons, not just to provide a corpse; and with means at hand, not with hand-wrought dueling pistols, curare and tropical fish."[89] But how can one identify what he added to public domain elements? He did not create the idea of murder, or the idea of a detective, or even the idea of being hard-boiled. There appears to be no way to identify and protect what he did create that would not greatly increase

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86. *Id.* at 121; Lotus Dev. Corp. v. Paperback Software Int'l, 740 F. Supp. 37, 60-61 (D. Mass. 1990); Kurtz, *supra* note 11, at 1243-51.

87. *See supra* text accompanying note 10.

88. *See* Lunney, *supra* note 3, at 510-17.

89. RAYMOND CHANDLER, THE SIMPLE ART OF MURDER 14 (Vintage Books 1988) (1950).

the transaction and enforcement costs of protection.

Therefore, to the extent that abstractness is, at least with respect to fictional works, a reasonable method of identifying ideas, a lack of creativity is a strong reason to deny them protection. It is not surprising, therefore, that copyright scholars often claim that ideas should not be protected for reasons that amount to a lack of creativity.[90]

D. Ideas and the Building-Block Argument

But the role that ideas can play as components of future works might also be a reason to refuse them protection, provided that we can surmount our second puzzle. The puzzle was how the *value* of ideas for future works could be a reason to deny them protection. To be sure, the value of a component for future works would mean that the monopolization costs associated with protecting the component would be great. Restricting access to valuable components through property rights will mean that many valuable works will not be produced. Underutilization costs will be greater than they would be for copyrights in components that are not valuable. Furthermore, the monopoly rents enjoyed by the owner of a valuable component could overencourage entry and motivate inefficient expenditures on the part of authors to capture these rents.[91]

But it is hard to see how these monopolization costs could justify a categorical refusal to protect ideas. If ideas are valuable components for future works, completely rejecting property rights in them would also have great costs. If, as a result of refusing to protect an idea, it is not produced at all, all the valuable works that depend upon it will also not be produced. If the worry is monopolization costs, then the rational response would be to limit the length of copyrights in ideas. This, after all, was how monopolization costs concerning copyrights in expression were addressed.

Once ideas are identified on the basis of their abstractness, however, rather than their "value" for future authors, there is a reason to believe that the *transaction* costs of

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90. Landes & Posner, *supra* note 8, at 348-49.

91. Landes and Posner are examples of copyright scholars who suggest that ideas would be overproduced if they were copyrighted. Copyrights in ideas, they argue, would create "a mad rush to develop and copyright ideas. Resources would be sucked into developing ideas with minimal expression, and the ideas thus developed would be banked in the hope that a later author would pay for their use." *Id.* at 349. The same thing could be true of copyrights in facts.

It is important, however, to distinguish genuine overproduction from a mad rush to claim property rights in *preexisting* facts, a problem that could be avoided by demanding, as one demands of expression, that only facts that were independently created by the author could be copyrighted. Furthermore, simply because a mad rush to develop facts might occur would not, by itself, mean that they were overproduced. People might simply be making up for the previous *under*production of facts that resulted from their lack of protection by property rights. Because of this underproduction, there would very likely be an unusually large number of opportunities to produce valuable facts at relatively low cost.

The situation would be analogous to the sudden introduction of property rights in gold. Without such property rights, no one would have had an incentive to mine gold, even when this could be done cheaply. As a result, a good deal of gold would lie near the surface. When property rights in gold were introduced, these opportunities to mine gold cheaply would naturally generate a gold rush that diverted labor and resources from other activities. But this gold rush would not mean that property rights in gold were overencouraging its production.

protection will exceed the benefits. The more abstract material is, the more likely it is to be borrowed by many authors. More authors are likely to find the idea of a superhero to be useful in creating their works than the character Superman. For this reason, the transaction costs of protection will rise. On the other hand, the same abstractness makes the material *less* valuable to each person using it. People would be willing to pay less for the thin idea of a superhero than the rich character of Superman. Increasing transaction costs *combined* with decreasing value to the borrowers means that eventually the transaction costs will overwhelm the benefits of protection, making a categorical refusal to protect the economically reasonable choice.[92]

There remains, however, the argument for protecting ideas not as a means to ensure that they are produced but to ensure that their value is not exhausted in low-quality works.[93] If the use of the component cannot be prohibited by an owner, authors may as well use the component in low-quality works before their fellow authors do the same. Since abstractness makes material more likely to be a component in multiple works, it would appear that ideas should be protected after all.

Although this argument does provide a reason to protect material, such as the character Superman, that has a certain level of abstractness, it also provides a reason to refuse to protect components, such as the concept of a superhero, that are even more abstract. At a very high level of abstractness the value of the component to consumers is likely to be inexhaustible, in the sense that the presence of the component in a work does not reduce at all the value of future works containing the component. Although the value of the character Superman can be dissipated, it is not likely that the value of the concept of a superhero can. Consumers probably have an unending capacity to accept works about superheros. There is, therefore, no reason to create a property right in the concept of a superhero in order to ensure its efficient use. Indeed, the division between those components of works that are ideas and those that are expression can, in large part, be determined by whether the component's value is exhaustible or not.

IV. FACTS

We now have an economically respectable interpretation of the two principles that have been used to reject copyrights in facts. But before determining whether facts should indeed be refused protection, I will provide a brief account of what it would mean for there to be copyrights in facts and discuss a very uncontroversial reason that many facts cannot be copyrighted.

A. What Are Copyrights in Facts?

Both factual and fictional works are representational. Their primary value to consumers is not the physical characteristics of the medium doing the representing

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92. *Cf.* LESSIG, *supra* note 19, at 104-08, 213-15; Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 HARV. L. REV. 621, 640 (1998); J.H. Reichman, *Of Green Tulips and Legal Kudzu: Repackaging Rights in Subpatentable Innovation*, 53 VAND. L. REV. 1743, 1776 (2000); J.H. Reichman & Jonathan A. Franklin, *Privately Legislated Intellectual Property Rights: Reconciling Freedom of Contract with Public Good Uses of Information*, 147 U. PA. L. REV. 875, 967-69 (1999).

93. *See supra* text accompanying note 21.

(e.g., words or pictures), but the states of affairs represented. And with respect to both types of work, determining *what* states of affairs to represent can take a good deal of time and effort. The author of a fictional work spends his time and effort choosing states of affairs that are entertaining. The author of a factual work spends her time and effort choosing states of affairs that line up as closely as possible with what reality is like.

Because it is represented states of affairs that consumers primarily value in a representational work, the economic value of such a work can be appropriated by anyone who represents the same states of affairs, even when the original and the copy are quite dissimilar in other respects. We have already seen this in connection with fictional works. Even if two novels share few words in common, they can be close substitutes if what they are *about*—their plots, characters, and setting—is the same. Therefore, to encourage authors to expend effort coming up with new represented states of affairs, the represented states of affairs themselves must be protected against copying.

The same point applies to factual works. Assume, for example, that you are the first person to have investigated illegal drug usage among doctors. You communicate your discoveries through a work that contains the following sentence:

> The incidence of substance abuse among doctors is higher than average.

I can appropriate most of the economic value of this sentence by including the following sentence in my own work:

> Being a physician means you are more likely to be a drug addict.

I have appropriated the value of your sentence by representing the same state of affairs, even though my sentence and yours share no words in common. Accordingly, if copyright law protects only the physical form and words of factual works against copying, and fails to protect the factual states of affairs represented, it looks as if authors will lose the incentive to expend resources determining what factual states of affairs to represent. You may no longer bother investigating illegal drug usage among doctors. Therefore, there is a prima facie reason to protect what a factual work represents, just as there is a reason to protect what is represented by fictional works, such as character, plot, and setting.

