

FOREWARD: INTELLECTUAL PROPERTY AND CONTRACT LAW FOR THE INFORMATION AGE: THE
IMPACT OF ARTICLE 2B OF THE UNIFORM COMMERCIAL CODE ON THE FUTURE OF INFORMATION AND
COMMERCE.

PAMELA SAMUELSON *

Berkeley Technology Law Journal
Fall, 1998
13 Berkeley Tech. L.J. 809
Copyright (c) 1998 Pamela Samuelson.

* Professor of Law and of Information Management, University of California, Berkeley. Most of the Articles and Comments contained in this Symposium were presented at a conference entitled "Intellectual Property and Contract Law for the Information Age: The Impact of Article 2B of the Uniform Commercial Code on the Future of Information and Commerce."

Intellectual property and contract laws have a long history of working in concert to regulate commercial transactions in information-rich works. n1 Yet, as both bodies of law have expanded their horizons to respond to the considerable challenges posed by digital technologies, the relationship between these two laws has shifted. n2 Some view the vulnerability of digital information to unauthorized and commercially harmful replication and distribution as a reason to propose a far broader role for contract than for intellectual property in the information age. n3 This view underlies a recently proposed model law that aspires to provide a standard set of default rules to regulate transactions in information, known as Article 2B of the Uniform Commercial Code (U.C.C.). n4 The drafters of this model law hope to accomplish for the information economy what Articles 2 and 2A of the U.C.C. - which regulate respectively sales and leases of goods - have successfully done to promote commerce in the manufacturing economy. n5 Proponents not only hope that Article 2B will be adopted by state legislatures in the near future, n6 but also that it will serve as a model for regulating commerce in information on a global scale. n7

To explore the implications of Article 2B and its intersection with intellectual property law, the Berkeley Center for Law and Technology convened a symposium on "Intellectual Property and Contract Law in the Information Age." n8 The program included intellectual property and commercial law scholars, as well as economists, technologists, government policy officials, representatives of various information industries, and lawyers specializing in information licensing. n9 To enable the insights from this symposium to be shared with a wider audience, the Berkeley Technology Law Journal and the California Law Review agreed to publish symposium issues featuring papers presented at the live symposium. n10 The main focus of the California Law Review symposium volume is on the extent to which federal intellectual property law and policy should "preempt" or otherwise limit enforcement of Article 2B contracts. n11 The papers in this symposium issue of the Berkeley Technology Law Journal take a broader look at Article 2B. They probe its underlying rationale, its implications for specific industry sectors, its intersection with other federal and state laws (for example, those regulating competition and digital signatures), and its consistency with existing and emerging societal norms and commercial practices.

I. THE SYMPOSIUM ARTICLES

The BTLJ symposium issue begins, as the live symposium did, with a presentation by Professor Raymond T. Nimmer, who is the Reporter for the Article 2B project. n12 His article, *Breaking Barriers: The Relation Between Contract and Intellectual Property Law*, perceives a growing importance for contract law in the new information environment because "in the new world of digital information," intellectual property constructs do not match up very well with new forms of commercial exploitation of digital information, such as those involving "transmission, extraction, and access." n13 Licensing, he explains, enables the emergence of these new information markets. Nimmer characterizes as "reactionary" the view that publishers must sell copies of information even they prefer to license copies. n14 Freedom of contract principles suggest that the decision to license information should be respected.

Also contributing to the growth of information licensing is uncertainty about potential liability for dissemination of defective information. Professor Nimmer explains that "Article 2B adopts a strong policy encouraging public distribution [of information] by limiting, and in some contexts, eliminating the liability risk in a manner consistent with caselaw on print media unless a different risk is expressly assumed by the information provider in its contract." n15 Nimmer perceives no "impending big bang" between intellectual property and contract laws, although he predicts that intellectual property law will recede in importance. n16 Contract and intellectual property laws "have always co-existed, not only peacefully, but in an aggressive interaction between ordinarily consistent and mutually supportive fields." n17 Occasional abuses can and will be dealt with on a case-by-case basis. n18

A similarly positive attitude about Article 2B's licensing rules - particularly its provisions validating mass market licenses of information - can be found in Robert Gomulkiewicz's contribution to the BTLJ symposium issue. n19 Gomulkiewicz not only views such licenses as an accurate reflection of commercial practice, but he also goes on to suggest that the software industry has been thriving in recent years "because of what mass-market licenses enable: a diversity of innovative products provided to end users at attractive prices." n20 Explaining why he titled his comment "The License Is the Product," Gomulkiewicz states that the program code may "provide[] functionality to the user, but the license delivers the use rights." n21 Gomulkiewicz asserts that there is considerable diversity in mass market software licenses, and that users are far from shy about using the Internet to complain if a software developer puts unreasonable terms in its licenses. n22 He opposes proposals to regulate mass market licenses simply because a few of them contain objectionable terms. n23 Indeed, he thinks that end users should cheer Article 2B because of its consumer protection provisions. n24 His principal complaint about Article 2B is that the drafters have been "too wedded to ill-fitting rules found in Article 2" relating to merchantability and noninfringement warranty responsibilities which Gomulkiewicz insists run counter to commercial practices and expectations in the software industry. n25

