Why Article 2 Cannot Apply to Software Transactions

Lorin Brennan

Follow this and additional works at: https://dsc.duq.edu/dlr

Part of the Law Commons

Recommended Citation
Available at: https://dsc.duq.edu/dlr/vol38/iss2/8

This Symposium Article is brought to you for free and open access by Duquesne Scholarship Collection. It has been accepted for inclusion in Duquesne Law Review by an authorized editor of Duquesne Scholarship Collection.
Why Article 2 Cannot Apply To Software Transactions

Lorin Brennan*

TABLE OF CONTENTS

INTRODUCTION ........................................................................... 460

I. CONTRASTING CONTRACT IMAGES ........................................ 465
   A. Imagining a Sale of Goods ............................................. 465
   B. Looking at a Software License ....................................... 466

II. WHEN WORLDS COLLIDE ...................................................... 469
   A. Statutory Philosophies .................................................. 469
      1. Article 2 - A True Code ............................................ 469
      2. The Copyright Act - A Federal Scheme ....................... 474
      3. What Happens When They Meet? .............................. 478
   B. Article 2 vs. The Copyright Act ...................................... 479
      1. Statute of Frauds ..................................................... 481
      2. Contract by Shipment of Goods ................................. 484
      3. Contract Where Writings Conflict .............................. 487
      4. Interpretation Rules .................................................. 490
      5. Assignment of Rights and Obligations ......................... 492
      6. Basic Obligations of Parties ....................................... 496
      7. Duration of a Contract ............................................... 502
      8. Implied Warranty of Merchantability ........................... 503
      9. Sales on Approval .................................................... 508
     10. Sales or Returns (Consignments) ................................. 510
     11. Importance of Title ................................................... 511
     12. Mandatory Transfer of Title ....................................... 512
     13. When Title Passes .................................................... 515
     14. Revesting of Title Upon Rejection ............................... 518
     15. Rights of Seller's Creditors Against Goods Sold ............ 520
     16. Good Faith Purchaser For Value ................................. 521
     17. Buyer's Right to Goods on Seller's Insolvency ............... 523

* J.D., 1978 Hastings College of Law; Member, California Bar. Mr. Brennan is a principal in Gray Matter, LLC, a software development firm. He has been a consistent observer at the meetings of the Drafting Committee for the Uniform Computer Information Transactions Act.
Unless the stock intellectual equipment is apt, it takes extra art or intuition to get proper results with it. Whereas if the stock intellectual equipment is apt, it takes extra ineptitude to get sad results with it.

Karl Llewellyn

INTRODUCTION

In the tumultuous period between the Wars, Karl Llewellyn was on a mission: to unhorse sales law. American sales law at the time was mesmerized by images from an earlier agrarian age, of sales of haystacks and horses, and of land conveyances that required punctilious attention to the written word. These images, Llewellyn argued, were inappropriate for sales of mass produced wares in an emerging industrial economy. Instead, sales law should be treated as a distinct field of law, part of the general law of contracts to be

2. Grant Gilmore, On the Difficulties of Codifying Commercial Law, 57 YALE L.J. 1341 (1948) (“There is apparently wide agreement that the law of sales, in particular, is hopelessly behind the times. Horse law and haystack law are uneasily tolerated in the complex business of mass production and national distribution.”)
sure, but with its own unique characteristics.\textsuperscript{3} The result of Llewellyn's long struggle was, of course, the Uniform Commercial Code ("UCC"), especially its crown jewel, Article 2.\textsuperscript{4}

We are undergoing another change today, at least as profound as the one Llewellyn faced. It is the transition from an industrial to an information economy. Information is qualitatively different from goods. It is an intangible, separate and apart from the physical objects that contain it. This separate intangible interest can be property in its own right, one whose legal contours are typically determined, often preemptively, by federal law.\textsuperscript{5} In sales transactions, getting the goods is the essence of the deal. In information transactions, using the intangible is the \textit{raison d'etre}; the physical container is an incidental.\textsuperscript{6}

Nowhere is this difference more apparent than in software. The software industries are now among the fastest growing segments of the economy. Indeed the copyright industries, of which the major component is software, now exceed in size the manufacturing sector.\textsuperscript{7} Yet many courts and commentators still plod along, treating software transactions as no more than a "sale of goods." As in Llewellyn's day, the intellectual equipment has been inapt, and the results sad.\textsuperscript{8}

The National Conference of Commissioners on Uniform State Laws ("NCCUSL") has responded to this crisis. At its 1999 Annual Meeting, the Commissioners promulgated the Uniform Computer Information Transactions Act ("UCITA"),\textsuperscript{9} a visionary statute that

\begin{itemize}
  \item \textsuperscript{3} Karl N. Llewellyn, \textit{Across Sales on Horseback}, 52 \textit{HARv. L REV.} 723, 738 (1939).
  \item \textsuperscript{4} References to Article 2 will be to the 1972 Official Text. For state adoptions and variations, see Uniform Commercial Code Reporting Service, State UCC Variations, State Adoptions of Amendments.
  \item \textsuperscript{6} For further discussion, see Michael L. Rustad, \textit{Commercial Law Infrastructure for the Age of Information}, 16 J. MARSHALL J. COMPUTER & INFO. L 255 (1997); Raymond T. Nimmer, \textit{Article 2B: An Introduction}, 16 J. MARSHALL J. COMPUTER & INFO. L 211 (1997).
  \item \textsuperscript{7} Stephen E. Siwek & Gale Mosteller, \textit{Copyright Industries in the U.S. Economy: The 1998 Report} (1998). This Report was prepared by Economists Incorporated for the International Intellectual Property Alliance, an alliance of copyright trade associations.
  \item \textsuperscript{8} See Raymond T. Nimmer, \textit{Images and Contract Law - What Law Applies to Transactions in Information}, 36 HOUSTON L REV. 1 (1999). Professor Nimmer was the Reporter for UCITA.
  \item \textsuperscript{9} See New Uniform Act Meets Immediate Needs of the Information Age (visited Jan. 3, 2000) <http://www.nccusl.org/pressrel/UCITA.htm>. This August 2, 1999 Press Release stated:

  Information technology accounts for more than one-third of the nation's economic growth and is the most rapidly expanding component of the U.S. economy. Until now
will modernize commercial law to deal with the new realities of computer information licensing. Historically, intellectual property law, especially copyright, has been its own unique little field, an isolated pond in the larger sea of commercial law. When goods transactions dominated the economy, this separation was understandable. It is no longer. With information moving to economic center stage, it is critical for commercial law and copyright to reach an accommodation. UCITA does that.

As Llewellyn learned, any effort to reconcile established law to changed circumstances outrages elements of the old guard. UCITA gets it from both sides. Commercial law doyens maintain that old Article 2 is good enough to deal with software transactions, so UCITA is unnecessary. Copyright mandarins claim that federal law

there has been no law that provides clear, consistent uniform rules for the intangibles of computer information transactions. To meet this need, the National Conference of Commissioners on Uniform State Laws (NCCUSL) approved at its 108th Annual Meeting in Denver, July 23-30, a uniform law that provides fundamental rules for licensing contracts between users and software vendors or vendors of information in electronic form.


10. Although the Code was first promulgated in the 1940s as a long-overdue reform, it took almost twenty years for the entrenched interests in the legal establishment to accept it. See GRANT GILMORE, THE AGES OF AMERICAN LAW 86 (1977); see also Karl Llewellyn, Why a Commercial Code? 22 TENN. L. REV. 779 (1953). One is reminded how common it is for the old guard to oppose new ideas. Max Planck, the founder of quantum mechanics, put it thus: "A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it." MORRIS KLINE, MATHEMATICS - THE LOSS OF CERTAINTY 88 (1980).


Others disagree, believing that a new commercial code is needed for software transactions.
prohibits the mass market licensing of software in any case, so UCITA is unwarranted. Each of these positions, of course, is made


The American Law Institute ("ALI"), co-sponsor with NCCUSL of the Uniform Commercial Code, has been particularly enamored of the Article 2 only approach. An example is a Memorandum from Jean Braucher & Peter Linzer dated May 5, 1998 to members of the American Law Institute for the 1998 Annual Meeting, criticizing Article 2B for, among other things, not adhering close enough to Article 2. See Memorandum from Jean Braucher & Peter Linzer to Members of the American Law Institute (memo dated May 5, 1998) (visited Jan. 3, 2000) <http://www.ali/Braucher.htm>. For criticism of the Braucher-Linzer Memo and ALI position, see Jeff C. Dodd, Time and Assent In the Formation of Contracts: The Mischief of Applying Article 2 to Information Contracts, 36 Hous. L REV. 195, 238-40 (1999). The differences between NCCUSL and ALI over UCITA became insurmountable, and NCCUSL decided to promulgate UCITA as a uniform act without the ALI. See New Uniform Act Meets Immediate Needs of the Information Age, supra note 9. ALI's refusal to abandon the proposition that Article 2 must apply to all software transactions makes reconciliation doubtful.


to advance what are ultimately political, not legal, goals.\textsuperscript{13} This is apparent from the fact those who object to UCITA have paid little attention to whether the Copyright Act is compatible with current Article 2.\textsuperscript{14}

I propose to rectify that oversight here.

This article will show that major components of the Article 2 transactional model are incompatible with federal copyright law when applied to software transactions. The inevitable conclusion is that we must have a new commercial law to reconcile contract to copyright in computer information transactions. There is no other choice.

Images of typical transactions affect how we think about appropriate legal rules. Part I therefore starts with contrasting images for sales of goods and information transactions. Using this imagery, Part II continues with a detailed review, section by section, of those provisions of Article 2 that are inconsistent with the requirements of the Copyright Act when applied to software transactions. Not all sections of Article 2 are incompatible with the Copyright Act, of course. But Article 2 purports to be a "true code," a preemptive, systematic and comprehensive enactment of an entire field of law. The section argues that so many of its central concepts are negated by the Copyright Act that the whole structure no longer hangs together as a whole. Part III then analyzes the decisions that claim that software transactions are within Article 2, showing where they have gone astray. After asking the obvious question: What law if not Article 2?, this part concludes that UCITA is the best answer.


\textsuperscript{14} A rare exception is Peter A. Alces & Harold F. See, \textit{The Commercial Law of Intellectual Property} (1994).
I. CONTRASTING CONTRACT IMAGES

The way we view a situation - our stock intellectual equipment, in Llewellyn's terms - can effect the conclusions we reach. At one time, people looked at the sky, saw the sun move across the heavens, and assumed that Earth was the fixed center of a Universe around which all heavenly bodies revolved. Galileo championed another image of planets revolving in elliptical orbits around the Sun.\(^\text{15}\) Our mental images effect our understanding. What is our stock view of a typical software transaction?

A. Imagining a Sale of Goods

The usual image of a software transaction is a customer who enters a retail store and acquires pre-packaged software with a shrink-wrap license.\(^\text{16}\) The customer obtains a box, some instruction manuals, and, oh yes, a diskette or CD that embodies the computer program. This has all the look and feel of a "sale of goods," and thus would seem to fall within Article 2 of the Uniform Commercial Code. In a more recent variant, the customer accesses a Web page, clicks an "I Agree" icon in a dialog box containing a license, and downloads (copies) the software. The click-on transaction looks a little different because we are dealing with electrons moving over a wire, but there is authority for the proposition that electricity is a

\(^{15}\) The discovery by Galileo Galilei (1564-1642) of moons circling Jupiter shattered the illusion that all Heavenly bodies circled a stationary Earth. For proclaiming the truth of the Copernican solar vision, the cognoscenti condemned him as a heretic. For a history, see Morris Kline, Mathematics - The Loss of Certainty chapters 1 & 2 (1980); for Galileo's part, see Georgio De Santillana, The Crime of Galileo (1955).

\(^{16}\) See, e.g., Lemley, supra note 12, at 111 n.15, arguing thus:

In the context of traditional mass-market transactions for software, the totality of the circumstances surrounding the transactions strongly suggests that the transaction is in fact a sale rather than a license. There is no bargaining over license terms. The purchaser (licensee?) commonly obtains a single copy of the software, along with the documentation, in a box at a retail software store. The box contains a single price, which the purchaser pays up front, which constitutes the entire payment for the "license." The purchaser also pays sales tax on the "license." The license does not run for a definite term and need not be renewed, but is perpetual unless terminated by the vendor (something that almost never occurs). . . . In light of these indicia, and because most purchasers think they are "buying" a physical copy of a program, almost all courts and commentators who have considered the issue have concluded that a shrinkwrap license transaction is a sale of goods rather than a license, and is therefore covered by Article 2 of the U.C.C.

Id. (citations omitted). In 1630, most people thought that Earth was the fixed center of the Cosmos and almost all learned commentators who had considered the issue dutifully agreed. Future generations can be grateful that "almost" did not include Galileo.
"good," so this seems to fit within the outer edges of the mold. As the court in *Advent Systems v. Unisys Corp.* blithely put it:

That a computer program may be copyrightable as intellectual property does not alter the fact that once in the form of a floppy disc or other medium, the program is tangible, moveable, and available in the marketplace.

In other words, a computer program may start off as intangible intellectual property, but once it is copied onto a floppy disc it merges into the disc and becomes a tangible, physical "good." Under this view all software transactions fit neatly into the, if you will, Ptolemaic world view of Article 2, where everything circles around the fixed notion of a sale in goods.

It is a tidy and comforting notion - and spectacularly wrong.

It is as wrong as saying that the Sun revolves around a fixed and immovable Earth because it looks that way. Indeed, the preceding quotation is legal nonsense. The remainder of this article will discuss in detail the reasons why. For now, let us take a moment to set firmly in our minds the correct image for software.

**B. Looking at a Software License**

The most dramatic illustration of the error in the simplistic "sale of goods" imagery is *Linux*, a fast-growing operating system that many see as a competitor to Microsoft Windows. Linus Torvalds created *Linux* with the help of other developers worldwide. Basically, *Linux* emulates UNIX on the Intel chipset, making it well-suited for Web based software. Like many other programs, *Linux* is distributed under the "open source" GNU General Public License. Because this license is critical to understanding how

---


19. *Advent Systems*, 925 F.2d at 675, discussed *infra* notes 437-65 and accompanying text.


LINUX is distributed, it is set out in full in the Appendix to this article. It allows users to copy, modify, and redistribute copies of LINUX without charge, provided that the supplier makes the source code available and disclaims all warranties. The warranty disclaimer is crucial because the creators of LINUX do not support the software - they let the users do that - and because they do not want to be responsible for modifications by others. One of the reasons for LINUX's popularity is precisely because it is open-source software, which allows vendors to create add-on application programs without being locked into a proprietary operating system.22

The Linux Organization makes LINUX available for downloading from its site. It does not provide packaged copies to retail stores. Third party vendors do that, such as Red Hat and Walnut Creek Software. These vendors all use shrinkwrap licenses, as required by their license from the Linux Organization. Some copies of LINUX, like mine, come with a full waiver of all warranties, but then my price was under $20. Other vendors provide their copies at a higher price, but they also offer limited support.23 What this means is that when a customer acquires a packaged copy of LINUX, two quite separate legal events occur. The customer buys a copy of LINUX from a vendor; the customer also obtains a license from the LINUX organization to use the embodied computer program. This separation is essential because the purveyor of the copy (e.g., Walnut Creek Software) is not the owner of the embodied computer program (the Linux Organization).

Notice how this fact directly contradicts the image that a computer program, when embodied in a floppy disc or other medium, loses its separate identity and becomes a tangible "good." The mere fact that Walnut Creek makes and distributes a copy does not make LINUX the computer program "tangible, moveable and available in the marketplace." LINUX, the computer program, still remains an intangible, copyrighted work. LINUX, the computer program, has not moved from the Linux Web page even though it


23. The GNU Public License authorizes licensees to charge for support if they wish.
was copied. If the copy made by Walnut Creek does not conform to the requirements of the GNU Public License, then that copy is unauthorized, its distribution infringing, and the copy is definitely not available in the marketplace.

This difference is profound. The goods-centric image sees a software transaction as a delivery of a *this particular CD*. It makes the medium the message; the container the content; the CD the computer program. The information-centric view sees just the opposite. The essence of the transaction is the legal authorization to *use the program*; the CD is just the means to enable that use. One needs a jar to carry caviar, but that does not make the jar the essence of the meal.

Look at Linux. The particular CD I happened to get is nothing special. In fact, the first thing I did was to use it to make a new copy on my hard disc. Now I have two copies of Linux. If this particular CD was the end all and be all of the deal, then why make two copies at all? The answer is simple: because the CD was just a carrier vector for the real value in the deal, the computer program. Now that it has done its job — enabled the use of the computer program on my hard drive — what do I need it for? I suppose I can keep it for back-up, along with scores of other old floppies moldering in the garage. Or I could throw it away. So what? I can always download another copy from the Linux Web site. I may do that anyway as new upgrades of Linux appear. For computer information, the copies are only enablers, a means to an end not an end in themselves, no more important to using the information than a ticket stub is after you enter the theater. Is watching a movie a sale of goods because you buy a ticket?

This brings us to the basic idea of what we mean by a "software transaction." It is one in which a licensor authorizes or restricts the use of a computer program. The transaction can include providing a copy, but this is not necessary. When a licensee downloads, say, a copy of Linux directly from the Web site, the Linux Organization is not itself making a delivery so much as it is authorizing the customer to effect a self-delivery by making a copy. On the other hand, a copyright owner may elect merely to sell copies and rely solely on the provisions of copyright law to control uses. Nintendo and Sega do this by selling game cartridges. As no license is involved, these are not software transactions under this definition (although they may be for other purposes).

All of the discussions about Article 2 and UCITA come down to the image one has about a retail transaction for Linux. Is it a sale
of goods with an incidental authorization to use the embodied computer program? Or is it a license of information with incidental delivery of a physical copy to enable its use? If you see only the former, then you naturally think a computer program is no different than a toaster, and that information transactions orbit a fixed and immovable Article 2. If you see the latter, however, then you understand that information transactions travel in different orbits.

Let us see why the law demands the latter view.

II. WHEN WORLDS COLLIDE

Article 2 contains a statutory model for a sale of goods. The Copyright Act creates exclusive property rights in copyrightable works. This Part examines what happens when they collide in software transactions. The first section sets forth the different statutory philosophies. The second section compares the major default rules in Article 2 with the requirements of the Copyright Act to show how these philosophies lead to widely varying results. Based on this analysis, the third section returns to basics, asking whether a computer program is a "good" and whether a software license is a "sale." It concludes that, even under Article 2's own definitions, they are not.

To avoid confusion in the statutory references, in what follows "Article" will refer to provisions in Article 2, and "Section" to those in the Copyright Act.

A. Statutory Philosophies

1. Article 2 - A True Code

It has been argued that the Uniform Commercial Code is more than a mere statute - it is a code.24

Although the terms "code" and "statute" are often used interchangeably, there is a vast difference between them. A "code" is a preemptive, systematic and comprehensive enactment of an entire field of law. It is preemptive in that it

24. See WILLIAM D. HAWKLAND, UNIFORM COMMERCIAL CODE SERIES § 1-102.1 (West 1999) for an extensive argument of this position; see also William D. Hawkland, Uniform Commercial "Code" Methodology, 1992 U. ILL. L. REV. 291; Grant Gilmore, Legal Realism: Its Cause and Cure, 70 YALE L.J. 1037, 1043 (1961) (discussing the distinction between "statute" and "code"); but see John E. Murray, Jr., The Article Two Prism: The Underlying Philosophy of Article 2 of the Uniform Commercial Code, 21 WASHBURN L.J. (1981) (arguing that Article 2 is a group of statutes, not a true code).
displaces all other laws in its subject area, save only that which the code itself excepts. It is systematic in that all of its parts, arranged in an orderly fashion and stated with a consistent terminology, form an interlocking, integrated body, revealing its own plan and containing its own methodology. It is comprehensive in that it is sufficiently inclusive and independent to enable it to be administered in accordance with its own basic policies. A mere statute, on the other hand, is neither preemptive, systematic nor comprehensive so that its methodology is different from that of a code.25

For purposes of this article let us accept the proposition that the UCC is a “true code.”

The UCC is a commercial code, not a regulatory one. Its goal is to be accurate, not original; to attempt to state as a matter of law the conclusions that commercial practice apart from the statute gives to transactions as a matter of fact.26 It is not intended to regulate commerce or enable litigation, matters which are better left to consumer protection, antitrust, competition and related laws tailored to the needs a specialized class of species of transaction.27 Instead, the UCC is an enabling statute, one which seeks to facilitate customary commercial practice. It does this by setting up what are variously called “gap-fillers” or “default rules” that supply necessary contract terms where parties have not done so adequately.28 Use of the UCC defaults is not required. Except in certain limited cases, such as bedrock obligations of good faith, diligence, reasonableness and care, the parties may vary UCC rules by agreement.29 In other words, the general principal of the UCC is

25. HAWKL AND, supra note 24, at § 1-102:2.
26. See Gilmore, supra note 2, at 1354.
27. See Nimmer, supra note 8, at 220.
29. U.C.C. § 1-102(3) (1999); QUINN, supra note 28, at ¶ 1-102[A].
freedom of contract. Another way to think of the UCC is as a statutory form contract that parties get by default unless they change it.

The UCC must be liberally construed and applied to promote its underlying purposes and policies. These include simplifying, clarifying, and modernizing the law governing commercial transactions. Unless specifically displaced by the UCC, general principles of law and equity supplement the UCC. Supplement here is the operative word. The UCC rejects the old prejudice that "statute[s] in derogation of the common law - and what statute is not? - must be strictly construed." As a comprehensive enactment, individual sections should be interpreted together as part of an entire statutory scheme, not as isolated statutes each standing on its own.

Article 2 of the UCC applies to "transactions" in "goods." "Goods" means all things (including specially manufactured goods) which are moveable at the time of identification to the contract for sale other than money in which the price is to be paid, investment securities, and things in action. While the definition is intentionally broad, in application Article 2 deals with, and the definition of goods is cast in terms of, a contract of sale. A "sale" means "the passing of title from the seller to the buyer for a price." Article 2 does not apply to services.

30. HAWKLAND, supra note 24, at § 1-102:12.
34. See Gilmore, supra note 24, at 1045.
35. See In re Lou Levy & Sons Fashions, Inc., 988 F.2d 311, 314-315 (2d Cir. 1993); Hunick v. Orona, 657 P.2d. 633, 634 (N.M. 1983). As the Official Comments to Article 1-102 provide:

The Act should be construed in accordance with its underlying purposes and policies. The text of each section should be read in light of the purpose and policy of the rule or principle in question, as also of the Act as a whole, and the application of the language should be construed narrowly or broadly, as the case may be, in accordance with the purposes involved.

36. UCC § 2-102. It begins: "Unless the context otherwise requires, this Article applies to transactions in goods." There are other exceptions not relevant here. See HAWKLAND, supra note 24, at § 2-102 (transactional exceptions), § 2-105:2 (exclusions from definition of "goods").
40. HAWKLAND, supra note 24, at § 2-102:4 (and cases cited); QUINN, supra note 28, at ¶
The hard questions come in deciding whether Article 2 applies to "mixed" or "hybrid" transactions involving both goods and services. The usual approach applies a "predominant purpose" test.\footnote{This test was articulated in the seminal case of Bonebrake v. Cox, 499 F.2d 951 (8th Cir. 1974):} If the predominant purpose of the transaction involves a sale of goods, the entire transaction is in;\footnote{See, e.g., DeFilippo v. Ford Motor Company, 516 F.2d 1313 (3d Cir. 1975) (holding that an agreement to sell an automobile distributorship was within Article 2 because assets consisted of inventory, not real estate or goodwill); Knoxville Rod & Bearing v. Bettis Corp., 672 S.W.2d 203 (Tenn. App. 1983) (holding that the sale of inventory, equipment, franchise rights, and accounts receivable were within Article 2 under the DeFilippo test); Yorke v. B.F. Goodrich Co., 474 N.E.2d 20 (Ill. App. Ct. 1985) (holding that an agreement to provide technical assistance in connection with the sale of vinyl pellets was within Article 2); Maryville S & L Corp. v. McDonald, 760 F.2d. 119 (6th Cir. 1985) (holding that a contract for the sale of promissory notes secured by deeds of trust on realty were within Article 2); Fink v. DeClassis, 745 F. Supp. 653 (D.S.C. 1990) (holding that a contract for the sale of radio stations was not within Article 2 because the physical assets represented less than 5% of the total purchase price); Computer Servicenter, Inc. v. Computer Mfg. Co., 328 F. Supp. 653 (D.S.C. 1970), aff'd, 443 F.2d 906 (4th Cir. 1971) (holding that a contract "for performance of data processing services" was not a "sale of goods" within Article 2); see generally HAWKLAND, supra note 24, at § 2-102:4 (and cases cited).} if service aspects are predominant, it is entirely out.\footnote{See Dravo Corp. v. White Consolidated Industries, 602 F. Supp. 1136, 1140 (W.D. Pa. 1985) (holding that the sale of "drawings and tracings" of engineering firm was not a sale of "goods" within Article 2 because the significance of the items was not their physical properties but the ideas they contained); Care Display, Inc. v. Didde-Glasner, Inc., 589 F.2d 599 (Kan. 1979) (holding that a contract for trade show exhibits was not within Article 2 because the predominant purpose involved artistic and design concepts for a booth, and the physical construction was incidental); Field v. Golden Triangle Broadcasting, Inc., 305 A.2d. 689 (Pa. 1973) (holding that a contract for the sale of radio stations was not within Article 2 because the physical assets represented less than 5% of the total purchase price); Computer Servicenter, Inc. v. Computer Mfg. Co., 328 F. Supp. 653 (D.S.C. 1970), aff'd, 443 F.2d 906 (4th Cir. 1971) (holding that a contract "for performance of data processing services" was not a "sale of goods" within Article 2); see generally HAWKLAND, supra note 24, at § 2-102:4 (and cases cited).} For example, a contract with an artist to paint a portrait, while it could be called a specially manufactured picture, is not within Article 2 because the service aspect predominates over the goods aspect.\footnote{See National Historic Shrines Foundation, Inc. v. Dali, 4 U.C.C. Rep. Serv. 71 (N.Y. Sup. Ct. 1967); cited with approval by Bonebrake v. Cox, 499 F.2d 951, 960 (8th Cir. 1974). The Dali case is discussed extensively in ALCE'S & SEE, supra note 14, at § 8.3, and in HAWKLAND, supra note 24, at § 2-105:1.} Similarly, a contract to sell a business...
whose assets include physical equipment and inventory, which are certainly goods, along with trademarks, trade names, advertising, artwork, customer lists, sales records, unfulfilled sales orders, goodwill and licensing agreements, which just as certainly are not, is not within Article 2 where the value of the non-goods exceeds the value of the goods.\textsuperscript{45} On the other hand, the sale of computer hardware along with the software to run it has been held to be a sale of goods where the software is included as an incidental service without charge.\textsuperscript{46} Another variant uses a “gravamen test” to ask whether under the totality of the circumstances is it reasonable to characterize the transaction as a whole as a contract of sale within the ambit of Article 2,\textsuperscript{47} a test which may be more appropriate in hard cases.\textsuperscript{48} One court, in an extreme case, even decided that mere use of a good was sufficient to bring the matter within Article 2.\textsuperscript{49}

Whatever test applies, the end result is, in practice, “all or nothing.” If a contract is within Article 2, then the entire contract is subject to the UCC.\textsuperscript{50} The contract is not split into separate goods and services components.\textsuperscript{51} By the same token, it follows that all of

\textsuperscript{45} See Fink v. DeClassis, 745 F Supp. 509, 516 (N.D. Ill. 1990) (value of non-goods accounted for $1,000,000 of the sales price, while the goods accounted for only $200,000).

\textsuperscript{46} See Triangle Underwriters, Inc. v. Honeywell, Inc., 604 F.2d. 737 (2d Cir. 1979). Triangle Underwriters is discussed infra notes 418-21 and accompanying text. See generally Anderson § 2:105:143 (collecting cases).

\textsuperscript{47} See DeFilippo, 516 F.2d at 1313; Care Display, Inc. v. Kansas City Post Office Employees Credit Union, 788 P.2d 878 (Kan. Ct. App. 1990); see generally Raymond T. Nimmer, The Law of Computer Technology § 6.01 (Rev. ed. 1999) (discussing the differences between the tests).

\textsuperscript{48} See Hawkland, supra note 24, at § 2-102.4.

\textsuperscript{49} See Skelton v. Druid City Hosp. Bd., 459 So.2d 818 (Ala. 1984). In this case, a hospital patient was injured during a surgical procedure when part of suturing needle used by the surgeon broke off and remained in the patient’s body. The court held that the agreement to undergo and pay for the surgery was within Article 2, despite the overwhelming service component, for the transparent purpose of accessing the implied warranty of merchantability found in Article 2. See Skelton, 459 So.2d at 821-22. Under this reasoning, a lawyer who prepares a written contract for a client is also engaged in a sale of goods.

\textsuperscript{50} See Fink, 745 F. Supp. at 515, stating: “A contract which predominantly involves the sale of goods is subject to the UCC in its entirety.” Does this mean the contract “in its entirety” or the UCC “in its entirety” or both? In any case, the Fink court held that for the particular transaction in question, Article 2 was inapplicable. Id. at 516. The cases discussed in Part III of this article employ this all or nothing approach in applying Article 2 to software transactions.

\textsuperscript{51} But see Robert A. Holmes, Application of Article Two of the Uniform Commercial Code to Computer Systems Acquisitions, 9 Rutgers Computer & Tech. L.J. 1 (1982) (arguing that severing the contract into goods and services components would be the better approach for software transactions).
Article 2 applies, not just parts of it. The case law is not always explicit on this point. Courts that find a transaction within Article 2 usually move immediately to the particular section of the UCC they want to apply and leave it at that. Because Article 2 is a true code, a preemptive, systematic, and comprehensive enactment of an entire field of law, whose individual sections must be interpreted together as part of an entire statutory scheme, it follows that once within Article 2, all of its provisions apply. That has been the functional approach in the case law: in for an inch, in for a mile.52

On the other hand, if a contract is outside the scope of Article 2, then none of its provisions apply directly. However, courts are encouraged to apply Article 2 rules by analogy, primarily to personal property leases.53 That Article 2 is a true code is critical for its efficient application. As a true code, a decision that a particular transaction is within its scope brings the entire Article 2 panoply into action.

2. The Copyright Act - A Federal Scheme

Computer programs are entitled to protection under the federal Copyright Act.54 Computer programs may also contain elements protectable under patent, trademark or trade secret laws, but this article will restrict itself to copyright.55

Before the current Copyright Act became effective in 1976, there was a dual system of state common law and federal statutory copyright.56 The current Act replaced that dual system with a single comprehensive federal scheme.57 Section 301 preempts any state law that creates legal or equitable rights equivalent to any of the exclusive rights under copyright in protectable works of

52. *But see* the curious statement in *Monetti v. Anchor Hocking Corp.*, 931 F.2d 1178, 1184 (7th Cir. 1991): “We may assume that the UCC applies to this contract; but must all of the UCC apply? We have difficulty seeing why.” *Id.* at 1184. *Monetti* involved an exclusive distribution agreement for plastic products, and the issue was whether the court could apply the gap-finders in Article 2, but use the longer common law statute of frauds. Despite raising the question, the court concluded that the action was not barred under the Article 2 statute of frauds in any case. *Id.* at 1193.


54. 17 U.S.C. §§ 101-175 (1994). Section 101 of the Copyright Act defines a “computer program” as “a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result." *Id.* at § 101.

55. *For further discussion see* NIMMER, *supra* note 47.

56. *See* 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER & NIMMER ON COPYRIGHT § 2.02 (1999).

