FINANCING INFORMATION TECHNOLOGIES: FAIRNESS AND FUNCTION

JONATHAN C. LIPSON*

* Assistant Professor of Law at the University of Baltimore School of Law.
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> Now that intellectual production has become a key economic sector, people have finally begun to realize that information, like time, is money.[1]

> Everything is Information.[2]

INTRODUCTION

The laws of information technology and commercial finance speak, but not to one another.

We know that information technologies—intellectual property and data—may be a business's most valuable assets. Thus, a business could easily grant a security interest to a lender in its copyrighted software or its proprietary customer database under Article 9 of the Uniform Commercial Code.[3] Yet, we have only a vague understanding of how to treat these security interests, especially when third parties assert rights

1. Rochelle Cooper Dreyfuss, *Warren and Brandeis Redux: Finding (More) Privacy Protection in Intellectual Property Lore*, 1999 STAN. TECH. L. REV. 8.

2. JOHN ARCHIBALD WHEELER, GEONS, BLACK HOLES, AND QUANTUM FOAM: A LIFE IN PHYSICS 64 (1998).

3. Article 9 of the Uniform Commercial Code has recently undergone a significant revision. It has been enacted in all states, and, in most, went into effect July 1, 2001. *See* NAT'L CONFERENCE OF COMM'RS ON UNIF. STATE LAWS (NCCUSL), INTRODUCTIONS & ADOPTIONS OF UNIFORM ACTS, *at* http://www.nccusl.org/nccusl/uniformact_factsheets/uniformacts-fs-ucca9.asp (last visited July 24, 2001). I will refer to revised Article 9 as "Revised Article 9," or the "Revision," and cite to it as "Rev. § 9-x." I will refer to former Article 9 as "Former Article 9," and cite to it as "F. § 9-x." When there is no relevant difference between Former and Revised Article 9, I will refer simply to "Article 9."

in the same assets.

For example, if the third parties are other creditors or a bankruptcy trustee of the debtor, the security interest will be effective—have "priority"—as to the debtor's software and database if the secured party has "perfected" its security interest.[4] Unfortunately, perfecting a security interest in intellectual property has become a notoriously complex and unpredictable process. Secured parties that finance intellectual property often have been (unhappily) surprised to learn that their attempts to perfect security interests in copyrights, for example, have been preempted by federal law, leaving them subordinate to the debtor's bankruptcy trustee.[5]

If, instead, the third parties are purchasers or licensees of the software or database, the secured party will have priority unless certain special rules apply to limit the security interest.[6] Unfortunately, these special rules often will not apply to transactions in intellectual property or data, in which case the security interest will continue long after these forms of information have left the debtor's computer. In either case, a secured party would have the right, on a debtor's default, to "take" the collateral and dispose of it to satisfy the debtor's obligations. This would be true even though the third party may have no direct relationship with the secured party—or even the debtor.

Problems with financing information technology have been viewed chiefly as a function of the asymmetry between Article 9 and the federal

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4. Rev. §§ 9-317(a)(1), 9-322(a)(2). Section 544(a)(1) of the United States Bankruptcy Code empowers a bankruptcy trustee to:

> avoid any transfer of property of the debtor or any obligation incurred by the debtor that is voidable by—(1) a creditor that extends credit to the debtor at the time of the commencement of the case, and that obtains, at such time and with respect to such credit, a judicial lien on all property on which a creditor on a simple contract could have obtained such a judicial lien . . . .

11 U.S.C. § 544(a)(1) (1999). This is known as the "strong-arm" power, and gives the trustee (or debtor-in-possession) priority over the unperfected security interest. *See* DAVID G. EPSTEIN ET AL., BANKRUPTCY § 6-61, at 108 (1993).

5. *E.g.*, Nat'l Peregrine, Inc. v. Capitol Fed. Sav. & Loan Ass'n (*In re* Peregrine Entm't, Ltd.), 116 B.R. 194 (C.D. Cal. 1990) (Kozinski, J., sitting by designation) (holding that a lender with a security interest in a copyright and related royalty payments (proceeds) that complied only with the UCC and not the Copyright Act recordation scheme is subordinate to bankruptcy trustee).

6. Under Rev. § 9-315(a), a security interest continues in collateral notwithstanding sale, exchange or other disposition. Former Article 9 contained a similar rule in F. § 9-306(2). A security interest will generally be cut off as to a purchaser or licensee only if the secured party so agrees, or if the purchase or license is in the "ordinary course." For the reasons discussed in Part IV.A, *infra*, sales of information technologies will never, and licenses of information technologies will rarely, be in the "ordinary course" for purposes of cutting off a security interest.

rules on intellectual property (e.g., copyright, patent, and trademark).[7] This is understandable, since we have no coherent rule of preemption. Some courts have held that, because federal law is supreme,[8] the U.S. Copyright Act wholly preempts Article 9,[9] while others have held that it is only partly preemptive.[10]

Other forms of intellectual property have other rules of preemption. For example, a security interest in a patent may be perfected by filing a

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7. *E.g.*, Amelia H. Boss, *Intellectual Property as Collateral: The Issues*, *in* THE EMERGED AND EMERGING NEW UNIFORM COMMERCIAL CODE 497 (ALI-ABA Course of Study 1991); Robert S. Bramson, *Intellectual Property as Collateral—Patents, Trade Secrets, Trademarks and Copyrights*, 36 BUS. LAW. 1567 (1981); Lorin Brennan, *Financing Copyrights Under Federal Law*, UCC BULL., Aug. 2000, at 1, UCC BULL., Sept. 2000, at 1 (arguing that security interests in copyright should be perfected only by filing with U.S. Copyright Office); William A. Dornbos, *Structuring, Financing, and Preserving Security Interests in Intellectual Property*, 113 BANKING L.J. 656 (1996); G. Larry Engel & Mark F. Radcliffe, *Intellectual Property Financing for High-Technology Companies*, 19 UCC L.J. 3 (1986); Roy N. Freed, *Security Interests in the Computer Age: Practical Advice for the Secured Lender*, 101 BANKING L.J. 404 (1984); Shubha Ghosh, *The Morphing of Property Rules and Liability Rules: An Intellectual Property Optimist Examines Article 9 and Bankruptcy*, 8 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 99, 117-18 (1997); Alice Haemmerli, *Insecurity Interests: Where Intellectual Property and Commercial Law Collide*, 96 COLUM. L. REV. 1645 (1996); Paul Heald, *Resolving Priority Disputes in Intellectual Property Collateral*, 1 J. INTELL. PROP. L. 135 (1993); Marci Levine Klumb, *Perfection of Security Interests in Intellectual Property: Federal Statutes Preempt Article 9*, 22 INTELL. PROP. L. REV. ANN. 223 (1990); Marci Levine Klumb, *Perfection of Security Interests in Intellectual Property: Federal Statutes Preempt Article 9*, 57 GEO. WASH. L. REV. 135 (1988); Elise B. May, *Where Your Priorities Should Be: Analysis of the Perfection and Priority of Security Interests in Copyrights as it Affects Bankruptcy*, 11 BANKR. DEV. J. 509 (1994-95); Robert H. Rotstein, *Paul Heald's "Resolving Priority Disputes in Intellectual Property Collateral": A Comment*, 1 J. INTELL. PROP. L. 167 (1993); Charles Shafer, *Creditors' Rights Issues in Copyright Law: Conflict and Resolution*, 11 U. BALT. L. REV. 406 (1982); Harold R. Weinberg & William J. Woodward, Jr., *Easing Transfer and Security Interest Transactions in Intellectual Property: An Agenda for Reform*, 79 KY. L.J. 61 (1990) [hereinafter Weinberg & Woodward, *Easing Transfer*]; Harold R. Weinberg & William J. Woodward, Jr., *Legislative Process and Commercial Law: Lessons from the Copyright Act of 1976 and the Uniform Commercial Code*, 48 BUS. LAW. 437 (1993); Shawn K. Baldwin, Comment, *"To Promote the Progress of Science and Useful Arts": A Role for Federal Regulation of Intellectual Property as Collateral*, 143 U. PA. L. REV. 1701 (1995); Patrick R. Barry, Note, *Software Copyrights as Loan Collateral: Evaluating the Reform Proposals*, 46 HASTINGS L.J. 581 (1995). A recent study of the practices of those involved in software financing, and problems posed for them by preemption, appears in Ronald J. Mann, *Secured Credit and Software Financing*, 85 CORNELL L. REV. 134 (1999).

8. U.S. CONST. art. VI, cl. 2.

9. *See, e.g.*, *Peregrine*, 116 B.R. 194.

10. *E.g.*, *In re* World Auxiliary Power Co., 244 B.R. 149 (Bankr. N.D. Cal. 1999).

form in the state uniform commercial code ("UCC") system or recordation in the Patent and Trademark Office,[11] while a security interest in a federally registered trademark may be perfected *only* by filing a UCC-1 financing statement.[12] These varying rules defy a principled explanation.[13]

Yet, problems with information technology collateral will go well beyond preemption. Information technology assets are uniquely mobile and infinitely replicable—think of *Napster*. Because security interests generally continue in collateral, they should continue as far and as wide as the information they encumber. Although staggering to consider, this theoretically means that security interests in information technology assets will travel like a computer virus, encumbering the intellectual property or data in the computers of every person or company that has communicated—directly or indirectly—with the debtor.

Problems with information technology collateral engage the two, sometimes competing, classes of unfairness that inform our thinking about secured transactions. On the one hand, there is the unfairness that concerned Grant Gilmore, a chief architect of Article 9, who observed that under certain circumstances, "the secured party can lock up all the property that the debtor now owns or ever will acquire, sit back and do nothing until bankruptcy day, and then . . . walk off with everything."[14] On this view, secured status is "exalted,"[15] and Revised Article 9 may be "a little greedy."[16] On the other hand, there is the unfairness that

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11. *See, e.g.*, Moldo v. Matsco, Inc. (*In re* Cybernetic Servs), 252 F.3d 1039 (9th Cir. 2001); *In re* Transp. Design & Tech., Inc., 48 B.R. 635, 637-38 (Bankr. S.D. Cal. 1985).

12. *See, e.g.*, *In re* Together Dev. Co., 227 B.R. 439 (Bankr. D. Mass. 1998); Roman Cleanser Co. v. Nat'l Acceptance Co. (*In re* Roman Cleanser Co.), 43 B.R. 940 (Bankr. E.D. Mich. 1984), *aff'd* 802 F.2d 207 (6th Cir. 1986).

13. The absence of a principled approach to preemption may reflect the larger poverty of higher order scholarship in preemption. *See* Stephen A. Gardbaum, *The Nature of Preemption*, 79 CORNELL L. REV. 767, 768 & n.4 (1994) (discussing the "paucity of 'second-order' scholarly work on preemption"). *See also* Caleb Nelson, *Preemption*, 86 VA. L. REV. 225, 233 (2000) ("preemption doctrine is muddled *in general*") (emphasis in original).

14. Grant Gilmore, *The Good Faith Purchase Idea and the Uniform Commercial Code: Confessions of a Repentant Draftsman*, 15 GA. L. REV. 605, 625 (1981).

15. 1 BARKLEY CLARK & BARBARA CLARK, THE LAW OF SECURED TRANSACTIONS UNDER THE UNIFORM COMMERCIAL CODE ¶ 1.02[3], at 1-14 (2001).

16. Julian B. McDonnell, *Is Revised Article 9 a Little Greedy?*, 104 COM. L.J. 241 (1999). *See also* Lucian Arye Bebchuk & Jesse M. Fried, *The Uneasy Case for the Priority of Secured Claims in Bankruptcy*, 105 YALE L.J. 857 (1996) (proposing limitations to priority of secured claims); Kenneth N. Klee, *Barbarians at the Trough: Riposte in Defense of the Warren Carve-Out Proposal*, 82 CORNELL L. REV. 1466,

derives from the attack of a bankruptcy trustee who will "exploit[] the tendency of the original parties documenting the deals to underappreciate the commercial law implications of what they have attempted to create," and to strip the secured party of its security interest.[17] When information technology assets are collateral, either—or perhaps both—kinds of unfairness are entirely plausible. The recent financial troubles of high technology companies have led to a new appreciation for the value of information technology assets.[18] Yet, problems with security interests in these kinds of assets preceded the current economic downturn and will, without some thought to reform, continue.

This article examines the legal problems of financing information technology assets. It proceeds in five major sections. Part I examines the information technologies that will become valuable assets for many businesses (intellectual property and data). Part II describes Revised Article 9's response to some of the problems posed by information technology collateral. Part III focuses on the unfairness to secured third parties who lose priority to a bankruptcy trustee for technical reasons of federal preemption that are unpredictable, at best, and capricious, at worst. Part IV focuses on the unfairness to debtors and third parties that may arise under Revised Article 9's rules on the continuity of security interests and proceeds of collateral.

Part V proposes a reform organized around a functional approach

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1466-67 (1997) ("Secured creditors and their proxies in academia have proposed to expand the scope of the Article 9 personal property security interest to a practically unlimited scope."); Lynn M. LoPucki, *The Unsecured Creditor's Bargain*, 80 VA. L. REV. 1887 (1994). The merits of our current secured financing system have been the subject of debate for over twenty years. Symposium issues of the Cornell Law Review and the Virginia Law Review offer revealing glimpses into this debate. Symposium, *The Priority of Secured Debt*, 82 CORNELL L. REV. 1279 (1997); Symposium, *Symposium on the Revision of Article 9 of the Uniform Commercial Code*, 80 VA. L. REV. 1783 (1994). It should go without saying that I do not intend to wade into that debate in this Article.

17. G. Larry Engel, *Intellectual Property and Related Asset Considerations in Bankruptcy Cases: Recent Developments Illustrate a Future Trend of Dysfunctional Conflicts Among Competing IP and Commercial Laws in Need of Reconciliation for Good Business*, *in* 20TH ANNUAL CURRENT DEVELOPMENTS IN BANKRUPTCY AND REORGANIZATION 1998, at 1012 (PLI Commercial Law & Practice Course, Handbook Order No. A0-000H 1998).

18. *See, e.g.*, Marjorie Chertok & Warren E. Agin, *Restart.com: Identifying, Securing and Maximizing the Liquidation Value of Cyber-Assets in Bankruptcy Proceedings*, 8 AM. BANKR. INST. L. REV. 255 (Winter 2000); Robert P. Simons, *Back to Earth From Cyberspace: Dealing with Business Failure of Internet Companies*, NEV. LAW., June 2000, at 12.

to both the laws that govern transactions in information technology collateral and to the categories of collateral themselves. A functional approach would recognize the different goals and orientations of the federal intellectual property statutes, on the one hand, and commercial law on the other. It would also suggest that a future revision of Article 9 recognize that security interests in information technology assets be limited to the same extent as security interests in functionally analogous tangible collateral, such as inventory, equipment or consumer goods. A functional approach would make the financing of information technology assets more fair and predictable.

I. INFORMATION TECHNOLOGY ASSETS

Technological advances in information management pose enormous legal problems, from questions of privacy and security, to seemingly more pedestrian questions about the applicability, or not, of established commercial rules in cyberspace.[19] The Internet,[20] an international network of interconnected computers,[21] is the chief means through which electronic information is generated and collected. The Internet is most commonly used to search and retrieve information stored in computer files on remote computers.[22] Within the Internet, this function is performed via the World Wide Web, "a series of documents stored in different computers all over the Internet."[23]

Information technologies depend on two distinct, but closely related, classes of valuable assets: (i) intellectual property; and (ii) data. Intellectual property is the legal framework for protecting the copyrights, patents, trademarks and trade secrets that may be associated with the collection, storage, management and use of data. Data are the raw facts that might constitute a customer list or a profile of a business partner's spending habits. While the recent implosion of the NASDAQ suggests that information technology assets may have less value than

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19. *See, e.g.*, Amelia H. Boss & Jane Kaufman Winn, *The Emerging Law of Electronic Commerce*, 52 BUS. LAW. 1469 (1997); Michael Korybut, *Online Auctions of Repossessed Collateral Under Article 9*, 31 RUTGERS L.J. 29 (1999).

20. The term "Internet" is defined as "a set of computer networks—possibly dissimilar—joined together by means of gateways that handle data transfer and the conversion of messages from the sending network to the protocols used by the receiving network." MICROSOFT PRESS COMPUTER DICTIONARY 220 (2d ed. 1994).

21. Reno v. ACLU, 521 U.S. 844, 849 (1997). *See also* FEDERAL TRADE COMM'N, SITE SEEING ON THE INTERNET (June 1998), *at* http://www.ftc.gov/bcp/conline/pubs/online/sitesee/index.html.

22. ACLU v. Reno, 929 F. Supp. 824, 834 (E.D. Pa. 1996).

23. *Id.* at 836.

once thought, there is no question that they remain critically important to both Internet-based and "bricks and mortar" businesses.

A. Intellectual Property

Before there was data, there was intellectual property. Intellectual property is shorthand for, among others, rights of copyright, patent, trademark and trade-secret (or know-how). The first three are governed largely by federal law,[24] while the last is a creature of state common or statutory law.[25]

1. COPYRIGHT

Copyright is perhaps the most important class of intellectual property in the information technology context, because it most frequently captures rights in software. The Copyright Clause of Article I of the federal Constitution grants to Congress the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."[26] The 1976 Copyright Act[27] provides that copyright "subsists," whether recorded or not,[28] in original works as they are created and fixed in a tangible medium of expression.[29]

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24. *See* 17 U.S.C. §§ 1-1101 (1994 & Supp. V 2000) (copyrights); 35 U.S.C. §§ 1- 351 (1994 & Supp. V 2000) (patents); 15 U.S.C. §§ 1051-1127 (1994 & Supp. V 2000) (trademarks).

25. Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470 (1974).

26. U.S. CONST. art. I, § 8, cl. 8.

27. H.R. REP. NO. 94-1476, at 129-33 (1976) (referring to amendments of Title 17 of the United States Code).

28. 17 U.S.C. § 408 (1994) ("[R]egistration is not a condition of copyright protection.").

29. Section 102 of the Copyright Act provides:

> (a) Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:
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> (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.

Copyright protection, and the preemptive force of the Copyright Act, attach after two relatively easy criteria are satisfied. First, copyrightable works must be "original."[30] Originality is considered a "low threshold,"[31] and means "only that the work was independently created by the author . . . and that it possesses at least some minimal degree of creativity."[32] One court has explained that "'a very modest quantum of originality will suffice.'"[33] Second, the work must be fixed in a "tangible medium of expression,"[34] meaning that it must be sufficiently stable to permit it to be perceived, reproduced, or otherwise communicated for "more than a transitory" period.[35] The Computer Software Copyright Act of 1980 amended the Copyright Act of 1976 to include "computer programs,"[36] thus making it clear that copyright is the primary vehicle for protecting software.[37]

> (b) In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

17 U.S.C. § 102 (1994).

30. 17 U.S.C. § 102(a) ("Copyright protection subsists, in accordance with this title, in original works of authorship . . . .").

31. *See* MICHAEL A. EPSTEIN, EPSTEIN ON INTELLECTUAL PROPERTY § 4.01[A][1], at 4-5 (4th ed. 2000). *See also* Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 348 (1991). "[C]hoices as to selection and arrangement, so long as they are made independently by the compiler and entail a minimal degree of creativity, are sufficiently original that Congress may protect such compilations through the copyright laws." *Id.* (citing 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT §§ 2.11[D], 3.03 (1990)).

32. *Feist*, 499 U.S. at 345.

33. Sunset Lamp Corp. v. Alsy Corp., 698 F. Supp. 1146, 1151 (S.D.N.Y. 1988) (quoting Nimmer, NIMMER ON COPYRIGHT § 2.08[B] (1988)).

34. 17 U.S.C. § 102(a) ("Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression . . . .").

35. 17 U.S.C. § 101 (1994).

36. Pub. L. No. 96-517, 94 Stat. 3015, 3028-29 (1980) (amending 17 U.S.C. §§ 101, 117 (1976)).

37. *See, e.g.*, Johnson Controls, Inc. v. Phoenix Control Sys., Inc., 886 F.2d 1173 (9th Cir. 1989); Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc., 797 F.2d 1222 (3d Cir. 1986); Apple Computer, Inc. v. Formula Int'l, Inc. 725 F.2d 521 (9th Cir. 1984); Apple Computer, Inc. v. Franklin Computer Corp., 714 F.2d 1240 (3d Cir. 1983); Stern Elecs., Inc. v. Kaufman, 669 F.2d 852 (2d Cir. 1982); Williams Elecs., Inc. v. Artic Int'l, Inc., 685 F.2d 870 (3d Cir. 1982); *cf.* Plains Cotton Coop. Ass'n v. Goodpasture Computer Serv., Inc., 807 F.2d 1256 (5th Cir. 1987); Synercom Tech., Inc. v. Univ. Computing Co., 462 F. Supp. 1003, 1014 (N.D. Tex. 1978) (data-entry structure is not copyrightable).

As a matter of law, authors and owners of copyrights immediately possess the exclusive rights to reproduce, distribute, perform, and display copyrighted works and to prepare derivative works based on them.[38] Because copyright arises so easily, the copyright laws protect against unauthorized copying regardless of the form of the copy. As one author explains "for purposes of the copyright statute, every [computer] code format in which a program may exist is a 'copy' of the other."[39] Thus, the Final Report of the National Commission on New Technological Uses of Copyright Works (the CONTU Report)[40] recognized that simply loading a program onto a magnetic disk or into a computer's semiconductor memory, is copying for purposes of the Copyright Act,[41] and most courts agree.[42] Therefore, one potentially infringes copyright by copying from a magnetic medium such as a

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A related set of rights involves protection for "mask works," the processes whereby computer chips are etched. *E.g.*, 17 U.S.C. §§ 901-914 (Semiconductor Chip Protection Act of 1984).

38. Section 106 of the Copyright Act provides:

> Subject to sections 107 through 120, the owner of copyright under this title has the exclusive rights to do and to authorize any of the following:
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> (1) to reproduce the copyrighted work in copies or phonorecords;
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> (2) to prepare derivative works based upon the copyrighted work;
>
> (3) to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending;
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> (4) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and motion pictures and other audiovisual works, to perform the copyrighted work publicly; and
>
> (5) in the case of literary, musical, dramatic, and choreographic works, pantomimes, and pictorial, graphic, or sculptural works, including the individual images of a motion picture or other audiovisual work, to display the copyrighted work publicly.

17 U.S.C. § 106 (1994).

39. EPSTEIN, *supra* note 31, § 10.01[A][4][c], at 10-15.

40. In 1974, the National Commission on New Technological Uses of Copyright Works was established by Congress.

41. CONTU'S FINAL REPORT AND RECOMMENDATIONS 13-14 (Nicholas Henry ed., 1980).

42. Triad Sys. Corp. v. Southeastern Express Co., 64 F.3d 1330 (9th Cir. 1995); MAI Sys. Corp. v. Peak Computer, Inc., 991 F.2d 511 (9th Cir. 1993); Religious Tech. Ctr. v. Netcom On-line Communication Servs., Inc., 907 F. Supp. 1361 (N.D. Cal. 1995); Advanced Computer Servs. of Mich., Inc. v. MAI Sys. Corp., 845 F. Supp. 356 (E.D. Va. 1994); *cf.* Lewis Galoob Toys, Inc. v. Nintendo of Am., Inc., 964 F.2d 965, 969 (9th Cir. 1992) (holding that a device that altered images without altering program did not create a sufficiently fixed, derivative work).

diskette to a chip,[43] from one hard drive to another,[44] or simply by loading a webpage onto a computer.

Copyright protection does not end with the original work. It continues in "derivative works," which the Copyright Act defines as "a work based upon one or more preexisting works, such as a translation . . . art reproduction, abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted."[45] To constitute a derivative work, the second work must incorporate the expression of the first work.[46] For example, modifying a computer program without making new copies may be considered the creation of a derivative work.[47] Derivative works generally enjoy the same copyright protection accorded the original work. Thus, a derivative work prepared by anyone other than the holder of the copyright in the original work may constitute infringement of the underlying work.[48]

The foregoing aspects of copyright are governed solely by the Copyright Act, which contains a clause expressly preempting state law from duplicating them.[49] Section 301(a) of the Copyright Act provides that:

> all legal or equitable rights that are equivalent to any of the exclusive rights within the general scope of copyright as specified by section 106 in works of authorship that are fixed in a tangible medium of expression and come within the subject matter of copyright . . . are governed exclusively by this title.[50]

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43. *Peak Computer*, 991 F.2d at 519.

44. *See* Atari Games Corp. v. Nintendo of Am., Inc., 975 F.2d 832 (Fed. Cir. 1992).

45. 17 U.S.C. § 101.

46. *See* Freedman v. Select Info. Sys., Inc., 221 USPQ (BNA) 848, 850 (N.D. Cal. 1983).

47. *See* Greenwich Workshop, Inc. v. Timber Creations, Inc., 932 F. Supp. 1210 (C.D. Cal. 1996); Nintendo of Am., Inc. v. Computer & Entertainment, Inc., No. C.96-0187 WD, 1996 WL 511619, at *4 (W.D. Wash. May 31, 1996) (conversion from cartridge to diskette); *cf.* Mirage Editions, Inc. v. Albuquerque A.R.T., Co., 856 F.2d 1341 (9th Cir. 1988). *See generally* RAYMOND T. NIMMER, THE LAW OF COMPUTER TECHNOLOGY ¶ 1.23[1], at 1-139 (3d ed. 2000).

48. 17 U.S.C. § 103(a) (copyright in derivative work permissible only with permission of holder of underlying copyright). *See also* EPSTEIN, *supra* note 31, § 4.01[G], at 4-25.

49. *See* 17 U.S.C. § 301(a) (1994).

50. *Id.*

The Copyright Act also makes clear that it does not apply to "subject matter that does not come within the subject matter of copyright as specified by sections 102 and 103 . . . ."[51] Since section 106 of the Copyright Act grants authors the exclusive right to copy, perform, display, and prepare derivations of their works,[52] state laws that grant similar rights are preempted.[53]

2. PATENT

The Patent Act, like the Copyright Act, operates preemptively with respect to all patent rights in the United States.[54] Like copyright, Congressional power to regulate patent law derives from the intellectual property clause of the Constitution.[55] Patent law exists "to protect the development of new technology and encourage its use."[56] Patents are granted to inventors as monopolies of the right to make, use, and sell their inventions for a limited term, and are exclusively federal in nature.[57] Unlike copyright, patents do not "subsist" in inventions, but are issued by the federal government after a lengthy application and examination process.

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51. *Id.* § 301(b).

52. *Id.* § 106.

53. *See, e.g.*, Donald Frederick Evans & Assocs., Inc. v. Cont'l Homes, Inc., 785 F.2d 897 (11th Cir. 1986) (holding that state laws basing liability on mere copying of works of authorship are preempted).

54. "Patents shall be issued in the name of the United States of America, under the seal of the Patent and Trademark Office . . . ." 35 U.S.C. § 153 (1994). Although the Patent Act does not contain an express preemption clause, as does the Copyright Act, the Supreme Court has held that patent law is preemptive of state law that conflicts with federal law. Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 168 (1989); Compco Corp. v. Day-Brite Lighting, Inc., 376 U.S. 234, 237 (1964); Sears, Roebuck & Co. v. Stiffel Co., 376 U.S. 225, 231 (1964). The scope of preemption in the context of security interests in patent is taken up in Part IV, *infra*.

55. *See* U.S. CONST. art. I, § 8, cl. 8.

56. *In re* Transp. Design & Tech., Inc., 48 B.R. 635, 637 (Bankr. S.D. Cal. 1985) (citing Patent Act of 1836, ch. 357, § 11, 5 Stat. 117).

57. Section 154 of the Patent Act provides:

> Every patent shall contain a . . . grant to the patentee, his heirs or assigns of the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States, and, if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States, or importing into the United States, products made by that process . . . .