In stark contrast to Professor Nimmer and Robert Gomulkiewicz, Professor Jessica Litman characterizes as "dubious" the notion that current law enables publishers to make a transaction into a license by so designating it. n26 In her view, Article 2B would make new law, even though its drafters deny this. n27 Litman asserts that The Tales That Article 2B Tells about its relationship to copyright law are at best confusing and at worst disingenuous. n28 Confusion arises because,

although Article 2B sometimes incorporates language from the copyright statute into its definitions, Article 2B uses those terms in a manner different from and sometimes inconsistent with how they are used in copyright. n29 She finds further confusion, as well as disingenuousness, in Article 2B's assertions about the property law foundations on which Article 2B licenses are supposedly based. n30 The authority to license information is said to arise from "informational property rights" that the provider has in the information. n31 Article 2B defines this term to include intellectual property rights, such as copyrights and patents, but it also posits the existence of other sources of property rights in information besides those deriving from intellectual property law without clearly identifying their source. n32 This is important, for example, in determining the authority of an information provider to license a CD-ROM directory of telephone white pages listings which the U.S. Supreme Court has said cannot be protected by copyright law. n33 Litman finds Article 2B's veiled explanation of non-intellectual property sources of rights to be circular. She concludes that "whether from confusion or design, the tales that Article 2B tells us about its relationship with copyright law are 8241*815 an unreliable guide to what that relationship is likely, or is intended, to be." n34

Professor Jane C. Ginsburg shares some of Professor Litman's discomfort with the "anomalous nomenclature" of Article 2B as it intersects with copyright parlance. n35 She is, however, more sympathetic with Article 2B insofar as it favors the interests of licensors. Consistent with her pro-author positions on copyright matters, Ginsburg is mainly concerned with the implications of Article 2B for an often vulnerable class of licensors, namely, individual author-creators, hence her title: Authors as "Licensors" of "Informational Rights" Under U.C.C. Article 2B. n36 Professor Ginsburg reports that there is both good and bad news in Article 2B of the UCC for authors, "depending on the level of detail that informs their agreements." n37 The principal good news is that the licensor's terms generally prevail if the conduct of the parties indicates that a contract has been formed. n38 In addition, Ginsburg sees some benefits for authors in Article 2B's implied license provision, although less so than under an earlier version of the same provision. n39 The principal bad news is that "Article 2B's provisions governing the formation of enforceable agreements can be detrimental to authors who may end up assenting all too easily to detailed exploiter-written [agreements]." n40 She demonstrates the good and bad news by working through hypotheticals to show how Article 2B's default rules would affect various permutations. n41 Ginsburg also worries that Article 2B will make it too easy for authors to release important rights without realizing they have done so. n42 She offers a number of suggestions for refinement of Article 2B to confer greater protection to authors, and suggests that authors should become more involved in the Article 2B drafting process in order to promote pro-author provisions. n43

Authors and their publishers have, however, sometimes sought to become less involved with Article 2B by urging the drafters to exclude "up8241*816 stream licenses," such as those routinely entered into by writers and publishers, from the scope of Article 2B, as Laura Hutcheson reveals in *The Exclusion of Embedded Software and Merely Incidental Information From the Scope of Article 2B*. n44 Although author-publisher upstream licenses remained within the scope of Article 2B until the November 1998 drafting committee meeting, other groups have successfully sought or been given exclusions from Article 2B. n45 Indeed, defining a proper scope for Article 2B has been among the most persistently vexing problems with which the drafters have had to contend. n46 At first, the Article 2B project was focused on software licenses and development contracts. n47 Some years ago, it expanded to encompass transactions in digital information, and then to all transactions in information (except certain ones specifically excluded). n48 While the scope of

Article 2B has recently contracted to "computer information transactions," n49 there are still several categories of specific exclusions from the scope of Article 2B, including one for "embedded systems" (e.g., software that controls operations of a toaster or microwave oven). n50 Ms. Hutcheson probes some ambiguities in this exclusion n51 and in 2B's proposed rules for determining what law will apply when a transaction has a hybrid character (e.g., a computer game that comes with a joystick). n52 She offers proposals to clarify Article 2B's rules on exclusions and on hybrid transactions. n53 She concludes that the anticipated benefits of Article 2B "will only occur if [it] is drafted with default rules that reflect actual practices and expectations in the commercial world, and if the scope of Article 2B is clear." n54

Concern about a lack of clarity in Article 2B rules also emerges in Michele C. Kane's article *When Is a Computer Program Not a Computer Program?* n55 Kane asserts that Article 2B "adds needless complexity to computer industry transactions" because it employs the term "computer program" in a manner quite different from the term's use in common parlance or in copyright law. n56 Article 2B creates a new distinction between a "computer program" and "informational content" arising from or in the program. n57 Under Article 2B, the functionality of a program falls within the definition of a "computer program." n58 However, its user interface or displays, for example, generally do not. In addition, Article 2B distinguishes "informational content" and "published informational content," n59 although neither term is a well-established concept in commercial practice. Article 2B nevertheless confers great importance on all three concepts, for each comes with a different level of warranty responsibility. n60 Ms. Kane uses several examples to illustrate that Article 2B's distinctions are unclear, unnecessary, and harmful to consumers of software products who will often be unable to discern the source of a flaw and may, therefore, be without a workable remedy when software does not perform to reasonable commercial standards. n61

