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Becoming Operational: Electronic Registries and Transfer Of Rights

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Fifteen years ago in New York, at an earlier congress sponsored by UNCITRAL on “Uniform Commercial Law in the Twenty-First Century,”¹ the impact of electronic technologies and electronic commerce were the subject of lively debate in defining the future work of UNCITRAL. At that earlier Congress, the point was made that electronic commerce raised fundamentally different challenges for an international lawmaking body such as UNCITRAL for several reasons.

First, few if any countries (developed or developing countries) had adopted a comprehensive legal structure governing electronic commerce. Thus, the first challenge was to take countries of divergent economic capabilities, countries of different cultural and legal heritage, and bring them together to develop common analyses of, and approaches to, new and difficult issues. In many ways, UNCITRAL’s current emphasis on modernization of the law (rather than on mere harmonization or unification of the law) began in the area of electronic commerce.

The second challenge was to determine how to approach electronic commerce, a topic that may be used in different ways in different sectors of the economy. The choice for any law-making body, domestic or international, was between two approaches. A sectoral approach would consider discretely the use of electronic commerce in each industry or area of international commerce and develop a legal regime for each. Alternatively, law makers could follow a more broad-based approach, examining the fundamental nature of electronic commerce, identifying common themes, and developing appropriate resolutions which could then be implemented either globally or on a sectoral basis.²

In the intervening fifteen years since the last Congress, UNCITRAL has become a pioneer and leader in the area of electronic commerce, producing three instruments worthy of consideration by all countries. These three instruments have followed a combination of these two approaches with an emphasis on a functional approach that applies globally. Its two model laws³ and the Convention on the Use of

¹ UNIFORM COMMERCIAL LAW IN THE TWENTY-FIRST CENTURY, Proceedings of the Congress of the United Nations Commission on International Trade Law, New York, 18-22 May 1992 (United Nations 1995). It is worth noting that UNCITRAL has had the issue of electronic technologies on its agenda for over twenty years, since it first took up the topic of automated data processing in 1984.

² Boss, “Electronic Commerce and the Law”, *id.* at 162. See also Boss, “The Emerging Law of International Electronic Commerce”, 6 Temple International and Comparative Law Journal 293 (1992).

³ They are the UNCITRAL Model Law on Electronic Signatures, adopted by the General Assembly on December 12 July 5, 2001, G.A. Res. 56/80, U.N. Doc. A/RES/56/80 (Jan. 24, 2002), available at http://www.uncitral.org/uncitral/en/uncitral_texts/electronic_commerce/2001Model_signatures.html; and the UNCITRAL Model Law on Electronic Commerce adopted by the General Assembly on December 16, 1996, G.A. Res. 51/162, U.N. Doc. A/RES/51/162 (Dec. 16, 1996), available at http://www.uncitral.org/pdf/english/texts/electcom/05-89450_Ebook.pdf.

Electronic Communications in International Contracts⁴ are attempts to deal globally with the issues of electronic commerce. At the same time, these products also contain provisions accommodating electronic commerce in specific substantive contexts: the new Convention on the Use of Electronic Communications in International Contracts contains provisions that modify the law of contracts,⁵ while the UNCITRAL Model Law on Electronic Commerce contains sector specific rules dealing with the carriage of goods.⁶ Now, however, that Working Party IV has completed its work on the Convention, the question emerges of whether UNCITRAL's work on electronic commerce should remain concentrated in one working group, or whether it should become the charge of each and every working group with respect to its specific substantive area. For example, Working Group III has been considering the question of electronic bills of lading in the context of carriage of goods by sea.⁷

Considering electronic commerce issues in the context of work in concrete substantive areas has an inherent appeal. One writer in the United States has commented that speaking of the law of electronic commerce (or the law of cyberspace) is like speaking of the law of the horse or the law of the telephone:⁸ electronic technologies are simply one means of communication used to accomplish broader commercial goals. Today, electronic commerce and electronic technology issues have permeated virtually every area of the law; attempts to single out these issues and treat them independently of the underlying subject matter would not only be difficult in many cases, but potentially counterproductive.