35 U.S.C. § 154(a)(1) (1994).

Until recently, patent protection was not generally considered to be available to software because software was viewed as a "mathematical algorithm"—a mere thought process—and therefore not capable of patent protection.[58] In 1998, however, the Federal Circuit opened the door to patent protection for computer-related inventions in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*[59] There, the court held that a data processing system for implementing an investment structure could be subject to patent protection for a "machine" invention.[60] The mathematical nature of the claim was no impediment to patent protection. "[T]o be patentable," the court reasoned, "an algorithm must be applied in a 'useful way.'"[61] Thus, the Federal Circuit announced that the proper standard for statutorily patentable subject matter is whether the claim produces a "useful, concrete and tangible result"—its practical utility.[62]

More recently, in *AT & T Corp. v. Excel Communications, Inc.*, the Federal Circuit extended the *State Street* utility standard to "methods."[63] Similarly, the Court of Appeals for the Federal Circuit recently viewed Amazon.com's "one-click" method and system for placing a purchase order over the Internet as patentable subject matter.[64] "Business method" patents, such as those upheld in *State Street* and *Excel*, will likely expand the class of patentable inventions to include software and many information technology-related business methods.[65]

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58. *See* Diamond v. Diehr, 450 U.S. 175, 182 (1981); Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980).

59. 149 F.3d 1368 (Fed. Cir. 1998). Prior to 1998, something known as the Freeman-Walter-Abele test was used to determine whether a mathematical algorithm was an unpatentable abstract idea. The two-part test was developed by the Court of Customs and Patent Appeals and later adopted by the Federal Circuit. *Id.* at 1374 ("After *Diehr* and *Chakrabarty*, the Freeman-Walter-Abele test has little, if any, applicability to determining the presence of statutory subject matter.").

60. *See id.* at 1370 (explaining that the program was "directed to a data processing system . . . for implementing an investment structure which was developed for use in [patent holder]'s business as an administrator and accounting agent for mutual funds").

61. *Id.* at 1373.

62. *Id.*

63. 172 F.3d 1352, 1358 (Fed. Cir. 1999).

64. Amazon.com, Inc. v. Barnesandnoble.com, Inc., 239 F.3d 1343 (Fed. Cir. 2001) (finding that although patent holder showed likely infringement, patent may be invalid based on obviousness of prior art; remanded).

65. Some think the *State Street* decision will result in an increase in the number of patent applications. *See* Robert M. Kunstadt, *Sneak Attack on U.S. Inventiveness*, NAT'L. L.J., Nov. 9, 1998, at A21; W. Scott Petty, *InternetInfo.column:* State Street Bank *Fuels Boom in Business Model Patents*, INTELL. PROP. TODAY, Apr. 1999, at 30. Others are more cautious in their assessment. *E.g.*, Thomas S. Hahn, *No* 'State Street'

3. TRADEMARK

Trademarks act as source identifiers and quality indicators to the public, distinguishing the owner's goods and services and embodying the goodwill of the business in question. Trademarks are subject to both state and federal law.[66] Rights in trademarks are acquired solely through their use in commerce, and as such are fundamentally common law rights. Although trademarks can be governed by state or federal law, they may be registered under the federal trademark statute, the Lanham Act, if they are used in interstate commerce.[67]

Federal trademark protection is based upon the commerce clause of the Constitution,[68] not the intellectual property clause, and is often associated with rights in domain names on the World Wide Web. For example, misuse of a trademark via a web site is considered infringement of the mark.[69] Similarly, web site domain names may be cancelled for trademark infringement.[70] Misuse of trademark may be a form of "cybersquatting" outlawed by the Anticybersquatting Consumer Protection Act (ACPA), which became effective in late November 1999.[71]

Revolution Coming, NAT'L. L.J., Dec. 7, 1998, at A21; Francis Marius Keeley-Domokos, State Street Bank & Trust Co. v. Signature Financial Group, Inc., 14 BERKELEY TECH. L.J. 153 (1999).

In July 2000, the U.S. Patent Office issued a USPTO White Paper announcing its plans to improve the quality of the examination process in electronic commerce and business method technologies. US PATENT AND TRADEMARK OFFICE, USPTO WHITE PAPER: AUTOMATED FINANCIAL OR MANAGEMENT DATA PROCESSING METHODS (BUSINESS METHODS) (July 2000), *available at* http://www.uspto.gov/web/menu/busmethp/index.html (last visited Sept. 7, 2001).

66. *See* 28 U.S.C. § 1338 (1994) ("The district courts shall have original jurisdiction of any civil action arising under any Act of Congress relating to patents, plant variety protection, copyrights and trade-marks. Such jurisdiction shall be exclusive of the courts of the states in patent, plant variety protection and copyright cases.").

67. Section 1 of the Lanham Act states that "[t]he owner of a trade-mark used in commerce may apply to register his or her trade-mark under this chapter." 15 U.S.C. § 1051(a) (1994). "Commerce" is defined by the statute as "all commerce which may lawfully be regulated by Congress." *Id.* § 1127.

68. U.S. CONST. art. I, § 8, cl. 3.

69. *See, e.g.*, Sporty's Farm v. Sportsman's Market, 202 F.3d 489 (2d Cir. 2000) (holding that domain name interfered with mark); Shields v. Zuccarini, 54 U.S.P.Q.2d 1166 (E.D. Pa. 2000) (same).

70. *See* NSI Domain Name Dispute Policy, ¶¶ 7-9 (effective Feb. 25, 1998) (*available at* http://www.cmcnyls.edu/Misc/NSIDNRP3.HTM).

71. *See* 15 U.S.C. § 1125(d) (Supp. V 2000).

4. TRADE SECRET

Trade secrets are any formula, pattern, device, or compilation with commercial value that is used in a business, is kept secret by the business and provides the business with a competitive advantage over others who do not know or use the information.[72] A trade secret is defined in the Uniform Trade Secrets Act as:

> information, including a formula, pattern, compilation, program, device, method, technique, or process, that: (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.[73]

Whether a firm has a trade secret depends upon, among other things:

> (1) the existence or absence of an express agreement restricting disclosure, (2) the nature and extent of security precautions taken by the possessor to prevent acquisition of the information by unauthorized third parties, (3) the circumstances under which the information was disclosed . . . to [any] employee to the extent that they give rise to a reasonable inference that further disclosure, without the consent of the possessor, is prohibited, and (4) the degree to which the information has been placed in the public domain or rendered "readily ascertainable" by the third parties through patent applications or unrestricted product marketing.[74]

Since trade secrets are creatures of state law, security interests in trade secrets should be governed by state law,[75] including state contract and commercial law (i.e., the UCC).

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72. *See* RESTATEMENT OF TORTS § 757 cmt. b (1939).

73. UNIF. TRADE SECRETS ACT § 1(4), 14 U.L.A. 433, 438 (1990) [hereinafter UTSA]. The UTSA has been adopted in more than thirty states. *See id.* at 433.

74. USM Corp. v. Marson Fastener Corp., 393 N.E.2d 895, 900 (Mass. 1979) (citing Kubik, Inc. v. Hull, 224 N.W.2d 80, 91(1974)).

75. *Kewanee*, 416 U.S. at 475. *See also* Paul J.N. Roy et al., *Security Interests in Technology Assets and Related Intellectual Property: Practical and Legal*

A common form of trade secret will be the customer list.[76] The modern version of the customer list is the database. Databases are generally not subject to copyright,[77] as lacking the "originality" required by *Feist Publications, Inc. v. Rural Telephone Service Co.*[78] Trade secrets may also include pricing information,[79] business methods and plans,[80] and marketing research data.[81] Trade secret protection may be the best practical intellectual property safeguard available to software engineers who, for a variety of reasons, often wish to eschew copyright registration.[82]

B. Data

While intellectual property is an important category of information technology asset itself, it is also intimately involved in creating another category of information asset that is increasingly valuable: data. It is well-known that Internet and "bricks and mortar" businesses collect enormous quantities of information about consumers and other

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Considerations, COMPUTER LAW, August 1999, at 3, 14. The Economic Espionage Act, Pub. L. No. 104-294, 110 Stat. 3488 (codified at 18 U.S.C. §§ 1831-1839 (Supp. V 2000)) provides a federal overlay in the case of theft of trade secrets. *See also* R. Mark Halligan, *The Economic Espionage Act of 1996: The Theft of Trade Secrets is Now a Federal Crime*, ¶ 12 (1996-97), *at* http://www.execpc.com/~mhallign/crime.html.

76. *E.g.*, Surgidev Corp. v . Eye Tech., Inc., 828 F.2d 452 (8th Cir. 1987) (holding that ophthalmologist customer list not generally known to others in the industry entitled to trade secret status); Am. Paper & Packaging Prods., Inc. v. Kirgan, 228 Cal. Rptr. 713, 716 (Ct. App. 1986) (citing cases in A.L.R. 3D 7 in which courts protected customer lists as trade secrets); Fred's Stores of Miss., Inc. v. M & H Drugs, Inc., 725 So. 2d 902, 907-08 (Miss. 1998) (finding that a pharmacy master customer list constituted a trade secret where maintained confidentially); Town & Country House & Home Serv., Inc. v. Newbery, 147 N.E.2d 724 (N.Y. 1958).

77. *See, e.g.*, Matthew Bender & Co. v. West Publ'g Co., 158 F.3d 693 (2d Cir. 1998); *Peak Computer*, 991 F.2d at 519 (affirming summary judgment finding trade secrets in plaintiff's customer database); BellSouth Adver. & Publ'g Corp. v. Donnelley Info. Publ'g, Inc., 999 F.2d 1436 (11th Cir. 1993) (competing telephone directory publisher permitted to copy elements of compilation where selection, coordination or arrangement of the data not copied); Victor Lalli Enters. v. Big Red Apple, Inc., 936 F.2d 671 (2d Cir. 1991) (holding that horse racing statistics compilation lacked sufficient selection and arrangement). *But see* CCC Info. Servs., Inc. v. Maclean Hunter Mkt. Reports, Inc., 44 F.3d 61 (2d Cir. 1994).

78. 499 U.S. at 347.

79. SI Handling Sys., Inc. v. Heisley, 753 F.2d 1244, 1260 (3d Cir. 1985).

80. Clark v. Bunker, 453 F.2d 1006, 1009 (9th Cir. 1972).

81. *See* W. Electro-plating Co. v. Henness, 4 Cal. Rptr. 434, 439 (Ct. App. 1960).

82. *See* Mann, *supra* note 7, at 148.

businesses.[83] Computer programs and databases have long played an important role in business.[84] Databases manage information concerning customers, suppliers, accounts payable, accounts receivable, inventory, procurement and distribution chain, and so on. Of these, customer databases have become an important asset for both "bricks and mortar" and Internet businesses, which increasingly capture valuable information about consumers and other businesses.[85] A database does not generally qualify for copyright protection.[86] However, a database may be protected as a "trade secret" if it otherwise satisfies the elements for protection.

1. CONSUMER DATA

Businesses collect large amounts of information about consumers, known as "*individually* identifiable information."[87] Individually identifiable information is information that can be used to identify an individual, that is elicited from the individual by the company's web site through active or passive means, and that is retrievable by the company in the ordinary course of business.[88] Personal information usually refers to specific items such as name, social security number, address, and phone number. Web sites can also collect "*personally* identifiable information," which is information that can be used to identify, contact, or locate an individual.[89] The FTC divides personal information into

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83. *See, e.g.*, John Hagel, III & Jeffrey F. Rayport, *The Coming Battle for Customer Information*, HARV. BUS. REV., Jan.-Feb. 1997, at 53.

84. *See, e.g.*, ALAN F. WESTIN & MICHAEL A. BAKER, NAT'L ACADEMY OF SCIENCES, DATABANKS IN A FREE SOCIETY: COMPUTERS, RECORD-KEEPING AND PRIVACY (1972). An excellent overview of data-as-asset appears in Jane Kaufmann Winn & James R. Wrathall, *Who Owns the Customer? The Emerging Law of Commercial Transactions in Electronic Customer Data*, 56 BUS. LAW. 213 (2000).

85. Some are skeptical about the value to businesses of profiling notwithstanding all the uproar over the practice among privacy advocates. Saul Hansell, *So Far, Big Brother Isn't Big Business*, N. Y. TIMES, May 7, 2000, at 1.

86. *See, e.g.*, *Matthew Bender*, 158 F.3d 693; *BellSouth Adver.* 999 F.2d 1436 (competing telephone directory publisher permitted to copy elements of compilation where selection, coordination or arrangement of the data not copied); *Victor Lalli*, 936 F.2d 671 (holding that horse racing statistics compilation lacked sufficient selection and arrangement). *But see CCC Info.*, 44 F.3d 61.

87. *See* FED. TRADE COMM'N, SITE SEEING ON THE INTERNET, *supra* note 21.

88. FED TRADE COMM'N, PRIVACY ONLINE: A REPORT TO CONGRESS 3-4 (June 1998), *at* http://www.ftc.gov/reports/privacy3/index.htm.

89. *See* FED. TRADE COMM'N, SELF-REGULATION AND PRIVACY ONLINE: A REPORT TO CONGRESS 10-11, 19-20 (July 1, 1999), *at* http://www.ftc.gov/opa/1999/9907/report1999.htm.

two categories: (i) personal identifying information such as name and e-mail address; and (ii) demographic or preference information that is used in conjunction with personal identifying information for market research and the creation of consumer profiles.[90]

Information is collected through registration pages, user surveys, on-line contests, application forms, and order forms. Web sites also collect personal information through "cookies." A cookie is a file left on a computer's hard drive to track the user's travels around a particular web site. For example, businesses commonly use cookies to make it easier for consumers to use their web sites that require a user name and password.[91] This file is deposited when a person initially visits a site and allows a web site's server to place information about visits to the site on the visitor's computer in a small text file that only the web site's server can read. Nearly 97% of all Internet sites, and 99% of the most visited web sites, surreptitiously collect information about their visitors.[92] It is estimated that every individual in the United States may be listed on as many as twenty-five to one hundred databases at any one time.[93]

Although businesses have been quick to collect personal information, there may be limits to their ability to use it, if the recent bankruptcy of Toysmart.com is any guide. Toysmart.com, an Internet-based retailer of toys, collected information about its customers in the ordinary course of business. Not unlike other etailers in the late 1990s, Toysmart.com promised customers that "personal information voluntarily submitted by visitors to our site, such as name, address, billing information and shopping preferences, is never shared with a third party," and "[w]hen you register with Toysmart.com, you can rest assured that your information will never be shared with a third party."[94]

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90. *See* FED. TRADE COMM'N, PRIVACY ONLINE: A REPORT TO CONGRESS, *supra* note 86, at 4-5, 12-13; FED. TRADE COMM'N, SELF-REGULATION AND PRIVACY ONLINE: A REPORT TO CONGRESS, *supra* note 87, at 19-20.

91. *See* PRESTON GRALLA, HOW THE INTERNET WORKS 291 (1999).

92. FED. TRADE COMM'N, PRIVACY ONLINE: FAIR INFORMATION PRACTICES IN THE ELECTRONIC MARKETPLACE (2000), *at* http://www.ftc.gov/os/2000/05/testimonyprivacy.htm.

93. Jeff Sovern, *Opting In, Opting Out, or No Options at All: The Fight for Control of Personal Information*, 74 WASH. L. REV. 1033, 1036 (1999).

94. Federal Trade Commission Complaint, ¶ 9, Fed. Trade Comm'n v. Toysmart.com LLC, , 2000 WL 1523287 (D. Mass. Aug. 21, 2000) , http://www.ftc.gov/os/2000/07/toysmartcmp.htm [hereinafter Toysmart Complaint]; *see also* Stefania R. Geraci, *Privacy Matters; Notice, Notice, Notice: Informing Consumers How Their Personal Information Will be Used*, E-COMMERCE, Sept. 2000, at 7 (citing *In re* Toysmart.com, LLC, No. 00-13995-CJK (D. Mass. July 20, 2000).

On June 9, 2000, creditors forced Toysmart.com into bankruptcy.[95] Prior to the involuntary petition, Toysmart.com had sought to sell its assets in order to raise funds to pay obligations. Among other things, Toysmart.com put up for sale its databases, customer lists, marketing plans, web site content, software and intellectual property.[96] Consumers, privacy activists and others objected to the sale.[97] On July 7, 2000, the FTC sued Toysmart.com to restrain the sale, claiming that the sale of the customer lists was prohibited under 15 U.S.C. § 45(a) as an "unfair or deceptive act[] or practice[] in or affecting commerce."[98] Shortly thereafter, Toysmart.com entered into a settlement agreement with the FTC, which allowed it to sell its customer list to a buyer "in a related market."[99] Ultimately, however, the list was purchased for $50,000 by Walt Disney, one of Toysmart.com's investors, and destroyed, leaving the "'underlying legal issues . . . unresolved,'" in the words of Harry Murphy, the bankruptcy trustee in the case.[100]

2. BUSINESS DATA

Information about businesses is usually created and exchanged in several important ways, including through electronic data interchanges (EDI), business-to-business web sites (B2B), business-to-consumer (B2C) or private business exchanges. EDI is the movement of electronic business messages, such as purchase orders, from computer to

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95. Federal Trade Comm'n v. Toysmart.com, LLC, 2000 WL 1523287, at *1 (D. Mass., Aug. 21, 2000).

96. Greg Sandoval, *Failed Dot-coms May be Selling Your Private Information*, CNET NEWS.COM, June 29, 2000, *at* http://news.cnet.com/news/0-1007-202-2176430.html.

97. Greg Sandoval, *FTC files complaint against Toysmart*, CNET News.com, July 10, 2000, *at* http://news.cnet.com/news/0-1007-202-2235318.html.

98. Toysmart Complaint, *supra* note 92.

99. *FTC Approves Pact Allowing Toysmart's Customer-List Sale*, WALL ST. J., July 24, 2000, at A28. However, the restrictions agreed to were subsequently overturned by U.S. Bankruptcy Judge Carol Kenner, who ruled that restricting the sale to a particular type of buyer was premature and counterproductive. Jerry Guidera & Frank Byrt, *Judge Refuses to Set Conditions on Toysmart Sale*, WALL ST. J., Aug. 18, 2000, at B6.

100. Greg Sandoval, *Judge Oks destruction of Toysmart list*, CNET News.com, Jan. 31, 2001, *at* http://technews.netscape.com/news/0-1007-200-4673304.html. More recently, Egghead.com filed for bankruptcy after selling its assets – including its customer list – to Fry's Electronics. *See* Troy Wolverton, *Egghead to file for bankruptcy at* http://news.cnet.com/news/0-1007-200-6883365.html & Troy Wolverton, *Egghead sale could crack on privacy issues at* http://news.cnet.com/news/0-1007-200-6962164.html.

computer. Technically, EDI messages are transmitted in much the same way that e-mail messages are transmitted. They can be recorded on computer media or printed out on paper, just as e-mail messages can. EDI technology was developed in the 1970s to meet the needs of transportation industries such as freight services, and captured widespread attention in the 1980s when it was adapted for use in manufacturing and retail industries.[101]

B2Bs are business-to-business electronic marketplaces that use the Internet to electronically connect businesses to each other. A recent report by the Federal Trade Commission Staff (the B2B Report) explains that businesses may engage in at least six B2B activities: they may search, source, specify, negotiate/bid, order, and receive goods and services that are needed in order to operate.[102] All of these activities can generate information of value to the business (or businesses) that own or operate the B2B. The B2B Report observes that the "B2B [can be] . . . positioned to determine different buyers' preferences, repackage that information (which necessarily involves aggregation), and sell it to the . . . manufacturers. The manufacturers then have better information on how to improve their products."[103]

Rights in the information generated by B2Bs will presumably be governed by principles of contract and property, although this leaves much to the imagination. The B2B Report explains that some B2Bs give aggregate buyer information to other buyers if the contractual relationship between the participant and marketplace allows the sharing of aggregated data.[104] In the B2B electronic marketplaces designed by energyLeader.com, for example, "data may . . . be aggregated by marketplace personnel in a manner that does not reveal any one buyer's activities, e.g., for purposes of negotiating volume discounts."[105] One contributor to the B2B report noted that companies consider "their transactional record[s] as part of their trade secrets, as part of their proprietary intellectual property."[106] These questions may be more

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101. BENJAMIN WRIGHT & JANE K. WINN, THE LAW OF ELECTRONIC COMMERCE § 2.05, at 2-3 to 2-5. (3d ed. Supp. 2000-1).

102. *See* FED. TRADE COMM'N, ENTERING THE 21ST CENTURY: COMPETITION POLICY IN THE WORLD OF B2B ELECTRONIC MARKETPLACES 2 (Oct. 2000), *available at* http://www.ftc.gov/os/2000/10/index.htm#26.

103. *Id.* at 16 (citing Morgan Stanley Dean Witter (Stmt) 101).

104. *See id.* at 17.

105. *Id.* (quoting energyLeader (Stmt.) 11).

106. *Id.* (quoting Chen 235-36).

readily addressed in private business exchanges, which involve only selected business partners.[107]

C. It May Be Intellectual, But Is it Property?

While the information technology assets discussed above may be quite valuable—and may fit within the legal category of "intellectual property"—it is not clear that all are, in fact, "property." If information technology assets are not property, then no matter how "valuable" the assets, a debtor should not be able to grant a security interest in them, since a security interest is, by definition, an "interest in personal property."[108]

Consider trademarks. While trademarks share many statutory attributes with patents, they differ in one critical way: unlike patents and copyrights, it is not clear that trademarks are, in themselves, a form of personal property.[109] Even if they may be property, they are not assignable alone or "in-gross." Instead, trademarks may only be assigned in connection with the transfer of the goodwill that the mark represents.[110] For this reason, courts have refused to permit lien

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107. *See* Nicole Harris, *'Private Exchanges' May Allow B-to-B Commerce to Thrive After All*, WALL ST. J., Mar. 16, 2001, at B1. Some have noted that B2Bs have not paid off. *See B2B Exchanges: Time to Rebuild*, THE ECONOMIST, May 19, 2001, at 55 ("The once-promising field of business-to-business exchanges is in turmoil."). Nevertheless, it is clear that digitized information exchange in one way or another will be critical to future economic development. *See The Beast of Complexity*, ECONOMIST, April 14, 2001, at after 52 (discussing possible migration of software and data to "Internet-borne cloud of electronic offerings").

108. Rev. § 1-201(37).

109. *Compare* United Drug Co. v. Theodore Rectanus Co., 248 U.S. 90, 97 (1918) ("There is no such thing as property in a trade-mark except as a right appurtenant to an established business or trade in connection with which the mark is employed."), *and* Rock & Roll Hall of Fame & Museum, Inc. v. Gentile Prods., 71 F. Supp. 2d 755, 758 (N.D. Ohio 1999) (same; *quoting United Drug*, 248 U.S. at 97), *with* 17 U.S.C. § 201(d)(1) (1994) ("The ownership of a copyright may be transferred . . . as personal property . . . ."), *and* 35 U.S.C. § 261 (1994) ("[P]atents shall have the attributes of personal property.").

110. *See* Visa, U.S.A., Inc. v. Birmingham Trust Nat'l Bank, 696 F.2d 1371, 1375 (Fed. Cir. 1982) ("[A] mark may be transferred only in connection with the transfer of the goodwill of which it is a part. A naked transfer of the mark alone—known as a transfer in gross—is invalid."); Haymaker Sports, Inc. v. Turian, 581 F.2d 257, 261 (C.C.P.A. 1978) (holding that where assignment of mark was accompanied by pro forma recitation of assignment of goodwill, but assignees played no role in business, never used mark, and never acquired any assets or goodwill of assignor, assignment was "in gross" and invalid). *Cf.* Royal Bank and Trust Co. v. Pereira (*In re* Lady Madonna Indus., Inc.), 99 B.R. 536 (S.D.N.Y. 1989) (holding that trademark could be sold by a trustee apart from accounts receivable generated from sales of branded goods).

creditors to foreclose on World Wide Web domain names separate from the businesses that use the names.[111] Thus, assuming it is property, a debtor could certainly grant a security interest in a trademark, provided that it also granted a security interest in its "goodwill."

Like trademark, there is a view that trade secrets are not "property."[112] There are two main theories behind trade secret law, generally referred to as the "property school" and the "confidential relationship" school.[113] Although courts have sometimes loosely referred to trade secrets as the "property" of the firm that licensed them and have on occasion held trade secrets to be property for certain purposes,[114] "the more appropriate way to characterize the firm's interest in a trade secret is to say that the law protects the firm against breaches of contracts and confidential understandings,"[115] "as well as against the use of improper means to obtain the secret."[116]

Similarly, personal data appears to be caught in a debate about its status as property. Alan Westin first suggested that personal information was a species of property (belonging to the subject) more than thirty years ago.[117] It is not, however, clear why that should be so.

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111. In *Dorer v. Arel*, the U.S. District Court for the Eastern District of Virginia held that the value of a domain name, like corporate goodwill, is inextricably intertwined with the user's business. 60 F. Supp. 2d 558 (E.D. Va. 1999). "[I]f," the court reasoned, "the only value that comes from transfer of the domain name is from the value added by the user, it is inappropriate to consider that an element subject to execution." *Id.* at 561. *Cf.* Umbro Int'l, Inc. v. 3263851 Canada, Inc., 48 Va. Cir. 139 (Va. Cir. Ct. 1999), *reversed sub nom.*, Network Solutions, Inc v. Umbro Int'l, Inc., 529 S.E.2d 80, 86 (Va. 2000) (finding that judgment creditor may not levy on domain names, because domain name registration is the product of a contract for services between the registrar and registrant.).

112. *See*, *e.g*, Robert G. Bone, *A New Look at Trade Secret Law: Doctrine in Search of Justification*, 86 CAL. L. REV. 241, 244 (1998); Pamela Samuelson, *Privacy as Intellectual Property*, 52 STAN. L. REV. 1125, 1154-55 (2000).

113. JAMES POOLEY, TRADE SECRETS § 1.02 [8] (1998).

114. *E.g.*, Ruckelshaus v. Monsanto Co., 467 U.S. 986 (1984) (finding trade secret information to be "property" within the meaning of the Fifth Amendment for purposes of deciding whether the government's unauthorized use or disclosure of the information should be subject to eminent domain rules).

115. Samuelson, *supra* note 110, at 1154-55 (footnote omitted).

116. *Id.* at 1155 (citing E.I. duPont de Nemours & Co. v. Christopher, 431 F.2d 1012, 1015-16 (5th Cir. 1970).

117. *E.g.*, ALAN F. WESTIN, PRIVACY AND FREEDOM 324-25 (1967) ("[P]ersonal information, thought of as the right of decision over one's private personality, should be defined as a property right, with all the restraints on interference by public or private authorities and due-process guarantees that our law of property has been so skillful in devising."); *see also Developments in the Law—The Law of Cyberspace*, 112 HARV. L. REV. 1574, 1643-49 (1999) [hereinafter, *Harvard Developments*]; Jerry Kang, *Information Privacy in Cyberspace Transactions*, 50 STAN. L. REV. 1193, 1246-49

Unless we are famous, we do not typically believe that we have a property interest in our bodies[118] or images.[119] How is information about our spending habits or medical history different? Jessica Litman has argued against treating personal data as property on the theory that doing so is not the solution—it is the problem, since it merely justifies the commodification of that which we take to be personal.[120] Instead of treating information as property, Professor Litman (and others)[121] argue, personal information should be treated as a species of personal privacy

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(suggesting privacy be treated in Cyberspace as a marketable commodity subject to default rules designed to permit an individual to impose limits on data reuse); Lawrence Lessig, *The Architecture of Privacy*, 1 VAND. J. ENT. L. & PRAC. 56, 63-65 (1999); Patricia Mell, *Seeking Shade in a Land of Perpetual Sunlight: Privacy as Property in the Electronic Wilderness*, 11 BERKELEY TECH. L.J. 1, 26-41 (1996); Arthur R. Miller, *Personal Privacy in the Computer Age: The Challenge of a New Technology in an Information-Oriented Society*, 67 MICH L. REV. 1089, 1223 (1969); Richard S. Murphy, *Property Rights in Personal Information: An Economic Defense of Privacy*, 84 GEO. L.J. 2381, 2383 (1996); Carl Shapiro & Hal R. Varian, U.S. GOVERNMENT INFORMATION POLICY 45 (July 30, 1997), *available at* http://www.sims.berkeley.edu/~hal/Papers/policy.pdf.

