REVIEW ESSAY

Goldstein on Copyright Law: A Realist's Approach to a Technological Age

COPYRIGHT: PRINCIPLES, LAW AND PRACTICE. By Paul Goldstein. Boston: Little, Brown & Co. 1989. 3 vols. + 1990 Supplement. \$295.00 (Supplement \$75.00 separately).

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The treatise writer's dilemma is that while reliability requires faithful interpretation of the law as it stands, he or she must also remain sufficiently detached and forward-looking to assist decisionmakers in shaping the law as it ought to be. The better treatise writers resolve this tension by devising jurisprudential and methodological approaches that broaden the horizons of experienced practitioners in the field. Paul Goldstein's *Copyright: Principles, Law and Practice*¹ fits this mold. His ability to use economic analysis to illuminate discrepancies between judicial decisions and legal doctrines distinguishes this major new treatise from other useful commentaries in the field.²

Professor Goldstein's treatise arrives at a time when economic and international concerns greatly influence the formulation of domestic intellectual property law.³ Authors' rights in the United States, for example, must increasingly be construed with an eye to the Revised Berne Convention,⁴

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1. Hereinafter cited only by volume (or supplement), section, and page number.

2. See, e.g., MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* (rev. ed. 1990) [hereinafter *NIMMER ON COPYRIGHT*] (highly respected multivolume treatise first published in 1963; revised and updated since 1985 by David Nimmer, the original author's son); WILLIAM F. PATRY, *LATMAN'S THE COPYRIGHT LAW* (6th ed. 1986) (lucid one-volume text); NEIL BOORSTYN, *COPYRIGHT LAW* (1981 & Supp. 1990) (handy practitioner's guide); see also MARSHALL A. LEAFER, *UNDERSTANDING COPYRIGHT LAW* (1989) (a helpful guide for students of all levels).

3. See, e.g., GATT OR WIPO? *NEW WAYS IN THE INTERNATIONAL PROTECTION OF INTELLECTUAL PROPERTY* (F.K. Beier & G. Schricker eds. 1990); *INTELLECTUAL PROPERTY RIGHTS: GLOBAL CONSENSUS, GLOBAL CONFLICT?* (R.M. Gadbaw & T.J. Richards eds. 1988); *Trade-Related Aspects of Intellectual Property* (pts. 1 & 2), 22 *VAND. J. TRANSNAT'L L.* 223, 689 (1989), reprinted in *TRADE-RELATED ASPECTS OF INTELLECTUAL PROPERTY* (L. Brown & E. Szweda eds. 1990).

4. Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, as last revised at Paris, July 24, 1971 [hereinafter *Berne Convention*]. This text and other important domestic and international documents are reprinted in volume 3 of Goldstein's treatise and the supplement.

which this country joined in 1989.⁵ Additional international obligations that could enhance the worldwide protection of American authors, artists, and composers may yet be written into the framework of the General Agreement on Tariffs and Trade (GATT).⁶

The United States leadership in the current drive to strengthen international protection of authors' rights contrasts sharply with its isolationist past, and the older treatises reflect different stages of this evolution. In 1879, for example, when Eaton Drone published his seminal treatise,⁷ the United States afforded no protection against the unauthorized reproduction of foreign works on its territory. Such practices were, in his words, neither "piracy, because no law [was] violated" nor "plagiarism . . . without misrepresentation as to authorship."⁸

By 1944, when Horace Ball launched the last major treatise before Melville Nimmer entered the scene,⁹ the Copyright Act of 1909 still resembled a primitive publisher's law more than the authors' rights laws of the Berne Union countries.¹⁰ Ball's task was to describe and compile both heroic decisions of universal importance, such as *Bleistein v. Donaldson Lithographing Co.*,¹¹ and parochial opinions that departed from general principles recognized by most developed copyright systems, such as *White-Smith Music Publishing Co. v. Apollo Co.*¹²

Amidst this ideological uncertainty, the late Professor Nimmer's thirst for legal order produced an organizational tool of fundamental impor-

5. See Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, 102 Stat. 2853 (effective Mar. 1, 1989).

6. General Agreement on Tariffs and Trade, opened for signature Oct. 30, 1947, 61 Stat. A3, T.I.A.S. No. 1700, 55 U.N.T.S. 187. On the GATT-intellectual property link, see Paul Edward Geller, *Can the GATT Incorporate Berne Whole?*, 4 WORLD INTELL. PROP. REP. 193 (1990); J.H. Reichman, *Intellectual Property in International Trade: Opportunities and Risks of a GATT Connection*, 22 VAND. J. TRANSNAT'L L. 747 (1989) [hereinafter Reichman, *Intellectual Property in International Trade*]; notes 130-134 & 261-262 *infra* and accompanying texts.

7. EATON S. DRONE, A TREATISE ON THE LAW OF PROPERTY IN INTELLECTUAL PRODUCTIONS IN GREAT BRITAIN AND THE UNITED STATES (1879).

8. *Id.* at 383. Even after the United States formally extended copyright protection to citizens of specified countries via bilateral treaties and entered the Universal Copyright Convention of 1952, 6 U.S.T. 2731, T.I.A.S. No. 3324, as last revised July 24, 1971, 25 U.S.T. 1341, T.I.A.S. No. 7868 [hereinafter Universal Copyright Convention], the restrictive manufacturing clause in domestic law limited the protection afforded foreigners. See Barbara A. Ringer, *The Role of the United States in International Copyright—Past, Present and Future*, 56 GEO. L.J. 1050, 1057 (1968).

9. HORACE G. BALL, THE LAW OF COPYRIGHT AND LITERARY PROPERTY (1944).

10. See, e.g., Ringer, *supra* note 8, at 1051; see also Zechariah Chafee, Jr., *Reflections on the Law of Copyright*, 45 COLUM. L. REV. 503, 515-29 (1945). As late as 1983, the United States was "still a long way from accepting the whole range of international ideals embodied in the Berne Convention." Barbara Ringer, *United States of America*, in INTERNATIONAL COPYRIGHT AND NEIGHBOURING RIGHTS 480 (S. Stewart 1st ed. 1983).

11. 188 U.S. 239 (1903) (forbidding discrimination based on aesthetic merit in determining eligibility for copyright protection); see H. BALL, *supra* note 9, at 90, 108-09, 257.

12. 209 U.S. 1 (1908) (applying a visibility requirement to negate protection of musical works embodied in piano rolls); see H. BALL, *supra* note 9, at 50, 339, 388 n.83. *White-Smith* has been reversed statutorily. See the definition of "copy" in 17 U.S.C. § 101 (1988); *id.* § 102(a) (negating visibility requirement). However, some of the policy concerns underlying *White-Smith* led to a universally recognized compulsory license for mechanical recordings of musical works. See *id.* § 115; Berne Convention, *supra* note 4, art. 13(1).

tance.¹³ Writing in the period from 1963 to 1985, he imbued his treatise with a deep faith in the common law tradition. In time he undertook to place the technical apparatus of this tradition at the service of the revised 1976 copyright statute, which had suffered the tugs of too many special interests.¹⁴ Nimmer's treatise artfully blended logic, case precedent, and statutory interpretation into a seemingly coherent body of law that courts and practitioners found manageable.¹⁵

While Nimmer showed that the domestic copyright system could produce more than an array of result-oriented dogmas, his work also revealed the extent to which that system remained riddled with flawed and contradictory solutions. Congress would eventually eliminate some of the most egregious formalisms when the United States adhered to the Berne Convention in 1989.¹⁶ Other, deeper flaws have proved more difficult to identify and root out. The judicial approach to infringement, for example, lagged behind the times. Progress in this sphere requires the federal courts to move beyond the empty formulas that determined what constituted "copying" under the 1909 Act to a concept of authors' rights that is more substantial than the ethical principles governing traditional unfair competition law.¹⁷ As matters stood, the more Professor Nimmer's treatise strove to render domestic copyright law formally coherent, the more apparent its shortcomings as a normative and predictive legal tool became.

The challenge facing a new treatise writer is, therefore, threefold. First, a modern treatise must identify the tensions between actual decisions and established doctrinal formulas, with a view toward clarifying how the underlying policy goals of copyright law are now (and could better be) served in different contexts. Second, a treatise on domestic copyright law should reflect the links between that body of law and the world system in which the United States has lately assumed a leadership role. Third, a treatise writer conscious of the world model must nonetheless focus attention on the abiding strengths of its domestic counterpart to preserve the local "spin" that

13. See generally NIMMER ON COPYRIGHT, *supra* note 2.

14. See generally Jessica D. Litman, *Copyright, Compromise, and Legislative History*, 72 CORNELL L. REV. 857 (1987).

15. See J.H. Reichman, *The Enduring Contributions of Professor Nimmer*, 5 CARDOZO ARTS & ENT. L.J. 25 (1986).

16. Berne Convention Implementation Act of 1988, *supra* note 5. This Act eliminated technical forfeiture of copyright protection due to lack of notice for works created after March 1, 1989, and it relaxed the registration requirements for foreign copyright holders. See, e.g., Paul Edward Geller, *International Copyright: An Introduction* § 3[2][c], in 1 INTERNATIONAL COPYRIGHT LAW AND PRACTICE (P.E. Geller rev. ed. 1990); see also Paul Edward Geller, *Copyright Protection in the Berne Union: Analyzing the Issues*, 13 COLUM.-VLA J.L. & ARTS 435, 467-68, 471 (1989); Jane C. Ginsburg & John M. Kernochan, *One Hundred and Two Years Later: The U.S. Joins the Berne Convention*, 13 COLUM.-VLA J.L. & ARTS 1, 8-24 (1988).

17. See notes 85-95 *infra* and accompanying text; see also Elliot M. Abramson, *How Much Copying Under Copyright? Contradictions, Paradoxes, Inconsistencies*, 61 TEMP. L. REV. 133 (1988); Amy B. Cohen, *Masking Copyright Decisionmaking: The Meaninglessness of Substantial Similarity*, 20 U.C. DAVIS L. REV. 719 (1987); cf. PETER JOACHIM KAUFMANN, *PASSING OFF AND MISAPPROPRIATION: AN ECONOMIC AND LEGAL ANALYSIS OF THE LAW OF UNFAIR COMPETITION IN THE UNITED STATES AND CONTINENTAL EUROPE* 7-30 (1986) (discussing the tension between ethical and economic approaches to unfair competition law).

adds variety and depth to the evolving international framework.¹⁸ Professor Goldstein has undertaken these tasks with a clear vision of the issues and admirable success in the elaboration.

Part I of this review discusses Goldstein's utilitarian approach to copyright law as a whole, as evidenced by the introductory section of the treatise. Part II assesses his efforts to describe the nuances that have crept into the originality requirement since the 1976 Act was adopted. Part III tracks Goldstein's innovative, highly contextual approach to infringement. Part IV focuses on Goldstein's treatment of international concerns and the potential conflict between the utilitarian bias of domestic law and the broader policies underlying foreign law. Part V concludes with a positive forecast of the impact this treatise could have on the future development of domestic copyright doctrine.

I. THE UTILITARIAN APPROACH TO INTANGIBLE CREATIONS

Professor Goldstein begins with an extended overview entitled "The Topography of Copyright,"¹⁹ which enables practitioners of varying degrees of expertise to survey the field as a whole before entering into its subtopics in detail. In this introduction, the author emphasizes the vulnerability of those who produce information and forms of artistic expression that are intangible, indivisible,²⁰ and inexhaustible. Observing that "a competitor would not have to pay for the product of the writer's labors" in a world without copyright protection,²¹ he reminds his readers that property rights "represent the principal vehicle for enabling creators and producers to appropriate the value of their efforts."²²

Goldstein acknowledges that copyright law is not the only means of addressing the problem of appropriability and that the copyright solution "inevitably conflicts with the social benefits of indivisibility."²³ Nevertheless,

18. See, e.g., WORLD INTELLECTUAL PROPERTY ORGANIZATION, GUIDE TO THE BERNE CONVENTION FOR THE PROTECTION OF LITERARY AND ARTISTIC WORKS (PARIS ACT 1971) 11 (C. Masouyé & W. Wallace eds. 1978) [hereinafter WIPO GUIDE] ("[T]he very concept of copyright from a philosophical, theoretical and pragmatic point of view differs country by country, since each has its own legal framework influenced by social and economic factors. To define it in a manner binding on all member countries would be difficult if not impossible.").

19. Vol. 1, ch. 1.

20. "Indivisibility" refers to the "public good" characteristic of information: No one person's consumption diminishes its availability to others. See, e.g., ROBERT P. BENKO, PROTECTING INTELLECTUAL PROPERTY RIGHTS: ISSUES AND CONTROVERSIES 21 (1987) (stressing that "knowledge goods . . . create problems of market failure, externalities, and appropriability"); WILLIAM KINGSTON, INNOVATION, CREATIVITY AND LAW 83-85 (1990).

21. Vol. 1, § 1.2, p. 9.

22. Vol. 1, § 1.2, p. 10. But see L. Ray Patterson, *Free Speech, Copyright, and Fair Use*, 40 VAND. L. REV. 1, 13-36 (1987) (contending that, in historical context, the Constitution authorizes only a regulatory structure and not a system of property rights).

23. Vol. 1, § 1.2, p. 10. Indivisibility means that the marginal cost of providing information to an additional user is zero. Static economic analysis would suggest that the price should also be zero, but such a price would provide insufficient dynamic incentives to produce. The copyright monopoly "solves the problem of appropriability and thereby establishes economic incentives to create and make public artistic works." R. BENKO, *supra* note 20, at 21; cf. E.JAN MACKAAY, ECONOMICS OF INFORMATION AND LAW 115-17 (1982) (discussing economics of information in general).

the overriding policy goal of copyright law, rooted in the constitutional enabling clause,²⁴ is "to encourage the widest possible production and dissemination of literary, musical and artistic works."²⁵ To the extent that copyright law allows creators "to capture the full value that consumers attach to their works and not just the minimum sum that . . . would . . . support their investment,"²⁶ it responds in part to the high risk aversion incurred by those whose livelihood depends on the dissemination of cultural products.²⁷

Although this incentive rationale accurately depicts mainstream American thinking about copyright law, it will no more account for all the peculiarities of a developed copyright system than natural rights theory or the protection-of-personality principle much in vogue abroad.²⁸ For example, incentive theory cannot explain the moral rights, highly developed in some countries, that prevent even one who has paid to commercialize an author's work from doing so in a manner that could prejudice the author's honor or reputation.²⁹ Nor will incentive theory adequately explain such paternalistic

24. U.S. CONST., art. I, § 8, cl. 8.

25. Vol. 1, § 1.2, p. 11.

26. Vol. 1, § 1.1, p. 7.

27. See W. KINGSTON, *supra* note 20, at 83-84, 112-13 (arguing that because the copyright monopoly does not protect against independent creation, it does not adequately overcome the high risk aversion that undermines rational investment in the generation of information); David Ladd, *The Harm of the Concept of Harm in Copyright*, 30 J. COPYRIGHT SOC'Y 421, 431 (1983) (stressing the negative influence of broad fair use exceptions on risk-taking in authorship and publishing); see also E. MACKAAY, *supra* note 23, at 115-17 (noting market distortions ensuing from public good problems and uncertainties that would require a higher expected return); J.H. Reichman, *Design Protection and the New Technologies: The United States Experience in a Transnational Perspective*, 19 U. BALT. L. REV. — [Part III.B] (forthcoming) [hereinafter Reichman, *Designs and New Technologies*] (stressing relation between drive for copyright protection and risk aversion of investors in new technologies). But see W.R. CORNISH, *INTELLECTUAL PROPERTY: PATENTS, COPYRIGHT, TRADE MARKS AND ALLIED RIGHTS* 258-61 (2d ed. 1989) (criticizing the incentive theory as overprotective of authors at the expense of consumers and discounting the importance of copyright law in conquering risk aversion); Stephen Breyer, *The Uneasy Case for Copyright: A Study of Copyright in Books, Photocopies, and Computer Programs*, 84 HARV. L. REV. 281 (1970) (questioning the economic necessity for copyright protection, even in the book trade).

28. See, e.g., 1 NIMMER ON COPYRIGHT, *supra* note 2, § 1.03[A] (framers did not intend "any higher standard of creation in terms of serving the public interest than that required for other forms of personal property"); H. BALL, *supra* note 9, at 50 (purpose of copyright is "to secure to the author the results of his own intellectual labor"); see also Alfred C. Yen, *Restoring the Natural Law: Copyright as Labor and Possession*, 51 OHIO ST. L.J. 517, 524-46 (1990) (criticizing incentive theory of copyright law and discussing role of natural law thinking in American copyright tradition).

For an early survey of attempts to root copyright law in different theories, including the view that its true aim is to protect embodiments of the human personality, and a finding that none of these theories adequately accounts for the range of existing doctrines, see 1 STEPHEN P. LADAS, *THE INTERNATIONAL PROTECTION OF LITERARY AND ARTISTIC PROPERTY* 1-12 (1938). Dissatisfaction with these and other attempts "to classify copyright under the traditional categories of private rights" led both Kohler and Picard to posit that artistic and industrial property had more in common with each other than with the older forms of property known to Roman law, and that a new class of rights in intangible creations had arisen, which they termed "intellectual property" rights. See *id.* at 9-10; see also PIERRE RECHT, *LE DROIT D'AUTEUR: UNE NOUVELLE FORME DE PROPRIÉTÉ* 207-33 (1969); Geller, *International Copyright: An Introduction*, *supra* note 16, § 2[3][a] ("Copyright might well be said to be . . . a bundle of rights in search of a doctrine.").

29.

The authors' rights of continental Europe grew from a deep respect for intellectual creativ-

measures in American copyright law as the right to terminate transfers³⁰ or even the long period of protection,³¹ which enables living authors and their immediate heirs to partake of revenues generated many years after the creation of their works.³² The incentive theory of copyright protection thus tends to underestimate the extent to which all states, to varying degrees, have deliberately subordinated efficiency to other cultural policy goals in the market for traditional literary and artistic works.

