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INTERPRETATION AND STANDARDIZATION IN ELECTRONIC SALES CONTRACTS

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THIS article explores two areas in which the advent of XML (Extensible Markup Language) poses issues of interest in contract law, or more specifically, sales law. What is noteworthy, however, is that neither of these issues is unique to XML. Rather, in each case, XML simply provides a new manifestation or application of a long-existing issue in commercial law. This is a source of hope, insofar as resolution of these issues does not require the development of new institutions or pose insurmountable obstacles to successful contracting. On the other hand, the prevalence of these problems in sales law generally suggests that they are to some extent intractable and that we should not anticipate easy answers to them simply because we have developed a technology that makes these problems more transparent.

The problems discussed in this article fall generally under the heading of contract interpretation. Thus, I am not concerned that parties will not be able to enter into contracts. Undoubtedly, XML will facilitate that process by allowing parties willing to purchase and sell the same product more readily to identify each other, to transcend obstacles that would otherwise frustrate agreement, and to reach agreement on the basic terms of their contract. Hence, given existing domestic sales law, we would expect parties that employ XML to enter into binding agreements with greater ease. This is because use of XML should facilitate agreement on the basic terms of a contract, even if the parties cannot readily concur on all the details of their transaction. Under current domestic law, commercial parties need not reach specific agreement on all elements of their accord in order to have a binding contract. It will be sufficient if they simply act as though a contract exists.[1] You place an order, I ship goods. Bingo—a contract exists. XML presumably makes this process easier by reducing one of the primary barriers to contract—search costs. By allowing buyers and sellers to find each other with greater ease, XML breaks down geographical, language, and institutional obstacles that impede the formation of what would otherwise be efficient contracts.

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1. Article 2 of the Uniform Commercial Code, which applies in all states other than Louisiana, provides as follows: "Formation in General. (1) A contract for the sale of goods may be made in any manner sufficient to show agreement, including conduct by both parties which recognizes the existence of such a contract." U.C.C. § 2-204 (1998).

What XML does place a premium on, however, is the ability to discern the terms of the contract. Now, at first, this might seem like an odd observation. One might imagine that if computer-assisted contracting tools provide any comparative advantage, it is through the creation of standardized terms that offer parties common ground about the terms that can be used to identify their obligations under the contract. Standardization should thereby avoid both the ambiguity that might arise through the use of competing forms and the threat that subsequent problems of judicial interpretation of those terms will vary from the understanding that the parties themselves initially had.[2]

Initially, one might believe that standardization actually poses the greatest problem for advocates of computerized transactions. Recent legal and economics literature has exhibited a concern that a standard within an industry that is technologically inferior to a subsequently developed superior standard will nevertheless remain entrenched. The traditional explanation for this phenomenon—path dependence—implies that parties who employ the existing standard have insufficient incentives to make the transition to the superior standard, notwithstanding that they would receive some (though not necessarily net) benefits from the transition.[3] This possibility is presumably exacerbated where use of the standard generates significant network externalities.[4] Those effects materialize where one party's use of a technology inherently implicates another party's use of the same or a related technology. Common examples involve VCR's, fax machines, and word processing programs. In each of these cases, my use of a product is positively correlated to the use that others make of the same or a compatible product. Fax machines demonstrate a direct externality, in which my willingness to purchase a fax machine depends on the number of other people with whom I wish to communicate who also use fax machines. Other goods generate indirect externalities, in which the existence of a standard for one product in-

2. For discussion of the use of standardized forms as a means of constraining the range of interpretation of contractual clauses, see Charles J. Goetz & Robert E. Scott, *The Limits of Expanded Choice: An Analysis of the Interactions Between Express and Implied Contract Terms*, 73 CAL. L. REV. 261 (1985).

3. *See, e.g.*, Clayton P. Gillette, *Harmony and Stasis in Trade Usages for International Sales*, 39 VA. J. INT'L L. 707 (1999); Marcel Kahan & Michael Klausner, *Standardization and Innovation in Corporate Contracting (or "The Economics of Boilerplate")*, 83 VA. L. REV. 713 (1997); Michael Klausner, *Corporations, Corporate Law, and Networks of Contracts*, 81 VA. L. REV. 757 (1995).