Jane Winn and James Wrathall discuss customer information from a variety of perspectives in a recent article, but do not even appear to consider the subject of the information as having an interest—privacy or property—in information about him or herself. *See* Winn & Wrathall, *supra* note 82.

118. *E.g.*, Jacobson v. Mass., 197 U.S. 11, 33-35 (1905); Moore v. Regents of the Univ. of Cal., 793 P.2d 479, 487-97 (Cal. 1990) (holding that subject of cell line studies has no property interest in patents issued using subject's tissue samples); *see also* William Boulier, Note, *Sperm, Spleens, and Other Valuables: The Need to Recognize Property Rights in Human Body Parts*, 23 HOFSTRA L. REV. 693, 695 (1995); Jennifer Lavoie, Note, *Ownership of Human Tissue: Life After* Moore v. Regents of the University of California, 75 VA. L. REV. 1363 (1989). The claim that we have a property interest in our bodies has long historical roots, at least as far back as Locke, who argued each of us holds "unquestionable property" over our own person and capacities and over "the *labour* of [our] bod[ies] . . . ." JOHN LOCKE, THE SECOND TREATISE OF GOVERNMENT 19 (C.B. Macpherson ed., Hackett Publ'g. Co. 1980) (1690).

119. Some statutes have created a property right where one may not exist at common law. *See, e.g.*, IND. CODE §32-13-1-7 (1995) (creating property interest in individual's name, voice, signature, photograph, image, likeness, distinctive appearance, gestures or mannerisms); *see also* Judith Endejan, Comment, *The Tort of Misappropriation of Name or Likeness Under Wisconsin's New Privacy Law*, 1978 WIS. L. REV. 1029, 1030; Deborah J. Ezer, *Celebrity Names as Web Site Addresses: Extending the Domain of Publicity Rights to the Internet*, 67 U. CHI. L. REV. 1291, 1294 (2000) (discussing property interests in celebrity status).

120. Jessica Litman, *Information Privacy/Information Property*, 52 STAN. L. REV. 1283, 1301 (2000) ("The market in personal data is the *problem*. Market solutions based on a property rights model won't cure it; they'll only legitimize it.").

121. *See, e.g.*, Samuelson, *supra* note 110, at 1150.

and protected (or not) under tort law.[122] Still others have argued that personal information should be protected under contract doctrine,[123] or simply regulated outright by the government.[124]

Finally, consider the rights that a licensee has in a nonexclusive license of intellectual property. Licenses of intellectual property permit a licensee to use technology or information in a manner that would otherwise be within the exclusive rights of the owner. In a license, the permission is conditional and restricted. A nonexclusive license represents a limited conveyance that courts have described as being among the least substantial of all transfers.[125] A nonexclusive license is said to transfer no "property" interest, but consists merely of permission to use the intellectual property, or perhaps a waiver of the licensor's right to sue for infringement.[126] A similar premise exists in licenses that do not relate to intellectual property rights, but that, for example, convey a right to access a database or to use property of the licensor.[127]

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122. Litman, *supra* note 118, at 1312 ("An approach based loosely on the tort doctrine of breach of confidence might appeal to the courts . . . .").

123. *See, e.g.*, Steven A. Bibas, Comment, *A Contractual Approach to Data Privacy*, 17 HARV. J.L. & PUB. POL'Y 591, 592 (1994) (claiming that a contractual solution most effectively protects privacy rights); Craig Martin, Comment, *Mailing Lists, Mailboxes, and the Invasion of Privacy: Finding a Contractual Solution to a Transnational Problem*, 35 HOUS. L. REV. 801, 850 (1998) (proposing an expansion of existing legislation coupled with industry contracting); Scott Shorr, Note, *Personal Information Contracts: How to Protect Privacy Without Violating the First Amendment*, 80 CORNELL L. REV. 1756, 1759 (1995) (suggesting a property and contract law solution to protect privacy from credit bureau investigations). *But see, e.g.*, Joel R. Reidenberg, *Setting Standards for Fair Information Practice in the U.S. Private Sector*, 80 IOWA L. REV. 497, 516-18 (1995).

124. *See* Litman, *supra* note 118, at 1302-03. While we may not have a property interest in information about ourselves, it is clear that others believe that they do. *See id*; *see also* Jerry Kang, *supra* note 115 (suggesting privacy be treated in Cyberspace as a marketable commodity subject to default rules designed to permit an individual to impose limits on data reuse); *Harvard Developments*, *supra* note 115, at 1644-48 (arguing that the property entitlement to personal information could be shifted through computer coding rather than law).

125. *E.g.*, Cohen v. Paramount Pictures Corp., 845 F.2d 851 (9th Cir. 1988); Spindelfabrik Suessen-Schurr Stahlecker & Grill, GmbH v. Schubert & Salzar Maschinenfabrik Aktiengesellschaft, 829 F.2d 1075 (Fed. Cir. 1987).

126. *See* 17 U.S.C. § 101; Harris v. Emus Records Corp., 734 F.2d 1329 (9th Cir. 1984) (copyright license); *In re* Alltech Plastics, Inc., 71 B.R. 686 (Bankr. W.D. Tenn. 1987) (patent license); *see also* THOMAS M. WARD, INTELLECTUAL PROPERTY IN COMMERCE § 2:29, at 2-83 (2000) ("[A] license is usually just a contractual promise of immunity from an infringement suit.").

127. Ticketron Ltd. v. Flip Side, Inc., No. 92C0911, 1993 WL 214164, at *2-*3 (N.D. Ill., June 17, 1993).

There is no shortage of serious thought on what constitutes "property" and whether, and to what extent, a security interest is, itself, "property." An antique, and perhaps exaggerated vision of property comes to us from Blackstone, who viewed private property as "that sole and despotic dominion which one man [sic] claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe."[128] This exclusionary focus remains critical to the title-based posture of the intellectual property rules.

Modern views are more complex. A leading article by Guido Calabresi and Douglas Melamed argues that "property" is a complex of entitlements that may encompass, among others, rights of exclusion, damage and alienability.[129] Carl Bjerre has argued that property is a "radially structured" concept that could include any number of non-traditional rights.[130] A recent article in the *Columbia Law Journal* applies a Hohfeldian property analysis to security interests, demonstrating that they are highly disaggregated, and capable of being understood in both contractual and property terms.[131]

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128. 2 WILLIAM BLACKSTONE, COMMENTARIES *2.

129. Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972). The "entitlement" view of property has been developed in, *e.g.*, Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade*, 104 YALE L.J. 1027, 1029 (1995); Carol M. Rose, *Crystals and Mud in Property Law*, 40 STAN L. REV. 577 (1988).

130. Carl S. Bjerre, *Secured Transactions Inside Out: Negative Pledge Covenants, Property and Perfection*, 84 CORNELL L. REV. 305, 353 (1999) (arguing that a "negative pledge clause"—a contractual promise not to encumber property—creates a kind of property interest). Professor Bjerre draws on the cognitive and linguistic work of, among others, George Lakoff, Mark Johnson and Steve Winter. *E.g.*, MARK JOHNSON, THE BODY IN THE MIND (1987); GEORGE LAKOFF & MARK JOHNSON, METAPHORS WE LIVE BY (1980); GEORGE LAKOFF & MARK JOHNSON, PHILOSOPHY IN THE FLESH (1999); GEORGE LAKOFF, WOMEN, FIRE, AND DANGEROUS THINGS (1987); George Lakoff, *The Contemporary Theory of Metaphor*, *in* METAPHOR AND THOUGHT (Andrew Ortony ed., 2d ed. 1993); Steven L. Winter, *The Metaphor of Standing and the Problem of Self-Governance*, 40 STAN. L. REV. 1371 (1988); Steven L. Winter, *Transcendental Nonsense, Metaphoric Reasoning, and the Cognitive Stakes for Law*, 137 U. PA. L. REV. 1105 (1989).

131. Thomas W. Merrill & Henry E. Smith, *The Property/Contract Interface*, 101 COLUM. L. REV. 773 (2001). Wesley Newcomb Hohfeld, a legal scholar in the early part of the 20th century, was closely associated with the Legal Realist notion that "private property" was a "bundle" of rights, significantly more nuanced and complex than mere "title." *See* Wesley Newcomb Hohfeld, *Fundamental Legal Conceptions as Applied in Judicial Reasoning*, 26 YALE L.J. 710, 746 (1917) ("[The] 'legal interest' or 'property' relating to the tangible object that we call *land* consists of a complex aggregate of rights (or claims), privileges, powers, and immunities."). Hohfeld tends to draw the most attention for his theory of jural "opposites" and "correlatives" set forth in

A deep probe of the relationship between property-as-concept and security interests is probably beyond the scope of this article, if only because cases involving the financing of information technology assets appear to have assumed, without analysis, that these assets were, in fact, "property." Thus, notwithstanding the apparent uncertainty as to whether trademarks or trade secrets are property, most courts assume that security interests attach to these assets, although they may differ as to how to perfect them.[132] Similarly, in the *Toysmart.com* case, it appears that the database was considered "property of the [debtor's] estate" under Bankruptcy Code section 541.[133] While the court in *Toysmart.com* may have limited the ways in which the bankruptcy trustee could use the database, no one appears to have asked whether the debtor had a property interest in the data in the first place.

Although beyond the scope of this article, I suspect that the cases that have treated these property-marginal assets as "personal property" for Article 9 purposes are on the right track. The important question should not usually be "Is it property?" but instead, "Who cares?" As discussed below, simply because an intellectual property or database may be "property" for some purposes does not necessarily assure the

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an earlier article that bore the same name as that just cited. *See* Wesley Newcomb Hohfeld, *Some Fundamental Legal Conceptions as Applied in Judicial Reasoning*, 23 YALE L.J. 16 (1913); *see also* Madeline Morris, *The Structure of Entitlements*, 78 CORNELL L. REV. 822, 825 (1993) (integrating Hohfeld's theory of jural correlatives and Calabresi's and Melamed's theory of entitlements); Merrill & Smith, *supra*, at 781 n.19; Bjerre, *supra* note 129, at 350-51.

132. *E.g.*, *In re* Together Dev. Corp., 227 B.R. 439 (Bankr. D. Mass. 1998) (trademark), *aff'd*, 255 B.R. 606 (D. Mass. 2000); *In re* Avalon Software, Inc., 209 B.R. 517 (Bankr. D. Ariz. 1997) (trade secret); Joseph v. 1200 Valencia, Inc. (*In re* 199Z, Inc.), 137 B.R. 778 (Bankr. C.D. Cal. 1992) (trade secret); Levitz v. Arons Arcadia Ins. Agency (*In re* Levitz Ins. Agency), 152 B.R. 693, 697 (Bankr. D. Mass. 1992) (treating customer list as general intangible under Former Article 9); *In re* Chattanooga Choo-Choo Co., 98 B.R. 792 (Bankr. E.D. Tenn. 1989) (same); *In re* C.C. & Co., Inc., 86 B.R. 485 (Bankr. E.D. Va. 1988) (same); Creditors' Comm. v. Capital Bank (*In re* TR-3 Indus.), 41 B.R. 128 (Bankr. C.D. Cal. 1984) (same); *Roman Cleanser*, 43 B.R. 940 (same); *In re* Emergency Beacon Corp., 23 U.C.C. Rep. Serv. (CBC) 766 (S.D.N.Y. 1977) ("[P]atent rights, tradename, customer lists, books and records and [the] right to manufacture or sell emergency beacons and related electronic equipment are general intangibles within the meaning of [F] § 9-106 of the Uniform Commercial Code . . . ."); United States v. Antenna Systems, Inc., 251 F. Supp. 1013, 1016 (D. N.H. 1966) (same). *See also* Phillips v. Diecast Marketing Innovations, LLC (*In re* Collecting Concepts, Inc.), Nos. 99-60268-T, 99-6003-T, 2000 WL 1191026, at *3 (Bankr. E.D. Va. Feb. 28, 2000) (property of debtor's estate "includes customer lists").

133. *See Toysmart.com*, 2000 WL 1523287, at *1.

holder of those rights the expected or negotiated degree of dominion and control over the property.

II. REVISED ARTICLE 9 AND INFORMATION TECHNOLOGY ASSETS

To the extent information technology assets are "personal property," Revised Article 9 purports to govern all secured transactions in them. Revised Article 9 applies to any transaction "regardless of . . . form, that creates a security interest in personal property."[134] A "security interest" is "an interest in personal property . . . which secures payment or performance of an obligation."[135] Usually, the obligation is repayment of a loan, but it could be virtually anything one might consider to be an "obligation,"[136] including liability for all or part of the purchase price of an asset (including an information technology asset such as a protected technology or database).

Article 9 creates a fairly elaborate scheme for classifying personal property, and for protecting security interests in that property. The information technology assets described above will almost always be characterized under the UCC as "general intangibles," which the UCC defines as "any personal property, including things in action," other than the various other categories of personal property defined in the UCC.[137] Ordinarily, a holder of a security interest has priority over the rights of later creditors of the debtor, bankruptcy trustees and certain other transferees if the security interest is "perfected."[138]

Absent federal preemption (under, e.g., the Copyright Act), a security interest in general intangibles is usually perfected by filing, in the appropriate state office, a simple form known as a UCC-1 financing statement that describes the intangibles.[139] Except for "commercial tort claims" (a special kind of collateral that is not general intangibles, but which will often be closely associated with them),[140] the description of intangibles collateral in the UCC-1 statement need not be detailed. Indeed, merely indicating "general intangibles" in a properly filed UCC-

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134. Rev. § 9-109(a)(1).

135. Rev. § 1-201 (37).

136. The term "obligation" is not defined in the UCC. "Obligor," however, is defined as "a person that, with respect to an obligation . . . owes payment or other performance of the obligation . . . ." Rev. § 9-102(a)(59).

137. Rev. § 9-102(a)(42); F. § 9-106.

138. F. § 9-312; Rev. §§ 9-317(a), 9-322(a).

139. *See* F. §§ 9-401, 9-302; Rev. §§ 9-310(a), 9-501.

140. Rev. §§ 9-102(a)(42) ("'General intangible[s]' means any personal property . . . other than . . . commercial tort claims . . . ."), 9-102(a)(13) (defining commercial tort claim).

1 statement will, absent federal preemption, perfect a security interest in all of the debtor's general intangibles.[141]

Revised Article 9 makes at least five classes of change from Former Article 9 that will affect the financing of information technologies:

> (i) The "step back" from other law has been reduced; Revised Article 9 therefore purports to govern more transactions involving property governed by other law (e.g., federal intellectual property law);[142]
> (ii) The Revision expands the subject matter it covers, to include "commercial tort claims," a collateral description that will include claims for intellectual property infringement;[143]
> (iii) The Revision expands the definition of "proceeds" to capture, as collateral, a wide variety of rights that might arise on the disposition or transformation of collateral;[144]
> (iv) The Revision expressly provides that a security interest in a general intangible (e.g. intellectual property or data) will continue on disposition of the intangible, unless it is the subject of a "nonexclusive" license to an "ordinary course licensee";[145] and
> (v) Although the Revision makes it much easier to take a security interest in information technologies than was the case under Former Article 9, Revised Article 9 also limits the enforceability of those security interests, at least as to third parties that are protected by "other law."[146]

Revised Article 9 is, in many ways, a highly expansive law, both in relation to other law and in the subject matter it covers. This section describes how Revised Article 9 will affect the financing of information technology assets.

A. *Stepback*

The Revision implements, to the greatest extent possible, the

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141. Rev. § 9-502(a) (describing that a financing statement is sufficient if, among other things, it "indicates" the collateral covered by the financing statement).

142. *See infra* Part II.A.

143. *See infra* Part II.B.

144. *See infra* Part II.C.

145. *See infra* Part II.D.

146. *See infra* Part II.E.

recommendations of the 1992 report prepared by the Permanent Editorial Board for the UCC (PEB)[147] that Article 9 apply to the extent permitted by the Constitution in two different ways. First, the Revision limits the so-called general "step-back" from federal law in Rev. § 9-109. Second, the Revision limits the special step-back from federal filing systems, as provided in Rev. § 9-311.

The Revision's general step-back provides that Article 9 "does not apply to the extent that" it is preempted by "a statute, regulation, or treaty of the United States."[148] Former § 9-104(a) stepped back from "a security interest subject to any statute of the United States, to the extent that such statute *governs the rights of parties to and third parties affected by transactions in particular types of property*."[149] The Official Comment to § 9-109 of the Revision explains that this provision of Former Article was "(erroneously) read . . . to suggest that Article 9 sometimes deferred to federal law even when federal law did not preempt Article 9."[150] The Revision, by contrast, "defers to federal law only when and to the extent that it must—i.e., when federal law preempts it."[151]

Former Article 9's general step-back was notoriously ambiguous.[152] The Official Comment to F. § 9-104 explained that "[a]lthough the Federal Copyright Act contains provisions permitting the mortgage of a copyright . . . such a statute would not seem to contain sufficient provisions regulating the rights of the parties and third parties to exclude security interests in copyrights from the provisions of [former Article

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147. The Permanent Editorial Board (the "PEB") has been established by the American Law Institute and the National Conference on Commissioners of Uniform State Laws to study and propose appropriate revisions to the Uniform Commercial Code. For further information on the PEB, *see* PEB STUDY GROUP UNIFORM COMMERCIAL CODE ARTICLE 9, REPORT (December 1, 1992) [hereinafter PEB REPORT] (citing Agreement Describing the Relationship of the American Law Institute, the National Conference of Commissioners on Uniform State Laws, and the Permanent Editorial Board with Respect to the Uniform Commercial Code (July 31, 1986); AMERICAN LAW INSTITUTE, 64TH ANNUAL MEETING AMERICAN LAW INSTITUTE PROCEEDINGS 1987, 769, 772-75 (1988)).

148. Rev. § 9-109(c)(1).

149. F. § 9-104(a) (emphasis added).

150. Rev. § 9-109 cmt. 8.

151. *Id.*

152. Haemmerli, *supra* note 7, at 1660 ("[D]iscrepancies between comments to different sections, the apparent conflict between those sections, and the fact that some federal statutes to which the UCC refers—for example, the 1909 Copyright Act—have since been amended or superceded, have all made [former Article 9's] stepback provisions less than crystalline.").

9].''[153] Thus, one might have concluded under prior law that Former Article 9 would govern security interests in copyright.

However, F. § 9-302(3) exempted from the UCC filing system:

> a security interest in property subject to . . . a statute or treaty of the United States which provides for a national or international registration or a national or international certificate of title or which specifies a place of filing different from that specified in this Article for filing of the security interest.[154]

The Official Comment to F. § 9-302 gave the Copyright Act as an example of "the type of federal statute" which satisfied the financing statement exemption.[155] Thus, although Former Article 9's general step-back did *not* appear to apply to the Copyright Act, Former Article 9's filing step-back *did*.[156] Put another way, Article 9 applied generally, but ceded to the federal system for purposes of perfection.

The Revision not only reduces the general step-back as compared to Former Article 9; it also limits the filing step-back (or, put another way, it expands the categories of collateral as to which a UCC-1 financing statement purports to perfect a security interest). Rev. § 9-311 provides that a financing statement is not effective to perfect a security interest in property subject to "a statute, regulation, or treaty of the United States whose requirements for a security interest's obtaining priority over the rights of a lien creditor with respect to the property preempt" the general rule contained in Rev. § 9-310 that a financing statement must be filed to perfect a security interest.[157] The Official Comment to Rev. § 9-311(a) explains that an example of such a statute is 49 U.S.C. § 44107, for civil aircraft.[158] Other federal statutes that might preempt

153. F. § 9-104 cmt. 1.

154. F. § 9-302(3)(a).

154. F. § 9-302 cmt. 8.

155. F. §§ 9-302(3)(a), 9-302 cmt. 8.

157. *See* Rev. § 9-311(a)(1); 9-310(a).

158. Section 44107 establishes "a system for recording (1) conveyances that affect an interest in civil aircraft of the United States" including "leases and instruments executed for security purposes, including conditional sales contracts, assignments, and amendments." 49 U.S.C. § 44107(a) (1994). Section 44108 sets forth a limited rule of priority, providing that until recorded under § 44107, a security interest in civil aircraft "is valid only against—(1) the person making the conveyance, lease, or instrument; (2) that person's heirs and devisees; and (3) a person having actual notice of the conveyance, lease, or instrument." *Id.* §44108.

Article 9's filing system include the Ship Mortgage Act[159] and federal law governing security interests in rolling stock.[160]

Of course, Revised Article 9's attempts to push federal law back may be a naïve effort. As discussed in Part III.A. below, cases such as *Peregrine*, which view the Copyright Act as completely preempting Article 9,[161] would probably have come out the same regardless of the scope of the step-back because preemption is determined by federal, not state, law.[162] Nevertheless, Revised Article 9 would appear ready in the event cases like *Peregrine* are pared back, and federal intellectual property laws are treated as less-than-completely preemptive of Article 9.

B. Commercial Tort Claims

Although "no conveyance or instrument affecting the title to any civil aircraft is valid against third parties without notice of the sale until such conveyance or instrument is filed for recordation with the F.A.A.," Air Vt., Inc. v. Beech Acceptance Corp. (*In re* Air V., Inc.), 44 B.R. 433, 437-38 (Bankr. D. Vt. 1984) (citing South Shore Bank v. Tony Mat., Inc., 712 F.2d 896, 897 (3d Cir. 1983)), Article 9 has nevertheless been used as a gap filler. *See id.* at 436-37 (applying buyer in ordinary course rules of F. § 9-307 to sale of federally-titled civilian aircraft). *See also* Pers. Jet, Inc. v. Callihan, 624 F.2d 562 (5th Cir. 1980) (applying Former Article 9 to fill void in Federal Aviation Act).

159. The Ship Mortgage Act provides that a preferred mortgage constitutes "a lien on the mortgaged vessel in the amount of the outstanding mortgage indebtedness secured by the vessel." 46 U.S.C. § 31325(a) (1994). *See* Chemical Bank v. U.S. Lines (S.A.), Inc. (*In re* McLean Indus.), 132 B.R. 271, 283 (Bankr. S.D.N.Y 1991) (holding that although federal filing system used to perfect security interest in vessel, Article 9 governed as to proceeds; "courts have traditionally applied the Uniform Commercial Code to fill gaps in federal statutes"); *see also* Morgan Guar. Trust Co. v. M/V Grigorios C. IV, 615 F. Supp. 1444, 1451 (E.D. La. 1985) (applying Former Article 9 to fill gap in 46 U.S.C. § 951 [current version at 46 U.S.C. § 31325] Ship Mortgage Act.).

160. 49 U.S.C. § 11301(a) (1994). This section provides that:

> A mortgage (other than a mortgage under chapter 313 of title 46), lease, equipment trust agreement, conditional sales agreement, or other instrument evidencing the mortgage, lease, conditional sale, or bailment of or security interest in vessels, railroad cars, locomotives, or other rolling stock, or accessories used on such railroad cars, locomotives, or other rolling stock (including superstructures and racks), intended for a use related to interstate commerce shall be filed with the Board in order to perfect the security interest that is the subject of such instrument.

Id. *See also* Drabkin v. Cont'l Ill. Bank & Trust Co. (*In re* Auto-Train Corp.), 9 B.R. 207 (Bankr. D. D.C. 1981).

161. *See Peregrine*, 116 B.R. at 199.

162. *See, e.g.*, *id.* at 199; *see also* Mann, *supra* note 7, at 145; WARD, *supra* note 125, § 2:68, at 2-162.

The Revision also attempts to make it easier for secured parties to realize the value of information technology collateral by creating a new type of collateral—"commercial tort claims"—that would include infringement claims. Former § 9-104(k) provided that Former Article 9 did "not apply . . . to a transfer in whole or in part of any claim arising out of tort."[163] The Revision changes this by providing for security interests in commercial tort claims, which include claims "arising in tort with respect to which . . . the claimant is an organization."[164] This definition should pick up claims for infringement of, among others, rights in patent, trademark, and copyright.

C. Proceeds

The Revision reflects a decades-long effort to expand the definition of proceeds to capture, whenever possible, property related to original collateral. Under Former Article 9, a security interest attached to "identifiable proceeds" of collateral subject to a security interest.[165] While Former Article 9 did not explain what it meant for proceeds to be "identifiable," it defined proceeds as including "whatever is received upon the sale, exchange, collection or other disposition of collateral or proceeds."[166] Although a reasonably broad definition, secured parties often believed that a security interest in the proceeds should be even more expansive. Revised Article 9 reflects such an expansion, in five ways applicable to information technology assets.[167]

First, Rev. § 9-102(a)(64) defines proceeds as including, among other things "whatever is acquired upon the sale, lease, license, exchange or other disposition of collateral."[168] The first obvious change from Former Article 9 is that the Revision expressly provides that leases and licenses are proceeds. The Revision therefore overrules cases that held to the contrary under Former Article 9.[169] Under Revised Article

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163. F. § 9-104(k).

164. Rev. § 9-102(a)(13). The definition extends to tort claims where the claimant is an individual, the claim arose in the course of the claimant's business or profession, excluding "damages arising out of personal injury to or the death of an individual." Rev. § 9-102(a)(13)(B).

165. F. § 9-306(2).

166. F. § 9-306(1).

167. "The revised definition of 'proceeds' expands the definition beyond that contained in former Section 9-306 . . . ." Rev. § 9-102 cmt. 13.

168. Rev. § 9-102(a)(64)(A).

169. *See, e.g.*, *In re* Corpus Christi Hotel Partners, 133 B.R. 850, 856 (Bankr. S.D. Tex. 1991); *In re* Keneco Fin. Group, Inc., 131 B.R. 90, 94 (Bankr. N.D. Ill. 1991); Inv. Hotel Props., Ltd. v. New W. Fed. Sav. & Loan Ass'n (*In re* Inv. Hotel

9, a license of a copyright or patent, for example, should be "proceeds" of the original collateral.

Second, this section clarifies that the secured party may pursue proceeds in the hands of parties other than the debtor. The Revision pointedly uses the passive tense—"whatever is acquired"—and lacks an indirect object (e.g., "by somebody") precisely because the Revision enables secured parties to pursue proceeds acquired by persons other than the debtor. The Official Comment explains that "[t]his Article contains no requirement that property be 'received' by the debtor for the property to qualify as proceeds."[170] As discussed in Part IV, below, the mobility of information technology collateral will make this an important omission for third parties downstream from the debtor.

Third, the Revision expands the definition of "proceeds" to include "whatever is collected on, or distributed on account of, collateral."[171] The Revision thus overrules a line of cases that held that non-liquidating stock distributions were not "proceeds" of stock that was collateral.[172] This addition to the definition of proceeds will be important for information technology lenders, as it will enable them to pursue royalties collectible "on account of" a license of intellectual property or data.[173]

Fourth, Rev. § 9-102(a)(64)(C) provides that proceeds include "rights arising out of collateral." Although this cryptic phrase is not explained in the Official Comment, it may well have a significant impact on information technology finance, since it should embrace the host of "rights" associated with intellectual property and data. For example, and as discussed in Part IV.B.2, below, derivative rights (e.g., in copyrights) and infringement actions should be "proceeds" of intellectual property collateral.

Props.), 109 B.R. 990, 995-96 (Bankr. D. Colo. 1990); U.S. v. Friend (*In re* A.E.I. Corp.), 11 B.R. 97, 100-02 (Bankr. E.D. Pa. 1981); Gen. Elec. Credit Corp. v. Cleary Bros. Constr. Co. (*In re* Cleary Bros. Constr. Co.), 9 B.R. 40, 41 (Bankr. S.D. Fla. 1980). *But see* John Deere Indus. Equip. Co. v. S. Equip. Sales Co. *(In re* S. Equip. Sales Co.), 24 B.R. 788, 794 (Bankr. D. N.J. 1982) (characterizing sums paid upon leases of inventory collateral as proceeds received upon disposition of such collateral).