At the same time, incentive theory serves to remind both courts and legislators that undue restraints on trade can undermine even the most fundamental policy of copyright law by pricing cultural goods beyond the reach of ordinary citizens.³³ For this reason, the Berne Union countries as a group have long needed to focus greater attention on the efficient allocation of copyrightable resources. This need becomes imperative at a time when manufacturers of computer programs and other industrial products increasingly avoid competition by masquerading as providers of cultural goods entitled to copyright protection on a par with literary and artistic works.³⁴

Despite his belief that incentive theory best accounts for the ordinary operations of domestic law, Professor Goldstein pragmatically acknowledges the diverse cultural values that all developed copyright systems seek to implement.³⁵ By emphasizing the need to balance social utility against private incentives to create, he avoids the fallacies of those who cast copyright law entirely in economic terms³⁶ without due regard for the other policies that compete with and sometimes override the incentive theory pervading American law.³⁷ However, as the Berne Convention permeates legal and artistic consciousness in this country and the task of reconciling philosophical differ-

ity and so looked to protect moral integrity as much as economic return Anglo-American tradition viewed the matter more from the market-place . . . and . . . manifested a certain scepticism towards the author . . . who failed to look after his own reputation and integrity.

W. CORNISH, *supra* note 27, at 309.

30. The 1976 Copyright Act gives the original authors (or heirs) the right to terminate a transfer or license between 35 and 40 years after the grant. The termination right is not waivable. 17 U.S.C. §§ 203, 304(c) (1988). In many countries, the copyright laws also regulate contractual conditions between authors and publishers in order to strengthen the artists' bargaining power. *See, e.g.,* ADOLF DIETZ, *COPYRIGHT LAW IN THE EUROPEAN COMMUNITY* 190-212 (1978).

31. Under the 1976 Copyright Act, protection lasts until 50 years after the death of the last surviving author of a copyrighted work. Anonymous and pseudonymous works receive protection for the lesser of 75 years from first publication and 100 years from creation. 17 U.S.C. § 302 (1988).

32. *See, e.g.,* Theodore Limperg, *Duration of Copyright Protection*, 103 *REVUE INTERNATIONALE DU DROIT D'AUTEUR* [R.I.D.A.] 53, 68-69, 72-77 (1980); Chafee, *supra* note 10, at 507-08.

33. *See* notes 24-25 *supra* and accompanying text.

34. *See* Anthony L. Clapes, Patrick Lynch & Mark R. Steinberg, *Silicon Epics and Binary Bards: Determining the Proper Scope of Copyright Protection for Computer Programs*, 34 *UCLA L. REV.* 1493 (1987); notes 256-257 *infra* and accompanying text.

35. Vol. 1, § 1.1, pp. 4-9; vol. 2, § 16.4, pp. 685-86.

36. *See, e.g.,* William M. Landes & Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 *J. LEGAL STUD.* 325 (1989); Breyer, *supra* note 27.

37. *See generally* Ralph S. Brown, *Eligibility for Copyright Protection: A Search for Principled Standards*, 70 *MINN. L. REV.* 579 (1985); Wendy J. Gordon, *An Inquiry into the Merits of Copyright: The Challenges of Consistency, Consent, and Encouragement Theory*, 41 *STAN. L. REV.* 1343 (1989); Justin Hughes, *The Philosophy of Intellectual Property*, 77 *GEO. L.J.* 287 (1988).

ences becomes more compelling,³⁸ Professor Goldstein may wish to amplify his discussion of counterthemes in future updates of his introduction.

II. A NUANCED CONCEPT OF ORIGINALITY

Goldstein's realism prompts him to recognize the tensions surrounding the doctrine of originality as codified in section 102(a) of the Copyright Act of 1976.³⁹ Broadly speaking, the originality requirement of United States copyright law turns on independent creation,⁴⁰ and, in theory, it entails "lit-

38. See, e.g., Geller, *supra* note 6, at 195-96 (noting resistance to U.S. efforts to exclude moral rights from a GATT side code on intellectual property); Susan Wagner, *WIPO Committee Drafting Model Law Hears U.S. Moral Rights Complaint*, 4 WORLD INTELL. PROP. REP. 189 (1990). On the domestic front, Congress has now recognized moral rights in visual artists' works and extended copyright protection to architectural works, with a view to fuller implementation of the Berne Convention. See Visual Artists Rights Act of 1990, Pub. L. No. 101-650, tit. VI, 1990 U.S. CODE CONG. & ADMIN. NEWS (104 Stat.) 5128; Architectural Works Copyright Protection Act, Pub. L. No. 101-650, tit. VII, *id.* (104 Stat.) at 5133; notes 253-255 *infra* and accompanying text.

The Visual Artists Rights Act of 1990 amended § 101 of title 17 U.S.C. to include a detailed definition of "work[s] of visual art" and created a new § 106A to define visual artists' qualified rights to attribution and integrity of those works. New subsection 113(d) addresses exceptions to § 106A rights for removal of visual artworks from buildings, while new subsection 301(f) explains to what extent § 106A preempts state laws addressing visual artists' rights. The act also contained various minor amendments regarding actions for infringement of § 106A rights, and, more significantly, it provided that the fair use exception of § 107 also applies to § 106A rights.

The Architectural Works Copyright Protection Act amended § 101 to include a definition of an "architectural work." It also amended § 102(a) to make architectural works eligible for copyright protection, but limited the § 106 rights attaching with new § 120. The act also amended § 301(b) to clarify that state laws regarding landmarks, historical preservation, and zoning are not preempted.

As part of the same last-minute omnibus bill, Congress also passed the Computer Software Rental Amendments Act of 1990, Pub. L. No. 101-650, tit. VIII, 1990 U.S. CODE CONG. & ADMIN. NEWS (104 Stat.) 5134. The act amended § 109(b) to make most unauthorized computer software rentals infringements, notwithstanding the first sale doctrine of § 109(a). It also added new subsection 109(e), which permits owners of video games to publicly perform or display the games in coin-operated equipment.

39. See 17 U.S.C. § 102(a) (1988) (as amended in 1990, *see* note 38 *supra*) ("Copyright protection subsists . . . in original works of authorship . . .").

40. See, e.g., *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239 (1903) (circus poster that met the standard of originality was not rendered ineligible for protection simply because it served a commercial purpose); *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53 (1884) (photograph met originality requirement); W. CORNISH, *supra* note 27, at 270-71.

The root requirement of United Kingdom law, however, is *not* originality but "skill, judgment and labour" or "selection, judgment and experience" or "labour, skill and capital" expended by an author in creating a work that falls within the statutory classes of subject matter. *Id.* at 268. This follows from the tendency of English courts to use the copyright law as "a roving concept of unfair competition" to compensate for the lack of a general unfair competition law on the Continental model. *Id.* at 271.

In contrast, as Professor Goldstein notes, United States copyright law ostensibly rejects the expenditure of labor, skill, and capital as either a necessary or sufficient condition of originality. Vol. 1, § 2.2.1.3, pp. 71-72 (citing authorities). Nevertheless, some courts in some cases "involving representational works of art or telephone and business directories treat it as both a necessary and a sufficient condition." Vol. 1, § 2.2.1.3, p. 71; *see also* Robert C. Denicola, *Copyright in Collections of Facts: A Theory for the Protection of Nonfiction Literary Works*, 81 COLUM. L. REV. 516 (1981) (compiling facts should be equivalent to a work of authorship); Leo J. Raskind, *The Continuing Process of Refining and Adapting Copyright Principles*, 14 COLUM.-VLA J.L. & ARTS 125, 148-50 (1990) (stressing the element of conduct in determining the eligibility of maps and compilations); notes 172-193 *infra* and accompanying text.

tle more than a prohibition of actual copying."⁴¹ Underlying this doctrine is the universally recognized principle of nondiscrimination that forbids any test of aesthetic merit.⁴²

The charity and zeal of some early decisions adopting these principles, however, must be evaluated in relation to certain peculiarities of the 1909 Act. Until 1954, for example, the United States copyright authorities had excluded all commercial designs of useful articles from protection as "works of art" under section 5(g) of that Act,⁴³ a position from which most of their European counterparts had been forced to retreat by the end of the nineteenth century.⁴⁴ The leading domestic decision that countenances a pure independent-creation standard, *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*,⁴⁵ was thus written and endorsed by judges who were unaccustomed to reviewing the assortment of useful articles bearing the chronically low levels of creative content that proved so troublesome abroad.⁴⁶ Moreover, works eligible under the 1909 Act received only fifty-six years of protection at best, and that Act's renewal provisions⁴⁷ resulted in technical forfeiture of some

41. *Alfred Bell & Co. v. Catalda Fine Arts, Inc.*, 191 F.2d 99, 103 (2d Cir. 1951) (Frank, J.) (quoting *Hoague-Sprague Corp. v. Frank C. Meyer, Inc.*, 31 F.2d 583, 586 (E.D.N.Y. 1929)).

42. See, e.g., *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 251 (1903); WIPO GUIDE, *supra* note 18, at 12-13 (describing similar approach in Berne Convention countries although the Berne Convention imposes no express standard of originality).

43. *Mazer v. Stein*, 347 U.S. 201 (1954), finally established the copyrightability of applied art without, however, providing any legal criterion for distinguishing noncopyrightable industrial designs. For a history of the troubled evolution of design protection, see generally J.H. Reichman, *Design Protection in Domestic and Foreign Copyright Law: From the Berne Revision of 1948 to the Copyright Act of 1976*, 1983 DUKE L.J. 1143, 1146-53 [hereinafter Reichman, *Designs Before 1976*].

44. See Reichman, *Designs Before 1976*, *supra* note 43, at 1153-67 (discussing the "unity of art" doctrine in France and the resistance of other Berne Union countries to that doctrine). The Berne Revision Conference at Brussels in 1948 ended the drive to bring industrial designs into copyright law, but it also required member countries to recognize some works of applied art as copyrightable subject matter, a principle accepted by those forming the Universal Copyright Convention. This development, in turn, led the United States Copyright Office to allow registration for certain representational works of applied art and to argue (successfully) for judicial approval in *Mazer v. Stein*. See *id.* at 1148-53, 1164-72.

45. 191 F.2d 99, 103 (2d Cir. 1951) (Frank, J.) (originality requirement does not require novelty, only independent creation; hence plaintiff's engravings of public domain paintings were copyrightable, even if the differences were inadvertent). But cf. *Kuddle Toy, Inc. v. Pusycat-Toy Co.*, 183 U.S.P.Q. (BNA) 642 (E.D.N.Y. 1974) (stressing that *Alfred Bell* actually dealt with an artistic work in the historical sense of the term and refusing to apply its low standard to a commercial design).

46. See note 44 *supra* and accompanying text. In fact, Judge Frank in *Alfred Bell* specifically noted that commercial designs were only protected under design patent law, which imposed very high standards. 191 F.2d at 104. In contrast, Judge Frank had not hesitated to apply a quantitative creativity test to game boards and game rules (i.e., to borderline utilitarian literary works) just a few years earlier. See *Chamberlin v. Uris Sales Corp.*, 150 F.2d 512 (2d Cir. 1945); text accompanying note 57 *infra*.

47. See Act of March 4, 1909, ch. 320, § 24, 35 Stat. 1075, 1080-81 (superseded by Copyright Act of 1976 § 304(a), 17 U.S.C. § 304(a) (1988) (declining to "save" works originally copyrightable under the 1909 Act from the possibility of technical forfeiture by leaving the 28-year first term and renewal provisions intact for works still in their first term on January 1, 1978)); see also Pub. L. No. 94-553, secs. 103, 112, 90 Stat. 2541, 2599, 2600 (1976) (transitional and supplementary sections codified in notes preceding 17 U.S.C. § 101 (1988) and following *id.* § 501) (declining to rescue works that entered the public domain before January 1, 1978).

85 percent of active copyrights after their first 28-year term.⁴⁸ Long-term protection of low-creativity works thus posed less of a problem for American copyright law during the period when its originality principles were developing than it did for foreign law at the corresponding period of maturation.

In Europe, the long duration of copyright protection and the often heated debate over the propriety of protecting industrial designs and other controversial matter⁴⁹ induced most courts and legislators to apply at least a *quantitative* creativity standard to borderline utilitarian works, whether literary or artistic, notwithstanding their allegiance to the principle of nondiscrimination.⁵⁰ Although this standard varies from country to country,⁵¹ most foreign courts demand evidence of the distance separating allegedly creative elements of candidate works from preexisting works whenever proof of independent creation alone does not reliably demonstrate the unique stamp of an author's personality.⁵² Some foreign courts, notably those of Germany, also apply a *qualitative* originality standard to exclude routine or commonplace elements embodied in industrial products such as commercial designs⁵³ or, more recently, computer programs.⁵⁴

Since 1976, when Congress simultaneously aligned the term of protection in American copyright law with that of the Berne Union members and broadened the range of eligible subject matter, some courts in this country have logically begun to reexamine the postulates governing the originality

48. See Barbara A. Ringer with Julius A. Culp, *Renewal of Copyright*, in 1 STUDIES ON COPYRIGHT 503, 583 (1963). The Copyright Act of 1909, with its formalities of publication with notice, registration, and deposit, its relatively short duration, and its lack of moral rights thus seems closer in spirit to the sui generis design laws enacted abroad than to the mature copyright paradigm of the Berne Union countries. See Ringer, *supra* note 8, at 1051.

49. See note 44 *supra* and accompanying text.

50. See, e.g., A. DIETZ, *supra* note 30, at 28-34; Geller, *International Copyright: An Introduction*, *supra* note 16, § 2[3][c]; J.H. Reichman, *Design Protection After the Copyright Act of 1976: A Comparative View of the Emerging Interim Models*, 31 J. COPYRIGHT SOC'Y 267, 287-93 (1984) [hereinafter Reichman, *Designs After 1976*] (evolution of Benelux law).

51. For example, French courts require the protected work to display "an original or personal character," which further implies "differences from prior works or matters, differences that originate in the author's own efforts." Robert Plaisant, *France* § 2[1][b], in 1 INTERNATIONAL COPYRIGHT LAW AND PRACTICE, *supra* note 16. The criterion codified in Germany requires "personal intellectual creations." See Adolf Dietz, *Germany, Federal Republic* § 2[1][b], in *id.*; notes 53-54 *infra* and accompanying text. Italian law protects works of a "creative character" and requires that they be "the result of an intellectual effort," although the requisite degree of differentiation from prior works is unsettled. See Mario Fabiani, *Italy* § 2[1][b], in 2 INTERNATIONAL COPYRIGHT LAW AND PRACTICE, *supra* note 16.

52. See, e.g., IVAN CHERPILLOD, *L'OBJET DU DROIT D'AUTEUR* 131-37 (1985); cf. *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 250 (1903) (Holmes, J.) (stressing "the personal reaction of an individual upon nature," and establishing the presupposition that independent creation inherently differentiates the creative product from preexisting works because "[p]ersonality always contains something unique" and because even "a very modest grade of art has in it something irreducible, which is one man's alone."). The question both here and abroad is to determine the conditions under which this premise breaks down.

53. See, e.g., Dietz, *supra* note 51, §§ 2[1][b], 2[4][c].

54. See, e.g., *id.* § 2[4][d]; Michael Lehmann, *The Legal Protection of Computer Programs in Germany: A Summary of the Present Situation*, 19 INT'L REV. INDUS. PROP. & COPYRIGHT L. [I.I.C.] 473, 474-76 (1988).

requirement.⁵⁵ Leery of overprotecting works of low creativity that resemble items already in or en route to the public domain, they have sometimes questioned whether the uniqueness ordinarily attributed to independent creation actually occurs when external factors, such as functional exigencies or market expectations, limit a creator's opportunities for subjective, personal expression.⁵⁶

In this way, some courts have modified the traditional originality standard when it seems unsuited to the subject matter at hand. In 1976, for example, the Second Circuit balked at protecting the design of a toy bank derived from a public-domain exemplar and rediscovered a quantitative creativity test that Judge Jerome Frank had devised for game rules and game boards in 1945.⁵⁷ The same circuit sporadically extended this quest for substantial variation to commercial designs based on works still in copyright⁵⁸ and, more recently, it found no creative expression in a rudimentary arrangement of data.⁵⁹

Other federal appellate courts have sometimes followed this approach⁶⁰

55. The legislative history accompanying the 1976 Act declared that the term "original works of authorship" was "intended to incorporate without change the standard of originality established by the courts under the present [1909] statute." H.R. REP. NO. 1476, 94th Cong., 2d Sess. 51 (1976), reprinted in 1976 U.S. CODE CONG. & ADMIN. NEWS 5659, 5664 [hereinafter 1976 ACT HOUSE REPORT]. This statement can mislead the unwary, however, because the existing standard for originality when the Act was adopted late in 1976 already included *L. Batlin & Son, Inc. v. Snyder*, 536 F.2d 486 (2d Cir.) (en banc), cert. denied, 439 U.S. 857 (1976), which applied a more stringent standard and endorsed earlier cases to the same effect.

56. See Reichman, *Designs After 1976*, supra note 50, at 297-321 (citing authorities); J.H. Reichman, *Computer Programs as Applied Scientific Know-How: Implications of Copyright Protection for Commercialized University Research*, 42 VAND. L. REV. 639, 683-89 (1989) [hereinafter Reichman, *Programs as Know-How*] (discussing dangers of uncritically applying pure theory of copyright law to works having an industrial character); see also Jessica Litman, *The Public Domain*, 39 EMORY L.J. 965, 966, 1004-19 (1990) (discussing limits of originality doctrine in relation to author's need to use public domain matter in fashioning new works).

57. See *L. Batlin & Son, Inc. v. Snyder*, 536 F.2d 486, 490 (2d Cir.) (en banc) (citing *Chamberlin v. Uris Sales Corp.*, 150 F.2d 512, 513 (2d Cir. 1945)), cert. denied, 429 U.S. 857 (1976); see also *Kuddle Toy, Inc. v. Pussycat-Toy Co.*, 183 U.S.P.Q. (BNA) 642 (E.D.N.Y. 1974) (no relief where plaintiff's teddy bear diverged only slightly from the classic teddy bear); *Gardenia Flowers, Inc. v. Joseph Markovits, Inc.*, 280 F. Supp. 776 (S.D.N.Y. 1968) (no copyright on artificial flower corsages because arrangement was traditional and added features were only utilitarian); Reichman, *Designs After 1976*, supra note 50, at 271-75, 298-308, 312-21.