4. There exists a rich literature on the existence of network externalities, and a robust debate about the breadth of their effects. *See, e.g.*, Joseph Farrell & Garth Saloner, *Standardization, Compatibility, and Innovation*, 16 RAND J. ECON. 70 (1985). For a skeptical view of the capacity of network externalities to cause lock-in effects that retard development of superior technologies, see S.J. Liebowitz & Stephen E. Margolis, *Network Externality: An Uncommon Tragedy*, 8 J. ECON. PERSP. 133 (Spring 1994); S.J. Liebowitz & Stephen E. Margolis, *Are Network Externalities a New Source of Market Failure?* 17 RES. L. ECON. 1 (1995), *available in* http://www.utdallas.edu/~liebowit/netwextn.html; S.J. Liebowitz & Stephen E. Margolis, *Path Dependence, Lock-In and History*, 11 J.L. ECON. & ORG. 205 (1995). For treatments in the legal literature, see Clayton P. Gillette, *Lock-In Effects in Law and Norms*, 78 B.U. L. REV. 813 (1998); Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CAL. L. REV. 479 (1998).

creases the likelihood that others will produce goods compatible with that standard. My purchase of a compact disc player that holds discs of a particular size increases the likelihood that others will produce compact discs of the size that my player can accommodate.

By the same reasoning, however, my willingness to shift from one standard that is employed in connection with the product that generates network externalities implicates the use by others of the same standard. Assume, for instance, that someone develops a new fax machine that produces faster, clearer copies, but that can only communicate with similar fax machines and that cannot communicate with fax machines from earlier technological generations. My willingness to shift to the superior product will depend significantly on my belief that others will make an essentially simultaneous shift. Their failure to do so will diminish the use that I can make of the otherwise superior product. Thus, there is a bit of a paradox in the development of technologically advanced products that generate network externalities. Initially, one might believe that those who move first to a superior technology will enjoy a competitive advantage over those who lag behind. But where the product employing the technology possesses network effects, there is a significant risk to being the first mover, even if one recognizes the superiority of the new standard. If no one else makes the move, then the person who makes it is left out of the network and suffers the sunk costs of using a standard that others have rejected.

I have elsewhere expressed the view that, at least in commercial law contexts, the fear that network externalities will cause inferior legal doctrines to become locked in is significantly overstated.[5] This is largely because commercial practice can frequently move synoptically rather than incrementally. Lock-in occurs primarily where interdependent actors cannot easily coalesce to develop a mutually agreeable standard or cannot create a representative organization that is capable of developing such a standard or amending an existing standard that is binding on all its members. Even if all consumers, for instance, wanted only to purchase light bulbs with a base size different from the current standard, they would have difficulty communicating their preferences to light bulb manufacturers.

Changes in standards, however, can be facilitated through the intervention of groups that possess the authority to articulate and promulgate standards. These groups serve as centralized adopters of a standard and can publicize its desirability and content to a large body of constituents. As long as the new standard is recognized as superior to the existing one, each of these constituents has an incentive to make the transition, as long as there is some assurance that a critical mass of others will simultaneously do the same. That assurance arises from the fact that all market participants look to the centralized decision-maker for guidance as to ap-

5. *See* Gillette, *supra* note 4.

propriate commercial practice. The result is that all (or most) parties move from one set of commercial standards to another in a single significant shift. When this occurs, no actor is concerned that it will suffer from the first mover disadvantage that I have described above. Instead, knowing that all others within the industry will be moving simultaneously, each party is assured that it will not be ostracized from the network by moving to what all consider to be a superior standard.[6]

This scenario is admittedly ideal, and I do not suggest that it occurs in all cases. Indeed, even where it does occur, I have suggested that rent-seeking officials of the centralized standard-setter may cause the standards to deviate from what the constituents might desire.[7] But for purposes of this article, I am willing to assume that this parade of horribles does not materialize. Instead, let us at least begin with the assumption that XML, or at least its commercial applications, is resistant to lock-in. This seems an appropriate place to start, as the very evolution of a new computer language and its rapid adoption in a large variety of contexts belies the concern about lock-in. If lock-in were a threat, we would probably not see XML at all—as it would have been blocked by the similar lock-in effects of its predecessor, HTML. Perhaps this is due to the type of centralized decision-making to which I referred above. The World Wide Web Consortium, or W3C, can effectively monitor potential markup languages and subsidize the search costs necessary to ensure the adoption of relatively efficient languages. Whatever the cause, the very fact that XML has arisen at all, and appears poised to achieve some level of primacy,[8] attests to the capacities of developers of technology to overcome any potential lock-in effects.