170. Rev. § 9-102 cmt. 13.d.

170. Rev. § 9-102(a)(64)(B).

172. *See* FDIC v. Hastie (*In re* Hastie), 2 F.3d 1042, 1046-47 (10th Cir. 1993). Liquidated dividends, by contrast, were considered proceeds of stock because there was no value left in the stock following liquidation. *See* Aycock v. Texas Commerce Bank, 127 B.R. 17, 18-19 (S.D. Tex. 1991).

173. As discussed below, Rev. § 9-408(d) may limit the secured party's ability to pursue such collections, if and to the extent, applicable law or contractual provisions would excuse the licensee from making such payment to the secured party.

Finally, Rev. § 9-102(a)(64)(D) provides that damage claims arising out of the "infringement of rights in" collateral are proceeds, at least "to the extent of the value of [the] collateral." This subsection provides explicitly what Rev. § 9-102(a)(64)(C) only implies—that a cause of action for the infringement of, e.g., a copyright, will be proceeds of the copyright that is collateral.

D. Licensees in Ordinary Course

Much of Article 9's force comes from the continuity of interest rules. The most important of these provides that "a security interest . . . continues in collateral notwithstanding sale, lease, license, exchange or other disposition thereof unless the secured party authorized the disposition free of the security interest."[174] Former Article 9 contained a similar rule, although it lacked the specificity of the Revision.[175] The principal exception to the continuity of interest rule is the cut-off rule for "ordinary course" buyers. Under Former and Revised Article 9 a buyer in the ordinary course takes goods free of a security interest created by his (or her, or its) seller, even if the secured party has not expressly authorized the sale free of the security interest.[176] This exception exists to enable ordinary course sellers—whether retailers, distributors or manufacturers—to sell their inventory to buyers who will be free of worrying about security interests created by the seller (i.e., the inventory retailer).

Recognizing that general intangibles can also function like inventory, the drafters of the Revision created a parallel cutoff rule for licensees in the ordinary course of general intangibles. Rev. § 9-321

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174. Rev. § 9-315(a)(1).

175. *See* F. § 9-306(1). The Revision is more restrictive than F. § 9-306, which was construed to strip a security interest when a secured party "authorized" the disposition. *See, e.g.*, Nat'l Livestock Credit Corp. v. Schultz, 653 P.2d 1243 (Okla. Ct. App. 1982). Under Rev. § 9-315(a)(1), by contrast, the secured party's mere authorization of the disposition should not cut off the security interest. Rather, only if the secured party expressly agrees to release its security interest upon the disposition of the collateral (or otherwise, or a statutory cutoff applies), will the disposition be free of the security interest.

176. *See* Rev. § 9-321 cmt. 2 ("Like the analogous rules in Section 9-320(a) with respect to buyers in [the] ordinary course [of business] . . . ."); *see also* Rev. § 9-320(a) ("[A] buyer in [the] ordinary course of business . . . takes free of a security interest created by the buyer's seller, even if the security interest is perfected and the buyer knows of its existence."); F. § 9-307(1) ("A buyer in [the] ordinary course of business . . . takes free of a security interest created by his seller even though the security interest is perfected and even though the buyer knows of its existence.").

provides that a "licensee in ordinary course of business takes its rights under a nonexclusive license free of a security interest in the general intangible created by the licensor, even if the security interest is perfected and the licensee knows of its existence."[177] A "licensee in ordinary course of business" is defined as "a person that becomes a licensee of a general intangible in good faith, without knowledge that the license violates the rights of another person in the general intangible, and in the ordinary course from a person in the business of licensing general intangibles of that kind."[178] This cut-off rule purportedly "reflects the expectations of the parties and the marketplace: a licensee under a nonexclusive license takes subject to a security interest unless the secured party authorizes the license free of the security interest or other, controlling law such as that of this section (protecting ordinary-course licensees) dictates a contrary result."[179] This section attempts to balance the secured party's ability to have recourse to intangible collateral against the ordinary-course licensee's expectation that it will be able to use the intangible free of concern about the existence of security interests.[180]

E. Limits on Enforceability

Since information technology assets will often involve licenses—i.e., contracts for the use of intellectual property—it is not surprising that Revised Article 9 creates special rules to deal with contractual (and other) provisions that might limit the ability to create or enforce a security interest in such assets, at least as against the rights of third parties. Revised Article 9 creates a fairly complex mechanism by which security interests in information technology assets may be created, but significantly limits the secured party's ability to enforce those security interests if prevented from doing so under other law or the contract governing the assets.

Rev. § 9-408(a) & (c) purport to neutralize contractual provisions,

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177. Rev. § 9-321(b).

178. Rev. § 9-321(a).

179. Rev. § 9-321 cmt. 2.

180. *See* Steven O. Weise, *The Financing of Intellectual Property Under Revised UCC Article 9*, 74 CHI.-KENT L. REV. 1077, 1100 (1999). This provision may also reflect assumptions about the nature of negotiations. In an exclusive license, the parties will more likely be represented by counsel, and will certainly negotiate some or all of the terms. Nonexclusive licenses are more likely to be commodities. They are less likely to be negotiated and thus the non-debtor party is less likely to have an opportunity to negotiate for a contractual remedy as to the secured party who might claim an interest in the licensed intangible.

statutes, regulations or other rules of law that impair the creation, attachment or perfection of a security interest in a general intangible.[181] These provisions will likely function like the *ipso facto* clauses of the Bankruptcy Code, which, among other things, permit a bankruptcy trustee to use or convey property notwithstanding contractual or legal prohibitions to the contrary.[182] Thus, a provision in a software license that prohibits the licensee from granting a security interest in the license should be ineffective; a security interest will nevertheless attach to the software license, assuming the other elements for attachment are present (i.e., the secured party has given value, the debtor has rights in the collateral and has executed a security agreement describing the property).[183]

While the Revision may make it easy to create a security interest in a general intangible, enforcement is another story. Rev. § 9-408(d) provides that, "[t]o the extent that" a contractual or statutory provision would be effective "under law other than this article," it is not enforceable against a host of third parties. Rev. § 9-408(d)(1) expressly provides that such a security interest "is not enforceable" against an account debtor. Because a debtor's licensee will be characterized as an account debtor under Revised Article 9, this should mean that the

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181. Rev. § 9-408(a) provides that:

> [A] term in . . . an agreement between an account debtor and a debtor which relates to . . . a general intangible . . . and which term prohibits, restricts, or requires the consent of the . . . account debtor to . . . [the] creation, attachment, or perfection of a security interest in . . . [such] general intangible is ineffective to the extent that the term: (1) would impair the creation, attachment, or perfection of a security interest; or (2) provides that the . . . creation, attachment, or perfection of the security interest may give rise to a default . . . under . . . [such] general intangible.

Rev. § 9-408(c) says substantially the same thing, but substitutes the words "rule of law, statute, or regulation" for the words "term in an . . . agreement." *Compare* Rev. § 9-408(c), *with* Rev. § 9-408(a). Under Rev. § 9-102(a)(3), a licensee under an intellectual property license would be an "account debtor." Rev. § 9-102(a)(3) ("'Account debtor' means a person obligated on [a] . . . general intangible."); *see also* Rev. § 9-408 cmt 5. As noted elsewhere, essentially all of the assets discussed in this article will be considered "general intangibles" under Revised Article 9. Rev. § 9-102(a)(42).

182. *See* 11 U.S.C. § 541(c)(1) ("[A]n interest of the debtor in property becomes property of the estate . . . notwithstanding any provision in an agreement, transfer instrument, or applicable nonbankruptcy law . . . that restricts or conditions transfer of such interest by the debtor . . . ."); *Id.* §§ 363(b)(1), 363(e) (permitting trustee to sell, lease or otherwise dispose of property of the estate notwithstanding prohibitions to the contrary, subject to debtor's obligation to provide "adequate protection" to nondebtor party).

183. Rev. § 9-203(b).

licensee is immune from the secured party's attempts to collect license fees owing to the debtor. Other sub-parts of Rev. § 9-408(d) elaborate on this general theme.

Since this provision is new, it is not clear how it will work in practice. Rev. § 9-408 appears to attempt to balance the desire to expand the scope of attachment against the need to protect those third parties who benefit from affirmative provisions in their contracts (or which otherwise arise at law) from the encroachment of a foreclosing secured party. The Official Comment explains that "*subsection (d) ensures that . . . affected [third parties] are not affected adversely.* That provision removes any burdens or adverse effects on these persons for which any rational basis could exist to restrict the effectiveness of an assignment or to exercise any remedies."[184] Thus, the Comment reasons, "the effects of subsections (a) and (c) are immaterial insofar as those persons are concerned."[185]

The protections for third parties are effective only to the extent the third parties are the beneficiaries of contractual provisions, or statutes, regulations or other rules of law. In the absence of such affirmative protections, it would appear (as discussed in Part IV, *infra*) that a secured party would have free reign to enforce a security interest against the third party, even if the third party had no idea that the security interest existed when it acquired the encumbered assets (i.e., the software license or data).

* * *

Having set forth the major categories of information technology assets, and the general rules that govern their secured financing, one may next ask: Do these rules work very well? While they may work well internally, they will (as they have so far) likely cross-pollinate poorly, resulting in two classes of unfairness. The first, taken up in part III immediately below, is unfairness to secured parties, who have been unhappily surprised to learn that, notwithstanding their reasonable, good faith efforts to perfect a security interest in intellectual property assets, they remain vulnerable to a bankruptcy trustee's strong-arm powers. The second, taken up in Part IV below, is unfairness to debtors and

184. Rev. § 9-408 cmt. 6.

185. *Id.* As discussed below, the protection of Rev. § 9-408 will be illusory when the third party lacks a contractual provision or rule of law protecting it from the secured party. Moreover, it is not clear how the rule of 9-408(d) should interact with the proceeds rules, discussed below.

secured parties who will often be unhappily surprised to learn that a secured party has an interest in information technology assets greater than those anticipated by the parties.

III. UNFAIRNESS TO SECURED PARTIES—PREEMPTION, PERFECTION AND PRIORITY

One class of unfairness in information technology financing arises from the messy state of intellectual property finance law. Problems with intellectual property financing are not new. Professor Gilmore anticipated them over thirty years ago,[186] but we have only recently begun to grapple with them, as information technologies have taken on a larger role in our economy.[187] The principal question is about preemption: How do we divide control between Article 9 and the federal intellectual property rules? Much, but not all, of intellectual property law is federal law which will explicitly or implicitly preempt state law such as Article 9. Revised Article 9 attempts to accommodate federal law with the "step-back" provisions of Rev. § 9-109(c)(1), which, as discussed in Part II above, provides that Article 9 does not apply to the extent that it is preempted by "a statute, regulation, or treaty of the United States."[188]

Notwithstanding Article 9's attempt to accommodate federal law, there are significant asymmetries between these bodies of law arising from their different goals and orientations. Article 9, on the one hand, is a transactional statute, intended to create rights regarding the disposition or transformation of certain kinds of personal property under certain circumstances. Article 9 applies to any "transaction, regardless of its form, that creates a security interest in personal property."[189] Since a security interest is, by definition, any "interest in personal property . . . which secures payment or performance of an

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186. 1 GRANT GILMORE, SECURITY INTERESTS IN PERSONAL PROPERTY § 13.1, at 402 (1965) (explaining that federal intellectual property statutes "pose intricate and difficult problems with respect to the interrelationship of state and federal law and the jurisdiction of state and federal courts—problems which remain largely unsettled and indeed unexplored").

187. Professor Gilmore also took it as uncontroversial that one could perfect a security interest in intellectual property, such as copyright, by filing in the proper federal office. *Id.* § 19.9, at 545; *see also* authorities cited in note 7, *supra*.

188. Former § 9-104(a) made Article 9 inapplicable "to a security interest subject to any statute of the United States, *to the extent* that such statute governs the rights of parties to and third parties affected by transactions in particular types of property." F. § 9-104(a) (emphasis added). *See also supra* Part II.A.

189. Rev. § 9-109(a)(1).

obligation,"[190] some courts have held that Article 9 reaches as far as, but no farther than, credit transactions in which intellectual property secures an obligation.[191]

The intellectual property rules, by contrast, are organized around the creation and maintenance of title in intellectual property. Thus, although the intellectual property rules may deal incidentally with title transfers, these rules are typically about identifying the property in question and establishing exclusive rights in it.[192] The intellectual property rules are not designed to be, and do not function principally as, transactional rules. They create property, but often tell us little about how to dispose of it.

Most discussion about this problem is organized around competing filing systems.[193] The fact that Article 9 and the intellectual property laws both link rights to notice filing has led some courts to decide that an overlap in filing rules must equal an overlap in other rules, such as rules governing priority, proceeds, and so on.[194] This, however, is the equivalent of the tail wagging the dog;[195] logicians would characterize this as the fallacy of equivocation.[196]

Competing filing systems are in fact a symptom—not a cause—of the asymmetry between Article 9 and the intellectual property laws. If one wants to know whether a debtor has granted a security interest in all of its general intangibles other than intellectual property, one would search in the office of the secretary of state[197] where the debtor is "located," which, in the case of corporate debtors, will be the state of incorporation.[198] If, however, one wants to know whether the same

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190. U.C.C. § 1-201(37).

191. *See In re* Transp. Design & Tech., Inc., 48 B.R. 635, 638 (Bankr. S.D. Cal. 1985).

192. *See, e.g.*, WARD, *supra* note 125, § 2:75, at 2-175.

193. *See* Haemmerli, *supra* note 7; Weinberg & Woodward, *Easing Transfer*, *supra* note 7.

194. *See Peregrine*, 116 B.R. 194.

195. Or perhaps the fallacy is one of assuming that, because two creatures have a tail, they must both be dogs.

196. PATRICK J. HURLEY, A CONCISE INTRODUCTION TO LOGIC 164 (7th ed. 2000) ("The fallacy of equivocation occurs when the conclusion of an argument depends on the fact that a word or phrase is used, either explicitly or implicitly, in two different senses in the argument."). The equivocation here is that, as both systems share one feature (they both provide for notice filing), therefore they must be interchangeable in all other respects.

197. Or other similar office, as designated by the version of the UCC in effect in the debtor's location. *See* Rev. § 9-501.

198. Rev. § 9-301(1) ("[W]hile a debtor is located in a jurisdiction, the local law of that jurisdiction governs perfection, the effect of perfection or nonperfection, and the

debtor holds a patent, one must know something about the patent, since intellectual property indexes, like other title-oriented indices,[199] are often structured and searched by type of property (i.e., tract), not necessarily by the name of the owner.[200] If one wants to know whether the debtor owns copyrights in material covered by the Copyright Act, one will have to hope that—unlike many high technology businesses—the debtor has bothered to register its copyrights with the Copyright Office.[201]

Not surprisingly, there have been anxious calls for reform.[202] By and large, one's view of the need for, and nature of, reform depends on one's practice orientation.[203] Those who practice commercial law believe that federal law should cede to the UCC; those who practice

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priority of a security interest in collateral."). Under Rev. § 9-307(e), corporate debtors, also known as "registered organizations" under Rev. § 9-102(a)(70), are deemed to be "located" in the state of incorporation.

199. A.S. Solomons v. United States, 21 Ct. Cl. 479, 483 (1886), *aff'd*, 137 U.S. 342 (1890):

> Though the most intangible form of property, [patent] still, in many characteristics, is closer in analogy to real than to personal estate. Unlike personal property, it cannot be lost or found; it is not liable to casualty or destruction; it cannot pass by manual delivery. Like real property, it may be disposed of, territorially, by metes or bounds; it has its system of conveyancing by deed and registration; estates may be created in it, such as for years and in remainder; and the statutory action for infringement bears a much closer relation to an action of trespass than to an action in trover and replevin. It has, too, what the law of real property has, a system of user by license.

200. *See also* WARD, *supra* note 125, § 2:75, at 2-175 ("Recording of a security interest in the Copyright Office requires that the secured party adapt to the Office's tract-like system based on the registration number of the copyright used as collateral." (citing COPYRIGHT OFFICE, CIRCULAR # 12: RECORDATION OF TRANSFERS AND OTHER DOCUMENTS (Library of Congress 1993)).

201. As Professor Mann has observed, the Copyright Act's deposit requirements —a "visually perceptible" pair of copies of the work—often deter software developers from registering their works. *See* Mann, *supra* note 7, at 148. "Software developers are reluctant to release their source code, because competitors easily can 'reverse engineer' from the code to develop competing programs that use the same concepts, but do not infringe the copyright of the protected program." *Id.* The deposit regulations have been amended recently, to permit copyright owners to exclude or redact sensitive portions of code. 37 C.F.R. § 202.20(c)(2)(vii)(A) (2000).

202. *See* Haemmerli, *supra* note 7, at 1721; Weinberg & Woodward, *Easing Transfer*, *supra* note 7, at 79; *see also* Copyright Reform Act of 1993, H.R. 897 (Hughes), S. 373 (DeConcini), 103d Cong. (1993).

203. *Cf.* Engel, *supra* note 17, at 1012-1013 ("Historically, many commercial and insolvency lawyers failed fully to appreciate the intellectual property practice subtleties. Historically, intellectual property lawyers have often appreciated neither the realities nor the theories of bankruptcy and commercial law practice.").

intellectual property law believe that Article 9 should back down.[204] But calls for reform almost always focus on fixing the filing systems.[205] For example, the most prominent recent reform effort—the Federal Intellectual Property Security Act (FIPSA)—would have remedied many of the problems associated with the current filing system by establishing a new federal notice filing system for security interests in federal intellectual property.[206] It is not, however, clear that anything like FIPSA will become law anytime soon.[207] Nor is it clear that fixing the filing system will cure the deeper asymmetries between these two bodies of law.

A. Copyright and Complete Preemption

As noted above, copyright is perhaps the most important class of intellectual property in the information technology context, because it most frequently captures rights in software. Cases involving security interests in software also provide the most acute examples of the unfairness that can flow from the asymmetries between the Article 9 and intellectual property systems.

The heart of the problem appears to be the preemptive force of the Copyright Act's transfer rules. Section 101 of the Copyright Act defines a "transfer of copyright ownership" as including a "mortgage . . . or any other conveyance . . . of a copyright."[208] Thus, there seems to be little doubt that a "security interest" under Revised Article 9 is a "transfer of ownership" that would be covered by the Copyright Act definition.[209] Section 201 of the Copyright Act expressly provides that

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204. *See, e.g.*, Lorin Brennan, Statement on behalf of The American Film Marketing Association in Opposition to Federal Intellectual Property Security Act Oversight Hearing (June 24, 1999), *available at* http://www.house.gov/judiciary/bren0624.htm [hereinafter Brennan Statement].

205. *See, e.g.*, Haemmerli, *supra* note 7, at 1723; Weinberg & Woodward, *Easing Transfer*, *supra* note 7, at 79.

206. FIPSA may be viewed *at* http://www.abanet.org/intelprop/106legis/fipsa.html (last visited September 29, 2001) [hereinafter FIPSA].

207. FIPSA has not enjoyed universal praise. Opponents of FIPSA have argued that, if enacted, it would "decimate the ability of motion picture producers to finance their productions, threatening tens of thousands of jobs." Brennan Statement, *supra* note 202; *cf. Intellectual Property Security Registration: Hearing Before the House Subcomm. on Courts and Intellectual Property of the House Comm. on the Judiciary*, 106th Cong. (1999) (joint statement of G. Larry Engel, Business Law Section of the ABA, and Susan Barbieri Montgomery, Intellectual Property Law Section of the ABA), *available at* http://www.house.gov/judiciary/mont0624.htm.

208. 17 U.S.C. § 101 (1994).

209. *See Peregrine*, 116 B.R. at 198-99.

copyrights may be transferred "by any means of conveyance or by operation of law."[210]

Section 205(a) of the Copyright Act provides that a "transfer of copyright ownership . . . may be recorded in the Copyright Office."[211] Although section 205(a) sounds permissive, recording is effectively mandatory for secured parties that seek priority in copyright collateral. This is because section 205(d) of the Copyright Act gives priority to a later-in-time transfer that is recorded over a prior transfer not recorded within one month of the execution of the transfer.[212] This means, at a minimum, that lenders seeking to perfect a security interest as against another secured party must wait one month after recording to ensure priority over deferred filings by preexisting transferees.[213]

While the Copyright Act's recording rules may be cumbersome for secured parties to comply with, they appear to preempt Revised Article 9's filing rules. The important question, then, is what *other* aspects of Article 9 are, or should be, preempted by the Copyright Act?

Courts have taken two different approaches to preemption in disputes between a secured party claiming to have perfected a security interest in copyright and a bankruptcy trustee claiming that the secured party's failure to record the copyright (or related rights) in the Copyright Office rendered the security interest avoidable under section 544(a)(1) of the Bankruptcy Code.[214] The "complete preemption" approach holds that the Copyright Act wholly displaces Article 9, as to both the copyright and to property closely related to the copyright.[215] The complete preemption approach means, for example, that Article 9's rules on creation, priority and continuity of security interests should be unseated by the Copyright Act. The "filing preemption" approach, by contrast, holds that the Copyright Act preempts only the filing rules of

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210. 17 U.S.C. § 201(d)(1) (1994).

211. *Id.* § 205(a).

212. *Id.* § 205(d).

213. *See* Mann, *supra* note 7, at 143.

214. As noted in note 4, *supra*, and as discussed in greater detail in Part V.B., *infra*, this section of the Bankruptcy Code, known as the "strong-arm clause," empowers a bankruptcy trustee or debtor-in-possession to:

> avoid any transfer of property of the debtor or any obligation incurred by the debtor that is voidable by—(1) a creditor that extends credit to the debtor at the time of the commencement of the case, and that obtains, at such time and with respect to such credit, a judicial lien on all property on which a creditor on a simple contract could have obtained such a judicial lien . . . .

11 U.S.C. § 544(a)(1) (1994).

215. *See Peregrine*, 116 B.R. 194.

Article 9, but leaves its other provisions intact (e.g., as to creation, attachment, priority vis à vis other creditors, enforcement, etc.).

The fountainhead of unfairness in copyright financing is the complete preemption approach of *Peregrine*.[216] In *Peregrine*, the District Court for the Central District of California held that the Copyright Act preempted the filing and priority provisions of Article 9 as to *both* the original copyright and the cash proceeds thereof. In that case, National Peregrine, Inc. was a debtor-in-possession under Chapter 11 of the Bankruptcy Code that owed roughly $6 million to Capitol Federal Savings Loan Association of Denver ("Cap Fed"), secured by the debtor's film library, and the proceeds thereof.[217] Although Cap Fed filed a UCC-1 financing statement describing its collateral in the states of California, Colorado and Utah, it did not record its security interest in the United States Copyright Office.[218]

After the debtor filed a voluntary Chapter 11 petition, it used the strong-arm clause of Bankruptcy Code section 544 to avoid what it claimed was Cap Fed's unperfected security interest in the copyright-protected films and film royalties. The bankruptcy court held for Cap Fed,[219] and the debtor appealed. On appeal, Judge Kozinski, sitting by special designation in the United States District Court for the Central District of California, reversed the bankruptcy court, holding that the failure to record the security interest in the Copyright Office left Cap Fed's security interest unperfected as to both the copyright itself and the accounts receivable (proceeds) generated by the copyrights.

The heart of *Peregrine* is its preemption analysis. "[F]ederal regulation," Judge Kozinski wrote, "will preempt state law if it is so pervasive as to indicate that 'Congress left no room for supplementary state regulation,' or if 'the federal interest is so dominant that the federal system will be assumed to preclude enforcement of state laws on the same subject.'"[220] Here "the comprehensive scope of the federal Copyright Act's recording provisions, along with the unique federal interests they implicate, support the view that federal law preempts state

216. *E.g.*, *id.* (holding that the Copyright Act preempts Article 9 with respect to a security interest in copyright and the proceeds thereof).

217. *Id.* at 197-98 & n.3.

218. *Id.* at 198.

219. *See id.* at 198 (citing Memorandum of Decision re Motion for Partial Summary Judgment Adjudication (Nov. 14, 1989) and Order re Summary Adjudication of Issues (Dec. 18, 1989)); *see also* Nat'l Peregrine, Inc. v. Capital Fed. Sav. & Loan Ass'n (*In re* Nat'l Peregrine, Inc.), No. 89-01991-LF, 1989 Bankr. LEXIS 2469 (Bankr. C.D. Cal. 1989) (bankruptcy court decision).

220. *Id.* at 199 (quoting Hillsborough County v. Automated Med. Labs., Inc., 471 U.S. 707, 713 (1985)).

methods of perfecting security interests in copyrights and related accounts receivable."[221] The court bolstered its preemption conclusion by reference to section 9-104 of Former Article 9, which provided that Article 9 did not apply "'[t]o a security interest subject to any statute of the United States to the extent that such statute governs the rights of parties to and third parties affected by transactions in particular types of property.'"[222]

Judge Kozinski's reference to "methods of perfection"[223] suggests that he believed that the Copyright Act only preempted Article 9's filing system, and did not completely preempt Article 9. That suggestion is, however, belied by the result of the case. By holding that the bankruptcy trustee (who has the priority of a lien creditor) defeated the secured party as to both the copyrights and the proceeds of those copyrights (royalty payments), *Peregrine* in fact means that the Copyright Act preempted Article 9's rules on priority and on proceeds. This is complete preemption.

If there is an argument in support of *Peregrine*'s complete preemption as to copyright, it comes from reading sections 101, 201(d)(1) and 205(a) of the Copyright Act together. Collectively, these sections arguably mean that any "transfer of copyright ownership" must be "recorded" in order to have priority over any other transfer—including a transfer "by operation of law," which presumably includes a bankruptcy trustee's statutory avoidance powers under Bankruptcy Code section 544.[224] Backstopping these provisions is section 201(e), the so-

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221. *Id.*

222. *Id.* at 202 (quoting F. § 9-104). As noted above, Revised Article 9 is more cautious with respect to what is known as the "step-back" from competing federal law. *See* discussion *supra* Part II.A.1. Rev. § 9-109(c)(1) provides that "[t]his article does not apply to the extent that: (1) a statute, regulation, or treaty of the United States preempts this article." Rev. § 9-310(b) tries to limit the filing rules to "property" strictly covered by federal rules, such as copyright. This section provides that "filing of a financing statement is not necessary to perfect a security interest . . . (3) in property subject to a statute, regulation, or treaty described in [Rev.] Section 9-311(a)." Rev. § 9-311(a) provides that:

> Except as otherwise provided in subsection (d), the filing of a financing statement is not necessary or effective to perfect a security interest in property subject to: (1) a statute, regulation, or treaty of the United States whose requirements for a security interest's obtaining priority over the rights of a lien creditor with respect to the property preempt Section 9-310(a).

Rev. § 9-311(a).

223. *Peregrine*, 116 B.R. at 199.

224. 17 U.S.C. §§ 101, 205(a), 201(d)(1).

called "Solzhenitsyn Clause,"[225] which precludes a "governmental body" from involuntarily transferring a copyright from an "individual author," "except as provided under Title 11 [the Bankruptcy Code]."[226]

While there may be an argument that federal law completely preempts Article 9 as to the copyright itself,[227] the conclusion that a security interest in accounts receivable arising from copyright is also controlled by federal law has been met with widespread chagrin.[228] Judge Kozinski appears to have viewed copyright and the derivative stream of income as inseparable. Thus, both implicated "unique federal interests," and were subject to exclusive federal control.[229]

Yet, a simple counterfactual shows the weakness of this analysis. Assume that a Delaware corporation had only a single asset, a valuable copyright for which it received royalties, and no creditors. Would the Copyright Act preempt the Delaware General Corporation Law on mergers? Would a successor-by-merger to the copyright-holding-corporation have to register the merger in the Copyright Office rather than with the Secretary of State of Delaware (as is always done in the case of mergers)?[230] At least one court has held that the Copyright Act

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225. *See* Neil Cohen, *Bankruptcy in a Brave New World: Planning for the Day a Dot-Com Crashes*, *in* WORKOUTS AND BANKRUPTCY IN THE ECOMMERCE ECONOMY 2001, at n.7 (PLI Corp. Law & Practice Course, Handbook Series No. 816, 2001).