58. *Durham Indus. v. Tomy Corp.*, 630 F.2d 905, 909-11 (2d Cir. 1980) (stating that the *Batlin* standard of substantial creativity applied with particular force to works derived from other works still in copyright); see also *Eden Toys, Inc. v. Florelee Undergarment Co.*, 697 F.2d 27, 34 (2d Cir. 1982) (derivative work drawing of Paddington Bear copyrightable under *Batlin* as it contained "non-trivial" original contributions, even though it retained the "same aesthetic appeal").

59. *Financial Information, Inc. v. Moody's Investors Servs., Inc.*, 808 F.2d 204 (2d Cir. 1986) (arrangement of information for certain bond redemption cards not an original work of authorship), cert. denied, 484 U.S. 820 (1987). But cf. *Weissmann v. Freeman*, 868 F.2d 1313, 1321 (2d Cir.) (requiring only an "unmistakable dash of originality" and eschewing high standards of uniqueness and creativity under rule of *Alfred Bell*), cert. denied, 110 S. Ct. 219 (1989).

60. See, e.g., *John Muller & Co. v. New York Arrows Soccer Team, Inc.*, 802 F.2d 989 (8th Cir. 1986) (logo not copyrightable for lack of any creative contribution). But see *West Publishing Co. v. Mead Data Cent., Inc.*, 799 F.2d 1219 (8th Cir. 1986) (West's arrangement of cases in its reporters copyrightable because resulting from considerable labor and judgment), cert. denied, 479 U.S. 1070 (1987); cf. *Atari Games Corp. v. Oman*, 693 F. Supp. 1204 (D.D.C. 1988) (holding that a video game lacked creativity and was not an original work of authorship), rev'd, 888 F.2d 878 (D.C.

and sometimes relied on the related notion of authorship codified in section 102(a) of the 1976 Act.⁶¹ At least one court has excluded independently created elements of a computer program at the threshold of eligibility on the ground that its features were dictated by technological constraints.⁶² Still others, notably in the Ninth Circuit, indirectly reach comparable results at the infringement stage by declining to find any quantum of protectible matter in independently created works that defendants had closely or slavishly imitated.⁶³ These latter opinions, although cast as judicial exclusions of matter left unprotected by section 102(b), subtly narrow *Bleistein's* basic presupposition that independent creation always yields some personal expression within the protective reach of section 102(a).⁶⁴

Taken together, these different lines of cases show the beginnings of a methodological convergence between domestic and foreign courts in evaluating the eligibility of borderline utilitarian productions⁶⁵ whose market value is not determined by personal expression. A fuller analysis of these issues

Cir. 1989) (questioning authority and reasoning of the Register of Copyrights in applying originality standard).

61. See, e.g., *Toro Co. v. R & R Prods. Co.*, 787 F.2d 1208 (8th Cir. 1986) (parts numbering system not an original work of authorship). The statutory requirement of authorship has also tempted some commentators to define originality in terms of conduct. See, e.g., Raskind, *supra* note 40, at 133-40 (reciting history of map copyright cases). This may lead copyright law to become a kind of ersatz unfair competition law, however, as has occurred in the United Kingdom. See note 40 *supra*; cf. Stephen P. Handler, *Copyright Protection for Mass-Produced, Commercial Products: A Review of the Developments Following Mazer v. Stein*, 38 U. CHI. L. REV. 807, 818-20 (1971) (student author) (noting some courts' tendency to lose sight of basic copyright principles and to make condemnation of appropriation or commercial piracy an end in itself).

62. *Secure Serv. Technology, Inc. v. Time & Space Processing Inc.*, 722 F. Supp. 1354, 1363 (E.D. Va. 1989) (denying protection of communications protocol essential to interoperability of a system because "to grant a copyright to a mere rearrangement of binary digits would effectively eliminate any authorship or originality requirement from the copyright laws"); see also *Manufacturers Technologies, Inc. v. Cams, Inc.*, 706 F. Supp. 984, 995 (D. Conn. 1989) (noted in 1990 Supplement, § 2.15.3.2, p. 20, for its suggestion that interface "designs aimed at enhancing user 'ease' should be denied copyright protection for the same reason as designs aimed at enhancing technical efficiency"). But see *Lotus Dev. Corp. v. Paperback Software Int'l*, 740 F. Supp. 37 (D. Mass. 1990) (computer menu command structure and screen presentation held copyrightable).

63. See, e.g., *Data East USA, Inc. v. Epyx, Inc.*, 862 F.2d 204 (9th Cir. 1988) (similar karate computer game noninfringing because game similarities were inherent in nature of karate; protectible expression limited to scoreboard and background scenes); *Frybarger v. International Business Machs. Corp.*, 812 F.2d 525 (9th Cir. 1987) (similar video game not infringing because each similarity of expression was dictated by an unprotectible idea); *Worth v. Selchow & Righter Co.*, 827 F.2d 569 (9th Cir. 1987) (facts in trivia encyclopedia not copyrightable, and copying of words merely reflected those nonprotectible ideas; arrangement of entries protectible but not copied), *cert. denied*, 485 U.S. 977 (1988); see also *Landsberg v. Scrabble Crossword Game Players, Inc.*, 736 F.2d 485, 488 (9th Cir.) (authors of factual works confined to a narrow range of expression, so copying must be nearly verbatim to constitute infringement), *cert. denied*, 469 U.S. 1037 (1984).

These courts found that, despite close copying, these works contained only nonprotectible matter excluded by 17 U.S.C. § 102(b) (1988), which denies protection to "any idea, procedure, process, system, method of operation, concept, principle, or discovery." It follows that the works contained virtually no elements amounting to original works of authorship within the meaning of 17 U.S.C. § 102(a) (1988) (as amended in 1990, see note 38 *supra*), notwithstanding independent creation.

64. See note 52 *supra*.

65. For the distinction between copyrightable works and noncopyrightable productions, see Berne Convention, *supra* note 4, art. 2(1); Geller, *International Copyright: An Introduction*, *supra* note 16, § 4[1][a].

would carry this review too far afield.⁶⁶ The point here is not to ascertain whether Professor Goldstein approves or disapproves of this increasingly subtle treatment of the originality requirement,⁶⁷ but rather to confirm that he does discern and describe these important developments in the law. He thus resists the tendency of some commentators to obscure the irreconcilability of many modern decisions with the purist appeal to *Bleistein*.⁶⁸

Starting from the proposition that copyright law never requires a showing of objective novelty in the manner of patent law,⁶⁹ Goldstein proceeds to consider whether the originality requirement implies a quantitative or qualitative threshold of creativity.⁷⁰ He reviews the lengthening list of cases that have sought some quantum of creativity beyond independent creation,⁷¹ and he acknowledges that some courts, wittingly or not, may have even applied a qualitative standard.⁷² Moreover, Goldstein recognizes that some courts use the authorship requirement of section 102(a) to resolve these tensions,⁷³ while others sidestep a discussion of originality by systematically declining to find the quantum of protectible expression that "authorship" implies.⁷⁴

Professor Goldstein thus provides practitioners with helpful guidance in these matters, and he aids courts in navigating between appeals to a purist tradition and precedents breaking with that tradition for reasons that are often imperfectly articulated.⁷⁵ His realistic appraisal of the factors that in-

66. For more, see Reichman, *Programs as Know-How*, *supra* note 56, at 683-89.

67. In general, Goldstein believes that "in close cases courts should err on the side of finding protectible expression" and limit the protection of minimally expressive works at the infringement stage. Vol. 1, § 2.3.1.2, p. 79. While this approach works well when applied to traditional literary and artistic works, it becomes less reliable when applied to borderline utilitarian works, as Goldstein recognizes. See vol. 2, §§ 8.2.1.1, 8.2.5.1 (criticizing courts for overprotecting fabric designs and functional works at the infringement stage). Courts should particularly avoid giving first-comers even colorable claims to nonprotectible matter in functional works. Otherwise, risk-averse second-comers may find it prudent to work around or license the functionally efficient solutions in the earlier works in order to avoid suit, at great cost to society at large. See Reichman, *Programs as Know-How*, *supra* note 56, at 685-86.

68. See vol. 1, § 2.2.

69. See vol. 1, § 2.2.1.1.

70. Vol. 1, § 2.2.1.2.

71. Vol. 1, §§ 2.2.1.2-2.2.1.3.

72. Vol. 1, § 2.2.1.2, pp. 70-71; see also Reichman, *Designs and New Technologies*, *supra* note 27, at — [Part II.B] (discussing the Second Circuit's retreat from *Kieselstein-Cord v. Accessories by Pearl, Inc.*, 632 F.2d 989 (2d Cir. 1980)).

73. Vol. 1, § 2.2.2, p. 72. Initially, Goldstein focuses mainly on the problem of works created by new technologies, such as computer-generated maps, in which *human* authorship is problematic, to the exclusion of cases that have invoked lack of authorship when denying protection to factual and functional works of a more familiar character. See notes 59-62 *supra* and accompanying text. He then comprehensively explores the general problems of applying the originality standard to these categories in vol. 1, §§ 2.14-2.15. Fuller citations to the growing judicial awareness of "authorship" as a distinct criterion would be helpful in the earlier discussion, especially since this tendency is now emphasized in Goldstein's 1990 Supplement, § 2.15.3.2, pp. 19-20, with regard to functional works in general and computer-generated screen displays in particular.

74. Vol. 1, § 2.3, pp. 75-79 (emphasizing that ideas, even when original, are never protectible); see notes 62-63 *supra* and accompanying text.

75. Courts often speak of a lack of "originality" when, in fact, they must be referring either to a lack of creativity or to a lack of authorship, or both, because the plaintiff's independent creation (in the sense of not copying) is uncontested. See, e.g., *Financial Information, Inc. v. Moody's Investors Servs.*, 808 F.2d 204, 207-08 (2d Cir. 1986).

fluence eligibility comes at a time when the search for principled standards,⁷⁶ particularly with regard to legal protection of databases⁷⁷ and computer programs,⁷⁸ has entered a new and highly controversial phase. As the influence of copyright law on putative industrial property expands at an alarming pace, Goldstein's treatment of the originality requirement provides a useful framework for future debate.⁷⁹

III. INFRINGEMENT IN A MULTI-DIMENSIONAL PERSPECTIVE

Professor Goldstein's innovative approach to infringement⁸⁰ is the heart of his treatise, and it will undoubtedly play a major role in the future development of American copyright law. Goldstein's treatment deviates from the standard approach in four principal ways. First, he aggressively pins general infringement doctrine to the protection of the author's market interest.⁸¹ Second, he links the fair use exception to the author's market interest in an integrated approach to the scope of protection.⁸² Third, he jettisons the myth of a unitarian doctrine of infringement equally and uniformly applicable to all subject matters.⁸³ Fourth, he relates the level of protection that courts empirically provide to the nature of the subject matter at issue and explains the specialized adjustments that courts make in terms of the policies applicable to each subject matter.⁸⁴

76. See Brown, *supra* note 37; see also Ralph S. Brown, *Design Protection: An Overview*, 34 UCLA L. REV. 1341, 1386-95 (1987).

77. See, e.g., Denicola, *supra* note 40 (approving "sweat of the brow" rationale for protection of compilations); Raskind, *supra* note 40 (proposing to define originality in terms of conduct); Robert A. Gorman, *Fact or Fancy? The Implications for Copyright*, 29 J. COPYRIGHT SOC'Y 560 (1980) (rejecting "sweat of the brow" rationale for copyright protection of factual works). The most recent discussion is Jane Ginsburg, *Creation and Commercial Value: Copyright Protection of Works of Information*, 90 COLUM. L. REV. 1865 (1990) (describing limited scope of protection for low-authorship works at earlier period and stressing third parties' need to use contents of copyrighted compilations in other productions).

78. See, e.g., David Nimmer, Richard L. Bernacchi & Gary N. Frischling, *A Structured Approach to Analyzing the Substantial Similarity of Computer Software in Copyright Infringement Cases*, 20 ARIZ. ST. L.J. 625, 625-29, 642-49 (1988) (stressing lack of expressive originality in computer programs); Reichman, *Programs as Know-How*, *supra* note 56, at 683-89 (criticizing application of "pure" copyright theory when variations on prior art are minimal and dictated by function and market expectations).

79. In contrast, although Professor Nimmer recognized "a minimal requirement of creativity over and above the requirement of independent effort," he assimilated it with the older *de minimis* rule and confined it to artistic works. See 1 NIMMER ON COPYRIGHT, *supra* note 2, § 2.01[B]. However, the later revisions of his treatise recognize the dangers of protecting "physical" or "manufacturing" skill first identified in *L. Batlin & Son, Inc. v. Snyder*, 536 F.2d 486, 491 (2d Cir.) (en banc), *cert. denied*, 429 U.S. 857 (1976). See 1 NIMMER ON COPYRIGHT, *supra* note 2, § 2.01[A], at 2-10 n.17.1 (citing *Batlin and Durham Indus. Inc. v. Tomy Corp.*, 630 F.2d 905 (2d Cir. 1980)). This is consistent with David Nimmer's recent concerns about overprotecting nonexpressive matter in computer programs. See Nimmer, Bernacchi & Frischling, *supra* note 78.

80. See generally vol. 2, chs. 7-10.

81. See notes 85-106 *infra* and accompanying text.

82. See notes 107-134 *infra* and accompanying text.

83. See notes 135-146 *infra* and accompanying text.

84. See notes 147-237 *infra* and accompanying text.

A. *The Market Interest as Organizing Principle*

1. *In general.*

Anyone who has tried to predict the outcome of litigation on the basis of teachings gleaned from the classic cases on infringement knows how little they added to reasoned analysis or to the development of a distinctive copyright paradigm independent of other bodies of law.⁸⁵ The ritual formula that "infringement equals access plus substantial similarity" appears unexceptionable on its face.⁸⁶ As implemented in the classic cases, however, "access" often meant more than an opportunity to view the allegedly copied work. Arguably, it became a code word assimilating a variety of dirty tricks that evoked breach of confidence, theft of trade secrets, and other forms of actionable misappropriation. Absent slavish imitation, the elaborate subtests of infringement actually turned on improper access, while the formal assessment of substantial similarity became a rationalization of legal outcomes dictated by the familiar concerns of unfair competition law.⁸⁷

In the nineteenth century, however, Justice Joseph Story relied partly on a less primitive approach in *Folsom v. Marsh*.⁸⁸ Inspired by Justice Story's insights, Judge Jerome Frank formulated a mature doctrine of infringement in *Arnstein v. Porter*,⁸⁹ which overtly linked copyright protection to a defense of the author's market interest.⁹⁰ This approach to copyright protection enables an author to recoup revenues generated from all the different uses of his or her work on each of the market segments where it may be commercially exploited, either in original or derivative form.⁹¹

To the credit of the United States copyright authorities and of the con-

85. See, e.g., Cohen, *supra* note 17, at 722-23; Paul Goldstein, *Derivative Rights and Derivative Works in Copyright*, 30 J. COPYRIGHT SOC'Y 209, 220-26 (1983) [hereinafter Goldstein, *Derivative Works*]; see also *Universal Athletic Sales Co. v. Salkeld*, 511 F.2d 904 (3d Cir.) (bemoaning the tendency of copyright decisions to indulge in abstract formulations of limited practical utility), *cert. denied*, 423 U.S. 863 (1975).

86. See vol. 2, § 7.2.1.

87. Compare *Sheldon v. Metro-Goldwyn Pictures Corp.*, 81 F.2d 49 (2d Cir. 1936) (evidence of failed negotiations; infringement upheld) with *Nichols v. Universal Pictures Corp.*, 45 F.2d 119 (2d Cir. 1930) (no dirty tricks; no infringement because only "ideas" were taken), *cert. denied*, 282 U.S. 902 (1931). See also Goldstein, *Derivative Works*, *supra* note 85, at 220-26.

88. 9 F. Cas. 342, 348 (C.C.D. Mass. 1841) (No. 4901) ("If so much is taken, that the value of the original is sensibly diminished, or the labors of the original author are substantially to an injurious extent appropriated by another, that is sufficient, in point of law, to constitute a piracy pro tanto."); see also Goldstein's treatment, vol. 2, § 7.3.2, p. 32.

89. 154 F.2d 464, 473 (2d Cir. 1946) ("The plaintiff's legally protected interest is not, as such, his reputation as a musician but his interest in the potential financial returns from his compositions which derive from the lay public's approbation of his efforts."). See generally Alan Latman, "Probative Similarity" as Proof of Copying: Toward Dispelling Some Myths in Copyright Infringement, 90 COLUM. L. REV. 1187, 1191-1204 (1990).

90. See Michael Ferdinand Sitzler, *Copyright Infringement Actions: The Proper Role for Audience Reactions in Determining Substantial Similarity*, 54 S. CAL. L. REV. 385, 393-94 (1981) (student author).

91. A "derivative work" is defined in the 1976 Act as:

a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elabora-

gressional committees entrusted with these matters, the general revision of 1976 implemented a scheme of protection based on the author's market interest.⁹² While this scheme seems consistent with the teachings of *Arnstein* (which are now widely recognized,⁹³ though imperfectly implemented⁹⁴), the leading commentators concentrate more on reconciling the post-1976 case law with preexisting tradition than on elaborating the economic implications of the codified structure as a whole. This failing helps account for the rarity of judicial opinions that securely place the economics of similarity at the forefront of attention without covert reliance on the kind of dirty tricks that influenced most decisions in the past.⁹⁵

tions, or other modifications which, as a whole, represent an original work of authorship, is a "derivative work."

17 U.S.C. § 101 (1988). Derivative works were not defined as such in the 1909 Act, but they were protected. See Act of March 4, 1909, ch. 320, § 1(b), 35 Stat. 1075, 1075 (now superseded).