If there is a threat of lock-in connected with XML, it is more likely to arise at the level of implementation. Here, too, the greater likelihood is that centralized decision-making will forestall the risk of lock-in. Web-based commerce becomes more useful as it permits geographically disparate traders to find each other. That same characteristic, however, also increases the risk that the traders will miscommunicate their intentions, as local norms and language barriers frustrate understanding. A purchaser who is looking for a widget of a particular size measured in inches

6. Centralized decision-making is not the only way in which developers of a superior technology can increase the likelihood that their innovations will be widely accepted, notwithstanding the lock-in tendencies of existing technology. For instance, developers of the new technology can subsidize the first movers, giving them additional incentives to make the transition and limiting the losses they will suffer if others do not make the same move. Also, when electrical companies were competing with natural gas for home lighting, they gave away free light bulbs. More recently, providers of online services, who compete not only with each other but also with those who offer telephone and mail services as means of communication, have subsidized the first generation of movers to the new technology by giving away free or discounted services.

7. Gillette, *supra* note 4, at 829-31.

8. Some commentators suggest that XML has made more likely the current increase in business-to-business applications of the Internet. *See, e.g., Business-to-Business E-Commerce Quality of Service Closes the Deal* (visited May 23, 2000) <http://www.redherring.com/mag/issue63/vc-intro.html>.

will have difficulty linking up with a distant seller who offers the very good that the buyer desires, but who describes the size of the product in centimeters. Nevertheless, if the benefits of such dealings are sufficiently great, then we should expect to see the development of groups that can internalize those benefits by creating standards that facilitate communication. Indeed, this is the very function of trade associations which arise to reduce the costs of transacting within an industry by promulgating common terms of trade.[9] The very need to achieve standardization of terms within document type definition files suggests an evolutionary process in which trade associations will be able to monitor the use of the materials that their members utilize. Should redefinition of namespaces become necessary to ensure compatability among members of the trade, one would anticipate that those associations will have the incentives to make appropriate changes. Just as I suggested above that the W3C could fill the role of a centralized entity that will ensure against lock-in, so too may trade associations serve the centralizing function of providing mutually satisfactory terms and definitions that can be embodied within XML documents for that industry.

This very phenomenon that makes XML so promising as a commercial tool, however, also serves as the source of a rather conventional problem in sales law. I hasten to add that the problem to which I allude is not unique to XML. XML simply provides a new avenue by which this difficulty may travel. Thus, no new legal doctrines are necessary to address the issue. What is necessary is to understand how existing doctrines may come to bear on issues that will be presented by the presence of XML.

The primary problem arises out of the very geographical expansion of markets that XML promises to make possible. XML proposes to facilitate transactions with new trading partners by making it easier for geographically distant potential trading partners to find each other. That very ease means that strangers who would not have known of each other's existence through earlier technologies will now have the opportunity to enter into contracts that would not otherwise have been possible. Now, return to my example of traders who deal in different measurement systems. That dilemma may be cured by a trade association standard that dictates a particular form of measurement. Yet resolution of that disparity simply masks a more significant underlying source of miscommunication. The presence of strangers from different markets means that the transacting parties may not share basic understandings that are fundamental to the contract they enter.

9. For instance, while Lisa Bernstein's recent work on norms in commercial communities may be read to suggest an absence of norms over geographically widespread areas, it actually demonstrates that local norms can readily develop. Since she is dealing with a historical period in which the trade in the goods that she examines may well have been local, one would anticipate that as the trade in those goods became more national, so would the norms that govern the trade. *See* Lisa Bernstein, *The Questionable Empirical Basis of Article 2's Incorporation Strategy*, 66 U. CHI. L. REV. 710 (1999).

Here, there are two sources of problems: the two-word, one-meaning problem and the one-word, two-meaning problem. One is internal to the XML process. It is prosaic to recognize that the success of XML depends on the ability of companies in the same markets to agree on content definitions for semantics. Implementation of that observation is more difficult, and the very nature of XML aggravates the problem. Language is funny. Speakers may mean something different from what listeners hear.

When I left New England to attend law school in the Midwest (or what an Easterner thinks of as the Midwest), I discovered that what I had always thought of as a "parking lot" was, to Midwestern minds, a "parking structure." I have subsequently learned in my travels that a public place where I can park a car is really a "parking garage." If I am an Eastern purchaser of paper bags and I ask a Midwestern seller of paper sacks if he can assist me, I might get a falsely negative response. If he understood what I meant, we would be able to transact.

Now think of this in the context of a trading system in which I must make an online request that can only accommodate precise phrases and offers no opportunity for elaboration of the meaning of that request. XML promises to address this problem by allowing a broader, more robust search than previous languages. However, it does so only if the potential purchaser and buyer can accurately describe what they want to purchase or have to sell in a manner that is mutually identifiable.