57. 17 U.S.C. § 301 (1994); *see also* H.R. REP. No. 94-1476, at 129 (1976) (describing the former dual system as “anachronistic, uncertain, impractical and highly complicated”).
Article 2 Cannot Apply to Software

authorship. There is also subject matter preemption under the Supremacy Clause\textsuperscript{58} to the extent that the Copyright Act occupies the field for copyrightable works.\textsuperscript{59} The full range of copyright preemption is beyond the scope of this Article.\textsuperscript{60} For our purposes, it is sufficient to note that state contract laws affecting copyrightable works must by tested against the Copyright Act for compatibility.

Section 201 affirms that copyright interests may be transferred under state contract law.\textsuperscript{61} It is through licensing - contracts - that copyrighted works are exploited. What the Copyright Act does as far as contracts are concerned is two things.

First, it prevents state law from providing property rights comparable to those in the Copyright Act under the guise of a breach of contract action. Preemption only applies, however, when the state right in question is "infringed by the mere act of reproduction, performance, distribution or display."\textsuperscript{62} If an extra

\textsuperscript{58} This clause states as follows:
This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

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

\textsuperscript{59} See 1 NIMMER & NIMMER, supra note 56, at § 1.01.

\textsuperscript{60} For further discussion regarding copyright preemption generally, see Orson v. Miramax Film Corp., 189 F.3d 377, 381 (3d Cir. 1999) (discussing the difference between express preemption, implied or field preemption, and conflict preemption under Copyright Act); PAUL GOLDSCHMIDT, COPYRIGHT ch. 15 (2d ed. 1998) (engaging in a detailed analysis of state law claims that involve copyright issues to determine whether state law is preempted); 1 NIMMER & NIMMER, supra note 56, at § 1.01 (discussing federalism in the law of copyright); 2 WILLIAM F. PATRY, COPYRIGHT LAW AND PRACTICE 1093-1135 (1994) (including an account of the legislative history of 17 U.S.C. § 301).

\textsuperscript{61} 17 U.S.C. § 201(d)(1) (1994) ("The ownership of a copyright may be transferred in whole or in part by any means of conveyance . . . "); H.R. Rep. No. 94-1476, at 132 (1976) ("Nothing in the bill derogates from the rights of the parties to contract with each other and to sue for breaches of contract."); Walthal v. Rusk, 172 F.3d 481, 485 (7th Cir. 1999) ("In general, state contract laws pertain to the transfer of interests under the Copyright Act."); Bartsch v. Metro-Goldwyn-Mayer, 391 F.2d 150, 153 (2nd Cir. 1968) (state law governs interpretation of license under 1909 Act); In re CFLC, Inc. (Everex v Co. v. Cadtrak Corp.), 89 F.3d 673, 678 (9th Cir. 1996) (assignment of a patent license); see generally GOLDSCHMIDT, supra note 60, at § 4.4 (discussing transfers of copyright interests).

\textsuperscript{62} National Car Rental Sys., Inc. v. Computer Assocs. Int'l, Inc. 991 F.2d 426, 431 (8th Cir. 1993) ("Section 301 preempts only those state law rights that 'may be abridged by an act which, in and of itself, would infringe one of the exclusive rights provided by federal copyright law,'") (quoting Computer Assocs. Int'l, Inc. v. Altai, Inc., 982 F.2d 693, 716 (2d Cir. 1992)). For a discussion of preemption regarding state contract rights, see 1 NIMMER & NIMMER, supra note 56, at § 1.01[B][1][a] (explaining preemption as applied to breach of contract actions).
element is required, instead of or in addition to these acts, preemption does not apply. For example, a license that authorizes use of database software only to process internal data is not preempted because such use does not involve any of the exclusive rights under copyright. However, a state statute permitting a software producer to enforce contract terms prohibiting the adaptation of its software by decompilation or disassembly is preempted by federal copyright law.

Second, federal law also places certain restrictions on specific contract terms, such as a writing requirement for exclusive licenses. The bulk of this article will be concerned with these additional restrictions.

A fundamental provision of the Copyright Act, which effects both the nature of a copyright itself and transfers of copyright interests, is Section 202, which provides as follows:

Ownership of a copyright, or any of the exclusive rights under a copyright, is distinct from ownership of any material object in which the work is embodied. Transfer of ownership of any material object, including the copy or phonorecord in which the work is first fixed, does not of itself convey any rights in the copyrighted work embodied in the object; nor, in the absence of an agreement, does transfer of ownership of a copyright or of any exclusive rights under a copyright convey property rights in any material object.

Copyright has sometimes been described as the metaphysics of the law, and if that is true then this is its basic tenet: a copy is not a copyright. A book is a physical copy of a separate, intangible, copyrightable literary work; a videocassette is physical copy of a separate, intangible, copyrightable motion picture; a compact disc is a copy of a separate, intangible, copyrightable computer

63. National Car Rental, 991 F.2d at 431 (quoting 1 Nimmer & Nimmer, supra note 56, at § 1.01[B][1][a]). But see Schoenberg v. Shapolsky Publishers, Inc., 971 F.2d 926, 931 (2d Cir. 1992) ("The question of whether the breach of a contract licensing or assigning a copyright gives rise to a federal cause of action under the Copyright Act is a complex issue in a 'murky' area."). See generally Maureen A. O'Rourke, Drawing the Boundary Between Copyright and Contract, 45 Duke L.J. 479 (1995).

64. National Car Rental, 991 F.2d at 434 (noting also that courts have consistently held that "copyright protection in computer software does not extend to the software's function").


66. 17 U.S.C. § 204(a) (1994). For further discussion of the writing requirement under the copyright act for exclusive licenses, see infra notes 85-106 and accompanying text.

program. It is almost Platonic. A physical copy is but a single instance of an abstract, intangible idea called a copyrightable work. The instance is not the essence. The object is not the idea. The copy is not the copyright. The House Report puts it succinctly: "The principle restated in section 202 is a fundamental and important one: that copyright ownership and ownership of a material object in which the copyrighted work is embodied are entirely separate things."68

This is the essence of copyright. If you never get this, you never get it right.

Section 202 also has something important to say about copyright transfers. Under prior common law copyright, transfer of a physical object was often presumed to transfer the common law copyright absent a specific reservation.69 Section 202, coupled with the preemptive provisions of Section 301, eliminates this presumption. The House Report says this is exactly what Congress intended to do:

[T]he bill would change a common law doctrine . . . that authors or artists are generally presumed to transfer common law literary property rights when they sell their manuscript or work of art, unless those rights are specifically reserved. This presumption would be reversed under the bill . . . .70

Under Section 202, therefore, as a matter of preemptive federal law, there can be no presumption that the sale of a material object in itself transfers any right to use the copyrighted work.71 This applies regardless of whether the transfer is an exclusive license72 or a non-exclusive license.73

69. A chief exponent of this view was Pushman v. New York Graphic Society, Inc., 39 N.E.2d 249 (N.Y. 1942), which held that an artist who sold a print master was presumed to convey the common law copyright as well. For further discussion, see 3 NIMMER & NIMMER, supra note 56, at § 10.09[B].
71. E.g. Harris v. Emus Records Corp., 734 F.2d 1329, 1334 (9th Cir. 1984) (purchase of master tapes from bankruptcy trustee did not transfer non-exclusive license to manufacture and distributor recordings); In re CFLC, Inc. (Everex v Co. v. Cadtrak Corp.), 89 F.3d 673, 678 (9th Cir. 1996) (patent license).
There is a qualification. Under the Copyright Act, the owner of a copy has certain limited privileges to use the copy without infringing the copyright, such as the "first sale" doctrine. Section 202 does not effect these privileges. What Section 202 says is that buying a copy of a computer program gives no right to use the embodied computer program beyond the limited privileges under the Copyright Act that go with ownership of a copy.

Compare the underlying metaphysic in the Copyright Act to that in Article 2. In Article 2 the physical object — the goods — is paramount. The seller's essential obligation is to transfer and deliver the goods; the buyer's, to accept and pay for them. The intangible component, the abstract legal title to the goods, is an incidental. Transfer and delivery of the goods alone is sufficient to create a contract. Far from Platonic essences, Article 2 opts for a distinct materialism.

3. What Happens When They Meet?

Given this difference, what exactly does it mean to say that Article 2 applies to software transactions? Consider the customer who enters a store to acquire a copy of Linux. What happens at the

Ill. 1997) (holding that the purchase of a diskette containing copyrighted clip art did not allow downloading of the clip art onto a Web page); see generally Goldstein, supra note 60, at § 4.5.1(c).

74. This article often employs the term "use" for the more technically correct "exercises any of the exclusive rights in Section 106 of the Copyright Act." This does not mean any "use," such as in the patent sense. For example, using old CDs for high-tech drink coasters, as my brother does, does not impact the Copyright Act. See, e.g., Kennedy v. National Juvenile Detention Association, 187 F.3d. 690, 695 (7th Cir. 1999), reh'g en banc denied, 1999 U.S. App. LEXIS 23736 (7th Cir., Sept. 24, 1999), petition for cert. filed (Dec. 20, 1999) (reading of "use" to mean all rights under copyright).

75. For example, many computer books include a CD with sample code and programs. Copyright law would prohibit copying the code to create new programs. That is why the books include a shrink-wrap license to enable such use, along with, of course, warranty disclaimers. For discussion of a sample license in the popular text by Bruce J. Eckels, Thinking in Java, and how it authorizes uses beyond those that come from purchase of a copy, see Lorin Brennan, The Public Policy of Information Licensing, 36 Hous. L Rev. 61, 124-127 (Table 13) (1999).

76. See U.C.C. § 2-106(1) (1999), which states: "In this Article unless the context otherwise requires 'contract' and 'agreement' are limited to those relating to the present or future sale of goods."

77. See U.C.C. § 2-301 (1999); for further discussion, see infra notes 178-84 and accompanying text.

78. See U.C.C. § 2-401 (1999); for further discussion, see infra notes 246-48 and accompanying text.

79. See U.C.C. §§ 2-203, 2-206 (1999); for further discussion, see infra notes 277-85 and accompanying text.
cash register? There are three possibilities.

The first possibility is that there are two separate contracts: one for the sale of a copy, and another for the grant of a license. This hardly seems appropriate. Although Section 202 requires different obligations for the copy and the copyright, it does not require different contracts. It would be curious if it did. The customer does pay a single price. In the goods world, a buyer does not pay one price for a toaster and another for the box. In a software transaction, the CD is the container for the embodied computer program. Indeed, the cost of a blank CD is insignificant compared to the value of the computer program. Allocating the price between the copyright interest in the computer program and the pennies it cost for a CD would be silly.

The second possibility is that only one contract exists, and it is governed by Article 2. That is, the transaction is predominately a sale of goods. But that means that the copyright aspects of the transaction are completely suppressed so that only what happens to the copies counts. This is precisely what Section 202 tells us we cannot do. In the case of LINUX, it would mean ignoring the GNU Public License; but without the license, any sale of the copy is unauthorized and users of LINUX would become infringers. The other response is to acknowledge that the sale and the license are separate, but to assume that Article 2 applies to the license as well. In other words, the default rules in Article 2 are also appropriate for a license of intangibles. Many courts and commentators have in effect opted for this approach, saying that the license is really a sale of goods and then trying to shoehorn software transactions into the Article 2 model. The bulk of this Article will show why this subterfuge is inappropriate.

The third possibility, the only one left, is that there is only one contract and it is governed by the common law of contracts, unless, of course, a state adopts UCITA. Common law has more formalities and far fewer gap fillers than Article 2, so it is less tolerant of mistakes. On the other hand, the common law's comparative brevity also allows a wider range of dealings, and easily accommodates contracts with severable obligations. We will return to the question of the proper law to apply to software transactions after dispensing with Article 2.

B. Article 2 vs. the Copyright Act

This Article now examines, section by section, the default rules in Article 2 to see if they are compatible with the Copyright Act.
We begin with the substantive provisions, and then return to the definitions of "good" and "contract of sale." In so doing, however, it is important to understand exactly what this exercise is attempting to show, and what it is not.

I am not arguing that the Copyright Act preempts all contracting with regard to computer programs. Nor am I arguing, as some do, that the Copyright Act prevents software vendors from licensing computer programs in the mass market and restricts them solely to selling copies. And I am definitely not arguing that the Copyright Act creates a mandatory collage of "user's rights" that cannot be varied by agreement. What I am addressing is whether the default rules in Article 2 are compatible with the requirements of the Copyright Act in the absence of party agreement. In a few cases, the Copyright Act imposes mandatory rules that cannot be varied by agreement, such as a writing requirement for exclusive licenses. In most cases, however, the Copyright Act contains what are in effect default rules that parties can vary in appropriate circumstances, such as the right of a software vendor to control the rental of copies. The issue is whether the gap-fillers imposed by Article 2 in the absence of agreement fit within the requirements of the Copyright Act.

Article 2 is considered a true code: a preemptive, systematic and comprehensive enactment of an entire field of law. It is a complex, interwoven structure that must be interpreted as a whole. The point of this Article is to show that key default rules creating this structure are not compatible with the Copyright Act when applied to software transactions. These include such major conceptual underpinnings as creating a contract by shipping the goods, mandatory passage of title, implied security interests, and inspection rights. This does not say that all defaults in Article 2 are inapplicable to software transactions. Gap-fillers for payment by cash or check, risk of loss to copies, and damages for breach of contract are appropriate. However, without the key foundational props, the structure no longer stands as an integrated whole. Like a bridge with the struts kicked out, it no longer stands up but

collapses into a jumble of disconnected statutes that undercuts the entire purpose of Article 2 as a true code.

1. Statute of Frauds

   a. Article 2

   Article 2-201 contains the UCC's statute of frauds. It provides that a contract for the sale of goods for $500 or more is not enforceable without a writing that indicates a contract has been made, signed by the party against whom enforcement is sought. Article 2-201(3) contains three traditional exceptions to the writing requirement: specially manufactured goods, admissions in legal proceedings, and part performance by payment or delivery.

   b. Copyright Act

   Section 204(a) of the Copyright Act contains its own writing requirement where copyright transfers are concerned:

   A transfer of copyright ownership, other than by operation of law, is not valid unless an instrument of conveyance, or a note or memorandum of such transfer, is in writing and signed by the owner of the rights conveyed or such owner's duly authorized agent.

   Under the Copyright Act, a "transfer of copyright ownership" includes an assignment, an exclusive license or a mortgage, but not a non-exclusive license. These must be examined separately.

   For exclusive licenses, the writing requirement in Section 204(a) preempts state law. Section 204(a) differs materially from state statutes of fraud in that it makes unwritten copyright ownership transfers "not valid" rather than merely "unenforceable." Moreover, the three traditional exceptions to the writing requirement in Article 2 are not available where transfers of copyright ownership are concerned. Specially manufactured goods

81. See generally Quinn, supra note 28, at ¶ 2-201.
87. See Konigsberg International v. Rice, 16 F.3d 355, 357 (9th Cir. 1994); 1 Nimmer & Nimmer, supra note 56, at § 101[B][3][a].
88. Koningsberg, 16 F.3d at 357.
are akin to specially commissioned works-made-for-hire, which require a writing for the copyright to vest in the commissioning party.\textsuperscript{89} Admissions in the course of litigation are not sufficient if the writing was not executed "substantially contemporaneous" with the agreement of transfer.\textsuperscript{90} Finally, part performance, even full payment by the licensee, is not sufficient to satisfy Section 204(a); a written instrument of transfer is still required.\textsuperscript{91} However, a later executed writing may validate a prior oral exclusive license,\textsuperscript{92} especially if there is no dispute a transfer occurred and the writing is necessary to confer standing on a licensee to pursue an infringer.\textsuperscript{93}

Regarding non-exclusive licenses, there is some question as to whether Section 204(a) permits states to impose a writing requirement. One view is that, because non-exclusive licenses are not mentioned in Section 204(a), Congress left the matter open for the states to decide. The Second and Third Circuits have taken this approach, holding that a state statute of frauds applies to non-exclusive licenses.\textsuperscript{94} The other view is that Congress, by saying


\textsuperscript{90} Konigsberg, 16 F.3d at 357. \textit{Konigsberg} held that a letter sent by an author during litigation claiming full performance of an unsigned exclusive license was insufficient because it was not executed "substantially contemporaneous" with the transfer. What the Ninth Circuit undoubtedly meant was that an alternative defense made in the context of litigation by arguing that even if a license was validly granted, the licensee is in material breach, is not a "note or memorandum of . . . transfer" for purposes of the Copyright Act. \textit{See} 17 U.S.C. § 204(a) (1994) (emphasis added).

\textsuperscript{91} Konigsberg, 16 F.3d at 357.

\textsuperscript{92} See Imperial Residential Design, Inc. v. Palms Dev. Group, 70 F.3d. 96, 99 (11th Cir.1995) (holding that a later writing validated an oral transfer \textit{ad initio}); Arthur Rutenberg Homes v. Drew Homes, Inc., 29 F.3d 1529, 1532 (11th Cir.1994); Valente-Kritzer Video v. Pinckney, 881 F.2d. 772, 775 (9th Cir. 1989); \textit{see generally} \textit{NEIL BOORSTYN, BOORSTYN ON COPYRIGHT} § 8.14 (1999).

\textsuperscript{93} See Magnuson v. Video Yesteryear, 85 F.3d 1424, 1429 n.1 (9th Cir. 1996) (distinguishing \textit{Konigsberg} on this point); Eden Toys, Inc. v. FloreeLe Undergarment Co., 697 F.2d 27, 36 (2d Cir. 1982); \textit{see generally} \textit{BOORSTYN, supra} note 92, at § 8.14.

nothing, intended that there be no writing requirement for non-exclusive licenses. There has been some argument for this view, and several cases in other circuits have enforced oral, non-exclusive licenses without reference to statute statutes of fraud. The issue is not academic. The Second and Third Circuits have held the applicable state statute of frauds to be the one in Article 2-201. Indeed, one of the reasons the Third Circuit justified applying Article 2 to a non-exclusive software license was precisely because it thought a single statute of the frauds should apply to the entire transaction, a point we will return to below.

I suggest the correct result is that a state statute of frauds can apply to a non-exclusive copyright license, just not the statute of frauds found in Article 2-201.

Although several cases have held that a non-exclusive license can be oral under federal law, none have held that a state statute of frauds cannot apply to a non-exclusive license. A trenchant example is Effects Associates, Inc. v. Cohen. When Larry Cohen, a movie producer, declined to pay the full freight for special effects of an alien ooze disguised as frozen yogurt, the effects house sought to enjoin distribution of the movie for copyright infringement. Not wishing to deprive an eager public of The Stuff, the court decided that, although there was no exclusive license because no writing was signed, this was really a dispute about

95. E.g., 3 Nimmer & Nimmer, supra note 56, at § 10.03[A][7] (arguing by “negative implication” that a non-exclusive license does not require a writing), and at § 10.03[A][8] (cautioning that state law cannot disrupt the federal scheme). See also Lulirama, Ltd. v. Axcess Broadcast Services, 128 F.3d 872, 879 (5th Cir. 1997) (citing Nimmer & Nimmer, supra note 56, at § 10.03[A]). Whether Section 204(a) preempts a state writing requirement as a matter of federal policy is one thing. But claiming that this must follow by “negative implication” is a logical fallacy, as Judge Ruggero J. Aldisert explains in his classic work, Logic for Lawyers: A Guide to Clear Legal Thinking. “The proposition that ‘A implies B’ is not the equivalent of ‘non-A implies non-B,’ and neither proposition follows logically from the other. The process of inferring one from the other is known as ‘the fallacy of denying the antecedent.’” Ruggero J. Aldisert, Logic for Lawyers: A Guide to Clear Legal Thinking 158 (3d ed. 1997) (citing J. Cooley, A Primer of Formal Logic 7 (1942)).

From the requirement that an exclusive copyright license must be in writing, it does not logically follow that a non-exclusive license may not be in writing in any circumstance.

96. See Lulirama, 128 F.3d at 879; I.A.E., Inc. v. Shaver, 74 F.3d 768, 775 (7th Cir. 1996); Jacob Maxwell, Inc. v. Veek, 110 F.3d 749, 752 (11th Cir. 1997); Effects Associates, Inc. v. Cohen, 908 F.2d 555 (9th Cir. 1990).

97. See infra notes 437-60 and accompanying text.

98. But see Axcess & See, supra note 14, at § 11.2.1 (arguing that a state statute of frauds can apply to a nonexclusive copyright license, and claiming it should be the statute of frauds found in Article 2-201).

99. 908 F.2d 555 (9th Cir. 1990).

100. Effects Assoc., 908 F.2d at 561.
payment, and thus found a non-exclusive license to avoid the infringement claim.\textsuperscript{101} The court, which was only thinking copyright, called it a day by noting that under Section 204(a) there is no writing requirement for non-exclusive licenses.\textsuperscript{102} Had it gone the next step, it would undoubtedly have concluded that although there might be a writing requirement under state law, part performance satisfied the usual exception.\textsuperscript{103}

Indeed, \textit{Holtzbrinck Publishing Holdings v. Vyne Communications, Inc.},\textsuperscript{104} reached just this result when considering a nonexclusive license to develop a web page.\textsuperscript{105} It held that the New York general law statute of frauds applied, not the one in Article 2, but found that the traditional part performance exception to the statute of frauds was satisfied.\textsuperscript{106}

2. \textit{Contract by Shipment of Goods}

\textit{a. Article 2}

Under Article 2, a contract can be formed by conduct.\textsuperscript{107} In particular, under Article 2-206(1)(b), a shipment of conforming goods, or promise to ship them, in response to a "rush order" is a valid acceptance.\textsuperscript{108} This rule eliminates an old problem with the so-called "unilateral contract." Assume a buyer makes an order for immediate delivery. What response is appropriate, shipment (a performance) or a confirmation of shipment (a promise)? At common law, if a contract called for a performance (a "unilateral
contract”), only a performance would do. This could lead to obvious injustice if the offer was withdrawn after performance started but before it was complete.\textsuperscript{109} When faced with this issue, Article 2-206(1)(a) now answers “either one.” Promise or perform, either one will do, unless, of course, “otherwise indicated . . . by language or circumstances.”\textsuperscript{110}

**b. Copyright Act**

That shipment can create a contract of sale works fine in Article 2. Not so for copyrights. The idea that mere delivery of a copy makes a contract to transfer a copyright interest was a presumption for common law copyrights. Section 202 of the Copyright Act obliterates the common law presumption: “[t]ransfer of ownership of any material object . . . does not of itself convey any rights in the copyrighted work embodied in the object.”\textsuperscript{111} Thus, the conveyance of ownership rights to a book along with delivery of the original manuscript does not transfer the copyright of the book.\textsuperscript{112} The purchase of a master recording does not allow use of the master to make copies for further sale.\textsuperscript{113} Buying a copy of a CD containing clip art gives no license to download the clip art onto the buyer’s Web page.\textsuperscript{114} Buying sweaters does not grant any right to reproduce their copyrighted designs.\textsuperscript{115} Paying to have a videotape made of a concert grants no copyright in the resulting videotape.\textsuperscript{116} Shipment of copies - goods - conforming or non-conforming, for immediate delivery or not, does not of itself transfer any interest, exclusive or non-exclusive, in a copyright.\textsuperscript{117}

\textsuperscript{109.} See generally Quinn, supra note 28, at ¶ 2-206[A][3]. One way around this problem was to presume the contract was bilateral in case of doubt. E.g., Davis v. Jacoby, 34 P.2d 1026, 1030 (Cal. 1934) (noting that “the cases clearly indicate a tendency to treat offers as offers of bilateral rather than unilateral contracts”); Restatement (Second) of Contracts § 32 (1981) (stating that in case of doubt, an offer should be interpreted as inviting either a performance or a promise as the offeree chooses).


\textsuperscript{112.} See Saxon v. Blann, 968 F.2d. 676, 680 (8th Cir. 1992).

\textsuperscript{113.} See Harris v. Emus Records Corp., 734 F.2d 1329, 1334 (9th Cir. 1984).


\textsuperscript{116.} See Quintanilla v. Texas Television, Inc., 139 F.3d 494 (5th Cir. 1998); see also Forward v. Thorogood, 758 F. Supp. 782, 784 n.3 (D. Mass. 1991), aff’d, 985 F.2d 604 (1st Cir. 1993) (authorizing a fan to make a copy of a musical performance did not transfer copyright in the tapes under the 1909 Copyright Act); but see Lulirama, 128 F.3d at 883 (allowing a nonexclusive license to use radio jingles created under an oral contract).

\textsuperscript{117.} Of course, as mentioned above, the owner of a copy may have certain privileges
At this point, we need to discuss the curious doctrine of the "implied license." In some cases, the defendant's conduct, while perhaps over the line, does not warrant bringing down the full wrath of the Copyright Act. So courts use the implied license rubric to excuse or mitigate the effects of the defendant's conduct. Fair enough. That is what courts do. The issue is whether state statutory law can mandate an implied license in all cases of shipment of a copy. I suggest that the answer is "no" for reasons both legal and practical.

First, there is the not insignificant problem of legal authority. An implied license is a defense to a claim of copyright infringement, and federal courts have exclusive jurisdiction over such actions. It is doubtful whether state law can mandate a federal court to recognize an implied license defense whenever there is delivery of a copy, come what may. An implied license is fact-specific. Transfer of a material object may be some evidence that the parties intended one, but due to Section 202, it is not dispositive. Indeed, the cases have denied an implied license as often as they have found one, even with delivery of a copy.

The second problem is practical: often the provider of the copy is not the owner of the copyright. A record store may sell records, to use the copy in a manner that does not infringe the copyright, such as the "first sale" doctrine, see 17 U.S.C. § 109 (1999), and there may be certain privileges to use the work, such as "fair use," see 17 U.S.C. § 107 (1999). The point is that the mere acquisition of the copy does not in itself grant any interest in the copyright beyond the designated privileges in the Copyright Act.

118. 28 U.S.C. § 1338(a) (1994); see 3 NIMMER & NIMMER, supra note 56, at § 12.01[A][1].
119. See Effects Assoc., 908 F.2d at 555. But see ALCES & SEE, supra note 14, at § 11.2.2 (arguing that Effects Associates duly applied industry custom and practice to find a license). The issue, however, is not whether a court may find an implied license from conduct in some cases, but whether state law can mandate one in all cases.

but that does not mean it owns the copyright in the embodied music or sound recordings. Walnut Creek may sell copies of LINUX, but it does not own the LINUX copyright. The fact that the copyright owner has consented to so some mass distribution of copies under some circumstances does not imply that the copyright owner has consented to every distribution. State law cannot imply that delivery of a copy occurs with the consent of the copyright owner, as this could abrogate the copyright owner's exclusive distribution right in Section 106(3).

Article 2 may imply that the shipment of goods creates a contract of sale. The Copyright Act does not prevent that. It merely prevents state law from automatically presuming such an agreement from the mere delivery of a copy.¹²¹

3. Contract Where Writings Conflict

a. Article 2

In the best of all possible legal worlds, contracting parties sit down around the proverbial bargaining table, their lawyers fluttering about, and painstakingly reduce their agreement to a fully integrated — and duly executed — written contract. In the real world it does not always happen that way. The press of business intervenes. Standard forms pass in the night, and busy people get on with making shipments and cutting checks. When a problem erupts, they suddenly discover that those pretty standard forms that they paid so much for were not enough to satisfy the legal niceties for making a "contract" after all. But everyone sure acted like they did.

To this not uncommon situation, the UCC proposes a solution. Article 2-207(3) provides that where the conduct of both parties recognizes a contract even if the writings do not, then a contract does in fact exist. But what are its terms? Article 2-207(3) determines them using what is often called a "knock-out" rule.¹²² The terms of the contract are those where the writings agree; conflicting provisions are ignored and the remaining terms are

¹²¹ Compare UCITA § 203(2) providing that an offer to acquire a copy invites acceptance of that order by prompt shipment, but not forming a license by so doing. UCITA applies to contracts where a software publisher elects to sell a copy and rely solely on copyright privileges, e.g. sale of a videogame cartridge. UCITA § 103(b)(1)(B). This inclusion of this provision, duly limited to this later case, is appropriate.

¹²² See HAWKLAND, supra note 24, at § 2-207:4.
supplied by the UCC gap-fillers. As Diamond Fruit Growers, Inc. v. Krack Corp.\textsuperscript{123} explained:

At common law, the offeree/counterofferor gets all of its terms simply because it fired the last shot in the exchange of forms. Section 207(3) does away with this result by giving neither party the terms it attempted to impose unilaterally on the other. . . . Instead, all the terms on which the parties' forms do not agree drop out, and the U.C.C. supplied the missing terms.\textsuperscript{124}

\textit{b. Copyright Act}

The Copyright Act rejects a "knock-out" rule where assignments and exclusive licenses are concerned. Even if the parties have fulfilled all of the prerequisites for a valid oral agreement, with full or partial performance, there can be no valid transfer of copyright ownership unless the \textit{writings} indicate a proper transfer.\textsuperscript{125} If the parties intend to make an exclusive license and the writings are insufficient, the usual result is simply no contract at all, regardless of conduct. For example, in \textit{Konigsberg International v. Rice},\textsuperscript{126} a movie producer negotiated for an exclusive license to produce a motion picture based on Ann Rice's best selling book, \textit{The Mummy}. Ms. Rice negotiated over the terms of the license and even cashed the check, but without her signature there was no valid contract.\textsuperscript{127} This result follows directly from Section 204(a). Its writing requirement ensures that "the creator of a work will not give away

\textsuperscript{123} 794 F.2d 1440 (9th Cir. 1986).
\textsuperscript{124} \textit{Diamond Fruit Growers}, 794 F.2d at 1444 (citation omitted).
\textsuperscript{125} \textit{See Konigsberg}, 16 F.3d at 355; \textit{see also} Quintanilla v. Texas Television, Inc., 139 F.3d 494 (5th Cir. 1998) (holding that a purported oral transfer of copyright ownership in a videotape was invalid); Valente-Kritzer Video v. Pinckney, 881 F.2d. 772, 775 (9th Cir. 1989) (holding that despite performance, oral agreement for an exclusive license was invalid where writings did not establish license terms); Time, Inc. v. Kastner, 972 F. Supp. 236, 239 (S.D. N.Y. 1997) (holding that an oral agreement to transfer "motion picture and allied rights" in a magazine article was invalid despite the payment of $5,000); Mellencamp v. Riva Music, Ltd. 698 F. Supp. 1154, 1167 (S.D. N.Y. 1988) (holding that an oral agreement to transfer copyrights in songs was invalid where writings did not indicate agreement).
\textsuperscript{126} 16 F.3d 355 (9th Cir. 1994).
\textsuperscript{127} \textit{Konigsberg}, 16 F.3d at 358-60. Similarly, in \textit{Pickney}, a video producer negotiated with an author for an exclusive license to create and distribute videos based on her best selling book. \textit{Pickney}, 881 F.2d. at 775. Despite an exchange of contract drafts, and part performance by the producer, the correspondence and accompanying draft agreements were held to fail to memorialize the oral agreement. \textit{Id.} An exchange of draft agreements and part performance also failed to make an exclusive license in \textit{Mellencamp}, 698 F. Supp. at 1167.
his copyright inadvertently and forces a party who wants to use the copyrighted work to negotiate with the creator to determine precisely what rights are being transferred at what price" which "enhances predictability and certainty of copyright ownership - 'Congress' paramount goal."128 The result is the same for specially commissioned works made for hire.129

Of course, where parties try to make an exclusive license and fail, a federal court may imply a non-exclusive license to exploit the work.130 However, the terms of such an implied license are emphatically not those that would arise from a "knock-out" rule. Consider Oddo v. Ries,131 which involved an agreement between a writer and marketer to write a how-to manual incorporating magazine articles previously published by the writer. When the marketer decided to hire another writer, there was an implied license to use the magazine articles, because the original author had certainly intended them to be used, but not to revise the original writer's work.132 Similarly, in MacLean Associates, Inc. v. Wm. M. Mercer-Meidinger-Hansen, Inc.,133 a programmer's delivery of a copy of software to a former employer without restriction evidenced an implied license to use the software for internal use, but not to license it to third parties.134 None of these cases created a contract on the terms where the writings agreed and elsewhere on the terms of the Article 2 default rules.135 Parties may expressly agree or demonstrate by conduct that they have agreed to a license on some terms. State law, however, cannot use a knock-out rule to dictate the default terms in all cases of botched writings.136

128. Effects Assocs., 908 F.2d at 557.
129. See Committee for Creative Non-Violence, 490 U.S. at 730.
130. See supra notes 85-106 and accompanying text; see also 3 Nimmer & Nimmer, supra note 56, at § 10.03[A][7].
131. 743 F.2d 630 (9th Cir. 1984).
132. Oddo, 743 F.2d at 634.
133. 952 F.2d 769 (3d Cir. 1991).
134. MacLean Assocs., 952 F.2d at 779.
135. See McCoy v. Mitsubishi Cutlery, Inc., 67 F.3d 917, 920 (Fed. Cir. 1995) ("An implied [patent] license, however, must not exceed the limits necessary to make the contract effective.").
4. Interpretation Rules

a. Article 2

The UCC rejects the conveyancer's obsession with punctilious parsing of the written word as the sole source of contractual obligations. Instead Article 2-208 provides that contracts are to be interpreted by merchant standards reflected by what the parties said as well as what they did.\(^\text{137}\) The agreement of the parties means more than just the written words. It means their bargain in fact, as found in their language, or by implication from other circumstances, including course of performance, course of dealing, and usage of trade.\(^\text{138}\) The contract is then the total legal obligation that results from the agreement.\(^\text{139}\)

b. Copyright Act

State rules of construction apply only to the extent that they are consistent with Copyright Act policies.\(^\text{140}\) If federal policies would lead to a different interpretation of a license, then the state rules must give way. The federal policy of protecting authors means that a copyright license prohibits any uses not authorized, preempting contrary state law rules of interpretation against the drafter.\(^\text{141}\)

One area where federal copyright law takes precedence is determining the "scope" of a license, as opposed to a "contractual use restriction."\(^\text{142}\) Exceeding the scope of a license is a copyright infringement, whereas violating a use restriction is breach of contract.\(^\text{143}\) Scope deals with the specific boundaries of the rights granted in the protected work as "limited in time, place or effect,"\(^\text{144}\) while a use restriction deals with the exercise of the

\(^{137}\) See Quinn, supra note 28, at $2-208.