226. 17 U.S.C. § 201(e). This provision should have little force in most bankruptcies involving information technology transactions, since most owners of copyright subject to security interests will be corporate owners, and not individual authors. In addition, it is not clear that a bankruptcy trustee is a "governmental body" for this purpose. *See also* WARD, *supra* note 125, § 2:73, at 2-171.

It is not clear what the namesake of the clause would have had to say about section 201(e). One of his better known law-related quotes suggests a certain ambivalence about the rule of law: "I have spent all my life under a Communist regime, and I will tell you that a society without any objective legal scale is a terrible one indeed. But a society with no other scale but the legal one is not quite worthy of man either." Alexander Solzhenitsyn, The Exhausted West, Commencement Address at Harvard University (June 8, 1978), *in* JOHN BARTLETT, FAMILIAR QUOTATIONS 895 (Emily Morison Beck et al. eds., 15th ed. 1980).

227. *See, e.g.*, Official Unsecured Creditors' Comm. v. Zenith Prods., Ltd. (*In re* AEG Acquisition Corp.), 127 B.R. 34 (Bankr. C.D. Cal. 1991) (applying complete preemption to Former Article 9), *aff'd*, 161 B.R. 50 (B.A.P. 9th Cir. 1993).

228. *See, e.g.*, Haemmerli, *supra* note 7, at 1681 ("*Peregrine*'s assertion of federal copyright law control over receivables is seriously flawed."). One of Professor Mann's interview subjects characterized *Peregrine* as "some wacko case out in California." Mann, *supra* note 7, at 146 n.31 (quoting telephone interview with Dennis J. White, Sullivan & Worcester, LLP (Mar. 5, 1998)).

229. *Peregrine*, 116 B.R. at 199.

230. Section 251 of the Delaware General Corporation Law provides, among other things, that a certificate of merger shall be filed upon stockholder approval of the merger. DEL. CODE ANN. tit. 8, §§ 251, 103 (Supp. 2000).

was not preemptive in these circumstances,[231] but Judge Kozinski should disagree if he continues to ascribe to his *Peregrine* opinion.

Peregrine is not an isolated case. Its rule and flawed logic have been applied to forms of property related to, but distinct from, copyright, such as trade secrets. In *In re Avalon Software*,[232] for example, the Bankruptcy Court for the District of Arizona held that a secured party's failure to perfect a security interest in copyright by federal recordation not only stripped the security interest as to the copyright, but also as to all property related to the copyright, including patents, trademarks and trade secrets.[233]

At least one court has attempted to rein in *Peregrine* and *Avalon*, developing what may be characterized as a "filing preemption" view of the Copyright Act. In *In re World Auxiliary Power*, the bankruptcy court for the Northern District of California held, despite *Avalon* and *Peregrine*, that a secured party could—perhaps must—perfect a security interest in unregistered copyright-protected works by making a state UCC filing.[234] There, Silicon Valley Bank took a security interest in unregistered copyrights in drawings, blueprints, and computer software.[235] The bank perfected the security interest by filing UCC-1 financing statements, but did not record a copyright mortgage in the Copyright Office.[236]

After the debtors commenced a bankruptcy case, the unregistered copyrights were sold to the plaintiff, Aerocon Engineering, Inc.

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231. Forry, Inc. v. Neundorfer, Inc., 837 F.2d 259 (6th Cir. 1988) (holding that under Ohio corporate law, merger of corporation which owned copyright did not constitute transfer of ownership of copyright where surviving corporation succeeded to all assets of merging corporation).

Peregrine's approach to receivables may have been diluted by a 1997 case, *Broadcast Music, Inc. v. Hirsch*, 104 F.3d 1163 (9th Cir. 1997). In *Hirsch*, the Ninth Circuit held that an outright assignment of receivables arising from a copyright is not a "transfer of copyright ownership" under § 101 of the Copyright Act. *Id.* at 1166. Thus, a federal tax lien lacked priority in the receivables. The IRS had argued that *Peregrine* required the court to hold that the IRS had priority in the royalties because the assignments were unrecorded. *See id.* at 1167. The court rejected the argument because "this case does not involve an assignment of a security interest . . . . Rather, this is a case of outright assignments of a right to receive royalties for the purpose of satisfying a debt." *Id.* at 1166.

232. *Avalon Software*, 209 B.R. 517.

233. *Id.* at 523-24.

234. Aerocon Eng'g, Inc. v. Silicon Valley Bank (*In re* World Auxiliary Power Co.), 244 B.R. 149 (Bankr. N.D. Cal. 1999).

235. *Id.* at 150.

236. *Id.*

Aerocon also purported to have purchased the bankruptcy trustees'[237] powers under Bankruptcy Code section 544(a)(1) to avoid the bank's security interest in the copyright, in the event the copyright was unperfected.[238] Not surprisingly, the bank objected, claiming that its security interest in the copyrights was perfected by virtue of the UCC-1 statement it filed.[239]

The court agreed with the bank.[240] Before doing so, however, the court distinguished *Peregrine* and *Avalon*, both of which held that, without a federal filing, a security interest in property associated with copyright (e.g., royalties) was unperfected. Because the Copyright Act contains no express provision prohibiting a secured party from perfecting its security interest in an *unregistered* copyright, the *World Auxiliary* court reasoned, such interests could be recorded effectively in the UCC system.[241] Since recordation cannot be made of an unregistered copyright, the *World Auxiliary* court concluded that the "filing provisions of Article Nine of the Commercial Code do not conflict with federal law."[242] Thus, the Copyright Act preempted Article 9 only as and to the extent the Copyright Act provided express rules on filing. Presumably, Article 9's rules on priority and proceeds would also survive under the *World Auxiliary* analysis.

World Auxiliary has a common-sense appeal: How can the Copyright Act displace something with nothing? The problem, however, is that it does not bear up under scrutiny. First, if *Peregrine* is correct, the scope of copyright preemption is determined not by the ability to record in the Copyright Office, but by the definition of "transfer of ownership of copyright" and perhaps the exclusive rights granted by section 106. While we may believe that obtaining priority over a lien creditor/bankruptcy trustee in a copyright is *not* one of the

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237. There were multiple debtors, and so multiple trustees. *Id.*

238. *Id.* The bank apparently did not dispute that the trustees had the power to transfer these rights. *See id.* n.3. It is not entirely clear that avoidance actions are, in fact, transferable. In *In re Cybergenics Corp.* the Court of Appeals for the Third Circuit held that fraudulent conveyance actions could not be sold to a purchaser of a debtor's assets. Official Comm. of Unsecured Creditors of Cybergenics Corp. v. Chinery (*In re* Cybergenics Corp.), 226 F.3d 237, 245 (3d Cir. 2000).

239. *World Auxiliary*, 244 B.R. at 150.

240. *Id.*

241. *Id.* at 155.

242. *Id.*

Copyright Act's "exclusive rights," it seems ultimately a matter of judicial taste for preemption.[243]

Moreover, *World Auxiliary* may undercut one of the principal goals of the copyright regime—disclosure. As Professor Mann has explained, inventors whose works may be subject to copyright have a "powerful incentive" to delay federal registration as long as possible.[244] Thus, at least in theory, lenders would have been a source of pressure to register copyrights as soon as possible, in order to perfect security interests in works that were collateral.[245] In an indirect way, therefore, *Peregrine* supported the disclosure goals of the Copyright Act, while *World Auxiliary* appears to abandon them.

B. Patent, Trademark and Anti-Preemption

1. PATENT

Although copyright and patent may cover overlapping information technologies—computer processes, for example—the legal pattern for obtaining priority in patents differs significantly from the copyright pattern. Rather than view the Patent Act, like the Copyright Act, as wholly preemptive, courts differentiate the controlling law based on the identity of the party competing with the secured creditor. A security interest in a patent will be perfected as against lien creditors and other secured parties by filing a UCC-1 financing statement. If the secured party also wishes to have priority over later voluntary assignees of title to the patent (e.g., purchasers, perhaps exclusive licensees), the secured party must also record an assignment in the Patent and Trademark Office.[246]

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243. Professor Mann, for example, thinks that "the entire problem could be resolved by a well-reasoned opinion from the United States Court of Appeals for the Ninth Circuit." Mann, *supra* note 7, at 145 n.27.

244. *Id.* at 150.

245. Professor Mann observes that "notwithstanding the provisions of the Copyright Act and the widely noted *Peregrine* decision, many lenders continue to file only in the state U.C.C. records." *Id.* at 146. In a footnote Mann observes that "I have not spoken with a single lender or attorney outside the Ninth Circuit who asserted that his employer or clients regularly file in the Copyright Office on loans secured by copyright-protected assets." *Id.* at 147 n.39.

246. *In re* Transp. Design & Tech., Inc., 48 B.R. 635, 639-40 (Bankr. S.D. Cal. 1985). *See also* Moldo v. Matsco, Inc. (*In re* Cybernetic Servs., Inc.), 239 B.R. 917 (B.A.P. 9th Cir. 1999), *aff'd*, 252 F.3d 1039 (9th Cir. 2001); City Bank and Trust Co. v. Otto Fabric, Inc., 83 B.R. 780 (D. Kan. 1988).

Section 261 of the Patent Act governs the assignments of patents, although it is not clear that this section governs the grant of security interests in them. This section provides that:

> [a]n assignment, grant or conveyance [of a patent, patent application, or interest therein] shall be void as against any subsequent purchaser or mortgagee for a valuable consideration, without notice, unless it is recorded in the Patent and Trademark Office within three months from its date or prior to the date of such subsequent purchase or mortgage.[247]

Unlike the Copyright Act, which treats a "transfer of ownership" as including a security interest,[248] the Patent Act treats an "assignment" as a transfer of "*right, title and interest*."[249] Thus, to make an assignment under the Patent Act, one must transfer the entire title, legal and equitable, in the patent.[250] "Assignments" of patents, in other words, do not contemplate complex disaggregations of rights, such as security interests.

However, the Patent and Trademark Office has, by regulation, created the possibility of federal recordation of security interests in patents. Section 3.56 of 37 C.F.R. provides that:

> Assignments which are made conditional on the performance of certain acts or events, such as the payment of money or other condition subsequent, if recorded in the Office, are regarded as absolute assignments for Office purposes until cancelled with the written consent of all parties or by the decree of a court of competent jurisdiction. The Office does not determine whether such conditions have been fulfilled.[251]

In order to perfect a security interest in patents, a secured party must

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247. *See* 35 U.S.C. § 261 (1994).

248. 17 U.S.C. § 101 (defining transfer of copyright ownership to include "mortgage"). *See also* discussion *supra* Part III.A.

249. 37 C.F.R. § 3.1 (2000) (emphasis added).

250. "*Assignment* means a transfer by a party of all or part of its right, title and interest in a patent or patent application . . . ." 37 C.F.R. § 3.1 ; *see also* ERNEST BAINBRIDGE LIPSCOMB, III, 5 WALKER ON PATENTS § 19:4, at 333-34 (1986) ("An assignment of a patent is an instrument in writing, which in the eye of the law, purports to convey the entire title to that patent or to convey an undivided share in that entire title.").

251. 37 C.F.R. § 3.56 (2000).

take what Professor Haemmerli has characterized as a "patchwork" approach.[252] While a secured party may perfect a security interest against other creditors by following the UCC rules—filing a financing statement—one can obtain superior rights against subsequent titleholders only by adhering to the federal scheme—recording a patent mortgage in the Patent and Trademark Office.

This approach was first articulated in *In re Transportation Design & Technology, Inc.*[253] In *Transportation Design*, the debtor's trustee in bankruptcy claimed that the secured party's security interest in the debtor's patents was unperfected notwithstanding the filing of a UCC-1 financing statement in the proper state office.[254] The court rejected the trustee's claim, and held that filing a UCC-1 was sufficient to perfect this security interest.[255] The *Transportation Design* court reasoned that the UCC filing was sufficient because the Patent Act did not address the perfection of rights as against lenders or lien creditors who might have some interest in a patent, but only as against purchasers and mortgagees for value and without notice.[256] Thus, the UCC was effective "to the extent that the . . . [Patent Act] [did] not regulate the rights of parties to and third parties affected by such transactions."[257]

In re Cybernetic Services, Inc.[258] is the most recent decision on the treatment of security interests in patents, and it follows the approach of *Transportation Design* in concluding that Article 9 perfection is sufficient to obtain priority against a bankruptcy trustee. In *Cybernetic*, the Court of Appeals for the Ninth Circuit began its preemption analysis by observing that, unlike the Copyright Act, the Patent Act does not contain preemptive text.[259] Rather, unlike *Peregrine*, the court adopted a "pragmatic" approach to deciding whether the Patent Act preempts a particular state law.[260] Congress, the court reasoned, "has balanced innovation incentives against promoting free competition, and state laws upsetting that balance are preempted."[261] Thus, where the Patent Act

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252. Haemmerli, *supra* note 7, at 1700.

253. 48 B.R. 635; *see also Otto Fabric*, 83 B.R. 780.

252. 48 B.R. at 637.

253. *Id.* at 638.

256. *Id.*

257. *Id.* (quoting CAL. COM. CODE § 9104(a) Official Comments).

258. Moldo v. Matsco, Inc. (*In re* Cybernetic Servs., Inc.), 252 F.3d 1039 (9th Cir. 2001), *aff'd*, 239 B.R. 917 (B.A.P. 9th Cir. 1999).

259. *See id.* at 1046 ("[S]o express preemption is not an issue here.").

260. *Id.* (citing *Bonito Boats*, 489 U.S. 141).

261. *Id.* (quoting G.S. Rasmussen & Assocs. v. Kalitta Flying Serv., Inc., 958 F.2d 896, 904 (9th Cir.1992)).

grants "patent-like protection," the Patent Act will preempt state law.[262] In *Cybernetic*, however, the court concluded that Article 9 did not grant "patent-like protection."[263] Rather, it was "a state commercial law that provides a method for perfecting a security interest in a federally protected patent."[264] On this view, the Patent Act's assignment provisions did not displace Article 9, and the filing of a UCC-1 financing statement was sufficient to perfect the security interest against the bankruptcy trustee.[265]

Although pragmatism may be an important value in commercial decision-making,[266] it does not necessarily lead to rules with broad application. The problem with the patent decisions is not unfairness; I think the results are probably fair. Instead, the problem is that, by ignoring the fact that bankruptcy trustees (like lien creditors) always want title to a patent, the cases rest on a fiction: They ignore the reality that secured parties will have to file at both the state and federal levels if they want to assure priority over a lien creditor. The *Transportation Design* court inched in this direction when it observed that:

> [i]f the secured creditor wishes to protect itself against the debtor transferring title . . . then the secured creditor must bring its security interest (which is not ordinarily a transfer of title) within the provisions of the Patent Act governing transfer of title . . . [i.e.,] by recording an assignment, grant or conveyance.[267]

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262. *Id.* (citing *Sears*, 376 U.S. at 231; *Compco*, 376 U.S. at 237).

263. *Id.*

264. *Id.* Thus, the court observed that "the Patent Act does not preempt every state commercial law that touches on intellectual property." *Id.* (citing Aronson v. Quick Point Pencil Co., 440 U.S. 257, 262 (1979)).

265. *See id.* The court also reasoned, presumably as an alternative holding, that "assignment" as used in § 261 did not include a security interest:

> In summary, the statute's text, context, and structure, when read in the light of Supreme Court precedent, compel the conclusion that a security interest in a patent that does not involve a transfer of the rights of ownership is a "mere license" and is not an "assignment, grant or conveyance" within the meaning of 35 U.S.C. § 261.

Id. at 1052.

266. *See, e.g.*, Ian R. MacNeil, *Relational Contract Theory: Challenges and Queries*, 94 NW. U. L. REV. 877, 882 n.28 (2000) ("[L]iberal pragmatism underlay[s] the work of the likes of Arthur Corbin and Karl Llewellyn and the many other drafters of the Uniform Commercial Code.").

267. *Transp. Design*, 48 B.R. at 640. Professor Haemmerli characterizes this aspect of *Transportation Design* as "dictum because there was no subsequent *purchaser* involved in the case." Haemmerli, *supra* note 7, at 1702 n.284.

Therefore, this should mean that real protection against a lien creditor requires dual filing—state and federal—since the lien creditor (whether or not the bankruptcy trustee) will always seek title.

2. TRADEMARK

As with patents, courts have consistently concluded that the Lanham Act, which governs the federal registration of trademarks used in interstate commerce, does not preempt Article 9. To grant a security interest in a trademark, one would look to section 1060 of the Lanham Act, which provides that "[a]n *assignment* [of a trademark] shall be void as against any subsequent purchaser for a valuable consideration without notice, unless it is recorded in the Patent and Trademark Office within three months after the date thereof or prior to such subsequent purchase."[268] If one were familiar only with the copyright and patent decisions discussed above, one might believe that the federal recording systems for trademarks played an important role in assuring priority for security interests.

However, one would be wrong. Unlike copyrights as collateral, courts considering the preemptive effect of the Lanham Act have consistently concluded that Article 9 provides the sole mechanism to perfect a security interest in a trademark.[269] And, unlike the patent cases, where it appears that a security interest *may* be perfected by recording the security interest in the Patent and Trademark Office, a security interest in a trademark may only be perfected by filing a UCC-1 financing statement.

In the leading case, *In re Roman Cleanser*, a creditor claimed that it had a security interest in trademarks which were sold by the bankruptcy trustee and as to which another creditor claimed ownership.[270] The trustee argued that, in order to perfect a security interest in a federally registered trademark, a creditor must file a conditional assignment with

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268. 15 U.S.C. § 1060 (1994) (emphasis added).

269. *Together Dev.*, 227 B.R. at 441 (explaining that Lanham Act's definition of "assignment" does not encompass security interests; Article 9 therefore controls as to such transactions); *C.C. & Co.*, 86 B.R. at 487 (finding that Congress did not intend Lanham Act to provide method for perfection of security interest in trade names and lender had properly perfected its security interest in a trade name by filing financing statement under Virginia's UCC); *TR-3 Indus.*, 41 B.R. at 131 (holding that the omission by Congress of a registration provision for security interests in trademarks was purposeful and the recordation provision of the Lanham Act does not preempt Article 9); *Roman Cleanser*, 43 B.R. 940 (basing decision solely on interpretation of Lanham Act).

270. 43 B.R. 940.

the PTO.[271] The trustee continued that, because that creditor failed to do so, its security interest was unperfected.[272] The court disagreed, and found that the creditor had validly perfected his security interest by filing the UCC-1 financing statement.[273] It reasoned that a grant of a security interest could not be characterized as an "assignment" under the Lanham Act because (1) title to the collateral did not pass to the secured party, and (2) a security interest is an agreement for a future assignment, not a present assignment of the mark or the goodwill associated with the mark.[274] The court noted that "[t]he terms 'assignment' and 'security interest' are terms of art with distinct and different meanings. If Congress intended to provide a means for recording security interests in trademarks in addition to assignments, it would have been simple to so state."[275]

The court further pointed out that a rule that required secured creditors to file their security interests in a federal office would not further Congress's concern for protecting the public from the deceptive use of trademarks because a secured creditor has no right to use the mark absent debtor default.[276] The court concluded that "[s]ince a security interest in a trademark is not equivalent to an assignment, the filing of a security interest is not covered by the Lanham Act" and "the manner of perfecting a security interest in trademarks is governed by Article 9" of the UCC.[277]

The *Roman Cleanser* rationale was extended in *In re Together Development Corp.* to conclude that the failure to file a UCC-1 financing statement would subject the secured party to the same "surprise" suffered by the secured party in *Peregrine*.[278] In *Together Development*, the bankruptcy court for the District of Massachusetts held that recording a security interest in a trademark solely with the Patent and Trademark Office failed to perfect the security interest as against a bankruptcy trustee. Like the *Roman Cleanser* court, the

269. *Id.* at 942.
270. *Id.*
271. *Id.* at 944.
274. *Id.*
275. *Id.* at 946.
274. *Id.*
277. *Id.* at 944. This is a strange notion for commercial lawyers, most of whom view a security interest as a present "assignment" of the bundle of rights provided by Article 9. True, a secured party's right to "title" to collateral may be delayed and conditional (e.g., on "default" or as provided in the security agreement). Nevertheless, the secured party's security interest—and the priorities and other rights it entails—attach as soon as the requirements set forth in Rev. § 9-203 are satisfied.
278. *Together Dev.*, 227 B.R. at 441.

Together Development court reasoned that the Lanham Act's use of the term "assignment" did not include a security interest.[279] Thus, like Judge Kozinski in *Peregrine*, Judge Queenan in *Together Development* had the "unfortunate" task of "apply[ing] the statute as Congress has written it,"[280] and stripping the secured party of its security interest.[281] Judge Queenan was affirmed on all counts by the district court.[282]

Courts offer two distinct rationales to support the conclusion that a security interest in trademark may be perfected only by filing a UCC-1 financing statement. First, the Lanham Act seems to suggest that only an assignee of an entire business could take an assignment of a trademark.[283] Since trademark necessarily embodies the goodwill of a business, this makes a certain amount of sense; the trademark means nothing if there is no business associated with it. However, this begs an important question: What if the secured party, in fact, took a security interest in the entire business? In the event of foreclosure, the secured party would not simply take the trademark but the entire bundle of rights associated with the trademark. The blanket lienor would satisfy the criteria of the Lanham Act, yet, it may only perfect the security interest by filing under state law.[284]

Second, some courts have reasoned that, in the Copyright Act, Congress expressly included consensual liens in the copyright recording system, "thereby demonstrating its awareness of the possibility of such

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279. *Id.* ("[O]rdinary language usage points away from treating the grant of a security interest as an 'assignment' under the Lanham Act.").

280. *Id.* at 441-42.

281. Note two odd facts about the case: First, the secured party in *Together Development* was a former shareholder of the debtor whose secured claim appears to have reflected at least part of what he was owed for his sale of his stock in the debtor. *See id.* at 439-40. It may be that the court was less sympathetic because the secured party had "bootstrapped" his equity in the debtor into a purportedly secured claim. Second, the secured party may not have taken his own claim very seriously, since he failed to file a financing statement in the applicable state office, even though he also had a security interest in other assets of the debtor. *Id.* at 440.

282. Trimarchi v. Together Dev. Corp., 255 B.R. 606, 612 (D. Mass. 2000).

283. *Together Dev.*, 227 B.R. at 440-41 (citing 15 U.S.C.S. § 1060).

284. The *Roman Cleanser* analysis also fails to account for the *Lady Madonna* case, where the District Court for the Southern District of New York affirmed the Bankruptcy Court's conclusion that a trademark could be sold by a trustee apart from accounts receivable generated from sales of branded goods. *See* Royal Bank and Trust Co. v. Pereira (*In re* Lady Madonna Indus., Inc.), 99 B.R. 536 (S.D.N.Y. 1989). In *Lady Madonna*, the secured party's security interest covered "[A]ll accounts receivable . . . and general intangibles relating to or arising from the foregoing collateral." *Id.* at 538. Because the trademarks could not fairly be construed as "related to" the accounts receivable, they were unencumbered by the security interest, and could be sold by the bankruptcy trustee. *Id.* at 541.

liens and its inclination to make manifest an intention to require their recording when that intention is present."[285] The Lanham Act, by contrast, does not define an "assignment" at all, and courts have concluded that this silence must mean Congress intended to exclude security interests from the kind of rights one could record in the trademark register.[286]

Unfairness is the most disturbing aspect of cases like *Together Development*. As with *Peregrine* and *Avalon*, the secured party in *Together Development* lost its priority, and the value of its collateral, for purely technical reasons of preemption that appear, in retrospect, to be elusive at best, and capricious at worst. There is no clear or even remotely predictable rule of preemption within copyright, nor across forms of intellectual property. Nor is it necessarily possible or advisable for lenders to comply with the perfection rules set forth by these courts. If, for example, *Peregrine* is correct, a security interest cannot, as a matter of law, be perfected in unregistered copyrights or proceeds, leaving secured parties that lend against these assets intolerably vulnerable.[287]

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285. *Together Dev.*, 227 B.R. at 441 (citing 17 U.S.C.S. § 205, providing for recording of "transfer" of copyright) (citing 17 U.S.C.S. § 101 which defines "transfer" to include "mortgage" or "hypothecation").

286. *E.g.*, *Together Dev.*, 255 B.R., at 610-11.

287. I should note, parenthetically, that the "big case" involving the preemptive force of the federal intellectual property laws will probably not involve pure information technology assets, such as software or data. Rather, the case that will likely decide the contours of this aspect of preemption will go something like this: A debtor will grant a security interest in items of equipment or inventory which contain embedded computer programs. The secured party will assume that the collateral is a species of "goods" under Article 9, and will attempt to perfect the security interest by filing a UCC-1 financing statement. After the debtor goes into bankruptcy, the bankruptcy trustee will claim that the security interest is unperfected because the computer program was copyright-protected subject matter and the secured party failed to perfect the security interest by recordation in the Copyright Office, as required by *Peregrine*.

The secured party will argue that, under Revised Article 9's definition of "goods," the computer program is part of the goods because it is "embedded" in the goods and either "customarily is considered part of the goods" or, by owning the goods, one obtains the right to use the computer program. Rev. § 9-102(a)(44). Because the collateral is goods, the secured party will argue, a security interest could be perfected by filing a financing statement. *See* Rev. § 9-310(a).

A court that follows *Peregrine* may well conclude that the UCC's definition of "goods" is preempted by the Copyright Act and that the failure to record the security interest in the Copyright Office means, at minimum, that the security interest in the copyrighted software is unperfected. The security interest may or may not remain perfected in the "non-copyright" portion of the collateral, i.e., the "goods" portion of the equipment or inventory. Even if it were treated as perfected, however, it is not clear that the collateral would have much value without the computer program.

Unfairness does not mean merely that the secured party lost. Secured parties can and do lose all the time. Such losses are not always inherently unfair. Secured parties are typically well-represented by sophisticated counsel,[288] and typically understand the risks they run, at least within some general spectrum. Rather *Peregrine*, *Avalon*, and *Together Development* are uniquely unfair because the secured parties there gave value, apparently in good faith, and attempted to give notice to the world of their interests in the debtors' intellectual property. They did not receive "secret" liens, and did not engage in transactions that would otherwise be avoidable on fraudulent conveyance or other grounds.[289] Unless one views the entire priority system as flawed—a position with some takers[290]—the results of *Peregrine*, *Avalon* and *Together Development*, are difficult to justify.[291]

IV. UNFAIRNESS TO DEBTORS AND THIRD PARTIES—DISPOSITIONS AND TRANSFORMATIONS OF INFORMATION TECHNOLOGY ASSETS

Secured parties are not likely to be the only victims of unfairness in the context of financing information technology. Other parties involved directly or indirectly in these transactions—such as debtors and their trading partners—may find themselves at the mercy of the secured party who will claim, with the full backing of Revised Article 9, to have a

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288. Note, however, that even sophisticated counsel may have no good idea how to perfect a security interest in copyright, and this lacuna is not legal malpractice. *E.g.*, MCEG Sterling, Inc. v. Phillips, Nizer, Benjamin, Krim & Ballon, 646 N.Y.S.2d 778 (Sup. Ct. 1996).

289. The Bankruptcy Code and state law create causes of action that permit the avoidance of transfers of property by an insolvent person intended to hinder, delay or defraud creditors, or made for less than reasonably equivalent value. *E.g.*, 11 U.S.C. § 548(a). Every state has enacted one of the uniform fraudulent transfer laws or a predecessor statute with similar effect. *See* UNIF. FRAUDULENT CONVEYANCE ACT, 7A U.L.A. 6 (1918); UNIF. FRAUDULENT TRANSFER ACT, 7A U.L.A. 274 (1984). Although the grant of a security interest may well be avoidable on these grounds, none of these cases involved a claim that the security interests were so avoidable.