Nevertheless, I see this problem as relatively minor and not of much legal significance. Essentially, what it means is that some contracts that would be efficient to enter will be forgone, solely due to limits on communication. If I misdescribe what I desire to sell or purchase, I will simply reduce my market below what a more complete search would have revealed. Companies may die a Darwinian death by misdescription, but if that is the only result, then there is little social problem.

There is, however, a more serious legal difficulty that emerges from any effort to develop a robust meaning to contractual terms. Instead of the situation in which multiple phrases describe the same good, consider the converse situation in which one word has multiple meanings. Another thing I learned in the great Midwest was that an inquiry at a restaurant about what kinds of soda they carried did not result in a listing of various cola and non-cola based drinks, but a blank stare. A soda, in these cultural backwaters, was nothing other than sparkling water, what I had always referred to as "club soda." We had fallen into the "one word, one meaning" fallacy, by which two persons who heard the same term might mistakenly believe that they had the same thing in mind.

For contract scholars, the "two word, one meanings" issue is a common problem. It is characterized by the use of the same term or phrase in a contract, to which each party reasonably attaches separate and different significance. Recall the standard law school exploration of the puzzle, the

fascinating case of *Frigaliment Importing*.[10] The issue in that case, succinctly stated by Judge Friendly, was "what is chicken?" A New York corporation had sold 150,000 pounds of what the written contracts referred to as "frozen chicken" to a Swiss corporation. The buyer expressed shock that what arrived were not young chickens suitable for broiling or frying, but stewing chickens. The buyer, crying "foul," contended that there was a usage within the trade that "chicken," as used in such contracts, meant "young chicken." Each party adduced expert witness testimony to attest to the true meaning of "chicken" within the trade. The court found that plaintiff had failed to demonstrate a trade usage that limited the range of acceptable chicken to young fryers and broilers. As a result, the seller's tender of older chickens, suitable only for stewing, complied with the terms of the contract notwithstanding that the tender provided something other than what the buyer intended to purchase.

What could explain the difference in the understanding of parties involved in the same trade? One party might, of course, have been acting in bad faith in either offering or refusing to accept goods for which it had the same understanding as the other party. However, I think that there is a more mundane explanation of what occurred. The transaction at issue was international in scope. The buyer was Swiss, the seller American. One would imagine, and indeed the court concluded, that each party believed in good faith that it had been clear about the subject of the contract.[11] The parties may simply have been victims of the fact that each of them was referring to a trade usage that was understood and followed locally, but that was different from a trade usage that existed with respect to the same goods in some different, geographically distant market.[12]

Of course, as illustrated by *Frigaliment*, issues of interpretation pervade all of contract law. So again, XML, in presenting the problem, does not address anything new. It does, however, increase the probability that the problem will materialize. The very success of XML depends not simply on interoperability among applications, but on the increased breadth of searches among buyers and sellers who are looking for each other. Yet, think about the context in which we would anticipate that words would have different meanings. These are not the problems of localized trade associations that interact through relatively low-level technologies. Rather, they are indicative of longer distance transactions of the type that are made possible only with newer technologies that reduce search costs and facilitate agreement between strangers. That, of course, is exactly the promise that XML offers. Once we recognize that such transactions will become increasingly frequent, however, we must also recognize that the

10. Fragiliment Importing Co. v. B.N.S. Int'l Sales Corp., 190 F. Supp. 116 (S.D.N.Y. 1960).

11. *See id.* at 121.

12. Indeed, this difference in norms or trade customs between local markets that rarely interact may be precisely what Professor Bernstein has discovered in her recent work. *See* Bernstein, *supra* note 9.

definitions drafted by one relatively local trade association to be incorporated into an XML document will be employed by non-members, either persons outside the trade or persons who are members of other localized trade associations. This possibility creates a recipe for misidentification of the meanings of terms, notwithstanding superficial similarity between the terms that each party uses. Trade associations with membership over a sufficient geographic range may be able to develop definition-type documents that determine what terms should be used within the industry. It is less likely, however, that they will be able to capture or homogenize all the subtle nuances of language that generate regional dialects or the particular meanings attributed to terms in local markets when those same terms are employed with slightly different meanings in geographically broader markets.