Consumer protection issues are also of concern to Michael Fromkin in *Article 2B As Legal Software For Electronic Contracting - Operating System or Trojan Horse?*, which focuses on Article 2B's rules about digital signatures and authentication procedures. n62 Fromkin finds "ample reason to doubt that Article 2B is compatible with the emerging model of digital signature-based e-commerce," n63 but he is also critical of consumer protection dimensions of Article 2B's digital signature rules. n64 Indeed, after a detailed examination of several provisions, Fromkin concludes that "Article 2B undermines the consumer law requirements it seeks to modernize and risks leaving consumers particularly vulnerable to more modern threats caused by hacked software and rogue electronic agents." n65 It would, for example, enforce contracts made by the exchange of messages between "reasonably configured" electronic agents. n66 Yet, as Fromkin points out, there are as yet no standards by which to judge whether an electronic agent has been reasonably configured. n67 It is, moreover, curious that "Article 2B is more solicitous about the limited capabilities of agents than of people <elip>." n68 Fromkin also questions the wisdom of having one set of electronic contracting rules for transactions in information (as Article 2B would provide) and another set of rules for other transactions (as the separate model law project to draft an Electronic Transactions Act would provide), especially given that many transactions may have a hybrid character. n69 Although finding Article 2B to be "a praiseworthy attempt to identify problems and solve them early," n70 Fromkin likens Article 2B to a "beta version of a large and complex operating system," and warns that substantial unwanted and unintended consequences would result from Article 2B's "over-ambitious reach." n71

Also questioning how well Article 2B meshes with emerging models of information-based commerce is Professor Peter Lyman in *The Article 2B Debate and the Sociology of the Information Age*.⁷² Drawing upon the work of social science scholars, such as Manuel Castells, who have studied global information flows and the impact of digital networks on commerce and society,⁷³ Lyman asks: "Is the economic value of information that of a commodity, <elip> or is it better understood as a raw material?"⁷⁴ In the industrial age, information may have been treated as a commodity, but in the network age, Lyman suggests that allowing a freer flow of informa8241*819 tion and value-added uses may be more conducive to economic growth than the older industrial model.⁷⁵ "While Article 2B imagines a scarcity-based marketplace tightly controlled by information owners, [some] network entrepreneurs imagine the consumer living in an information rich environment in which vendors must compete to provide community services in order to sell products."⁷⁶ This model law also seems to assume that the network economy is mainly about using the Internet as a channel of distribution for software and digital publications.⁷⁷ However, many others believe that the digital economy is still being invented and has dimensions that Article 2B may not capture.⁷⁸ Lyman also explores some social dimensions of digital networks, in particular, the "social discipline" that technology "imposes on its users."⁷⁹ He views digital networks as carefully constructed governance systems that closely regulate the activities of users "as they conform to the community of social relations that the technology makes available."⁸⁰

A clear manifestation of the governance capabilities of digital information systems can be found in the "self-enforcing digital contracts" on which Professor Julie Cohen focuses in her article *Copyright and the Jurisprudence of Self-Help*.⁸¹ The "self help" concept originated in common law rules, and more recently in Article 9 of the UCC, to enable secured creditors to repossess collateral upon a debtor's default if this can be accomplished without breaching the peace (e.g., by seizing a debtor's car when parked on a public street).⁸² Drawing upon and extending this concept, the drafters of Article 2B contemplate that licensors will engage in "self-help" by, for example, disabling use of licensed software if a licensee has not paid the next quarter's royalty fee or has otherwise materially breached a license for that information.⁸³ There should, of course, be some safeguards to protect against abuse of such technical self-help, for example, requiring that licensees be informed of the self-enforcing nature of the digital information they are acquiring.⁸⁴ Most of the debate about the self- 8241*820 help provision of Article 2B has concerned the extent of these safeguards.⁸⁵ While not denying the importance of these process concerns, Professor Cohen directly challenges self-help features of digital information products insofar as they attempt to thwart public policy limitations on rightsholders embodied in copyright law and other federal policies.⁸⁶ She asserts that "Article 2B is not merely a neutral background for private bilateral agreements, but a public act of social ordering that is flatly inconsistent with copyright and First Amendment principles."⁸⁷ She goes further to assert the affirmative right of licensees to engage in a little self-help of their own, for example, bypassing a technical protection system to engage in fair use "when necessary to preserve the balance that the Copyright Act is intended to establish."⁸⁸

Technologist James Davis's comment questions whether the "right to hack" for which Cohen argues would really be meaningful to the average person, even if it were adopted, given "the relative advantage of those creating and using software security over those that would hack them."⁸⁹ Hacking is both technically demanding and expensive, and may not be worthwhile merely to enable an occasional act of fair use.⁹⁰ In a playful but serious reflection on self-enforcing digital contracts, Davis mentions a number of other things that "intelligent products" might do besides

disabling themselves for nonpayment of fees. n91 They might, for example, monitor types of uses, forbidding some or adjusting the price based on usage patterns. n92 Imagine, he suggests, what an intelligent sofa might demand if it knows you have a hot date on Friday night. n93 Davis also worries that adopting a rule that would not enforce terms to which an electronic agent could not react, as Article 2B currently proposes, might create the wrong kinds of incentives to those who are developing electronic agents. n94 In particular, he worries that "a vendor may cut corners by building a system that would not be able to react appropriately." n95 Davis draws upon user interface design principles to ensure that electronic agents will offer appropriate information to users. n96