The argument for copyrights in facts as a means of encouraging authors to efficiently *utilize* these represented states of affairs as components in works has less plausibility, however. Although factual states of affairs, like fictional states of affairs, can be components in numerous works, their value as components appears to be less prone to exhaustion through overuse. This is true for two reasons. The first is that reality is always in style. Although consumers may tire of a fictional Superman, if it turned out that Superman were real, there would always be some interest in his exploits. The second reason is that, unlike authors of fiction, the authors of factual works are less able to spin out works based on a component until consumers become tired of it. Although the value of a fictional Superman might be exhausted through overuse, if Superman turned out to be real, the number of stories about him that authors could generate would be limited by what this real Superman, in fact, did. This would limit the possibility of consumer fatigue.

But copyrights in represented factual states of affairs still appear justified, as a

means of encouraging authors to undertake the production costs of determining what states of affairs to represent. Copyright protection for the content of fictional works can provide us with a model of copyrights in facts. To say that an author has a copyright in the character Superman is to say that works by other authors are prohibited if they represent Superman—unless they do so as a result of independent creation, without reliance on the copyrighted work.[94] By the same token, to say that you have copyrighted the fact that the incidence of substance abuse among doctors is higher than average is to say that works by other authors are prohibited if they represent that state of affairs, unless they do this as a result of independent creation, without reliance on your work.

These protected facts should include not merely those that we believe succeed in lining up with what reality is like, but, more broadly, those that are treated by the author or consumer as proper candidates for acceptance as correct. For material can be valued as factual, because it is considered correct, even if it is actually false. By the same token, material can be valued as fictional—for example, because it is entertaining—even if it turns out to be true.

This understanding of a fact is employed in the current copyright regime as well. The contents of incorrect or fanciful depictions of the world have been denied protection on the grounds that they were facts, because they were presented as facts. Consider the case of *Silva v. MacLaine*.[95] The plaintiff charged the defendant, Shirley MacLaine, with borrowing material from his book *Date with the Gods* when writing her book *Out on a Limb*. The borrowed material concerned the plaintiff's Peruvian encounters with an extraterrestrial woman named Rama (Mayan in MacLaine's book) and his theory that astral projection occurs when certain subatomic particles out of which the soul is composed, called ananas and anionites, separate from the body.[96] The court claimed that Silva was barred from representing the work as fiction for infringement purposes, given that "[t]he clear implication of the book is that he actually met an extraterrestrial and is conveying her teachings to his readers."[97]

This makes sense. If material had to be true to be denied protection, fact finders would have to engage in difficult and often irresolvable empirical inquiries in order to determine copyrightability. But, what is more important, this approach makes sense because the real difference between factual and fictional material is not the extent to which it is true, but the reason the material is valued by consumers.[98] Consumers value

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94. Subject, of course, to the usual defenses, such as independent creation, fair use, or de minimis copying.

95. 697 F. Supp. 1423 (E.D. Mich. 1988).

96. *Id.* at 1425.

97. *Id.* at 1430. *Cf.* Oliver v. Saint Germain Found., 41 F. Supp. 296 (S.D. Cal. 1941) (holding that "factual" material allegedly dictated to plaintiff by extraterrestrial spirit with the name Phylos, the Thibetan, not protected).

98. For this reason, it is common for courts to treat material as factual if the alleged infringer reasonably believed it was factual, even if the original author took it to be fictional. *See* Marshall v. Yates, 223 U.S.P.Q. (BNA) 453 (C.D. Cal. 1983) (holding that defendants' movie of life of actress and political activist was not an infringement of fictional elements in book on same topic because of defendant's reasonable reliance on book's factuality); Mosley v. Follett, 209 U.S.P.Q. (BNA) 1109 (S.D.N.Y. 1980) (holding that defendant's use in his novel of fictional material from plaintiff's book about famous German spy not infringement due to

factual material as a guide for their action and in order to satisfy their curiosity about what the world is like. The reasons for their valuing fictional material are more aesthetic and recreational.

A copyright in a fact would restrict the ability of consumers to enjoy and use a represented state of affairs by prohibiting their access to unauthorized works that represent the same state of affairs. In contrast, a *patent* on the fact would not prohibit other authors from creating and distributing works that represented the patented fact. Although a particular manufacturing method may be patented, anyone may publish a work describing that method.[99] The prohibition would be only upon commercial use of the fact. If the primary motivation for representing a state of affairs is this possibility of commercial use, rather than creating and distributing works that represent the state of affairs, then a patent will be in order, not a copyright. Because the commercial use of a represented state of affairs does not require its dissemination, trade secrecy can be an alternative to patent.[100] It is not an alternative to copyright.

B. Reverse Merger

To have copyrights in facts, therefore, means having the power to prohibit competitors from representing the same factual states of affairs that one's work represents, even if the physical form or words of the competitor's work differ from one's own. Of course, even if facts are *not* copyrightable, copying all or some of the physical form or words of a factual work can constitute copyright infringement. Under current copyright law, I may not copy a textbook word for word, even if I can copy the states of affairs that the textbook represents. Conversely, even if facts *were* copyrightable, copying some of the words or other physical form in a work might *not* constitute copyright infringement, provided that these words or physical form failed to satisfy the standards for copyrightability. And this possibility, I shall argue, means that many facts will not be copyrightable for a reason that has nothing to do with the broader question of the costs and benefits of protecting facts.

At a certain level of detail the components of the physical form or words of a factual work will be unprotected. Consider the following phrase: "DC, 8/21/02, high 94°." According to traditional copyright principles the state of affairs represented by this phrase is not copyrightable. But it is also a basic principle of copyright law—

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reasonable reliance on that book's being wholly factual); Huie v. Nat'l Broad. Co., 184 F. Supp. 198 (S.D.N.Y. 1960) (holding that defendant's television script about Native American war hero did not infringe upon plaintiff's book on same topic even though fictional material from book was used, since such material was represented as factual). *See also* Collins v. Metro-Goldwyn Pictures Corp., 106 F.2d 83 (2d Cir. 1939); Oxford Book Co. v. Coll. Entrance Book Co., 98 F.2d 688 (2d Cir. 1938). In some cases, the reasonableness of the reliance has not been treated as necessary. All that seems to be required is that the potential infringer's reliance was in good faith. *See* Arica Inst., Inc. v. Palmer, 970 F.2d 1067 (2d Cir. 1992); Lake v. Columbia Broad. Sys., Inc., 140 F. Supp. 707 (S.D. Cal. 1956); NIMMER & NIMMER, *supra* note 1, § 2.11[C]. For a criticism of such cases, see Denicola, *supra* note 13, at 526 n.52.

99. 35 U.S.C. § 102 (2000).

100. Christopher T. Kent, Casenote, *Reducing the Scope of Patent Protection and Incentives for Innovation Through Unfair Application of Prosecution History Estoppel and the Recapture Rule*, 10 GEO. MASON L. REV. 595, 625 n.196 (2002).

having nothing to do with the refusal to protect facts—that the simple series of letters and numerals itself is not copyrightable as well.[101] Similarly short phrases in fictional works are also unprotected.

To say that the short phrase is unprotected is to say that another author will not be liable for copyright infringement even if she borrows the short phrase to use in her work. The most persuasive reasons for this rule are those standing behind the creativity requirement, in particular the likelihood of parallel independent creation. The shorter the series of letters or numerals, the more likely it is that a number of people will stumble upon it. But whatever the reason, this refusal to protect short phrases is a bedrock principle of copyright law that has nothing directly to do with a refusal to protect the states of affairs these short phrases represent.

But once a short phrase is unprotected, it follows necessarily that what it represents is also unprotected. No matter how many good reasons there might be to protect what is represented by the phrase "DC, 8/21/02, high 94°," if someone is free to copy that phrase itself, then this fact cannot possibly be protected.