Yet there are difficulties as well with a purely sectoral approach. Strong arguments can be made for examining issues of electronic commerce independent of any particular substantive area or industry segment. First, the experts participating in a discussion in any particular sector, while being knowledgeable and skilled in that substantive area, may not have the knowledge and expertise about electronic technologies and electronic commerce that are necessary to develop legislation that would appropriately accommodate electronic commerce.⁹ Moreover, the time allocated to covering every issue, combined with the interest of the participants, may result in a failure to allocate sufficient time and resources to the electronic issues. Second, dealing with electronic commerce issues on a sector by sector basis means that each drafting body must struggle with the electronic commerce issues as they arise, and leads to the possible adoption of different and potentially inconsistent resolutions of identical questions by different drafting bodies. A more comprehensive, integrated approach that can be used across the various sectors and provide a template for use avoids these problems, and maximizes the resources that are available. There is a third problem with a purely sectoral approach to dealing with electronic issues: the various sectors of industry (and the various bodies of law) rarely exist independently, and frequently interact with other sectors of industry or bodies of law. Law does not consist of separate bodies of law that are static silos that do not interact with one another; the same can be said for different industry sectors. Transactions created in one area may have implications outside that area, and one body of law may impact the application of another body of law. Let me give two examples: a bill of lading may be issued initially for carriage of goods by seas, but at some stage the goods covered by that bill of lading may be subject to another type of transport (e.g. land transport). Alternatively, the bill of lading may have intrinsic value to the extent that it represents the right to the underlying goods, and therefore may be desirable as security for banks that finance the sale, and may become the collateral for a financing transaction. Thus, even though the system of rules applicable to bills of lading allows for the creation of an electronic bill of lading, uncertainties within the financing community as to their status as transferees

⁴ United Nations Convention on the Use of Electronic Communications in International Contracts, G.A. Res. 60/21, A/RES/60/21 (Nov. 23, 2005), available at <http://www.uncitral.org/pdf/english/texts/electcom/2005Convention.pdf>.

⁵ Convention on the Use of Electronic Communications in International Contracts, arts. 11 (invitations to make offers), 12 (contract formation), 13 (availability of contract terms) and 14 (error in electronic communications).

⁶ Model Law on Electronic Commerce, arts. 16-17.

⁷ A/CN.9/WG.III/WP.81

⁸ Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207. Many legal scholars in the United States took issue with this approach, however, arguing that an examination of the developments in cyberspace would allow for the development of generalized principles that might have broader application. See, e.g., Larry Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 13 HARV. L. REV. 501 (1999), available for download at <http://cyber.law.harvard.edu/home/uploads/199/1999-05.pdf>.

⁹ There are some areas where knowledge about the use of technology in a particular sector is indispensable; this was the case with regard to the drafting of the UNCITRAL Model Law on International Credit Transfers. This is not the case in every situation, however.

of these electronic bills of lading or as secured creditors claiming under the bill of lading may inhibit the growth in use of electronic transactions.¹⁰ To adopt an analogy from the law of technology, there is a great need for the interoperability of the legal solutions that we create, legal solutions that can operate cross-platform in a variety of areas.

What, if any, are the issues that cut across different substantive areas but nonetheless may benefit from consideration in a context that cuts across substantive areas? What are the issues that may need a universal answer, or at least universal consideration? The two UNCITRAL Model Laws and the UNCITRAL Convention go a long way towards addressing the use of electronic technologies in international commerce, particularly in the context of the recognition and enforcement of contracts created electronically. The focus of existing UNCITRAL texts in electronic commerce has been on the legal norms and issues bound up with the law governing obligations, contracts and commerce. To that extent, the impact of UNCITRAL's work is primarily on the enforceability of contractual obligations between parties who have used electronic commerce.

Yet recognizing the existence or enforceability of a contract is only the first step; a second step is defining what is meant by the enforceability of any rights created by the electronic contract in the event of third party claims or effects. In effect, once the validity and enforceability of contract rights are recognized, two important other areas are implicated: what is the impact of those contractual rights on existing property rights, and what is the enforceability of those rights as against third parties who are not privy to that contract. In other words, what (substantively) is the impact of the "electronic equivalent" of the paper document? The big issues today in the Internet have to do not so much with enforceability of contracts, but are concerned with property and ownership: who can claim certain rights (whether in goods or intangibles) to the exclusion of others; how can those rights be transferred; and how effective are those rights against other claimants. By phrasing the inquiry in this manner, it becomes clear that in wrestling with electronic commerce issues, it becomes necessary to examine the underlying substantive laws creating and enforcing property rights of different types.

The existence of property rights and their enforcement against others is an important issue in international trade: buyers, sellers, and those who finance the international transaction want to know with certainty what their rights are in the property at issue during the performance (or after the breach) of the contract. These questions have received increasing scrutiny in several important areas: the area of investment securities has embarked on a re-examination of the entire system for recording title to and interests in securities; attempts to introduce electronic bills of lading are causing a reexamination of negotiability and an exploration of alternative methods of documenting claims to goods covered by electronic bills.