\(^{138}\) See U.C.C. § 1-201(3) (1999).

\(^{139}\) See U.C.C. § 1-201(11) (1999).


\(^{141}\) See S.O.S., Inc. v. Payday, Inc., 886 F.2d 1081, 1088 (9th Cir. 1989) ("We can rely on state law to provide the canons of contractual construction, but only to the extent such rules do not interfere with federal copyright law or policy.").

\(^{142}\) See S.O.S., 886 F.2d at 1089.

\(^{143}\) See Sun Microsystems v. Microsoft Corp, 188 F.3d 1115 (9th Cir. 1999). If the licensor cancels the license for material breach, further use becomes an infringement. Schoenberg v. Shapolsky Publishers, Inc., 971 F.2d 926, 932-33 (2d Cir. 1992).

\(^{144}\) This comes from the definition of "transfer of copyright ownership" in Section 101 of the Copyright Act, which provides that such a transfer may be "limited in time, place or effect." See, e.g. U.S. Naval Inst. v. Charter Communications, 936 F.2d 692 (2d Cir. 1991)
rights within these boundaries.

Several cases illustrate the difference. For example, *Sun Microsystems, Inc. v. Microsoft Corp.*\textsuperscript{145} involved a license of the Java\textsuperscript{*} programming language that contained a broad grant of rights to create adaptations, and a separate provision requiring the adaptations to be compatible with Sun's Java standards. The right to create adaptations (derivative works) is one of the rights reserved to the copyright owner,\textsuperscript{146} so the first step was met. The remaining question was whether the compatibility requirement limited the scope of the adaptation right granted, which would have justified a preliminary injunction to prevent infringement, or was merely contractual use restriction, which would not. The case was remanded to evaluate the contractual intent.\textsuperscript{147}

Similarly, in *S.O.S., Inc. v. Payday, Inc.*,\textsuperscript{148} a licensee who created and marketed a modified version of a software accounting system exceeded the scope of the license where the license did not authorize such conduct.\textsuperscript{149} Other the other hand, in *National Car Rental System, Inc. v. Computer Associates International, Inc.*,\textsuperscript{150} the software provider only licensed use of its database program for processing the licensee's own internal data. Processing the data of other companies violated the use restriction but was not an infringement because it did not involve one of the exclusive rights under Section 106.\textsuperscript{151} In any case, the scope of a copyright license is a question of federal law, not state law.\textsuperscript{152}

(addressing the time when exclusive license began); Video Views Inc. v. Studio 21, Ltd., 925 F.2d 1010 (7th Cir. 1990) (addressing place as defined in the phrase "adult motion picture arcade facilities"); Nat'l Ass'n of Broadcasters v. Copyright Royalty Tribunal, 809 F.2d 172 (2d Cir. 1986) (holding that a broadcast station's acquisition of syndicated exclusivity rights in local television markets was a transfer of ownership); Richard Feiner & Co. v. Turner Entertainment Co., 926 F. Supp. 40, 42 n.6 (S.D. N.Y. 1996) (providing the plaintiff with an exclusive license that "though limited in time and place of effect, constitutes a transfer of copyright [to plaintiff] as defined in the Copyright Act").

145. 188 F.3d 1115 (9th Cir. 1999).
147. *Sun Microsystems*, 188 F.3d at 1123.
148. 886 F.2d 1081 (9th Cir. 1989).
149. *S.O.S.*, 886 F.2d at 1089.
150. 991 F.2d 426 (8th Cir. 1993).
151. *Nat'l Car Rental Sys.*, 991 F.2d at 427-32. See also U.S. Naval Inst. v. Charter Communications, Inc., 936 F.2d 692, 695-96 (2d Cir. 1991) (holding that the early release of a book violated a contractual restriction but was not an infringement where the license term started on the agreement's execution date).
5. Assignment of Rights and Obligations

a. Article 2

Article 2-210(2) contains the default rule that “all rights of either seller or buyer can be assigned except where the assignment would materially change the duty of the other party, or increase materially the burden or risk imposed on him by the contract, or impair materially his chance of obtaining a return performance.” Of course, the parties can change this rule by agreement. But this provision recognizes that, in general, the assignability of rights is a “normal and permissible incident” of the sale of goods.

b. Copyright Act

It is otherwise for copyrights. Copyright law places specific limits on the transferability of a license, and provides certain rules for transfer of a copy. To understand these rules, we again follow the admonition in Section 202 to distinguish the copy from the copyright; transfer of the copyright interest must be examined separately from transfer of a copy.

Regarding transfer of copyright interest, an exclusive license is a “transfer of ownership” and as such is assignable absent contractual restrictions. A non-exclusive license, however, being personal to the licensee, is not assignable without consent of the licensor. This rule is a matter of federal intellectual property law, which preempts state law transferability rules. It has been the rule for close to a century under both the current and the prior copyright acts. A licensor may of course agree that a

156. See Harris v. Emus Records Corp., 734 F.2d 1329, 1334 (9th Cir. 1984) (holding that a non-exclusive master use license was not assignable in bankruptcy); In re Patient Educ. Media, 210 B.R. at 242-43 (holding that a non-exclusive license for a patent was not transferable in bankruptcy); In re CFLC, Inc. (Everex v. Cadrek) 89 F.3d 673, 679 (9th Cir. 1996) (holding that a nonexclusive patent license was not transferable in bankruptcy); see generally 3 Nimmer & Nimmer, supra note 56, at §§ 10.01[C][4], 10.02[B][4].
157. See Harris, 734 F.2d at 1334.
158. See Neva, Inc. v. Christian Duplications Int'l, Inc., 743 F. Supp. 1533, 1546 (M.D. Fla. 1990) (holding that a nonexclusive license to use recordings was not assignable under
non-exclusive license is transferable. State law, however, cannot imply such agreement as a "gap-filler" merely from the licensor's silence.

Regarding transfer of a copy, Section 106(3) gives the copyright owner the exclusive right to authorize the public distribution of copies of a copyrighted work by sale, lease rental or other disposition. However, there are three noteworthy exceptions to this exclusive right: the "first sale" doctrine in Section 109; the computer use privilege in Section 117; and the nonprofit library privilege in Section 108.

The first sale doctrine in Section 109 provides that a lawful sale of a copy "exhausts" the exclusive distribution right for that copy, so its further sale or transfer is not a copyright infringement. But there are limits on the doctrine. First, the original sale must be authorized by the copyright owner. Second, it only extends to the owner of the copy, not to someone who merely acquires possession of it. Third, it only effects the distribution right, not the other exclusive rights. Thus, a lawful owner of a DVD may resell the DVD (distribution right) without infringement, but may not allow broadcast of the motion picture embodied on the DVD (public performance right). In the case of LINUX, the license authorizes the recipient of a copy to make further copies (reproduction right) to prepare enhancements to the program (adaptation rights) and to distribute those new copies (distribution right). The first sale doctrine does not authorize this additional conduct merely from acquiring ownership of the first copy. Doing so without an enforceable license would be an infringement.

There is an exception to the first sale doctrine where computer programs are concerned: the software rental right. In 1990, Congress amended Section 109 to allow the owner of a computer program to restrict rental of a copy even after a first sale. This

the 1909 Copyright Act); see generally 3 NIMMER & NIMMER, supra note 56, at § 10.01[C][4].
was enacted because of fear that the ease of copying of computer programs would lead to wide scale piracy without restrictions on rental. This rental right has been held to preempt state law contracting rules to the contrary.164

The second exception is the computer use privilege accorded in Section 117. Under this section, the owner of a copy of the computer program may make a new copy or adaptation of a computer program "as an essential step in the utilization of the computer program in conjunction with a machine."165 Exact copies made under this section may be leased, sold or otherwise transferred but only with the original copy and as part of the transfer of all of the original owner's rights in the computer program.166 Note that this in effect operates as a limitation on the "first sale" privilege that would otherwise exist for the owner of an authorized copy, since an "exact copy" made in conformity with Section 117 may only be transferred under these conditions.167

A third exception exists for nonprofit libraries. They are exempted from the computer software rental right168 because a separate provision, Section 108, allows nonprofit libraries to make and distribute copies of copyrighted works under certain conditions without infringing a copyright, including digital copies of computer programs.169


165. 17 U.S.C. § 117(a)(1) (1994); see DSC Communications Corp. v. Pulse Communications, 170 F.3d 1354 (Fed. Cir. 1999), cert. denied, 120 S. Ct. 286 (1999), (holding that section 117 applies only to the owner of a copy of a computer program, not to one with mere possession); Allen-Myland v. Int'l Bus. Mach. Corp., 746 F. Supp. 520, 536-37 (E.D. Pa. 1990) (holding that section 117 did not authorize the use of microcode where the copy was not lawfully acquired); but see Syngeristic Technologies v. IDB Mobil Communications, 871 F. Supp. 24, 29 (D. D.C. 1994) (adaptation allowed because party was owner of a copy of the program). See generally 2 Nimmer & Nimmer, supra note 56, at § 8.08; Boorstin, supra note 92, at § 6.11. Section 117(a)(2) also authorizes making copies for archival purposes. Title III of the Digital Millenium Copyright Act, Pub. L. 105-304, 112 Stat. 2860 (Oct. 28., 1998) added new subsections (c) and (d), allowing the making of a copy for maintenance and repair. The purpose was to reverse the effect of the decision in Mai Systems Corp. v. Peak Computer, 991 F.2d 511 (9th Cir. 1993).

166. 17 U.S.C. § 117(b) (1994); see generally Boorstin, supra note 92, at § 6.11[3].


169. As originally enacted, Section 108 allowed nonprofit libraries to make
These exceptions can be modified by contract in appropriate cases. For example, the first sale doctrine and the computer use privilege only run in favor of the lawful owner of a copy. Nothing in the Copyright Act mandates that a software licensor must sell copies, even in the mass market. By the same token, nothing in state law mandates sale-only either; indeed Article 2A of the UCC deals with leases of personal property where no sale occurs. As the Federal Circuit observed in *DSC Communications Corp. v. Pulse Communications,* contractual restrictions on the ownership and use of a copy which vitiate the Section 117 privilege are enforceable. The same applies to the nonprofit library privilege. In Section 108(f)(4), Congress explicitly said so: "Nothing in this section . . . in any way affects . . . any contractual obligation assumed at any time by the library or archives when it obtained a 'copy of a work . . . in its permanent collections.'" Nonprofit libraries often acquire manuscripts and other works under conditions that restrict their access and use, such as private papers made available for limited research only. Congress provided that contractual undertakings of libraries are not effected by Section 108 to prevent the drying up of this valuable resource.


171. *DSC Communications Corp.,* 170 F.3d at 1360.
173. *See* H.R. REP. No. 94-1476, at 77 (1976), stating as follows:
Clause (4) [of Section 108(f)] provides that the right of reproduction granted by this section does not override any contractual arrangements assumed by a library or archives when it obtained a work for its collections. For example, if there is an express contractual prohibition against reproduction for any purpose, this legislation shall not be construed as justifying a violation of the contract. This clause is intended to encompass the situation where an individual makes papers, manuscripts or other works available to a library with the understanding that they will not be reproduced.

*Id.* Courts have been quite willing to enforce library access agreements according to their terms. See, e.g., *Wright v. Warner Books, Inc.,* 953 F.2d 731, 741 (2d Cir. 1991) (holding that an agreement restricting library access and uses was valid but was not breached by paraphrasing limited excerpts); *American Geophysical Union v. Texaco, Inc.,* 37 F.3d. 881, 899 (2d Cir. 1994) (stating that "the very fact that Congress restricted the rights of libraries to make copies implicitly suggests that Congress views journal publishers as possessing the right to restrict photocopying, or at least the right to demand a licensing royalty from nonpublic institutions that engage in photocopying"). The amendments to 17 U.S.C. § 108 in the Digital Millennium Copyright Act did not affect § 108(f)(4). The extent to which a
How do these rules apply to software transactions? Assume a licensee acquires a copy of a copyrighted database program under a non-exclusive license. As a matter of federal law, the license to use the computer program is not transferable absent agreement by the licensor.\textsuperscript{174} As to the copy, whether that is transferable depends on the terms of the contract. If the contract provided there was no sale of a copy, or otherwise restricted transfer, under state contract law those terms would be enforceable.\textsuperscript{175} If the contract is silent, and the copy is acquired under lease or other use restriction so that there was no transfer of ownership, then the transferee would not have a first sale or computer use privilege and use of the copy could be an infringement. If there is a sale of a copy, then the usual state law rule would allow transfer of a copy. The first sale doctrine would then provide that transfer of the copy was not an infringement, and the computer use privilege would allow the transferee to make a copy of the program onto its computer if its conditions were satisfied. Neither of these privileges, however, would allow any additional uses enabled in the license. Some commentators confuse this point. They assume that a software transaction, especially in the mass market, is no more than a sale of goods, and then complain that provisions restricting assignment of the copyright license also restrict resale of the copy.\textsuperscript{176} This comes from the wrong image of the transaction.\textsuperscript{177}

6. Basic Obligations of Parties

a. Article 2

Article 2-301 sets forth the basic obligations of buyer and seller in a contract of sale: "The obligation of the seller is to transfer and

\textsuperscript{174} Compare this with the attached GNU Public License, which does authorize transfer of the license, but only under specific conditions.

\textsuperscript{175} As this paper argues, the applicable contract rule should be determined by state common law. However, for a useful comparison, note that both Article 2-403 and Article 2A-303 provide that express contractual restrictions on transfer of rights or delegation of duties are enforceable. Of course, this is the contract rule. Whether and in what circumstances other rules of positive law, such as anti-trust law, may require another result, is a different question.


\textsuperscript{177} Compare U.C.I.T.A. § 503(1)(A) (1999) (deferring to applicable rules of federal law) and § 503(1)(B) (1999) (otherwise adopting the current rule from Article 2).
deliver and that of the buyer is to accept and pay in accordance with the contract."\textsuperscript{178}

How does this work in practice? In particular, if the agreement is silent, who goes first? Article 2 provides two default rules regarding the timing, or dependency, of these obligations. Article 2-507(1) states: "Tender of delivery is a condition to the buyer's duty to accept the goods and, unless otherwise agreed, to his duty to pay for them."\textsuperscript{179} Good enough. The default rule is seller goes first. Or is it? Section 2-511(1) says: "Unless otherwise agreed, tender of payment is a condition to the seller's duty to tender and complete any delivery."\textsuperscript{180} This looks like a buyer first rule. The Official Comments resolve the apparent dilemma by stating that "[u]nless there is agreement otherwise, the concurrence of the conditions as to the tender of payment and the tender of delivery requires their performance at a single place or time."\textsuperscript{181} In other words, absent agreement, the seller's obligation to deliver and the buyer's obligation to pay are dependent and concurrent. This means that each party must tender performance when due in order to put the other in breach.\textsuperscript{182} The default rule is that all goods must be tendered in a single delivery,\textsuperscript{183} and full payment is due on their receipt.\textsuperscript{184}

Thus, in the Article 2 conceptual model, the parties' basic obligations are unitary, dependent, and concurrent. They are \textit{unitary} in the sense that the seller has one main obligation — transfer/deliver — and the buyer has another — accept/pay. They are \textit{dependent} in that the obligation to perform one is conditioned on performance of the other. They are \textit{concurrent} in that they happen at the same time. All, of course, are subject to change by agreement of the parties.

\begin{itemize}
\item \textsuperscript{178} U.C.C. § 2-301 (1999).
\item \textsuperscript{179} U.C.C. § 2-507(1) (1999).
\item \textsuperscript{180} U.C.C. § 2-51191) (1999).
\item \textsuperscript{181} U.C.C. § 2-511(2) cmt. 2 (1999); \textit{see generally} HAWKLAND, supra note 24, at §§ 2-507:1, 2-511:1; QUINN, supra note 28, at ¶ 2-705[A][1].
\item \textsuperscript{182} \textit{See} Oakland Gin Co., Inc. v. Marlow (\textit{In re} The Julien Co.), 44 F.3d 426, 430 (6th Cir. 1995) (holding that, because delivery and payment did not occur concurrently, sections 2-507 and 2-522 of the Tennessee Commercial Code were inapplicable); \textit{see generally} HAWKLAND, \textit{supra} note 24, at § 2:511:1.
\item \textsuperscript{183} \textit{See} U.C.C. § 2-307 (1999); Martel Constr., Inc. v. Gleason Equip., Inc., 534 P.2d 883 (Sup. Ct. Mon. 1975) (all goods must be delivered in single lot unless agreed otherwise); \textit{see generally} QUINN, \textit{supra} note 28, at ¶ 2-307[A].
\item \textsuperscript{184} \textit{See} U.C.C. § 2-310(a) (1999); Lewis v. Hughes, 346 A.2d 231 (Ct. App. Md. 1975) (absent agreement, full payment due on receipt of goods); \textit{see generally} QUINN, \textit{supra} note 28, at ¶ 2-309[A].
\end{itemize}
b. Copyright Act

A software transaction could not differ more. There, the basic obligations of licensor and licensee, absent agreement, are compound, independent and asynchronous.

Regarding the compound nature of a software transaction, the licensor often has two "transfer and deliver" obligations: to transfer the copyright and to deliver a copy. Under Section 202 of the Copyright Act, these must be treated as independent obligations. One does not affect the other. In Applied Information Management, Inc. v. Icart, a perceptive district court, called on to interpret a non-exclusive software license, got it exactly right:

Resolution of the issue is complicated by the fact that an agreement of this nature may convey rights and interests in two, rather than only one form of property; the developer may transfer copyright rights in the software program (intellectual property rights) and at the same time transfer rights in the copy of the program through the material object that embodies the copyrighted work (personal property rights). Because technological developments that are the subject of such licensing agreements are relatively recent, the absence of clear legislative direction further complicates resolution of the issue. Furthermore, courts that have considered the question have not directly addressed the distinction between the two different forms of property rights involved.

Under Section 202, a licensor's delivery of a copy - the goods - does not in itself fulfill any obligation to transfer the copyright. Indeed, as with LINUX, the party delivering the copy may not even be the one granting the license. Conversely, as Section 202
explicitly provides, a transfer of rights does not in itself constitute a sale of a copy.\footnote{189}

What about the licensee? When granting a generic information license, it cannot be assumed that the licensee is obligated to pay everything or anything on receipt of a copy. First, there may be separate payments for the copy and for the rights. This is the usual case, for example, in the motion picture industry, where prints and other exploitation copies are expensive to make. Typical license agreements in that industry provide one payment for the rights, usually due on execution, and a separate payment for materials when they are later delivered. Second, payments can be, and often are, spread over time in the form of royalties that arise from exploitation of the work.\footnote{190} Finally, a licensee may not be obligated to pay anything at all. A licensor may provide the information free of charge in the hope that the licensee will watch embedded advertising. This has been the case for free television broadcasts for decades; more recently, some companies give away free Internet access in exchange for the right to show advertising on the user's Web page.\footnote{191} Shareware is provided free of charge with the hope, but not the requirement, of payment.\footnote{192} Indeed, since under federal law copyright ownership can pass "by any means of conveyance or operation of law," there is no requirement for any consideration at all.\footnote{193} It also follows that a licensee's payment for a copy does not necessarily fulfill an obligation to pay for the license

\footnote{189. 17 U.S.C. § 202 (1994); see Chamberlain v. Cocola Assoc., 985 F.2d 282 (9th Cir. 1993). Chamberlain involved the interpretation of California Civil Code § 988 (1982), which requires a writing to transfer title to a work of art where there is also an exclusive or nonexclusive transfer of any of the copyright rights in the work. The question was whether delivery of sculpture for display in a restaurant transferred title to the sculpture absent a writing. Noting that Section 202 of the Copyright Act differentiates between copyrights and their material embodiments, Chamberlain held that California Civil Code § 988 mimics federal law by only requiring a written agreement for a transfer of property rights that accompany a transfer of copyright rights. Chamberlain, 985 F.2d at 283. The Chamberlain court failed to appreciate that under federal law, a "transfer of copyright" means an exclusive license, whereas California Civil Code § 988 requires a writing where there is either an exclusive or nonexclusive license, which was certainly the case.}

\footnote{190. See 17 U.S.C. § 205(d) (stating that the validity of a later transfer prevails if it was taken "for valuable consideration or on the basis of a binding obligation to pay royalties").}


193. 17 U.S.C. § 201(d)(1) (1994). For example, copyright ownership could pass by gift. See 3 NIMMER & NIMMER, supra note 56, at § 10.03[B].}
Finally, in some information transactions it could be the licensee's job to deliver the copies and the licensor's job to pay. Because the transfer and copy delivery obligations are independent, there is no reason why they cannot be performed by different parties. A licensor may authorize a licensee to use information to manufacture copies for the licensor, in which case the licensee delivers the goods and the licensor pays the price. There is simply no reason to assume in a software transaction that a licensor always transfers copies to the licensee for a price.

Regarding the independent nature of a software transaction, in the generic information license, a party's performance does not necessarily require an immediate counter-performance. That is, the obligations of licensor and licensee are independent. This is consistent with the common law rule that contractual obligations are presumed independent absent a contrary intent. In particular, because the obligations are independent, breach of a covenant will not disturb the licensee's rights under the license unless the breach allows termination of the license. Thus, a breach will not excuse compliance with the license so long as the license remains in effect. For example, assume the licensor is in material breach. The licensee has two options: cease use and sue for breach, in which case it may no longer use the rights; or affirm the contract and sue for partial breach, in which case it must abide by the use restrictions. Alternatively, assume the licensee is in material breach. The licensee has two options: cease use and sue for breach, in which case it may no longer use the rights; or affirm the contract and sue for partial breach, in which case it must abide by the use restrictions.

194. See Chamberlain, 985 F.2d at 282; Marobie-FL, 983 F. Supp. at 1167.


196. See 17 AM. JUR. 2D Contracts § 617 (1964). The Restatement states the rule as follows:

[W]hether performance by one party is a condition to his recovery from the other involves the consideration, in the main, as to whether the promise of the one who seeks recover is dependent or independent. . . . [T]he performance of a dependent promise or covenant is a condition to the recovery of the counter-promise or counter-covenant, whereas the performance of an independent promise or covenant is not a condition of recovery.


197. See Fantastic Fakes, Inc. v. Pickwick Int'l, Inc., 661 F.2d 479, 483-84 (5th Cir. 1981); see generally 3 NIMMER & NIMMER, supra note 56, § 10.12.

198. See ARP Films, Inc. v. Marvel Entertainment Group, Inc., 952 F.2d 643, 649 (2d Cir. 1991) ("On the heel's of [the licensor's] repudiation, [the licensee] had two options: (i) it
breach. Then licensor has two options: if breach is material and allows cancellation, licensor may do so and reclaim the rights;\textsuperscript{199} however, if the licensor does not cancel but sues on the contract, it may not use the rights inconsistent with the license or it can become an infringer.\textsuperscript{200}

Regarding the *asynchronous* nature of a software transaction, in the generic information transaction one cannot assume that both parties must perform concurrently. To the contrary, the usual assumption is that performances are asynchronous. The licensor may grants rights today, while the licensee undertakes to make royalty payments tomorrow as the work is exploited. Or the licensee may make payments today while the licensor undertakes to create the work for delivery tomorrow. Rights and copies can be delivered at different times and in different segments, and paid for in different ways at separate time.

Contrary to the rigid default roles assigned to buyer and seller in the Article 2 world, in the information universe the default roles of licensor and licensee are versatile and diverse. Both parties can be licensors and licensees in the same copyrighted work at the same time; indeed, if the license is non-exclusive, both parties can exercise the same rights in the same copyright at the same time. The obligations to transfer a license and deliver a copy are distinct. Unlike Article 2, these obligations can be allocated all to one party or separated between them. The licensor does not necessarily have any obligation to deliver a copy; and the licensee does not necessarily have an obligation to pay for it if the licensor does. Performance by one party is independent of performance by the other, and there is no obligation that performances occur concurrently. It would be hard to find more disparate contract models.\textsuperscript{201}

\footnotesize{\textsuperscript{199} See Nolan v. Sam Fox Publ'g Co., Inc., 499 F.2d 1394, 1397 (2d Cir. 1974).}

\footnotesize{\textsuperscript{200} See Charter Communications, 936 F.2d at 692 (exclusive license); Dodd, Mead & Co., Inc. v. Lilienthal, 514 F. Supp 105 (S.D. N.Y. 1981) (exclusive license).}

\footnotesize{\textsuperscript{201} Compare U.C.I.T.A. § 602 (1999) (enumerating multiple requirements to “enable use” under license).}
7. Duration of a Contract

a. Article 2

If contract of sale is silent about the duration, what default rule applies? Under Article 2-309(2), a contract for successive performances of indefinite duration is valid for a reasonable time but may be terminated at will at any time by either party. A party must give reasonable notice of termination unless it happens automatically on an agreed event.\(^2\)\(^0\)\(^2\) Contracts calling for successive performances, such as distribution agreements, can sometimes fail to specify a fixed end date, and these default rules allow them to avoid nullification on the grounds of indefiniteness.\(^2\)\(^3\)

b. Copyright Act

Characteristically, the Copyright Act takes a different approach, with separate rules depending on whether the license is exclusive or non-exclusive. In Manners v. Morosco,\(^2\)\(^0\)\(^4\) the Supreme Court held that an exclusive copyright license of unspecified duration is presumed perpetual.\(^2\)\(^5\) "Perpetual" in this context is a term of art meaning "for the full duration allowed by law," not "forever."\(^2\)\(^6\) Thus, for exclusive licenses, the copyright rule rejects any presumption in Article 2-309(2) that the license is terminable at will after a reasonable time.

As to non-exclusive licenses, the Circuits are split. Rano v. Sipa

---

203. See generally Hawkland, supra note 24, at § 2-309:1, 3.
204. 252 U.S. 317 (1919).
205. Manners, 252 U.S. at 325. Manners involved an exclusive license of unspecified duration to perform the play Peg O' My Heart. Id. at 317-18, 232. The Supreme Court affirmed the following holding of the Second Circuit:
   Since the contract is not revocable by will by either party or otherwise limited as to its duration by its express terms or the inherent nature of the contract itself with reference to its subject matter, it is presumably intended to be permanent or perpetual in the obligation it imposes.
206. See Shoptalk, Ltd. v. Concorde-New Horizons Corp., 168 F.3d 586 (2d Cir. 1999) (holding that an agreement to pay royalties for the play Little Shop of Horrors, as adapted from the movie, expired when the copyright in the movie and screenplay expired); April Productions, Inc. v. G. Schirmer, Inc., 126 N.E.2d 283, 289 (N.Y. 1955) (holding that a contract of unstated duration to pay royalties from the sale of musical compositions could not be interpreted, in the absence of express language, as requiring the payment of royalties after the expiration of underlying copyrights).
Press, Inc.\textsuperscript{207} held that Section 203 of the Copyright Act, which allows a licensor to terminate a license after 30 years, evidences a federal presumption that non-exclusive licenses must endure for at least 30 years absent a contrary specification.\textsuperscript{208} \textit{Rano} has been widely criticized, and \textit{Walthal v. Rusk}\textsuperscript{209} declined to follow it, holding that Section 203 creates a statutory maximum, not a minimum, so that a non-exclusive license is terminable at will under applicable state law.\textsuperscript{210} The Eleventh Circuit, in \textit{Korman v. HBC Florida, Inc.},\textsuperscript{211} came to the same conclusion as \textit{Walthal}.

8. Implied Warranty of Merchantability

a. Article 2

Article 2-314 implies a warranty of merchantability in every contract of sale unless it is effectively excluded or modified.\textsuperscript{212} The implied warranty of merchantability requires, among other things, that goods “pass without objection in the trade under the contract description” and that they are “fit for the ordinary purpose for which such goods are used.”\textsuperscript{213} As discussed in the next Part, numerous decisions have held that software licenses are subject to this implied warranty. Indeed, one suspects that the primary purpose for treating computer programs as “goods” under Article 2 is precisely to subject them to a warranty when the program does not perform as someone hoped or expected.

b. Copyright Act / Federal Law

There is no section in the Copyright Act that prevents or requires application of an implied warranty of merchantability to a computer program. There is, however, a First Amendment problem. A computer program is a literary work, for copyright purposes the same as a novel. Applying an implied warranty of merchantability on computer programs raises serious questions about imposing

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{207} 987 F.2d 580 (9th Cir. 1993).
\item \textsuperscript{208} \textit{Rano}, 987 F.2d at 585; see also \textit{Lulirama}, 128 F.2d at 882 (holding that a non-exclusive license supported by consideration was not terminable at will).
\item \textsuperscript{209} 172 F.3d 481 (7th Cir. 1999).
\item \textsuperscript{210} \textit{Walthal}, 172 F.3d at 485. \textit{Compare} U.C.I.T.A. § 308 (1999) (after deferring to other law, establishing specific default rules for duration of types of software licenses).
\item \textsuperscript{211} 182 F.3d 1291 (11th Cir. 1999).
\item \textsuperscript{212} U.C.C. § 2-314(1) (1999).
\item \textsuperscript{213} U.C.C. § 2-314(2)(a), (c) (1999).
\end{itemize}
\end{footnotesize}
liability on content, implicating the First Amendment.214 The usual response is that a computer program performs a useful function, unlike a novel, and so liability is appropriate.215 However, the cases have rejected this simplistic approach.216 The issues in this area are complex and I will not repeat them here, as they are thoroughly discussed in the law reviews cited in the notes. I am interested in a different approach, one that takes us to the heart of warranties for computer programs. I am talking about the Halting Problem.