While recognizing that a number of technical and other difficulties need to be overcome before technical enforcement of information licenses can be widely adopted, Professor David Friedman is far more sanguine about self-enforcing digital contracts than is Professor Cohen in his comment *In Defense of Private Orderings*. n97 Technology, he says, "has the potential to provide, for at least some forms of intellectual property, self-protection greatly superior in effectiveness and flexibility to the protection now provided by copyright law - and considerably less costly to enforce." n98 If the goal of intellectual property law is to promote access to a wide variety of works, Friedman argues that private ordering by means of licensing and technical protection will best accomplish this goal. n99 Copyright law may have once been necessary to ensure the existence of adequate incentives for creating and disseminating works of authorship, but with the aid of technology and licenses, it may no longer be needed. n100 Insofar as information providers look to technology and licenses to protect their works and do not rely on copyright, Friedman sees no reason why they should be subject to fair use rules which, after all, were crafted to limit rights under copyright law. n101 Friedman does not argue that the market will produce perfect results, for obviously some abuses will occur, but only that "it is less imperfect than the alternatives." n102 In general, he asserts, "a rational seller will design an efficient contract - a contract that maximizes the net gain to buyer and seller combined." n103 Friedman suggests that technical protection systems may even help resolve distributional concerns raised by Cohen and others by permitting price discrimination among different classes of users. n104

Confidence in the market's general ability to achieve a satisfactory equilibrium is also evident in Professor David McGowan's article *Free Contracting, Fair Competition, and Article 2B*. n105 He observes that "Article 2B's preference for freedom of contract, with its underlying assumption that parties whose interests are at stake in a negotiation are better judges of markets and the effects of contracts than are courts, should be given substantial weight." n106 Although Article 2B does not explain its rationale for endorsing freedom of contract principles, McGowan suggests that Article 2B should be understood as seeking "to benefit society by allowing resources to flow to their most-valued use through exchanges falling within the domain of commercial contract law." n107 If so, it has in common with competition law that it seeks to increase social welfare by enhancing allocative efficiency. n108 Yet he also observes that the draft distances itself from competition policy, and seems to base its superstructure on property rights. n109

On the much-contested issue concerning the stance Article 2B should take toward federal law and policy, McGowan regards as "sensible" the neutral stance Article 2B announces. n110 While noting that "each iteration of Article 2B has to one degree or another reflected the drafters' apparent determination that the free contracting principle [is to] control up to the point where it is decisively truncated by a federal rule," n111 McGowan also observes an "apparent trend toward an iteration of section 2B-105 that states more explicitly its deference to federal policy and that

identifies federal policies that presently pose a risk of conflict." n112 To explore the intersection of federal intellectual property and competition policy, on the one hand, and contract rule choices embodied in Article 2B, on the other hand, McGowan considers the issue of reverse engineering of computer programs. At present, Article 2B seems to regard anti-decompilation clauses in negotiated software contracts as enforceable, although it suggests that similar clauses in mass market licenses might be viewed differently, in part because of federal policy concerns. n113 McGowan questions this distinction between mass market licenses and negotiated contracts as regards enforceability of anti-decompilation terms, given the external effects of such clauses on competitive development of programs regardless of whether the term has been negotiated. n114 McGowan's main concern is to persuade courts not to look to the "sledgehammer" of antitrust law when analyzing the enforceability of questionable contract terms when an examination of contract or intellectual property principles, including the doctrine of misuse, might adequately do the job. n115

Reverse engineering and competition policy concerns are also evident in Professor David A. Rice's article License with Contract and Precedent: Publisher-Licensors Protection Consequences and the Rationale Offered for the Nontransferability of Licenses Under UCC Article 2B. n116 Rice believes that the effect of Article 2B's transfer-of-rights rules is to override long-standing rules of trade secrecy law in a manner that would have negative impacts on reverse engineering. n117 Transfers of licensing rights might occur in a number of situations. n118 Article 2B anticipates that a licensor's permission will be needed to validate any transfer of license rights if the license contains a "no transfer" provision, as so many of them do. n119 In the absence of that permission, a transfer is not only a breach of the license; it is also ineffective, opening the transferee to a lawsuit for trade secret misappropriation and copyright infringement. n120 This not only represents a change from traditional principles of trade secrecy law, but it also runs counter to the normal expectations of ordinary people. n121 If two start-up companies merged, for example, they would expect that their new combined firm could continue to use licensed software on a particular computer. If reverse-engineering of that software would have been lawful if done by the original licensee, the merged firm would likely think that it should be able to reverse-engineer it also. However, Rice argues that the effect of Article 2B's transfer rules would make illegal both continued use of the software and any subsequent reverse engineering. n122 Rice objects to empowering "any software developer or information publisher" to act as a toll collector on wholly unrelated business transactions." n123 Rice also questions whether Article 2B's transfer rules should be permitted to override "the venerable first sale doctrine" of copyright law. n124 Here, as elsewhere, Rice suggests not. n125