Over the centuries, merchants have developed methods of establishing the existence of ownership (or possessory) rights, methods of transferring those rights, and methods of determining priority to the property in the event of multiple claims. One method that has developed is transfer of physical possession of that property. While this might work in the case of tangible and moveable property which are capable of physical possession, such as cotton or chairs, it does not work in four other situations: where the property being transferred is real property; where the property being transferred, while tangible, is too large to be "possessed", as is the case with manufacturing equipment; where the property is temporarily in the hands of a third party or bailee; or where the property is intangible in nature. As a result, many legal systems have developed replacements for the transfer of physical possession of the property. Three "possession substitutes" have evolved. The first is the transfer of a token rather than the property itself. Examples might include the transfer of a deed in the case of real estate, the transfer of a set of keys in the case of property whose use is "locked up" in some way; or transfer of a piece of paper that documents the right to possession, as in the case of a bill of lading, warehouse receipt or certificated security. The second (and somewhat related) possession substitute is the transfer of the means of control over the property. Control may be exercised by possession of a key required to use or access the property; it may be exercised by attornment by the bailee, an acknowledgement by the party who has the

¹⁰ See, e.g., Marek Dubovec, *The Problems And Possibilities For Using Electronic Bills Of Lading As Collateral*, 23 ARIZ. J. INT'L & COMP. LAW 437, 437-438 (2006), noting that previous attempts to create an electronic bill of lading created questions as to the status of secured creditors and the acceptability of the electronic bill of lading under letters of credit. "If the secured transactions laws do not provide sufficient rules that would guide the bank or other prospective lender through the process of creation and perfection of a security interest in an electronic document of title, the electronic replication of paper documents of title would not be possible." *Id.* at 449.

property or by the debtor who owes the performance. Control may also be exercised by possession of a piece of paper that documents the ownership interest and is necessary in order to claim that property. A third possession substitute, that originated in the real property area but has since spread to other areas and particularly that of secured financing, is the recordation of the transfer of interests in a registry created for the specific purpose of documenting transfers of that nature and establishing rights against third parties.

In the area of commercial trade, the use of a “token” – more specifically, a piece of paper – became commonplace to control and transfer interests in property. That “token” was used to document the ownership interest, to transfer the rights, and to determine priority. Tokens of this nature have been recognized in a variety of markets: in maritime and in transport generally, there is the bill of lading; in the commodities markets, parties in some countries use warehouse receipts (another document of title); in the area of corporate financing, businesses have issued paper “stock certificates” that evidence ownership interests in the company; alternatively, businesses attempting to raise money have issued paper “bonds” or negotiable instruments that represent the right of the holder to payments of money in the future. In each of these instances, the paper document has legal significance in the creation and enforcement of rights in other property.

What happens, however, if that paper document, that paper token, is put into electronic form? If the paper is to be dispensed with, what will take its place?¹¹ There are many products today (INCOTERMS being one example among many)¹² that admit of the possibility that the parties may agree to issuance or execution of these documents in electronic form. These products stop, however, without laying out the legal consequences of those documents, and their effectiveness against third parties. The challenge now is to tackle that question and begin to give answers.

The issue is not a new one; indeed, it has been around in the international trade arena for over twenty-five years, when it was first raised by Hans Thomsen and Bernard Wheble in discussions within the Economic Commission for Europe and its Working Party for the Facilitation of International Trade Procedures.¹³

For many, it is not simply a question of what to substitute for a paper token but how to accomplish negotiability in an electronic environment. The concept of negotiability is one that cuts across substantive areas, and in many countries negotiability is one of the pillars of commercial law. Transfer of rights, whether they be rights in tangible items such as goods or rights in intangible items such as securities or payment obligations, are accomplished today by the transfer of the piece of paper. The person in possession of the piece of paper may, if taking by due negotiation of the paper, obtain an interest in the underlying rights and the ability to request the goods, payment or other performance covered by the paper. Moreover, if the person in possession of the paper qualifies as a “holder in due course” or “protected party”, that person may take greater rights than its transferee had, and may be able to cut off defenses that exist to the exercise of those rights. In some countries, a financier who takes possession of these documents may be able to claim that its rights to the goods, payment or performance are to be given priority over claims of other financiers or transferees. Thus, this little piece of paper serves multiple underlying functions in the context of negotiability, although even within one sector there may be regional differences on what those functions are.¹⁴

¹¹ “The time has clearly arrived when the bill of lading must go. It has served us well and earned a place of honor in the museum of international trade (to whence it should be consigned), but with what will it be replaced?” John W. Richardson, *Key to International E-Commerce*, L/C MONITOR, Jan 2000, cited in Dubrovec, *supra* note 7, at 79

¹² According to the A8 clauses of INCOTERMS 2000, paper documents may be replaced by electronic messages provided the parties have agreed to communicate electronically. Such messages could be transmitted directly to the party concerned or through a third party providing added-value services including registration systems as BOLERO. But it has been acknowledged that “Systems providing such services . . . may require further support by appropriate legal norms and principles . . .” See YEARBOOK OF THE UNITED NATIONS COMMISSION ON INTERNATIONAL TRADE LAW, 2000, vol. XXXI, at 608.