A full examination of all the legal issues raised by the Halting Problem is beyond the scope of this article. I hope to deal with them in detail in a later piece. For now, allow me to give a brief overview of the issue, omitting details in the interest of brevity.217

What is a computer program? Legal definitions are really more suggestive than descriptive. In fact, a computer program is a


precise mathematical object first formulated by Alan Turing in the 1930s. In essence, we can think of a computer program as a "logic processor." Given a set of statements (input) it uses an algorithm (logic processor) to produce a result (output). By analogy, think of plane geometry as described in Euclid's *Elements*. Euclid begins with a series of postulates (inputs) and using deduction (logic processor) derives theorems (output). Theorems once derived can be fed back into the system as new input to deduce newer theorems. Turing developed a mathematical model of this procedure called a Universal Turing Machine (UTM). In so doing, he also discovered the amazing result that some things are impossible for computer programs to do. Impossible in this context does not have the legal gloss of "commercially impracticable." It means literally impossible; a computer the size of the known universe, running from the beginning until the end of time, could never do it.

The Halting Problem is the classic example. For any computer program, we would like to know whether it will halt on a given input or get stuck in an infinite loop and run forever. Turing proved that no algorithm (computer program) existed that could answer this question for every program. Let us take a practical example. Assume we are told about Bug Finder, an all purpose software utility that can take any computer program, process it overnight, and the next morning print out a list of all "bugs." Does Bug Finder work? Turning's proof tells us this is impossible. The next morning, Big Finder could still be churning away, and we would have no way of knowing whether it was still at work finding bugs, or was caught in an infinite loop.218 This does not mean that

218. There are many proofs of The Halting Problem. This one is drawn from GREENLAW & HOOVER, supra, at 10-13. Bug Finder is represented as being able to take any program and to print out all bugs, i.e., to halt. What we need to do is construct a valid program for which Bug Finder will not halt, thus disproving that it works in all cases. To do this we will run Bug Finder on itself. This is certainly legitimate, since we want to make sure that Bug Finder itself is bug free. So let us construct a new program, Bug Finder Pro, that works like this (in simplistic pseudo code):

```
Sub BugFinderPro
Input (Bug Finder) 'Read the program code for Bug Finder
Run Bug Finder (Bug Finder) 'Run Bug Finder on the code for Bug Finder
If Result (Run Bug Finder(Bug Finder)) =
    Print Out, Then Repeat
ElseIf Result (Run Bug Finder(Bug Finder)) =
    No Print Out, Then Goto End
End Sub
```
we cannot find some bugs in some programs. What it means is that there is no mechanical procedure - no algorithm - that is guaranteed to find all bugs in all programs. We need to search for them "by hand" on a case by case basis.

This brings us to the study of computational complexity. Some problems are known to be so complex that they simply overwhelm the ability of computational resources to solve them in any reasonable time. Take an oversimplified example. In the late 1990s, a popular operating system for personal computers reportedly contained over ten million code interactions; it also reportedly had over 14,000 possible "bugs" when it was released, although these were not considered serious impediments to user satisfaction. In a worst case scenario, testing all 14,000 "bugs" against all ten million interactions at the rate of one per second would take $14 \times 10^3 \times 10^8$ seconds, or more than 400 years; this assumes correcting one "bug" does not require re-testing all combinations. Obviously, this is a worst case scenario. A great deal of theoretical and practical research focuses on techniques to reduce the resources needed to determine program correctness. But there are limits. Some problems are known to be computationally feasible, meaning that techniques exist to solve them in a "reasonable" time. Many others, like the Halting Problem, are known to be impossible; no solutions exist. A large number of problems are intractable; computationally feasible solutions are unknown and may never exist. Of course, for some programs with discrete functionality, it is possible to test for all "bugs." Printer drivers are an example. As programs increase in size, complexity, and functionality, however, the possibility of thorough testing in a reasonable time declines.219

Bug Finder Pro may look strange, but it is a valid program. So now run Bug Finder on Bug Finder Pro to see if it finds all bugs, i.e. halts. If Bug Finder is indeed bug free, then Bug Finder Pro will enter an infinite loop and never halt - but that means that Bug Finder is unable to print out all bugs in all programs, a contradiction. On the other hand, if Bug Finder is not bug free, then it will not halt when running Bug Finder Pro either, another contradiction. We must therefore conclude that Bug Finder does not exit - at least not in any computable language. For a more whimsical discussion, see Hofstadter, supra, at 75-83, in which his characters Achilles and the Tortoise try to construct a "perfect" record player (complete formal system) that can play any record (statement in system) to disastrous results.

219. Here is an example of a feasible problem: given three binary numbers $x$, $y$, and $i$, determine if the $i$th bit (beginning from the least significant bit) of $x \% y$ is a 1. Greenlaw & Hoover, supra, at 263. This problem can be solved in polynomial time and is of complexity class $P$. On the other hand, the Traveling Salesperson Problem is considered intractable. A salesperson needs to make a sales trip to several cities. What is the shortest possible route for so doing that only visits each city once? Finding such a route for an arbitrary number of cities is classified as NP-Complete. Greenlaw & Hoover, supra, at 300. It is a hard problem.
Now let us apply this to the question of computer program warranties. In discussing computer programs, one often hears the assertion that if the program does not perform as expected, it is necessarily defective. These claims are often based on an anthropromorphic image of computer programs as little genies that can do anything a living being can do at the push of a button. For example, in the discussions about UCITA, the Society For Information Managers argued that under Article 2, a software publisher has a legal obligation to deliver a perfect program. But the Halting Problem tells us that some program behavior is impossible to expect. As the saying goes, the law does not demand impossibilities. A car is not defective because it does not run forever; a perpetual motion machine would violate the Second Law of Thermodynamics. Yet some would have us believe that this is what Article 2 requires of computer programs. This does not mean that programmers should not test software. It does mean that there are reasonable limits to testing. A product is not unfit where detection and correction of the defect is not reasonably possible.

I am not arguing that there should be no warranties for computer programs. What I am arguing is that the problem is far more complex than current discussions credit. Even in the commercial

Throwing more machines at it (parallel computing) does not help, since problems that are *NP-Complete* in polynomial time are also *NP-Complete* under logarithmic space reducibility. GREENLAW & HOOVER, supra note 226, at 292. An open question in computer science is whether the complexity class *NP* reduces to *Partnership*; do algorithms exist to solve *NP* class problems in a "reasonable" time, or are these problems inherently intractable? Although there is no proof yet, it is considered highly unlikely that such algorithms exist (i.e., *P* ≠ *NP*). The Traveling Salesperson Problem, one of the most studied in computer science, is not just an issue for business junkets. Building integrated circuits often involves the same issues.


221. This is another example of politics in the discussions about UCITA. SIM is primarily composed of traditional manufacturing companies who are software licensees, and this position had the transparent goal of creating an impossible standard as a mandatory legal risk shifting device. When the Drafting Committee declined this invitation, SIM complained that UCITA was "unbalanced." Curiously, when the SIM companies were asked whether they would accept a requirement in Article 2 that their manufacturing arms be required to deliver "perfect" products, they declined for themselves what they would have imposed on others. See generally, Holly K. Towle, *The Politics of Licensing Law*, 36 Hous. L. Rev. 121, 145 (1999).

222. See, e.g., McMichael v. American Red Cross, 527 S.W.2d 7 (Ky. 1975). This opens the door to a discussion of the idea of the "unavoidably unsafe product," an issue beyond the scope of this article. See generally QUINN, supra note 28, at ¶ 2-314[A][12][c]. My point is not that all computer programs should be classified "unavoidably buggy" in all cases. My point is that the issue deserves far greater study that it has received so far.
speech area, the Supreme Court has held that the First Amendment limits restrictions to verifiable advertising that can be proven true or false. The Halting Problem tells us that there are some computer program functions that can never be proven "true or false." There are other problems for which we may not know the answer in any computationally tractable time. To argue that any computer program that is not "perfect" is per se defective is to indulge in little more than junk science. To argue that a software publisher is obligated to disclose all "defects" in a program begs the enormously difficult issue of defining just what a software "defect" is, let alone the computational difficulties of determining what every defect might be. The legal profession owes more than that to the software industry and to society. A more sophisticated and honest analysis of warranty liability for computer programs is called for. We cannot undertake such analysis unless and until we abandon old habits of mind that cloud our thinking and confound our reason. Rote application of warranty principles in Article 2 that were fashioned for fundamentally different objects is exactly the type of muddled thinking that we need to abandon if we are to make any progress. To me, this is the most pressing reason why Article 2 cannot apply to software transactions.

9. Sales on Approval

a. Article 2

In some cases, a seller may deliver goods to a buyer "on approval." Take it home. Try it out. If it does not work, bring it back for a refund. These types of deals need guidance on such matters as risk of loss and the rights of intervening creditors. For these purposes, the UCC supplies Article 2-326. It singles out three situations for special treatment: (1) a "sale on approval;" (2) a "sale

223. See Central Hudson Gas & Elec. v. Public Serv. Commission, 447 U.S. 557, 564 (1980) (noting that "there can be no constitutional objection to the suppression of commercial messages that do not accurately inform the public about lawful activity"); see also Lane v. Random House, Inc., 985 F. Supp. 141, 150 (D. D.C. 1995) (noting that there is no First Amendment liability for "rhetorical hyperbole that cannot be proven true or false").

224. Technically, the Halting Problem addresses the question of decidability. But to see that this is accurate, convert Bug Finder to a program than answers the question: "You found all bugs in Program X, True or False."

225. Compare U.C.I.T.A., Part IV (establishing a more appropriate set of software warranties, in particular U.C.I.T.A. § 403(c) (1999)), which contains no implied warranty for informational content).
or return,” and (3) a “consignment” and arrangements akin to an assignment.\textsuperscript{226} A “sale on approval” occurs when the buyer has the right to return goods delivered primarily for use.\textsuperscript{227} In a sale on approval, returnable goods in the hands of a buyer are not subject to claims of the buyer’s creditors until they are accepted.\textsuperscript{228} A “sale on return” arises when returnable goods are delivered primarily for resale, and includes a “consignment.”\textsuperscript{229}

b. Copyright Act

Central Point Software v. Global Software & Access\textsuperscript{230} considered the relationship between Article 2-326 and the Computer Software Rental Amendments Act of 1990.\textsuperscript{231} The “first sale” doctrine in Section 109 allows the owner of a lawfully made copy to sell or otherwise dispose of that copy without permission of the copyright owner.\textsuperscript{232} However, concerned about the possibility of piracy due to the rental of copies of computer programs, Congress added an exception to the first sale doctrine, which allows computer program copyright owners to control the rental of copies. In Central Point Software, a computer store provided copies of software to its patrons on a deferred billing plan that allowed return of the software within five days for small return fee. Despite the characterization of the transaction as a “sale on approval” under Article 2-326, it was a rental for federal proposes and is thus a copyright infringement absent consent of the software copyright owner.\textsuperscript{233} The consignment rules in Article 2-326 thus cannot create a disguised “rental” under federal copyright law.\textsuperscript{234}

\begin{itemize}
  \item \textsuperscript{226} U.C.C. § 2-326 (1999); see generally Quinn, supra note 28, at ¶ 2-326[A].
  \item \textsuperscript{227} U.C.C. § 2-326(1)(a) (1999).
  \item \textsuperscript{228} U.C.C. § 2-326(2) (1999).
  \item \textsuperscript{229} U.C.C. § 2-326(1)(b) (1999); see generally Quinn, supra note 28, at ¶ 2-326[A][5].
  \item \textsuperscript{230} 880 F. Supp. 957, 965 (E.D. N.Y. 1995).
  \item \textsuperscript{231} Central Point Software, 880 F. Supp. at 965; see Pub. Law 101-650; 104 St. 5089 (Dec. 1, 1990).
  \item \textsuperscript{232} 17 U.S.C. § 109(a) 91994).
  \item \textsuperscript{234} Compare U.C.I.T.A. § 102(a)(40) (1999) (stating that the term “license” includes a consignment of a copy and containing no provision comparable to UCC Section 2-326).
\end{itemize}
10. **Sales or Return (Consignments)**

a. **Article 2**

In a sale or return, goods are subject to claims of the buyer's creditors while in the buyer's possession unless the seller takes specific steps to notify third parties of the true nature of the transaction. Those steps, per Article 2-326(2), are either: (1) posting an appropriate sign indicating the goods are on consignment; (2) establishing that the business is generally known to be selling goods of others; or (3) complying with the financing provisions of Article 9. Even if the parties use terms like “on consignment,” the transaction is still deemed a “sale or return” unless the seller takes these steps.

b. **Copyright Act**

For copyrighted software, the rules are different. With regard to the rights, a copyright license may be limited in time, so that the rights are “returnable” when the license period ends. However, this fact alone does not make them subject to licensee's creditors. If the license is exclusive, then the licensee is an owner of the rights licensed within the scope of the license, and a lien on the licensee's interest would be another transfer of ownership requiring a writing signed by the licensee. If the license is non-exclusive, then it is not assignable to the licensee's creditors in any case without the consent of the licensor.

What about copies? *Little Brown & Co. v. American Paper Recycling Corp.* addressed that problem. Used books were consigned to a recycler for destruction. When the recycler sold the books, the publisher sued for copyright infringement, and the recycler asserted a “first sale” defense. However, since the consignment of the books was only a bailment, no title passed to...

---

235. U.C.C. § 2-326(2) (1999); see generally Quinn, supra note 28, at ¶ 2-326[3][4].
236. U.C.C. § 2-326(3) (1999); see generally Quinn, supra note 28, at ¶ 2-326[5].
237. U.C.C. § 2-326(3) (1999); see generally Quinn, supra note 28, at ¶ 2-326[5].
239. 17 U.S.C. §§ 101 (defining “owner” and “transfer of ownership”) and 204(d) (1994).
the recycler, and the first sale defense did not apply.243

11. Importance of Title

a. Article 2

Before Article 2, the question of "title," who held it when and where, was the critical determinant of rights and obligations in a sales contract both at common law and under the Uniform Sales Act.244 Professor Llewellyn was not enamored with this approach. He preferred to discard this "lump concept" in favor of "narrow issue" solutions.245 In a major departure from pre-UCC law, Article 2-401 does just that. It dispenses with questions of title as the determinant for critical issues in a sale of goods:

Each provision of this Article with regard to the rights, obligations and remedies of the seller, the buyer, purchasers or other third parties applies irrespective of title to goods except where the provision refers to such title.246

This was a major innovation in Article 2. Instead of looking to the status of title as the problem-solving device, Article 2 instead addresses specific issues with solutions tailored for that problem.247 Title is dethroned. We must remember that contracts for the sale of goods raise primarily state law matters. Article 2, a state statute, can therefore freely dispense with questions of title to property interests in goods as necessary to meet is state law objectives.

b. Copyright Act

Copyrighted computer programs, however, are property interests created by federal law. Under the Copyright Act, title to a copy is often critical for determining rights, obligations, and remedies. For example, Section 107 of the Copyright Act provides a fair use defense to an infringement claim.248 However, knowingly using a

244. See Hawkland, supra note 24, at § 2-401.
245. Id.
247. Id.; see also Quinn, supra note 28, at ¶ 2-401[A].
copy obtained by wrongful means can vitiate a fair use defense.\textsuperscript{249} This would include, for example, knowing use of a purloined manuscript,\textsuperscript{250} obtaining a copy of a computer program from the Copyright Office by false representations,\textsuperscript{251} or acquiring ownership of a film print by misrepresenting its intended use.\textsuperscript{252} Section 109 of the Copyright Act contains a "first sale" doctrine restricting the copyright owner's ability to control subsequent disposition of certain copies. However, the first sale doctrine only applies to "the owner of a particular copy or phonorecord lawfully made under this title."\textsuperscript{253} "Mere authorized possession of a copy, if title in the tangible copy does not pass to the possessor, will not trigger the [first sale] limitation of Section 109(a), and hence, will not affect the copyright owner's rights under Section 106(3)."\textsuperscript{254} Section 117 allows a copy of a computer program to be loaded into RAM without triggering an infringement, but, again, the exemption only applies to "the owner of a copy of the computer program."\textsuperscript{255} Title to copies remains an important concept for copyright law.\textsuperscript{256}

12. Mandatory Transfer of Title

a. Article 2

Article 2-401(1) provides flatly that "[a]ny retention or reservation of by the seller of title (property) in the goods shipped or delivered to the buyer is limited in effect to reservation of a security

\textsuperscript{249} 4 Nimmer & Nimmer, supra note 56, at § 13.05[A][1][d].
\textsuperscript{251} See Atari Games v. Nintendo of America, Inc., 975 F.2d 832 (Fed. Cir. 1992).
\textsuperscript{253} 17 U.S.C. § 309(a) and (d) (1994). "The privileges prescribed by subsection (a) and (c) do not, unless authorized by the copyright owner, extend to any person who has acquired possession of the copy of phonorecord from the copyright owner by rental, lease, loan or otherwise, without acquiring ownership of it."\textsuperscript{254} Id.
\textsuperscript{255} 17 U.S.C. § 117 (1994); see Allen-Myland, 746 F. Supp. at 536-37 (holding that section 117 did not authorize the use of microcode where the copy was not lawfully acquired).
interest." This is one of the few sections of the UCC that cannot be changed by agreement. It has two effects. First, even if the parties intend to reserve title in the seller, and the agreement so provides, the seller cannot prevent the passage of title to the buyer upon delivery of the goods. Second, any title interest retained by the seller is converted, at best, to a security interest. A "sale" consists of the passing of title from the seller to the buyer for a price. Although title does not determine crucial issues of rights and obligations, passage title still remains a major concept in determining the scope of Article 2. Thus, the requirement that in a sale there is a mandatory passage of title is a critical structural support for all of Article 2.

b. Copyright Act

This result is repudiated preemptively for copyrights. First let us consider mass market transactions in software, such as our old friend LINUX. Copies of mass marker software are made available through non-exclusive licenses, and as a matter of preemptive federal law, there is no transfer of ownership ("title") at all to the embodied computer program. Acquiring a retail copy of LINUX may pass title to the copy, but does not and cannot pass "title" to or ownership in the embodied computer program regardless of what Article 2-401 says.

Now let us look at assignments and exclusive licenses, which are transfers of copyright ownership. The prior Copyright Act of 1909 included a judicial gloss called the "indivisibility doctrine." It essentially meant that only the totality of rights under the copyright could be "assigned;" anything less was a "license." The current

259. See O'Donnell, 622 N.E.2d at 575 ("[Article] 2-401(1) . . . restricts the parties' contractual freedom to delay passage of title by agreement [and] negates any attempt . . . to forestall passage of title beyond the moment of final delivery"); see generally HAWKLAND, supra note 24, at § 2-401:3; ANDERSON, supra note 17, at § 2-401:182.
260. See O'Donnell, 622 N.E.2d at 575; see generally HAWKLAND, supra note 24, at § 2-401:3; ANDERSON, supra note 17, at § 2-401:182.
262. See QUINN, supra note 28, at ¶ 2-106[A][2].
264. See 3 NIMMER & NIMMER, supra note 47, at § 10.01[A].
Copyright Act has eliminated the "indivisibility doctrine." Section 201(d)(2) now provides that "[a]ny of the exclusive rights comprised in a copyright, including any subdivision of the rights specified in section 106, may be transferred . . . and owned separately." This means that when a licensor transfers a divisible copyright interest, the licensor retains the following ownership interests: a beneficial ownership interest in the rights transferred, i.e., a right to sue for infringement as this may effect royalties due; a residual divisible interest in all rights not granted; a statutory termination right under certain conditions; and a reversionary interest allowing the transferor to reclaim the rights and sue for copyright infringement if the license is cancelled for breach. Put another way, an exclusive license does not pass ownership of the entire copyright, but only the exclusive rights designated within the scope of the license.

A licensor's retained interest is a true ownership interest and not a mere security interest. This means that the licensor can exercise all of its rights directly upon the happening of the triggering event without the necessity of first conducting a foreclosure sale under Article 9. A beneficial owner who has transferred a copyright ownership interest in exchange for royalties has immediate standing to sue for infringement if the assignee does not act. A licensor may sue for any use by a licensee outside the scope of the license, i.e., for infringement of its divisible reserved interest. A licensor's termination rights, unlike a mere security interest that would be lost to a foreclosing senior creditor, cannot be contracted away prior to its vesting.

265. See 3 Nimmer & Nimmer, supra note 47, at § 10.02[A].
269. 17 U.S.C. § 203; see 3 Nimmer & Nimmer, supra note 47, at § 11.02. Note that this is an interest that may not be contracted away.
272. See Sun Microsystems, 188 F.3d at 1115; Schoenberg, 971 F.2d at 926; S.O.S., 886 F.2d at 1081.
273. 17 U.S.C. § 203(a)(2)(5) (1994) ("Termination of the grant may be effected notwithstanding any agreement to the contrary, including an agreement to make a will to make any future grant."). This limitation reflects a Congressional intent to protect authors against unremunerative transfers. See Mills Music v. Snyder, 469 U.S. 153, 173 (1985); see generally 3 Nimmer & Nimmer, supra note 47, at § 11.01[B].
including seizing any infringing copies. In none of these cases must the licensor first conduct a foreclosure sale or accord the licensee a right of redemption under Article 9.

In sum, a non-exclusive license of a computer program, as a matter of federal law, cannot be a sale - a transfer of title for a price - in the embodied computer program. An exclusive license, while a transfer of ownership, lacks the incidents of a "sale" under Article 2. Thus, this central conceptual support for Article 2, one that determines its entire scope of application, is incompatible with basic requirements of copyright law. The Copyright Act explodes yet another critical structural support in Article 2 where software is concerned.

13. When Title Passes

a. Article 2

Although title has diminished importance in Article 2, it is still necessary to have a default rule for when title passes to serve needs outside Article 2. Tax law is an example. Article 2-401 does the job, providing default rules that set a precondition to the passage of title and providing four variations for different situations. The precondition is that the goods must be "identified to the contract." Identification does not shift title to the buyer, but rather marks the point at which the buyer can first acquire an insurable "special property interest" in the goods.

Once the identification hurdle is surmounted, Article 2-401 provides four working rules for transferring title in different situations. The first and overarching rule is that title passes in

---

277. See, e.g., New England Yacht Sales, Inc. v. Commissioner of Revenue Service, 504 A.2d 506, (Conn. 1986); see generally Hawkland, supra note 24, at § 2:401.3; Quinn, supra note 28, at ¶ 2-401[A][4].
279. U.C.C. § 2-501(2) (1999) (special property interest in buyer even though seller retains title); see Hughes v. Al Green, Inc., 418 N.E. 2d 1355 (Ohio 1981); see generally Hawkland, supra note 24, at § 2:501; Quinn, supra note 28, at ¶ 2-501[A].
accordance with the explicit agreement of the parties. 280

Absent agreement, the usual rule is that title passes to the buyer “at the time and place at which the seller completes his performance with reference to the physical delivery of the goods.” 281 This is in keeping with the Article 2 model that delivery and payment are concurrent obligations. 282 There are two exceptions. If the seller must ship the goods, title passes when the goods are shipped, unless there is a specified destination, in which case title passes when the goods arrive. 283 If the contract requires delivery without moving the goods, then title passes on delivery of documents of title; if no documents are required, at the time of contracting. 284 The default rules for determining when title to goods passes under Article 2 in the absence of express agreement are, not to put too fine a point on it, complex. 285 They are not the rules under the Copyright Act.

b. Copyright Act

The Copyright Act speaks in terms of “ownership” rather than “title.” A “copyright owner” is the owner of any of the exclusive rights under a copyright, 286 and a “transfer of ownership” is essentially an assignment, exclusive license or mortgage of some discrete bundle of these rights. When does this ownership interest pass (“vest”) under a license? The Copyright Act does not give an explicit answer. Section 205, however, establishes a system for recording transfers in the Copyright Office and provides rules for determining priority among competing transfers. 287 The federal scheme preempts state law. 288 It leaves us two cases to consider: exclusive license vs. exclusive license, and exclusive license vs. nonexclusive license. 289

280. U.C.C. § 2-401(2) (1999) (“Unless otherwise explicitly agreed . . . “).
282. See infra notes 344-50 and accompanying text.
283. U.C.C. § 2-401(2)(a) and (b) (1999).
284. U.C.C. § 2-401(3) (a) and (b) (1999).
285. See Applied Information Management, Inc. v. Icart, 976 F. Supp. 149, 153 n.2 (E.D. N.Y. 1977) (“However, no section of the UCC assists in determining whether a transaction involves a transfer of ownership [in a copy]. [Although UCC 2-401 contains several default rules] it provides no guidance as to whether title ever passes under a given agreement. [P]roposed section 2B-501 . . . would resolve this question . . . “).
289. Compare U.C.I.T.A. § 501(a) (1999) (establishes that rights pass as provided in
When determining the priority of one exclusive license over another exclusive license, Section 205(a) provides that, as between the two exclusive licenses, the "one executed first prevails" if it is recorded in the time and manner required under Section 205 before the later transfer. Otherwise, the later transfer if first recorded prevails.

Although there is sparse case law on the subject, this would seem to establish the rule that, absent contrary agreement, a copyright ownership interest "vests" on execution of an exclusive license. Of course, if either exclusive license is recorded, the priority rules in Section 205 roll into play, and the one first recorded as required by that section prevails. The Copyright Act therefore indicates a default notion that a copyright ownership interest passes on execution of license, not performance. It certainly does not pass on delivery of a copy. U.S. Naval Institute v. Charter Communications illustrates the difference. Tom Clancy granted exclusive U.S. publication rights in The Hunt For Red October with the proviso that the book not be released until October to coordinate with the U.K. publication date. The U.S. publisher jumped the gun and released the book in September, and Clancy sued. He claimed that the transfer of rights did not become effective until October, the performance date, making the early release an infringement. Not so. Under the contract, the transfer of ownership became effective on execution, not the release date, so there was a breach of contract, but no infringement.

contract, and default rule that they pass when the information exists and is identified in contract, which, for existing works, would occur on execution); U.C.I.T.A. § 109(a) (express deferral to preemptive federal law).

290. 17 U.S.C. § 205(d) (1994). For a recorded license to prevail, it must be recorded "in the manner required to give constructive notice under subsection (c)." Id. Section 205(c) in turn requires that, in order for a recorded document to give constructive notice, the document must specifically identify the work to which it pertains so that it can be located by a search of the records, and that the work be registered. Id. at § 205(c). What if the work is registered after the license is recorded? In re AEG Acquisitions Corp., 127 B.R. 34 (Bankr. C.D. Ca 1991), acknowledged that a recorded copyright mortgage in an unregistered film became perfected when the work was subsequently registered, i.e., the registration "related back" to validate the prior recording.

291. Contrary statements in In re Amica, 135 B.R. 534 (Bkrrptcy. N.D. Ill. 1992) are discussed infra at notes 467-82 and accompanying text.

292. 936 F.2d 692 (2d Cir. 1991).

293. Charter Communications, 936 F.2d at 695, 696. See also Applied Information Management, Inc. v. Icart, 976 F. Supp. 149, 153 n.2 (E.D. N.Y. 1977) ("However, no section of the UCC assists in determining whether a transaction involves a transfer of ownership [in a copy]. [Although UCC 2-401 contains several default rules] it provides no guidance as to whether title ever passes under a given agreement. [P]roposed section 2B-501 . . . would
As for determining the priority of an exclusive license and a nonexclusive license, Section 205(d) deals with conflicting "transfers," not just "transfers of copyright ownership." Thus, it applies equally to exclusive and non-exclusive licenses, with one exception. Under Section 205(e), a written non-exclusive license, whether or not recorded, trumps an exclusive license if either: (1) it was executed first; or (2) it was taken in good faith and without notice before the exclusive license is recorded. Again, the Copyright Act prefers measuring rights from execution, not performance or delivery.

Finally, regarding copies, the Copyright Act does not contain a rule for when title to a copy passes, leaving that to state law. However, as mentioned above, it does provide that unauthorized use of a copy before title passes is an infringement. Contractual restrictions may indicate that an ownership interest has not passed even though the license is perpetual and a single fee is paid.

14. Revesting of Title Upon Rejection

a. Article 2

What happens when the buyer wrongfully refuses to accept the goods, or fails to make a payment when due, or repudiates its obligations under a contract of sale? Under Article 2-401(4), upon a rejection or refusal to accept the goods, whether or not justified, title to the goods reverts to the seller. Similarly, on a justified revocation of acceptance, title also revests in the seller. Revesting occurs automatically by operation of law.

b. Copyright Act

Not so for copyrights. The gap-filler rule is that upon a licensee's default, the copyright interest only revests in the licensor if the

resolve this question . . . ."

295. But see Alces & See, supra note 14, at § 15.1 (arguing, based on case law, that title to copies of sheet music passed on delivery of copies, and that the same rule should apply to copyright interest, but acknowledging that the agreement of the parties controls).
296. DSC Communications Corp. v. Pulse Communications, 170 F.3d 1354, 1360 (Fed. Cir. 1999), cert. denied, 120 S. Ct. 286 (1999).
297. U.C.C. § 2-401(4) (1999); see National Fleet Supply, Inc. v. Fairchild, 450 N.E.2d 1015 (Ind. App. 1983); Joseph T. Ryerson & Sons, Inc. v. Commodity Engineering Co., 689 F.2d 478 (4th Cir. 1982); see generally Hawkland, supra note 24, at § 2-401.5; Quinn, supra note 28, at ¶ 2-401[A][3].
default allows cancellation of the license and the licensor elects to do so.\textsuperscript{298} Elaborating this point requires a quick glance at how civil actions for infringement of copyright are heard.

Federal courts have exclusive jurisdiction over any civil action "arising under" the Copyright Act.\textsuperscript{299} A federal question arises if the complaint seeks a remedy expressly allowed in the Copyright Act or requires an interpretation of the Act; otherwise, the case belongs in state court.\textsuperscript{300} In contract actions, the litmus test is whether the complaint alleges breach of a condition to, or a covenant of, the license. If a failure of a condition, then the license is ineffective, making unauthorized use an infringement.\textsuperscript{301} If a breach of a covenant, then the question is whether the breach is so material as to justify cancellation.\textsuperscript{302} If not, then the claim is for breach of contract, not infringement, and belongs in state court.\textsuperscript{303} If so, then the plaintiff has an election of remedies: affirm the license and sue for damages, or cancel and sue for infringement.\textsuperscript{304} Suing only for damages can be regarded as affirming the contract, leaving the license in place.\textsuperscript{305} Indeed, if the license is exclusive and the licensor does not elect to cancel, then the licensor's attempted exercise of the licensed rights make the licensor an infringer.\textsuperscript{306}

What this means is that there is no automatic revesting of "title"

\textsuperscript{298} Compare U.C.I.T.A. § 502(c) (1999) (rejection of copy revests title to copy) and § 706(2) (rejection of copy does not cause automatic cancellation and revesting unless a material breach of whole contract).

\textsuperscript{299} 17 U.S.C. § 1338(a) (1994).

\textsuperscript{300} See generally 3 NIMMER & NIMMER, supra note 56, at § 12.01 (discussing application of rules).