Although no equivalent to Article 2B exists in Japan, the issues with which it deals, especially as they concern the enforceability of mass market licenses, are of considerable interest in Japan, as Professor Tsuneo Matsumoto explains in his comment Article 2B and Mass Market License Contracts: A Japanese Perspective. n126 He indicates that Japanese intellectual property professionals have been learning about the Article 2B project and about U.S. thinking about the relationship between intellectual property and contract law in part by inviting U.S. speakers to Japanese conferences. n127 Professor Matsumoto explains why he believes that Japanese law would not enforce some mass market licenses, but might enforce others. n128 Because Japan does not have a federal-state system, there is no direct equivalent in Japanese law to the preemption issues that are much discussed in the U.S. n129 However, there are some mandatory rules in Japan that cannot be overridden by contract, although there is no caselaw in Japan on

whether copyright rules have a mandatory character. n130 Professor Matsumoto also discusses the potential implications for mass market licensing of software and other information products of a proposed Japanese consumer protection law that would decline to enforce terms that are unreasonably unfavorable to consumers. n131

II. CONCLUSION

Undertaking to draft a model law to regulate transactions in information for the information age is an almost unimaginably daunting task. Given the wide range of affected industries, the complex policy decisions such a law must necessarily embody, and the immaturity of certain technologies and markets the law aims to encompass, it is perhaps unsurprising that Article 2B would generate the considerable debate reflected in this symposium. To guide it through the Sturm und Drang, the drafters of Article 2B have sought to follow Grant Gilmore's advice that model commercial laws should be "accurate, not original." n132 Articles in this symposium reveal that Article 2B has been best received in certain sectors, such as the software industry, where it is perceived to abide by that maxim. Where Article 2B has veered in the direction of originality, as for example, in proposing to regulate author-publisher contracts, it has been less welcome, or at least its welcome has been contingent on its responding better to the concerns of that sector. Accuracy is all the more difficult to achieve given that Article 2B does not write on a blank slate. There are so many other laws and policies, some state and some federal, around which licensing practices have arisen, and Article 2B must successfully intermesh with all of them. Much of the resistance with which Article 2B has met in this symposium derives from a perceived mismatch between Article 2B concepts and some concepts from those other laws. Where Article 2B has been most original - for example, in proposing to regulate contracts made by electronic agents - it has also been criticized, but its rationale for these rules has been that they are necessary to enable the emergence of new markets. By attempting to make Article 2B technology-neutral, n133 its 8241*826 drafters have sought to provide flexible, adaptable rules for commerce in information. Nevertheless, there is reason to believe that electronic commerce will enable forms of transactions that simply cannot be imagined at this time. To borrow a phrase from a recent Dilbert cartoon, Article 2B seems to be "paradigm-shifting without a clutch." n134

No written or live symposium can hope to resolve all of the complex questions raised by such an ambitious proposal as Article 2B. This symposium has sought to illuminate the areas most in need of clarification and refinement so that the principal goal of the Article 2B project - to promote robust commerce in information - can be achieved. On behalf of the Berkeley Center for Law and Technology, I offer thanks to the contributors to this and the companion California Law Review issue for sharing their insights in support of this larger goal. At times it may seem a Sisyphean burden to carry on with the Article 2B project. However, the prosperity of the information economy is at stake, and we must all lend a shoulder if the rock is going to have a chance to make it up the hill.

FOOTNOTES:

n1. See, e.g., David Nimmer et al., *The Metamorphosis of Contract into Expand*, 87 *Calif. L. Rev.* 17 (forthcoming 1999).

n2. See, e.g., Maureen O'Rourke, *Drawing the Boundary Between Copyright and Contract: Copyright Preemption of Software License Terms*, 45 *Duke L.J.* 479, 480-81 (1995).

n3. See, e.g., Raymond T. Nimmer, *Breaking Barriers: The Relation Between Contract and Intellectual Property Law*, 13 *Berkeley Tech. L.J.* 827 (1998).

n4. As of this writing, the most recent draft of Article 2B is dated August 1, 1998. All versions of Article 2B are available on the Internet. See National Conference of Commissioners on Uniform State Laws, *Drafts of Uniform and Model Acts Official Site* (last modified Nov. 20, 1998) <<http://www.law.upenn.edu/library/ulc/ulc.htm>>.

n5. The Preface to Article 2B begins with the following epigraph:

The UCC has given parties in traditional sales of goods a well-understood legal framework to establish contract formation, terms, and enforcement rights. It is timely now to adapt this framework to the digital era and to the new information products and services that will increasingly drive Global Electronic Commerce. Article 2B can be a strong first step toward a common legal framework for digital information and software licenses.

U.C.C. Article 2B, Preface at 1 (Aug. 1, 1998 Draft) (quoting letter from CSPP, a coalition of eleven major manufacturing companies (Nov. 19, 1997)) (alteration in original). See generally U.C.C. Article 2 (1995) (providing a standard set of commercial law rules). Article 2 of the U.C.C. has promoted the growth of larger and more national markets for the manufacturing economy. See Fred H. Miller, *The Uniform Commercial Code: Will the Experiment Continue?*, 43 *Mercer L. Rev.* 799, 808 (1992) (noting the U.C.C.'s "substantive excellence" and discussing its success in promoting national uniformity). In doing so, Article 2 has been supplemented by Article 2A, which sets forth rules for leases of goods. See generally U.C.C. Article 2A (1995) (providing standardized rules for leases of goods).