Strong protection of derivative works is consistent with the philosophy and practices underlying the Berne Convention. See, e.g., Berne Convention, *supra* note 4, arts. 2(3), 12 (giving authors control over adaptations); SAM RICKETSON, *THE BERNE CONVENTION FOR THE PROTECTION OF LITERARY AND ARTISTIC WORKS: 1886-1986*, at 286-87, 293-95, 398-400 (1987); WIPO GUIDE, *supra* note 18, at 76-77.

92. See, e.g., 17 U.S.C. § 102(a) (1988) (as amended in 1990, see note 38 *supra*) (granting automatic copyright protection); *id.* § 103 (compilations and derivative works specifically protected); *id.* § 106(2) (conferring exclusive rights to prepare derivative works based upon the copyrighted work); *id.* § 107(4) (evaluation of statutory fair use defense must consider the potential market for or value of the copyrighted work); *id.* §§ 108-120 (as added or amended in 1990, see note 38 *supra*) (declining to create a blanket exception for nonprofit uses); *id.* § 201(d) (§ 106 rights divisible and separately transferable).

93. See vol. 2, § 7.3, pp. 21-24 (citing authorities).

94. For example, in *Sid & Marty Krofft Television Prods., Inc. v. McDonald's Corp.*, 562 F.2d 1157 (9th Cir. 1977), the Ninth Circuit established "intrinsic" and "extrinsic" tests of infringement with reference to *Arnstein*, but recognized that it may have deviated significantly from the model established in that case. The court also implied that a finding of infringement required substantial similarity of both expression and idea. *Krofft*, 562 F.2d at 1164.

As the late Alan Latman noted in an article published posthumously, at the first level of analysis, *Arnstein* and *Krofft* "pass each other in the night" because "*Arnstein* focused on copying versus independent production," whereas *Krofft* focused on "copying of ideas rather than copying of expression." Latman, *supra* note 89, at 1203. In Latman's view, the *Krofft* approach "was much less helpful." *Id.* Subsequent Ninth Circuit cases have nonetheless insisted on this dubious proposition. See, e.g., *Narell v. Freeman*, 872 F.2d 907 (9th Cir. 1989); *Aliotti v. Dakin*, 831 F.2d 898 (9th Cir. 1987); *Berkic v. Crichton*, 761 F.2d 1289 (9th Cir.), *cert. denied*, 474 U.S. 826 (1985); *Litchfield v. Spielberg*, 736 F.2d 1352, 1356 (9th Cir. 1984), *cert. denied*, 470 U.S. 1052 (1985).

In *Olson v. National Broadcasting Co.*, 855 F.2d 1446, 1449 (9th Cir. 1988), the Ninth Circuit reiterated the need to "prove both substantial similarity of the general ideas . . . and substantial similarity of the protectible expression of those ideas," and then virtually excluded characters as a basis of comparison for determining similarity, *id.* at 1451-53. In contrast, the Second Circuit has applied *Arnstein*'s methodology and allowed similarities of characters as a basis of comparison. *Warner Bros., Inc. v. American Broadcasting Cos.*, 720 F.2d 231, 239-45 (2d Cir. 1983); see also *W. PATRY*, *supra* note 2, at 197 n.3 (criticizing the Ninth Circuit's approach but praising that of the Second Circuit). For the Ninth Circuit's most recent attempt to bring its methodology closer to that of *Arnstein*, see *Shaw v. Lindheim*, 908 F.2d 532 (9th Cir. 1990) (for literary works, the extrinsic (objective) test now focuses on similarities in both ideas and expression, and an affirmative finding precludes summary judgment; the intrinsic (subjective) test assesses the total concept and feel of the works at issue). For Goldstein's treatment, see vol. 2, § 7.3, pp. 24 n.6, 25-26.

95. Decisions that properly avoid an easy conclusion of "piracy" in order to address the harder economic questions include *Cooling Sys. & Flexibles, Inc. v. Stuart Radiator, Inc.*, 777 F.2d 485, 492 (9th Cir. 1985) (proof of common errors may show copying, but does not obviate need to show substantial similarity of protected expression; moreover, defendant did not infringe simply by copying general arrangement of catalog where plaintiff had tried other arrangements and failed); *Warner*

In contrast, Professor Goldstein identifies the market interest as the organizing principle of the infringement calculus,⁹⁶ an interpretation foreshadowed by the prominent role he assigned incentive theory in his introduction.⁹⁷ For example, in discussing the two tests applicable in any determination of substantial similarity, Goldstein depicts the difference between simple "copying" and "improper appropriation" in economic terms. "Copying" entails either some physical reproduction of the plaintiff's work or a mental visualization of it when creating a later work.⁹⁸

"Improper appropriation," on the other hand, has two subtests. First, competing authors may freely use nonprotectible ideas underlying independently created expression, an aspect Goldstein links with the originality doctrine.⁹⁹ The "protected expression" subtest consequently "ensures that the copyright owner will not enjoy a monopoly over subject matter that she did not originate, nor economic rewards from an audience that should not belong exclusively to her."¹⁰⁰ Second, "copying" only amounts to "improper appropriation" when the second-comer "capture[s] the audience, and thus the economic rewards, that would otherwise belong exclusively to the plaintiff."¹⁰¹ It follows that the audience subtest is but a "practical implementation of copyright law's traditional object: to secure to authors the exclusive market . . . for their protected expression."¹⁰²

In this scheme, rights in derivative works deserve particular attention because they "contemplate an array of different, though overlapping, audiences for the underlying copyrighted work."¹⁰³ The vindication of these rights turns on economic tests of substitution or saturation—labeled "audience displacement" tests—which a plaintiff cannot trigger without demonstrating that the defendant appropriated the protected matter.¹⁰⁴ By the same token, the irrepressible dirty tricks of classical infringement lore lose

Bros., Inc. v. American Broadcasting Cos., 720 F.2d 231 (2d Cir. 1983) (disregarding failed negotiations as a basis of decision, allowing similarities of characters to weigh in evaluation of illicit appropriation, but finding that the bumbling television superhero character was not substantially similar to Superman and that borrowing of well-known phrases merely highlighted the differences between the two); *Kepner-Tregoe, Inc. v. Carabio*, 203 U.S.P.Q. (BNA) 124 (E.D. Mich. 1979) (discounting defendants' dirty tricks because of plaintiff's overwhelming market power, excluding bulk of management training materials as generic or necessary expression, identifying illicit appropriation only in specific sentences, and imposing only remedy of correction in order to stimulate competition); *cf.* *Atari, Inc. v. North Am. Philips Consumer Elecs. Corp.*, 672 F.2d 607 (7th Cir. 1982) (absence of dirty tricks did not excuse defendant when plaintiff's market interest depended on its unconventional interpretation of stock video game characters, which the defendant appropriated). *But cf.* *Sid & Marty Krofft Television Prods., Inc. v. McDonald's Corp.*, 562 F.2d 1157 (9th Cir. 1977) (adopting a version of the *Arnstein* doctrine, but the panel may in fact have been swayed by dirty tricks).

96. *See, e.g.*, vol. 2, §§ 7.1.2, 7.3.2.

97. *See* vol. 1, § 1.1; notes 23-38 *supra* and accompanying text.

98. Vol. 2, § 7.1, pp. 3-4.

99. Vol. 2, § 7.1.2.

100. Vol. 2, § 7.1.2, p. 7.

101. *Id.*

102. Vol. 2, § 7.3.2, p. 32 (citing Justice Story in *Folsom v. Marsh*, discussed in note 88 *supra* and accompanying text).

103. Vol. 2, § 7.4.1.2, p. 37.

104. *See* vol. 2, §§ 7.4.1-7.4.2.

much of their former bite because, for example, "[p]roof of [failed] prior negotiations is no substitute for proof that protected expression has been taken."¹⁰⁵ In short, Goldstein's analysis reduces the subtest of access to its proper function of determining the defendant's *opportunity* to copy, without covertly allowing access issues to contaminate the crucial legal and economic evaluation of substantial similarity as such.¹⁰⁶

2. *The fair use exception.*

Professor Goldstein's faith in the incentive theory of copyright protection serves him well in trying to fashion a workable interpretation of the fair use doctrine,¹⁰⁷ which has greatly troubled American copyright courts in recent years.¹⁰⁸ Congress expressly recognized the market interest in section 107(4) of the 1976 Act,¹⁰⁹ and some court decisions view this reference to the market interest as the dominant factor in the codified list of variables.¹¹⁰ Moreover, Goldstein's analysis builds on earlier work by Professor Wendy

105. Vol. 2, § 8.1.2, p. 62. A good example is *Harper House, Inc. v. Thomas Nelson, Inc.*, 889 F.2d 197 (9th Cir. 1989), in which an expressed interest in copying at one stage did not necessarily outweigh the fact that only nonprotectible elements may have been taken in the end. *But see* *Shaw v. Lindheim*, 908 F.2d 531, 539 (9th Cir. 1990) (sustaining dubious "inverse ratio rule," which permits lower threshold of proof of substantial similarity if clear and convincing evidence of "access" is demonstrated).

106. See notes 86-87 *supra* and accompanying text.

107. 17 U.S.C. § 107 (1988) (as amended in 1990, see note 38 *supra*) (fair use of copyrighted work "for purposes such as criticism, comment, news reporting, teaching . . . scholarship, or research" not infringing). This provision continues to elicit an impressive body of scholarly analysis. See, e.g., *FAIR USE AND FREE INQUIRY: COPYRIGHT LAW AND THE NEW MEDIA* (J.S. Lawrence & B. Timberg 2d ed. 1989); WILLIAM F. PATRY, *THE FAIR USE PRIVILEGE IN COPYRIGHT LAW* (1985); William W. Fisher III, *Reconstructing the Fair Use Doctrine*, 101 HARV. L. REV. 1659 (1988); Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and Its Predecessors*, 30 J. COPYRIGHT SOC'Y 253 (1983); Ladd, *supra* note 27; Leo J. Raskind, *A Functional Interpretation of Fair Use*, 31 J. COPYRIGHT SOC'Y 601 (1984).

108. See, e.g., *Sony Corp. of Am. v. Universal City Studios*, 464 U.S. 417 (1984) (home videotaping is fair use); *Harper & Row Publishers v. Nation Enters.*, 471 U.S. 539 (1985) (anticipating, paraphrasing, and quoting core sections of ex-President's memoirs was not fair use); *Hustler Magazine, Inc. v. Moral Majority, Inc.*, 796 F.2d 448 (9th Cir. 1986) (minister's unauthorized copy of parody for purposes of fundraising and to rebut parody of him was fair use); *Salinger v. Random House, Inc.*, 811 F.2d 90 (2d Cir. 1987) (use of author's unpublished letters that recipients had donated to various libraries in an unauthorized biography of that author was not fair use); *New Era Publications, Int'l v. Henry Holt & Co.*, 873 F.2d 576 (2d Cir.), *reh'g denied*, 884 F.2d 659 (2d Cir. 1989), *cert. denied*, 110 S. Ct. 1168 (1990) (extensive reproduction of unpublished writings of founder of scientology in a critical biography was not fair use).

109. 17 U.S.C. § 107(4) (1988) (factors applicable to determining fair use shall include "the effect of the use upon the potential market for or value of the copyrighted work"). Other factors that must be considered include the "purpose and character" of the use, the nature of the copyrighted work, and the absolute and relative amount copied. See *id.* § 107(1)-(3); *cf.* Berne Convention, *supra* note 4, art. 9(2) (authorizing certain derogations from the exclusive reproduction right of art. 9(1) provided that they do "not conflict with a normal exploitation of the work and . . . [do] not unreasonably prejudice the legitimate interests of the author").

110. See, e.g., *Harper & Row Publishers v. Nation Enters.*, 471 U.S. 539, 566 (1985); *Narell v. Freeman*, 872 F.2d 907, 915 (9th Cir. 1989); *Hustler Magazine, Inc. v. Moral Majority, Inc.*, 796 F.2d 1148, 1155 (9th Cir. 1986). In this respect, Professor Nimmer's view has been influential. See 3 NIMMER ON COPYRIGHT, *supra* note 2, § 13.05[A][4], at 13-80 to 13-81 ("If one looks to the fair use cases, if not always to their stated rationale, this emerges as the most important, and indeed, central fair use factor.").

Gordon, who characterized fair use as a response to market failure.¹¹¹

For example, Goldstein links the "private benefits" flowing from the fair use exception to uses that the copyright owner would have licensed but for insurmountable transaction costs.¹¹² Search and negotiation costs present the typical case, although he warns that technical advances (such as computer retrieval systems) or institutional innovations (such as clearinghouses) could drastically lower these and other transaction costs over time, and thereby alter the legal result. Indeed, he suggests that judicial restraint in finding fair use could stimulate these very advances.¹¹³

But Goldstein also recognizes that simple market failure analysis will not necessarily resolve "public benefit" claims that tend to "excuse a use, even in the absence of transaction costs, if the social benefit of the use outweighs the loss to the copyright owner."¹¹⁴ He gives the example of a teacher who encounters no serious transaction costs in seeking a license to photocopy a chapter from a book for use in class. Yet the small amount of royalties collectible for this use, if any, might not persuade the copyright owner to grant the license.¹¹⁵ Under the public benefit approach, the use could be deemed fair as contributing to an educated citizenry. Goldstein even characterizes it as resulting from market failure due to externalities: "transaction costs prevent the copyright owner from collecting a fee from all who benefit from the use—both the immediate user and society at large."¹¹⁶

The danger, of course, is that so-called public benefit analysis could simply swallow the exclusive rights whole because one can always characterize access to the copyrighted culture at reduced costs as promoting the public interest, at least in the short term.¹¹⁷ Professor Goldstein thus proposes to

111. See Gordon, *supra* note 107.

112. Vol. 2, § 10.1.1, pp. 190-93.

113. Vol. 2, § 10.1.1, pp. 190-93. The Nimmers go one step further and reject the market failure approach altogether on the grounds that it would, at most, justify "a compulsory license or judicially imposed royalty rather than an abdication of copyright under the banner of fair use." 3 NIMMER ON COPYRIGHT, *supra* note 2, § 13.05[A], at 13-73 n.26.1.

114. Vol. 2, § 10.1, p. 190.

115. Vol. 2, § 10.1, pp. 193-94.

116. Vol. 2, § 10.1.3, p. 195. However, transactions costs analysis is at best a clumsy method for dealing with the problem of fair use in the context of factual or functional works. Here the exclusive reproduction rights may block access to noncopyrightable matter excluded by 17 U.S.C. §§ 102(b), 103(b) (1988), unless some override ensures the permissibility of partial or total reproduction for certain kinds of uses. See, e.g., *Narell v. Freeman*, 872 F.2d 907, 914 (9th Cir. 1989) ("The scope of permissible fair use is greater with an informational work than a creative work."); see also notes 178-193 *infra* and accompanying text.

Such an override becomes particularly important in the domain of functional and utilitarian works, where it preserves a competitor's rights to analytical use and may even authorize reverse engineering to foster incremental innovation. See, e.g., *LaST Frontier Conference Report on Copyright Protection of Computer Software*, 30 JURIMETRICS J. 15, 24-25, 28 (1989) [hereinafter *Conference Report*]; cf. Leo J. Raskind, *Reverse Engineering, Unfair Competition, and Fair Use*, 70 MINN. L. REV. 385 (1985). Historically, this was a function of *Baker v. Selden*, 101 U.S. 99 (1879), which allowed a specialized form of fair use applicable to books on science or the useful arts. See H. BALL, *supra* note 9, at 274-78; notes 206-207 & 223 *infra* and accompanying texts. For Professor Goldstein's express recognition of a "reverse engineering" limitation on the protection of computer programs, see 1990 Supplement, § 5.2.1.4, pp. 60-66.

117. See, e.g., R. BENKO, *supra* note 20. Benko states that technological change

confine public benefit analysis to the kinds of uses enumerated in the preamble to section 107.¹¹⁸ In his view, even these uses should normally have to satisfy a market failure test of one kind or another.¹¹⁹

Professor Goldstein impliedly prefers to read this preamble narrowly—as requiring that before a use may be tested against the four criteria of section 107, a defendant must show that its use is “one that specifically serves *political or educational* values.”¹²⁰ He notes that this would proscribe home videotaping of copyrighted entertainment programs off the air, contrary to *Sony Corp. of America v. Universal City Studios*.¹²¹ However, he acknowledges that the preamble can be read broadly to encompass all situations in which

the social, political and cultural benefits of the use will outweigh any consequent losses to the copyright proprietor, and in which the time and expense of negotiations—or in the case of criticism and comments, the unwillingness of the copyright owner to permit these uses at an acceptable price—will often foreclose a negotiated transaction.¹²²

He observes that this broader reading could permit home videotaping of copyrighted entertainment programs off the air, consistent with *Sony*.¹²³ And in his first update to the treatise, he argues the case for a “reverse engineering” limitation on the protection of computer programs, cast in terms of “research,” that under proper conditions could ensure that such works were put “to their socially most beneficial use.”¹²⁴

On either reading of the preamble, Goldstein renders an eloquent plea for judicial restraint.¹²⁵ Those who favor a broad fair use doctrine, espe-

has upset the balance between social costs and benefits that underlies intellectual property laws, challenging their structure and perhaps their very usefulness. More specifically, the demands of the so-called information age raise numerous questions about the value, ownership, and control of information and thus about the nature, scope, and applicability of copyright law.

Id. at 24.

118. Vol. 2, § 10.1.4, pp. 196-98 (discussing 17 U.S.C. § 107 (1988) (later amended in 1990, *see* note 38 *supra*), whose preamble identifies such potentially privileged uses as “criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research”).

119. Vol. 2, § 10.1.3, p. 195.

120. Vol. 2, § 10.2.1, p. 206 (emphasis added); *cf.* vol. 2, § 10.1.4, p. 198 (approving public benefit approach only for uses of the type listed in the preamble).

121. 464 U.S. 417 (1984) (not emphasizing the preamble in its analysis).