\textsuperscript{302} See Schoenberg, 971 F.2d. at 932. Although the Schoenberg court uses the word "rescission," it uses that word to mean "cancellation." Id. See U.C.C. § 2-106 (1999).

\textsuperscript{303} See Charter Communications, 936 F.2d at 692; Fantastic Fakes, 661 F.2d at 483-84 ("A mere breach of covenant may support a claim of damages for breach of contract but will not disturb the remaining rights and obligations under the license including authority to use the copyrighted material."); see generally 3 NIMMER & NIMMER, supra note 56, at § 10.12[A].

\textsuperscript{304} See Fosson v. Palace (Waterland) Ltd., 78 F.3d 1448, 1454-55 (9th Cir. 1996); Costello Pub'g Co., 670 F.2d. at 1045; Nolan v. Sam Fox Pub'g Co., Inc., 499 F.2d 1394, 1400 (2d Cir. 1974) (deciding under the 1909 Copyright Act); see generally 3 NIMMER & NIMMER, supra note 56, at § 10.15[A].

\textsuperscript{305} See Charter Communications, 936 F.2d at 692; Dodd, Mead v. Lilienthal, Inc., 514 F.Supp 105 (S.D.N.Y. 1981); 3 NIMMER & NIMMER § 10.15[A].

\textsuperscript{306} See U.S. Naval Institute v. Charter Communications, 936 F.2d 692, 965 (2nd Cir. 1991) ("Indeed, the licensor may be liable to the exclusive licensee for copyright infringement if the licensor exercises rights which have theretofore been exclusively licensed."); Dodd, Mead & Co., 514 F. Supp at 105 (writer who sued publisher for unpaid royalties and also attempted to distribute book infringed exclusive publication rights of publisher); see generally 3 NIMMER & NIMMER, supra note 56, at § 10.15[A].
in the licensor by operation of law upon a licensee’s breach or repudiation. Revesting only happens if the licensor makes an affirmative election to cancel the license, or if the license by its own terms causes an automatic reversion on default. By the same token, a license that waives the licensor’s right to cancel, even for material breach, precludes revesting and a consequent infringement suit. Unfortunately, one case, In re Amica, Inc., got this pathetically wrong. It held that upon a licensee’s rejection of a copy, the copyright interest automatically revested in the licensor by operation of law due to Article 2-401(4). This spurious result is dissected below.

15. Rights of Seller’s Creditors Against Goods Sold

a. Article 2

Article 2-402 deals with the problem of delayed deliveries, that is, where the buyer pays for the goods, but delays taking delivery. What happens to a third party creditor who loans money to the seller on the strength of what looks to be unsold inventory? To deal with this situation, Article 2-402(1) provides as a general rule that the rights of the seller’s unsecured creditors are subject to the buyer’s right to recover identified goods. However, this priority does not apply if the identification of the goods was fraudulent under the law of any state where the goods are situated, excluding good faith retention by a merchant-seller for a commercially reasonable time. Article 2 does not determine what that state law might be, but simply leaves it undisturbed.

b. Copyright Act

What are the rights of an unsecured creditor in a copyrighted work as against a subsequent licensee? As discussed elsewhere, those priorities will be allocated under the priority scheme in

308. See Fosson, 78 F.3d at 1448.
309. See In re Amica, 135 B.R. at 534.
310. See infra notes 473-82 and accompanying text.
313. U.C.C. § 2-402(2) (1999); see generally QUINN, supra note 28, at ¶ 2-402[A][1].
Section 205 of the Copyright Act. Generally, priority will be determined by who records first in good faith in the Copyright Office. The exception will be if the subsequent licensee takes under a written non-exclusive license in good faith and without notice of the creditor's rights. In any case, federal law, not Article 2, sets priorities.

16. Good Faith Purchaser For Value

a. Article 2

It may happen that a seller owns less than full legal title to the goods offered for sale. At the extreme end, the seller may be a thief and the goods stolen. Or the seller may be a bailee to whom the goods were entrusted who nonetheless purports to sell them as the seller's own. These situations require some accommodation between the rights of the lawful owner of the goods and the innocent buyer who purchases in reliance on the seller's apparent authority. Article 2-403 provides a series of rules to deal with these situations.

The basic or "shelter" rule is that a buyer only gets what the seller had to give. As Article 2-403(1) puts it, "a purchaser of goods acquires all the title which his transferor had or had power to transfer except that a purchaser of a limited interest acquires rights only to the extent of the interest purchased." Thus, a buyer of stolen goods acquires nothing and the seller may still recover them. The situation becomes more complicated when the seller has something more. In that case, Article 2-403 provides two exceptions: the voidable title rule and the entrustment rule.

Under Article 2-403(1), a seller with voidable title can transfer good title to a good faith purchaser for value. The UCC does not define voidable title in a comprehensive fashion, leaving that to state law development. It does, however, provide that the doctrine applies in at least four special cases enumerated in Article 2-403.

Article 2-403(2) also allows a buyer in the ordinary course to acquire title that can even be superior to that of the seller in the "entrusting" situation. "Entrusting" is broadly defined to include any

---

314. See supra notes 287-96 and accompanying text.
315. Compare U.C.I.T.A. § 109(a) (1999) (deferring to federal priority scheme); see also Alces & See, supra note 14, at § 15.2 (agreeing with this result).
316. See generally Quinn, supra note 28, at ¶ 2-403[A][2].
317. U.C.C. § 2-403(1) (1999); see generally Quinn, supra note 28, at ¶ 2-403[A][4].
delivery and acquiescence in retention of possession regardless of any condition by the entrusting party. However, the entrusting rule only applies where the entrusted party is a “merchant who deals in goods of that kind.” And the purchaser must be a “buyer in the ordinary course,” which the UCC defines as:

a person who in good faith and without knowledge that the sale to him is in violation of the ownership rights or security interest of a third party in the goods buys in the ordinary course from a person in the business of selling goods of that kind but does not include a pawnbroker.

Assuming that these hurdles are surmounted, then such a buyer takes good title to the goods, which may even be superior to those of the transferor.

b. Copyright Act

Copyright law takes a different approach. It adopts the basic “shelter” rule that a transferor may not convey any greater interest than the transferor owned. However, it rejects the “voidable title” and “entrustment” exceptions in the UCC. The innocent intent of a transferee will not prevent a finding of infringement liability, although it may reduce the available remedies. Where a transferee utilizes a work supplied by another, the transferee’s ignorance that the supplier wrongfully copied or appropriated the work will not immunize the transferee from liability to the legitimate copyright owner. Apparent authority is not a defense to a claim of copyright infringement. Similar rules apply to

318. U.C.C. § 2-403(3) (1999); see generally Quinn, supra note 28, at ¶ 2-403[A][9].
319. U.C.C. § 2-403(2) (1999); see generally Quinn, supra note 28, at ¶ 2-403[A][9][b].
320. U.C.C. § 1-201(9) (1999); see generally Quinn, supra note 28, at ¶ 2-403[A][9][c].
321. For further discussion of the scope of a license, see cases discussed supra at note 94; see generally 3 Nimmer & Nimmer, supra note 56, at § 10.10[B].
322. Compare U.C.I.T.A. § 506 (1999) (transferee takes subject to terms of license - no voidable title or entrustment rules).
323. See ARP Films, Inc. v. Marvel Entertainment Group, 952 F.2d 643 (2d Cir. 1991) (holding that a licensee who uses the licensor’s information in an unauthorized manner, even if acting in good faith, may nonetheless be liable for an infringement); see generally 4 Nimmer & Nimmer, supra note 56, at § 13.08.
324. See Buck v. Jewell La Salle Realty Co., 283 U.S. 191, 198 (1930) (deciding under the 1909 Copyright Act); Costello Publishing, 670 F.2d at 1035; see generally 4 Nimmer & Nimmer, supra note 56, at § 13.08.
disposition of copies. Thus, a sale of copies by a bailee without authorization is an infringement, even though the bailee may have ostensible title.326

Stenograph v. Simms327 reached exactly this result. Stenograph licensed software to Varlack, which Simms claimed Varlack gave her as a gift. Stenograph sued for copyright infringement and conversion of the copies of the software.328 Simms' claim that the copy had been sold to Varlack was found to be incorrect, because the license agreement specifically prohibited transfer, making the "first sale" doctrine inapplicable.329

17. Buyer's Right to Goods on Seller's Insolvency

a. Article 2

Article 2-501 gives a buyer a "special property interest" in goods that are identified to the contract.330 This interest gives a buyer an insurable interest in the goods.331 It also allows a buyer to recover the goods upon the seller's breach or repudiation, and gives a right of replevin.332 A particularly important remedy comes in Article 2-502. This section allows a buyer who has paid all or part of the purchase price for goods in which there is a special property interest to recover the goods if the seller becomes insolvent within ten days of the first payment.333 There is some argument that a buyer's right to reclaim under Article 2-502 is


328. A claim for conversion of a copy is not preempted. See 1 Nimmer & Nimmer, supra note 56, at § 1.01[B][1][i].


330. U.C.C. § 2-501 (1999); see generally Anderson, supra note 17, at § 2-501:3 (what constitutes identification); Hawkland, supra note 17, at § 2-501:1 (importance of determining "identification").

331. U.C.C. § 2-501(1), (3) (1999); see generally Anderson, supra note 17, at § 2-501:30; Hawkland, supra note 17, at 2-501:3.


superior to the rights of lien creditors, including the trustee in bankruptcy. 334

b. Copyright Act

Now, what about copyrights? Let us assume that a licensee has paid all or a portion of the license fee under a copyright license for an identified work, but that the copies have not yet been delivered. Does the licensee then have a “special property interest” in the rights or the copies allowing reclamation in the case of the licensor’s insolvency? 335

Answering this question requires looking at the Bankruptcy Code. 336 In re Select-A-Seat Corp., 337 a case decided under the old Bankruptcy Act, held than an executory exclusive software license could be terminated by the trustee for a bankrupt licensor, thus denying the licensee its exclusive rights despite payment of a $140,000 license fee. Lubrizol Enterprises, Inc. v. Richmond Metal Finishers, Inc., 338 applying the new Bankruptcy Code, reached the same conclusion and allowed a bankrupt licensor to terminate an executory non-exclusive technology license despite partial payment of royalties. These cases thus held that a licensee, whether exclusive or non-exclusive, has no “special property interest” in intellectual property rights allowing it to recover them in case of a licensor’s insolvency. As Lubizol put it: “[the licensee] would be entitled to treat rejection as a breach and seek a monetary damages remedy; however, it could not seek to retain its contract rights in the technology by specific performance even if that remedy would ordinarily be available in this type of contract.” 339 In response, Congress added Section 365(n) to the Bankruptcy Code, allowing a licensee under certain conditions to retain its rights in intellectual property, including their embodiments. 340 Thus, the right, if any, of a licensee to recover either rights or copies in case of a licensor's insolvency is determined by federal bankruptcy law.

334. See generally Hawkland, supra note 17, at § 2-502:6; Quinn, supra note 28, at ¶ 2-502[A][3].
335. Compare U.C.I.T.A. § 811 (1999) (no concept of special property interest but specific performance available as a remedy); § 813 (licensee may elect to continue use after licensor's breach).
337. 625 F.2d. 290 (9th Cir. 1980).
338. 756 F.2d. 1043 (4th Cir. 1984).
339. Lubrizol Enterprises, 765 F.2d at 1048.
not Article 2-502.

This is consistent with the Copyright Act. A lien or hypothecation of a copyright interest is a transfer of copyright ownership, which requires a writing. Because the buyer's special property interest is conceptualized as a type of security interest, it would also need a writing signed by the licensor to be effective. Such a lien cannot be implied by state law. Moreover, a special property interest under Article 2-501 does not effectuate a transfer of title to the copies. Thus, if the ownership of the copies resides with the bankrupt licensor, a licensee has no first sale privilege to dispose of them.

18. Buyer's Right to Inspect

a. Article 2

Venerable tradition has it that a buyer can inspect the merchandise. The question is not whether but when. Where the contract is silent, Article 2-512 provides two rules on the timing of inspection: the normal rule, and the variant rule. The normal rule is that a buyer has a right to inspect identified goods before payment or acceptance. Inspection can occur "at any reasonable time and place and in any reasonable manner." The variant rule says that a buyer is not entitled to inspect before payment in three cases: (i) where the parties so agree; (ii) where the contract is C.O.D.; or (iii) where the contract provides for "payment against documents of title, except where such payment is due only after the goods become available for inspection." These rules apply

343. 17 U.S.C. §§ 109(a), 117 (1994); see CMAX/Cleveland, Inc. v. UCR, Inc., 804 F. Supp. 337, 356 (M.D. Ga. 1992) (holding that when a copy of software was transferred to creditors, the privilege to continue using the copy under Section 117 ceased).
345. U.C.C. §§ 2-512, 513 (1999); see generally Quinn, supra note 28, at ¶ 2-513[A].
346. U.C.C. § 2-513(1) (1999); see generally Quinn, supra note 28, at ¶ 2-513[A][2].
347. U.C.C. § 2-513(3) (1999); see generally Quinn, supra note 28, at ¶ 2-513[A][3].

Where the contract calls for "payment against documents," e.g., order bill against sight draft, it is the documents that control payment and since they will normally arrive before the goods themselves, inspection is not only legally deferred but deferred as a practical matter as well. Since the use of documentary payment terms is common, this
irrespective of title to the goods.\textsuperscript{351}

\textbf{b. Copyright Act}

Copyrights are not the same. Certainly, a licensee can inspect a copy. Examine the book to make sure the ink doesn't run. Check a software package to verify it includes a CD instead of 3.5" floppies. Look in the videocassette box to check that the movie on the cassette label is the same as the one on the box. All perfectly acceptable. But if inspection goes beyond checking the characteristics of the copy and requires examining the embodied copyrighted work, then the Copyright Act has something to say about when - and if - inspection is allowed without consent of the copyright owner.\textsuperscript{352}

If inspection of a computer program requires loading the program onto the user's computer to examine how it works, then, unlike under Article 2, the status of title to the copy is of critical importance. Loading a program means making a copy, one of the exclusive rights reserved to the copyright owner.\textsuperscript{353} Doing so without authorized is an infringement.\textsuperscript{354} Section 117 does allow

\textsuperscript{351} U.C.C. § 2-401 (1999).
\textsuperscript{352} Compare U.C.I.T.A. § 603 (1999) (no inspection right for submission to satisfaction of a party); § 604 (no inspection right where inspection would provide substantially all the value of information that cannot be returned); § 608(b) (no inspection before payment if inconsistent with contract).
\textsuperscript{353} 17 U.S.C. § 106(1) (1994); see Novell, Inc. v. Network Trade Center, Inc., 25 F. Supp.2d 1218, 1229 (D. Utah 1997); Sega Enterprises, Inc. v. Accolade, Inc., 977 F.2d 1510 (9th Cir. 1992) (intermediate copying of computer object code constituted copying but allowed as fair use); Atari Games v. Nintendo of America, Inc., 975 F.2d 832 (Fed. Cir. 1992) (single unauthorized copy of computer program supports claim of infringement); see generally 2 NIMMER & NIMMER, supra note 28, at § 8.08 ("[It is] clear that the input of a work into a computer results in the making of a copy, an hence, that such unauthorized input infringes the copyright owner's reproduction rights.") The Novell case, while doubtless correct on this point, is mistaken on its application of Article 2, as discussed infra at notes 536-37 and accompanying text.
\textsuperscript{354} 17 U.S.C. § 501(a) (1994); see Stenograph LLC v. Bossard Associates, Inc., 144 F.3d 96, 101 (D.C. Cir. 1998) (loading software from a floppy disc into RAM causes a copy to be made); Fonar Corp. v. Domenick, 105 F.3d 99 (2d Cir. 1997); MAI Systems Corp. v. Peak Computer, Inc., 991 F.2d 511, 518 (9th Cir. 1993); Bateman v. Mnemonics, Inc., 79 F.3d 1532
loading a copy of a program onto a hard disk, but only by the owner of a copy. If the licensee does not own the copy, then this privilege does not exist, and loading the program for inspection is an infringement. If title to the copy reverts in the licensor, because of, say, rejection of the copy, then the Section 117 privilege ends. Some types of inspection, even without copying, can also be an infringement. For example, a video store may not allow patrons to watch ("inspect") videos in a private room prior to purchase because this infringes the copyright owner's public performance right. A computer store may not allow customers to take home programs for "home inspection" under a deferred billing plan since this would violate the program owner's exclusive rental right. In sum, where copyrighted works are concerned, any "gap-filler" inspection rights implied by state law must yield to limitations under federal law unless the copyright owner agrees otherwise.

(11th Cir. 1996) (issue whether literal copying of source code for purposes of determining interoperability an infringement).


356. See MAI Systems, 991 F.2d at 518-519. Note that Congress amended Section 117 in the Digital Millenium Copyright Act to allow limited copying for servicing, thus abrogating the specific holding in MAI Systems. See Synergetics Technologies v. IDB Mobil Communications, 871 F. Supp. 24, 29-9 (D. D.C. 1994) (holding that the right to inspect software under Section 117 existed only because title to the copy had passed under UCC 2-401).


360. Another emerging issue involves computer programs provided over the Internet via cable modems. Cable services, including video-on-demand, are the subject of the Cable Television Consumer Protection and Competition Act of 1992. (Pub.L. No. 102-385, 106 Stat. 1460 codified variously in 47 U.S.C. §§ 521- 596.) The Act provides a comprehensive scheme for the Federal Communications Commission to set cable service rates. See Time Warner Entertainment Co. v. F.C.C., 56 F.3d 151 (D.C. Cir. 1995). It preempts all state regulations of cable service rates inconsistent with the Act. 47 U.S.C. § 543(a)(1). Can state law allow a cable subscriber to view ("inspect") a program provided by the cable service before payment, or would such a rule be a regulation of "rates" preempted by the Act? Storer Cable Communications v. City of Montgomery, 806 F. Supp. 1518, 1544 (M.D. Ala. 1992) held that a city ordinance which prohibited price discrimination based on geographic location, although neutral on its face, was nonetheless a preempted rate regulation. But see Cable Television of
19. Perfect Tender

a. Article 2

The "perfect tender" rule in Article 2-601 allows the buyer to reject the whole "if the goods or the tender of delivery fail in any respect to conform to the contract." Under Article 2-711(1), the buyer may then cancel the entire contract. Thus, for a non-conformity in the physical items alone, a buyer may cancel the entire contract. In Article 2's perfect tender model, acceptance of a performance marks a sharp boundary between two very different worlds. Before acceptance, the buyer can reject "if the goods or the tender of delivery fail in any respect to conform to the contract." If the buyer does reject, the buyer must seasonably notify the seller and specify the defects or risk being barred from any remedy for the nonconformity. After acceptance, the landscape changes. A buyer's revocation requires that "the nonconformity substantially impairs the value to him," a far more difficult measure than the perfect tender one.

b. Copyright Act

Section 202 of the Copyright Act provides that in a copyright license the terms transferring rights are independent of those transferring copies. Although no court has yet been faced with the issue, it is fair to ask whether the perfect tender rule is consistent with Section 202. Consider a custom software license where the licensee agrees to pay one million dollars for a copyrighted database program to be delivered on a CD. The licensor delivers the program on a DVD. If the perfect tender rule were strictly applied, then the licensee would be entitled to cancel the entire license for a nonconformity merely in the copy. But Section 202 says that terms relating to transfer of the copy do not effect the conveyance of the copyright interest, so that delivery - or non-delivery - of the physical object does not effect the copyright

New York v. Finneran, 954 F.2d 91 (2d Cir. 1992) (local regulation of "downgrade" charges for changing from premium to basic cable service not preempted).

362. U.C.C. § 2-601 (1999); see generally QUINN, supra note 28, at ¶ 2-601[A][4].
364. U.C.C. § 2-608(1) (1999); see generally QUINN, supra note 28, at ¶ 2-608[A][1].
365. Compare U.C.I.T.A. § 704(a) and (b) (1999) (no "perfect tender" rules except in mass market contract only calling for a single delivery of a copy).
transfer. The licensee should remain liable for as least that portion of the one million dollars attributable to the copyright interest. Presuming otherwise, as the perfect tender rule does, would mean that terms effecting the transfer of the material object also effected the transfer of the copyright interest, contrary to Section 202.366

20. Buyer's Obligations for Rejected Goods

a. Article 2

When the buyer rightfully rejects the goods, three interrelated sections of Article 2 determine the buyer's further rights and obligations. Article 2-602 sets the context. Basically, the buyer may not exercise any ownership interest in the goods, and must hold unpaid goods in the buyer's possession with reasonable care until the seller can reclaim them.367 Under Article 2-603(1), if the seller is not present in the marketplace, a merchant buyer has a duty, absent contrary instructions from the to seller, to make reasonable efforts to resell the goods for the seller's account if they are perishable or threaten to decline in value speedily. If the goods are not perishable, then the buyer nonetheless has the option of reselling them for the seller's account under Article 2-604. In so doing, the buyer is held only to the obligations of good faith conduct, and such conduct does not amount to an acceptance of the goods or a conversion.368

b. Copyright Act

Again, copyright licenses raise a different calculus. For these purposes, we can assume that "rejection" means that the licensee has declared the licensor in default for a material breach.

First let us start with the copyright interest. As discussed above, there is no automatic revesting of "title" (copyright interest) in the licensor unless the licensee makes an affirmative election to cancel the license or the license causes an automatic reversion on default.369 If cancellation ("rejection") does occur, then the licensee

366. See Oddo v. Ries, 743 F.2d 630 (9th Cir. 1984) (rejection of manuscript did not terminate copyright interest). Regarding the Perfect Tender rule for software, see D.P. Technologies, 751 F. Supp. at 1038; but see In re Amica, Inc., 135 B.R. at 534, which is further discussed infra at notes 467-82 and accompanying text.

367. U.C.C. § 2-602(2) (1999); QUINN ¶ 20602[A].

368. U.C.C. §§ 2-603(3) and 2-604 (1999).

369. See Fantastic Fakes, 661 F.2d at 483-84 ("A mere breach of covenant may support
has no right or duty to relicense the copyright interest. To the contrary, if the licensee tries to do so after cancellation, the licensee becomes an infringer.\textsuperscript{370}

As to copies, as discussed above, a rejection of a copy does not, under Section 202, affect the copyright interest unless the license so provides. Assume that the license does provide that failure to deliver a particular copy is material breach and for this reason the licensee elects to cancel. In that case, if rejection means that title to the copy has not passed, then the licensee has neither the right nor the duty to resell the rejected copy, as this would infringe the licensor's exclusive distribution rights.\textsuperscript{371}

21. Seller's Right to Resell

\textit{a. Article 2}

What happens when the buyer wrongfully refuses to accept the goods, or fails to make a payment when due, or repudiates its obligations under a contract of sale? The first thing that happens is that "title" to goods revests in the seller by operation of law.\textsuperscript{372} Then the UCC remedy provisions roll into play.\textsuperscript{373} One particular option an aggrieved seller may want is the right to resell the goods to mitigate damages. The UCC has several specific provisions that allow the seller to do so.\textsuperscript{374} The procedures for reselling the goods are set forth in Article 2-706.

\textit{b. Copyright Act}

As discussed above, for the copyright interest there is no automatic revesting of "title" in the licensor by operation of law

\begin{quote}
\textsuperscript{370} See \textit{ARP Films}, 952 F.2d at 649 (where licensor repudiated license, licensee's continued exploitation indicated election to affirm contract making failure to pay royalties a material breach); see \textit{generally} 3 \textit{Nimmer & Nimmer}, supra note 56, at \$ 10.12[A]. \textit{See supra} notes 61-79 and accompanying text.
\end{quote}

\begin{quote}
\textsuperscript{371} 17 U.S.C. \$ 106(3) (1994); \textit{Dodd, Mead & Co.}, 514 F. Supp at 105 (exclusive license).
\end{quote}

\begin{quote}
\textsuperscript{372} U.C.C. \$ 2-401(4) (1999); \textit{see supra} notes 257-65 and accompanying text.
\end{quote}

\begin{quote}
\textsuperscript{373} U.C.C. \$ 2-703 (1999) (cataloging seller's remedies); \textit{see generally} \textit{Quinn}, \textit{supra} note 56, at \|$ 2-703[A].
\end{quote}

\begin{quote}
\textsuperscript{374} \textit{See generally} \textit{Quinn}, \textit{supra} note 56, at \|$ 2-703[A][4] (cataloging seller's remedies that looks to the goods).
\end{quote}
Article 2 Cannot Apply to Software

upon a licensee's breach or repudiation. If the breach is not material, then the licensor may have claim damages, but may not disturb the licensee's rights. Even if the breach is material, revesting only happens if the licensor makes an affirmative election to cancel the license or the license causes an automatic reversion on default. If the license is exclusive and the licensor does not elect to cancel, then the licensor's attempted exercise of the licensed rights makes the licensor an infringer.

As for copies, the Copyright Act may impose limits on the right to resell, depending on whether the party providing the copies is the licensor or the licensee. Assume the licensor delivers copies to a licensee for exclusive distribution, and the licensee breaches. (In Article 2 terms, the “buyer-licsee” is in breach.) The licensor nonetheless has no right to take and sell unsold copies absent a cancellation as this would infringe the licensee's exclusive distribution rights. Assume it is the licensee who manufactures copies for delivery to the licensor. (In Article 2 terms, the “buyer-licensor” is in breach.). Then on material breach by the licensor, there is authority that the licensee may resell the copies to mitigate damages.

375. See supra notes 369-75 and accompanying text.
376. See Fantastic Fakes, 661 F.2d at 483-84; see generally Nimmer & Nimmer, supra note 56, at § 10.12[A].
377. See supra notes 369-75 and accompanying text.
378. See Charter Communications, 936 F.2d at 965; Dodd, Mead & Co., 514 F. Supp. at 105; see generally 3 Nimmer & Nimmer, supra note 56, at § 10.15[A].
380. See Bourne v. Walt Disney Co., 68 F.3d 621 (2d Cir. 1995). In Platt & Munk Co., Inc. v. Republic Graphics, Inc., 315 F.2d 847 (2d Cir. 1963), a case decided under the 1909 Act, a manufacturer licensed to produce educational toys tied to sell them in mitigation when the copyright owner refused to pay. As Justice Friendly put it:

The question is whether an unpaid manufacturer of copyrighted goods, which are alleged to be defective by the copyright proprietor who has ordered them, may sell them in satisfaction of his claim for the contract price without infringing the “exclusive right” of the proprietor to “publish ... and vend the copyrighted work.” ... It seems exceedingly strange that [this] question should arise for the first time ... one hundred and seventy-three years after the initial grant of copyright protection by Congress ... .

Platt & Munk Co., 315 F.2d at 849. The Court allowed the sale. But see 2 Nimmer & Nimmer, supra note 56, at § 8.12[B][3][b] (arguing that the reasoning in Platt was rendered unnecessary under the current Copyright Act by the codification of the “first sale” doctrine in Section 109(a)).
22. Buyer's Security Interest

a. Article 2

Under Article 2-711(3), upon rightful rejection or revocation, a buyer has a security interest in any goods in the buyer's possession for any payments made. The buyer may hold and resell such goods in like manner as any aggrieved seller.

b. Copyright Act

Under the Copyright Act, an aggrieved licensee who rejects the license or the copies has no security interest at all in the copyright, and a limited one at best in the copies. With regard to the copyright, a security interest constitutes a "transfer of copyright ownership." As such, it must be signed by the copyright owner to be effective. Even if the licensee pays for the software and the vendor cashes the check, there is no effective security interest in the copyright without a signed writing so providing. In other words, upon rightful or wrongful rejection or revocation by a licensee, the licensee has no security interest in the copyright for the amounts paid unless the licensor so agrees in writing. As to copies, the licensee may have a security interest in them, but on foreclosure could only sell the copies subject to the limited use privileges in the Copyright Act. Any licensed use, such as a right to copy code into a new program, would not be granted.

23. Chart of Statutory Differences

The following chart summarizes the previous discussion, showing the irreconcilable differences between Article 2 and the Copyright Act.

---

382. 17 U.S.C. § 204(a); see In re Avalon Software, 209 B.R. at 520-521 (no security interest in copyrighted software absent compliance with signature requirements of federal law).
383. See Konigsberg Int'l, 16 F3d at 357 (no exclusive license absent signature even with payment).
### Chart of Statutory Differences

<table>
<thead>
<tr>
<th>Article 2</th>
<th>Copyright Act</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-105: “Goods” are tangible, movable, and in single location at time of identification</td>
<td>§ 202: Copyrightable works are intangible, immovable and simultaneously everywhere</td>
</tr>
<tr>
<td>2-106: “Sale” means passing of title in goods</td>
<td>§ 201: No transfer of copyright ownership in non-exclusive licenses</td>
</tr>
<tr>
<td>§ 203(d): Only transfer divisible copyright ownership in exclusive license within scope of license</td>
<td></td>
</tr>
<tr>
<td>2-201: Statute of frauds with traditional exceptions</td>
<td>§ 204(a): Writing requirement for exclusive licenses; traditional exceptions inapplicable</td>
</tr>
<tr>
<td>2-206(1)(b): Contract formed by shipment of goods</td>
<td>§ 202: No copyright license from transfer of copies</td>
</tr>
<tr>
<td>2-207(3): In contract by conduct, terms determined by “knock-out” rule and Code defaults</td>
<td>§ 204(a): No exclusive license by conduct; if implied non-exclusive license, no knock-out rule for terms</td>
</tr>
<tr>
<td>2-208: Terms interpreted by commercial practice</td>
<td>§ 301: Where applicable, interpretations based on federal policies preempt state rules</td>
</tr>
<tr>
<td>2-210(2): Rights and obligations assignable absent material impairment</td>
<td>§ 101: Exclusive licenses presumed assignable</td>
</tr>
<tr>
<td></td>
<td>Non-exclusive licenses not assignable; copies transferable under specific conditions for first sale, computer use privilege, and nonprofit libraries</td>
</tr>
<tr>
<td>2-301: Basic obligations of buyer and seller: unitary, dependent, concurrent</td>
<td>§ 202: Basic obligations of licensor and licensee: compound, independent, asynchronous</td>
</tr>
<tr>
<td>2-309(2): Contract for successive performances of indefinite duration terminable at will</td>
<td>§ 203: Exclusive licenses of indefinite duration perpetual; non-exclusive licenses may be terminable at will (split in authority)</td>
</tr>
<tr>
<td>2-314: Implied warranty of merchantability</td>
<td>First Amendment: Limits on implied warranties for some program functionality?</td>
</tr>
<tr>
<td>2-326(1): Sale on Approval</td>
<td>§ 109(a): Preempts U.C.C. for software rentals</td>
</tr>
<tr>
<td>2-326(2): Sale or return (consignments): Buyer’s creditors superior unless seller takes specific steps</td>
<td>§ 202(d); 204(a): Licensor’s retained interest superior to licensee’s creditors unless creditors take certain steps; § 109(a): First sale doctrine inapplicable to consignee</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>2-401:</td>
<td>Title to goods not determinative of rights and remedies</td>
</tr>
<tr>
<td>2-401(2):</td>
<td>General rule, title to goods passes on delivery</td>
</tr>
<tr>
<td>2-401(2):</td>
<td>By operation of law, title to goods passes to buyer and any reservation of title by seller is a mere security interest</td>
</tr>
<tr>
<td>2-401(3):</td>
<td>Mandatory revesting of title to goods in seller upon rejection or repudiation, whether or not correct</td>
</tr>
<tr>
<td>2-402(1):</td>
<td>Buyer's right to recover goods in seller's possession superior to seller's creditors in some cases</td>
</tr>
<tr>
<td>2-403:</td>
<td>Person with voidable title can still pass good title to buyer in ordinary course</td>
</tr>
<tr>
<td>2-502:</td>
<td>Buyer has special property interest in identified goods superior to seller's lien creditors in case of seller's bankruptcy</td>
</tr>
<tr>
<td>2-512:</td>
<td>Generally, buyer has a right to inspect goods before payment</td>
</tr>
<tr>
<td>2-601:</td>
<td>“Perfect tender” rule says any non-conformity in goods a material breach of whole contract</td>
</tr>
<tr>
<td>2-602 &amp; 2-603:</td>
<td>On rightful rejection, buyer has right and in some case obligation to resell goods for seller.</td>
</tr>
<tr>
<td>2-703, 2-706:</td>
<td>Seller may take and resell goods to cover if buyer defaults</td>
</tr>
<tr>
<td>2-711:</td>
<td>Buyer has security interest in rejected goods to extent of price paid</td>
</tr>
</tbody>
</table>

C. Article 2 on Its Own Terms

We have worked through the mechanics of Article 2 and the Copyright Act, looking at where the underlying models are
incompatible. Now it is time to come back to basics. On its own terms, does Article 2 apply to software transactions? Article 2-102 sets forth the scope of the sales article thus: "Unless the context otherwise requires, this Article applies to transactions in goods . . . ." So, "goods" and "transactions" are the key words. Let us examine whether a software license falls within these parameters.