Let us call this phenomenon the *reverse merger doctrine*. According to the *merger doctrine*, if there are only a few ways of communicating unprotected content, the means of communication, although prima facie protectable, will be denied protection as well.[102] For example, in the case of *Baker v. Selden*,[103] a chart was the means by which an unprotected accounting method was communicated. Prima facie, one would have thought that the chart itself would be protected against copying. But because the accounting method could be communicated only through the chart, the chart lost copyright protection as well.[104]

In the *reverse merger doctrine*, it is the means of communication that is clearly without protection and the communicated content that is prima facie protectable. The reverse merger doctrine holds that if a means of communication (e.g., a short phrase) is unprotected, the content communicated by it must also be unprotected. The idea behind reverse merger is that any attempt to protect the content would be fruitless, since there will always be a noninfringing avenue for publicly communicating it.

The reverse merger doctrine has probably gone unnoticed up to this point because facts themselves, not merely the short phrases that represent facts, have been denied protection. But once there is a reason to think that facts *should* be protected, the reverse merger doctrine can still exclude many facts from the scope of copyright protection.

Due to reverse merger, there will be an inherent limitation on copyright's ability to protect not just facts, but also fictional states of affairs. If the states of affairs can be communicated in short phrases, they will be unprotected. Even if the character of Superman is protected, many individual chunks of Superman content can be freely communicated through short phrases about Superman that are themselves unprotected.

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101. Indeed, Copyright Office regulations deny copyright registration to "[w]ords and short phrases such as names, titles, and slogans . . . ." 37 C.F.R. § 202.1 (2002); *see also* Bell v. Blaze Magazine, 58 U.S.P.Q.2d (BNA) 1464 (S.D.N.Y. 2001).

102. *See supra* text accompanying note 72.

103. 101 U.S. 99, 99 (1880).

104. *Id.*

C. Feist *on Facts*

But the reverse merger doctrine is clearly not enough to justify a broad refusal to protect facts, since many facts can be conveyed only through sentences or groups of sentences that would be protected against verbatim copying by traditional copyright principles. We need a stronger argument against the protection of facts. The best place to begin is O'Connor's argument, in *Feist Publications, Inc. v. Rural Telephone Service Co.*,[105] that facts are not original.

1. Facts and the Independent Creation Requirement

In some parts of her opinion, O'Connor argues that facts are not original because they are not independently created:

> [F]acts do not owe their origin to an act of authorship. The distinction is one between creation and discovery: The first person to find and report a particular fact has not created the fact; he or she has merely discovered its existence. . . . Census takers, for example, do not "create" the population figures that emerge from their efforts; in a sense, they copy these figures from the world around them. Census data therefore do not trigger copyright because these data are not "original" in the constitutional sense. The same is true of all facts—scientific, historical, biographical, and news of the day.[106]

O'Connor's argument begins with the perfectly correct observation that reality—for example, the people living on a certain block—is not created by the census taker when he describes it. Furthermore, O'Connor is right that the census taker's description is, in some sense, an act of *copying* reality. This is because, unlike the creative writer, he is attempting to represent what reality is like. Like the creator of any factual work, he has succeeded in his endeavor when the states of affairs he represents line up with the way reality actually is.

O'Connor's mistake is that she equivocates between the "copying" of reality by means of which the census taker's represented states of affairs are created and the "copying" of another *work* that would mean that these states of affairs would fail the independent creation requirement. If the census taker had chosen to represent that forty-three people live on a certain block because that was what another factual work said, then he could not claim a copyright in this fact, because he did not create it. A third author who copied the census taker's facts would not be appropriating economic value that the census taker created. The copier would not be free riding upon the census taker's efforts, because they both faced the same costs—namely, the costs of copying another work.

In contrast, when the census taker "copies" reality, he creates something that did not exist before. The representation that forty-three people live on a certain block did not exist until he created it. Furthermore, the costs involved in creating this representation are not insignificant and are certainly greater than the costs faced by someone who simply lifts this information from the census taker's work.

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105. 499 U.S. 340 (1991).

106. *Id.* at 347-48 (citations omitted).

Another way of putting O'Connor's mistake is that she equivocates between two understandings of the word "fact." On the one hand, the term might refer to *reality*, which exists whether or not it is represented by anyone.[107] On the other hand, it might mean the state of affairs represented by a factual work, which, as the *Silva v. MacLaine* case shows, can easily fail to line up with what reality is like. A fact in the first sense is not independently created by any author. But a fact in the second sense is created by whoever creates the representation. The debate over the copyrightability of facts is a debate concerning facts in the second, not the first, sense.[108] The disagreement is not about whether the census taker should be the only person with the right to count the number of people on a block. Everyone agrees that reality is not copyrightable. The debate is about whether anyone can copy the facts represented in the census taker's work.

O'Connor's confusion between reality and our representations of reality is apparently easy to fall into, since some of her critics make the same mistake. For example, Wendy Gordon claims that O'Connor mistakenly took facts to be unoriginal because of her commitment to the "Platonic fact precept," that is, the fallacy that "[f]acts. . . merely exist."[109] The truth is, Gordon argues, facts "'do not exist independently of the lenses through which they are viewed.'"[110]

If by "facts" Gordon means representations of the world, that facts do not exist independently of their maker is obvious. Representations cannot exist without a representer. But Gordon appears to be saying that the reality itself does not exist independently of those attempting to represent it. This thesis is much stronger and—despite her claim that its denial is a "fallacy"—much more controversial. It is also completely unnecessary. To show that facts are independently created, all one needs to show is that representations of the world are our creations; it is not necessary to embrace the idealist view that reality exists only as represented.

2. Facts and the Creativity Requirement

We have run up against the third puzzle. Once facts are understood as representations, they are just as independently created as the content of fictional works. In this sense, facts are "original." So why not protect them?

But there is another element in the originality requirement to consider—creativity. In addition to arguing that facts are not independently created, O'Connor argues that they should also be denied protection because they are not creative. Unfortunately her

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107. To be sure, these facts can be created by authors, to the extent that reality itself can be changed by human intervention. Indeed, some of the facts at issue in *Feist*, namely the particular phone numbers, were probably created by Rural. Wendy J. Gordon, *On Owning Information: Intellectual Property and the Restitutionary Impulse*, 78 VA. L. REV. 149, 154-56 nn.21-22 (1992); Gordon, *supra* note 15, at 94.

108. *See* Gordon, *supra* note 15, at 93-95.

109. *Id.* at 94 n.7 (quoting Ginsburg, *supra* note 15, at 657-58).

110. *Id.* (quoting Litman, *Public Domain*, *supra* note 9, at 996-97). Litman goes on, "Those lenses may be theoretical, methodological, or perceptual . . . . Researchers can thus be said to be composing their facts as they go along. In this sense, facts are no more 'out there' than are plots, words, or sculptural forms." Litman, *Public Domain*, *supra* note 9, at 996-97 (citations omitted).

discussion of the topic, as well as the discussions in Nimmer upon which she relies, are unconvincing because they tend to employ a psychological understanding of creativity.

In discussing this issue, it is useful to distinguish between those representations of the world that can be arrived at through direct observation and those more complex representations (for example, scientific or historical theories) that are arrived at indirectly by reasoning from the former set of facts. For example, Nimmer argues that facts that are derivable directly from observation are not independently created, since they are simple copies of the world. He then goes on to argue against the copyrightability of more complicated theories on the basis of the lack of psychological creativity in the process by means of which such theories arise. Hoehling's[111] theory of what caused the destruction of the Hindenburg was not creative, because "an interpretation of fact is itself a fact, or purported fact, deduced from other facts."[112] Thus a theory as to who caused the Watergate break-in, or who caused the assassination of President Kennedy, is no more susceptible of copyright than are the facts upon which such theory is based."[113] Nimmer's point is that one's arrival at a historical theory from the evidence is simply too determined by the object of inquiry to allow anything of the author's personality to shine through, and thus for the theory to show creativity in a psychological sense.