122. Vol. 2, § 10.2.1, p. 205.

123. *Id.*

124. 1990 Supplement, § 5.2.1.4, pp. 60-66; *see also* notes 221-225 *infra* and accompanying text. On either reading, Goldstein rejects the “productive” versus “ordinary” use distinction, which would trigger infringement if a second author made copies to use a work for its “intrinsic purposes,” but not if for “productive purposes.” Vol. 2, § 10.2.1, p. 204 n.5. He sees this criterion as inconsistent with the fundamental goal of copyright law: to put copyrighted works to their most beneficial uses. Vol. 2, § 10.2.1, p. 204 n.5. *But see* LEON E. SELTZER, EXEMPTIONS AND FAIR USE IN COPYRIGHT 24 (1978); *cf.* 1 NIMMER ON COPYRIGHT, *supra* note 2, § 13.05[A], at 13-65 n.16 (finding the approach “original and insightful”).

125. *See, e.g.*, vol. 2, § 10.1.3, p. 198 (“[A]lthough the public benefit approach occupies a secure corner in fair use doctrine, the corner is a small one; the political judgments . . . are generally better left to the legislative process.”).

cially one linked to first amendment considerations,¹²⁶ will hardly admire it, whatever their views of a market failure test. But this camp perennially downplays the underlying policies of the constitutional enabling clause, which charges the copyright and patent systems with the task of securing the larger public interest through statutory incentives to authors and inventors.¹²⁷ Accepting this mandate, Goldstein believes that federal judges should not lightly tamper with these incentives in order to promote particular interests.¹²⁸ Rather, parties seeking public use exceptions should petition Congress to enlarge the list of immunities and exemptions already recognized in sections 108 through 120 of the 1976 Act.¹²⁹

In this respect, Professor Goldstein's narrow interpretation of the fair use exception squares with the approach of the Berne Convention,¹³⁰ with which the domestic copyright law was structurally aligned in 1976.¹³¹ The Berne Convention discourages parochial exceptions to international minimum standards that are not sanctioned by widespread international practice.¹³² Such restraint seems especially commendable during a period in which competition in international markets obliges all industrialized countries to maximize their comparative advantages in the production of intellectual goods.¹³³ Unless the federal courts keep fair use within the narrow confines of the preamble to section 107, as Goldstein advises, the United States could risk international censure, especially if trade negotiations should empower states adversely affected by a pattern of ad hoc domestic copyright decisions to seek review within the GATT's dispute-settlement apparatus.¹³⁴

126. *E.g.*, Robert C. Denicola, *Copyright and Free Speech: Constitutional Limitations on the Protection of Expression*, 67 CALIF. L. REV. 283, 293-99 (1979); Gary L. Francione, *Facing The Nation: The Standards for Copyright, Infringement, and Fair Use of Factual Works*, 134 U. PA. L. REV. 519 (1986); Patterson, *supra* note 22.

127. *See, e.g.*, *Harper & Row Publishers v. Nation Enters.*, 471 U.S. 539, 558 (1985) ("it should not be forgotten that the Framers intended copyright itself to be the engine of free expression"); *Mazer v. Stein*, 347 U.S. 201, 219 (1954) (philosophy behind the constitutional empowering clause is "the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare"); notes 21-28 *supra* and accompanying text; *cf.* S. RICKETSON, *supra* note 91, at 477 ("Above all, . . . the very fact that copyright protection exists, both at a national and international level, is an express recognition of the strong public interest that there is in the promotion of cultural, social and economic progress.").

128. *See* vol. 2, § 10.1.4.

129. Vol. 2, § 10.1.4, pp. 196-98; *see* 17 U.S.C. §§ 108-120 (1988) (as added or amended in 1990, *see* note 38 *supra*).

130. *See* Berne Convention, *supra* note 4, arts. 9(2), 10, 10^{bis}, 11^{bis}(2), 13; S. RICKETSON, *supra* note 91, at 477-548; note 109 *supra*.

131. *See* 1976 ACT HOUSE REPORT, *supra* note 55, at 62-63 (noting that the shift from a "for profit" test of the public performance right to a system of specific exemptions for educational and other nonprofit uses resembles the approach "in many foreign laws"). Both systems recognize the need to restrict authors' rights in some cases. *Compare* 17 U.S.C. §§ 108-120 (1988) (as added or amended in 1990, *see* note 38 *supra*) with Berne Convention, *supra* note 4, arts. 9(2), 10, 10^{bis}, 11^{bis}(2), 13. *See also* Ginsburg & Kernochan, *supra* note 16.

132. *See, e.g.*, S. RICKETSON, *supra* note 91, at 477-78.

133. *See, e.g.*, David Hartridge & Arvind Subramanian, *Intellectual Property Rights: The Issues in GATT*, 22 VAND. J. TRANSNAT'L L. 893, 895-96 (1989).

134. *See, e.g.*, Geller, *supra* note 6, at 195; Reichman, *Intellectual Property in International Trade*, *supra* note 6, at 861 ("decisions . . . by beefed up GATT panels could become binding interna-

B. *Relating Scope of Protection to Specific Subject Matters*1. *Discarding the unitarian myth.*

Although the late Professor Alan Latman noticed the extent to which the scope of copyright protection varied with the subject matter at issue,¹³⁵ the thesis that a single standard of infringement pervades the whole field is seldom called into question.¹³⁶ The tenacity of this thesis seems remarkable in view of the overwhelming empirical evidence against it.

Treatises must, of course, deal with *eligibility* under different subject matter headings because section 102(a) of the 1976 Act expressly divides protectible "works of authorship" into eight overlapping and nonexhaustive categories.¹³⁷ The 1976 Act also varies some of the section 106 exclusive rights by subject matter,¹³⁸ and virtually all the immunities and exemptions that sections 108 through 120 have grafted onto the exclusive rights of section 106 are likewise specified by subject matter.¹³⁹

Nevertheless, section 501 of the 1976 Act introduced a deceptively simple and apparently unitary concept of copyright *infringement*. It brands anyone "who violates any of the exclusive rights of the copyright owner" or anyone "who imports copies or phonorecords into the United States in viola-

tionally, whether or not consistent with the domestic laws of the litigating states and whether or not palatable to their respective Chambers of Commerce or to their legislative and administrative authorities").

135. See ALAN LATMAN, *THE COPYRIGHT LAW* 46-62 (5th ed. 1979).

136. See, e.g., W. PATRY, *supra* note 2, at 196 n.31 ("There is no reason, factual or legal, justifying the establishment of a different standard of substantial similarity for any class of work.").

137. As recently amended to include architectural works, § 102(a) reads, in part:

Works of authorship include the following categories:

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

17 U.S.C. § 102(a) (1988) (as amended in 1990, *see* note 38 *supra*). The definitions in § 101 further declare that the "terms 'including' and 'such as' are illustrative and not limitative." 17 U.S.C. § 101 (1988).

Article 2(1) of the Revised Berne Convention, *supra* note 4, includes most of these subcategories within its coverage of "literary and artistic works." The works specified in article 2(1) "shall enjoy protection in all countries of the Union" by virtue of article 2(6). However, the sound recordings recognized in 17 U.S.C. § 102(a)(7) are not mentioned in article 2(1) of the Berne Convention, and most countries confine them to "neighboring rights" laws that fall outside the domestic copyright laws as such. See Geller, *International Copyright: An Introduction*, *supra* note 16, § 2[3][c]. See generally S. RICKETSON, *supra* note 91, at 228-317 (1987).

138. See 17 U.S.C. § 106(4), (5) (1988). Section 106(4) excludes sound recordings and pictorial, graphic, and sculptural works from the scope of the public performance right, while § 106(5) excludes sound recordings from the exclusive right to display the copyrighted work publicly.

139. See 17 U.S.C. §§ 108-120 (1988) (as added or amended in 1990, *see* note 38 *supra*). The fair use doctrine of § 107 constitutes an exception because it potentially cuts across all subject-matter categories. See text accompanying notes 107-134 *supra*.

tion of section 602" as "an infringer of the copyright."¹⁴⁰ The commentators customarily treat this provision as carrying forward the prior law of infringement except as modified by specific statutory provisions.¹⁴¹ Accordingly, no treatise writer has heretofore systematically differentiated among the infringement doctrines applied to various subject-matter categories in actual practice.¹⁴²

In contrast, Professor Goldstein begins his exposition with a characteristic dose of realism: "In practice, courts apply the tests and subtests [of standard infringement doctrine] differently to different classes of works."¹⁴³ They do so because judicial application of the subtests—especially the protected expression test—usually takes the nature of the work into account;¹⁴⁴ because certain types of claims crop up repeatedly in relation to specific subject matters and are resolved in like fashion;¹⁴⁵ and because different policy variables emerge as cases move across the spectrum from traditional literary and artistic works to borderline categories that implicate other bodies of law.¹⁴⁶

2. *Specific applications.*

Professor Goldstein renders the practical ramifications of this insight more accessible to bench and bar alike by applying his refined infringement

140. 17 U.S.C. § 501 (1988) (as amended in 1990, *see* note 38 *supra*). Professor Goldstein drily observes that the "legal reality is more complex." Vol. 2, § 7.1, p. 3.

141. The legislative history neither confirms nor rejects this interpretation, but states only that the "bill, unlike the present law, contains a general statement of what constitutes infringement of copyright." 1976 ACT HOUSE REPORT, *supra* note 55, at 158. However the legislative history pertinent to § 106 carries a protective thrust that seems inconsistent in spirit with many of the older precedents:

[A] copyrighted work would be infringed by reproducing it in whole or in any substantial part, and by duplicating it exactly or by imitation or simulation. Wide departures or variations from the copyrighted work would still be an infringement as long as the author's "expression" rather than merely the author's "ideas" are taken.

Id. This protective thrust depends, in turn, on the vigor with which the exclusive right to prepare derivative works is enforced under 17 U.S.C. § 106(2) (1988). *See, e.g.,* Cohen, *supra* note 17, at 721-22.

142. The 1990 revision of the Nimmers' treatise does single out computer programs for a separate, detailed discussion of the idea-expression distinction. *See* 3 NIMMER ON COPYRIGHT, *supra* note 2, § 13.03[F] (discussing a "Successive Filtering Method to Determine Substantial Similarity of Computer Programs"). This specialized treatment of computer programs is based upon a perceptive article recently co-authored by David Nimmer, which emphasizes the nonprotectibility of program elements dictated by logic, efficiency, or external considerations, and of elements taken from the public domain. *See generally* Nimmer, Bernacchi & Frischling, *supra* note 78.

Yet the problems David Nimmer identified regarding computer programs apply in varying degrees to all utilitarian works, including applied art and commercial designs, rules, plans, games, toys, and the like, as Professor Goldstein recognizes. *See* vol. 2, § 8.5.1.2; notes 163-237 *infra* and accompanying text. Ironically, Goldstein's treatise may turn out to be more receptive to computer programs than the Nimmers' treatise as revised in 1990. *See* text accompanying notes 217-220 *infra*.

143. Vol. 2, § 8.0, pp. 47-48.

144. Vol. 2, § 8.0, p. 48.

145. Vol. 2, § 8.0, p. 49.

146. Vol. 2, § 8.5 (discussing functional works); *see also* Atari, Inc. v. North Am. Philips Consumer Elecs. Corp., 672 F.2d 607, 615-16 (7th Cir.) (analyzing scope of protection in relation to a spectrum of works), *cert. denied*, 459 U.S. 880 (1982).

analysis to specific subject matter categories, with a view toward clarifying the subtleties of different protective environments.¹⁴⁷ He singles out five broad subject-matter categories for special attention¹⁴⁸ and examines in detail the play of different exclusive rights in each of these categories and within selected subcategories as well.

Literary, artistic, and musical works. The treatment of traditional literary works is typical. After surveying the effects of basic infringement doctrine as applied to these works in general,¹⁴⁹ the treatise reviews the specific application of the reproduction, performance and display rights¹⁵⁰ to stories,¹⁵¹ novels,¹⁵² and dramatic works.¹⁵³ Discussion of the right to prepare derivative works is reserved for a separate section covering these same subject-matter subcategories, with particular emphasis on the need for judges to look beyond the "lowest common denominators" when evaluating the facts of each case.¹⁵⁴

Professor Goldstein applies a similar methodology to "pictorial, graphic, sculptural, and audiovisual works,"¹⁵⁵ and he undertakes a searching analysis of "musical works" that even seasoned industry lawyers should find illuminating.¹⁵⁶ He subdivides the former category into "paintings, photographs, labels, and fabric designs,"¹⁵⁷ "characters, video games, and motion pictures,"¹⁵⁸ and "toys, dolls, jewelry and figurines."¹⁵⁹ Among other insights, this approach reveals the incongruities perpetuated by judicial management of the many commercial designs that still qualify as copyrightable works of applied art under *Mazer v. Stein*,¹⁶⁰ even though the separability test codified in section 101 altogether excludes the bulk of modern industrial design from copyright law.¹⁶¹ Professor Goldstein's analysis

147. This task is especially important because "the substance of the 'idea-expression' distinction differs with the nature of the work . . . [and the] principal source of the differences . . . lies in the nature of the subject matter itself." Vol. 2, § 8.0, p. 48.

148. The major categories are literary, visual, musical, factual, and functional works. The specialized subcategories of factual and functional works, though technically part of the general category of literary works, are treated separately. See notes 163-234 *infra* and accompanying text. Such an approach aims to ensure that the more restrictive precedents applicable to these subcategories are not carried over uncritically to works at the more creative end of the spectrum.

149. See vol. 2, § 8.1.

150. Vol. 2, § 8.1.1.

151. Vol. 2, § 8.1.1.1.

152. Vol. 2, § 8.1.1.1.

153. Vol. 2, § 8.1.1.2.

154. Vol. 2, § 8.1.2, pp. 60-61 (criticizing judges' tendency to downplay style, scenic description, and psychological insight in favor of plot, character, and setting when determining whether a motion picture or play has appropriated protected expression from a story or novel).

155. Vol. 2, § 8.2.

156. Vol. 2, § 8.3.

157. Vol. 2, § 8.2.1.1.

158. Vol. 2, § 8.2.1.2.

159. Vol. 2, § 8.2.1.3.

160. 347 U.S. 201 (1954); see vol. 1, §§ 2.11.1, 2.11.2.

161. 17 U.S.C. § 101 (1988) limits "pictorial, graphic, and sculptural works" to include [the listed types of] works of artistic craftsmanship insofar as their form but not their mechanical or utilitarian aspects are concerned; the design of a useful article, as defined in this section, shall be considered a pictorial, graphic, or sculptural work only if, and

should therefore caution practitioners and scholars against contaminating general principles of copyright law by uncritical reference to ad hoc solutions devised to limit copyright protection of commercial designs.¹⁶²

Factual works. Professor Goldstein devotes separate chapters to the infringement of "factual works" and "functional works."¹⁶³ Although such works typically fall within the broad definition of literary works set out in section 101 of the 1976 Act,¹⁶⁴ their proper scope of protection has become highly controversial.¹⁶⁵ Goldstein subdivides factual works into "maps,"¹⁶⁶ "directories and catalogues," "case reports, digests, manuals and texts," and "news stories, history, and biography."¹⁶⁷ He then characterizes the tension underlying this entire class of works as a tendency either to "overprotect[] the copyright owner by giving it rights in the facts its work depicts" or to "underprotect[] the copyright owner by allowing defendant to use not only the facts depicted but also the protectable expression in which the depiction is cast."¹⁶⁸

From this angle, Goldstein criticizes the chronic underprotection of historical works that has resulted from the Second Circuit's restrictive opinion in *Hoehling v. Universal City Studios*.¹⁶⁹ In his view, "there is no reason to treat the historian or biographer who has artfully arranged and expressed

only to the extent that, such design incorporates pictorial, graphic, or sculptural features that can be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article.

162. See also Reichman, *Designs and New Technologies*, *supra* note 27, at — [Parts II.B, III.A].

163. See vol. 2, §§ 8.4, 8.5. Goldstein's use of the term "fact works" is consistent with that of Professor Nimmer. Compare 1 NIMMER ON COPYRIGHT, *supra* note 2, § 2.11. However, Goldstein's designation "functional works" contrasts with Nimmer's "works of utility," see 1 *id.* § 2.18, and this nomenclature foreshadows the restrictive scope of protection that Goldstein advocates and Nimmer disavows. See also notes 194-214 *infra* and accompanying text.

164. See 17 U.S.C. § 101 (1988), which defines "literary works" as works, other than audiovisual works, expressed in words, numbers or other verbal or numerical symbols or indicia, regardless of the nature of the material objects, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied.

Compilations constitute a distinct subject-matter category under *id.* § 103(a), with the proviso that the copyright in a compilation "extends only to the material contributed by the author of such work, as distinguished from the preexisting material employed in the work, and does not imply any exclusive right in the preexisting material," *id.* § 103(b).

165. See generally OFFICE OF TECHNOLOGY ASSESSMENT, COMPUTER SOFTWARE AND INTELLECTUAL PROPERTY (1990); OFFICE OF TECHNOLOGY ASSESSMENT, INTELLECTUAL PROPERTY RIGHTS IN AN AGE OF ELECTRONICS AND INFORMATION (1986); *Conference Report*, *supra* note 116; COMPUTER SCIENCE & TECHNOLOGY BOARD, NATIONAL RESEARCH COUNCIL, NATIONAL ACADEMY OF SCIENCES, INTELLECTUAL PROPERTY ISSUES IN SOFTWARE (1991) (forthcoming).

166. Technically, maps are considered "pictorial, graphic, and sculptural works" under the definition of that term in 17 U.S.C. § 101 (1988).

167. See vol. 2, § 8.4. As with the earlier categories, Goldstein examines each subcategory in terms of the reproduction, performance, and display rights, vol. 2, §§ 8.4.1.1-8.4.1.4, and then discusses the right to prepare derivative works for the category as a whole, vol. 2, § 8.4.2.