The related and perhaps more significant problem of XML is exogenous to the language used to define semantics. Yet the same conditions that I just described also greatly increase the probability of such difficulties. This is the problem of trade usages, or what I will refer to as "trade customs." Here I am not concerned with the explicit terms of the contract, embodied in the XML tags to which parties might assign different meanings. Rather, trade customs relate to what contract law considers the "implied terms" of any agreement. These are terms that attach to any valid contract by operation of law, notwithstanding that nothing in the explicit terms of the contract mentions them. Examples of implied terms include implied warranties of merchantability,[13] by which a merchant guarantees that goods sold are of fair average value under the contract description, and the obligation to perform a contract in good faith, in the case of a merchant, in compliance with the reasonable commercial standards of fair dealing in the trade.[14] The salient feature of these terms is that they are implied because they constitute default rules of any contract concluded within a trade. They become part of the contract because parties within that trade understand that the customs subsumed within those terms are expected to apply, even though there exists no explicit contractual clause to that effect.

It is important to understand why such terms would be implied in a contract. The underlying assumption is that trade customs evolve from contractual risk allocations that may once have been the subject of explicit bargains, but that have become sufficiently regularized among members of the trade so that negotiation is no longer necessary to agree on the term that is the subject of the custom.[15] Instead, the assumption is that a majority of parties to the trade understand and accept the risk allocation made by the custom because it generates the same result to which they would have agreed if there had been explicit allocation. Thus, im-

13. *See* U.C.C. § 2-314 (1998).

14. *See id.* § 2-103(1)(b).

15. *See* Gillette, *supra* note 4, at 708-09; Elizabeth Warren, *Trade Usage and Parties in the Trade: An Economic Rationale for An Inflexible Rule*, 42 U. PITT. L. REV. 515 (1981).

plying the term does not change the substantive result under the contract and it saves all parties the costs of negotiation. Implied customs thereby serve the same function as majoritarian default rules that are considered to be the basis of Code-based contractual rules. On this understanding, legal rules embodied within a statutory scheme such as the Uniform Commercial Code (UCC), supplies an off-the-rack rule that reflects what the parties would have wanted in any event and thus reduces transaction costs without adversely affecting the substance of the agreement.[16] Indeed, custom is often deemed superior to legal allocations insofar as it provides rules more highly tailored to the requirements of a particular industry and, theoretically, is more susceptible to changes warranted by commercial need than is the process of legislative or judicial revision of formal law.

The fact that contracts will be interpreted as if the parties intended to incorporate the customs of their trade into the contract, or to be used as interpretive tools in understanding the explicit terms of the contract, places significant pressure on traders' familiarity with the usages that surround and supplement contract terms. To the extent that XML facilitates what Robert Glushko has called "trading communities" that are more robust than is currently plausible, it exacerbates the problem. As in the case of the one-word, multiple-meaning problem, the very success of XML in inviting more and more parties into the community creates a risk that some members will have knowledge of customs not shared by others.

To see how this problem arises, think of an industry in which all parties within a certain local market understand that an order for a set quantity of a certain good is not to be read literally, but as an approximation around which the buyer can ultimately demand more or less as long as the demand falls within a certain range, and price adjustments are made to reflect the amount actually demanded. Parties in the same industry in a different local market, however, may have a custom in which an order for a particular quantity is read as a firm order, not subject to significant deviation. Assume, for instance, that a buyer agrees to an explicit purchase term of 30,000 tons of phosphate at a set price over a given period of time.[17] While the contract is in effect, the spot market price of phosphate decreases to historic lows. As a consequence, the buyer refuses to accept more than 15,000 tons of phosphate, contending that trade custom permits a buyer to reduce or increase a contracted-for amount by up to fifty percent of the original order. The seller, on the other hand, denies the existence of any such trade custom, but indicates that if custom provides any flexibility to the buyer, it is limited to ten percent of the original order.

The problem here is that both parties might be correct. Trade customs may vary over time and over geographic space. Indeed, that is exactly

16. *See, e.g.*, Goetz & Scott, *supra* note 2.

17. The example and the following discussion are based very roughly on *Columbia Nitrogen Corp. v. Royster Co.*, 451 F.2d 3 (4th Cir. 1971).

what we would expect to happen, given that commercial customs typically arise to reflect efficient risk allocations, and the criteria that make a particular risk allocation efficient may vary over time and geography. A custom that makes sense at a particular place and time may be less sensible once circumstances change.