But Nimmer's argument has even prima facie plausibility only with respect to those theories that have been arrived at in something like a correct manner. And, as we have seen, material has been denied protection on the basis of its being factual without any showing that the material is true.[114] Since many of these unprotected "facts" are arrived at fancifully, it is difficult to see how they fail to satisfy a psychological standard of creativity.

But, more importantly, Nimmer ignores the extent to which even traditional theorizing often involves a choice between various theories, each of which is compatible with the evidence.[115] Indeed, if Nimmer were correct, traditional skeptical problems of the existence and nature of the external world would be trivially solved.[116] Furthermore, even when only one theory makes sense, the process of seeing that it makes sense can involve a great deal of creativity on the part of the theorizer.[117]

Furthermore, since coming up with theories from the available empirical evidence involves psychological creativity, arriving at the observations that provide this

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111. Hoehling v. Universal Studios, Inc., 618 F.2d 972 (2d Cir. 1980).

112. NIMMER & NIMMER, *supra* note 1, § 2.11[A].

113. *Id.* § 2.11[A] n.7.3.

114. Ginsburg, *supra* note 15, at 660 n.51; *see, e.g.*, *Hoehling*, 618 F.2d at 978-79 (denying protection to rather improbable theory of destruction of the Hindenburg on the basis of its factual character)

115. *See* Ginsburg, *supra* note 15, at 658-60.

116. The classic expression of skepticism concerning the existence of the external world is in Descartes's First and Second Meditations, RENÉ DESCARTES, *Meditations on First Philosophy*, *in* 1 THE PHILOSOPHICAL WORKS OF DESCARTES 131, 148-52 (Elizabeth S. Haldane & G.R.T. Ross trans., Cambridge University Press 1911) (1641); *see also* GEORGE BERKELEY, THREE DIALOGUES BETWEEN HYLAS AND PHILONOUS 8-42 (Robert Merrihew Adams ed., Hackett Publishing Co. 1979) (1713).

117. For example, Kekule was said to have come up with the proper molecular structure for benzene in a dream. STEPHEN F. MASON, HISTORY OF THE SCIENCES 463 (1962).

evidence must involve creativity as well. For the content of these observations are determined by the theories within which they are situated.[118] Using a psychological standard of creativity, O'Connor's argument that facts are not creative fails, although only after wandering through philosophical thickets miles from usual or useful questions in copyright law.

D. Facts and the Creativity Requirement, Economically Understood

Even though O'Connor's argument fails, there is still the possibility of arguing against copyrights in individual facts on the basis of the creativity requirement, *economically* understood. This means we must find a reason to refuse to protect facts for one of four reasons: they are worth little, are cheap to produce, are susceptible to parallel independent creation, or are difficult to distinguish from material that was not independently created.

The most promising argument is that they are susceptible to parallel independent creation.[119] That many people are liable to arrive at the same factual representations is particularly true concerning those representations that depend upon simple observation. Even though these representations are independently created and require psychological creativity to generate, most people in the same observational situation would arrive at the same representations. This is a crucial difference between fact and fiction that helps explain why the two are treated so differently in copyright law. People's factual beliefs, unlike their fanciful stories, tend to overlap.[120]

This means that *uncontroversial* facts about readily observable situations, just like conventional elements of fictional works, should be denied protection. For, as we have seen, parallel independent creation is a reason to believe that the benefits of copyright protection will be outweighed by the transaction and enforcement costs.[121] Most importantly, when there are parallel independent creators of factual content, it will be difficult to trace the ultimate provenance of material that one seeks to borrow.

The problem of parallel independent creation is very likely what O'Connor was thinking of when she claimed, misleadingly, that facts are not original because they are mere "copies" of the world. Understood as a claim that our representations of the world are not independently created, this is clearly false. But understood as the claim that people's factual representations tend to converge and that this convergence means that the transaction and enforcement costs of protection outweigh the benefits, she is correct.

E. Facts and the Idea/Expression Distinction

At first glance, the idea/expression distinction would appear to be a less promising reason for refusing to protect facts. The primary test for distinguishing ideas from expression is abstractness, and factual material need not be any more abstract than expressive elements of fictional works. Consider the story communicated by the novel

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118. *E.g.*, THOMAS KUHN, THE STRUCTURE OF SCIENTIFIC REVOLUTIONS (2d ed. 1970).

119. Most promising, because it appears false that facts are worthless or that they are likely to be created costlessly or inadvertently. Landes & Posner, *supra* note 8, at 350.

120. Lunney, *supra* note 3, at 515-16.

121. *See supra* text accompanying note 55.

Gone with the Wind.[122] Much of this story is sufficiently concrete to qualify as expression. But according to current copyright principles, were we to discover that this novel was actually a work of history, the same story would be denied protection. The reason cannot be its abstractness, since it does not become more abstract simply by virtue of being discovered to be true.

But there is an alternative to abstractness that will allow the idea/expression distinction—in particular the building-block argument—to apply to facts. Consider the following two facts:

> At 12 noon on July 27, 2002, there were 12 pigeons in Queen's Square, London WC1B.
>
> At 12 noon on July 27, 2002, there were 12 pigeons in Queen's Square, London WC1B and at 12 noon on July 28, 2002, there were 8 pigeons in Queen's Square, London WC1B.

The first fact is more likely to be borrowed than the second, because the chance of someone being interested in the number of pigeons in Queen's Square on July 27, 2002, is greater than the chances of someone being interested in the number of pigeons in Queen's Square on July 27, 2002, *and* July 28, 2002. On the other hand, the first fact is worth less than the second, because it conveys less useful information than the second.

In short, the more *fine-grained* facts become the more likely they are to be borrowed and the less they are worth to these borrowers. The result is that as facts become more fine-grained the transaction costs of protecting them will eventually overwhelm their value and the economically rational choice will be to refuse to protect them entirely.[123]

Once again, it is important to remember that it is not the *value* of facts as a building block for future works that justifies denying them protection. Although a component's value as a building block will mean that its protection will generate large monopolization costs, there is no reason to believe that these costs will completely overwhelm the benefits of encouraging its creation through a property right, making a categorical refusal to protect it appropriate. Limited terms for copyrights in facts would be the appropriate response to the problem of monopolization costs.

The argument is instead that the very quality—fine-grainedness—that leads facts to be borrowed by many authors (thereby increasing the *transaction* costs of protection) makes them of less value to the authors doing the borrowing. It is the fact that transaction costs of protection increase as value of the protected material decreases that gives us reason to believe that, at a certain level of fine-grainedness, the transaction costs will overwhelm the benefits of protection entirely.

F. The Problem of Explanatorily Powerful Theories

We now have a reason to refuse protection to fine-grained and uncontroversial facts. But we still do not have a reason to believe that novel theories that are arrived at

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122. MITCHELL, *supra* note 71.