168. Vol. 2, § 8.4, p. 97.

169. 618 F.2d 972 (2d Cir. 1980) (holding that a description of a historical hypothesis on the Hindenburg disaster was not copyrightable, and, in dicta, broadly limiting the scope of protection of historical works to bodily appropriation); see also *Miller v. Universal City Studios*, 650 F.2d 1365

historical matter any less generously than the fiction writer who has artfully expressed and arranged old plots and stock characters."¹⁷⁰ Conversely, he derides the overprotection of derivative works that occurs when courts confuse the large amount of material that defendants add to their works with the amount they actually take from the plaintiffs' works.¹⁷¹

Professor Goldstein appears to reject the "sweat of the brow" rationale, which Professor Denicola boldly defended in 1981¹⁷² and the Seventh Circuit has enthusiastically applied.¹⁷³ These latter authorities fear that unless afforded protection by copyright law, one who uses diligence and effort to compile facts remains vulnerable to instant duplication by second-comers who make no comparable investment of time and money. In an age when databases are of fundamental importance to science and industry, this vulnerability could unduly diminish publishers' incentives to invest in compilations.¹⁷⁴

According to Professor Goldstein, factual works "differ from works of art in degree, not kind," and it is only "the rare fact work that does not bear some trace of the author's hand."¹⁷⁵ He integrates his treatment of facts with that of ideas generally, urging courts to apply the standard tools of analysis and to look for protectible expression in the "ordering and elaboration" of the factual material.¹⁷⁶ At the same time, the courts must avoid

(5th Cir. 1981) (allowing filmed adaptation of docudrama for purpose of entertainment without payment to author of "research").

170. Vol. 2, § 8.4.2, p. 113; see also Jane C. Ginsburg, *Sabotaging and Reconstructing History: A Comment on the Scope of Copyright Protection in Works of History After Hoehling v. Universal City Studios*, 29 J. COPYRIGHT SOC'Y 647 (1982); Robert A. Gorman, *Copyright Protection for the Collection and Representation of Facts*, 76 HARV. L. REV. 1569, 1603-04 (1963).

171. Vol. 2, § 8.4.2, p. 115; see also L. Ray Patterson & Craig Joyce, *Monopolizing the Law: The Scope of Copyright Protection for Law Reports and Statutory Compilations*, 36 UCLA L. REV. 719, 728-31 (1989) (criticizing the extension of copyright protection to the West Publishing Company's "star pagination" system in *West Publishing Co. v. Mead Data Cent., Inc.*, 799 F.2d 1219 (8th Cir. 1986), *cert. denied*, 479 U.S. 1070 (1987)).

172. See Denicola, *supra* note 40, at 531.

173. See, e.g., *Illinois Bell Tel. Co. v. Haines & Co.*, 905 F.2d 1081 (7th Cir. 1990) (compiler's copyright extends to other uses of directories by third parties, such as rearranging data by address rather than by name), *petition for cert. filed*, 59 U.S.L.W. 3374 (U.S. Nov. 2, 1990) (No. 90-731); *Rockford Map Publishers, Inc. v. Directory Serv. Co. of Colo.*, 768 F.2d 145, 149-50 (7th Cir. 1985) (criticizing defendant's use of plaintiff's map as a "starting point" and requiring defendant to undertake its own "industrious collection"), *cert. denied*, 474 U.S. 1061 (1986); *Schroeder v. William Morrow & Co.*, 566 F.2d 3, 6 (7th Cir. 1977) (reproduction of names and addresses that were the core facts in gardening guide was copyright infringement); *National Business Lists, Inc. v. Dun & Bradstreet, Inc.*, 552 F. Supp. 89, 94 (N.D. Ill. 1982) (developing mailing lists from copyrighted credit reports found to infringe); see also *United Tel. Co. of Mo. v. Johnson Publishing Co.*, 855 F.2d 604 (8th Cir. 1988) (using the white pages of a phone directory as an initial reference for updating a competitor's directory infringed); *Rural Tel. Serv. Co. v. Feist Publications, Inc.*, 663 F. Supp. 214 (D. Kan. 1987) (use of white pages to prepare directory without independent canvass held an infringing use), *aff'd*, 916 F.2d 718 (10th Cir. 1990) (unpublished opinion), *cert. granted*, 111 S. Ct. 40 (1990).

174. See, e.g., Ginsburg, *supra* note 77, at 1907-16; Denicola, *supra* note 40, at 531 (stressing the need to protect databases by protecting the assemblage of information itself, not simply the arrangement).

175. Vol. 2, § 8.4, p. 97. But see Ginsburg, *supra* note 77, at 1881-1900 (criticizing personality-based theories of copyright protection and distinguishing between low- and high-authorship works).

176. Vol. 2, § 8.4, p. 99; accord Gorman, *supra* note 77.

protecting "so much of the work that other authors are disabled from writing about facts or events first described by others."¹⁷⁷

Although Professor Goldstein's approach aims to mediate between the need for incentives and the perceived lack of original authorship, he does not resolve the conflicting interests that arise in the hardest cases, such as those concerning telephone directories.¹⁷⁸ These cases pit the competitor's whole-sale appropriation of factual content against the compiler's lack of original expression, and they raise troublesome questions about a competitor's need to use the compiler's data to publish additional compilations of a more specialized character.¹⁷⁹ On the one hand, a considerable investment of time and money does not give rise to a work that bears the stamp of the author's personality; on the other, free-riding threatens to undermine the collection and dissemination of valuable information.

Faced with this dilemma, foreign legislatures have sometimes provided short-term protection for noncopyrightable compilations, apparently without undermining copyright protection for those compilations that do satisfy the normal threshold requirements.¹⁸⁰ In a recent article, Professor Jane Ginsburg criticizes the "predominant unitary approach to copyright" law built around the expression of an author's personality and calls for "a compulsory license enabling competitors to access, copy, and reorganize data gathered by the first compiler" in return for reasonable compensation.¹⁸¹ In

177. Vol. 2, § 8.4, p. 99.

178. See cases cited in note 173 *supra*.

179. See, e.g., Ginsburg, *supra* note 77, at 1868-71, 1902-07; Patterson & Joyce, *supra* note 171, at 798-813.

180. See, e.g., Gunnar Karnell, *Sweden* §§ 2[1][b], 3[2][a], in 2 INTERNATIONAL COPYRIGHT LAW AND PRACTICE, *supra* note 16 (catalogs, tables, databases and other low-authorship compilations allowed ten years of protection unless qualified as an original work for purposes of full copyright protection); Agne Henry Olsson & Karin Hökborg, *The Nordic Countries*, in INTERNATIONAL COPYRIGHT AND NEIGHBOURING RIGHTS 468, 475 (S. Stewart 2d ed. 1989) (similar provisions in Denmark, Finland, and Norway).

181. Ginsburg, *supra* note 77, at 1870-71. Professor Ginsburg points to historical evidence that Anglo-American copyright laws at times disregarded the demand for works that bore the imprint of an author's personality and instead sought to reward creative labor. See *id.* at 1873-93. But her appeal discounts the relation between the generous modalities of protection in the Berne Union countries and their dominant aim to protect creative personal expression. See vol. 2, § 16.4; S. RICKETSON, *supra* note 91, at 231-32 (noting constant disputes about borderline productions). In contrast, the grudging United States 1909 Act—with its formalities, its technical forfeiture, and its relatively short term of protection—could accommodate a broader array of low-authorship works without necessarily overprotecting them. Cf. notes 43-48 *supra* and accompanying text; Reichman, *Designs and New Technologies*, *supra* note 27, at — [Part III.A].

Her argument seems also to confuse the goals of a copyright system with those of unfair competition law. See, e.g., Patterson & Joyce, *supra* note 171, at 730, 802-06; see also Douglas G. Baird, *Common Law Intellectual Property and the Legacy of International News Service v. Associated Press*, 50 U. CHI. L. REV. 411 (1983) (discussing the evolution of the common law misappropriation action). This confusion is endemic in Anglo-American countries, where legislators pretend to abhor unfair competition laws that prohibit misappropriation as such, while courts increasingly rely on copyright and trademark laws to repress misappropriation in practice. See, e.g., note 40 *supra* (English law); Reichman, *Designs and New Technologies*, *supra* note 27, at — [Part II.C] (describing current protection of product configurations as "appearance trade dress" by U.S. federal appellate courts). Nevertheless, Professor Ginsburg's interesting proposal to subject the compiler's data to a compulsory license that would favor certain productive uses could fit nicely within a modified copy-

United States judicial practice, however, federal courts tend to repress slavish imitation but prohibit no more than literal copying.¹⁸²

Professor Goldstein reluctantly endorses this result when all else fails,¹⁸³ although he would sometimes allow an adjustment of remedies limiting relief to damages when full copyright protection appears overprotective in terms of the incentive rationale.¹⁸⁴ But neither Goldstein nor the courts that limit infringement to slavish imitation explain why the infringer's methodology should retroactively transform a factual compilation devoid of creative authorship into quasi-artistic property.¹⁸⁵ Under the prevailing judicial approach, as Professors Patterson and Joyce have shrewdly observed, the compiler is not protected from harm because of his copyright, but is found to possess a copyright because he has suffered harm.¹⁸⁶

That Anglo-American decisionmakers formally shy away from the misappropriation rationale of unfair competition law¹⁸⁷ hardly justifies this reverse reasoning. One may concede that the indefinite duration, lack of standards, and hit-or-miss approach of unfair competition law makes it a poor vehicle for balancing incentives to create against the public's need to know or to use the compiler's end product.¹⁸⁸ Nevertheless, the well-documented shortcomings of copyright protection for factual works hardly makes this body of law an adequate substitute.

The Supreme Court will probably fail to resolve these tensions in the telephone directory case pending before it,¹⁸⁹ but the Court may clarify the rights of second-comers to put the data contained in copyrighted compila-

right approach not too structurally dissimilar from the 1909 Act itself. *Cf. id.* at — [Part III.B] (proposing modified copyright approach to the protection of the know-how in new technologies).

182. *See, e.g.,* *Cooling Sys. & Flexibles, Inc. v. Stuart Radiator, Inc.*, 777 F.2d 485, 491-92 (9th Cir. 1985) (stressing narrow range of protectible expression in factual works); *Landsberg v. Scrabble Crossword Game Players, Inc.*, 736 F.2d 485, 488-89 (9th Cir.) (similarity of expression must be nearly verbatim to infringe copyright in factual works), *cert. denied*, 469 U.S. 1037 (1984); cases cited in note 173 *supra*; *see also* *Eckes v. Card Prices Update*, 736 F.2d 859, 862 (2d Cir. 1984) ("the sweat of a researcher's brow does not merit copyright protection, absent, perhaps, wholesale appropriation"). *But see, e.g.,* *Worth v. Selchow & Righter Co.*, 827 F.2d 569 (9th Cir. 1987) (ostensibly rejecting "sweat of the brow" rationale even in the presence of slavish imitation), *cert. denied*, 485 U.S. 977 (1988).

183. *See* vol. 2, § 8.4, p. 99 ("inherent limits on variety in fact works will sometimes dictate that infringement be found only if the defendant's work is identical or virtually identical to plaintiff's" although "[t]here are few less tractable questions in copyright").

184. Vol. 1, § 2.14.2, p. 186.

185. Eligibility thus depends on "the extensiveness of the defendant's copying; true sloth and great greed . . . will confer copyright upon . . . otherwise unprotectible labor." Ginsburg, *supra* note 77, at 1897. With this approach, compare the tendency of the Seventh Circuit to link eligibility with the piling of fact on fact, which gives compilations a protective edge over historical works and other forms that convey research results. *See* notes 172-173 *supra* and accompanying text.

186. *See* Patterson & Joyce, *supra* note 171, at 729.

187. *See* note 181 *supra*. The reluctance is due in part to states' fear of preemption by federal law. *See, e.g.,* 17 U.S.C. § 301 (1988) (as amended in 1990, *see* note 38 *supra*) (preemption of state law by the Copyright Act); *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141 (1989) (preemption by patent law).

188. *Cf. Reichman, Designs and New Technologies, supra* note 27, at — [Part II.C.3] (criticizing broad protection of product configurations as "appearance trade dress" under § 43(a) of the Lanham Act, 15 U.S.C. § 1125 (1988)).

189. *See* *Rural Tel. Serv. Co. v. Feist Publications, Inc.*, 663 F. Supp. 214 (D. Kan. 1987) (use

tions to certain productive uses.¹⁹⁰ Legislative initiatives to provide short-term protection for low-authorship compilations on the model of Nordic law¹⁹¹ would likely meet stiff opposition from publishers who feared a weakening of their claim to eligibility in copyright law. This fear would be reinforced by the hostility of certain computer software manufacturers to comparable *sui generis* legislation.¹⁹² Thus any long-term solution to the problem of protecting investment in factual compilations, especially those with industrial applications, seems bound up with the larger problem of protecting diverse forms of applied scientific know-how, as discussed below.¹⁹³

Functional works. Professor Goldstein subdivides functional works into "plans, forms and rules" and "computer programs."¹⁹⁴ Here tensions arise because functional works include nonexpressive, utilitarian features that fall at least nominally within the sway of the patent law, which conditions its powerful legal monopolies on more exacting standards of novelty and non-obviousness than the originality requirement of literary and artistic property law.¹⁹⁵ Goldstein acknowledges that even highly functional works sometimes contain expressive elements eligible for copyright protection.¹⁹⁶ But he stresses that once optimum efficiency has been reached, consumers may have little interest in seeing a particular functional result expressed differently.¹⁹⁷

Although experienced practitioners may find these axioms self-evident, their formal recognition in a major new treatise should help to clarify a number of historical misconceptions. For example, when the Second Circuit lowered the threshold barriers to the copyrightability of business forms and other functional works in *Continental Casualty Co. v. Beardsley*,¹⁹⁸ it also implied that the scope of protection afforded these works should be limited virtually to repressing slavish imitation.¹⁹⁹ Subsequent cases followed this

of white pages to prepare directory without independent canvass was copyright infringement), *aff'd*, 916 F.2d 718 (10th Cir. 1990) (unpublished opinion), *cert. granted*, 111 S. Ct. 40 (1990).

190. The writ of certiorari seems to focus on the scope of protection issues. *Rural Telephone*, 111 S. Ct. at 40.

191. See note 180 *supra* and accompanying text.

192. See generally Morton David Goldberg & John F. Burleigh, *Copyright Protection for Computer Programs: Is the Sky Falling?*, 17 AIPLA Q.J. 294 (1989); Clapes, Lynch & Steinberg, *supra* note 34.

193. See notes 228-235 *infra* and accompanying text.

194. Vol. 2, §§ 8.5-8.5.2.2. After a general survey, vol. 2, § 8.5, these subcategories are again viewed first in terms of the reproduction, performance and display rights, vol. 2, §§ 8.5.1, and then in terms of the right to prepare derivative works, vol. 2, § 8.5.2.

195. See vol. 2, § 8.5, pp. 116-17.

196. See notes 217-220 *infra* and accompanying text.

197. Vol. 2, § 8.5, p. 117.

198. 253 F.2d 702 (2d Cir.) (when use and explanation are wedded, copyright protection will lie, notwithstanding *Baker v. Selden*, 101 U.S. 99 (1879)), *cert. denied*, 358 U.S. 816 (1958).

199. *Continental Casualty*, 253 F.2d at 706. This and similar decisions responded in part to *Mazer v. Stein*, 347 U.S. 201 (1954), which declined to allow copyrightability to turn on the intended use of the work. For Goldstein's treatment, see vol. 2, § 8.5, p. 118 & n.8.

A more recent case with a similar holding is *Affiliated Hosp. Prods., Inc. v. Merdel Game Mfg. Co.*, 513 F.2d 1183, 1189 (2d Cir. 1975) (copyright on rulebook not infringed by defendant's good-faith use in preparing improved version of rulebook for public-domain game). But see *International*

lead, in part because the result seemed consistent with the spirit of the Supreme Court's landmark decision in *Baker v. Selden*.²⁰⁰

By 1979, one astute district court deemed it an open secret that functional works obtained only "thin" protection from copyright law, a finding that Professor Goldstein implicitly approves.²⁰¹ Professor Melville Nimmer, however, criticized this line of cases for derogating from the standard infringement calculus.²⁰² His treatise confined *Baker v. Selden* to the much older idea-expression distinction and rejected the notion that the scope of protection should vary with the class of works in question.²⁰³ Nimmer's treatise also made no direct reference to the doctrine of "thin" protection.

Perhaps due to Nimmer's influence and participation, the 1978 Final Report of the National Commission on New Technological Uses of Copyrighted Works (CONTU) likewise limited *Baker v. Selden* to the idea-expression dichotomy codified in section 102(b) of the 1976 Act.²⁰⁴ The Final Report thus made no mention of either the "thin" copyright tradition derived from *Continental Casualty*²⁰⁵ or of the older tradition authorizing

Luggage Registry v. Avery Prods. Corp., 541 F.2d 830 (9th Cir. 1976) (applying standard infringement analysis to allegedly infringing luggage tags). For Goldstein's list of major cases and some exceptions, see vol. 2, § 8.5.1.1, p. 122 n.19.

200. 101 U.S. 99 (1879) (use of bookkeeping system from copyrighted book held not to infringe). Professor Goldstein rightly attributes this line of cases to *Baker v. Selden*. See vol. 2, § 8.5, pp. 117-18; vol. 2, § 8.5.1.1, p. 122 n.19. However, *Baker v. Selden* stands for several different propositions, see notes 206-214 *infra* and accompanying text, and this line of cases is too readily confused with a strained but popular reading of *Baker v. Selden* as a straightforward application of the idea-expression dichotomy. This reading is the one that Professor Nimmer endorsed, although he disapproved of the tendency to restrict the protection of functional works to slavish imitation, as the *Continental Casualty* line of cases holds. See 1 NIMMER ON COPYRIGHT, *supra* note 2, §§ 2.18[C], 2.18[D]; notes 202-208 *infra* and accompanying text.

201. *Kepner-Tregoe, Inc. v. Carabio*, 203 U.S.P.Q. (BNA) 124, 130 (E.D. Mich. 1979); vol. 1, § 2.15, p. 197 (stating that functional works merit only a "thin array of rights").

202. See 1 NIMMER ON COPYRIGHT, *supra* note 2, § 2.18[C] (criticizing cases that narrowed the protection of functional works).