n6. As of this writing, neither the National Conference of Commissioners on Uniform State Laws (NCCUSL) nor the American Law Institute (ALI) has formally approved a draft of Article 2B. As of March 26, 1998, the ALI Ad Hoc Committee on U.C.C. Article 2B considered that the text of the Article needed "significant revision." See Letter from Geoffrey C. Hazard to Gene N. Lebrun, President, NCCUSL, and Charles Alan Wright, President, ALI (Mar. 26, 1998) (memorializing discussion of March 18, 1998 among the ALI Ad Hoc Committee on Article 2B) available at <<http://www.2Bguide.com/docs/ghmar98.html>> (visited Nov. 23, 1998). The ALI has tentative plans to submit a final draft to a vote by its membership on May 19, 1999, and NCCUSL will consider a final draft at its Annual Meeting in the summer of 1999. According to a joint press release, the two organizations "are committed to working together toward its completion so that U.C.C. Article 2B will be available for introductions and adoptions in state legislatures in 2000." NCCUSL and ALI Announce Schedule for Completion of Uniform Commercial Code Article 2B: Licensing (June 26, 1998), available at <<http://www.law.upenn.edu/library/ulc/ucc2b/2breleas.htm>>. However, on September 10, 1998, Jack Valenti on behalf of the Motion Picture Association of America, along with presidents and CEOs of five other copyright industry organizations, wrote a letter urging the ALI to table the

Article 2B project, characterizing the draft as "fatally flawed in its fundamental premise that all transactions in 'information' may be governed by a single set of contractual rules." Letter from Jack Valenti, President and CEO, Motion Picture Association of America, et al. to Carlyle C. Ring, Jr., Chairman, NCCUSL Article 2B Drafting Committee, and Geoffrey Hazard, Jr., Director, The American Law Institute 1 (Sept. 10, 1998) (on file with author). At the November 1998 drafting committee meeting, the scope of Article 2B was curtailed to include only "computer information transactions." See Carlyle C. Ring, Jr., Summary of Actions at Article 2B Meeting, Nov. 12-15, 1998 (visited Nov. 21, 1998) <<http://www.2bguide.com/docs/cr1198sum.html>>. It remains to be seen if this will satisfy the copyright industry groups that sought to table the Article 2B project.

n7. See William J. Clinton & Albert Gore, Jr., *A Framework for Global Electronic Commerce 3* (1997), available at <<http://www.iitf.nist.gov/elecomm/ecom.htm>> (visited Sept. 19, 1998) (discussing the need for a set of globally recognized commercial law rules). The President's announcement of the release of this report appears in Memorandum on Electronic Commerce, 33 Wkly. Comp. Pres. Doc. 1006 (July 7, 1997).

n8. The official name of the Conference is "Intellectual Property and Contract Law for the Information Age: The Impact of Article 2B of the Uniform Commercial Code on the Future of Information and Commerce." The following organizations were co-sponsors of the Conference: The American Law Institute; the Information Technology Association of America; Continuing Legal Education of the Bar of California; the Business and Law Section of the California State Bar Association; the School of Information Management and Systems at the University of California, Berkeley; the Institute of Management, Innovation, and Organization of the Haas School of Business at the University of California, Berkeley; and the Fisher Center for Management and Information Technology of the Haas School of Business at the University of California, Berkeley.

n9. The Conference has an Internet site. See Berkeley Center for Law & Technology, Intellectual Property and Contract Law for the Information Age: The Impact of Article 2B of the Uniform Commercial Code on the Future of Information and Commerce (visited Sept. 19, 1998) <<http://www.sims.berkeley.edu/bclt/events/ucc2b/>>. For a complete listing of speakers and their affiliations, see Conference Participants (visited Sept. 19, 1998) <<http://www.sims.berkeley.edu/bclt/events/ucc2b/bio.html>>.

n10. Last spring, editors from both the California Law Review and the Berkeley Technology Law Journal met to discuss how to allocate the papers between the two journals. The principal criteria for allocation were thematic congruence and the degree of completion of the papers (the California Law Review has a more time-intensive publication process and had to complete several stages of its process by May). I am deeply grateful to the editorial boards of both journals and to the authors of the articles and comments for their dedication to making the written Symposium as great a success as the live Symposium.

n11. See Symposium, Intellectual Property and Contract Law for the Information Age: The Impact of Article 2B of the Uniform Commercial Code on the Future of Information and Commerce, 87 *Calif. L. Rev.* 1 (forthcoming 1999). For a synopsis of the articles and comments in that issue, including those that discuss preemption issues, see Pamela Samuelson, Intellectual Property and Contract Law for the Information Age: Foreword to a Symposium, 87 *Calif. L. Rev.* 1 (forthcoming 1999).

n12. Nimmer, *supra* note 3.

n13. *Id.* at 829.

n14. *Id.* at 843.

n15. *Id.* at 839.

n16. *Id.* at 828.

n17. *Id.* at 829.

n18. *Id.* at 851.

n19. See generally Robert Gomulkiewicz, *The License Is the Product: Comments on the Promise of Article 2B For Software and Information Licensing*, 13 *Berkeley Tech. L.J.* 891 (1998).

n20. *Id.* at 896.

n21. *Id.* at 896.

n22. *Id.* at 898.

n23. *Id.* at 891.

n24. *Id.* at 891.

n25. *Id.* at 896. But see Peter A. Alces, *W(h)ither Warranty: The B(l)oom of Products Liability Theory in Cases of Deficient Software Design*, 87 *Calif. L. Rev.* 271 (forthcoming 1999) (critical of Article 2B's warranty provisions for too low standard).

n26. Jessica Litman, *The Tales That Article 2B Tells*, 13 *Berkeley Tech. L.J.* 931, 938 (1998).

n27. *Id.* at 891.