123. Reichman, *supra* note 92, at 1776.

from observations should be denied protection. These theories seem to be creative, in the sense that they are not subject to problems of parallel independent creation. Indeed they are considered important innovations *because* they would not have been arrived at by other people viewing the same set of observational facts. As Dennis Karjala has put it:

> The idea/expression distinction of copyright is crucial to the optimal advance of culture. We refuse to protect ideas under copyright not because ideas show no intellectual creativity. Many ideas are in fact highly creative (think of the theory of relativity—first announced in a clearly copyright-protected work). Rather, we do not protect ideas because to do so would not provide an incentive to creation that would outweigh the harm resulting from tying up so many cultural building blocks.[124]

Because the creativity requirement will not work, Karjala relies upon the building-block argument. But the building-block argument does not seem applicable to Einstein's theory either. What makes his theory useful to many authors and so likely to be borrowed is its explanatory power. And unlike abstractness in fictional material or fine-grainedness in facts, an increase in explanatory power is not correlated with a decrease in value to the person borrowing the material. It is unclear, therefore, why the transaction costs of protection would justify a categorical refusal to protect theories.[125]

Another reason commonly offered for refusing to protect novel theories is that protection would generate excessive monopolization costs, since these theories have no substitutes.[126] It is certainly possible that the owner of the theory of relativity would have the type of market power that would allow him to earn monopoly rents and that the lure of similar rents would overencourage entry. Furthermore, property rights in the theory would lead it to be underutilized, not only by consumers but also by other authors. Einstein might refuse to license the theory to some authors even though they would be able to pay his marginal costs, because creating artificial scarcity might increase his profits.

But, once again, it is hard to see how these monopolization costs alone could justify the *categorical* refusal to protect such theories. The proper response to these costs is a limitation on the duration of copyrights, not a categorical refusal to copyright at all. To the extent that copyrights in theories generate greater monopolization costs than copyrights in expression, the best response would be shorter terms for the former, which would reduce these costs while maintaining an incentive to produce theories.

The strength of the building-block argument against protecting fine-grained facts was that it was able to show how the benefits of protection could be completely overwhelmed by the transaction costs. *No* protection was better than even limited protection. But if we can no longer take advantage of the building-block argument, and the problem with protecting novel theories is monopolization costs, a categorical

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124. Karjala, *supra* note 8, at 520; *cf.* White v. Samsung Elecs. Am., Inc., 989 F.2d 1512, 1516 (9th Cir. 1993); Nichols v. Universal Pictures Corp., 45 F.2d 119, 121 (2d Cir. 1930).

125. To the extent that increased transaction costs should be taken into account, it would be through the doctrine of fair use. *Cf.* Abramson, *supra* note 3, at 145 (arguing that facts should be protected with liberal allowance for borrowing as fair use).

126. *Cf.* Lunney, *supra* note 3, at 517-25.

denial of protection no longer looks reasonable. If giving Einstein a copyright in the theory of relativity is like creating a monopoly, surely the solution is to limit the monopoly, not to reject property rights entirely. After all, a monopolist has an incentive to produce his product, albeit inefficiently, whereas the absence of property rights gets rid of the incentive to produce the good entirely.

As I will argue below, the real reason that Einstein's theory should be denied protection is that, at the time that he created it, he would have made too little income selling it as a copyrightable work compared to the increase in his reputation that would occur by allowing it to be freely disseminated. Since this is true in general for such theories, there is no reason to protect them. Even if property rights in theories existed, they would not be taken advantage of.

G. Explanatorily Powerful Theories and Fair Use

The Article you are currently reading contains theories. I believe, flattering myself, that some of these theories were independently created by me, are novel (in the sense that they are not likely to have been independently created by others), and are useful to others by virtue of their explanatory power. According to my analysis above, they therefore appear to be good candidates for copyrightability.

Given that they are currently not protected by copyright, one would expect me to try to protect them through other means, for example, by conditioning access to them upon the acceptance of a contractual obligation not to disseminate them further. This would be similar to the way that creators of uncopyrightable ideas for Hollywood movies engage in strategies to create a contractual relationship with those to whom they divulge their ideas.[127] And if I did license someone to disseminate my theories, one would expect me to demand compensation, since their value would be unrecoverable once they were disseminated.

And yet imagine that I had copyrights in these theories allowing me to sell works communicating them without the fear that the purchaser would appropriate the economic value of the theories by passing them on to others in his own works. What good would this property right do me? As it stood, I had a difficult time getting anyone to listen to the theories in this Article even when I did not charge for the privilege. Imagine how difficult it would have been if I *had* charged all listeners, particularly if I insisted that the theories could not be communicated further without paying me a licensing fee.[128]

In short, the market value of my theories is simply too little to make a property right in them sensible. I stand to gain much more from allowing the theories to be disseminated for free and reaping the benefits of increased reputation if they are

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127. *See* Pierce O'Donnell & William Lockard, *You Have No Idea: The Relationship of the Parties, Rather Than the Idea Itself, Determines Whether a Plaintiff Has a Cause of Action for Misappropriation of an Idea*, L.A. LAW., Apr. 2000, at 32; Lionel S. Sobel, *The Law of Ideas, Revisited*, 1 UCLA ENT. L. REV. 9, 33-44 (1994); Steve Reitenour, Note, *The Legal Protection of Ideas: Is It Really a Good Idea?*, 18 WM. MITCHELL. L. REV., 131, 154-55 (1992).

128. *Cf.* Frank H. Easterbrook, *Cyberspace Versus Property Law?*, 4 TEX. REV. L. & POL. 103, 112 (1999) (suggesting a similar rationale to explain why authors of law review articles do not demand payment for publication from law journals).

determined to be correct.[129] It is for just this reason that I did not demand compensation from the *Indiana Law Journal* for the right to publish this Article.

Of course, this might simply be because the theories in this Article are obviously wrong or are of trivial importance. But the same willingness to allow uncompensated dissemination can be found among creators of novel theories that were later determined to be correct and very powerful. It appears that Albert Einstein himself received no compensation for publishing his first article on relativity, "Zur Elektrodynamik bewegter Körper."[130] Rather than jealously guarding access to his theory, he was concerned to see that it was disseminated.

One explanation of this willingness to disseminate one's theory for free is that it is a form of advertising. A theory is an experience good: in order for consumers to know enough about it to determine whether they want to pay anything for it, they must have actually consumed it, at least to some extent.[131] This means that the producer of an experience good must freely disseminate the work even when it is protected by a property right. Without disseminating it for free, no one will know enough about its qualities to be willing to buy it. This problem is particularly acute for creators of experience goods who have no reputation among consumers for producing high quality works.[132]

But more is going on here than the need to advertise an experience good. Consider another experience good: an engaging work of fiction by an unknown author. The author's lack of reputation means that early purchasers, knowing little about its value, will not be willing to pay much for it. But this low demand is not the result of the work actually having little value, but rather because of the lack of information about its value. After reading it, these early purchasers could admit that they would have been willing to pay much more for it had they known its true virtues. Consumers of a fictional work will not, in general, value it on the basis of whether others value it as well.[133] Dissemination is therefore required for knowledge about value, not for value itself.

The situation is different with a novel theory. Its value to any individual depends

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129. On this incentive for scientists, see Paula E. Stephan, *The Economics of Science*, 34 J. ECON. LITERATURE 1199, 1201-02 (1996); Howard P. Tuckman & Jack Leahey, *What is an Article Worth?*, 83 J. POL. ECON. 951 (1975).

130. 17 ANNALEN DER PHYSIK UND CHEMIE 891 (1905). The current policy of *Annalen der Physik* is not to compensate authors, and Ulrich Eckern, its current Editor-in-Chief, as well as John Stachel, the Director of the Center of Einstein Studies, doubt that Einstein was compensated for his contribution to the journal. E-mails from Ulrich Eckern to Michael Steven Green (Mar. 18 & Mar. 24, 2003) and from John Stachel to Michael Steven Green (Mar. 18, 2003) (on file with author). In general, authors of scientific or other academic articles do not receive royalties from publishers. American Geophysical Union v. Texaco, Inc., 60 F.3d 913, 927 (2d Cir. 1994).

131. DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 454-57 (3d ed. 1999); CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY 85 (1998); Phillip Nelson, *Information and Consumer Behavior*, 78 J. POL. ECON. 311 (1970) (drawing distinction between experience goods and search goods, whose characteristics are known before purchase).