1. **A Computer Program is Not a "Good"**

What is a "good" under the UCC? Article 2-105(1) says:

"Goods" means all things (including specially manufactured goods) which are moveable at the time of identification to the contract for sale other than money in which the price is to be paid, investment securities and things in action.385

Thus, under Article 2, there are two tests for "goods:" a substance test - moveability; and a timing test - identification. Computer programs do not fit under either one.

a. **Moveability**

Is a computer program moveable? Several courts and commentators have thought so. But remember, we are not talking about the copy of the computer program; we are talking about the computer program itself. That is what these authorities say is a "good." So try this experiment. Log on to the Linux Web site and download a copy of LINUX onto your hard disc. If the learned authorities are right - if a computer program becomes a tangible, moveable good when it is embodied in a copy - then LINUX the computer program has migrated to your hard disc and is no longer available on the Linux Web site. It should have moved. But wait. Go back to the Linux Web site and check it out. LINUX is still there, waiting to be copied. It has not moved. In fact, it is now in two places at the same time. How can this be? A computer program is supposed to be moveable. This means travelling from one place to another. How can a moveable computer program be in two places at the same time?

Try another test. Run to Anchorage and start distributing copies of LINUX without complying with the GNU Public License; infringe the copyright.386 Now run to Miami and do the same thing. If LINUX

386. Obviously, this is a thought experiment. Those who actually try this do so at their own risk.
the computer program is indeed moveable in the marketplace then it stands to reason that it cannot be in two different marketplaces at the same time. You cannot sue for the same injury to the same car in two different places. Moving from point A to point B necessarily means leaving point A. If you believe this about LINUX, be prepared for a rude awakening. Like things in action, which by definition are not goods, a copyright in a computer program is an intangible interest, which may be enforced simultaneously everywhere.

These hypothetical experiments are tongue-in-cheek, but the point is not. A copy of a computer program may be tangible and moveable, but not the computer program - the copyrightable work. The computer program is intangible, immovable, and simultaneously everywhere. Those that argue otherwise make the junior's mistake of confusing the copy with the copyright.

b. Identification

Now let's look at the identification test. Is the software identified to the contract or by the contract? Again, consider LINUX. If the computer program LINUX is a good, then what exactly is it that is identified to the contract when you acquire a CD at CompUSA?

If LINUX is a good, then under Article 2-401, title to LINUX the computer program must necessarily pass by operation of law. But "title" to LINUX would mean the entire, worldwide, perpetual copyright, while the GNU Public License only grants a limited, non-exclusive license. LINUX the computer program is not identified to the contract; rather the object of the contract - the scope of the grant - is identified by the license. Goods, being tangible, can be identified by the senses apart from the contract and must be identified to it. Copyright interests, being intangible, are only delimited by words in the contract.

"But," you say "I left CompUSA with a CD. This is a tangible copy. Surely this is the good identified to the contract." Maybe, but beside the point. The issue is not whether the blank CD is identified, but whether the computer program embodied on the CD is also identified. Article 2-501(1) is explicit that identification must occur no later than: (i) for existing goods, when the contract is made; or (ii) for future goods, when they are designated as the

387. See Alces & See, supra note 14, at § 8.15.2 ("[T]he acquisition of intellectual property itself requires 'identification' by means other than mere transfer of physical possession of the object in which the intellectual property is embodied.")
goods to which the contract refers. Now, when you took the CD home, you probably copied the computer program onto your hard drive. That hard drive copy did not exist when you stood at the cash register. What existed, what was necessarily the only object that could be identified to the contract under Article 2-501, was the copy of the computer program in the CD case. You can argue that the copy on your hard drive was a future good, but did the store clerk really designate that payment was not for the CD in your hand but for the hard disk copy you might make later on? I think not. That means that under Article 2-501, the copy that was made on your hard drive could not have possibly been identified to the contract. So if the copy on your hard drive is the computer program that does not “work,” that means — but you get the point. And what happens when a copy is downloaded over the Internet? Kaplan v. Cablevision of Pennsylvania, Inc. held that the delivery of cable television programming signals was not a “transaction in goods” under the UCC because programming signals are not “fairly identifiable as movables before the contract is performed.” Digital signals passed by electronic means over the Internet to download copies of computer programs should also not qualify as identified goods.

Article 2 is about the sale of wares - tangible, moveable hard goods identifiable by the senses. Computer programs are intangible products of the mind that are immovable and simultaneously everywhere. They are not delimited by the senses but described in words. They are not identified to a contract but by a contract. Yet the Article 2 eschatology would have it that these intangibles nonetheless descend into physical form where they lose forever their incorporeal essence to become only dense matter. Tales of angels that take on human form and forfeit their immortality make engaging movies and wonderful stories. But such imaginings belong to myth, not law.

2. A Software License is Not a “Sale”

Article 2-105(1) says that Article 2 applies to “transactions” in goods, not just “sales.” Does this mean that Article 2 can apply to software licenses because they are transactions? An interesting distinction, but pointless. Article 2 deals with, and the definition of

388. U.C.C. § 2-501(1)(a) and (b) (1999).
390. Kaplan, 671 A.2d at 723.
goods is cast in terms of, a contract of sale.\textsuperscript{391} Article 2-106(1) says:

In this Article unless the context otherwise requires, "contract" and "agreement" are limited to those relating to the present or future sale of goods. "Contract for sale" includes both a present sale of goods and a contract to sell goods at a future time. A "sale" consists of the passing of title from the seller to the buyer for a price (Section 2-401). A "present sale" means a sale which is accomplished by the making of the contract.\textsuperscript{392}

The inclusion of transactions within Article 2-105(1) is meant to cover a limited number of familiar situations which are not technically sales but are nonetheless are covered in the statute, most particularly consignments.\textsuperscript{393} It does not sweep every commercial transaction involving goods into Article 2.

\textit{Novemedix, Ltd. v. NDM Acquisition Corp.}\textsuperscript{394} made that point. The case involved a settlement agreement to a patent infringement suit, which called for the delivery of the allegedly infringing inventory to the patent owner. When the inventory proved to be defective as well as infringing, the irate patent owner brought suit for breach of the implied warranty of merchantability under Article 2. To the patent owner, this was surely a "transaction in goods" within the scope of Article 2. The Federal Circuit saw it otherwise:

Many commercial transactions are not governed by Article 2 of the UCC: sale of land or securities, assignment of a contract right, or \textit{granting a license under a patent or copyright}, to name just a few. The mere fact that title to Article 2 goods changes hands during one of these transactions does not by that fact alone make the transaction a sale of goods . . . . Here, the mere fact that the parties' settlement agreement includes the transfer of personal property in its provisions does not make it a simple sale of goods (slippers) for a price (release of a legal claim). . . . The settlement agreement is no more a contract for the sale of slippers than it is a licensing agreement for NDM's patents. In fact, it is neither exclusively; it is a mixed contract . . . .\textsuperscript{395}

\textsuperscript{392} U.C.C. § 2-106(1) (1999).
\textsuperscript{393} Article 2-326; QUINN ¶ 2-102[a][1].
\textsuperscript{394} See Novemedix, Ltd. v. NDM Acquisition Corp., 166 F.3d 1177 (Fed. Cir. 1999).
\textsuperscript{395} Novemedix, 166 F.3d at 1182 (emphasis added).
Novemedix indicates the real reason for trying to apply Article 2 to software transactions: to impose an implied warranty of merchantability or fitness. But these implied warranties only apply to a "contract" of a sale, not any "transaction" in goods.

A sale means "the passing of title from the seller to the buyer for a price." In a non-exclusive software license, there is as a matter of federal law no transfer of copyright ownership to begin with, hence no sale of the computer program ever occurs. There may be a sale of the CD embodying the computer program, but not the licensed computer program. In an exclusive license, there is a transfer of copyright ownership, but this is not a passing of title in the Article 2 sense due to the numerous ownership interests retained by the licensor.

Think again of LINUX. This license is non-exclusive. A customer who acquires a copy of LINUX does not acquire any ownership interest in the computer program, so the legally separate license from the Linux organization cannot be a sale of goods even under Article 2's own definitions. It seems so counter-intuitive. The customer is after all walking off with a physical object - the CD and the packaging. It also seems counter-intuitive that the Sun does not orbit the Earth. But looking beyond façade to fact yields the conclusion that neither intuition is correct. A software transaction is a license of a computer program, not a sale of goods.

Some commentators say that software vendors call a software transaction a license to avoid the first sale doctrine, but this is incorrect. These commentators think that a software transaction can only be a sale or a license, one or the other, take it or leave it. They fail to understand that software transactions have two independent components, one of which might involve the sale of a copy, but the other part, the real substance, involves a license of

396. U.C.C. § 2-314(1) (1999) ("a warranty that goods shall be merchantable is implied in a contract for their sale"); 2-315 (warranty of fitness at time of "contracting").
397. U.C.C. § 2-106(1) (1999); see generally HAWKLAND, supra note 24, at § 2-106:2.
399. See infra notes 484-86 and accompanying text.
401. Professor Casti's book, Complexification, discusses the ways that science tries to explain what is really happening when the world behaves at variance with our common sense, i.e., "that Grand Canyon-sized chasm between what we think and what is actually the case." CASTI, supra note 226, at 2-3.
computer information. Software vendors call their transactions licenses to avoid inappropriate application of Article 2 in ways that ignore the license, or worse, subject the license to the default rules in Article 2. Many programs, like Linux, give a licensee greater rights than are allowed by the first sale doctrine, and the licensee needs the license to enable that expanded use. Licensors correctly identify software transactions as licenses because that is exactly what they are.

3. "Predominant Purpose" is the Wrong Test

Despite these conceptual discontinuities, many authorities still try to justify applying Article 2 to software transactions under the predominant purpose test. The argument is that, despite the licensee's paramount goal of obtaining the legal rights in the computer program, since somewhere along the way a use-enabler like a CD floated by, the predominant purpose of the deal is really a sale of goods. The upshot of this reasoning is that terms in the license unpalatable at least to the licensee, typically a disclaimer of warranties, are ignored. As the next section will discuss, this has led to frantic contortions as courts and commentators engage in a desperate struggle to fit the facts into this image. One can imagine Medieval astrologers feeling the same desperation as they tried to plot their patrons' horoscopes using the imagery from Ptolemaic astronomy.

In fact, however, predominant purpose is simply the wrong test. It attempts to draw a dividing line along a single conceptual continuum from services to sales, with services at one end being out of Article 2 and sales at the end being in. This linear continuum, however, exists solely along a state law axis. State law can presume that commercial transactions only fit somewhere along this line, so the question is either-or, one or the other, entirely within Article 2 for all purposes, or entirely without.

But interests in copyrightable computer programs are determined by federal law. This federal interest is orthogonal to the single extension between services and goods and requires analysis in an entirely new dimension. Predominant purpose is inadequate for this multi-dimensional approach. The necessary and proper test is statutory conformity: do the underlying policies and purposes of Article 2 when taken as a whole conform to the requirements of the Copyright Act when applied to software transactions? The Official Comments to Article 1-102 agree this is the correct approach:
[T]he proper construction of the Act requires that its interpretation and application be limited to its reason. . . . The Act should be construed in accordance with its underlying purposes and policies. The text of each section should be read in light of the purpose and policy of the rule or principle in question, as also of the Act as a whole, and the application of the language should be construed narrowly or broadly, as the case may be, in accordance with the purposes involved.\textsuperscript{403}

This test demands a more rigorous analysis that simply reading the definition of goods in splendid isolation. It requires reading the whole of Article 2 section by section to determine whether the way it implements its transactional model conforms with the policies and purposes of the Copyright Act. The UCC itself mandates that it be interpreted as a whole in a manner that promotes its underlying purposes and policies,\textsuperscript{404} not in piecemeal fashion.

Courts applying the predominant purpose test to software transactions simply ignore this requirement. Instead, once they decide to that the transaction is within Article 2, they pick and choose the specific provision they want, such as the statute of frauds or an implied warranty. They do not apply Article 2 as a true code - an integrated, systematic, preemptive whole - but as a grab bag of disconnected statutes out for the plucking.

In application, the predominant purpose test uses rote comparison of the cost of the copy to the amount of the license fee in order to fix the transaction along the services/goods continuum solely on the basis of price.\textsuperscript{405} But this allows too easy manipulation to subvert the federal scheme. If a purveyor of copies of \textsc{Linux} allocates 1\% to the license and \$19.99 to the copy, does this mean one can now ignore Section 202 and treat the sale of the copy as granting a copyright license? What if the allocation is 49\% to the license and 51\% to the copy? Still a sale of goods? What about 51\% license and 49\% copy? Since the value of a blank CD is typically pennies, would it not be appropriate to allocate 1\% to the value of the tangible CD and 99\% to the value of the intangible right to use the computer program in any case? Determining whether a transaction is inside or outside Article 2 merely by moving the price toggle along the sales-service slide bar both abuses copyright law and disgraces the interconnected structure of

\textsuperscript{403} U.C.C. § 1-102(1) cmt. 1 (1999).

\textsuperscript{404} U.C.C. § 1-102(1) (1999).

\textsuperscript{405} See \textit{supra} notes 397-99 and accompanying text.
Article 2.

D. What Law if Not Article 2?

So what contract law does apply to software transactions?

If some contract law applies to software transactions, and that law cannot be Article 2, then the only candidate left, absent UCITA, is the common law of contracts. Common law lacks many benefits of Article 2. It is not tailored to software transactions specifically; it does not provide a comprehensive set of gap-filler rules; it is not uniform among the states; even within a state it is often scattered among a daunting array of statutes and court decisions; and its rigid, formal rules are not adaptable to rapid change. Moreover, both common law and current Article 2 have no provisions to deal with the explosive growth of e-commerce, including click-on contracts, digital authentication, Web-based delivery, or bargaining through electronic agents to name a few. Nonetheless, unless and until a state adopts UCITA, it is all there is.\(^{406}\)

This analysis has particular importance in mass market software transactions, especially those involving “shrinkwrap” licenses. Use of shrink wrap licenses has generated considerable discussion. Two cases, *Step-Saver Data Systems, Inc. v. Wyse Technology*\(^ {407}\) and *ProCD, Inc. v. Zeidenberg*,\(^ {408}\) are usually at the heart of the debate.

In *Step-Saver*, a software vendor supplied prepackaged software with a shrink-wrap license. The customer ordered the software over the phone, then sent a followed-up purchase order detailing the items, price, shipment and payment terms. In response, the vendor sent a confirming invoice and shipped the software with a shrink-wrap license disclaiming all warranties. The action was, surprise, for breach of warranty. The parties agreed to let Article 2 govern the transaction,\(^ {409}\) and on this basis the court applied the “battle of the forms” rule in Article 2-207. Under this rule, held the court, the contract arose with the exchange of purchase order and invoice, so the warranty disclaimer in the shrink-wrap did not become part of the contract, because the customer did not accept it.\(^ {410}\)

\(^{406}\) As of this writing, UCITA has been adopted in Virginia and Maryland.

\(^{407}\) 939 F.2d 91 (3rd Cir. 1991).

\(^{408}\) 86 F.3d 1447 (7th Cir. 1996).

\(^{409}\) For further discussion of this point, see *infra* notes 422-24 and accompanying text.

\(^{410}\) *Step-Saver*, 939 F.2d at 92-103. But what about the license to use the computer program? *Step-Saver*, upon finding the shrinkwrap license invalid, recognized that further distribution of the software without a license could be a copyright infringement, but found
ProCD involved a database of telephone numbers on CD-ROM, available in both a consumer version and, for a higher price, a commercial version. A shrink-wrap license limited the consumer version to non-commercial use only. Zeidenberg purchased a consumer version and made it available to commercial users over the Internet. He claimed, in reliance on Step-Saver, that the shrink-wrap license was unenforceable. The ProCD Court disagreed. Unlike Step-Saver, there was only one form, not an exchange of forms, so Article 2-207 did not apply. The court believed that the operative section was Article 2-204(1): "A contract may be made in any manner sufficient to show agreement, including conduct by both parties which recognizes existence of a contract." ProCD had structured its offer to be accepted by the buyer acknowledging the license terms when it loaded the software and began using it. This created an enforceable contract on the terms of the license.

Any differences in these decisions involves applying Article 2 to mass market software transactions. Both decisions, however, agree on the result under common law: a shrink-wrap license is fully enforceable under the "last shot" rule. At common law, an acceptance must be absolute and unqualified; any variation from the offer is a rejection and new counter-offer. As Step-Saver explained:

Under the common law, . . . an acceptance that varied any term of the offer operated as a rejection of the offer, and simultaneously made a counter offer. This common law formality was known as the mirror image rule, because the terms of the acceptance had to mirror the terms of the offer to be effective. If the offeror proceeded with the contract despite the differing terms of the supposed acceptance, he would, by his performance, constructively accept the terms of the "counteroffer," and be bound by its terms. As a result of these rules, the terms of the party who sent the last form . . . would become the terms of the parties' contract. This result was known as the "last shot rule." 412

This means that when the copies of the software arrive with the

---

412. Step-Saver, 939 F.2d at 99.
The shrinkwrap license, at common law the shrink-wrap constitutes a counter-offer, which the licensee then accepts by using the software. The shrink-wrap license is then enforceable in all of its terms. The result is critical to protect consumers. In Step Saver, the court acknowledged that without the shrinkwrap license, the licensee could face a claim of copyright infringement. It found no infringement in that case, however, because the copyright owner, seizing defeat from the jaws of victory, acknowledged an implied license authorizing the licensee’s use. But this result does not apply across the board. Consider LINUX. The GNU License specifically conditions any exploitation of the copyright on enforceability of the license and the waiver of warranties. If this shrinkwrap were invalid, one would never get to the question of breach of warranty, because the sale of the copy to the licensee in the first instance was unauthorized, the “first sale” and “computer use” privileges would be inapplicable, and the licensee’s act of loading the copy onto a hard drive would be an infringement.

Many critics object to UCITA because they maintain it validates mass market shrink wrap licenses that would otherwise be unenforceable under Article 2. This reasoning is unsound. The correct analysis is that shrinkwrap licenses are fully enforceable in

413. Id.; see generally 12 AM. JUR. 2D Contracts § 92 (1964) (stating that where the offeror agrees to the new terms, then a contract arises on the terms of the counter-offer); RESTATEMENT (SECOND) OF CONTRACTS § 19(1) (1981) (“The manifestation of assent may be made wholly or partly by written or spoken words or by other acts of by failure to act.”) Even the pro-Article 2 commentator agree that this is the result without Article 2. See, e.g., Andrew Rodau, Computer Software: Does Article 2 of the Uniform Commercial Code Apply, 35 EMORY L.J. 853, 857-858 (1988) (“[I]f a computer software buyer [sic] sent a standard purchase order form to a software producer who responded with a standard purchase order confirmation promising delivery . . . and the confirmation forms contain different terms, the common law would treat the purchase order as an initial offer and the confirmation as a counteroffer. Therefore, absent action by the software buyer [sic] that amounted to acceptance of the counteroffer, no contract was created.”) ProCD said this was the result under Article 2-204(1), which has not pleased some commercial law professors. But this is certainly the rule at common law, so the end result in ProCD, that the shrinkwrap license is enforceable, is correct.

414. See Princess Cruises, Inc. v. General Electric Co., 143 F.3d 828, 834 (4th Cir. 1998); Diamond Fruit Growers, Inc. v. Krack Corp., 794 F.2d 1440 (9th Cir. 1986); see generally HAWKLAND, supra note 24, at § 2-207:4. The Seventh Circuit has adopted a different characterization, limiting the “mirror image” and “last shot” rules to executory contracts. Instead, the better approach is to see the contract as formed by “layering,” with use of the software constituting assent to the terms of the shrinkwrap. See Hills’ Pet Nutrition, Inc. v. Fru-Con Constr. Corp., 101 F.3d 63, 64 (7th Cir. 1996). UCITA adopts the Seventh Circuit’s more modern “layering” approach. See U.C.I.T.A. § 207 (1999).

415. Step-Saver, 939 F.2d at 93 n.7.
all particulars under long-standing common law contract rules. Far from validating otherwise unenforceable shrink-wrap licenses, UCITA imposes procedural limits on their use to ensure meaningful disclosure and assent in a ways suited to modern commerce.

Courts have finally begun to face whether Article 2 is compatible with the Copyright Act when applies to software transactions. Given the force with which the copyright critics have raised the preemption issue of late, there is little doubt this rivulet will become a torrent. When the issue is confronted head-on, it is hard to imagine a modern court continuing to apply "sales of goods" imagery to software transactions when the Copyright Act tears the heart out of so much of Article 2.

III. AUTHORITIES ASTRAY

The mathematician Georg Cantor once described what he called the law of conservation of ignorance. A false conclusion once arrived at and widely accepted is not easily dislodged and the less it is understood the more tenaciously it is held. Thus it was a for a millennium with the belief that the Earth was the fixed center of the Universe. Thus it is now with the conceit that Article 2 must be the fixed hub of the commercial universe around which software transactions must necessarily revolve.

A. The Case Law

The conventional wisdom has it that the question whether Article 2 applies to software transactions is now settled. There is hardly even any debate over it, most parties being content merely to string cite a list of cases supposedly so "holding." The cases themselves tell a different story. To understand what they really say, we need to understand how they evolved.

Before the advent of the personal computer, software was provided with a large computer system, often without additional charge. A few early cases held that the total transaction was within Article 2, a result that made little difference because the complaints were invariably about the hardware, not the software. With the rise of the PC and separately licensed software, later courts seized on these early cases as "holding" that Article 2 applied to a separate software license, when in fact they held no such thing. These courts analogized a software license to a "sale of goods" without

ever considering the Copyright Act, leading to embarrassing wrong results. By the late 1980s, one finds a series of decisions that merely assume a software license is within Article 2 because either (1) the parties, not knowing any better, stipulate to apply Article 2, or (2) the court applies the earlier "holdings" without analysis. As the 1990s progressed, software vendors began to raise repeatedly the incompatibilities between Article 2 and the Copyright Act. In every modern case that considers the Copyright Act, the court holds that Article 2 is inapplicable to a software license. When one puts aside the confused reasoning of the earlier cases, the case law in fact affirms that Article 2 cannot apply to software transactions.

So that there is no doubt about it, this section lays out what the case law really says. It generally follows the historical development. With pedantic license, we might divide the cases into four categories: (1) not applicable; (2) circular reasoning; (3) wrong reasoning; and (4) right result.

1. Early Inapplicable Cases

Several early cases cited for the proposition that Article 2 applies to software transactions in fact never addressed the issue at all. These case typically were decided when software was tightly bundled in what are called "turnkey" systems: an integrated hardware and software package that was supposed to work together as a whole. The problems in these early systems were really with the hardware, not the software.

a. Triangle Underwriters, Inc. v. Honeywell, Inc. 418

An early example is the famous Triangle Underwriters. Triangle bought a Honeywell H-110 computer system consisting of "'hardware', or the core computer, printer, collator, and related equipment, and 'software,' the designation for programming created for use in connection with the hardware." In 1979, when Triangle Underwriters was decided, the software industry was much different than it is today. Mainframe computers - "big iron" - were the industry staples, and most software was propriety code written solely for each vendor's platform. 419 Thus, Honeywell's

---

418. 604 F.2d. 737 (2d Cir. 1979).
419. The situation was colorfully described by Frederick P. Brooks, Jr. a system engineer whose experience in developing software for IBM mainframes earned him the sobriquet "farther of the IBM System/360." In 1975, he wrote a classic text on software
compensation was limited to the purchase price for the hardware; it did not even bill for the software, before, during or after installation. The contract was really for the sale of “big iron” with some free software thrown in.

b. Chaltos System v. National Cash Register Corp.421

Another case to the same effect is Chaltos. It involved a breach of warranty claim for the sale of “399/656 disc system” which was identified as “computer hardware.” The problems had to do with the sector seek and storage subsystem of the computer, not the software.422 In any case, “[b]oth parties . . . concede[d] the applicability of the U.C.C.” 423

c. Graphic Sales, Inc. v. Sperry Univac424

This 1987 case involved the lease of a Sperry 90/25 computer system to handle graphic typesetting. The issue was whether the contract included a separate license of an applications program,

engineering, The Mythical Man-Month. In 1995, Professor Brooks, then the Kenan Professor of Computer Science at the University of North Carolina at Chapel, revisited the text. What was the biggest new surprise in the twenty years since it was written? Shrinkwrapped software. He wrote:

> Every software guru I have talked to with admits to being caught by surprise by the microcomputer revolution and its outgrowth, the shrinkwrapped software industry. This is beyond a doubt the crucial change of the two decades since The MM-M. . . . Schumacher stated the challenge more than 20 years ago: What is it that we really require from scientists and technologists? We need methods and equipment which are
> • Cheap enough so that they are accessible to virtually everyone;
> • Suitable for small scale application; and
> • Compatible with man’s need for creativity.

These are exactly the wonderful properties that the microcomputer revolution has brought to the computer industry and its users, now the general public. The average American can now afford not only a computer of his own, but a suite of software that twenty years ago would have cost a king’s salary. . . . In 1975, operating systems abounded: each hardware vendor has at least one proprietary operating system per product line, many had two. How different things are today! Open systems are the watchword . . . .


420. Triangle Underwriters, 604 F.2d. at 743.


422. Triangle Underwriters, 479 F. Supp. at 742; Triangle Underwriters, 635 F.2d at 1084. Note that the contract also warranted the operability of the computer as “goods.”

423. Triangle Underwriters, 635 F.2d at 1084.

424. 824 F.2d 576 (7th Cir. 1987).
and the action was one for fraud when the shocked licensee discovered there was an additional license fee involved. The district court concluded, and the court of appeals affirmed without discussion, that Article 2 and common law applied to the lease of the computer. But the software license was a separate issue entirely. The court found that Sperry did not misrepresent that it was included in the contract for the sale of the computer.

d. USM Corp. v. Arthur D. Little Systems

This 1989 case involved the sale of a “turnkey’ minicomputer based material control system.” The contract was “mixed” in the sense that it involved the sale of a computer and incidental services in properly configuring the hardware. However, the problem was caused by a defect in the disk controller system. There is no mention of software.

e. Xerox Corp. v. Hawkes

This 1992 case, decided by the New Hampshire Supreme Court, involved a breach of warranty claim arising from the lease of a copy machine. Following the advice of Professor Anderson that “Article 2 may be extended by analogy to non-sale transactions, such as equipment leasing,” the court applied Article 2’s implied warranties by analogy to the lease of the machine. It said nothing about software, directly or by analogy.

f. Camara v. Hill

This case involved the sale of a CCDA 640K computer, a Starwriter printer, a copy of WordPerfect, and a dBaseIII accounting package to be customized for the recipient’s use. The

425. Graphic Sales, 824 F.2d at 579.
427. USM Corp., 546 N.E.2d at 890.
428. Id. at 894.
429. Id. at 891.
430. As such, the court quite correctly relied on Triangle Underwriters. Id. at 894.
432. Xerox Corp., 475 A.2d at 9 (citing ANDERSON, supra note 17, at § 2-102:4).
433. Completely missing the point that the New Hampshire Supreme Court was reasoning by analogy to equipment leasing, Colonial Life Ins. cites Hawkes for the proposition that the use of “transaction” in Article 2-102 means that Article 2 applies to a software license. This reasoning also snookered the Seventh Circuit in Micro Data Base.
court found that the contract price was allocated to the equipment, that the accounting software was not delivered, and that the recipient had accepted the computer by using it, thus making the claim for a failure of delivery time barred.\textsuperscript{435}

2. \textit{Interim Wrong Reasoning Cases}

When the PC industry began to make software separately available from the hardware, several cases struggled to find the proper contract law to describe the transaction. Llyewllyn described this struggle aptly: "\textit{Unless the stock} intellectual equipment is apt, it takes extra art or intuition to get proper results with it."\textsuperscript{436} The following cases demonstrate all too well what happens when that extra art or intuition is missing. To be fair, judges are not appointed to indulge in metaphysical musings, but to decide cases. Litigants want answers, not theories, and want them now. To get the job done, busy judges often seize instinctively the tools they know. If that means a short glance at well-known UCC that might be twisted to fit, as opposed to an expedition through scattered case law, which one will a harried judge choose? The problem with these cases is not so much their result as their reasoning, and the precedent it sets. Today's emergency may justify using a hammer to drive in a screw, but that does not make this a fitting technique tomorrow. To assume it does is gives full reign to Cantor's law of the conservation of ignorance. These cases, more than anything else, demonstrate why we need a new uniform law like UCITA, to provide guidance about how to properly deal with software transactions.

\textit{a. Advent Systems, Ltd. v. Unisys Corp.}\textsuperscript{437}

The undisputed winner of the prize for most inapt reasoning must go to \textit{Advent Systems}. Sadly, it is one of the few cases that truly struggled to justify applying Article 2 to software transactions. But the stock intellectual equipment was inapt, and the results horrific.

The dispute involved a non-exclusive software distribution agreement. Advent Systems, a British company, was primarily engaged in producing document management software. Unisys, a

\textsuperscript{435} Camara, 596 A.2d at 350.
\textsuperscript{436} Karl N. Llewellyn, \textit{The First Struggle to Unhorse Sales}, 52 HARV. L. REV. 873, 876 (1939).
\textsuperscript{437} 925 F.2d 670 (3d Cir. 1991).
Duquesne Law Review
Vol. 38:459

computer manufacturer, wanted to become Advent's distributor in the United States. Advent agreed to modify its software and hardware interfaces to run on Unisys hardware. Advent was required to purchase the necessary hardware for this purpose. The Distribution Agreement provided that "Unisys desires to purchase, and Advent desires to sell, on a non-exclusive basis, certain of Advent hardware products and software licenses for resale worldwide." When a dispute arose, Unisys claimed the contract was for a sale of goods and barred under the statute of frauds in Article 2-201 because no quantity was stated. The trial court found that services aspects predominated and so the UCC did not apply. The appellate court said the case raised one central issue: Does Article 2 apply to computer programs? It gave three justifications for concluding it does: (1) reasoning by analogy; (2) policy motivations; and (3) avoidance of inconsistent obligations. None of them make the slightest sense.