290. *E.g.*, Bebchuk & Fried, *supra* note 16, at 859; Klee, *supra* note 16, at 1467; LoPucki, *supra* note 16, at 1891-92.

291. I recognize that there is a large body of law that treats unperfected secured parties without mercy. Thus, a bankruptcy trustee might exploit any number of foot faults in a financing statement—*e.g.*, minor mistakes in a debtor's name or the collateral description—to claim that a security interest is unperfected. *E.g.*, Huntington Nat'l Bank v. Tri State Molded Plastics, Inc. *(In re* Tyler), 23 B.R. 806 (Bankr. S.D. Fla. 1982). I am not suggesting absolution for all such foot faults. Rather, as discussed in Part V, below, I suggest only that where a secured party has complied with either the Article 9 system or the federal intellectual property recording system, it be deemed perfected as against a bankruptcy trustee.

continuing security interest in information technology assets well beyond those contemplated by the parties to the original transactions (i.e., the debtor and its secured party).

Debtors and third parties will be at risk whenever there is a disposition or transformation of information technology assets. Information technology assets are different from other types of collateral because they are unusually mobile, and highly susceptible to changes in form. Thus, a company like Microsoft may grant hundreds or thousands of nonexclusive licenses to users of its software. Similarly, data "packets" travel from one computer to another at roughly the speed of light millions, perhaps billions, of times each day. A single technology may be under constant development, and require the protections of different intellectual property regimes as it comes to fruition.

To the extent that Revised Article 9 applies to transactions involving information technology collateral, it will, in general terms, create a bundle of rights that is highly "sticky." Once the security interest in information technology assets attaches, it will likely adhere notwithstanding dispositions or transformations of the underlying technologies. This durability will produce surprising, and often unfair, results.

A. Dispositions, Transformations, and the Continuity of Interest Rules

As explained in greater detail in Part II.D., above, the continuity of interest rules generally provide that, absent the secured party's agreement, a security interest continues in collateral notwithstanding sale, exchange or other disposition.[292] An important exception provides that a security interest in general intangibles is cut off on a disposition to a "licensee in ordinary course of business" who acquires a "nonexclusive license" of the "intangible in good faith, without knowledge that the license violates the rights of another person in the general intangible," and "from a person in the business of licensing general intangibles of that kind."[293] This cutoff—and its limitations—have important consequences when collateral is intellectual property or data.

1. CONTINUITY OF INTEREST RULES AND INTELLECTUAL PROPERTY

292. Rev. § 9-315(a)(1).
293. Rev. § 9-321(a)-(b).

The continuity of interest rules pose at least four problems for debtors that create or use intellectual property. First, it is not clear what constitutes a "nonexclusive" license for this purpose. Under copyright law, an exclusive license transfers "full use of the particular rights to the transferee."[294] A nonexclusive license, by contrast, represents "the least substantial of all transfers."[295] As discussed in Part I.C., above, a nonexclusive license does not necessarily convey a "property interest," suggesting that it may not be capable of being subject to a security interest at all. A nonexclusive license consists merely of permission to use the general intangible.[296] Would an "exclusive license" of a copyright or patent within a particular territory be an exclusive license for Article 9 purposes? Does Article 9 or some other body of law (say, the applicable intellectual property statute) provide the answer?[297] The secured party's ability to follow the collateral will turn on the answers to these questions.

Second, the security interest will never be cut off by the statute when there is an outright sale of information technology assets. The ordinary course cutoff of Rev. § 9-321 applies only to licenses—not sales or assignments—of general intangibles. Thus, if a debtor sold an encumbered general intangible in the ordinary course, the purchaser would take subject to the security interest unless the secured party released its security interest. True, most transactions in information

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294. NIMMER, COMPUTER TECHNOLOGY, *supra* note 47, ¶ 7.02[1], at 7-5; *see also* MacLean Assocs., Inc. v. Wm. M. Mercer-Meidinger-Hansen, Inc., 952 F.2d 769, 778-79 (3d Cir. 1991) (stating in contrast, nonexclusive license is not a transfer of ownership); Camco Int'l., Inc. v. Perry R. Bass, Inc., 926 S.W.2d 632 (Tex. App. 1996) (finding that transfer was an assignment, not a license, where contract transferred essentially all of the rights pertaining to the patent).

295. NIMMER, COMPUTER TECHNOLOGY, *supra* note 47, ¶ 7.02[1], at 7-6; *see also* Cohen v. Paramount Pictures Corp., 845 F.2d 851, 854 (9th Cir. 1988); *Spindelfabrik*, 829 F.2d at 1081.

296. *See* 17 U.S.C. § 101; Harris v. Emus Records Corp., 734 F.2d 1329 (9th Cir. 1984) (copyright license); *In re* Alltech Plastics, Inc., 71 B.R. 686 (Bankr. W.D. Tenn. 1987) (patent license).

297. Steve Weise, a leading commercial finance practitioner, has suggested that the Uniform Computer Information Transactions Act (UCITA), if it is enacted, may guide courts to an understanding of the distinction between an exclusive and nonexclusive license. Weise, *supra* note 179, at 1099-1100. UCITA § 102(a)(46) has a narrow definition of "nonexclusive" license, and a correspondingly broad definition of an exclusive license. UNIF. COMPUTER INFO. TRANSACTIONS ACT § 102(a)(46) (2001), *available at* http://www.law.upenn.edu/bll/ulc/ulc_frame.htm. Under UCITA, a license does not qualify as "nonexclusive" if it "precludes" the licensor from entering into another license with another licensee within the same "scope." *Id.* Note that this would create a fairly large universe of exclusive licenses, as to which the security interest would automatically continue.

technology assets are currently structured as licenses. But it is not clear that licensing will always be the only ordinary course disposition of a general intangible.

Third, there is the "created by his seller (licensor)" rule. It was not uncommon under Former Article 9 to find that if a retailer (Dealer 2) purchased inventory subject to a security interest created by another retailer (Dealer 1), a customer that purchased the same inventory from Dealer 2 could not take free of that security interest, even if—as would likely be the case—the customer was a buyer in the ordinary course of business.[298] This rule—known under Former Article 9 as the "created by his seller rule," but now gender neutralized—has been difficult to justify. By its terms, the rule appears to subject the customer to the risk that the lender to Dealer 1 could assert a security interest in the inventory against an ordinary course buyer several generations away from the debtor. While courts have had no sympathy for this argument when the secured party has authorized the debtor to dispose of the collateral free of the security interest—as would typically be the case with inventory[299]—they respect it when the disposition was forbidden, as would typically be the case with equipment.[300]

Consider how this rule will work when collateral is intellectual property. It is possible, but not universally true, that software is developed entirely free of copyrights of others. Rather, software often embodies licenses or sublicenses of other intellectual property, including trade secrets and copyrights.[301] Thus, it is entirely possible that a

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298. *E.g.*, Massey-Ferguson Credit Corp. v. Wells Motor Co., 374 So. 2d 319 (Ala. 1979); First State Bank of Altoona v. Barnes, 496 So. 2d 53, 54 (Ala. Civ. App. 1986); Commercial Credit Equip. Corp. v. Bates, 267 S.E.2d 469 (Ga. Ct. App. 1980); Executive Fin. Servs., Inc. v. Pagel, 715 P.2d 381 (Kan. 1986); Vacura v. Haar's Equip., Inc., 364 N.W.2d 387 (Minn. 1985); Marine Midland Bank, N.A. v. Smith Boys, Inc., 492 N.Y.S.2d 355, 359 (Sup. Ct. 1985); First Am. Bank v. Hunning, 238 S.E.2d 799 (Va. 1977); *cf.* First Bank v. Pillsbury Co., 801 F.2d 1036, 1039-40 (8th Cir. 1986); Gordon v. Hamm, 74 Cal. Rptr. 2d 631, 633 (Ct. App. 1998).

299. *See, e.g.*, Centerre Bank, N.A. v. New Holland Div. of Sperry Corp., 832 F.2d 1415, 1422-23 (7th Cir. 1987) (applicability of U.C.C. § 9-307(1) was not decided because court applied U.C.C. § 9-306(2)); Metter Banking Co. v. Fisher Foods, Inc. 359 S.E.2d 145 (Ga. Ct. App. 1987) (case decided under F. § 9-306 and not F. § 9-307); Nat'l Livestock Credit Corp. v. Schultz, 653 P.2d 1243, 1247 (Okla. Ct. App. 1982).

300. *Massey-Ferguson Credit*, 374 So. 2d at 320 n.1; *First State Bank of Altoona*, 496 So. 2d at 54; *Commercial Credit Equip.*, 267 S.E.2d at 472; *Executive Fin. Servs.*, 715 P.2d at 385; *Vacura*, 364 N.W.2d at 392; *Marine Midland Bank*, 492 N.Y.S.2d at 359; *Hunning*, 238 S.E.2d at 800.

301. *See* NIMMER, COMPUTER TECHNOLOGY, *supra* note 47, ¶ 1.24[1][a], at 1-144, ("[I]t is not inconsistent for a party to 'own' (e.g., obtain title to) a copy of

licensor (who we will call L1) will grant a nonexclusive license (whatever that means) of its software to a licensee (L2). L2 may well, depending on the terms of the license with L1, incorporate L1's software into its product, and license that to a third party, who we can call L3. According to the continuity of interest rule of Rev. § 9-315, L3 will take its license of L2's software (with a sublicense of L1's copyright) subject to the security interest L1 created, unless L1's secured party expressly released its security interest. The cutoff rule of Rev. § 9-321 will not help L3, even though it has only dealt with L2, and has no reason to know that L1 granted the security interest.

For its part, it is not clear that L2 would have had much incentive to learn that L1 granted the security interest or to negotiate a release of the security interest from L1's secured party for the benefit of L3. Precisely because the license was non-exclusive, L2 should presume that it takes its limited bundle of rights unencumbered by security interests of others. And, while L2 may take free of the security interest created by L1 ("the licensor," under Rev. § 9-321(b)), L3 should not, because L2 is not "the licensor" that created the security interest – L1 was.[302]

Nor is it clear that Rev. § 9-408(d) will help L3. As discussed above,[303] Rev. § 9-408(a) & (c) permits a security interest to attach notwithstanding contractual or legal provisions to the contrary. Rev. § 9-408(d) purports to respect such provisions when it comes to enforcement of the security interest. While this may appear to provide

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software and still be subject to license restrictions."); *see also* Aymes v. Bonelli, 47 F.3d 23, 26-27 (2d Cir. 1995); Microsoft Corp. v. Harmony Computers & Elecs., Inc., 846 F. Supp. 208, 214 (E.D.N.Y. 1994) ("[E]ven assuming that Microsoft sells its software to its licensees on a stand-alone basis, this does not change the fact that when the licensees in turn distribute the software, they are restricted by the license agreement in a way that the copyright holder itself is not.").

302. If the collateral were goods, and federal intellectual property law did not preempt Article 9, L3 should be able to argue that the security interest did not continue after disposition by L1, by virtue of UCC § 2-403(2). Rev. § 9-315(a), the general rule on the continuity of security interests, is subject to UCC § 2-403(2), which provides that an "entrusting of possession of goods to a merchant who deals in goods of that kind gives him [sic] power to transfer all rights of the entruster to a buyer in ordinary course of business." An "entrusting" is defined to include "any delivery and any acquiescence in retention of possession" by the debtor, and should include a non-possessory security interest. UCC § 2-403(3). L3 would therefore argue that by "entrusting" the collateral to L1, the secured party effectively released its security interest in the collateral. Of course, the argument would not work as to licenses of software (or any general intangibles) because UCC § 2-403(2) applies only to goods—not to general intangibles.

303. *See* discussion *supra* Part II.E.

protection to the L3's of the world, their rights will in fact turn on their ability to show some affirmative protection in contract or at law "other than" Revised Article 9. As one author observed, "[n]either Article 9 nor the Official Comments indicate whether there is such other law or what it provides."[304]

If the equipment leasing pattern is any guide, the protections of 9-408(d) will be illusory. It may, for example, become common for software licenses to contain "hell or high water" clauses—clauses that require the licensee to satisfy its obligations under the contract, notwithstanding its claims or defenses. It will pay royalties under the license "come hell or high water."[305] These clauses, which courts typically uphold in equipment leases,[306] may enable the secured party to

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304. Donald J. Rapson, *Default and Enforcement of Security Interests Under Revised Article 9*, 74 CHI.-KENT L. REV. 893, 935 n.260 (1999) (citing Rev. § 9-408 cmt. 2).

305. A typical hell or high water provision from an equipment lease provides as follows:

> Lessee's obligations under this Agreement are absolute and unconditional irrespective of any contingency whatsoever including (but not limited to):
>
> (a) any right of set-off, counterclaim, recoupment, defence or other right which either party to this Agreement may have against the other;
>
> (b) any unavailability of the Aircraft for any reason, including, but not limited to, a requisition of the Aircraft or any prohibition or interruption of or interference with or other restriction against Lessee's use, operation or possession of the Aircraft;
>
> (c) any lack or invalidity of title or any other defect in title, airworthiness, merchantability, fitness for any purpose, condition, design, or operation of any kind or nature of the Aircraft for any particular use or trade, or for registration or documentation under the laws of any relevant jurisdiction, or any Event of Loss in respect of or any damage to the Aircraft;
>
> (d) any insolvency, bankruptcy, reorganisation, arrangement, readjustment of debt, dissolution, liquidation or similar proceedings by or against Lessor or Lessee;
>
> (e) any invalidity or unenforceability or lack of due authorisation of, or other defect in, this Agreement; and
>
> (f) any other cause which but for this provision would or might otherwise have the effect of terminating or in any way affecting any obligation of Lessee under this Agreement.

William B. Piels, *Equipment Leasing*, *in* DOING DEALS 2001: UNDERSTANDING THE NUTS AND BOLTS OF TRANSACTIONAL 809, 879 (PLI Corp. Law & Practice Course, Handbook Series No. 1228, 2001).

The colorful nomenclature is perhaps no accident. *Black's Law Dictionary* defines "hell" as "[t]he name formerly given in England to a place . . . where the king's debtors were confined." BLACK'S LAW DICTIONARY, 652 (5th ed. 1979).

306. *See* Benedictine Coll., Inc. v Century Office Prods., Inc., 853 F. Supp. 1315, 1325 (D. Kan. 1994); Siemens Credit Corp. v. Newlands, 905 F. Supp. 757

collect royalties from L3, and perhaps to enforce other aspects of the L1-L2 license, even though L3 is not a party to it and may have no idea that the secured party or the security interest exists until the secured party enforces its rights.

The third problem for ordinary course licensees (and their licensors) involves the requirement that the licensor be "in the business" of licensing information (general intangibles) "of that kind." Under Former Article 9, in the context of sellers of goods, this was an inherently fact intensive determination.[307] When the debtor is a software maker and the collateral is software, the determination will be easy. But when the debtor is an e-tailer, it will probably be "in the business" of selling the goods in stock or services that it advertises—not intellectual property associated with those goods or services. Toysmart.com, for example, was "in the business" of selling toys, not trade secrets (customer lists).[308]

2. CONTINUITY OF INTEREST RULES AND DATA

Disposing of data poses equally difficult questions. The initial question will be when a "disposition" of data has occurred. When a general intangible is coincidentally embodied in something physical—a blueprint or customer list, for example—a transfer of possession of the physical item may be good evidence that a disposition has occurred.[309] When the data is not physically embodied, however, the problem is more interesting, but there is good reason to believe that simply sending data from one computer to another may be a disposition.

Take the recent cases on spamming—the unsolicited sending of commercial bulk e-mail.[310] These cases view spamming as a "trespass

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(N.D. Cal. 1994); Citicorp of N. Am. V. Lifestyle Communications Corp., 836 F. Supp. 644, 668 (S.D. Iowa 1993).

307. *See, e.g.*, Cent. Cal. Equip. Co. v. Dolk Tractor Co., 144 Cal. Rptr. 367 (Ct. App. 1978) (farmer not in business of selling farm machinery); Meyer v. General Am. Corp. v. McCurtain, 569 P.2d 1094 (Utah 1977) (corporation was not in business of selling tractors); Kaw Valley State Bank v. Stanley, 514 S.W.2d 42 (Mo. Ct. App. 1974) (X was employed as a car dealer and sold a boat).

308. *See also* discussion *supra* Part I.B.1.

309. *See* United States v. Antenna Sys. Inc., 251 F. Supp. 1013, 1015-16 (D.N.H. 1966); *cf.* Dabney v. Info. Exch., Inc. (*In re* Info. Exch., Inc.), 98 B.R. 603, 604-05 (Bankr. N.D. Ga. 1989) (finding that security interest in computer tapes can be perfected only by filing, not by possession, because computer tapes are general intangibles, in which security interest may be perfected only by filing financing statement).

310. *See, e.g.*, Hotmail Corp. v. Van$ Money Pie Inc., 47 U.S.P.Q.2d (BNA)

to chattels,"[311] suggesting that data transmissions will be viewed through metaphors adopted from the material world. In *America Online, Inc. v. National Health Care Discount, Inc.*, for example, the district court for the Northern District of Iowa considered spamming as akin to an interference with the rights of an owner of real property.[312] Applying the Restatement (Second) of Torts, which provides that "[a] trespass to chattels occurs when one party intentionally uses or intermeddles with personal property in rightful possession of another without authorization,"[313] the court concluded that "it seems reasonable to define a trespass to chattels . . . as any unauthorized interference with or use of the personal property of another."[314] Because spammers "interfere" with one's use of one's computer, spamming is a trespass to chattels—the computer. By treating spamming as a kind of physical trespass, the *AOL* decision suggests that the transmission of information will be viewed as a physical delivery of information, not unlike the physical movement of goods.[315]

There are other reasons to view the transmission of data as a kind of "disposition." Recent "e-commerce" legislation such as the Uniform Computer Information Transactions Act (UCITA),[316] the Uniform

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1020, 1025-26 (N.D. Cal. 1998). For a discussion of spamming and the emerging case law in this area, *see generally* Susan E. Gindin, *Lost and Found in Cyberspace: Informational Privacy in the Age of the Internet*, 34 SAN DIEGO L. REV. 1153 (1997); Anne E. Hawley, Comment, *Taking Spam Out of Your Cyberspace Diet: Common Law Applied to Bulk Unsolicited Advertising Via Electronic Mail*, 66 U.M.K.C. L. REV. 381 (1997).

311. *E.g.*, Am. Online, Inc. v. Nat'l Health Care Discount, Inc., 121 F. Supp. 2d 1255, 1277 (N.D. Iowa 2000); Am. Online, Inc. v. LCGM, Inc. 46 F. Supp. 2d 444, 451 (E.D. Va. 1998); Am. Online, Inc. v. IMS, 24 F. Supp. 2d 548, 550 (E.D. Va. 1998) (finding that spammers committed a trespass to chattels in violation of Virginia Common Law at summary judgment stage); *Hotmail*, 47 U.S.P.Q.2d (BNA) at 1025-26 (granting a preliminary injunction because plaintiff was likely to succeed on the merits on a theory of trespass to chattels); CompuServe, Inc. v. Cyber Promotions, Inc., 962 F. Supp. 1015, 1017 (S.D. Ohio 1997).

312. 121 F. Supp. 2d at 1277.

313. *Id.* (citing AOL v. IMS, 24 F. Supp. 2d 548, 550 (E.D. Va. 1998) (citing RESTATEMENT (SECOND) OF TORTS § 217(b), and applying the section in a similar case)).

314. *Id.*

315. Of course, something may be physical and not constitute a "delivery." No one would say that the recipient of a blow took "delivery" of the fist.

316. *See supra* note 289 for web site address. As of this writing UCITA has been adopted in only two states. UNIF. LAW COMM'RS, INTRODUCTIONS & ADOPTIONS OF UNIF. ACTS: UNIF. COMPUTER INFO. TRANSACTIONS ACT (2001), *at* http://www.nccusl.org/nccusl/uniformact_factsheets/uniformacts-fs-ucita.asp (last visited September 30, 2001).

Electronic Signatures Act (UETA)[317] and the federal Electronic Signatures in Global Commerce Act (E-Sign)[318] either affirmatively enable the disposition of data or assume that the disposition of data by simple computer transmission is (or will be) a routine occurrence. UCITA, for example, applies by its terms to "computer information transactions," including commercial agreements to create, modify, transfer or license computer information or rights in computer information.[319] While primarily intended to govern licensing of computer information already generated, this broad definition logically could be extended to sales and other non-licensing transactions.

Similarly, UETA and E-Sign both give digital signatures the legal dignity of physical signatures. Section 7 of UETA provides that "a record or signature may not be denied legal effect or enforceability solely because it is in electronic form."[320] UETA applies to a "transaction" using electronic records or signatures. It defines "transaction" broadly to mean an "action or set of actions occurring between two or more persons relating to the conduct of business, commercial, or governmental affairs."[321] E-Sign has substantially similar provisions, which apply to electronic transactions in interstate

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317. UNIF. ELEC. TRANSACTIONS ACT (1999), *available at* http://www.law.upenn.edu/bll/ulc/ulc.htm. As of this writing UETA has been adopted in twenty-seven states, and introduced in most of the others. *See* UNIF. LAW COMM'RS, INTRODUCTIONS AND ADOPTIONS: INFO. ELEC. TRANSACTIONS ACT (2001), *at* http://www.nccusl.org/nccusl/uniformact_factsheets/uniformacts-fs-ueta.asp (last visited September 30, 2001).

318. Pub. L. No. 106-229, 114 Stat. 464 (2000) (codified at 15 U.S.C. §§ 7001-7006, 7021, 7031).

319. UNIF. COMPUTER INFO. TRANSACTIONS ACT, *supra* note 294, § 102(a)(11). UCITA defines "computer information" as "information in electronic form which is obtained from or through the use of a computer or which is in a form capable of being processed by a computer." *Id.* § 102(a)(10). "Informational rights" are:

> all rights in information created under laws governing patents, copyrights, mask works, trade secrets, trademarks, publicity rights, or any other law that gives a person, independently of contract, a right to control or preclude another person's use of or access to the information on the basis of the rights holder's interest in the information.

Id. § 102(a)(38). Informational rights under UCITA would be a broader category than simply intellectual property. Because UCITA "steps back" from Article 9, it does not bear directly on questions about the creation and maintenance of security interests in information. *See id.* § 103(b)(2). It may, however, be relevant to secured parties that seek to foreclose on and dispose of information. Whether foreclosure dispositions are subject to UCITA is an interesting question, but is beyond the scope of this article.

316. UNIF. ELEC. TRANSACTIONS ACT, *supra* note 313, § 7(a).

321. *Id.* § 2(16).

commerce.[322] Since a signature is often necessary to a disposition, it seems reasonable to infer that with electronic signatures will come dispositions of electronic information.[323]

Assuming that the transfer of information from one computer to another is a disposition, and that the data is "property" for purposes of creating a security interest, consider a hypothetical under Revised Article 9. Assume a business-to-business (B2B) or electronic data interchange (EDI) scenario, with a closed and proprietary network, involving only three parties, B1, B2, and B3. If B1 has granted a security interest in general intangibles to SP1, it will have granted a security interest in all of the information in the hard-drives of its computers. When B1 sends purchase or sale information to B2, has the security interest in the information (data) not also traveled to B2's computer? Under the continuity of interest rule of Rev. § 9-315, the security interest should continue. Unless one characterizes that transfer of data as a "nonexclusive," "ordinary course" "license," the security interest created by B1 in favor of SP1 will continue into B2's computer. If B2 sells or licenses or simply gives this data to B3, B3 should acquire the data subject to the security interest created by B1, and so on, even though B3 (and later takers) probably know nothing about the security interest, and may, by virtue of their distance from the original debtor, be effectively incapable of learning of its existence.

B. Dispositions, Transformations and the Proceeds Rules

Information technology assets are not simply easily replicated; they also often change form. In the case of intellectual property, one copyright will lead to derivative copyrights; a trade secret will become a patent. In the case of data, facts will be gathered and organized by data-mining programs for a variety of purposes. When information is transformed from one type to another, it will often generate a proceeds security interest because "proceeds" under Article 9 include "rights arising out of collateral,"[324] and a security interest in proceeds is generally as good as a security interest in the original collateral.

The Revision creates at least three categories of proceeds problems

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322. E-Sign § 101.

323. *See also* NIMMER, COMPUTER TECHNOLOGY, *supra* note 47, ¶ 1.02, at 1-12 ("Computer systems process and exchange information among system components and between systems . . . .")

324. Rev. § 9-102(a)(64)(C). Proceeds also include "whatever is collected on, or distributed on account of, collateral," meaning that dispositions of information will create proceeds, too. Rev. § 9-102(a)(64)(B).

involving information technology assets. First, the proceeds rules would appear to provide a detour around the limitations on the use of commercial tort claims as collateral. Second, "derivative works" (whether in the technical sense of copyright or the more colloquial sense in which intellectual production will transform from one category to another) will be proceeds. Third, while data may not be subject to a copyright in the software that creates or manages the data, the data may be proceeds of the copyright that is collateral. As with the continuity of interest rules, Article 9's proceeds rules could enable secured parties to obtain significant unbargained for advantages when the collateral is information.

1. PROCEEDS AND COMMERCIAL TORT CLAIMS

As explained in Part II.B above, the Revision attempts to make it easier for secured parties to realize the value of information collateral by creating a new type of collateral—"commercial tort claims"—that would cover infringement claims. Former § 9-104(k) provided that Article 9 did not apply "to a transfer in whole or in part of any claim arising out of tort."[325] The Revision changes this by providing for security interests in commercial tort claims, which include claims "arising in tort with respect to which . . . the claimant is an organization."[326] This definition should pick up claims for infringement of, among others, rights in patent, trademark, and copyright.

It is useful to understand the relationship between commercial tort claims, on the one hand, and general intangibles, on the other. As observed above, information technology assets should typically be characterized as a general intangible under Article 9.[327] The Official Comment to Rev. § 9-102 explains that examples of general intangibles are "various categories of intellectual property" as well as licenses of intellectual property.[328] Although the definition of general intangibles picks up intellectual property and other information-related rights, it excludes an important category of closely-related rights: The right to

325. F. § 9-104(k).

326. Rev. § 9-102(a)(13). The definition extends to tort claims where the claimant is an individual, the claim arose in the course of the claimant's business or profession, excluding "damages arising out of personal injury to or the death of an individual." Rev. § 9-102(a)(13)(B).

327. *See* Rev. § 9-102(a)(42) (defining general intangibles as "any personal property, including things in action . . . [t]he term includes . . . software").

328. Rev. § 9-102 cmt. 5.d.

sue for infringement (now known as "commercial tort claims").[329]

The Revision excludes commercial tort claims from the definition of general intangibles for an important reason: While a security agreement may provide that a security interest in general intangibles can attach to after-acquired intangibles,[330] the security interest *cannot* attach to after-acquired commercial tort claims. Section 9-204(b) of Revised Article 9 provides that "[a] security interest does not attach under a term constituting an after-acquired property clause to: . . . (2) a commercial tort claim."[331] This means that "an after-acquired property clause in a security agreement does not reach future commercial tort claims."[332] Rather, the Official Comment explains that, for a commercial tort claim to attach, "the claim must be in existence when the security agreement is authenticated."[333]

The definition of proceeds, however, creates a detour around this limit on after-acquired commercial tort claims. As noted above, proceeds include "rights arising out of collateral."[334] A right arising out of many information technology assets will be the right to sue for infringement (e.g., of copyright or patent)—a commercial tort claim. The Official Comment to Rev. § 9-102 supports this view. In explaining the nature of commercial tort claims, the Official Comment observes that "[a] tort claim may serve as original collateral under this Article only if it is a 'commercial tort claim.'"[335] Proceeds, however, are by definition not "original" collateral; they arise only incident to collateral. Indeed, the Official Comment coyly makes this point: "A security interest in a tort claim *also* may exist under this Article if the claim is proceeds of other collateral."[336] While it is clear that a security interest in a future patent infringement claim could not attach under an after-acquired property clause, it is equally clear that the secured party's

329. Rev. § 9-102(a)(42) (general intangibles defined as "any personal property . . . other than . . . commercial tort claims . . . .").