132. SHAPIRO & VARIAN, *supra* note 131, at 5-6.

133. I say "in general" because fashion undoubtedly plays a part in the appreciation of a work of fiction.

upon others accepting it. Precisely because a novel theory is unlikely to be arrived at by others, there is a high probability that it will turn out to be false, in this sense of being rejected by those who have an ability to assess its merits. When determining the value of a theory, each individual will not merely rely upon his own judgment but also see whether others accept the theory as well. Since theories that are undisseminated have not had an opportunity to pass this test, their value cannot be very large.

When we treat Einstein's theory of relativity as having great value, we are thinking of the theory *after* it had been disseminated freely and accepted by the scientific community. But that is not the theory that Einstein would have sold. He would have instead sold rights of access to the *undisseminated* theory, which no one knew was correct. He could not have earned that much by selling such rights of access, especially when the purchaser was prohibited from communicating the theory publicly to others in her own works. Furthermore, the opportunity costs of asserting a copyright in his theory would be great, since this would foreclose the dissemination that is necessary for the theory to undergo the test of truth.

This is not to say that Einstein's fame, especially later in his career, might not mean that some people would have been willing to pay to read his theories even if he did assert a copyright in them. But because dissemination in others' works is necessary for determining the truth even of the theories of famous scientists, if Einstein were to sell his theories in this way, they would have lost their chance of being accepted as true. They would have left the realm of physics and entered the world of entertainment.

One way of putting this argument is that even unauthorized copies of a novel theory increase the market value of the original, provided that the originator of the theory is acknowledged by the copier. Since even unauthorized copies are complements of the original, all copying falls under the doctrine of fair use. Those situations (such as book reviews) where unauthorized copies increase the market value of a work of fiction are relatively rare. But that is because dissemination of fiction is not essential to its value to a consumer. With scientific theories, dissemination is essential to value.

This means that at either end of the spectrum of novelty, representations of the world are not copyrightable. Consider, for example, my determination that at noon on July 27, 2002, there were twelve pigeons in Queen's Square, London WC1B. Unlike Einstein's theory of relativity, this representation does not have to be disseminated and accepted by the scientific community for it to be relied upon by consumers. Someone who wanted to know how many pigeons there were in Queen's Square on that day would be willing to pay me for this information, without waiting to see whether others agreed with my assessment. This is because most people are reasonably accurate counters of pigeons. This fact is uncopyrightable, not because of the doctrine of fair use, but because of a lack of *creativity*, in particular the problem of parallel independent creation. Precisely because everyone *can* count pigeons, requiring borrowers and courts to determine which of the people who *might* have determined how many pigeons there were in Queen's Square *actually* generated this piece of information in a particular case would lead to transaction and enforcement costs that would overwhelm the value of the information itself.[134]

In contrast, at the time it was created, the theory of relativity was not likely to suffer

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134. The excessive fine-grainedness of this fact also means that the building-block argument will apply. *See supra* Part IV.E.

from the problem of parallel independent creation. But for precisely this reason, it needed the test of dissemination and acceptance to be relied upon by consumers. And that means that all copying was fair use.

The notion that material can have value only after it is disseminated may provide a further reason to refuse protection to some fictional ideas. Consider new genres. Although Dashiell Hammett's short stories in *Black Mask* in the mid-twenties may be the source of the hard-boiled detective story, the value of that genre (as opposed to the value of the works that Hammett wrote within it) is largely due to the labor of Raymond Chandler, Ross Macdonald, and many other authors who wrote within it. A genre has value in part because it provides an easily recognizable framework for readers, and Hammett was not responsible for this ease of recognition.[135]

V. FACTUAL COMPILATIONS

After a long journey, we appear to have returned to the traditional refusal to protect individual facts. So what is the solution to the problem with which we began—the proper protection for factual compilations, in particular those that lack protectable selections and arrangements?

A good example of such a compilation is the one at issue in the *Feist*[136] itself: the white pages of a telephone book. The defendant, Feist, had borrowed the contents of eleven different directories, one of which was Rural's, to come up with an area-wide directory.[137] Because the "raw data" that Feist took from Rural—that is, the names, phone numbers, and addresses—were facts, Justice O'Connor held that they were not protected.[138] She then argued that Rural's selection and arrangement of these facts were not protected because they failed to satisfy the creativity requirement. The selections of what people to include (those within its calling area) and what information about them to include (name, address, and phone number) lacked that modicum of creativity necessary to make them copyrightable, as did the arrangement of these facts in alphabetical order.[139]

In a number of respects, the worry that the absence of property rights in underlying facts will give authors insufficient incentive to create compilations is not really an issue in *Feist* itself. There are plenty of other reasons to produce the white pages, such as the advertising revenue that can be gained from the yellow pages with which they are generally published.[140] Furthermore, Rural was legally obligated, as part of its monopoly franchise as a provider of telephone service, to publish a phone book.[141] Because white pages are going to be created even without property rights in their

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135. This argument is noted in Landes & Posner, *supra* note 8, at 349-50.

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

137. Feist excluded many of Rural's listings that did not fall within the area Feist's directory covered. Furthermore, it rechecked some of the data in Rural's listings and often added new information, such as individuals' street addresses. Nevertheless, 1309 of the 4935 listings shared by the two books were identical. Some listings were not verified: four fictitious listings that Rural had added to detect copying were included in Feist's directory. *Id.* at 343-44.

138. *Id.* at 349-50.

139. *Id.* at 362-63.

140. *See id.* at 343.

141. *Id.* at 342.

content, there is a good reason, on economic grounds, to refuse to protect their content.

But setting this wrinkle aside, factual compilations that lack creativity in their selection and arrangement seem inadequately protected under current copyright law. For example, one means of selecting information is to include *all* available information in a certain category. Although "all" is an uncreative principle of selection, can't it result in a compilation that is worth protecting?[142] An unorganized set of facts is also likely to be found uncreative. But isn't an unorganized database that allows the reader to select data as she sees fit entitled to as much protection as one that organizes the data itself?

As we have seen, some have recommended protection for factual content in order to give authors of these databases sufficient incentive to undertake the costs of producing them. One might believe that the arguments in this Article have foreclosed this possibility. With individual facts unprotected, it looks as if the argument for the protection of factual content has failed.

Indeed the individual facts in most databases seem uncopyrightable not merely because of the idea/expression distinction and the creativity requirement, but because they are not *independently created* by their authors. Consider the MDL Drug Data Report, a database of chemical compounds with potential drug applications that has been offered as a prime example of a database that is insufficiently protected under the *Feist* regime.[143] Rather than being independently created, the facts within this database are drawn from published reports, patent applications, and scientific papers.[144] If anyone should receive a copyright in its contents, it is the authors of these underlying sources.

Because individual facts are not copyrightable and the collective content of databases is created through the selection and arrangement of individual facts, it looks as if a database can be protected only if its selection and arrangement is. The inadequacy of the *Feist* approach must not be that it refuses to protect factual content, but rather the *psychological* understanding of creativity of selection and arrangements that O'Connor employs in *Feist*. What is needed is an economic approach to creativity of selection and arrangement. It is necessary to assess the creativity of selections and arrangements on the basis of whether protection *pays*, not whether they are creative in some psychological sense.[145] Although a database using "all" as its principle of selection may not be psychologically creative, it can satisfy the economic requirements for creativity.

A. The Fallacies of Composition and Division

But this conclusion is too hasty. Consider the content of fictional works. Just as a novel can be understood as the product of the selection and arrangement of unprotected words,[146] its story can also be broken down into fundamental elements of

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142. *See* Abrams, *supra* note 51, at 18-19.

143. Tyson & Sherry, *supra* note 2.

144. *Id.*

145. Indeed, this is the criticism that many have made of *Feist*. *See, e.g., id.*; Russ VerSteeg, *Sparks in the Tinderbox:* Feist, *"Creativity," and the Legislative History of the 1976 Copyright Act*, 56 U. PITT. L. REV. 549 (1995).