The legal issue that remains is whether either the parties or the courts will be able to recognize and apply trade customs when they materialize and then be able to limit them to those circumstances under which they arose. Otherwise, application of the custom may entail using it to infer terms that neither party would have intended to be part of their contract. The law on the issue assumes that customs are clear and widely shared. Thus, in a domestic sales transaction, the written terms of a contract are generally considered to constitute a final expression of the parties. The parol evidence rule of the Uniform Commercial Code provides that these terms cannot be contradicted by evidence of any prior agreement or any contemporaneous oral agreement.[18] They can, however, be explained or supplemented by introduction of a trade usage.[19] Indeed, a trade custom can be used to add an entirely new term into a contract and not just to clarify the meaning of terms that have some explicit referent in the contract.[20]

The rule is subtly, but potentially, and importantly, different in international sales transactions. If the objective of XML is to negate physical boundaries by allowing individuals in different geographical areas to contract with each other with relative ease, some attention to the international law aspects of these transactions is essential. Here, the governing law is in large part composed of the United Nations Convention on International Sale of Goods or CISG.[21] Approximately fifty countries have adopted CISG to govern transactions between their nationals and businesses in other signatory nations.[22] The CISG provides that the parties to a sales contract who have places of business in different contracting states are considered to have made applicable to their contract any trade custom of which the parties knew or ought to have known, and which in international trade is widely observed by parties in the area with which the particular transaction is concerned.[23]

We can parse the precise language momentarily. For the moment, it is sufficient to note that the thrust of both United States domestic law and international sales law is to make trade custom a part of any sales con-

18. U.C.C. § 2-202 (1998).
19. *Id.* § 2-202(a).
20. *See id.*; *see also id.* § 1-205.
21. United Nations Convention on Contracts for the International Sale of Goods, Apr. 11, 1980, U.N. Doc. A/CONF.97/18, Annex I, *reprinted in* 19 I.L.M. 671 [hereinafter CISG].
22. A list of contracting states may be found at <http://cisgw3.law.pace.edu/cisg/countries/cntries.html>. That site also provides significant information about interpretations of the CISG. *See generally* CLAYTON P. GILLETTE & STEVEN WALT, SALES LAW: DOMESTIC AND INTERNATIONAL (1999).
23. CISG, *supra* note 21, art. 9(2).

tract, as long as the parties have not abrogated its inclusion. The underlying assumption is that the parties intended to transact within a commercial context of which they were both aware. Incorporation of the standards of that context, without reducing the standards to writing, is presumed to implement the parties' intent while simultaneously reducing negotiation costs. Trade custom, therefore, becomes a series of default contract terms from which parties must opt out if inclusion within the contract is not desired.

This position has historically raised two issues that might go under the headings of observability and verifiability. Observability relates to the parties' own capacity to know when a particular condition exists. Verifiability relates to the parties' ability to demonstrate the existence or nonexistence of the condition to a third party, such as a court.[24] Observability of customs and compliance with them is relatively easy in highly localized markets. Customs may start out as local. Even Lisa Bernstein's recent work, which implies that customs are insufficiently precise to be incorporated into commercial law as readily as the drafters of the Uniform Commercial Code anticipated, indicates that local customs prevailed in a variety of industries at a time when markets for goods within those industries were geographically limited.[25]

But customs that arise over a large geographical range are likely to vary as a result of cultural norms, language norms, and business norms. One would not be surprised to find that customs in the hay trade in Kansas differed from customs in the hay trade in South Dakota if Kansas hay traders and South Dakota hay traders both confined their business to local traders.

The promise of XML, of course, is to expand the geographic limits of commerce infinitely. Hence, as with the problem of definition, the very prospects that make XML so attractive for expanding the boundaries of commercial transactions also increase the likelihood of legal disputes about the content of those contracts that are concluded.

The problem of trade custom is worsened by the fact that any dispute over the content of custom is susceptible to high error costs. That is where verifiability enters the picture. Recall that verifiability requires that a third party, a court, be able to detect and define the custom. Most of the literature on the subject suggests that there is little reason to believe that courts will be successful in bringing coherence to inherently fuzzy customs. This is not because courts are inherently incompetent; it has more to do with the nature of customs. Customs arise from a context. When defining the custom in order to determine whether it governs a

24. For discussion of the differences and implications of verifiability versus observability, see Alan Schwartz, *Relational Contracts in the Courts: An Analysis of Incomplete Agreements and Judicial Strategies*, 21 J. LEGAL STUD. 271 (1992); Eric A. Posner, *The Parol Evidence Rule, The Plain Meaning Rule, and the Principles of Contractual Interpretation*, 146 U. PA. L. REV. 533, 574 (1998); Robert E. Scott, *The Truth about Secured Financing*, 82 CORNELL L. REV. 1436, 1450 (1997).