330. Rev. § 9-204(a) ("[A] security agreement may create or provide for a security interest in after-acquired collateral."). These clauses are quite common in security agreements. One author explains that "most standard form security agreements specify that the secured party has an interest in the described collateral 'now owned or hereafter acquired.'" WILLIAM D. HAWKLAND & FREDERICK H. MILLER, 9A UNIFORM COMMERCIAL CODE SERIES § 9-203:10 (2001).

331. Rev. § 9-204(b)(2).

332. Rev. § 9-204 cmt. 4.

333. *Id.*

334. Rev. § 9-102(a)(64)(C); *see also supra* Part II.B.-C.

335. Rev. § 9-102 cmt. 5.g.

336. *Id.* (emphasis added).

right to proceeds—which would also arise in the future—is automatic,[337] and should be independent of any right, *vel non*, to after-acquired property.[338]

In other words, the expansive definition of proceeds swallows much of the limitation on after-acquired commercial tort claims set forth in section 9-204. Although a debtor may believe it has not granted a security interest in the (then-nonexistent) infringement action when it grants a security interest in the underlying intellectual property, it will probably be wrong. The infringement action, as a "right arising out of" the intellectual property, will be proceeds of the original collateral, even if "after acquired."

2. PROCEEDS AND DERIVATIVE RIGHTS

Consider a second problem with information technology assets under the Revision—derivative rights. As discussed above, the Copyright Act expressly creates rights in "derivative works," empowering the owner of the original copyright to restrain another from creating a work that "derives" from the original work (i.e., that contains the original expression).[339] Similarly, trade secrets are often the

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337. "Except as otherwise provided in this article . . . a security interest attaches to any identifiable proceeds of collateral." Rev. § 9-315(a).

338. *See* George A. Nation, III, *Revised Article 9 of the UCC: The Proposed Revisions Most Important to Commercial Lenders*, 115 BANKING L.J. 212, 216 (1998) ("[A] creditor cannot take an interest in after-acquired [commercial] tort claims, except as proceeds of other collateral.").

Another way around the apparent limitation on after-acquired commercial tort claims is through the security agreement. A debtor could covenant in the security agreement that it will authenticate amendments to the security agreement to add commercial tort claims as and when they arise. Indeed, a leading practitioner recommends including a clause to the following effect in the standard form security agreement:

> If the Debtor shall at any time, whether or not Revised Article 9 is in effect in any particular jurisdiction, acquire a commercial tort claim, as defined in Revised Article 9, the Debtor shall immediately notify the Secured Party in a writing signed by the Debtor of the brief details thereof and grant to the Secured Party in such writing a security interest therein and in the proceeds thereof, all upon the terms of this Agreement, with such writing to be in form and substance satisfactory to the Secured Party.

Edwin E. Smith, *Revised Article Transition Rules: A Soft Landing?*, *in* ASSET BASED FINANCING 2000, at 401, (PLI Comm. Law & Practice Course, Handbook Series No. A-806, 2000).

339. 17 U.S.C. § 103(a) (1994) ("The subject matter of copyright as specified by section 102 includes compilations and derivative works, but protection for a work employing preexisting material in which copyright subsists does not extend to any part of

foundation of patents.[340] We could therefore say that the rights in the patent application (and patent, if granted) "derive" from the trade secret.[341] In any of these (or similar) cases, will the later work be proceeds of the original? Although the answer was unclear under Former Article 9, the Revision makes clear that derivative works of intellectual property will be proceeds to the extent that the derivative work embodies "rights arising out of" the original collateral.[342]

Under Former Article 9, a derivative work was not considered proceeds of the original work of intellectual property collateral. The court in *In re Transportation Design*, for example, concluded under Former Article 9 that a patent was not proceeds of a patent application.[343] There, the debtor granted a security interest in all of its general intangibles to Mitsui Bank, which included patents and patent applications. The United States' Patent and Trademark office issued a patent after the debtor declared bankruptcy based on a pre-bankruptcy application. Mitsui, not surprisingly, claimed a security interest in the post-bankruptcy patent.

The Bankruptcy Court for the Southern District of California reasoned that Mitsui's filing of a UCC-1 statement alone was sufficient to perfect its security interest, but concluded that no security interest in the post-petition patent attached. Mitsui argued that the post-petition patent was proceeds of its security interest in the debtor's general intangibles. The court disagreed, reasoning that "[t]he California [UCC] comment to this section assumes without further amplification that 'proceeds' arise when the collateral is sold or in some way disposed of."[344] The court concluded there was no such sale or disposition, and stated that "[t]o adopt the tortuous definition suggested by Mitsui that the post-petition patent is somehow the 'proceeds' of a pre-petition patent application would fly in the face of the clear meaning of the term as defined by the California [Uniform] Commercial Code."[345] Because there was no disposition of the collateral, the *Transportation Design*

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the work in which such material has been used unlawfully."); *Id.* § 103(b) ("The copyright in a . . . derivative work extends only to the material contributed by the author of such work . . . .").

340. *See Kewanee Oil*, 416 U.S. at 474-76.

341. Indeed, a patent application is, itself, a "separate preliminary right" to which a security interest can attach. *See* WARD, *supra* note 125, § 2.23, at 2-68 (citing *In re* Williams, 167 B.R. 77, 80-81 (Bankr. N.D. Miss. 1994)).

342. Rev. § 9-102(a)(64)(C).

343. *Transp. Design.*, 48 B.R. at 641.

344. *Id.* Note that the *Transportation Design* court therefore conflates the concept of "disposition" and "transformation."

345. *Id.*

court concluded that a security interest in a patent could not "arise" as proceeds of the patent application.[346]

Under the Revision, however, *Transportation Design* should not be good law. Under Revised Article 9, a patent would appear to be a right arising out of a patent application,[347] or perhaps out of the trade secret that gave rise to the patented invention. If so, the patent would be proceeds of the patent application or trade secret. Since a debtor may grant a security interest in its patent applications and trade secrets simply by granting a security interest in general intangibles, it could easily, and perhaps unwittingly, grant a security interest in future patents.[348]

The problem of derivative rights should be even more acute in the case of copyright. Unlike patent rights, which are attained upon an administrative determination (the grant of the patent), copyright arises automatically, as and when statutory material arises.[349] If a court viewed the Copyright Act as not completely preemptive of Revised Article 9, it might conclude that Article 9's rules on proceeds and continuity of interest survive, and apply to transactions in copyrighted materials.[350] If so, consider a hypothetical.

Assume that Gizmo Corporation is a software developer; its chief product is a program known as "GizMaster 1.0," which sold quite well. In order to develop its business, in July 2001, Gizmo borrowed money from Technology Bank and granted it a security interest in all of its assets, including general intangibles (and therefore GizMaster 1.0). In 2002, Gizmo seeks to bring out a new version of its software, GizMaster 2.0. In order to upgrade the program, it seeks to license a

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339. *Id.* at 640.

347. *See* 35 U.S.C. § 111(a)(1) (1994) ("An application for patent shall be made . . . in writing . . . ."), and 35 U.S.C. § 151 (1994) ("If it appears that applicant is entitled to a patent under the law, a written notice of allowance of the application shall be given or mailed to the applicant.").

348. Professors Weinberg and Woodward would have taken a different view, at least under Former Article 9. *See* Weinberg & Woodward, *Easing Transfer*, *supra* note 7, at 113-18. They hypothesize an "exchange" of a trade secret for a patent, and state that viewing the patent as proceeds of the trade secret may not be persuasive, because the patent, which represents a different set of rights, appears to be a "new development" rather than proceeds. *Id.* at 117-18; *see also* Ward, *supra* note 125, § 2:28, at 2-80 ("The issued patent is not the natural consequence of the patent application in the way inventory naturally turns into accounts.").

349. *See* 17 U.S.C. § 102 (1994).

350. *Cf.* WARD, *supra* note 125, § 2:79, at 2-186 ("Because *Peregrine* teaches that a security interest is a 'transfer of copyright ownership,'" Revised Article 9's rules on proceeds and continuity-of-interest "appear to be currently displaced in favor of the priority scheme" of the Copyright Act).

special sub-program from another software developer, Oracular, which it would then incorporate into its own product. Oracular is willing to license its software to Gizmo but, because Gizmo cannot afford to pay cash for the license, Oracular insists on a security interest in GizMaster 2.0. Who has priority in GizMaster 2.0?

On these facts, it would appear that Technology Bank has priority, if GizMaster 2.0 is a "derivative work" with respect to GizMaster 1.0. Under Rev. § 9-102(a)(64), Gizmo's rights in GizMaster 2.0 would be "rights arising out of" GizMaster 1.0, the original collateral.[351] Because priority in proceeds is generally determined by reference to priority in the original collateral under Rev. § 9-322(b)(1), Technology Bank's priority in the later copyright relates back to the earlier of the dates that it filed against or perfected its security interest in the original collateral—GizMaster 1.0.[352]

If Oracular was sophisticated, it would probably have understood the priority risk, and not have licensed its software to Gizmo on these terms.[353] If Gizmo and Oracular wanted to do this deal, they could have obtained any of several kinds of agreements from Technology Bank, limiting its security interest in some way that would make Oracular

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347. *See* Rev. § 9-102(a)(64)(C).

352. This section provides that "the time of filing or perfection as to a security interest in collateral is also the time of filing or perfection as to a security interest in proceeds." Although this might be seen as circular (the definition of "collateral" under Rev. § 9-102(a)(12) includes "proceeds to which a security interest attaches"), it presumably means that priority in proceeds will relate back to the earlier of filing or perfection with respect to the original collateral.

Commercial lawyers may initially believe that Oracular should have purchase money priority in the software, because Gizmo owes Oracular the "purchase price" for the software. Under Rev. § 9-324(f), "a perfected purchase-money security interest in software has priority over a conflicting security interest in the same collateral . . . ." To paraphrase, a "purchase-money security interest" secures payment of the purchase price, and generally enjoys priority over earlier security interests, which would otherwise enjoy priority under the general rule of section 9-322. Rev. § 9-324(a). However, Oracular would enjoy purchase-money priority only if it sold goods. Its license of software will not create a purchase-money security interest under Rev. § 9-324(f) because a "security interest in software is a purchase-money security interest to the extent that the security interest also secures a purchase-money obligation incurred with respect to *goods* in which the secured party holds or held a purchase-money security interest . . . ." Rev. § 9-103(c) (emphasis added). The Official Comment to Rev. § 9-324 confirms this view: "[A] purchase-money security interest arises in software only if the debtor acquires its interest in the software for the principal purpose of using the software in goods subject to a purchase-money security interest." Rev. § 9-324 cmt. 12.

353. And Oracular would include provisions in its license to Gizmo which, under Rev. § 9-408(d), would effectively preclude Technology Bank from enforcing its security interest, at least as to the Oracular/Gizmo license.

comfortable. For example, Gizmo and Oracular could have sought a subordination agreement where Technology Bank would amend the original financing statement, partially terminating the security interest, and/or it could amend the original security agreement.

This leaves two questions. First, are the Oraculars of the world sophisticated enough to expect that they will be junior to a prior secured party with a proceeds security interest in general intangibles? Many technology vendors (or lenders, for that matter) might reasonably assume that *Peregrine* and *Avalon* eliminate the possibility of perfecting (if not obtaining) a proceeds security interest in a derivative work. After all, if *Peregrine* is correct, the only way to perfect a security interest in copyright should be by copyright recordation.[354] If the Copyright Act is wholly preemptive, Technology Bank should have a proceeds security interest that is both unperfected and perhaps incapable of perfection. If, however, the Copyright Act only preempts Article 9's filing system, then perhaps the proceeds security interest survives. Is it reasonable to impose this uncertainty on Oracular?

Second, assuming Oracular is sophisticated enough to recognize the problem and negotiate a solution, who will pay for the fix? Almost certainly the debtor. Is this an appropriate cost for the debtor to bear? It receives nothing of value from Technology Bank. It will receive value from Oracular, in the form of a license. But the added transaction costs have nothing to do with the value of the license; they arise only to buy off Technology Bank. On these facts, the debtor is probably in the worst position financially to pay this added cost.[355]

One could make these facts more complicated by assuming that Oracular had its own lender, who also took a security interest Oracular's general intangibles. If so, Oracular's lender may believe that it has a security interest in the software that Oracular licenses to Gizmo. Would Oracular's lender then have a proceeds security interest in GizMaster 2.0, as well? It should. Oracular's license of its software to Gizmo is one of the statutory events that gives rise to proceeds under Rev. § 9-102(a)(64). Notice, then, that Gizmo would become a "double debtor" under Rev. § 9-325, as having created a security interest in collateral already subject to a security interest created by another person.[356]

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354. *See* WARD, *supra* note 125, § 2:72, at 2-167.

355. A law-and-economics view would posit that, in a "frictionless" market, the parties would negotiate the most efficient allocation of these costs amongst themselves. *E.g.*, R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

356. Rev. § 9-325 would give priority to Oracular's bank, since that section reverses the ordinary rules of priority (first-in-time, under Rev. § 9-322 or purchase-money priority, under Rev. § 9-324).

What about the other end of the production chain? Will the licensee of GizMaster 2.0 from Gizmo take its license free of security interests? As discussed above, and assuming the licensee is a "licensee in ordinary course" under Rev. § 9-321, it should take its security interest free of the security interest of Technology Bank, because that security interest was created by Gizmo, the licensor. But are the proceeds security interests of Oracular or Oracular's bank cut off? They should not be, because none was created by Gizmo, as required by Rev. § 9-321.

3. DATA AS PROCEEDS

A third problem involves proceeds security interests in data. As discussed above, data is not generally subject to copyright protection under *Feist Publications, Inc. v. Rural Telephone Service Co., Inc.*[357] Thus, a database managed with data-mining software would not be a "derivative work" of the copyrighted software. This may not, however, be the end of the analysis for proceeds purposes. Professor Freyermuth has argued that proceeds should be seen as "any asset received as a consequence of some event that consumes a portion of the bargained-for collateral's economic value or productive capacity."[358] Does the use of software to manage data consume its economic or productive value? The answer seems to be yes, not because the software depreciates with use—it might or might not—but because its economic value is bound up with the manipulation of the data. It would be closely associated with the data; on the "close association" view of proceeds, the security interest in the copyright should, perhaps, extend to cover the data.

What about the interchange of data? We know that the cutoff rules that apply to goods do not apply to non-license dispositions of data. The question then becomes how to treat the commingling of data into different forms. If B1 and B2 exchange data on a regular basis, and constantly update their databases to reflect new information, do their secured parties' each have proceeds security interests in the other's new databases, each and every time modified? If a security interest in proceeds includes everything acquired upon the disposition of collateral, and the data is collateral, B1's secured party should be able to claim not only that the security interest in B1's data continues into B2's computer,

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357. 499 U.S. 340; *see also supra* Part I.B.

358. R. Wilson Freyermuth, *Rethinking Proceeds: The History, Misinterpretation and Revision of U.C.C. Section 9-306*, 69 TUL. L. REV. 645, 651 (1995).

but also that B2's manipulation of data produces proceeds as well. For example, if B2 sells the data to B3 in exchange for cash or other data, would B1's secured party have a security interest in the cash or data received by B2? Revised Article 9 says that it should, although we might be uncomfortable with that result.

After reading all of this, the prudent debtor may limit security interests to tangible assets, such as inventory or equipment. But doesn't the security interest in tangible goods ultimately reach data, as proceeds of the sale of the goods? Was the data not received on a "disposition" of collateral (e.g., inventory)? If data reduces to machine language, and sometimes that machine language represents payment obligations (credit card receivables or electronic chattel paper) and sometimes other facts (customer purchasing history), what distinguishes the two categories of information? The former would easily be viewed as proceeds of the sale of inventory. While we might balk at treating the latter in the same way, Revised Article 9 would take a different view.

4. LIMITS TO PROCEEDS: IDENTIFIABILITY

The security interest in proceeds is limited to "identifiable" proceeds, which in some circumstances might be a meaningful way to cut off a security interest. Our thinking about the identifiability of proceeds is informed largely by cases on cash proceeds. In cases such as *Universal C.I.T. v. Farmers Bank*,[359] courts drew from trust fund law to reason that the commingling of cash proceeds did not destroy the proceeds security interest.[360] Rather, courts would presume that the first funds out of an account with commingled proceeds—that is, cash that is and is not subject to a proceeds security interest—will be the unencumbered funds, leaving the proceeds subject to the security interest in the account.[361]

The Revision specifically contemplates that secured parties may avail themselves of this (or similar) rules in order to identify commingled collateral in which they have a proceeds security interest. Rev. § 9-315(b) provides that:

> Proceeds that are commingled with other property are

359. Universal C.I.T. Credit Corp. v. Farmers Bank of Portageville, 358 F. Supp. 317 (E.D. Mo. 1973).

360. *Id.* at 324 ("Missouri has recognized in an analogous situation—suits to impose a constructive trust—that special funds may be traced into commingled funds." (citing Perry v. Perry, 484 S.W.2d 257 (Mo. 1972))).

361. *Id.*; *see also* RESTATEMENT (SECOND) OF TRUSTS § 202 (1959).

> identifiable proceeds . . . if the proceeds are not goods, to the extent that the secured party identifies the proceeds by a method of tracing, including application of equitable principles, that is permitted under law other than this article with respect to commingled property of the type involved.[362]

The Official Comment explains that "[a]mong the 'equitable principles' whose use other law may permit is the 'lowest intermediate balance rule.'"[363]

But data will almost always be identifiable. Absent a computer malfunction, it should ordinarily be possible for the secured party to check the computer logs of its debtor, determine where the debtor sent which items of data, and to then check the recipients' computers for the same purpose, *ad infinitum*. While there may be "equitable" grounds to limit the secured party's hunt, they will not come from within Revised Article 9.[364]

V. FAIRNESS AND FUNCTION

Treating information technologies as collateral will present significant uncertainties and, possibly, gross unfairness for all concerned. Secured parties will have trouble knowing whether, or to what extent, their security interests in intellectual property and related assets will survive priority challenges in bankruptcy. Debtors and parties who purchase or license information technology assets from the debtor may unwittingly acquire these assets subject to a security interest created by their seller or licensor, or some prior seller or licensor in the chain. Lenders, debtors and those who deal with them—directly or indirectly—could be in for nasty surprises when information technology assets are collateral.

We can begin to solve these problems, or prevent them from occurring, by recognizing a functional approach to security interests in information technology assets. "Functional" has two distinct, but

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362. Rev. § 9-315(b). Revised Article 9 sets forth a different rule for commingled goods in Rev. § 9-336.

363. Rev. § 9-315 cmt. 3 (citing RESTATEMENT (SECOND) OF TRUSTS § 202 (1959)).

364. U.C.C. § 1-103 may provide some relief, as it permits courts to look to supplemental principles of law, including "principles of . . . equity." Of course, U.C.C. § 1-103 only permits resort to equity when not "displaced by the particular provisions" of the UCC A secured party would likely argue that the continuity-of-interest and proceeds rules were "particular provisions" that admit of little equity.

related, meanings. First, courts should recognize that the functions of intellectual property law and commercial law are different, and in this difference lies a basis for more peaceful coexistence. There is, on a functional view, little basis for stripping the bona fide security interest of an secured party who has, in good faith, given notice to the world of its interest in the debtor's intellectual property.

Second, a functional approach may limit the reach of secured parties as against debtors and third parties. Many items of intellectual property or data will function like goods that have traditionally been sold free of security interests pursuant to the "ordinary course" rules. Although, in many cases, data and intellectual property may for example function like inventory or consumer goods, the Revision would not cut off a security interest in the intangible. We should consider whether information as collateral should be treated like analogous categories of goods in the material world.

A. The Functions of Intellectual Property and Commercial Law

Judge Kozinski appears to have viewed the unfairness of his decision in *Peregrine* as an inevitable, if unfortunate, by-product of the logic of preemption. "[The Copyright Act] is the system Congress has established," Judge Kozinski explained, "and the court is not in a position to order more adequate procedures."[365] Handcuffed by clear, preemptive rules, Judge Kozinski appears to have believed he simply applied the law. In this section, I test this assumption against a functional understanding of the four sets of rules in play: (i) the intellectual property laws and in particular their filing systems; (ii) the Article 9 system; (iii) the preemption system; and (iv) the avoidance system. A proper understanding of the function of these systems should have produced a different result in *Peregrine* and the other cases discussed above, and may produce fairer and more reliable decisions involving intellectual property finance in the future.

As noted above, one view of *Peregrine* is that Judge Kozinski committed the logical sin of equivocation.[366] Because both the copyright and Article 9 systems require notice filing to obtain certain rights against third parties, and because the Copyright Act is federally preemptive, Judge Kozinski concluded that the Copyright Act displaces Article 9 in its entirety. In order to do this, however, he had to take a fairly radical view of preemption, one that may not have been warranted by the

365. *Peregrine*, 116 B.R. at 203 n.10.
366. *See supra* text accompanying notes 193-94.

precedent on which he relied.

Federal preemption analysis begins with Article VI of the United States Constitution, which provides that the laws of the United States "shall be the supreme Law of the Land; . . . any Thing in the Constitution or Laws of any State to the Contrary notwithstanding."[367] There are several avenues of preemption. First, state law may be foreclosed by express language in a Congressional enactment, such as section 301 of the Copyright Act.[368] Second, federal law may be so broad and deep that it is said to "occupy the field," even if not explicitly preemptive of state law.[369] Finally, state law may give way to federal law where the federal interest is said to be dominant because of a conflict with a Congressional enactment.[370]

Functionality has a special role in preemption analysis.[371] In *Hillsborough County v. Automated Medical Labs*, for example, the case most often cited in support of preemption of the UCC by federal intellectual property statutes, the Supreme Court observed that "field" preemption "is, essentially, a question of ascertaining the intent underlying the federal scheme."[372] Intent seems a near cousin of function: what, in other words, are the competing laws trying to accomplish?

Peregrine's reliance on *Hillsborough* to preempt state law is odd. First, *Hillsborough* involved questions of regulatory, not statutory, preemption. Moreover, it suggested a presumption against preemption.[373] A more apt candidate would have been *Kewanee Oil v. Bicron*, where the court reasoned that the different functions of patent and trade secret law meant there was no conflict between the laws, and

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367. U.S. CONST. art. VI, cl. 2. *See also* M'Culloch v. Maryland, 17 U.S. (4 Wheat.) 316, 427 (1819) ("It is of the very essence of supremacy, to remove all obstacles to its action within its own sphere, and so to modify every power vested in subordinate governments . . . .").

368. *See, e.g.*, 17 U.S.C. § 301; *Peregrine*, 116 B.R. at 201; *see also* Lorillard Tobacco Co. v. Reilly, 121 S. Ct. 2404 (2001); Cipollone v. Liggett Group, Inc., 505 U.S. 504, 517 (1992).

369. *See, e.g.*, Hillsborough County, Fla. v. Automated Med. Labs., Inc., 471 U.S. 707 (1985); Fid. Fed. Sav. & Loan Ass'n v. De la Cuesta, 458 U.S. 141, 153 (1982).

370. *See, e.g.*, Geier v. Am. Honda Motor Co., Inc., 529 U.S. 861, 869-74 (2000).

371. The function of the Supremacy Clause, of course, is much like a statutory repealer, neutralizing conflicting state law. *See* Nelson, *supra* note 13.

372. *Hillsborough*, 471 U.S. at 714.

373. The court found that FDA regulations regulating blood plasma did *not* preempt county ordinances because the ordinances did not interfere with the FDA's regulatory goals. *Id.* at 712-23.

therefore no basis for preemption.[374] There, the court reasoned "it is helpful to examine the objectives of both [laws]."[375] The court reasoned that trade secret law functions to encourage invention, whereas patent law is intended to promote invention and disclosure of inventions.[376] Notably, neither *Hillsborough* nor *Kewanee* gave preemptive effect to the federal laws in question.

The "function" of the federal intellectual property statutes (especially copyright and patent) is very different from the function of Revised Article 9. Both the Patent Act and the Copyright Act are intended to "promote the Progress of Science and useful Arts" by granting to authors exclusive rights over their copyrighted works for a limited time, as an incentive to their creation and dissemination.[377] Revised Article 9, by contrast (and much like Former Article 9), "provides a comprehensive scheme for the regulation of security interests in personal property."[378] There must, of course, be some overlap between these two sets of rules, since they both effectively establish certain bundles of "exclusive" rights. But the overlap is hardly complete. The exclusive rights of patent and copyright focus principally on title and exclusion of use of the protected invention or work. Thus, the principal cause of action a title (or other rights) holder would bring under either law would be an infringement action, a kind of ejectment.[379] Article 9, by contrast, recognizes Legal Realism's "dissaggregation" of property rights, and is generally indifferent to title. Under Revised Article 9's *nemo dat* principle, "the provisions of this article with regard to rights and obligations apply whether title to collateral is in the secured

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374. *Kewanee*, 416 U.S. at 482-83.

375. *Id.* at 480.

376. *See id.* at 480-81.

377. Harper & Row, Publishers, Inc. v. Nation Enters., 471 U.S. 539, 558 (1985) ("[C]opyright supplies the economic incentive to create and disseminate ideas."); Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 429 (1984) (explaining that copyright is "intended to motivate the creative activity of authors . . . and to allow the public access to the products of their genius after the limited period of exclusive control has expired.").

378. Rev. § 9-101 cmt. 1.

379. *See, e.g.*, Strait v. Nat'l Harrow Co., 51 F. 819, 820-21 (C.C.N.D.N.Y. 1892) (patent). *See generally* 6 DONALD S. CHISUM, CHISUM ON PATENTS § 19.04[1][a] (2001); Ticketmaster Corp. v. Tickets.Com, Inc., 54 U.S.P.Q.2d (BNA) 1344 (C.D. Cal. 2000), *injunction denied*, No. 99CV7654, 2000 WL 1887522 (C.D. Cal. Aug. 10, 2000), *aff'd*, No. 00-56574, 2001 WL 51509 (9th Cir. Jan. 22, 2001); Ebay, Inc. v. Bidder's Edge, Inc., 100 F. Supp. 2d 1058 (N.D. Cal. 2000) (enjoining Bidder's Edge from using automated querying programs to access Ebay's on-line auction site on trespass theory).

party or the debtor."[380]

Article 9's "exclusive" rights are thus rights of priority, not title.[381] Article 9 does not define priority, and it is not clear how priority fits with the more ancient doctrinal category of "property."[382] Priority would certainly seem to lead, in some cases, to title, and thus to a fairly direct conflict with the title-oriented function of the intellectual property statutes. Thus, when a secured party seeks to foreclose its security interest and dispose of collateral, it will likely attempt to convey "title" to the property (or at least whatever rights the debtor had in the collateral).[383] For example, it is difficult to imagine that the purchaser of a copyright pursuant to an Article 9 sale would accept title without some provision for federal registration.

Nevertheless, the function of Article 9 is to establish priorities in the bundle of enforcement rights available to the secured party. These enforcement rights only sometimes involve "taking" or disposing of "title" to collateral. Much more important than enforcement, usually, is the mere fact of priority. Priority is the essence of Revised Article 9 since it is the strongest legal basis for concluding that an obligation, in fact, is secured by personal property.[384] Priority establishes the secured party's rights against the debtor and the world, and those rights are significantly more complex than mere "title." They include, as discussed above, rights in "proceeds," rights of collection, and the right to exclude other parties from establishing the same (or better) priority in the same assets. Priority is a broader category of rights than is title; it typically includes and exceeds ownership in that antiquated sense.

The only way to justify the unfairness of cases like *Peregrine*, *Avalon*, and *Together Development* is to ignore the function of

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380. Rev. § 9-202; *see also* F. § 9-202. Nor, for that matter, would it appear to matter whether "title" existed in some third person, or in no one at all (if, as suggested above, the "property" in question is not susceptible to a "title" analysis). The Revision does recognize that title matters as to certain classes of collateral not relevant here (sales of accounts, chattel paper, payment intangibles or promissory notes). *See* Rev. § 9-202.