146. Holmes v. Hurst, 174 U.S. 82, 86 (1899); Emerson v. Davies, 8 F. Cas. 615, 619

character, plot, and setting, each of which is unprotected.[147] And yet no one would say that all stories are uncopyrightable.

One way of putting this point is that protectability is not a *distributive* quality of a work's content. *X* is a distributive quality of *Y* if, by virtue of being a quality of *Y*, it is also a quality of all or some of *Y*'s parts.[148] The fallacies of composition and division occur when one assumes that a nondistributive quality is distributive.[149] An example of the fallacy of composition is concluding that a house is rectangular from the fact that the bricks out of which it is built are. An example of the fallacy of division is concluding that the bricks out of which a house is built are L-shaped, because the house is. To conclude that the content communicated by a work cannot be protected because the individual components out of which this content is composed are unprotected is to succumb to the fallacy of composition.

The advocate of the *Feist* approach could still argue, however, that the collective content of any work, including a novel, is protected when and only when the method of selection and arrangement of its unprotected elements would have been protected as well. Therefore to say that one should look to collective facts is simply another way of describing something like the *Feist* approach, under which a compilation is protected only if its method of selection and arrangement is protected. Admittedly, no one assesses the copyrightability of novels by looking to the processes by which they were generated from unprotected elements. But this is simply because the complexity of the processes makes such assessment impractical. With compilations, it is a different story.

B. Some Puzzles About Key Publications

The *Feist* method and a "collective fact" method are *not* equivalent, however, for a number of puzzles arise under the former that do not under the latter. Consider the case of *Key Publications, Inc. v. Chinatown Today Publlshing Enterprises, Inc.*[150] The plaintiff, Key Publications, created yellow pages directories that were of particular interest to Chinese-American communities, containing unusual categories such as "Bean Curd and Bean Sprout Shops."[151] The Second Circuit held that these categories were sufficiently creative for Key's arrangement to be protected.[152]

But each of Key's categorization of a business is equivalent to a *fact* about that business. There appears to be no difference between putting a business under the category "Bean Curd and Bean Sprout Shop" and communicating the fact that the

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(C.C.D. Mass. 1845). *Cf.* Atari Games Corp. v. Oman, 888 F.2d 878, 883-84 (D.C. Cir. 1989) (finding combination of standard geometric shapes sufficiently creative for copyright); Runstadler Studios, Inc. v. MCM Ltd., 768 F. Supp. 1292, 1295 (N.D. Ill. 1991) (same).

147. *See* Pickett v. Prince, 207 F.3d 403, 405 (7th Cir. 2000) (stating "all works of art are ultimately combinations of familiar, uncopyrightable items").

148. IRVING M. COPI, INTRODUCTION TO LOGIC 117-18 (7th ed. 1986).

149. *See id.* at 117-22; JON ELSTER, POLITICAL PSYCHOLOGY 103-04 (1993) (discussing these fallacies); Michael Herz, *Justice Byron White and the Argument that the Greater Includes the Lesser*, 1994 BYU L. REV. 227, 238-44 (1994).

150. 945 F.2d 509 (2d Cir. 1991).

151. *Id.* at 513-14.

152. In the end, however, it held that the defendant's work was not sufficiently similar for infringement to be found. *Id.* at 515-16.

business is a bean curd or bean sprout shop. And understood as a fact, the categorization is unprotected. Furthermore, even if a categorization is not understood as a fact, it could be understood as an "idea, procedure, process, system, method of operation, concept, [or] principle," which is also unprotected "regardless of the form in which it is described, explained, illustrated, or embodied in such work."[153] Finally, there is the problem of the categorization failing the independent creation requirement.[154] It is unlikely, after all, that these categories were Key's own creation.[155]

The point is that just as any story dissolves upon analysis into elements that are not protected, any method of selecting and arranging facts also dissolves into unprotected submethods. It seems the advocate of the *Feist* approach must argue that Key's arrangement is protected, *not* because the *categories* are protected, but because the way that Key put these categories together is protected. But this means that rather than looking to Key's method of selecting and arranging facts, one must instead look to its method of selecting and arranging methods of selecting and arranging facts. And one is very likely to encounter the same problems with these higher-order methods as well. For example, if Key were to argue that it selected categories on the basis of whether they were of interest to the Chinese-American community,[156] one could respond that this method is also a fact or an idea or not independently created.

The reason Justice O'Connor looks to selections and arrangements at all is the fallacy of division. If a compilation is protected, O'Connor argues, there must be some *part* of the compilation that is also protected. Since the facts out of which the

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153. 17 U.S.C. § 102(b) (2000); *see* Jane C. Ginsburg, *Copyright, Common Law, and* Sui Generis *Protection of Databases in the United States and Abroad*, 66 U. CIN. L. REV. 151, 153-54 (1997) [hereinafter Ginsburg, *Copyright, Common Law*].

154. Analogously, Justice O'Connor could have argued in *Feist* not that Rural's method of selection and arrangement was uncreative, but that it copied this method from other phone books or from common practice. Curiously, she instead allowed that Rural's alphabetical arrangement satisfied the independent creation requirement, since Rural alphabetized the names itself. Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 363-64 (1991). Although she insisted that the author of a compilation make "the selection or arrangement independently (i.e., without copying that selection or arrangement from another work)," *id.* at 358, she apparently did not mean by this that the author is forbidden from borrowing another's method of selection or arrangement.

155. An alternative strategy for the advocate of the *Feist* approach is to argue not that Key's method of selection and arrangement is protected, but only that the way it expressed this method in a specific compilation is protected. But if Key admitted that its method of selection and arrangement was unprotected, this expression would be vulnerable to the merger doctrine, for there are not many ways that this unprotected method can be communicated. For example, in *BellSouth Advertising & Publishing Corp. v. Donnelley Information Publishing, Inc.*, 999 F.2d 1436, 1444 (11th Cir. 1993) (en banc), the merger doctrine was applied to deny protection to a particular categorization of businesses in BellSouth's yellow pages directory. The defendant had extracted this categorization to create "sales lead sheets," which were used by sales representatives to contact business and solicit ads for the defendant's territory. *Id.* at 1439. The method of categorization was held to be unprotected, because it was merely an "idea," in part because of the factual elements involved. Furthermore, the expression of the arrangement was held to have "merge[d] with the idea of listing such entities . . . in a business directory." *Id.* at 1439. There were simply too few ways to express the unprotected idea.

156. As was argued in *Key Publications*, 945 F.2d at 514.

compilation is created are not protected, she turns to the methods by which the facts are selected and arranged. But these methods are composed of elements that are no more protectable than the facts they work upon. As a result, the *Feist* method is likely to conclude, falsely, that the compilation as a whole does not deserve protection. It is the fallacy of division, not merely the psychological understanding of creativity, that is the problem with *Feist*.

Of course the advocate of the *Feist* approach could argue that it is the selection and arrangement *as a whole* that should be examined for protectability—without breaking the selection and arrangement down into its unprotected submethods. But if one retreats from the fallacy of division this far, why not go all the way? Why not simply concentrate on the content communicated by the compilation, the way one looks at the story communicated by a novel?[157]

C. The "Collective Fact" Approach

Avoiding the fallacy of division gives us a reason to abandon the *Feist* approach and assess the copyrightability of factual compilations on the basis of whether the collective fact communicated by the compilation satisfies the traditional requirements for copyrightability. My goal in this Article has been to show how such an approach is acceptable, not spell out in detail how this approach should proceed. Nevertheless, it is useful to sketch briefly what a "collective fact" approach would look like.