¹³ See Hans B. Thomsen & Bernard S. Wheble, *Trade Facilitation and Legal Problems of Trade Data Interchange*, 13 INT’L BUS. L. 313 (1985). Subsequently, the Working Group on the Facilitation of International Trade Procedures (predecessor of the CEFAC Working Group, UNECE) conducted a study on negotiability.

¹⁴ See Georgios I. Zekos, *The Contractual Role of Documents Issued under the CMI Draft Instrument of Transport Law 2001*, 35 JOURNAL OF MARITIME LAW AND COMMERCE 99 (2004).

There are some that have envisioned that one day the “paper token” may be replaced by an “electronic token” that has the same characteristics of a paper token and performs the same function. Technological developments, however, have not yet provided us with such a digital object on any widespread, low cost basis. The essential problem is that electronic documents can be perfectly copied, and tokens of value must be unique. Ensuring uniqueness and transferability is a major challenge, and there are genuine questions as to whether such developments will occur.¹⁵ Even if token based uniqueness is achieved, it won’t be effective in general unless technological applications are both widespread and low cost. The existing closed systems do not try and replicate a “token” system; instead, they adopt another of the methods used for decades to evidence the claims of an interest in property: the use of a registry (often, but not always, a central registry) that documents the claims to the property and becomes the source for determining ownership rights. Registries are increasingly being used in the context of secured financing on the international level, such as in UNIDROIT’s Cape Town Convention¹⁶ and as recognized by UNCITRAL’s Convention on the Assignment of Receivables in International Trade¹⁷ and its current work on Secured Transactions,¹⁸ as well as in the context of outright transfers of property (as is recognized in work done by the Hague Conference¹⁹ and by UNIDROIT²⁰ on Securities Intermediaries). Increased computing power and lower costs are what make computer registries now a real alternative for dealing with third party rights and enforceability.

The increasing use of registry systems evidences a new trend: the reconceptualization of negotiability, the destruction of a token-based system, and the construction of a new and more modern business and legal structure. Re-conceptualizing what is accomplished by the tender of a negotiable document of title or a negotiable instrument or other such paper token, and how the purposes or functions served by a paper document may be replicated in an electronic environment is a complex and complicated undertaking. Given the importance and difficulty of the issues, should they be relegated to sector by sector resolution? And can these issues really be approached from a “functional equivalence” perspective, when the thrust of these developments is the rejection of paper (or its equivalent) as the resolution to these issues?

The solution may be to move away from the traditional drafting methods used in the electronic commerce area: methods that adopt the basic tenet of functional equivalence. UNCITRAL has made significant and impressive strides in the electronic commerce area over the years, with an approach grounded in the notion of functional equivalency. Under this approach, traditional legal notions need not be replaced by entirely new ones; from a legislative perspective, all that may be necessary -- and prudent -- to do is to identify the circumstances under which the same function envisaged by the law for, say, a "written contract" may be fulfilled by the exchange of communications in electronic form.²¹ This "functional equivalence approach" has served UNCITRAL well, but it may well have outlived its useful life.²² The

¹⁵ On the ability of “digital objects” or records to represent “value”, see Robert E. Kahn and Patrice A. Lyons, *Representing Value as Digital Objects: A Discussion of Transferability and Anonymity*, 2006 J. Telecommunications & High Technology Law 189 (2006). Kahn was a co-inventor of the TCP/IP protocols, and was responsible for originating the Internet Program for the U.S. Defense Advance Research Project Agency (DARPA). He noted that digital object architecture has been under development by Corporation for National Research Initiatives (“CNRI”) for a number of years, and discusses the use of “unique, persistent identifiers” for digital objects.

¹⁶ www.unidroit.org/english/conventions/mobile-equipment/main.htm

¹⁷ United Nations Convention on the Assignment of Receivables in International Trade, adopted by the General Assembly December 12, 2001, U.N. Doc. A/RES/56/81 (31 January 2002).

¹⁸ Security interests: Recommendations of the UNCITRAL draft Legislative Guide on Secured Transactions, U.N. Doc. A/CN.9/631 (March 2007).