381. *See, e.g.*, Rev. §§ 9-317 (priority as against lien creditor), 9-322 (priority as against other secured party).

382. *See* Bjerre, *supra* note 129, at 349-53.

383. *See* Rev. § 9-610(a), (d)-(e) (empowering secured party to dispose of collateral after default and providing for warranties of title on such disposition, unless effectively disclaimed by secured party).

384. This is so at least under the current Article 9/bankruptcy regime, since the Bankruptcy Code generally respects the priority of perfected security interests, and generally gives to secured parties the value of their collateral. There are, of course, other ways we could approach priority in bankruptcy, and some of these approaches are discussed in the symposia cited *supra* note 16.

avoidance law. As noted above, section 544(a) of the Bankruptcy Code creates the "strong-arm" power in the bankruptcy trustee.[385] Among other things, section 544 provides that the "trustee [who may also be the 'debtor-in-possession'] shall have . . . the rights and powers of, or may avoid any transfer of property of the debtor . . . that is voidable by—(1) a creditor that . . . obtains . . . a judicial lien" on the property in question.[386] Since there is no question that granting a security interest is a "transfer" of property under the Bankruptcy Code,[387] the only meaningful question is, under what circumstances could a "hypothetical lien creditor" establish priority over a secured party? Since Article 9 expressly provides that an *unperfected* security interest is generally subordinate to the rights of a lien creditor,[388] the view is that the bankruptcy trustee (having the rights of a lien creditor) ipso facto has priority over the rights of the unperfected secured party.

Without wading into the larger debate about the propriety of our system of priority in financing,[389] I would simply observe that the language of section 544 ignores the historical function of the strong-arm avoidance power. In 1910, Congress amended the Bankruptcy Act then in force to expand the bankruptcy trustee's avoidance powers.[390] Cases such as *York Manufacturing v. Cassell* paralyzed bankruptcy trustees trying to recapture for the estate property that had been conditionally assigned in unrecorded transactions.[391] In response to *York*, Congress amended the Bankruptcy Act to provide that bankruptcy trustees "shall be deemed vested with all the rights, remedies, and powers of a creditor holding a lien by legal or equitable proceedings."[392]

Congress reasoned that an "unrecorded instrument [of conveyance] . . . which would have been void in the state courts had the property been . . . levied upon by attachment or execution from a state court" should be ineffective (void) as against a bankruptcy trustee.[393]

385. *See* 11 U.S.C. § 544(a)(1).

386. *Id.*

387. *Id.* § 101(54).

388. Rev. § 9-317.

389. *See supra* note 16.

390. *See* H.R. REP. NO. 61-511, at 6-7 (1910).

391. 201 U.S. 344, 352 (1906). The court reasoned in *York* that because the bankruptcy trustee "stands simply in the shoes of the bankrupt . . . he has no greater right than the bankrupt." *Id.* Having no greater rights in the machinery that was conditionally assigned to the "unperfected" seller in that case, the trustee was unable to recover the property for the benefit of the debtor's other creditors. *Id.* at 353.

392. Act of June 25, 1910, ch. 412 § 8, 36 Stat. 838, 840.

393. 45 CONG. REC. 2271 (1910).

Congress's principal goal was "to prevent the evil of secret liens."[394] Eradicating this evil remains the goal of the avoidance power. Thus, the 1973 Report of the Commission on Bankruptcy Laws of the United States, which led ultimately to the current Bankruptcy Code, observed that "[o]ne of the essential features of any bankruptcy law is the inclusion of provisions designed to invalidate secret transfers made by the bankrupt prior to the date of filing the petition."[395] Although the Bankruptcy Code has been through several major revisions since the early part of the twentieth century, the strong-arm power remains essentially intact, and is today found in section 544(a)(1).[396]

If the function of the strong-arm power is to avoid "secret" transactions, it makes sense that unrecorded transactions should be avoidable. However, none of the transactions in *Peregrine*, *Avalon* or *Together Development* were "unrecorded." They were all publically "recorded," but in what was construed after the fact to be the "wrong" places. In *Peregrine* and *Avalon*, for example, the secured parties filed UCC-1 financing statements in what would have been the correct state offices to perfect a security interest in general intangibles. In *Together Development*, the secured party filed a financing statement in the Patent and Trademark Office, which would, if one read only *Peregrine*, appear to be the correct place to perfect any security interest in federally-regulated property.

This leads to questions about the function of disclosure in the intellectual property and Article 9 systems. Because the intellectual property systems function chiefly to establish title and exclusive rights of use of the titled property, disclosure is to be fairly detailed. As a general proposition, the limited monopoly protections of the federal intellectual property statutes are viewed as a *quid pro quo* for disclosure of the applicable work of authorship, invention or mark.[397] Disclosure

394. *Id.* at 2275.

395. COMMISSION ON THE BANKRUPTCY LAWS OF THE UNITED STATES, H.R. DOC. NO. 93-137, at 18 (1973).

396. 11 U.S.C. § 544(a)(1). Section 544(a)(3) gives the bankruptcy trustee the rights and powers of "a bona fide purchaser of real property . . . from the debtor, against whom applicable law permits such transfer to be perfected." *Id.* § 544(a)(3). This section differs from § 544(a)(1) in several respects, including that it implies in law that the trustee has the rights of a "bona fide purchaser." Ordinarily, lien creditors (i.e., the bankruptcy trustee under section 544(a)(1)) are not "bona fide purchasers." *See, e.g.*, Rev. § 1-201(32) (defining "purchase" so to exclude "involuntary" conveyances).

397. *E.g.*, Barry J. Swanson, *The Role of Disclosure in Modern Copyright Law*, J. PAT. & TRADEMARK OFF. SOC'Y 217, 218 (1988). Swanson, and others, have argued that full disclosure of software code will lead to unacceptable results for software

must be fairly detailed to promote the development of science, the arts, and so on.

The Article 9 system, by contrast, requires a highly attenuated form of disclosure. Under Revised Article 9, as noted above, a security interest that may be perfected by filing is generally perfected by filing in the appropriate office a simple piece of paper, called a UCC-1 financing statement, that "indicates" the collateral subject to the security interest.[398] The financing statement will be sufficient to perfect a security interest in all of a debtor's intellectual property simply by reciting the debtor's security interest in general intangibles.[399] There need be no detailed description of the general intangibles, and certainly nothing about the nature of the invention, work or mark.

The paucity of disclosure in the Article 9 system is justified by the fact that a financing statement is simply "inquiry notice."[400] A potential lender to the debtor (or other party interested in the debtor's property) need only search the UCC records in the appropriate state to determine who has security interests in that property. Because the UCC-1 says little about the nature of the obligations or the collateral— as to amount, rate of interest, due date, value of collateral, etc.—the third party must inquire of the debtor and the secured party for more details on the relationship.

If Revised Article 9 requires very little information—a UCC-1—to obtain priority over a lien creditor, why should the failure to provide the significantly greater amount of (irrevelant-to-lenders) information required by the Copyright Act produce the opposite result? Why should the same logic not then apply to trademark? What possible justification is there for patent, which is governed by a third set of rules?

Considered from a functional perspective, the unfair results of cases like *Peregrine*, *Avalon*, and *Together Development* are not, and cannot be, supported. A functional approach should recognize that in disputes between the secured party and the bankruptcy trustee, the secured party should be treated as perfected if it has, in good faith, given notice of its security interest in a way that satisfies the functional goals of the Article

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engineers, whose works can be easily reverse-engineered. *Id.*; *see also* Mann, *supra* note 7, at 148-49.

398. Rev. §§ 9-504, 9-108, 9-310(a).

399. *See* Rev. § 9-108(b)(2). In theory, a greater level of specificity is required to perfect a security interest in commercial tort claims, although I have my doubts whether these requirements will have much effect in light of the rules on proceeds. *See* Part IV.B.1, *supra*.

400. *See, e.g.*, Douglas G. Baird, *Notice Filing and the Problem of Ostensible Ownership*, 12 J. LEGAL STUD. 53, 54-55 (1983).

9 system. Thus, regardless of the form of federal intellectual property, giving notice of the security interest consistent with Article 9's notice-filing rules, in either the state or federal system should, ordinarily, be sufficient to perfect the secured party against the bankruptcy trustee, who should not be entitled to exploit the unusual systemic asymmetries endemic to intellectual property financing. The functional focus of preemption doctrine requires no less.

I do not set forth a scheme to resolve all possible disputes involving secured parties and others with an interest in a debtor's intellectual property. Thus, I do not suggest that the proposed functional approach to perfection of security interests in federal intellectual property should apply to priority disputes between multiple secured parties, *inter se*, or between a secured party and a purchaser. These other, less common, disputes may warrant a different approach. But because they appear to be less common, I am less concerned with those disputes at this point. An overarching federal scheme may resolve those and other problems in the future. Until then, the most egregious cases should be resolved by reference to the functions of the applicable laws when the mechanical application of the rules is so obviously unfair.

B. The Function of General Intangibles

Restoring fairness in intellectual property lending will not solve all problems with information technology finance. We must still contend with the rights of purchasers and licensees of information assets who, as discussed in Part IV, above, are at risk that they will unwittingly acquire property subject to security interests created by debtors long before them in the information chain. Here, too, a functional approach may minimize unfairness. While information technologies will almost always be "general intangibles" under Revised Article 9, they will not always function like intangibles have in the past. Instead, information technology assets will often function like tangible goods that would be categorized and treated differently under Article 9. The question then becomes whether functional similarities justify similar treatment.

While Revised Article 9 would categorize the information we have discussed so far as "general intangibles," we should understand that that term—and its implications throughout Revised Article 9—reflect a historical understanding of general intangibles that were different in kind from the information technology assets we have considered so far. General intangibles as a category of collateral have had a troubled history. Intangibles were originally treated as choses in action or contract rights, and were usually not assignable, for one or more of several reasons. Professor Gilmore characterized intangibles as "claims to wealth or property not represented by any writing whose physical delivery . . . is looked on as the one effective or at least the customary method of transfer."[401] He suggested that some may have believed "our simple-minded ancestors were incapable of conceiving the transfer of rights in property that was not visible and tangible."[402] Others forbade the assignment of intangibles that were contract rights because contract rights required a "'personal' bond between the parties who were 'in privity of contract.'"[403] Still others prohibited the assignment of intangibles as a function of public policy.[404] "Lord Coke remarked in *Lampet's Case* that if choses in action were assignable the result would be 'the occasion of multiplying contentions and suits, great oppression of the people, and chiefly terre-tenants, and the subversion of the due and equal execution of justice.'"[405]

Nevertheless, Gilmore observed that, consistent with the "steady progress in Anglo-American law toward complete alienability of rights,"[406] general intangibles "have moved from being completely non-assignable, to being assignable in equity, to being assignable at law."[407] Yet the transition was not without bumps. In 1925, the Supreme Court decided the case of *Benedict v. Ratner*.[408] There, Justice Brandeis, writing for a unanimous court, held that a security interest in future

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401. GILMORE, *supra* note 184, at 197.

402. *Id.* at 200 (citing Maitland, *The Mystery of Seisin*, 2 L.Q. REV. 481 (1886)). This argument was criticized in Bordwell, *The Alienability of Non-Possessory Interests*, 19 N.C. L. REV. 279 (1941).

403. GILMORE, *supra* note 184, at 200-01 (citing AMES, THE INALIENABILITY OF CHOSES IN ACTION, LECTURES ON LEGAL HISTORY 210 *et seq.* (1913); Holdsworth, *The Treatment of Choses in Action by the Common Law*, 33 HARV. L. REV. 997 (1920); 8 HOLDSWORTH, A HISTORY OF ENGLISH LAW 115 (1922); 2 SPENCE, THE EQUITABLE JURISDICTION OF THE COURT OF CHANCERY, 849 *et seq.* (1850) (asserting 'personal bond' theory)).

404. *Id.* at 201 (citing Glenn, *The Assignment of Choses in Action: Rights of Bona Fide Purchaser*, 20 VA. L. REV. 621, 635 *et seq.* (1934)).

405. *Id.* (quoting 10 Co. Rep. 46b, 48a (publ. 1727), 77 Eng. Rep. 994).

406. *Id.* at 213.

407. *Id.* Professor Gilmore observed that courts came to accept the alienability of intangibles by way of agency principles. The assignee of the contract right could sue in the name of the assignor, if the assignee held the "power of attorney." *Id.* at 201 (citing Holdsworth, *The History of the Treatment of Choses in Action by the Common Law*, 33 HARV. L. REV. 997, 1018 *et seq.* (1920)). This occurred, Gilmore explained, because "[t]he social or economic utility of permitting creditors to transfer rights [was] believed to outweigh the utility of permitting obligors to forbid the transfer. That one utility outweighs the other lies beyond demonstration and proof." *Id.* at 212-213 (citing 1 MACLEOD, PRINCIPLES OF ECONOMIC PHILOSOPHY 481 (2d ed. 1872)).

408. 268 U.S. 353 (1925).

accounts receivable—a species of general intangibles[409]—was a fraudulent conveyance, and therefore void against the assignor's bankruptcy trustee.[410]

Benedict has generally been viewed as a "mistake"[411] because Justice Brandeis put the accounts in question into the wrong legal category: "The mistake that Justice Brandeis made was that, instead of looking to the New York assignment cases (which were directly in [sic] point), he looked to the New York cases on inventory . . . chattel mortgages (which were not in point at all)."[412] Had Brandeis viewed the accounts as subject to the rule of the assignment of account cases, he would likely have concluded that the secured party's nonpossessory security interest in accounts was perfected, and not avoidable as a fraudulent conveyance.[413] Having instead viewed the assignment of accounts through the ("wrong") lens of the inventory finance cases,[414] Brandeis held that the secured party's failure to exercise "dominion and control" over the accounts was a fraud on the debtor's creditors.[415]

Viewing *Benedict* as wrong, the drafters of the UCC undertook to overturn it.[416] Like prior iterations of Article 9, Rev. § 9-205 provides

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409. Today, the UCC creates a separate "type" for accounts receivable under Rev. § 9-102(a)(2) ("'Account' . . . means a right to payment of a monetary obligation, whether or not earned by performance . . . ."). Accounts receivable exclude instruments. *Id.* We know that accounts are distinct from general intangibles because the definition of general intangibles tells us so: "'General intangible[s]' means any personal property . . . other than accounts . . . ." Rev. § 9-102(a)(42). For most important purposes, accounts and intangibles are functionally and economically similar.

410. *Benedict*, 268 U.S. at 360 ("Under the law of New York a transfer of property as security which reserves to the transferor the right to dispose of the same, or to apply the proceeds thereof, for his own uses is, as to creditors, fraudulent in law and void.").

411. Gilmore, *supra* note 14, at 622-23.

412. *Id.* at 622.

413. *See, e.g.*, Stackhouse v. Holden, 73 N.Y.S. 203 (App. Div. 1901). In *Stackhouse*, the court held that an assignment of accounts to secure an overdraft was not a fraudulent conveyance. *Id.* at 205. Although this would appear to have been the controlling decision, *Benedict* adopted the reasoning of the *Stackhouse* dissent. *Benedict*, 268 U.S. at 365 (citing *Stackhouse*, 73 N.Y.S. at 209 (Spring, J., dissenting) ("[T]he vice here is that there was in fact no real transfer—no real vesting—of title in the assignee.")).

414. *Benedict*, 268 U.S. at 362-63; *see also* Russell v. Winne, 37 N.Y. 591 (1868).

415. *Benedict*, 268 U.S. at 363 (holding that the assignment was fraudulent "because of dominion reserved. It does not raise a presumption of fraud. It imputes fraud conclusively because of the reservation of dominion inconsistent with the effective disposition of title and creation of a lien").

416. Gilmore, *supra* note 14, at 625 (citing F. § 9-205).

that "[a] security interest is not invalid or fraudulent against creditors solely because . . . the secured party fails to require the debtor to account for proceeds or replace collateral."[417] The Official Comment explains that "this section repeals the rule of *Benedict v. Ratner*."[418] The problem with the *Benedict* rule, in the eyes of the drafters, was that it "forced financing arrangements to be self-liquidating,"[419] and thus severely limited the uses to which debtors could put collateral.

Benedict suggests that correctly categorizing collateral is critical to success under Article 9. If the secured party fails to properly indicate in the financing statement the types of collateral in which it has a security interest, the security interest will not be perfected.[420] If the secured party fails to properly describe the collateral in the security agreement, there may be no security interest at all.[421] Correctly categorizing collateral under Article 9 is central to its mission as a mechanism by which secured parties place "the world" on inquiry notice of their interest in specified types of the debtor's property.[422]

Benedict creates the (equal and) opposite problem from the one we have seen so far. In *Benedict*, the court chose a different category for the collateral than that chosen by the parties to the transaction. In so doing, the court deprived the secured party of rights in collateral that it had bargained for. The problem when information technology assets are collateral is that courts will be bound to a statutory definition—general intangibles—that will almost certainly give secured parties rights in collateral well beyond what they bargained for, because the security interest will follow collateral that is as easily disposed of or transformed as data or intellectual property.

Under current law, information technology assets will almost always be categorized as "general intangibles." Thus, the mere fact that computer tapes or blueprints are "tangible" embodiments of some important intellectual output, does not alter their character as "general intangibles" under Article 9.[423] The computer itself, of course, is not a

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417. Rev. § 9-205(a).

418. Rev. § 9-205 cmt. 2.

419. *Id.*

420. Rev. §§ 9-502(a)(3), 9-308(a), 9-310(a).

421. Rev. § 9-203(b)(3)(A).

422. CLARK & CLARK, *supra* note 15, ¶ 2.10, at 2-194 ("The test [of whether an error (in description in a financing statement) is minor and not ruinous to the filing] should be whether the error was such that a third party searcher would be thrown off the trail."); Baird, *supra* note 396, at 55 (arguing that filing system serves useful function in sorting out and protecting interests of competing property claimants).

423. *See, e.g.*, Dabney v. Info. Exch., Inc. (*In re* Info. Exch., Inc.), 98 B.R. 603 (Bankr. N.D. Ga. 1989) (stating that security interest in computer tapes can be perfected

general intangible; that will probably be "equipment"[424] or "inventory," if the computer is held by the debtor for sale or lease to others and Article 9 applies.[425]

Yet if, as the physicist John Wheeler observes in a different context, "[e]verything is [i]nformation,"[426] it is not difficult to imagine that the secured party who has a general intangibles security interest will find itself in a happy, and perhaps unexpected, position to claim all of the debtor's most valuable property. It is perhaps for this reason that Barkley Clark, the author of a leading treatise on Article 9, has exhorted secured parties always to take a security interest in general intangibles "in the hope that a big one might get hooked some day."[427]

If one believes that this is a problem, one can imagine several responses. First, one might say that there must be some kind of "equitable" rule limiting the reach of general intangibles security interests in information. Unless displaced by particular provisions, Article 9, like all of the UCC, works with "principles of law and equity."[428] It is not clear to me, however, what "equity" would mean in this context, other than a vague desire to prevent the secured party from receiving what is arguably a windfall. Copyright law creates its own equitable limitations, under doctrines such as fair use[429] and first sale.[430]

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only by filing, not possession, because computer tapes are general intangibles, in which security interest may be perfected only by filing financing statement); United States v. Antenna Sys., Inc., 251 F. Supp. 1013, 1016 (D.N.H. 1966) (holding that blue prints and technical drawings are "the visual reproductions on paper of engineering concepts, ideas and principles, [which] are general intangibles within the meaning of that term as used in the Uniform Commercial Code").

424. Creditway of Am. v. Phillips (*In re* Phillips), 55 B.R. 663, 665 (Bankr. W.D. Va. 1985) (holding that personal computer is equipment because of debtor's use; therefore filing required even though purchase money security interest); King v. Hamilton First Bank (*In re* King), 30 B.R. 2, 3 (Bankr. E.D. Tenn. 1983) (finding that security interest in "[a]ll digital computer equipment and computer related accessories held by" the debtor, was sufficient to alert interested parties that the bank might claim a security interest in the "disk drive").

425. *See* Rev. § 9-102(a)(48)(B).

426. Wheeler, *supra* note 2.

427. CLARK & CLARK, SECURED TRANSACTIONS, *supra* note 15, ¶ 2.02[3][a], at 2-40.

428. Rev. § 1-103.

429. *See* 17 U.S.C § 107. *See generally* NIMMER & NIMMER, *supra* note 31, § 13.05.

430. "Section 109 [of the Copyright Act] allows the owner of a copy to distribute the copy without permission and to display it 'at the place where the copy is located.'" NIMMER, COMPUTER TECHNOLOGY, *supra* note 47, ¶ 1.24[2], at 1-150. It cannot, however, make further copies. *Id.* To qualify for first-sale protection there must be a

If a court were to apply *Peregrine* broadly, it might even conclude that Article 9's rules on continuity of interest and proceeds do not apply at all. Yet, as discussed above, the scope of preemption seems highly unstable, both within copyright and across other forms of federal intellectual property. And, because they are governed exclusively by state law, there would appear to be no basis for preempting Article 9 as applied to trade secret and data.

Another approach would be to limit security interests to collateral on which the secured party actually "relied" in making the loan. Article 9's force is often justified by reference to the archetypal "reliance" creditor, who is to be distinguished from unsecured creditors and bankruptcy trustees, none of whom "rely" on the value of particular assets in deciding to extend credit to the debtor.[431] The problem here would be one of proof. The secured party will almost always claim, after the fact, that it "relied" on collateral to secure its loan. And, since we give the secured party the benefit of after-acquired property and proceeds, it is not clear why "reliance" should be understood as being limited temporally.

A third, and perhaps more promising, approach would look to the function of the information technology assets and treat them according to the rules we already have for other kinds of collateral. Thus, the function of the information would determine their treatment under Article 9, not the fact that they were general intangibles.

Take software. Like equipment in the generic sense, software is often a tool that aids in the production of goods or services. Software is necessary to "mine" consumer and commercial data. The definition of equipment under Article 9, however, would expressly exclude software from the definition of equipment, except to the extent that software was "embedded" in equipment and the software was either "associated with the goods in such a manner that it customarily [would be] considered part of the goods," or by acquiring the goods, the owner "acquires a

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valid transfer of ownership. This can only occur if a transferor in the chain of transactions leading to a purchase had authority to sell a copy.

431. *See, e.g.*, LoPucki, *supra* note 16; *see also* TERESA A. SULLIVAN ET AL., AS WE FORGIVE OUR DEBTORS 18, 294 (1989).

The discussion about "reliance" creditors is sometimes filtered through the broader, if ultimately less coherent, debate about whether secured credit is "efficient" or "fair," or even especially sensible as a financing technique. *Compare* LoPucki, *supra* note 16, at 1920, *with* Thomas H. Jackson & Anthony T. Kronman, *Secured Financing and Priorities Among Creditors*, 88 YALE L.J. 1143, 1157 (1979) (suggesting that monitoring savings justify secured finance). *See also* Ronald J. Mann, *Explaining the Pattern of Secured Credit*, 110 HARV. L. REV. 625 (1997) (offering certain empirical explanations for uses of secured credit).

right to use the program in connection with the goods."[432] While this definition would likely treat a PC as a "good" (and equipment must, in the first instance, be a "good"), it would not treat specialized data-mining software loaded onto the computer as goods.

The same kind of analysis can be applied to find that information will sometimes function like inventory or consumer goods, as well. Inventory is defined as "goods . . . which . . . (A) are leased by a person as lessor; (B) are held by a person for sale or lease . . . (C) are furnished by a person under a contract of service; or (D) consist of raw materials, work in process, or materials used or consumed in a business."[433] It is easy to see that, but for the fact that information will not typically be "goods," it could otherwise fit nicely into some or all of the descriptions of inventory. Information such as customer lists is certainly leased or sold. Similarly, information may be furnished by a debtor under a service contract, or simply act as raw materials, for further data compilations. In all instances, information will function as inventory.

On the consumer's end, it is also easy to imagine information satisfying the definition of consumer goods (but for the fact that information is "goods"). The Revision defines consumer goods as "goods that are used or bought for use primarily for personal, family, or household purposes."[434] Sales of consumer goods from one consumer to another are generally free of a security interest created by the seller.[435] Thus, if I sold a compact disk to my neighbor, she would take it free of a security interest I granted in it (assuming she used the CD for personal or household purposes). Yet, if she downloaded the same song from my computer, it would remain subject to a security interest that I created, and perhaps to security interests created by others before me.

The functional approach leaves some questions. First, do the existing UCC categories for tangible goods sensibly apply to information technology assets? I have argued that they could, but it is easy to imagine wholly different uses of information technologies, unanticipated today, that might invoke different normative concerns about the reach of a security interest.

Second, how should we determine "function"? *Benedict* remains "good law" in the sense that collateral is generally categorized by an "objective" standard, not one agreed to by the parties. If our concern is

432. Rev. §§ 9-102(a)(44), 9-102(a)(33).
433. Rev. § 9-102(a)(48).
434. Rev. § 9-102(a)(23).
435. *See* Rev. § 9-320(b).

with surprises to third parties, this might be a useful approach. Third parties dealing with the information technology assets will probably have some "objective" view of how these assets function, and would "expect" to be able to have rights in certain kinds of intellectual property or data free of prior security interests. Article 9 should reflect these reasonable expectations. One way to respect these expectations is to reframe the treatment of general intangibles to account for its various functions.

A final issue is the practical one: It is highly unlikely that a state legislature will amend the UCC in the near future to address this issue. Even if a legislature were to do so, some believe that legislative change in the commercial arena is subject to "interest group capture."[436] Here, the interest groups that would likely seek to "capture" the legislation would be the lenders and financial institutions that have historically played a significant role in the drafting and promotion of Article 9's several iterations. It seems unlikely that they would lobby state legislatures to reduce their continuity-of-interest and proceeds rights in general intangibles.

But I do not counsel immediate legislative change. Rather than legislate in haste (only to repent in leisure), I suggest we simply observe how information technology collateral—and those with interests in those assets—actually function. It may be that information technology assets do not become a significant type of collateral. It may also be that general intangibles do not take on the attributes of other categories of collateral, rendering the continuity-of-interest and proceeds problems minimal. Or, it may be that information technology assets will function in some instances like inventory or consumer goods, but the current limited cutoff will pose no practical problem because Article 9 is preempted or secured parties choose not to enforce their rights to the fullest. Since these, and many other scenarios, are possible, I simply suggest that we closely watch how these new forms of collateral function, with an eye toward fairness

VI. CONCLUSION

Revised Article 9, like its predecessors, will and in general should, be viewed as a successful statute. Problems with financing information technology do not stem from failings in Article 9 that could reasonably have been anticipated when the Revision was drafted. In 1992, when

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436. *See, e.g.,* Iain Ramsay, *The Politics of Commercial Law*, 2001 WIS. L. REV. 565.

the drafting process began, it would have been difficult to forecast the nature and value of information technologies today. Yet, our current framework for financing information technologies creates significant inequities, both as to secured parties, and to debtors and those who deal with them.

I have proposed a functional solution to both problems, since I believe a functional approach increases the likelihood of fairness (or at least minimizes the likelihood of unfairness) by linking reasonable expectations to the function of the laws and assets in question. In the case of creditors and bankruptcy trustees, courts can easily correct the scope of federal preemption by respecting the proper function of our rules on preemption, intellectual property, and commercial finance. A functional approach to intellectual property finance would require courts to recognize security interests perfected either under the state system or the federal intellectual property system (if applicable to the underlying property). In the case of debtors and third parties, I have described some problems posed by the continuity-of-interest and proceeds rules, and suggested a functional solution to those problems. But I have urged caution in implementing this, or any other, solution. Our rules on commercial finance should adapt to common (and reasonable) commercial practices; common (and reasonable) commercial practices should not be forced to conform to outmoded statutory definitions.