203. *Id.* Indeed, Professor Nimmer took the extreme view that the reproduction right prevailed in all cases, even when that resulted in indirectly protecting the work against use by third parties: "Thus, the mere fact that rights granted under the Copyright Act may indirectly result in a monopoly of use of the copyrighted work will not prevent the enforcement of such rights, notwithstanding the absence of an expressly granted 'right of use.'" *Id.* § 2.18[A], at 2-196.

In the realm of functional works, however, this interpretation defeats the very purpose of *Baker v. Selden*, which rejected even the possibility that copyright law could indirectly restrict access to noncopyrightable ideas, methods, or processes. See Reichman, *Programs as Know-How*, *supra* note 56, at 693 & n.288 (restating earlier interpretations of *Baker v. Selden* and criticizing Professor Nimmer's interpretation).

204. See NATIONAL COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS, FINAL REPORT 18-23 (1979) (released July 31, 1978) [hereinafter CONTU REPORT]; 17 U.S.C. § 102(b) (1988).

205. See CONTU REPORT, *supra* note 204, at 18-23. But cf. Pamela Samuelson, *CONTU Revisited: The Case Against Copyright Protection for Computer Programs in Machine-Readable Form*, 1984 DUKE L.J. 663 (criticizing the basic premises and methodology of the report). Although CONTU acknowledged *Continental Casualty* and stressed the exclusionary force of § 102(b), see CONTU REPORT, *supra* note 204, at 19-21, its report expressly embraced Professor Nimmer's interpretation of *Baker v. Selden*, a precedent he thought was "properly confined" to applications of the idea-expression doctrine, see 1 NIMMER ON COPYRIGHT, *supra* note 2, § 2.18[D]. See also note 208 *infra* (comparing the CONTU Report and Nimmer in this respect). Professor Nimmer, as a

reproduction for the purpose of reverse engineering²⁰⁶ that Professor Benjamin Kaplan and earlier writers had rightly attributed to *Baker v. Selden*.²⁰⁷ On the contrary, the CONTU Report blandly reassured its readers that copyright law had always managed to accommodate utilitarian works; it brushed aside any further obstacles stemming from *Baker v. Selden* and progeny by explicitly adopting Professor Nimmer's restrictive view of that decision.²⁰⁸

One may justifiably wonder if copyright law would have appeared so attractive to those who advocated its wholesale application to computer programs had Professor Goldstein's treatise been available for CONTU's consultation at that time.²⁰⁹ Goldstein's own treatment of *Baker v. Selden* does not set the record entirely straight, however, even as to functional works in general.²¹⁰ Professor Nimmer arbitrarily narrowed that precedent to fit the idea-expression analysis he preferred to adopt in all cases.²¹¹ Professor Goldstein, instead, gingerly acknowledges that, in proper circumstances, the *Baker-Mazer* heritage should require a court to strike a balance between the copyright owner's need for a return on investment and a competitor's freedom to emulate function. According to Goldstein, this balancing may "excus[e] the defendant who dips beneath surface details into functional elements of a copyrighted work, while outlawing literal copying of surface details."²¹² He thus fails to consider that *Baker* had authorized a

CONTU commissioner, nonetheless expressed misgivings of his own in a separate concurring opinion. See CONTU REPORT, *supra* note 204, at 26-27.

206. See, e.g., *Combustion Eng'g, Inc. v. Murray Tube Works*, 222 U.S.P.Q. (BNA) 239, 244 (E.D. Tenn. 1984); *Muller v. Triborough Bridge Auth.*, 43 F. Supp. 298 (S.D.N.Y. 1942); vol. 1, § 5.4.4.1, pp. 584-85 (citing other cases).

207. See, e.g., BENJAMIN KAPLAN, AN UNHURRIED VIEW OF COPYRIGHT 63-66 (1967) (stating that "the privilege extends to exact copies" and criticizing the "regrettable backsliding" to idea-expression in *Continental Casualty*, and approving precedents indicating that "buildings . . . may . . . be copied down to the last square foot of glass-front" despite the existence of copyrighted blueprints); *id.* at 49, 57 (disapproving any notion of a right to control end use); A. LATMAN, *supra* note 135, at 31-32 (*Baker* "held that the bookkeeping system was uncopyrightable and/or that using the system does not infringe") (emphasis added); see also H. BALL, *supra* note 9, at 274-78 (citing *Baker* as authority for fair use in regard to books on science or the useful arts). See generally Reichman, *Programs as Know-How*, *supra* note 56, at 693 & n.288 (demonstrating that the idea-expression doctrine predated *Baker* and that the Supreme Court actually intended to override the reproduction rights when this became necessary to reverse engineer or otherwise permit use of the functional features embodied in utilitarian works).

208. See CONTU REPORT, *supra* note 204, at 14-16, 20-21. Compare *id.* at 19 ("As Professor Nimmer observes, *Baker v. Selden* . . . stands for the proposition that using the system does not infringe the copyright in the description. This rule is found in Section 102(b) of the new law.") (emphasis added) with 1 NIMMER ON COPYRIGHT, *supra* note 2, § 2.18[D] ("The Proper Limits of *Baker v. Selden*").

209. Cf. Brown, *supra* note 37, at 601 (observing that the push for copyright protection of computerized processes was logical "because any time the arduous achievement of a short-lived patent can be turned into the painless acquisition of a seventy-five year copyright, a line will form to try it, and an academic cheering section can even be mustered"). For Professor Goldstein's attempt to adapt copyright law to computer programs, see notes 215-237 *infra* and accompanying text.

210. See vol. 2, § 8.5; see also vol. 1, §§ 2.15, 5.4.4.

211. See notes 202-203 & 208 *supra* and accompanying texts.

212. Vol. 2, § 8.5, p. 118 (discussing *Baker v. Selden*, 101 U.S. 99 (1879) and *Mazer v. Stein*, 347 U.S. 201 (1954)). Professor Goldstein thus approves the "thin" copyright tradition deriving from *Baker*, a tradition that Professor Nimmer thought went too far in cutting back on the author's

"fair use"-like power to excuse even *total* reproduction of a functional work for limited functional uses before the success of Nimmer's expurgated version hid this meaning from view.²¹³

Nevertheless, Goldstein rightly detects the twin dangers that attend all judicial applications of *Baker* and its progeny, dangers that increasingly seem to afflict the legal protection of factual works, too. One is a tendency to underprotect those expressive elements that sometimes do enrich functional features. The other is a disposition to overprotect the modicum of expressive content embodied in most functional works even when it can only be expressed in a limited number of ways without loss of utility or consumer confidence.²¹⁴

Computer programs. In the separate chapter devoted to computer programs,²¹⁵ Professor Goldstein observes that they, like functional works generally, "come dangerously close to the [Copyright] Act's prohibition against protection for any 'idea, procedure, process, system, method of operation, concept, principle or discovery.'"²¹⁶ He nonetheless has come to believe that computer programs may harbor substantially more expressive potential than other utilitarian works, such as plans, forms, and rules,²¹⁷ and he envisions a correspondingly broader scope of protection in the appropriate circumstances.²¹⁸

What troubles Professor Goldstein is that application programs are not necessarily subject to the same constraints as operating system programs.²¹⁹ For this reason, the former deserve a broader scope of protection commensurate with the expressive elements they contain. He concedes that the expressive content of operating systems programs is inherently limited. He would thus allow these programs only a very narrow scope of protection, lest the copyright owner monopolize "a single, powerful marketplace" by inhibiting compatibility and the benefits of interoperability.²²⁰

exclusive rights, see notes 204-208 *supra* and accompanying text, and one that Professor Kaplan criticized for not going far enough, see B. KAPLAN, *supra* note 207, at 49-57, 63-66; notes 206-207 *supra* and accompanying text.

213. See notes 206-207 *supra*; see also Steven W. Lundberg, George H. Gates III & John P. Sumner, *Baker v. Selden, Computer Programs, 17 U.S.C. Section 102(b) and Whelan Revisited*, 13 HAMLINE L. REV. 221 (1990). In his first supplement, however, Professor Goldstein develops an ad hoc fair use argument, without invoking *Baker v. Selden*, that aims to liberate nonprotectible features of computer programs from exclusive reproduction rights in certain situations. See 1990 Supplement, § 5.2.1.4, pp. 60-66 (discussing a reverse engineering limitation); notes 221-225 *infra* and accompanying text.

214. Vol. 2, § 8.5, p. 119.

215. Vol. 2, § 8.5.1.2.

216. Vol. 2, § 8.5.1, p. 126.

217. Vol. 2, § 8.5.1, p. 127.

218. This apparently represents a refinement of the "thin" copyright doctrine that Professor Goldstein thought applicable to computer programs in 1986. See Paul Goldstein, *Infringement of Copyright in Computer Programs*, 47 U. PITT. L. REV. 1119, 1123-26 (1986) [hereinafter Goldstein, *Computer Programs*], in which Professor Goldstein warned that "[t]o protect against too wide a range of equivalents runs the risk of monopolizing all expression of the underlying function and thus, of monopolizing the function itself." *Id.* at 1124.

219. See vol. 2, § 8.5.1, pp. 126-35.

220. Vol. 2, § 8.5.1, p. 131; see also *Conference Report, supra* note 116, at 21-25, 27-32; Samu-

In the first supplement to his treatise, moreover, Professor Goldstein strikes a blow for the competitor's right to reverse engineer "a lawfully obtained copy of a copyrighted work in order to extract the work's unprotected elements and, subsequently, to incorporate those elements in a competing work."²²¹ Arguing that disassembly, decompilation, or other analytical uses of a copyrighted program constitute a form of "research" within the preamble to section 107,²²² he shows that the four tests of fair use codified there can excuse the making of a copy as "an intermediate step in the design of a competing but noninfringing program."²²³ As regards the market factor of section 107(4),²²⁴ Goldstein observes that if "the intermediate copy . . . does not enter the marketplace, it cannot be said to impair the plaintiff's potential market or reduce the value of its copyrighted expression." By the same token, if the second product "contains no infringing material, it will be excused—not because section 107 makes this use fair, but for the more fundamental reason that the product does not infringe."²²⁵

In this way, Professor Goldstein's approach, as refined by his first supplement, largely succeeds in reconciling the protection of computer programs with established copyright principles, as Congress ordained, despite his misgivings about the wisdom of that legislative decision.²²⁶ Nevertheless, his analysis underestimates the extent to which even apparently expressive components of application programs may be determined by such external factors as functional efficiency, standardization, human factors engineering, and market expectations.²²⁷ It also downplays the extent to which

elson, *supra* note 205. See generally Peter S. Menell, *Tailoring Legal Protection for Computer Software*, 39 STAN. L. REV. 1329 (1987).

221. 1990 Supplement, § 5.2.1.4, pp. 61-62.

222. See notes 118-125 *supra* and accompanying text.

223. 1990 Supplement, § 5.2.1.4, p. 64; accord Reichman, *Programs as Know-How*, *supra* note 56, at 693 & n.288, 702-03; see also Ronald S. Laurie & Stephen M. Everett, *Protection of Trade Secrets in Object Form Software: The Case for Reverse Engineering*, COMPUTER LAW., July 1984, at 1, 7-8; Raskind, *supra* note 116. For similar tendencies in foreign law, see, e.g., *Parliament Okays Software Directive with Reverse-Engineering Compromise*, 4 WORLD INTELL. PROP. REP. 176 (1990).

224. 17 U.S.C. § 107(4) (1988); see notes 109-110 *supra* and accompanying text.

225. 1990 Supplement, § 5.2.1.4, p. 66. This laudable thesis inevitably shortens the lead time to which maxi-protectionists think copyright law should entitle them. See, e.g., Duncan M. Davidson, *Protecting Computer Software: A Comprehensive Analysis*, 23 JURIMETRICS J. 337 (1983). At bottom, Goldstein's thesis also rests on *Baker v. Selden*, 101 U.S. 99 (1879), a connection he prefers not to evidence. See notes 206-214 *supra* and accompanying text.

226. For an effort by ten law professors (including Professor Goldstein) to apply copyright principles to computer programs with a degree of consensus, see *Conference Report*, *supra* note 116. For Goldstein's personal misgivings about copyright as a protective vehicle, see Goldstein, *Computer Programs*, *supra* note 218, at 1120-23.

227. See, e.g., Bill Curtis, *Engineering Computer "Look and Feel": User Interface Technology and Human Factors Engineering*, 30 JURIMETRICS J. 51 (1989); Nimmer, Bernacchi & Frischling, *supra* note 78, at 628, 642-49 (stressing role of nonoriginal components of computer programs, including hardware standards, software standards, computer manufacturers' design standards, "target industry practices," and industry programming practices); Dennis S. Karjala, *United States Adherence to the Berne Convention and Copyright Protection of Information-Based Technologies*, 28 JURIMETRICS J. 147, 149-50 (1988). See generally Peter S. Menell, *An Analysis of the Scope of Copyright Protection for Application Programs*, 41 STAN. L. REV. 1045 (1989).

In his first supplement, Professor Goldstein shows a greater awareness of and concern for these factors by devoting several pages to the theme of "constraints on protection." See 1990 Supplement,

the underlying structural design of any computer program, like other forms of technological innovation, represents as perfect a synthesis of idea and expression as the software engineer can muster. In some situations, full protection even of application programs could thus invest the copyright owner with excessive power²²⁸ in the products market²²⁹ and even deter competitors from acquiring the know-how they need to maintain the pace of incremental advances in the art.²³⁰

In a larger perspective, Professor Goldstein's analysis insufficiently appreciates that the expressive content of application programs typically constitutes a particular form of industrial design.²³¹ Both industrial designs and the user interfaces of computer programs can be reduced to innocuous two-dimensional representations that aim at attractiveness as well as efficiency. However, their routine embodiment in three-dimensional supports that enter products markets enables copyright holders to undercut the level of competition that the patent law normally demands in such markets.²³² For this and other reasons, the quest for legal protection of industrial design historically rejects the wholesale adoption of either the copyright or the patent paradigms as inconsistent with the needs of a competitive economy.²³³ By tacitly acquiescing in the artificial distinction between industrial art and industrial literature that entered the copyright law in 1976,²³⁴ Goldstein overcompen-

§ 2.15.3.2, pp. 19-21. Elsewhere in his treatise, Professor Goldstein also notes that "instruction manuals are essentially functional" and that "[t]o give them too broad a scope of protection in infringement actions may improperly curtail competition in functional elements that have not met the patent law's rigorous standards of novelty, nonobviousness and utility." Vol. 2, § 8.4.1.3, p. 109.

228. Goldstein's first supplement acknowledges this problem and tilts toward competition rather than protection:

Should a firm that adopts an arbitrary configuration which later becomes an industry standard be allowed to control all subsequent copies of the configuration? . . . The case for copyright . . . may appear weak—at least to the extent that the tribute to be exacted from licensing interface standards will dwarf the sums invested in designing the interface.

1990 Supplement, § 2.15.3.2, pp. 19-20.

229. For the historical anomalies that result whenever copyright law is allowed to disrupt the role of patent law in regulating the products market, see Reichman, *Designs and New Technologies*, *supra* note 27, at — [Part III.A.] ("excesses of the copyright approach" and "the two market conundrum").

230. See Goldstein, *Computer Programs*, *supra* note 218, at 1124; Reichman, *Programs as Know-How*, *supra* note 56, at 684-87, 689-97. Consider in this light such decisions as *Whelan Assocs. v. Jaslow Dental Labs.*, 797 F.2d 1222 (3d Cir. 1986) (broad copyright protection for elements of structure, sequence, and organization), *cert. denied*, 479 U.S. 1031 (1987); *Lotus Dev. Corp. v. Paperback Software Int'l*, 740 F. Supp. 37 (D. Mass. 1990) (protecting menu command structure of computer spreadsheet program, including the choice of command terms, the structure and order of these terms, and long prompts, despite evidence of standardization and functional efficiencies). *But see* *Manufacturers Technologies, Inc. v. Cams, Inc.*, 706 F. Supp. 984, 994-96 (D. Conn. 1989) (narrow or no protection for efficiency-enhancing components of user interfaces); Menell, *supra* note 227 (arguing for similarly restrictive protection of application software).

231. Accord Clifford G. Miller, *The Proposal for an EC Council Directive on the Legal Protection of Computer Programs*, 12 EUR. INTEL. PROP. REV. [E.I.P.R.] 347 (1990).

232. See note 229 *supra*; 1990 Supplement, § 2.15.3.2, p. 20.

233. See Reichman, *Designs and New Technologies*, *supra* note 27, at — [Part III.B].

234. Compare 17 U.S.C. § 101 (1988) (defining "pictorial, graphic, and sculptural works" only to include industrial art that is "separable" from utilitarian aspects) and *id.* § 113(b) (permitting use or reverse engineering of useful articles portrayed in two-dimensional form, notwithstanding the need to make an unauthorized reproduction, see Reichman, *Designs Before 1976*, *supra* note 43, at

sates for the expressive potential that function largely determines, and thus inadvertently obscures the need for a special law to protect advanced technical and scientific know-how as such.²³⁵

These criticisms, however, hardly detract from the quality of the overall contribution that Professor Goldstein makes to a debate that shows no sign of diminishing. His efforts to apply copyright law to computer programs without eviscerating the competitive mandate of the patent system²³⁶ give mostly cold comfort to the maxi-protectionists. His admonitions concerning the dangers and limits of extending artistic property law to this new technology are so sobering and detailed that, over time, they will inevitably help to curb the judicial appetite for exorbitant protection.²³⁷

IV. INTERNATIONAL COPYRIGHT AND JURISPRUDENTIAL CONSIDERATIONS

The final chapter of Professor Goldstein's treatise²³⁸ contains a succinct account of the United States's international copyright relations from the dark days when foreign works were systematically pirated in the name of territorial sovereignty²³⁹ to the signing of the Berne Convention in 1989.²⁴⁰ This chapter raises major themes such as the historical tension between the principles of national treatment and material reciprocity,²⁴¹ and it adequately differentiates the "copyright" and "authors' rights" traditions.²⁴² However, its treatment of the multilateral conventions is not consistently as detailed or comprehensive as one would like.