25. *See* Bernstein, *supra* note 9.

given set of facts, it is difficult to know how much of the context in which the custom arose is necessary to its subsequent application. Take, for instance, the phosphate example I referred to above. The custom may have evolved during a period of time in which spot prices were relatively stable. Hence, it would be unlikely that any buyer would act opportunistically to purchase significantly more or less phosphate than was originally ordered, since the savings that could be realized would be minimal. This tendency not to chisel would be reinforced by the relatively narrow geographical community of traders. Within that community, one would anticipate that there might be significant repeat play. Thus, no one trader could afford to sully its reputation with others by acting strategically to take advantage of a short-term shift in market prices. Any profits earned by such behavior would be more than reversed in the longer term if others in the community were reluctant to do business with the opportunistic actor. Of course, the behavior that gave rise to the custom in the first instance might have little application in a period of ahistoric price swings. That situation may describe the kinds of changed circumstances, referred to above, that lead one to conclude that the customs generated in a different environment should not apply at all.

Nevertheless, it would be difficult to define precisely the circumstances in which customs arose or in which they should or should not apply. This is an area in which courts have demonstrated a serious inability to develop anything in the way of a principled approach.[26] It is perhaps for this reason that courts have been very wary of intervening to excuse or rewrite contracts pursuant to claims of changed circumstances.[27] The conditions that the parties initially thought limited the scope of their contractual obligations are simply not readily verifiable to a court.[28]

In short, it is difficult to know how much of the context in which the custom initially evolved to impute into its foundational definition. This is so even for parties to the custom themselves. Richard Craswell's recent work on custom suggests that even transacting parties may have different interpretations of the custom they both purport to follow.[29] But if that is the case, then how much confidence will we have in judicial interpretations of disputed trade usages?

The problem of selecting the relevant parts of the context to define the custom becomes greater as the details of that context become more varied. The greater the variation, the richer the background against which the custom develops, and thus the harder it is to determine just which

26. *Compare* Columbia Nitrogen Corp. v. Royster Co., 451 F.2d 3 (4th Cir. 1971), *with* Southern Concrete Servs., Inc. v. Mableton Contractors, Inc., 407 F. Supp. 581 (N.D. Ga. 1975).

27. *See, e.g.*, Iowa Elec. Light & Power, 467 F. Supp. 129 (N.D. Iowa 1978), *rev'd on other grounds*, 603 F.2d 1301 (8th Cir. 1979); Eastern Air Lines, Inc. v. Gulf Oil Corp., 415 F. Supp. 429 (S.D. Fla. 1975).

28. *See* Schwartz, *supra* note 24.

29. *See* Richard Craswell, *Do Trade Customs Exist?*, *in* THE JURISPRUDENTIAL FOUNDATIONS OF CORPORATE AND COMMERCIAL LAW (Jody Kraus & Steven Walt eds., forthcoming 2000).

elements of that custom are necessary to a statement of its scope. Yet those substantial variations are exactly what XML invites. By expanding the geographical base for buyers and sellers, contracts entered into through XML may allow greater standardization of explicit terms. Definition documents, however, cannot readily filter the terms they employ through the trade practices of different places. Thus, formation of contracts through XML increases exponentially the possibility of conflicts among norms or the incorporation into a contract of a trade usage of which one of the parties was unaware.

To see this problem at its most dramatic, consider the extent to which XML purports to facilitate transactions among parties from different legal systems. A practice that evolves among nationals from countries with similar economic systems, cultures, or levels of development may reflect an agreement very different from one that would be reached with nationals from a trading partner in a country with a different background. Yet once the practice evolves among nations that are similarly situated economically, culturally, or developmentally, a court might consider it sufficiently "international" to include it even within contracts involving nationals of countries that have very different socio-economic positions.

CISG's Article 9(2) might be considered an attempt to address these issues. That provision incorporates into the contract only a trade usage "of which the parties knew or ought to have known and which in international trade is widely known to, and regularly observed by, parties to contracts of the type involved in the particular trade concerned."[30]

Thus, one might initially believe that parties to contracts governed by the CISG will not be unduly surprised by a trade usage that governs their contract. They will either have been explicitly aware of the custom or will be charged with knowledge because they have chosen to participate in a trade without discovering the relevant customs, or shorthand rules, followed by sophisticated members of the trade and reasonably assumed to be understood by all who participate in that trade.