Reasoning by analogy: The court began by looking at the definition of "goods" as "all things (including specially manufactured goods) which are moveable at the time of identification for sale." In deciding that computer programs meet this requirement, the court reasoned thus:

Computer programs are the product of an intellectual process, but once implanted in a medium are widely distributed to computer owners. An analogy can be drawn to a compact disc recording of an orchestral rendition. The music is produced by the artistry of musicians and in itself is not a "good," but when transferred to a laser disc becomes a readily merchantable commodity. Similarly, when a professor delivers a lecture, it is not a good, but, when transcribed as a book, it becomes a good. That a computer program may be copyrightable as intellectual property does not alter the fact that once in the form of a floppy disc or other medium, the program is tangible, moveable, and available in the marketplace. The fact that some programs may be tailored for specific purposes need not alter their status as "goods" because the [Uniform Commercial] Code definition includes "specially manufactured goods."

This remarkable statement has the unique quality of being wrong.

438. Advent Systems, 925 F.2d at 675.
439. Id. at 675.
on every point it makes. Let us look at it sentence by sentence.

*Computer programs are the product of an intellectual process, but once implanted in a medium are widely distributed to computer owners.*

No. Computer programs do result from an intellectual process, and once "fixed in a tangible medium of expression" they become copyrightable works protected under the Copyright Act.\(^{440}\) This does not mean that the computer program is then "widely distributed." Under Section 106, the copyright owner has the exclusive right to widely distribute copies of the computer program, but the computer program itself, the copyrightable work, is often jealously guarded.\(^{441}\) What is widely distributed are the copies. This sentence makes the amateur's mistake of confusing the copy with the copyright.

*An analogy can be drawn to a compact disc recording of an orchestral rendition. The music is produced by the artistry of musicians and is not itself a "good," but when transferred to a laser disc becomes a readily merchantable commodity.*

Wrong. Without clearing the intellectual property rights in the music, the laser disc is not merchantable at all. There are four different sets of rights involved. First, there is the sound recording copyright in the sequence of sounds created by the musicians and captured in the laser disc.\(^{442}\) Under Section 202, this copyright is different from the laser disc in which it happens to be embodied. Second, there could be an existing copyright in the musical composition the musicians are playing. This is a separate copyright from that in the sound recording.\(^{443}\) Third, the Uruguay Rounds


\(^{441}\) Take a look at the GNU Open Source License. "When we speak of free software, we are referring to freedom, not price." See also Storm Impact, Inc. v. Software of the Month Club, 13 F. Supp. 2d 782 (N.D. Ill. 1998) (holding that placing shareware on the Internet did not give implied license to redistribute for a fee).

\(^{442}\) 17 U.S.C. § 102(a)(7) (1994) ("sound recordings"). "Sound recordings" are works that result from the fixation of a series of musical, spoken or other sounds, but not including the sounds accompanying a motion picture or other audiovisual work, regardless of the nature of the material objects, such as disks, tapes or other phonorecords, in which they are embodied." 17 U.S.C. § 101 (1994) (definition of "sound recording"); see generally BOORSTYN , supra note 92 § 2.12.

\(^{443}\) See Jarvis v. A&M Records, 827 F. Supp. 282, 292 (D. N.J. 1993) (copyright in sound recording does not extend to sound recording, and vice versa); see BOORSTYN, supra note 92, at § 2.12 ("[W]hen an original song is recorded by any means in any form . . . there are two separate copyrighted works: a musical composition and a sound recording.")
Agreement Act\textsuperscript{444} added Section 1101 to the Copyright Act, giving performers rights in their live musical performances equivalent to copyright. Finally, the musicians may have a state law right of publicity in their performances.\textsuperscript{446} A person desiring to make a laser disc copy must first obtain authorization from all rights holders or the copy will be pirated.\textsuperscript{446} Even if making a copy is authorized, that does not in itself grant any additional authorization to make further reproductions or to distribute ("merchandize") them.\textsuperscript{447} There are also criminal penalties if the unauthorized reproduction is made willfully for commercial advantage or private financial gain.\textsuperscript{448} Article 2 itself recognizes that to be merchantable, goods must pass without objection in the trade\textsuperscript{449} and that the title conveyed must be good, i.e., there is no infringement of intellectual property rights.\textsuperscript{450} Contrary to\textit{Advent Systems}, a copy of an orchestral rendition does not become a "merchantable commodity" merely because it is embodied in a laser disc. It may not be "merchandized" unless and until the intellectual property rights are cleared in an enforceable license. Indeed, if an unauthorized copy

\textsuperscript{444}. Pub. Law. No. 103-465, 108 Stat. 4809 (Dec. 8, 1994); see Boorstin, supra note 92, at § 6.43. Although this statute was enacted after\textit{Advent Systems} was decided, it is still relevant because courts continue to cite this quotation in\textit{Advent Systems}.


\textsuperscript{446}. See 17 U.S.C. § 1101(a) (1994): Anyone who, without consent of the performer or performers involved . . . fixes the sounds or sounds and images or a live musical performance in a copy or phonorecord . . . shall be subject to the remedies provided in Section 502 through 505, to the same extent as an infringer of copyright."\textit{Id.} (emphasis added).

\textsuperscript{447}. See Quintanilla v. Texas Television, Inc., 139 F.3d 494 (5th Cir. 1998) (merely arranging and paying for videotaping of music concert did not transfer any copyright ownership in resulting tape); Forward v. Thorogood, 758 F. Supp. 782 (D. Mass 1991) (fan authorized to record musical performance for personal use did not thereby obtain any common law copyright in recording under Massachusetts law; applying 1909 Act).

\textsuperscript{448}. See 17 U.S.C. § 506 (1994) (copyright); see generally Boorstin, supra note 92, at § 14.01. The URAA also added new section 2319A to Title 18 of the United States Code, making it a criminal offense for anyone, without consent of the performer, to knowingly and for private financial gain record or tape a live musical performance, or reproduce any copies from an unauthorized fixation. The No Electronic Theft Act, Pub. L. 105-47, 111 Stat. 2678 (Dec. 16, 1977), amended the Act to allow victims to submit statement of loss. See Boorstin, supra note 92, at § 14.09[2].

\textsuperscript{449}. U.C.C. § 2-314(2)(a) (1999); see generally Quinn, supra note 28, at ¶ 2-314[A].

\textsuperscript{450}. U.C.C. § 2-312(1)(a) cmt. 3 (1999); see generally Quinn, supra note 28, at ¶ 2-312[A].
is made willfully and for private financial gain, is not a merchantable commodity at all; it is a one-way ticket to a federal penitentiary.

Similarly, when a professor delivers a lecture, it is not a good, but, when transcribed as a book, it becomes a good.

Not even close. By definition, when the lecture is transcribed, it becomes a "literary work" not a "book." The book is just a particular copy in which the literary work happens to be fixed. This House Report makes this explicit:

The definition of these terms in section 101, together with their usage in section 102 and throughout the bill, reflect a fundamental distinction between the "original work" which is the product of "authorship" and the multitude of material objects in which it can be embodied. Thus, in the sense of the bill, a "book" is not a work of authorship, but it is a particular kind of "copy." Instead, the author may write a "literary work," which in turn can be embodied in a wide range of "copies" and "phonorecords," including books, periodicals, computer punch cards, microfilm, tape recordings, and so forth. It is possible to have an "original work of authorship" without having a "copy" of "phonorecord" embodying it, and it is also possible to have a "copy" or "phonorecord" embodying something that does not qualify as an "original work of authorship." The two essential elements — original work and tangible object — must merge through fixation in order to produce subject matter copyrightable under the statute.

In other words, the oral lecture may be an original work of authorship, but until it is fixed (transcribed), it is not copyrightable. It may, however, be protected by other law; for example, California protects original works of authorship not fixed in a tangible medium of expression. Once it is transcribed, then the lecture becomes a copyrightable literary work, and the book becomes a copy. But the literary work does not merge into the book and

451. See 17 U.S.C. § 101 (defining "literary work"); see generally Boorstin, supra note 92, at § 2.04 ("By definition, an author writes a "literary work" (not a book) which is fixed in a material object (a book). In other words, the book is the copy (material object) in which the copyrightable literary work is embodied."). The sequence of sounds in the lecture may also produce a copyrightable sound recording, but let us leave this aside.


transmogrify into a mere mortal. It retains a distinct, intangible — copyrightable — essence.454

That a computer program may be copyrightable as intellectual property does not alter the fact that once in the form of a floppy disc or other medium, the program is tangible, moveable, and available in the marketplace. The fact that some programs may be tailored for specific purposes need not alter their status as “goods” because the [Uniform Commercial] Code definition includes “specially manufactured goods.”

We have already discussed why this analogy is nonsense. But let us really put the court to the test and ask: under this reasoning, is the decision in Advents Systems itself a “good?” No, I do not mean the copies in the Federal Reporter. I mean the actual decision itself; a statement of law independent of the particular copies in which it happens to appear. This is what Advent Systems is asserting. When intellectual property is incorporated in a physical medium, it loses its separate existence and becomes a good. So, let us apply this test to Advent Systems itself and see what happens.

A computer program is a literary work, the product of an intellectual process. So is the decision in Advent Systems. A computer program is written in a technical language with specific requirements for its form and content. So is the decision in Advent Systems. A computer program often performs a useful function and is not merely decorative. So, too, the decision in Advent Systems. A computer program is compiled in a specific form and embodied in a digital copy such as a floppy disc. The decision in Advent Systems is edited into a written form and made available in written books or on-line. Once embodied in an electronic copy, a computer program, according to Advent Systems, becomes “tangible, moveable, and available in the marketplace.” Once embodied in the written or electronic form the decision in Advent Systems has also become “tangible, moveable, and available in the marketplace.” Do you not have a copy of the decision in a handy Federal Reporter?

Although computer programs may be tailored for specific purposes, they still qualify as specially manufactured goods. Although the decision in Advent Systems may have been rendered

454. We might ask of Advent Systems a related question: What if the professor solemnly avers in the lecture that \(E = mc^2\), and, in reliance on this, I try to build a nuclear power plant with disastrous consequences. Is the dear, befuddled professor liable for “breach of implied warranty” because the content of his lecture became a “good”?
for a specific case, that should not alter its status as a specially manufactured good. By its own reasoning, *Advent Systems* would have to conclude that the decision in *Advent Systems* itself is also a good. Not the copy of the decision; the decision *itself*, the abstract judicial action that altered the legal rights and obligations of the parties in that case and set a precedent for the legal rights and obligations of future parties. That intangible legal rule is, if *Advent Systems* is to be believed, by the very act of being written down, now a tangible, moveable good. Does that not then mean that Advent Systems, the loser in the case, can tear up its copy of the decision *Advent Systems* — i.e., reject the “goods” — and thereby nullify its effect? And would not destroying the copy extinguish — overrule — it? But if by destroying the copy I destroy the decision, then there is no longer any mechanism to merge the decision into the copy, meaning the decision in *Advent Systems* still exists! So if it does exist, then it does not exist; but if it does not exist, it exists. The conclusion is absurd. What does that say about the premise from whence it came?  

**Policy Considerations:** After deciding that software is a “good,” the *Advent Systems* court then argues that good public policy requires applying Article 2 to software:

Applying the U.C.C. to computer software transactions offers substantial benefits to litigants and the courts. The Code offers a uniform body of law on a wide range of questions likely to arise in computer software disputes: implied warranties, consequential damages, disclaimers of liability, the statute of limitations, to name a few. ... The importance of software to the commercial world and the advantages to be gained by uniformity inherent in the U.C.C. are strong policy arguments

455. Self-referential paradoxes have been around for a long time. One of the oldest is that of the Cretan Liar: "All Cretans are liars. I am a Cretan." Both of these sentences cannot simultaneously be true. Supposedly, Aristotle invented logic in an attempt to deal with the Cretan Liar Paradox. We saw this technique previously in the proof of the Halting Problem — applying a program to itself. Perceptive readers will note that this is the technique used by Kurt Gödel, to prove the most celebrated result of Twentieth Century logic, the Incompleteness Theorem. Basically, he proved that any finite axiom system sufficient to "do math" was "incomplete." That is, the system could produce true statements that could not be proven true or false using the logical methods of the system. He did this by, in effect, embedding the paradoxical sentence "This sentence is not provable" within the natural numbers. For further discussion, see Hofstadter *supra* note 226, and Casti, *supra* note 226. Computer programs "do math," and thus are subject to the Incompleteness Theorem. In fact, the Halting Problem follows from the Incompleteness Theorem. For a further discussion of their relationship, see John Casti, *Five Golden Rules: Great Theories of Twentieth Century Mathematics - And Why They Matter*, ch. 4 (1996).
favoring inclusion. The contrary arguments are not persuasive.

The court is quite right that there are strong policy arguments in favor of a uniform body of law to deal with computer information transactions. It is dead wrong that the necessary body of law can or should be Article 2. Actually looking at how Article 2 deals with "the wide range of questions likely to arise in computer software disputes" shows how hopelessly unsuited it is to the task. It was written for a different time and another problem. In Llewellyn's day, courts needed a new code to deal with the newly emerging industrial economy based on mass produced wares. That was then and this is now. Commercial law in our time needs another modernization to deal with computer information, and it is not and can not be Article 2.

Inconsistent obligations: The third reason was the statute of frauds. The Advent Systems court held that Article 2-201 applied to the software license because "segregating goods from non-goods and insisting that 'the Statute of Frauds apply only to a portion of the contract,' would make the contract divisible and impossible of performance within the intention of the parties."457 This separation argument ignores that the fact that segregating the goods from the non-goods is precisely what Section 202 of the Copyright Act requires. If splitting the goods from non-goods would make the contract "impossible of performance" then the court should have treated the non-good copyright aspects as primary and applied the contract law applicable to non-goods.

Had the court looked at the Copyright Act, it would have realized that its "single statute of frauds" approach required abandoning Article 2. The license in question was non-exclusive. Assume for a moment it was exclusive. Then Section 204(a) of the Copyright Act would imposed its own preemptive writing requirement. If the contract was indeed indivisible so that only one writing requirement could apply to the whole, then due to Section 204(a) the "one statute of frauds" could not be Article 2-201. But the very reason the court said Article 2 applied was to use Article 2-201 for the entire contract. If Article 2-201 could not apply to the indivisible exclusive software licensee, then there was no reason to apply Article 2 at all.

Of course, the license in Advent Systems was non-exclusive, and

456. Advent Systems, 925 F.2d at 676.
457. Id.
the court did use Article 2-201. So what does that tell us about Advent System’s rationale for applying Article 2 to a software transaction? Remember now, we are not talking about just any statute. We are talking about Article 2 — a true code, one that preempts an entire field of law and displaces all other laws in its subject area, one that is systematic with all of its parts forming an interlocking, integrated body, and one that is so comprehensive and inclusive it can be administered in accordance with its own basic policies. Does its application depend on the subject matter of the transaction? A detailed analysis of contractual terms? Perhaps a paragraph? A sentence? Even a word? No. According to Advent Systems, it depends on nothing more than the three letters n-o-n. Does “ridiculous” say it well enough?

One would think this was enough, but this court was not done. Having demolished copyright law to get into Article 2, Advent Systems then proceeded to shred sales law. First it looked at the statute of frauds in Article 2-401, which requires a quantity term; the contract did not mention a quantity. Of course not. It was a license. The number of copies depended on how vigorously the licensee exercised the rights. But since Advent Systems had bought into the delusional “goods” imagery, it had no choice but to look for a quantity. After a valiant but ultimately fruitless effort, it gave up and decided that Section 2-401 does not really require a quantity term after all. Instead, it claimed there was an escape hatch in Article 2-404, which allows exclusive output deals without a quantity term but with an obligation of best efforts. That was a problem here, since the licensee did not really give it the old college try. So Advent Systems says that “best efforts” in Article 2-404 does not really mean that at all, only “good faith efforts.” After ignoring so much other law, what was one more statute to raze? Would it be arch to point out that Article 2-404 deals with exclusive output arrangements, whereas the license at issue was non-exclusive, so this escape hatch was really not available to begin with?

Had Advent Systems used the proper imagery, it would have reached the same result with much greater ease. It would have simply applied the state common law statute of frauds. No quantity term to worry about. Then it would have applied the standard rule that the licensee’s obligation to exploit a work is good faith, not best efforts. But in Advent Systems, the stock intellectual

458. The leading case is Zilg v. Prentice-Hall, Inc., 717 F.2d 671 (2d Cir. 1982), which
equipment was lacking, and so this rough beast of a decision, its hour come round at last, ravaged both copyright and sales law as it slouched towards Bethlehem to be born.\textsuperscript{459} \textit{Advent Systems} is more than inapt. It is a monstrosity.\textsuperscript{460}

\textit{b. In re DAK Industries, Inc.} \textsuperscript{461}

A close runner-up for the prize of most nonsense in a single decision is \textit{In re DAK}. Microsoft granted DAK a worldwide, non-exclusive license to make, adapt and distribute copies of Microsoft \textsc{Word}. Microsoft delivered a single copy of \textsc{Word} on a master disc; the license authorized the manufacture of additional copies. DAK agreed to pay a royalty for each copy of \textsc{Word} sold, along with a fixed “minimum commitment” fee as an advance payment against potential royalties. These minimum commitment fees are absolutely common in book, music, motion picture, and software licenses, because they give a licensee financial incentive dealt with the obligation to publish a manuscript under an exclusive license that did not set forth the standard of performance. The trial court read the contract as requiring “best efforts to promote the book fully.” \textit{Zilg}, 717 F.2d at 679. The court of appeals reversed, noting that the author neither bargained for nor acquired an explicit “best efforts” promise from the publisher.

The court held that the promise to publish implies a good faith effort to promote the book including a first printing and advertising budget adequate to give the book a reasonable chance of success in light of the subject matter and likely audience. . . . [Once this obligation is fulfilled,] a business decision by the publisher to limit the size of a printing or advertising budget is not subject to second guessing by a trier of fact as to whether it is sound or valid. \textit{Id.} at 717 F.2d 680. \textit{See also Video Trip Corp. v. Lightning Video, Inc.}, 866 F.2d 50 (2d Cir. 1989) (holding that the obligation to render accountings arose from the implied covenant of good faith); \textit{Doubleday & Co., Inc. v. Curtis}, 783 F.2d 495 (2d Cir. 1985) (holding that a publisher’s decision not to publish a manuscript required the exercise of honesty and good faith); \textit{Alternative Thinking Sys. v. Simon & Shuster}, 853 F. Supp. 791 (S.D. N.Y. 1994) (following \textit{Doubleday}); \textit{Kleenblatt v. Business News Publ’g Co., Inc.}, 678 F. Supp. 698 (N.D. Ill. 1987) (holding that the publisher’s duty to cooperate in the marketing efforts was based on the implied covenant of good faith and fair dealing); \textit{Arnold Productions v. Favorite Film Corp.}, 298 F.2d 540 (2d Cir. 1961) (obligation to use “best efforts” specifically bargained for); \textit{D.S. Magazines, Inc. v. Warner Publisher Services, Inc.}, 640 F. Supp. 1194, 1207 (S.D. N.Y. 1986) (duty to use “best efforts” met by reasonable efforts to meet its duty to act in good faith).

\textsuperscript{459} With apologies to the poet W.B. Yeats.

\textsuperscript{460} And it has spawned an ugly brood. In \textit{Colonial Life Ins. Co. v. Electronic Data Sys.}, 817 F. Supp. 235 (D. N.H. 1993), a district court cited \textit{Advent Systems} without analysis for the proposition that “software has been held to fall within the definition of ‘good’ under the Code.” \textit{Colonial Life}, 817 F. Supp. at 239. In \textit{Micro Data Base Systems v. Dharma Sys., Inc.}, 148 F.3d 649 (7th Cir. 1998), the usually level-headed Seventh Circuit rhapsodized that \textit{Advent Systems} and \textit{Colonial} reach “the right result” and therefore applied Article 2 to \textit{services} under a software development contract. \textit{Micro Data Base}, 148 F.3d at 753.

\textsuperscript{461} 66 F.3d 1091 (9th Cir. 1995).
to exploit the work. DAK declared bankruptcy before paying the entire minimum commitment, although it continued to sell copies. The issue was whether royalties from post-filing exploitation were an administrative expense, payable to Microsoft, or should be credited against the unpaid commitment, which, as an unsecured debt, would be junior to the secured creditors.

Now, this was a bankruptcy case. It goes without saying that bankruptcy court is inclined to leave as much money as it can in the estate. Thus, the DAK court not unexpectedly decided that, because the obligation to pay the entire commitment fee arose before the filing, it was pre-petition debt regardless of whether some installments were due post petition. The case could end right there. But apparently uncomfortable with this statement, the DAK court jumps down the rabbit hole into Wonderland.

The court begins thus: “Second, the pricing structure of the agreement indicates that it was more akin to a sale of an intellectual property than a lease for use of that property.” What? This was a non-exclusive license. Section 101 of the Copyright Act is explicit that a transfer of copyright ownership does not include a non-exclusive license. This transaction could not have possibly been a “sale” of intellectual property.

But the court goes on: “The amount of the minimum commitment, as well as any additional payments, was based on the quantity of units DAK obtained, as in most sales arrangements, not upon the duration of ‘use’ of the property, as in most rental arrangements.” Huh? DAK only obtained one unit, a master disc. It was DAK who made the copies pursuant to the license, not Microsoft. This authorization flows precisely from the copyright under Section 106(1). Unlike a sales arrangement, Microsoft was not an output supplier delivering a quantity of manufactured goods. DAK was making the quantity of units it needed, and the duration of the license to use the Microsoft master disc was the essence of the deal.

But the court won’t stop: “Third, as in a sale, DAK received all of its rights under the agreement when the term of the agreement commenced.” Of course DAK received all of its rights when the term commenced. If it made or sold any copies without having received its rights, it would be a copyright infringer. In fact, if this

---

462. *In re DAK*, 66 F.3d at 1095.
463. *Id.*
464. *Id.*
465. *Id.* at 1092.
Duquesne Law Review

were a "true sale" under Article 2, then DAK would have received its rights — title to the copies — only after Microsoft delivered the master copy, exactly the opposite of this reasoning.

Agonizingly, the court continues: "Fourth, it is more accurate to describe this agreement as granting DAK a 'right to sell' rather than 'permission to use' an intellectual property." This is harrowing. Section 106 grants a copyright owner the exclusive right "to do or authorize any of the following: . . . (3) to distribute copies . . . of the copyrighted work to the public by sale." Granting DAK the "right to sell" by giving "permission to use intellectual property" was precisely what the license was all about.

So why does this happen? Because the DAK Court had the wrong image in mind. It insisted on seeing a software license as nothing more than a sale of goods. This meant it had to find a tangible product to focus on, and so it tried to categorize the transaction as an output deal in which a manufacturer supplies quantities of finished product to a reseller. Its refusal to see the intangible copyright in WORD as separate property lead it to ludicrously inapt results.

c. In re Amica, Inc.\footnote{467}

Another standout judicial creep show is In re Amica. It gets so many things so wrong that for this reason alone it is difficult to classify. The case involved an attempt by a bankrupt developer to recover its software from a non-performing licensee. The developer entered into a license which "irrevocably transfers to [the licensee] all of its rights, title and interest in ant to the Program and its documentation, including copyright in the programs and the documentation with respect thereto, and all trademarks." The developer also agreed to correct bugs and errors during the six month period following execution of the license.\footnote{468} The licensee granted back to Amica a limited, non-exclusive license allowing the developer to perform pre-existing obligations under another license.\footnote{469} The licensor declared bankruptcy and sought to cancel the license because the licensee did not adequately perform in marketing the software.

\footnotesize
\begin{itemize}
\item 467. 135 B.R. 534 (Bankr. N.D. Ill. 1992).
\item 468. In re Amica, 135 B.R. at 557. Helpfully, the decision sets out the license agreement in its entirety.
\item 469. Id.
\item 470. Id. at 559.
\end{itemize}
Now, what we have here is a garden variety exclusive publication license. An author — could be a software developer, or a novelist, or a screenwriter, or a musician — creates a copyrighted work and grants a publisher — could be a software publisher, or a book publisher, or a movie producer, or a music publisher — exclusive publication rights. Under the Copyright Act, the publisher becomes the owner of the copyright interest in the work within the scope of the license. The publisher wants some improvements to help the marketability of the work — correcting bugs in a program, editing galleys of a novel, rewriting the screenplay to accommodate stars or budget, rescoring the music — and naturally retains the author to modify the existing work. Authors usually insist on it. This does not mean that the publisher relinquishes ownership of the original work. What the publisher is doing is commissioning the creation of a new derivative work. Confirming that this is what everyone understood, the software publisher grants back a non-exclusive license to the author to fulfill a pre-existing license, something that it had to do to keep the author from infringing the licensee's exclusive rights. All very straight forward, except to a bankruptcy court trying desperately to squirm out of the deal.

The correct approach would have been to ask whether the licensee's obligation to exploit the work was a material covenant whose breach allowed cancellation. Unfortunately, cancellation would have been barred by express language that the transfer "shall not be subject to termination or revocation under any circumstances except [as allowed] (under the Copyright Act)." It is common in copyright transfers to restrict the licensor's ability to cancel to preserve the licensee's investment in the marketing. The reference to "termination" was obviously a cautious drafter's reminder that, despite this language, the transfer could be terminated after 30 years under Section 203 of the Copyright Act.

So what did the Amica court decide to do? It declined to read the quoted provisions as an immediate transfer and instead

472. For one example of this among thousands, see, e.g., Oddo v. Ries, 743 F.2d 630, 634 (9th Cir. 1984) (involving a joint venture where author hired to rewrite magazine articles to produce new work.)
473. *In re Amica*, 135 B.R. at 542; see Fosson v. Palace (Waterland), Ltd., 78 F.3d 1448, 1454-55 (9th Cir. 1996) (licensor's waiver of the right to cancel enforceable).
474. Why was this reference added? Undoubtedly, the attorney for Amica thought this would protect Amica against a claim for breach of contract should the license be terminated by exercise of the statutory right. It hardly indicated an intent to make the immediate vesting of the license conditional.
concluded that "title in and right (including copyright rights) to the defined 'Product' were intended to pass only after the Program modifications were created by Amica and paid for by BBS." 475 Maybe that is what the contract meant. Maybe the parties did intend that the copyright interest would not pass until the happening of certain conditions precedent after execution of the license. Although on the face of it this is farfetched, had the court stopped there, the decision would be bearable. But apparently realizing that its contractual interpretation was not overly persuasive, the Amica court decides to buttress its finding with an unfortunate foray into Article 2.

First, the Court opines that "title" to the software never passed to the licensee because, under Article 2-401(2), "title to goods passes when the seller completes performance of physical delivery." 476 It then decided that the obligation to make modifications to the computer program constituted an agreement for "future goods" and that "[w]hen future goods must be created, title does not pass until those goods are finished and shipped to the buyer." 477 Concluding that the modifications were never completed, the court decided that "title" to the entire computer program never passed. 478 But this was not a contract to create "future goods." It was an immediate transfer of a copyright in an existing work, along with an obligation to create a new derivative work. At the very best, what may not have passed is an interest in the derivative work, but this would hardly divest ownership of the original work. The assumption that Article 2-401(2) conditions vesting of ownership in a copyrighted work on delivery of a physical copy is directly contrary to the preemptive rules in Sections 202 and 205 of the Copyright Act.

Second, just to be safe, the court latched onto Article 2-401(4)'s proviso that upon a buyer's rejection of goods, title reverts to the seller by operation of law. It decided that because the licensee did not accept the corrections (derivative work), "title" to the entire program reverted to the licensor. 479 But this reasoning again

475. In re Amica, 135 B.R. at 543.
476. Id. at 552.
477. Id.
478. Id. at 542 (Finding No. 30) and 553.
479. Id. at 552. Amica also said: "even if this Court's view of the Agreement . . . was incorrect and title or rights to the PCH software and modifications passed upon signing the Agreement, then such title and rights reverted to Amica by virtue of the default by BBS in complying with its essential obligations under the Agreement." Id. Since such reversion was barred by the express waiver of a termination right, the court meant that this reversion
assumes that the transfer of title to a copy dictates what happens
to ownership of the copyright. It also fails to acknowledge the
contrary authority that cancellation is not automatic, but rather
requires an election of remedies.\textsuperscript{460}

To see the flaw in this reasoning, note that the licensor agreed to
deliver a memorandum of transfer for recording in the Copyright
Office.\textsuperscript{481} The decision does not tell us whether this was recorded,
but assume it was. If Amica's reasoning is correct, then despite
Section 204(d) of the Copyright Act, the licensee's ownership
interest would not "really" have vested until delivery of the copy
and would have reverted upon the rejection of the copy, despite no
recording to that effect. More perceptive courts have duly noted
the folly in this reasoning.\textsuperscript{482}

d. Neilson Business Equipment Center, Inc. v. Monteleone\textsuperscript{483}

Dr. Monteleone entered into an agreement to acquire both
hardware and software for his medical office. When the computer
system did not work, the good doctor sued for breach of implied
warranties. The software vendor claimed that the contract actually
had three distinct subparts — hardware, software, and services. It
claimed that the hardware was the only element that could be
classified as "goods," and because there was nothing defective
about the hardware, Dr. Monteleone's claims must fail.\textsuperscript{484} The court,
however, concluded that the contract was for a "turnkey computer
system which may properly be classified as a package constituting
goods."\textsuperscript{485} As the court put it: "Dr. Monteleone did not intend to
contract separately for hardware and software. Rather, he bought a
computer system to meet his information processing needs."\textsuperscript{486}
Unfortunately, despite what Dr. Monteleone may have intended, a
separate contract for hardware and software is exactly what he
faced under Section 202 of the Copyright Act. Under that provision,
the contract to sell the hardware could not affect a license of the
copyright.

---

\textsuperscript{480} See supra notes 307-08 and accompanying text for authorities so stating.
\textsuperscript{481} In re Amica, 135 B.R. at 557.
\textsuperscript{482} See, e.g., Architectronics, Inc. v. Control Sys., Inc., 935 F. Supp. 425, 432 (S.D. N.Y.
\textsuperscript{483} 524 A.2d 1172 (Del. Super. 1987).
\textsuperscript{484} Neilson Bus. Equip., 524 A.2d. at 1174.
\textsuperscript{485} Id.
\textsuperscript{486} Id. at 1174-75.
e. System Design & Management Information, Inc. v. Kansas City Post Office Employees Credit Union

This case has a curious twist; it was the software vendor who was looking to invoke Article 2. Here, unlike Moteleone, the hardware and the software came from different parties, and the claim was for dysfunctional software. The software license was never signed, and the court concluded that the claim against the software developer was barred by Article 2-201. As discussed above, it is appropriate to apply a state statute of frauds to a non-exclusive copyright license, just not the one in Article 2. The court decided to do so by imagining that the computer program merged in the copy, and opining that the "sale of the software" was the "predominant purpose" of the transaction. It decided that applying Article 2 was appropriate because this "... simplifies commercial transactions ... [and] provides a uniform rule for courts to follow." This is a compelling argument. The public needs a uniform law for computer information transactions. Just not Article 2. The correct law is UCITA.

f. Synergistic Technologies v. IDB Mobile Communications, Inc.

This case illustrates the danger in a mechanical application of the predominant purpose test. When software for a satellite digital switching system failed, the licensee hired another company to repair the source code, and the licensor sued for copyright infringement. The issue was whether the licensee had obtained ownership of a copy sufficient to invoke Section 117. The court decided Article 2 was the answer:

In a contract providing for both goods and services, such as the contract in this case, the Court must look to which aspect of the contract predominates. Here, more than three quarters of the monies paid ... were for computer hardware .... The

487. 788 P.2d 878 (Kan. Ct. App. 1990). This opinion stated as follows: Therefore, the sale of the software is predominant. SDMI remains the owner of the accounting system as intellectual property. Credit Union purchased only a reproduction or the result of the programmer's skill. Credit Union is interested only in the outcome of running the program and whether the program will perform the functions for which it was purchased.