The first question would be whether the collective fact communicated by the compilation satisfies the standard of independent creation. Borrowing a collective fact is, of course, not the same as borrowing the individual facts out of which the collective fact is constituted, just as borrowing a plot is not the same as borrowing the elements out of which the plot was constructed. We must not fall prey to the fallacy of division: the collective fact can be authored by someone who did not author any of its constituents. Of course, this means that it will be difficult to determine the point at which a collective fact has indeed been borrowed. But this is no reason to think that we are not on the right track, since there is an analogous difficulty in determining when plots have been borrowed. No one said copyright law was easy.

But even though it is unnecessary to create the individual facts in one's compilation to create its collective fact, a collective fact is more likely to be considered independently created if its constituent facts were created by the author, either out of whole cloth or by rechecking borrowed facts. Unsurprisingly, these have always been considered important elements in determining whether compilations are copyrightable even under the *Feist* approach.[158]

Second, the collective fact must also be sufficiently course-grained to withstand the building-block argument. Individual facts within a compilation are unlikely to be protected, even if they were independently created, because fine-grained property rights will generate transaction costs for borrowers that would swamp the value of the protected material. But the same phenomenon that causes fine-grained facts to be

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157. The 1976 copyright statute invites such an approach as well, for it speaks of a compilation as "a work formed by the collection and assembling of preexisting materials or of data that are selected, coordinated, or arranged in such a way that the resulting *work as a whole* constitutes an original work of authorship." 17 U.S.C § 101 (2000) (emphasis added).

158. *See, e.g.*, *Feist*, 499 U.S. at 350.

refused protection will allow coarse-grained or collective facts to be protected. The more facts that are conjoined the less likely it is the collective fact will be borrowed and the more valuable it will be to its borrowers.[159] This makes it less likely that the transaction costs of borrowing will overwhelm the benefits of protection.

Finally, the collective fact must be creative; in particular, not susceptible to parallel independent creation. Once again, collective facts can satisfy this requirement. The more individual facts are collected together, the less likely it is that the totality of information that the compilation communicates is going to be arrived at by another author except by copying.

Without recognizing it, some courts have already been using the collective-fact approach. Consider the case of *CCC Information Services, Inc. v. Maclean Hunter Market Reports, Inc.*[160] Maclean published the *Red Book*, a compendium of predictions of the values of average versions of used cars in various regions of the country, with a mechanism for raising or lowering the valuations on the basis of mileage and added features.[161] CCC had loaded substantial portions of Maclean's valuations into a computer database, which it offered to its customers in various forms.[162] The district court found that the valuations were unprotectable facts and that there was insufficient creativity in the selection, coordination, and arrangement of data in the compilation for copyright to attach to the work.[163] The Second Circuit reversed. Judge Leval argued not only that the selection and arrangement of information in the compilation was sufficiently original to satisfy *Feist*,[164] but also that the predictions themselves "were based not only on a multitude of data sources, but also on professional judgment and expertise,"[165] and thus "[were] original creations of Maclean."[166]

In one respect, the district court was clearly right: Maclean's valuations were facts. They were representations of the world that were to be taken as correct, not fiction that could be appreciated independently of its truth. Admittedly, the features of the world that they represented were difficult to capture exactly. However this did not make them less factual. It only meant that arriving at them required a good deal of professional judgment and expertise. Plenty of other judgments—for example, novel historical or scientific theories—have been denied protection as facts even though they were the product of similar judgment and expertise.[167] Indeed, it is doubtful that Judge Leval would have considered an individual valuation by Maclean to be copyrightable. Judge Leval, in effect, chose to protect the *collective fact* communicated by Maclean's *Red Book*.

An even clearer example of the protection of a collective fact is *Marshall & Swift v.*

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159. *See supra* notes 122-25 and accompanying text.

160. 44 F.3d 61 (2d Cir. 1994).

161. *Id.* at 63.

162. *Id.* at 64.

163. *Id.*

164. *Id.* at 67.

165. *Id.*

166. *Id.*

167. *See, e.g.*, Hoehling v. Universal City Studios, Inc., 618 F.2d 972 (2d Cir. 1980) (denying protection to an author's novel theory that the airship *Hindenburg* was destroyed via sabotage).

BS & A Software.[168] In that case, a federal district court in Michigan determined that a compilation of estimations of the construction costs of various types of residential, agricultural, commercial, and industrial buildings, used by tax assessors for valuing real property, was protectable. Because the format for the compilation was dictated by the Michigan State Tax Commission, which had commissioned the compilation, Marshall & Swift did not claim that the selection and arrangement of the valuations were copyrightable.[169] Rather the valuations themselves were claimed to be the result of a "creative process," because of "the complexity and scope of [Marshall & Swift's] efforts to produce the values which go into its costs schedules."[170]

The court claimed that the estimations were not "facts such as the actual price at which property has sold or the amount of pressure to inflict on a rubber belt before it will break."[171] Unlike the contents of the white pages in *Feist*, which "could be discovered and reported by anyone," Marshall and Swift's estimations "[were] not discoverable but [were] unique to it."[172] It thereby limited the scope of unprotected "facts" to those representations that have a certain likelihood of parallel independent creation.[173] But, once again, there is nothing about judgment and expertise that makes a representation of the world less factual. Furthermore, a single estimate would not have been protected, no matter how much judgment and expertise went into its creation. What the court really did was protect the collective fact communicated by the compilation.

CONCLUSION

In short, the protection of the factual content of a compilation is not a departure from the fundamental principles of copyright law. It is the *Feist* approach that is the departure, because it looks to selections and arrangements rather than the collective content communicated by a work.

Of course, protection for the factual content of compilations does not mean protecting the individual facts out of which it is constituted. But this is no different from the way that fictional content is protected under copyright law—collective content is protected, provided that is satisfies the originality requirement and the idea/expression distinction, but the individual constituents of that content are not.

And just as some content communicated by plays or novels is refused protection even though it is collective, it remains possible that some collective facts will be refused protection as well. Indeed, it is possible that the content of the white pages of a

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168. 871 F. Supp. 952 (W.D. Mich. 1994).

169. *Id.* at 959.

170. *Id.* at 960.

171. *Id.* at 962.

172. *Id.* at 960 n.12.

173. Another possible example of collective facts being considered protected by a court is *Compaq Computer Corp. v. Procom Technology, Inc.*, 908 F. Supp. 1409 (S.D. Tex. 1995). At issue was Compaq's determination of the total hours of use of a hard drive after which hard drive failures are likely to occur. *Id.* at 1415. If a Compaq hard drive was still under warranty, it would be replaced for free after reaching this level of use. *Id.* These threshold values were determined in part on the basis of empirical data concerning the failure rate of hard drives. *Id.* Nevertheless, the district court held that the values were protected. *Id.* at 1418.

phone book—the compilation at issue in *Feist*—is an example of an unprotected collective fact. As in any other area of copyright law, one cannot simply reward anyone who put effort into creating a collective fact with a property right. The right must generate more benefits than costs.

Where the EU's Database Directive and its American analogues err, therefore, is in failing to consider adequately the costs of copyrights in factual content. Under the Directive, a property right in the contents of a database is provided if there has been "a substantial investment in either the obtaining, verification or presentation of the contents."[174] This ignores the costs of this property right; costs that are captured in limitations on copyright such as the creativity requirement and the idea/expression distinction.[175] There are good reasons for rejecting the specifics of the Directive in favor of protection for facts that is integrated into traditional copyright law. But there are not good reasons for a wholesale rejection of copyrights in facts.

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174. Council Directive, *supra* note 4, at 20, 27.

175. *Cf.* Ginsburg, *Copyright, Common Law*, *supra* note 153; Reichman & Samuelson, *supra* note 2, at 55-56 (arguing that the Directive grants too strong a monopoly power and will lead to inefficiency). The Directive's fair-use provision is also too narrow. Council Directive, *supra* note 4, at 20, 28.