This apparent harmonization of custom, however, actually renders judicial inquiries more difficult. Courts that attempt to apply article 9(2) must inquire both into the conditions under which the custom applies, and about the geographical scope within which the custom is accepted. Only if a court determines that the custom is sufficiently international is it obligated to apply the custom to the contract at issue. Assume that among parties to contracts between western nations that have long used a technologically sophisticated machine a custom has developed that any defects are to be brought to the attention of the seller within two weeks after delivery. Any claim of defect after that period of time will be deemed to have been waived on the grounds that it will be difficult to determine whether the claim arises from a manufacturing defect or from the purchaser's misuse. Assume further that this custom is understood

30. CISG, *supra* note 21, art. 9(2).

and followed in all countries that have previously used the machine. Now, however, less developed countries use the machine for the first time. These users may be unfamiliar with the custom. Even if they are not, they may have more difficulty in determining whether any apparent malfunction arises from defect, lack of sophistication by the user, or misuse. Hence, it is highly possible that unsophisticated users will fail to report defects within the customary period. If a dispute arises in which a purchaser from an undeveloped country claims defect and the seller claims the customary waiver, a court must first determine whether the scope of the custom applies in the circumstances of an unsophisticated user. But even if the court makes that determination in favor of the seller, it must also decide whether the custom is sufficiently "international" to cover this buyer or whether it is limited to trade among sophisticated countries. Neither of these questions allows an easy or inexorable response. Once we grant the ambiguity of custom and the discretion that courts have in defining the scope of the custom and its application, the certainty allegedly offered by article 9 appears to deteriorate.

The problem of trade custom poses additional difficulties in domestic transactions where the parties, the courts, or both must define the relatively vague admonitions imposed on commercial parties to adhere to practices that the law heroically assumes are well understood within a trade. The issue arises most frequently with the myriad provisions of the Uniform Commercial Code that mandate compliance with "commercial reasonableness." The problem is that, at least in theory, the definition of commercial reasonableness refers right back to industry standards. It was in this sense that the drafters of the UCC intended to codify commercial practice into law, to make it self-referential by allowing commercial actors who were assumed to internalize the costs of their activities and thus engage in practices that coincided with social welfare, and to set standards of conduct that would be judicially enforced after courts determined the norms to which commercial parties adhered. Hence, the phrase "commercial reasonableness" appears twelve times in article 2, which deals with sales.

There is some question as to whether courts have adhered to the vision of the drafters. Indeed, a recent paper by Robert Scott argues that courts do not even try.[31] They consider contracts that were presumably governed by trade usages without any attempt to invoke or define those norms. Instead, courts, either oblivious or indifferent to the relevant norms, simply resolve cases by reference to their own sense of commercial reasonableness or fairness. Yet, practice aside, even the theory of the UCC's drafters is challenged by a commercial world in which commercial practices are highly variable. The world of the UCC, drafted in the 1940s, was a world that was less mobile with more restricted markets and occupied by a smaller number of actors than is available in the high-tech,

31. Robert E. Scott, *The Uniformity Norm in Commercial Law*, *in* THE JURISPURDENTIAL FOUNDATIONS OF CORPORATE AND COMMERCIAL LAW, *supra* note 29.

open-borders, highly international sales practice of today. XML is simply a manifestation and extension of that world. We are all likely to be better off for it, but that does not obviate the problems of contract interpretation that are likely to follow when parties from different business cultures must find a basis for agreement.

Let me end on a mixed note. To some extent, the problems with which I am concerned are simply temporal. Given the increasing range of markets in today's commercial world, customs that were once local likely become regional and national with the geographic extension of markets. The CISG recognizes that the internationalization of trade carries with it the internationalization of trade customs. Thus, one might anticipate that as XML and other technological developments increase, we may face a decreased likelihood that one party will be surprised to learn that explicit terms have multiple meanings or that a contract contains certain implied terms. There is a way, however, to expedite this harmonizing process. The ideal situation would be for the bodies that define the protocols for XML to be sufficiently centralized so that they are also aware of conflicts within customs and sufficiently empowered to dictate which customs will prevail. This is essentially what has happened in the area of letters of credit, where the Uniform Customs and Practices among users have been codified by the International Chamber of Commerce and have essentially displaced domestic law in relevant transactions. Yet, there are two caveats to this hopeful premise. First, given the different trading conditions that exist in different geographic areas, we are unlikely to ever achieve full uniformity in definition or in custom. Second, given that localized trading will continue and perhaps dominate interlocal trading, it is unlikely that local trade associations, which may be well entrenched, will be willing to abandon their autonomy to a more centralized entity charged with dictating definitional terms and applicable customs. None of this is to say that the benefits conferred by XML are not worth the effort; it is only to suggest obstacles to which programmers must be attentive and to be wary of seeing any computer language as a panacea to misunderstanding.