n28. *Id.* at 891.

n29. *Id.* at 891. Litman also objects to Article 2B because it "portrays copyright owners' rights as required and the limitations and exclusions <elip> as precatory." *Id.* at 935. On disputed issues in copyright, such as whether temporary reproductions of works in the random access memory of a computer are controllable, Article 2B resolves the ambiguity in favor of the rightsholders. *Id.* at 942.

n30. *Id.* at 937-48.

n31. See U.C.C. Article 2B, Preface. See also U.C.C. 2B-102(a)(27) (Aug. 1, 1998 Draft). Until the August 1998 version of Article 2B, the draft used the term "informational property rights." See, e.g., U.C.C. 2B-102(a)(26) (Apr. 15, 1998 Draft). However, the August 1998 draft speaks of "informational rights," although defining the term in the same way as previous drafts.

n32. See U.C.C. 2B-102(a)(27) (Aug. 1, 1998 Draft).

n33. *Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 *U.S.* 340 (1991) (holding that white page listings of telephone directories lack sufficient originality in the selection and arrangement of data elements to qualify for federal copyright protection).

n34. Litman, *supra* note 26, at 943.

n35. Jane C. Ginsburg, *Authors as "Licensors" of "Informational Rights" under U.C.C. Article 2B*, 13 *Berkeley Tech. L.J.* 945, [3-4] (1998).

n36. *Id.* at 945. See also Jane C. Ginsburg, Putting Cars on the "Information Superhighway": Authors, Exploiters, and Copyright in Cyberspace, 95 *Colum. L. Rev.* 1466 (1995) (offering a pro-author perspective on digital copyright law).

n37. Ginsburg, *supra* note 35, at 943.

n38. *Id.* at 945-68

n39. *Id.* at 962-66.

n40. *Id.* at 947.

n41. *Id.* at 946-47.

n42. *Id.* at 969.

n43. *Id.* at 973-74.

n44. Laura Hutcheson, The Exclusion of Embedded Software and Merely Incidental Information From the Scope of Article 2B, 13 *Berkeley Tech. L.J.* 977 (1998)

n45. See U.C.C Article 2B, Preface (Aug. 1, 1998 Draft) (explaining Article 2B's exclusion of most patent and associated knowhow licenses, trademark and trade dress licenses, and financial information transactions because of different assumptions and practices in these industries).

n46. See, e.g., Hazard, *supra* note 6.

n47. See Hutcheson, *supra* note 44, at 979.

n48. See *id.*

n49. See Ring, *supra* note 6.

n50. See U.C.C. 2B-104 (Aug. 1, 1998 Draft).

n51. See Hutcheson, *supra* note 44, at 983-1003.

n52. See *id.* at 1003-12.

n53. See *id.* at 999-1000, 1011.

n54. See *id.* at 1011.

n55. Michele C. Kane, When Is a Computer Program Not A Computer Program?, 13 *Berkeley Tech. L.J.* 1013 (1998).

n56. *Id.* at 1013.

n57. Compare U.C.C. 2B-102(a)(6) (Aug. 1, 1998 Draft) ("computer program") with *id.* 2B-102(a)(26) ("informational content"). See also U.C.C. Article 2B, Preface (Aug. 1, 1998 Draft).

n58. U.C.C. 2B-102(a)(6) (Aug. 1, 1998 Draft).

n59. Compare *id.* 2B-102(a)(26) ("informational content") with *id.* 2B-102(a)(35) ("published informational content").

n60. Kane, *supra* note 55, at 1017.

n61. *Id.* at 1017.

n62. See Michael Froomkin, Article 2B as Legal Software for Electronic Contracting - Operating System or Trojan Horse?, *13 Berkeley Tech. L.J.* 1023 (1998).

n63. *Id.* at 1027.

n64. See *id.* at 1048-58, 1062.

n65. *Id.* at 1048.

n66. See U.C.C. 2B-112(a)(2), -204 (Aug. 1, 1998 Draft). Article 2B defines "electronic agent" as "a computer program or other automated means used by a person to independently initiate or respond to electronic messages or performances on behalf of that person without review by an individual." *Id.*

2B-102(a)(19). Such contracts would be enforceable "if the interaction results in the electronic agents' engaging in operations that confirm or indicate the existence of a contract." *Id.* 2B-204(1). This rule would apply "even if no individual was aware of or reviewed the agent's actions or their results." *Id.* 2B-204(4).

n67. See Froomkin, *supra* note 62, at 1047.

n68. *Id.* at 1055.

n69. See *id.* at 1026.

n70. *Id.* at 1061.

n71. *Id.* at 1061-62.

n72. Peter Lyman, The Article 2B Debate and the Sociology of the Information Age, *13 Berkeley Tech. L.J.* 1063 (1998).

n73. See, e.g., Manuel Castells, *The Rise of the Network Society* (1996).

n74. Lyman, *supra* note 72, at 1069.

n75. See *id.* at 1076-77.

n76. *Id.* at 1080.

n77. See *id.* at 1079-80.

n78. See *id.*

n79. *Id.* at 1072.

n80. *Id.* at 1071 (citation omitted).

n81. Julie E. Cohen, Copyright and the Jurisprudence of Self-Help, *13 Berkeley Tech. L.J.* 1089 (1998).

n82. See U.C.C. 9-503 (1972).