Professor Goldstein's structural overview of the Universal Copyright Convention,²⁴³ which continues to play a considerable role in United States copyright relations,²⁴⁴ identifies those aspects of the treaty that are of most

1201-11 (citing authorities)) with *id.* § 101 (defining "literary works" to include industrial literature without reservation or reference to separability from utilitarian functions, and defining "useful articles" to exclude articles that "convey information") and *id.* § 113(b) (no express limitation on the reproduction rights with regard to verbal or symbolic portraits of mechanical or utilitarian articles). *But cf.* *Baker v. Selden*, 101 U.S. 99, 103 (1879) (rejecting any distinction between verbal and graphic blueprints for these purposes).

235. See Reichman, *Designs and New Technologies*, *supra* note 27, at — [Part III.B] ("logic of a modified copyright approach"); Pamela Samuelson, *Benson Revisited: The Case Against Patent Protection for Algorithms and Other Computer Program-Related Innovations*, 39 EMORY L.J. 1025, 1148-54 (1990) (reaching analogous conclusion from critique of software patents).

236. See generally Paul Goldstein, *The Competitive Mandate: From Sears to Lear*, 59 CALIF. L. REV. 873 (1971) [hereinafter Goldstein, *Competitive Mandate*].

237. "Specifically, a court should extend copyright protection to a functional work only if, and to the extent that, the court concludes that such protection will serve society's interest in differentiated expression more than it will disserve society's interest in having free access to technological solutions that are unprotected by patent or trade secret law." Vol. 1, § 2.15, p. 198.

238. Vol. 2, ch. 16.

239. See vol. 2, § 16.1, pp. 678-89; notes 7-8 *supra* and accompanying text.

240. See vol. 2, § 16.7, pp. 697-98; notes 4-5 *supra* and accompanying text.

241. Vol. 2, § 16.1, pp. 678-82.

242. Vol. 2, § 16.4.

243. See Universal Copyright Convention, *supra* note 8.

244. The Universal Copyright Convention still governs relations between the United States and those countries that adhere to the Universal Copyright Convention but not to the Berne Con-

interest to general practitioners.²⁴⁵ The same is true of the two "neighboring rights" conventions to which the United States adheres: the Geneva Phonograms Convention²⁴⁶ and the Brussels Satellite Convention.²⁴⁷ In contrast, Goldstein's treatment of neighboring rights in foreign law generally²⁴⁸ and of the Rome Convention in particular²⁴⁹ seems abbreviated considering the economic importance of these subjects.²⁵⁰ He ignores the current tendency to view neighboring rights laws as a possible basis for international accommodation of new technologies unsuited to either the copyright model of Berne²⁵¹ or the patent model underlying the Paris Convention for the Protection of Industrial Property.²⁵²

vention, such as the Soviet Union. See vol. 3, app. B-1, pp. 638, 645. Relations between countries that belong to both treaties are generally governed by the Berne Convention. See Universal Copyright Convention, *supra* note 8, art. XVII, Appendix Declaration to art. XVII. As between these countries, however, the Universal Copyright Convention may still determine whether existing works entered the public domain before they could be rescued by the retroactivity clause of the Berne Convention. See, e.g., Universal Copyright Convention, *supra* note 8, arts. II, III, XVII, Appendix Declaration to art. XVII; Berne Convention, *supra* note 4, art. 18. The precise mesh between the Universal Copyright Convention and the Berne Convention as it will affect future United States copyright relations is controversial and beyond the scope of this article. See generally Geller, *Copyright Protection in the Berne Union: Analyzing the Issues*, *supra* note 16, at 452-53.

245. See vol. 2, § 16.6, pp. 688-95.

246. Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms (1971), reproduced in vol. 3, app. B-8; see vol. 2, § 16.8, pp. 701-04.

247. Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite [Brussels Satellite Convention] (1974), reproduced in vol. 3, app. B-10; see vol. 2, § 16.9, pp. 705-06.

248. See vol. 2, § 16.5, pp. 686-88.

249. International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations [Rome Convention] (1961), reproduced in vol. 3, app. B-12. See generally WORLD INTELLECTUAL PROPERTY ORGANIZATION, GUIDE TO THE ROME CONVENTION AND TO THE PHONOGRAMS CONVENTIONS (1981). The United States has not adhered to the Rome Convention. Vol. 2, § 16.5.

250. Neighboring rights typically "provide the legal mechanism through which countries adhering to the author's rights tradition protect sound recordings, performances and broadcasts without diluting the author's right regime." Vol. 2, § 16.5, p. 687.

251. See, e.g., Rochelle Cooper Dreyfuss, *Information Products: A Challenge to Intellectual Property Theory*, 20 N.Y.U. J. INT'L L. & POL. 897 (1989). For example, the United States adopted a neighboring rights strategy when it enacted the Semiconductor Chip Protection Act of 1984, Pub. L. No. 98-620, §§ 301-304, 98 Stat. 3335, 3347-56 (codified at 17 U.S.C. §§ 901-914 (1988)), and Professor Goldstein amply traces these developments in a chapter devoted to this hybrid form of protection. See vol. 2, § 15.26, pp. 647-49. For the treatment of noncopyrightable databases and other compilations as neighboring rights in Nordic countries, see note 180 *supra*. For the protection of engineering projects and plans as a neighboring or "connected" right in Italian law, see Fabiani, *supra* note 51, §§ 2[4][f][ii], 3[2][9], 9[1].

252. Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, as last revised, July 14, 1967, 21 U.S.T. 1583, T.I.A.S. No. 6923, 828 U.N.T.S. 305 [hereinafter Paris Convention]. The Paris Convention covers industrial property, such as patents, utility models, industrial designs, trademarks, trade names, and indications of source or appellations of origin, and the repression of unfair competition. It also imposes a general requirement of national treatment on all forms of industrial property as broadly defined in the treaty. See *id.* arts. 1(2), 1(3), 2(1); G.H.C. BODENHAUSEN, GUIDE TO THE APPLICATION OF THE PARIS CONVENTION FOR THE PROTECTION OF INDUSTRIAL PROPERTY 12-16, 24-25 (1968); 1 STEPHEN P. LADAS, PATENTS, TRADEMARKS, AND RELATED RIGHTS: NATIONAL AND INTERNATIONAL PROTECTION 262-67 (1975).

The broad coverage of the Paris Convention arguably poses a serious obstacle to experimentation with a neighboring rights approach to new technologies, at least when the moving state seeks to condition its protection of foreigners on material reciprocity, as the United States did in the Semiconductor Chip Act, see 17 U.S.C. §§ 902, 914(a) (1988). Although other countries have followed a

Internal evidence suggests that Professor Goldstein's treatise was overtaken in midstream by the United States's decision to adhere to the Berne Convention. As a result, his treatment of that Convention²⁵³ synthesizes its main provisions without going beyond the level of detail that characterizes his approach to international copyright matters in general. He fulfills his stated purpose by attempting "no more than to bring the United States copyright owner to the door of the foreign courthouse," at which point the applicable foreign sources are best consulted.²⁵⁴ Nevertheless, one hopes that future supplements will push beyond a structural overview of the Berne Convention to an examination of its legislative and judicial implementation in domestic law.²⁵⁵

In carrying out this task, Professor Goldstein may find economic analysis a less reliable tool than it was in the past. This is not because the Berne Union countries remain altogether indifferent to the incentive rationale of copyright protection. On the contrary, the more these countries are pushed or pulled toward protecting borderline, utilitarian subject matter, the more attentive their scholarly and administrative circles have become to the adverse effects of overly broad legal monopolies.²⁵⁶ In this vein, the law and economics movement abroad has spawned a considerable body of literature on current intellectual property issues.²⁵⁷

similar strategy under pressure from the United States, this tactic has been criticized as a regrettable deviation from the national treatment clause of the Paris Convention that invites emulation by the developing countries. See generally Reichman, *Intellectual Property in International Trade*, *supra* note 6, at 848-53 (citing authorities). But see Hans Peter Kunz-Hallstein, *The United States Proposal for a GATT Agreement on Intellectual Property and the Paris Convention for the Protection of Industrial Property*, 22 VAND. J. TRANSNAT'L L. 265, 273-77 (1989) (arguing that the treaty obligation to provide national treatment does not extend to new legal modes of protecting industrial property that are not mentioned in art. 1(2) of the Paris Convention). Efforts to stipulate an international convention covering semiconductor chip designs have broken down, owing mainly to the opposition of developing countries.

253. Vol. 2, § 16.7.

254. Vol. 2, § 16.0, p. 677.

255. For a discussion of the most recent domestic legislation, see note 38 *supra*. Goldstein's 1990 Supplement, issued before the 1990 amendments were adopted, does provide new appendices A-18 (House Report on Berne Convention Implementation Act of 1988 (H.R. REP. NO. 609, 100th Cong., 2d Sess. (1988))), A-19 (Senate Report on Berne Convention Implementation Act of 1988 (S. REP. NO. 352, 100th Cong. 2d Sess. (1988))), and A-20 (Executive Report, Berne Convention (EXEC. REP. NO. 17, 100th Cong. 2d Sess. (1988))). A detailed table of contents would make future supplements easier to consult and collate with the bound volumes. The publisher might also consider updating the analytical index to all the volumes.

256. See, e.g., COMMISSION OF THE EUROPEAN COMMUNITIES, GREEN PAPER ON COPYRIGHT AND THE CHALLENGE OF TECHNOLOGY: COPYRIGHT ISSUES REQUIRING IMMEDIATE ACTION 171-75 (COM (88) 172, Brussels, June 7, 1988) (discussing appropriate scope of protection for computer programs and software); W. KINGSTON, *supra* note 20, at 79-133; André Lucas, *General Report: Data Bases and Copyright*, in ASSOCIATION LITTÉRAIRE ET ARTISTIQUE INTERNATIONALE, L'INFORMATIQUE ET LE DROIT D'AUTEUR 332 (1990) (Proceedings of the Annual Congress, Quebec, Canada, September 26-30, 1989); see also John M. Kernochan, *Imperatives for Enforcing Authors' Rights*, 11 COLUM.-VLA J.L. & ARTS 587, 592-96 (1987) (urging Berne countries to rethink basic goals of protection for core works, which remain unfulfilled, while avoiding confusion with other forms of creativity that entail a different legal and economic logic).

257. See, e.g., W. KINGSTON, *supra* note 20; Michael Lehmann, *Property and Intellectual Property—Property Rights as Restrictions on Competition in Furtherance of Competition*, 20 INT'L REV. INDUS. PROP. & COPYRIGHT L. [I.I.C.] 1 (1989); H. Ullrich, *The Importance of Industrial Property*

Still, as to traditional literary and artistic works, a fuller inquiry into the policies and philosophy underlying the mature copyright systems of leading Berne countries would doubtless reveal the limits of a solely utilitarian approach.²⁵⁸ For example, greater efforts to reconcile the natural rights bias of the Berne countries with the traditional incentive theory of domestic law seem advisable,²⁵⁹ if only to forestall developing countries from appealing to generous "public interest" exceptions over here as justifications for lax protection under their own laws.²⁶⁰ Similarly, many foreign copyright laws operating within the flexible parameters of Article 6^{bis} of the Berne Convention²⁶¹ elevate the protection of the artist's personality interests to a first principle. The other Berne Union members are unlikely to tolerate American indifference to these nonpecuniary values,²⁶² as the American delegation has painfully discovered during the current GATT negotiations.

How Professor Goldstein will respond to this challenge remains to be seen from subsequent supplements and revisions. Given his interest in comparative law²⁶³ and his keen sense of how the world copyright system actually operates, his future analyses of these topics are likely to command respect.

V. COMPETITION IN THE COPYRIGHT FORUM

While this reviewer sees Professor Goldstein's novel approach to infringement as his most noteworthy achievement, the lucidity of his treatise as a whole and its usefulness to the general copyright practitioner appear even in seemingly mundane technical discussions. For example, Goldstein explains the crucial requirement of publication with notice under the 1909 Act (which will continue to destroy copyrights long after the logic of the

Law and Other Legal Measures in the Promotion of Technological Innovation, 28 INDUS. PROP. 102 (1989); see also Carlos Alberto Primo Braga, *The Economics of Intellectual Property Rights and the GATT: A View from the South*, 22 VAND. J. TRANSNAT'L L. 243 (1989). A conference on "Information Law Towards the Twenty-First Century," to be held on June 12-15, 1991, at Amsterdam, The Netherlands, under the auspices of the Institute for Information Law, University of Amsterdam, will focus major attention on the law and economics of the intellectual property system in relation to legal protection of information.

258. See notes 28-34 *supra* and accompanying text.

259. See, e.g., Yen, *supra* note 28, at 519-21, 546-59.

260. Cf. notes 130-134 *supra* and accompanying text; note 252 *supra* (discussing the Semiconductor Chip Protection Act as a precedent that justifies derogations from the Paris Convention).

261. Berne Convention, *supra* note 4, art. 6^{bis}(1), reprinted in vol. 3, app. B-6, p. 705:

Independently of the author's economic rights, and even after the transfer of the said rights, the author shall have the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation.

Article 6^{bis}(3) entrusts the safeguarding of these moral rights to the laws of the country where protection is claimed. *Id.* art. 6^{bis}(3), reprinted in vol. 3, app. B-6, pp. 705-06. See generally S. RICKETSON, *supra* note 91, at 455-76.

262. See, e.g., Geller, *supra* note 6, at 195-96. See generally Reichman, *Intellectual Property in International Trade*, *supra* note 6, at 857-61.

263. See Paul Goldstein, *Adaptation Rights and Moral Rights in the United Kingdom, the United States and the Federal Republic of Germany*, 14 INT'L REV. INDUS. PROP. & COPYRIGHT L. [I.I.C.] 43 (1983).

"dual system" of protection has been forgotten) in terms that younger generations of lawyers can readily understand despite their lack of experience in these matters.²⁶⁴ Another example is Goldstein's ability to clarify federal-state tensions affecting copyright law by distinguishing the uncertain tests of statutory preemption under section 301 of the 1976 Act²⁶⁵ from the residual tests of constitutional preemption²⁶⁶ under the *Sears* and *Compco* decisions of 1964.²⁶⁷ This analysis proves particularly helpful now that the Supreme Court's *Bonito Boats* decision²⁶⁸ has once again thrust the relation of copyright law to other state and federal laws into the forefront of attention.²⁶⁹

Apart from the intrinsic merit of its technical and scholarly contributions, Professor Goldstein's treatise benefits the copyright community simply by injecting a healthy dose of competition into the marketplace for authoritative commentary on copyright law. Until now, a single treatise, the *Nimmers'*, dominated judicial thinking in this country, in part because of its excellence and in part because judges and practitioners increasingly mistook it for the law. David Nimmer's updates and innovative expansion of his father's work combined with Paul Goldstein's contemporaneous and equally ambitious new work bode well for the development of copyright law in this country.

It means, for example, that future litigants will increasingly have conflicting authoritative viewpoints to choose from, as each treatise writer draws his own conclusions from the legislative and jurisprudential evidence. Such diversity should impel both practitioners and judicial clerks to a more diligent consultation of the literature spawned by the 1976 Act. That, in turn, should enhance the quality of decisionmaking in an era when intellectual property has become of vital economic importance. Unfortunately, none of the existing treatises systematically guides users to a representative selection of the literature on each topic, although both Goldstein's treatise and the *Nimmers'* treatise, in its present form, are better in this respect than any copyright treatise available five years ago.²⁷⁰

264. See vol. 1, § 3.2.

265. 17 U.S.C. § 301 (1988) (as amended in 1990, see note 38 *supra*); see vol. 2, § 15.2.

266. See vol. 2, § 15.3 (stressing the continuing relevance of constitutional preemption doctrine).

267. *Sears, Roebuck & Co. v. Stiffel Co.*, 376 U.S. 225 (1964) (state unfair competition law preempted by federal patent law to the extent that states may not apply misappropriation theory to extend protection to matter covered by invalidated design patents); *Compco Corp. v. Day-Brite Lighting, Inc.*, 376 U.S. 234 (1964) (same); see Howard B. Abrams, *Copyright, Misappropriation, and Preemption: Constitutional and Statutory Limits of State Law Protection*, 1983 SUP. CT. REV. 509; Goldstein, *Competitive Mandate*, *supra* note 236.

268. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141 (1989) (finding a state law banning duplication of functional designs by the direct molding process preempted by federal patent law, which mandates free competition unless equally valid federal laws apply).

269. See, e.g., John Shepard Wiley, Jr., *Bonito Boats: Uninformed But Mandatory Innovation Policy*, 1989 SUP. CT. REV. 283; Reichman, *Designs and New Technologies*, *supra* note 27, at — [Part II.C].

270. The most commendable treatise in this respect is M. LEAFFER, *supra* note 2. However, none of the treatise writers approach the bibliographical standard set by RALPH S. BROWN & ROBERT C. DENICOLA, *CASES ON COPYRIGHT* (5th ed. 1990), nor even the standard, say, of certain treatises on contracts and commercial law, see, e.g., JAMES J. WHITE & ROBERT S. SUMMERS, *UNI-*

When all of the useful treatises on this difficult subject are assembled on a single shelf and compared, the strength of Professor Goldstein's work stems from his realist understanding of how courts actually apply copyright law and his ability to explain the empirical results of his inquiry in terms of the economic concerns that dominate American intellectual property law. While respectful of the formalist tradition in treatise writing, Professor Goldstein prefers analytical methods that clarify what the copyright community has actually accomplished, even if this sometimes deviates from what it thought it was doing or from what ought to be done. Conscious of copyright law's origin and of how it evolved along the way, he constantly explores the underlying policy issues that are certain to determine its future evolution.

Inevitably, many observers will disagree with Professor Goldstein's conclusions on particular topics, and some will dispute the premises from which they are drawn. But no one working in copyright law can afford to ignore them for very long. There is simply no mistaking the fact that Paul Goldstein's new treatise constitutes a major contribution that is destined to elevate the level of discourse in this field for decades to come.