¹⁹ Hague Conference on Private International Law, Convention of 5 July 2006 on the Law Applicable to Certain Rights in respect of Securities held with an Intermediary, available at http://www.hech.net/index_en.php?act=conventions.text&cid=72.

²⁰ UNIDROIT has been exploring the preparation of a draft Convention on Substantive Rules regarding Intermediated Securities. See UNIDROIT Study LXXVIII, available at <http://www.unidroit.org/english/workprogramme/study078/item1/main.htm>.

²¹ José Angelo Estrella, Online Contracting: Legal Certainty for Global Business--The New U.N. Convention on the Use of Electronic Communications in International Contracts, 39 UCC L.J. 1 (Summer 2006).

²² Admittedly, the three UNCITRAL instruments have included some departures from a purely functional equivalency approach. The Convention on the Use of Electronic Communications in International Contracts added a few substantive rules that extend beyond merely reaffirming the principle of functional equivalence where substantive rules are needed in order to ensure the effectiveness of electronic communications. See José Angelo Estrella, *supra* note 15 (electronic commerce does not fully reproduce contracting patterns used in contract formation through more traditional means. Thus

new focus should be the creation of new legal structures, built on the old legal structures, that can provide the rules sets needed by business to fully accomplish the transition to an electronic environment. The challenge is to see the discussion from a different perspective, to focus not on what the functions of negotiability are and how they may be fulfilled, but to focus on the mechanics behind the creation of registries, and the benefits that such registries may offer in the context of documenting rights to ownership and providing a legal structure that may be utilized by those industries that from day to day must cope with the passage of interests in goods and other property. Let us not try so hard to replicate the past in an electronic environment, to find a “functional equivalent”. Instead, let the electronic environment show us new and different ways to accomplish our goals. UNCITRAL could be a leader in that transition.

Admittedly, the lack of clear and certain legal rules is only part of the picture; there is also a need for the development of business practices. Some say the law should change as business will not until there is certainty and predictability in transactions. Others say that business must lead, as the law itself cannot create new business practices. The answer is undoubtedly somewhere in between: the two are interdependent. Yet in the context of the transfer of property rights in an electronic environment, we are not writing upon a totally clean slate.

In the twenty-five years since issues concerning replacement of paper tokens were first raised in the international context, there have been developments in the industry. Many of those developments have been in the context of closed systems, where the parties to the transactions, by opting into the use of particular systems for trade facilitation, agree to a set of rules that will apply to their dealings; examples of that include the work by the Comité Maritime International²³ and Bolero.²⁴ Yet these private rule systems suffer from many of the same drawbacks as the “electronic data interchange agreements” drafted by parties twenty years ago; inability to enforce the agreements against third parties and overarching questions about the validity and enforceability of these agreements create costly uncertainty for commercial parties. Nonetheless, these interchange agreements, while originally developed on an industry or sector specific basis, eventually documented the commonality of the issues raised in an electronic context²⁵ and provided the foundation for the promulgation of generally applicable legal principles on both the international and domestic level.

In a similar fashion, study of these private rule systems for the replacement of paper, as well as studies of how paper tokens have been replaced in other substantive areas²⁶ may provide for the development of generally applicable legal principles concerning the use of registries to replace paper. The key is the development of a unified, thoughtful and coordinated approach.

It is time for UNCITRAL to assist electronic commerce to become operational, to move from merely removing barriers to electronic commerce towards creating a legal structure where ownership rights can be transferred and enforced. The time has come for UNCITRAL in the electronic commerce area to become operational.

some adaptation of traditional rules on contract formation may be needed to accommodate the needs of electronic commerce.) The Model Law on Electronic Commerce contained rules specific to the bill of lading context.

²³ CMI, UNIFORM RULES FOR ELECTRONIC BILLS OF LADING (June 1990). See Georgios I. Zekos, *The Contractual Role of Documents Issued under the CMI Draft Instrument of Transport Law 2001*, 35 JOURNAL OF MARITIME LAW AND COMMERCE 99 (2004).

²⁴ See www.bolero.net.

²⁵ See, e.g., Amelia H. Boss and Jeffrey Ritter, ELECTRONIC DATA INTERCHANGE AGREEMENTS: A GUIDE AND SOURCE BOOK (International Chamber of Commerce 1993); Amelia H. Boss, *Electronic Data Interchange Agreements: Private Contract Towards a Global Environment*, 13 NORTHWESTERN JOURNAL OF INTERNATIONAL LAW AND BUSINESS 31-70 (1992).

²⁶ Many of those prior efforts are detailed in Electronic Commerce: Future Work – Proposal of the United States of America on Electronic Transferable Records (June-July 2007).