n83. See U.C.C. 2B-716 (Apr. 15, 1998 Draft). This section was added back to Article 2B at the November 1998 drafting committee meeting. See Ring, *supra* note 6.

n84. See Ring, *supra* note 6.

n85. See, e.g., Letter from Susan H. Nycum to the Uniform Commercial Code Article 2B Reporter and Drafting Committee (Jan. 27, 1997), available at

<<http://www.2bguide.com/docs/nycshelp.html>>; Letter from Elaine McDonald & Randy Roth, The Principal Financial Group, to UCC-2B Drafting Committee (Nov. 25, 1997), available at <<http://www.2bguide.com/docs/em.html>>.

n86. See Cohen, *supra* note 81, at 1129-33.

n87. *Id.* at 1097.

n88. *Id.* at 1092, 1118-28.

n89. James R. Davis, On Self-Enforcing Contracts, The Right to Hack, and Willfully Ignorant Agents, *13 Berkeley Tech. L.J.* 1145, 1147 (1998).

n90. See *id.* at 1147.

n91. See *id.* at 1146.

n92. See *id.*

n93. See *id.* at 1147.

n94. See *id.* at 1148.

n95. *Id.* at 1149.

n96. See *id.* at 1148.

n97. David Friedman, In Defense of Private Orderings, *13 Berkeley Tech. L.J.* 1151 (1998). Friedman distinguishes among three types of technical protections: those that disable performance, those that monitor use, and those that enforce contracts directly. *Id.* at 1152-54. The privacy issues that Professor Cohen raises, he points out, really only arise in the context of monitoring technology. *Id.* at 1164-67.

n98. *Id.* at 1154.

n99. See *id.* at 1153.

n100. See *id.* at 1169.

n101. See *id.* at 1159.

n102. *Id.* at 1171.

n103. *Id.* at 1157.

n104. See *id.* at 1171.

n105. David F. McGowan, Free Contracting, Fair Competition, and Article 2B: Some Reflections on Federal Competition Policy, Information Transactions, and "Aggressive Neutrality," *13 Berkeley Tech. L.J.* 1173 (1998).

n106. *Id.* at 1185.

n107. *Id.* at 1188.

n108. See *id.*

n109. See *id.*

n110. *Id.* at 1184.

n111. *Id. at 1194*. See also Mark A. Lemley, Intellectual Property and Shrinkwrap Licenses, 68 *S. Cal. L. Rev.* 1239 (1995) (discussing earlier versions of Article 2B as it pertained to anti-decompilation clauses).

n112. McGowan, *supra* note 105, at 1193-94.

n113. See *id.* at 1196-99.

n114. See *id.* at 1208.

n115. *Id.* at 1237. See, e.g., Mark A. Lemley, Beyond Preemption: The Law and Policy of Intellectual Property Licensing, 87 *Calif. L. Rev.* 111 (forthcoming 1999) (discussing misuse).

n116. David A. Rice, License with Contract and Precedent: Publisher-Licensors Protection Consequences and the Rationale Offered for the Nontransferability of Licenses Under Article 2B, 13 *Berkeley Tech. L.J.* 1239 (1998).

n117. See *id. at 1246-51*. See also Rochelle Cooper Dreyfuss, Do You Want to Know a Trade Secret? How Article 2B Will Make Licensing Trade Secrets Easier (But Innovation More Difficult), 87 *Calif. L. Rev.* 191 (forthcoming 1999) (discussing implications of Article 2B for trade secrecy licensing).

n118. A firm might, for example, sell its used computers, including computer programs loaded on them, to another firm when going out of business. Or in the course of a merger between two firms, both might transfer their previously separate assets, including licensed software, to the new merged entity.

n119. See Rice, *supra* note 116, at 1246-47.

n120. See *id.* at 1246-51.

n121. See *id.* The ordinary good faith buyer of used computers would, for example, likely regard them as readily transferable as used chairs and desks.

n122. See *id.* at 1250-55.

n123. *Id.* at 1254.

n124. *Id.* at 1267. See 17 *U.S.C.* 109(c) (first sale rule). See also Litman, *supra* note 26, at 939 (noting that some copyright caselaw has refused to enforce mass market licenses of copyrighted works). Rice's frustration with the anti-transfer bias of Article 2B surely derives in part from his many years of service on the Article 2B drafting committee and from his lack of success in persuading his fellow committee members that the transfer issues he raises should be resolved differently.

n125. Rice, *supra* note 116, at 1267. See also David A. Rice, Licensing the Use of Computer Program Copies and the Copyright Act First Sale Doctrine, 30 *Jurimetrics J.* 157 (1990).

n126. Tsuneo Matsumoto, Article 2B and Mass Market Contracts - A Japanese Perspective, 13 *Berkeley Tech. L.J.* 1283 (1998).

n127. See *id. at 1284*.

n128. See *id. at 1284-85*.

n129. See *id. at 1285*.

n130. See *id.*

n131. See *id.* at 1286.

n132. Grant Gilmore, On the Difficulties of Codifying Commercial Law, 57 *Yale L.J.* 1341 (1951). See also U.C.C. Article 2B, Preface at Part 2: Basic Themes (Aug. 1, 1998 Draft) (adopting the "accurate, not original" goal for Article 2B).

n133. See U.C.C. Article 2B Preface at 10 (Aug. 1, 1998 Draft).

n134. Scott Adams, Dilbert (Sept. 29, 1998).