489. Id. at 882.

remaining monies were paid for computer software... While services were plainly an important part of the contract, the Court finds that "goods" in the form of computer hardware and software predominate. Accordingly, the contract is governed by the UCC.491

So under Article 2-401, title to a copy passed to the licensee. The test for applying Article 2, then, according to Synergistic Technologies, comes solely by sliding the price toggle. While that worked in this case, one may well ask what happens in the next case if the license says that three-quarters of the fee is allocated to the software? A licensee may suddenly find significant problems in the exercise of the Section 117 privileges. Such easily manipulated results benefit no one.

Unlike the above cases, the Federal Circuit, in DSC Communications Corp. v. Pulse Communications,492 utilized a more sophisticated analysis. This case also raised the issue of whether the licensee had obtained sufficient ownership of a copy to activate the Section 117 privilege:

Not only do the agreements characterize the RBOCs [Regional Bell Operating Companies] as non-owners of copies of the software, but the restrictions imposed on the RBOCs' rights with respect to the software are consistent with that characterization... Each of the... agreements limits the... right to transfer copies or... details of the software to third parties. ... The agreements also prohibit the RBOCs' from using the software on hardware other than that provided by DSC... The fact that the right of possession is perpetual, or that the possessor's rights were obtained through a single payment, is certainly relevant to whether the possessor is an owner, but those factors are not necessarily dispositive if the possessor's right to use the software is heavily encumbered by other restrictions that are inconsistent with the status of owner [or a copy].493

As Pulse Communications understood, mechanical application of the "predominant purpose" test along the one-dimensional price axis is the wrong approach for computer programs.

492. 170 F.3d 1354 (Fed. Cir. 1999), cert. denied, 120 S. Ct. 286 (1999).
493. DSC Communications Corp., 170 F.3d at 1360-61.
3. Later Circular Reasoning Cases

Several cases, rather than analyzing whether Article 2 in fact applies to software transactions, merely assume this to be so. As Bertrand Russell once remarked: “The method of postulating what we want has many advantages; they are the same as the advantages of theft over honest toil.” Let us look at the cases that indulge in this circular maneuver.

a. Step-Saver Data Systems Inc. v. Wyse Technology

One of the major cases cited for the proposition that software transactions are subject to Article 2 is the famous, or if you prefer infamous, decision in Step-Saver. Sorry to disappoint. The emperor has no clothes. Here is the Step-Saver court’s entire analysis on why Article 2 applied to the contract in question: “All three parties agree that the program is ‘goods’ within the meaning of UCC § 2-102 & 2-105.” This is hardly persuasive. At best, it represents an agreement by these parties in this case to opt-in to Article 2. This does not mean that Article 2 applies to all software transactions between all other parties all the time.

b. Arizona Retail System v. Software Link

Arizona Retail should really be called Step-Saver-Lite because it involved the same defendant and the same shrinkwrap license. What was the court’s reasoning? “In all material respects, the subsequent purchases in this case are equivalent to the purchases in Step-Saver.” One can image Galileo’s Inquisitors using the same justification for refusing to look through his telescope. If it was good enough for Aristotle . . .

c. ProCD v. Zeidenberg

Although often contrasted with Step-Saver, for reasoned application of Article 2, ProCD is little better. It held:

Following the district court, we treat the licenses as ordinary contracts accompanying the sale of products, and therefore as

494. KLINE, supra note 426, at 213.
495. 939 F.2d 91 (3d Cir. 1991).
496. Step-Saver, 939 F.2d at 94 n.6.
499. 86 F.3d 1447 (7th Cir. 1996).
governed by the common law of contracts and the Uniform Commercial Code. Whether there are legal differences between “contracts” and “licenses” (which may matter under the copyright doctrine of first sale) is a subject for another day.500

There is one difference in ProCD. The software was a database program containing uncopyrightable telephone listings, and the case involved breach of a license to use the uncopyrightable data. Technically, the contract issue was a purely state law question of whether Article 2 applies to a license of a database.501

d. M.A. Mortenson v. Timberline Software502

In this case, a Washington appellate court followed ProCD in upholding the enforceability of a software shrinkwrap license under Article 2. Why did Article 2 apply? “The parties apparently agree that Article II of the Uniform Commercial Code (“UCC”) applies to the licensing of computer. We accept, without deciding, this proposition.”503 In other words, the parties again agreed to “opt-in” to Article 2. This case involved an upgrade to a software program that did not work as expected, producing a $2 million underbid. When the licensee sued for breach of warranty, the licensor pointed to the warranty disclaimer in the shrinkwrap. The licensee countered that the shrinkwrap was unenforceable under Step-Saver because the initial negotiations only involved the license fee and number of copies without discussion of the license terms, and the order was confirmed in a purchase order. The court disagreed, noting:

The licensee's arguments ignore the commercial realities of software sales. Reasonable minds could not differ concerning a corporation's understanding that use of software is governed by licenses containing multiple terms. . . . [T]he facts do not support the conclusion that the purchase order constitutes an integrated contract.504

Moreover, the licensor's failure to bring up the license terms

500. ProCd, 86 F.3d at 1450.
501. There was also the claim that the Copyright Act preempted the license, which ProCD rejected as well.
503. M.A. Mortenson, 970 P.2d at 807.
504. Id. at 808.
during price-quantity discussions was hardly surprising. The licensor knew that the licensee had a license for a prior version of the software and that it licensed other software. As such, the licensee was on notice of the existence of the shrinkwrap license, and it installation and use were an assent to the shrinkwrap. Unlike Step-Saver, the licensee did not refuse to sign the original license, and the licensor made delivery anyhow.

\textit{e. Hospital Computer Systems, Inc. v. Staten Island Hospital}^{507}

\textit{Staten Island Hospital} involved the all too familiar situation of a software development degenerating into the usual round of finger-pointing under the rubric of "breach of warranty" and "waiver of breach." Curiously, after extensively analyzing the waiver issue under New York common law, when it came to the damages phase, the court said: "[The licensee] has asserted that he NYUCC governs the contract remedies that are available to it. [The licensor] has not disputed this assertion. The Court agrees that the damage remedies in the NYUCC controls [sic]."^{508} This does not mean that Article 2 \textit{ipso facto} applies to every other software license.

\textit{f. RRX Industries, Inc. v. Lab-Con, Inc.}^{509}

\textit{RRX Laboratories} involved a software package that allegedly "never functioned as intended."^{510} The license limited the vendor's liability to the contract price, so the question was whether the licensee could resort to Article 2 to invalidate the limitation and grab consequential damages. The court began in the usual place by looking to the definition of a "good" in Article 2-105, and resorted to the usual test of whether the license was a "good" or a "service."

\begin{itemize}
  \item \cite{505} Id. at 809.
  \item \cite{506} Id. at 810. This decision was affrmed by the Washington Supreme Court based on the same rationale. \textit{See M.A. Mortenson v. Timberline Software}, 998 P.2d 305, 310 (Wash. 2000) (stating that [t]he parties agree in their briefs that Article 2 applies to the licensing of software, and we accept this proposition). The Washington Supreme Court noted UCITA's existence in a footnote, without comment. \textit{Id.} at 310 n.6.
  \item \cite{507} 788 F. Supp. 1351 (D. N.J. 1992).
  \item \cite{508} Hospital Computer Sys., 788 F. Supp. at 1361. In support of this proposition, the court cites only Communications Groups, Inc. v. Warner Communications, Inc., 527 N.Y.S.2d 341 (Civ. Ct. 1988); see infra notes 512-514 and accompanying text for further discussion of Communications Groups.
  \item \cite{509} 772 F.2d 543 (9th Cir. 1985).
  \item \cite{510} RRX Indus., 772 F.2d at 546.
\end{itemize}
The court opined, without further analysis, that "the sales aspect of the transaction predominates," and decided that Article 2 applied.

**g. Communications Groups, Inc. v. Warner Communications, Inc.**

In yet another adventure in the New York court system, a software developer sued for the final installment due on a development contract, and the licensee sought to defend its pocketbook behind the ramparts of warranty. The court began by noting that "[s]oftware . . . is a widely used term with several meanings," including programs and computer language listings, magnetic cards, or paper cards programmed to instruct a computer, and programs used in a computer. One might say the same thing about, says, a "novel." Sometimes it means a copyrightable "literary work," other times its embodiment in a "book" or a "periodical." What about a "film?" Sometimes it means a copyrightable motion picture, other times its embodiment in celluloid or a videocassette or a DVD. Or an "album." Sometimes its means a copyrightable sound recording or music. Other times its means a phonorecord or a music CD. That popular usage may fail to distinguish between the copyrightable work and the physical embodiment does not excuse courts that make the same mistake. Nonetheless, the court reasoned: "it seems clear that computer software, generally, is considered to be a tangible, moveable item, and not merely an intangible idea or thought, and therefore qualifies as a 'good' under Article 2."

**h. Chaltos System v. National Cash Register Corp.**

As discussed above, in this case "[b]oth parties . . . concede[d] the applicability of the U.C.C." to the lease of a computer system.

---

511. California law applied to the transaction, so the actual reference was to the California Commercial Code.
513. Communications Groups, 527 N.Y.S.2d at 344 (citations omitted).
514. Id. (citing in support without analysis RRX Indus., Chaltos, and Triangle Underwriters).
516. Chaltos Sys., 635 F.2d at 1084.
i. *In re Amica, Inc.* 517


j. *Dreier Co., Inc. v. Unitronix Corp.* 519

This case involves the sale of a computer systems consisting of hardware and payroll software. After noting that there is a distinct difference between the tangible hardware and the software to run it, the Court concludes: "Nevertheless, most authorities agree that the sale of a computer system involving both hardware and software is a 'sale of goods' notwithstanding the incidental service aspects of the sale; therefore Article 2 . . . applies," both to the hardware and the software. 520 While those cases certainly apply Article 2 to hardware, they do not stand for the proposition that it also applies to software.

k. *Schroders, Inc. v. Hogan Systems, Inc.* 521

This case involved a license of a software accounting package; no hardware was involved. In applying Article 2, the court began, "recent case law demonstrates a willingness of the courts to construe software-hardware packages as falling within the purview of Article 2." 522 It continues, "[a]lthough the parties' agreement in the instant matter did not involve the sale of computer hardware, but simply a licensure of software, the arrangement should nonetheless be construed to fall within the provisions of U.C.C. Article 2." 523 While it is doubtful that *Triangle Underwriters* stands for the first proposition, it certainly does not stand for the second. The court simply made up the applicability of Article 2 to a software license.

l. *Photo Copy, Inc. v. Software, Inc.* 524

This is another suit for unpaid license fees and breach of

518. *In re Amica,* 135 B.R. at 540.
520. *Dreier Co.,* 527 A.2d at 879 (citing *Chaltos and Triangle Underwriters*).
522. *Schroders, Inc.,* 522 N.Y.S.2d at 406 (citing *Triangle Underwriters*).
523. *Id.*
524. 510 So.2d 1337 (La. App. 1987).
warranty in which the court simply assumed that Article 2 applied.

m. USM Corp. v. Arthur D. Little Systems, Inc.;\textsuperscript{525} Pentagram Software Corp. v. Voicetek Corp.;\textsuperscript{526} Vmark Software, Inc. v. EMC Corp;\textsuperscript{527} Novacore Technologies v. GST Communications Corp.\textsuperscript{528}

This series of four Massachusetts cases could certainly qualify as Exhibit A for Cantor's law. The story begins when USM retains Arthur D. Little Systems to develop a "turnkey" computer system. Did Article 2 apply? "The parties assume that the [turnkey software development] contract, providing for both the sale of goods and the delivery of services, is subject to . . . Article Two of the Uniform Commercial Code. . . . [T]hat assumption is correct," said USM Corp.\textsuperscript{529} So Article 2 applies because the parties assume it applies. Another opt-in. This was enough to fool the court in Pentagram, which averred that a turnkey system was within Article 2 simply because USM supposedly said so.\textsuperscript{530}

Then comes Vmark, a case about "[a] common but foreseeable frustration of modern life — the failure of new computer hardware or software to work properly."\textsuperscript{531} Said this court: "The parties and the trial judge assumed, without discussion, that the parties' computer software license agreement is governed by art. 2 of the Uniform Commercial Code. . . . Although the issue has not been definitively decided in Massachusetts, we accept the assumption."\textsuperscript{532}

\textsuperscript{529} USM Corp., 546 N.E.2d at 894. There is a follow-up. After the decision was rendered, the software developer declared bankruptcy, so USM sued the developer's E&O carrier. But the policy only applied to consulting services, and the court had already decided the contract was a "sale of goods." That was enough for the insurer. Not so fast, said USM Corp. v. First State Ins. Co., 641 N.E.2d 115 (Mass. App. Ct. 1994). While it was true that the contract was a "sale of goods," services were involved too. Although the prior decision found the defect existed in the system controllers — in the goods aspect of the contract — there were defects in the services aspect too, so the insurer was liable. What is going on? This is hardly a principled application of a consistent rule. The court was determined that USM should prevail no matter what, and set about to manipulate the facts and the law to see that it did. Is there any better evidence that a law that allows such free-wheeling manipulation is incoherent?
\textsuperscript{530} Pentagram, UCC Rep. Serv. 2d at 648. The court also relied on Advent Systems.
\textsuperscript{531} Vmark, 642 N.E.2d at 590.
\textsuperscript{532} Id. at 587 n.1 (citing USM Corp.). The gravamen of the action was fraud and misrepresentation, and as the court noted, "the applicable provisions of the U.C.C. are not critical to our analysis." Id.
Four years later, *Novacore* appears. “The parties agree that the Agreement is governed by Article Two of the Massachusetts Uniform Commercial Code . . . and that the computer software product is best characterized as a ‘good’ pursuant to [UCC] 2-102,” citing of course *USM* and *Vmark*.

Whether Article 2 applies to software transactions absent party agreement to opt-in is still an open question in Massachusetts.


Dharma licensed its SQL Access program to MDBS and, for a separately stated price, agreed to modify the program. Dharma completed the work but refused to deliver disks of the modified program until MDBS signed the license agreement, which MDBS refused to do. So, does Article 2 apply to custom software licenses? The usually perceptive Seventh Circuit had only this to say: “[W]e can think of no reason why the UCC is not suitable to govern disputes arising from the sale of custom software - [so] we'll follow it.”

Sure beats honest work.

*o. Novell, Inc. v. Network Trade Center, Inc.*

This case raised the question of whether a distributor of software became an owner of a copy sufficient to activate a first sale defense. In deciding that a software transaction is under Article 2, the court merely assumes this to be so, citing to *Advent System* and *Step-Saver*.

*4. Modern Right Reasoning Cases*

Not every court was confused by the wrong image. The proof is a series of decisions by modern courts prepared to look closer at the real nature of a software transaction and applying correct legal reasoning.

---

534. 148 F.3d 649 (7th Cir. 1998).
535. *Micro Data Base*, 148 F.3d at 654. Because this was a diversity decision, the specific issue was whether under New Hampshire law, Article 2 applied to a software development contract. For this proposition, *Micro Data Base* relied on the decision of the district court in *Colonial Life Ins. v. Electronic Data Sys.*, 817 F. Supp. 235, 239 (D. N.H. 1993).
a. Berthold Types Ltd. v. Adobe Systems, Inc. 538

Right images make right results easy. This case shows that. Berthold licensed Adobe the nonexclusive right to distribute its copyrighted software for computer typefaces in the Adobe Font Library. Pursuant to the agreement, Adobe decided to discontinue providing them. Berthold, while admitting that the Agreement authorized Adobe's conduct, asked the court to use Article 2 to impose an implied obligation to continue carrying the typefaces. However, the UCC did not apply to this transaction because it involved a license, not a sale of goods. With the right image in mind, the court's answer was easy:

"Sale" is defined as 'the passing of title from the seller to the buyer for a price.' A pure license agreement, like the 1997 agreement, does not involve transfer of title, and so is not a sale for Article 2 purposes. 539

b. Adobe Systems Inc. v. One Stop Micro. 540

This is another stunning refutation of the "sale" categorization for mass market software licenses. Adobe provided its popular "Adobe PageMaker" and related software for personal computers under various shrinkwrap licenses. Some versions were licensed for the educational market under advantageous price terms. One Stop admitted to adulterating numerous educational versions by cutting open the box, opening the shrinkwrap and removing the "educational use only" labeling. When Adobe sued for copyright infringement, One Stop claimed the transaction was really a "sale," making its conduct protected under the "first sale" doctrine. The court concluded that "[t]he numerous restrictions imposed by Adobe indicate a license rather than a sale because they undeniably interfere with the reseller's ability to further distribute the software." 541 In so holding, the court accepted expert testimony that "[t]he industry uses terms such as 'purchase,' 'sell,' 'buy,' etc. . . . because they are convenient and familiar, but the industry is aware that all software, including Adobe's software, is distributed under license." 542

539. Berthold Types, 101 F. Supp.2d at 703 (citation omitted).
540. 84 F. Supp.2d 1086 (N.D. Cal. 2000).
541. Adobe Sys., 84 F. Supp.2d at 1091.
542. Id.
c. Architectronics, Inc. v. Control Systems, Inc.\textsuperscript{543}

This case involved a claim for breach of a software development agreement and misappropriation of trade secrets. The defendant said that because the software was provided with a circuit board, the contract was a "transaction in goods" within Article 2 and hence barred by the Article 2 statute of limitations. In finding that the longer state statute applied, the court held that "[b]ecause the predominant feature of the [license agreement] was a transfer of intellectual property rights, the agreement is not subject to Article 2 of the UCC."\textsuperscript{544} In so going, it gave the following insightful illustration:

This conclusion may follow more obviously from the following hypothetical analogous set of facts: Suppose the parties here are book publishers, that Architectronics gives CSI a written outline for a new novel, and that CSI agrees to write the novel. An agreement provides that CSI will own the copyright to the novel, but will grant Architectronics the exclusive right to reproduce and distribute the novel. When Architectronics sells copies of the book to consumers, the sale will be a "transaction in goods" under the UCC. But in the agreement between Architectronics and CSI, Architectronics is contracting for intangible intellectual property rights, even though it will receive a "hard" copy of the novel when CSI finishes the project. The agreement to write the novel would not be a "transaction in goods" under the UCC.\textsuperscript{545}

Precisely. The copy is not the copyright.

d. In re SSE International Corp.\textsuperscript{546}

In this bankruptcy case, the issue was whether a security interest in accounts attached to royalty proceeds from a license to furnish know-how. The secured creditor argued that the know-how was embodied in heat-resistant steel casings, that these were goods, and that the license proceeds were really accounts generated by a sale of goods. The trustee said the know-how was separate from its physical embodiment, so the proceeds were general intangibles not covered by the security agreement. A perceptive bankruptcy court

\textsuperscript{544} Architectronics, 935 F. Supp. at 432.
\textsuperscript{545} Id. at 432 n.5.
held:

[B]ecause the subject of the “license” agreement in question was the debtor’s rights to its know-how and not merely a reproduction of debtor’s ideas and thoughts, the debtor furnished . . . intellectual property rather than goods. This determination is made independent of whether the tangible medium by which the debtor furnished such rights . . . constituted a good.\textsuperscript{547}

This was exactly correct. The court did not confuse the intangible know-how with its embodiments by assuming that the know-how somehow merged in the castings. It did not waste time on a superfluous and misleading predominant purpose analysis. It understood that the intangible interest was separate property and could not be treated in the same manner as the tangible medium that embodied it. In so doing, it gave this example of the foolishness of confusing the content with the container:

This holding prevents a strange, if not nonsensical, result that could occur were this Court to hold that the debtor’s intellectual property rights in its know-how were goods merely because they were embodied in a tangible medium that itself constitutes a good. Because “[a] security interest in . . . goods . . . may be perfected by the secured party’s taking possession of the collateral,” [UCC] 9-305, an entity could perfect its security interest in the debtor’s intellectual property, if it were a good, by merely taking possession of a tangible medium, such a written manual, embodying such intellectual property. Perfection by such methods could have disastrous results, however, because mere possession of the tangible medium by the secured entity would undoubtedly fail to notify other entities of such security interest, which is the point of perfection in the first place. Therefore (a) perfection of a security interest in intellectual property must be by filing in accordance with [UCC] 9-302(a), and (b) this principle further supports the overwhelming authority for the proposition that intellectual property is not a good.\textsuperscript{548}

\textsuperscript{547} In re SSE Int’l Corp., 198 B.R. at 670 (emphasis added).

\textsuperscript{548} Id. at 670 n.3.
A Pennsylvania court was also undeceived by a class action plaintiff arguing that cable television programming was a "transaction in goods" under Article 2. The plaintiff claimed that the cable system used electric signals to transmit the programming, that electricity was a good, and hence Article 2 applied. The court dispensed with the confused line of thinking thus:

[The transmission of cable television programming is not a "transaction in goods" as defined by [Article 2-105(a)] and relevant case law. Although the audio and video signals which the Cable Companies transmit move through the cable wires, the Official comment to [Article 2-105] instructs us that the definition of goods "is not intended to deal with things that are not fairly identifiable as movables before the contract is performed." . . . The signals transmitted through the cable wires to the subscriber's home are not "fairly identifiable as movables before the contract is performed." The Cable Companies do not sell a tangible, separate identifiable good - instead they supply a continuous stream of audio and video signals.]

The court may also have added that the programming, being copyrighted works, were not goods.

f. Applied Information Management, Inc. v. Icart

In Applied Management, a case previously discussed, the court also understood that the copy cannot be confused with the copyright. As it said with regard to a non-exclusive software license:

[An agreement of this nature may convey rights and interests in two, rather than only one, form of property: the developer may transfer copyright rights in the software program (intellectual property rights) and at the same time transfer rights in the copy of the program through the material object that embodies the copyrighted work (personal property rights).]
So what do all these decisions mean? Nothing more than that many able courts had the wrong image in mind, and were led into error. More modern courts, using the correct image, were not. In Galileo's time, the wrong image of solar system mechanics caused ever more tedious complications as people tried to contort observed facts into their spherical mechanics. No amount of adjusting and accommodating would ever do, however, because the underlying image was wrong. A whole new system was required. The same is true now about applying Article 2 to software transactions. The underlying mechanics are simply wrong, and no amount of folding, spindling or mutilating will ever make them work.

B. What Law If Not Article 2? - Revisited

Let us revisit the question asked earlier: what law should apply to software transactions? Again consider a retail transaction in LINUX, only make the example ever sharper and use the facts in Step-Saver. Assume a licensee calls Red Hat Software, orders a copy of LINUX over the phone, and sends a purchase order confirming price and quantity. Assume Red Hat Software sends an invoice confirming price and quantity but nothing else. The copy of LINUX arrives with a shrinkwrap copy of the GNU Public License. What contract law applies to this transaction?

Some would argue that Article 2 applies, and that under Article 2-207 the shrinkwrap license is unenforceable in its entirety, or at least insofar as it waives implied warranties and restricts any privileges under copyright law. But what other results must also follow?

Under the GNU Public License, the waiver of implied warranties was an essential condition to the copyright owner's authorization for making and distributing the copy of LINUX. If this condition is now eliminated from the contract, then such copying and distribution was unauthorized and the copy is infringing. Step-Saver admitted this, but in that case found there was no infringement because the copyright owner, seizing defeat from the jaws of victory, admitted to an implied license. But this is not and cannot be the universal case. Even if the customer somehow became the

554. *Step-Saver*, 939 F.2d at 96 n.7.
owner of the copy, the customer would have at best only the limited privileges under the Copyright Act. But LINUX is an operating system. An essential purpose of using LINUX is to make adaptations, and to distribute copies of the new versions. Without the shrinkwrap, those uses are also infringing.

It gets worse. If Article 2 applies and invalidates the shrinkwrap, then just what are the terms of the license for LINUX? If the default rules in Article 2 apply, then mere delivery of the copy of LINUX would create a contract under Article 2-206, something which Section 202 prevents. The scope of the license would be determined by course of dealing and usage of trade under Article 2-208, not federal law as required by the Copyright Act. Under Article 2-210(2), the license to use LINUX would be assignable, contrary to preemptive federal law. The owner of the CD could resell the CD under Article 2, even though under Section 109 there would be no first sale privilege because without the license the copy was unauthorized. The owner of the CD could rent it even though such rental would be prohibited without consent of the Linux Organization under Section 109(b). Under Article 2-309(2), the contractual uses should be terminable at will, which may, or may not, be the copyright rule.

Without an enforceable warranty disclaimer in the shrinkwrap, Article 2-314 would apply an implied warranty of merchantability on content - i.e., the LINUX program itself - raising First Amendment issues. If the copy was provided to the retail outlet on consignment, then the licensee's creditors would have a interest in LINUX superior to that of the Linux Organization under Article 2-326, despite their failure to comply with the mandatory writing requirements for such a lien in Section 204(a). Under Article 2-401, there should have been a mandatory transfer of "title" (ownership) to the worldwide copyright in LINUX by operation of law, which is certainly not the case. Under Article 2-401(2), the Linux Organization could not commence an infringement action to protect its rights unless and until it first conducted a foreclosure sale under Article 9, directly contrary to Section 501.

Assume the licensee wanted LINUX on a DVD, and found a CD had been purchased by mistake. The licensee should be able to nonetheless load the CD on the licensee's computer while sending the CD back to the vendor in exchange for a DVD. Not under Article 2-401(3). Rejecting the CD would cause an automatic revesting of title to the CD in the vendor, vitiating the Section 117 privilege and making loading the program unto the hard drive an
Article 2 Cannot Apply to Software

infringement. Assume that the retail store had only been a bailee of the copy. Under Article 2-403, it could still pass good title to the copies to licensee, contrary to Section 109. Under Article 2-502, by merely paying for the copy, the licensee would have a special property interest in its LINUX license, superior to creditors of the Linux Organization, despite failure to comply with the requirements of Section 205 or Section 365(n) of the Bankruptcy Code. Under Article 2-512, the licensee would have a right, prior to purchase of the copy, to load LINUX onto a computer for inspection, contrary to Sections 106 & 117. Under Article 2-601, the licensee could reject the entire license for any defect in the copy, ignoring the mandatory separation of rights and copies in Section 202.

If the licensee rightfully rejected the copy, then under Articles 2-602 & 2-603, the licensee would have the right, and in some cases even the duty, to resell the copies, even though such resale would be infringing under Sections 106 & 109. Under Article 2-711, for a rightful rejection, the licensee would have a security interest in the LINUX license to the extent of any payments without the necessity of complying with the writing requirements in Section 204(a). Does any of this make sense?

Applying Article 2 to a software transaction - applying all of Article 2 in the preemptive, systematic, and comprehensive manner it is meant to be applied - even in the mass market, is a disaster.

1. UCITA?

The Uniform Computer Information Act has been crafted to meet this challenge. I will not discuss all the details of the UCITA here, since they covered elsewhere in this issue of the law journal. In broad overview, however, there are at least three immediate benefits of UCITA: standardization, uniformity, and innovation.

a. Standardization

The legal standards for information contracting are in disarray. As this article has shown, the most basic conceptual underpinnings for determining what contract law applies are a shambles. When one considers emerging issues in e-commerce, it gets even worse. Does clicking an "I Agree" icon make an enforceable contract? What about contracts made by electronic agents? What are the rules for digital authentication? What happens in the case of consumer error? Many e-commerce sites merely ask the customer to fill in basic payment information. But this leaves many critical
terms up in the air. For example, absent specification, what is the duration of a software license? How many users are permitted? Can the software reside on more than one machine as long as it is not used simultaneously? If copies are ordered, who pays the shipment and insurance costs? What warranties, if any, apply? What are the remedies for breach? Should the law presume that without agreement on these points there is no deal? Or should it provide default rules that apply where the parties have remained silent? The default rules in Article 2 are wholly inadequate to answer these questions. UCITA does.

b. Uniformity

Commercial contract law should be made by the states, not the federal government. But e-commerce is national and even global. To realize its potential, both suppliers and customers alike need for a single, uniform law. Article 2 was crafted for an industrial wares economy, not an on-line information one. To deal with e-commerce we need a single set of uniform rules like UCITA.

c. Innovation

The law should encourage developers and innovators to bring competitive and innovative new products to market by allowing them to control their transaction costs in an appropriate manner. Two examples are JAVA and LINUX. (JAVA is a program developed by Sun Microsystems to run on any platform.) This makes it particularly well-suited to the Web where computers run Windows, UNIX, Mac OS, etc. The JAVA Software Development Kit can be downloaded for free subject to Sun's shrink-wrap license which includes a waiver of implied warranties and consequential damages. LINUX, as already discussed (you probably believe ad nauseum if you have reached this point) does the same. Both offer customers a critical trade-off: valuable free software but on an "as is" basis. A modern commercial law should support these possibilities. UCITA does.

CONCLUSION

As the dramatic changes in the economy demonstrate, it is essential to reconcile commercial law to copyright in computer

---

information transactions. The commercial law doyens propose to do so by "dumbing down" the copyright aspects of the transaction until nothing is left but the sunset world of existing Article 2. The copyright mandarins would pretend that commercial law does not exist for copyrights, so that the information economy can evolve no further than the tired sale of copies paradigm on which they were weaned. Neither approach, however, meets the needs of the dawning new world of on-line, global e-commerce. We need a new image of information transactions that reconciles commerce and copyright, incorporates the best of both, and provides a foundation for future growth. Change may be difficult for those whose careers depend on knowing what once was and proclaiming its eternal prolongation. It was also difficult in Galileo's time. But the public interest does not begin and end with the convenience of the cognoscenti.

The fight against entrenched ideas and old illusions, it seems, is a never-ending battle. Llewellyn fought the same fight against the antiquarians of his day. He gave them this rejoinder:

The law of schools threatened at the close of the century to turn into words — placid, clear-seeming, lifeless, like some old canal. Practice rolled on, muddy, turbulent, vigorous. It is now spilling, flooding, into the canal of stagnant words. It brings ferment and trouble.557

So it does today. It is a pity that as we enter the Twenty First Century, the very means Llewellyn used to fight the evil in his day — Article 2 — has become its instrument in ours.

We need to move on, to adopt a new commercial code specially tailored to software transactions and in harmony with federal law. This requires that we have the courage to see the world as it is, not as we imagine it to be, and adjust our thinking accordingly. There is only one choice. It is time now for the bar to demand, and the courts to affirm, what we should have declared so long ago: Article 2 cannot apply to software transactions.

557. Karl Llewellyn, Some Realism About Realism - Responding to Dean Pound, 44 HARV. L. REV. 1222-23 (1931).
APPENDIX A: GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc. 675 Mass Ave, Cambridge, MA 02139, USA. Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software—to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation’s software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is
not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you". Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program. You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these
conditions:
a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it. Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program. In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice. This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License
incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA
OR DATA BEING RENDERED INACCURATE OR LOSSES
SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE
PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN
IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF
THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the
greatest possible use to the public, the best way to achieve this is
to make it free software which everyone can redistribute and
change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at
least the "copyright" line and a pointer to where the full notice is
found.

<one line to give the program's name and a brief idea of what it
does.> Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or
modify it under the terms of the GNU General Public License as
published by the Free Software Foundation; either version 2 of the
License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
See the GNU General Public License for more details.

You should have received a copy of the GNU General Public
License along with this program; if not, write to the Free Software
Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.

Also add information on how to contact you by electronic and
paper mail.

If the program is interactive, make it output a short notice like
this when it starts in an interactive mode:
Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for
details type 'show w'. This is free software, and you are welcome
to redistribute it under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show
the appropriate parts of the General Public License. Of course, the
commands you use may be called something other than 'show w'
and 'show c'; they could even be mouse-clicks or menu items—whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989 Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.