INTERNATIONAL REVIEW OF LAW COMPUTERS
& TECHNOLOGY, VOLUME 13, NO. 2, PAGES 127–145, 1999

Regulating E-commerce: Formal Transactions in the Digital Age

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ABSTRACT *As digital transactions become more common the need to regulate the commercial frontier of cyberspace becomes increasingly urgent. This has been recognised by national governments, supranational bodies and international organisations. The regulations proposed have though been offered in a piecemeal fashion. National governments attempt to fit cyberspace within the four corners of their (familiar) domestic jurisprudence, and even supranational and international bodies have been guilty of simply extending previous rules to the realm of cyberspace. This paper suggests that a coherent approach to the regulation of electronic commerce may start with an identification and application of principles rather than with the transference of rules. It uses as a reference, proposals for the modernisation of land transfer systems introduced in Canada and Australasia, currently being evaluated by the Keeper of the Registers of Scotland and the Law Commission/HM Registry. Underlying these proposals is a central issue: how are traditional formal requirements for property transactions accommodated in cyberspace? More fundamentally, if that most formal of transactions, the transfer of real property, can be modernised to meet the challenge of a new digital age, can not all modes of commerce be similarly modernised for the digital era? This paper evaluates whether a principled approach to answering these questions can, more generally, provide a workable framework for approaching e-commerce regulation.*

Introduction

Electronic commerce has completed the transition from utopian vision to veritable economic reality. The United Kingdom Department of Trade and Industry (DTI) recently estimated that the current value of electronic commerce worldwide is US$12 billion per annum, and that this figure would rise to $350–500 billion by 2002.[1] Early in the next century, the Internet may become the primary means of distributing software and providing a wide range of information services, as well as an important marketplace for buying and

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1369-0869/99/020127-19

selling consumer goods. Unsurprisingly, the rapid growth of e-commerce has encouraged a corresponding rise in proposals for its regulation.

Among those who are not familiar with this rapidly expanding economic medium, there is a commonly held perception that the Internet is unregulated. The truth is, of course, dramatically different: at least in the abstract, the Internet is one of the most regulated areas of society. A patchwork of national laws and contractual restrictions potentially affect e-commerce, with most countries applying their own legal rules to transactions completed over the Internet, and private regulators[2] imposing conditions on Internet transactions taking place within the borders of the states in which they are located. Moreover, reformers throughout the world are constantly promulgating new proposals for laws and conventions intended to facilitate Internet-based trade.[3] To cite but one example, regulations for digital signatures have been proposed by or enacted in the United States, the European Union and most European states, the United Nations Commission on International Trade Law (UNCITRAL), and many private institutions, even though only a small proportion of electronic commerce currently relies on digital signatures.

For the most part, e-commerce regulations have been offered in a piecemeal fashion, with national governments attempting to fit cyberspace within the four corners of their (familiar) domestic jurisprudence. Even supranational and international bodies have been guilty of simply extending previous rules to the realm of cyberspace. They have taken a 'functional equivalent' approach to rule-making, analysing the role currently played by a particular legal rule in the non-digital commercial world, identifying how the same function could be achieved in electronic transactions, and extending the existing rule by analogy to cyberspace. Difficulties with this 'functional equivalent' approach have arisen, in part because the jurisdictional and choice-of-law problems created by Internet communications are particularly perplexing.[4] Established rules of international private law (IPL) have been found inadequate to answer many important questions concerning who has the authority to enforce substantive rules governing e-commerce, or even to determine what those rules are. This problem has probably contributed to the broadly pro-business, *laissez faire* approach taken by western governments to the enforcement of e-commerce law. The supranational nature of the Internet yields a strange dichotomy of a medium, which is at the same time highly regulated yet subject to minimal policing.

But these jurisdictional and enforcement problems may not be the only ones plaguing efforts to regulate e-commerce. Arguably, many of these regulatory efforts are premature. There has not been a raft of lawsuits arising out of Internet commerce, nor is there much evidence of irresistible consumer demand for devices such as digital signatures, which seem to preoccupy legislators and reformers. Moreover, policy proposals are being debated before the nature or full potential of the information technologies that may provide the foundation for electronic commerce in the future is known. While certainly it is appropriate for policy-makers to anticipate and encourage economic and technological development by establishing legal 'rules of the road,' the danger is that a rush to legislate will impose legal analogies and formalistic structures that constrain rather than promote the development of the Internet and other computer-based communication systems as media for commercial transactions.

Perhaps more fundamentally, the functional equivalency approach underlying most regulatory proposals itself may be misguided. This article examines whether a more coherent approach to the regulation of electronic commerce would be to start with identification and application of first principles rather than the transference of rules applied in analogous contexts. The functional equivalency approach taken by most commercial

lawyers in debates over e-commerce regulation can be contrasted with the approach taken by some property lawyers in attempting to modernise land transfer systems. Such proposals have been introduced in Canada and Australasia, and are currently undergoing evaluation by the Keeper of the Registers of Scotland and the Law Commission and HM Registry in England. They must squarely confront the problem of how to accommodate the traditional formal requirements for property transactions when those transactions are effected in cyberspace. If that most formal of transactions, the transfer of real property,[5] can be modernised to meet the challenge of a new digital age, can not all modes of commerce be similarly modernised for the digital era? As will be seen, some of these proposals begin their analysis from first principles, in contrast to the functional equivalency approach typically taken by commercial lawyers. This article evaluates whether the principled approach to answering the questions raised by the electronic transfer of land can provide a workable framework for approaching e-commerce regulation generally.

In the next section, we will provide a brief overview of the law governing the sale of property in Scotland, the jurisdiction we will use to illustrate the problems raised by electronic commerce. We will then briefly describe how those rules, as they currently stand, might affect property sales made via the Internet. The article will then assess various proposals for regulating e-commerce, contrasting the approach taken by the commercial lawyers in documents such as the European Commission's draft Electronic Commerce Directive[6] with the approach proposed by the Keeper of the Registers in connection with real property transfers in Scotland.[7]

The Sale of Property in Scots Law

To better understand the regulatory issues raised by electronic commerce involving Scottish residents, it is useful to review current rules of Scots law governing property transactions. Scottish property law is essentially civilian in nature.[8] The principal distinction it draws is between immoveable property or heritage (land and permanent structures attached to it) and moveable property (everything else).[9] The latter category is the domain of commercial lawyers, and will be dealt with first.

Moveables

Moveable property is classified as either corporeal (the equivalent to personal chattels in England) or incorporeal (intangible property like rights of action, rights under insurance policies, and intellectual property rights). Disputes over transactions involving moveable property between Scottish residents are resolved by reference to Scots law, even if the Internet was used to facilitate that transaction.[10] Difficulties arise when the contracting parties reside in different states.

Traditionally, Scots law drew a sharp distinction between the contract of sale and the conveyance of the property (the delivery of the property from seller to buyer).[11] This distinction was weakened when the Sale of Goods Act 1893 (now the Sale of Goods Act 1979) largely brought Scots law in line with the rules governing the sale of chattels in England. The Act focused primarily on the contractual aspects of the transfer of property rights in goods. While transfer of ownership remained a central concern,[12] the provisions of the Act dealing with transfer attempted to identify the intentions of the parties under contract rules rather than whether delivery (in its former, technical sense) had occurred. The distinction between contract and conveyance retains vitality in the substantive law of

many civilian jurisdictions, creating the potential for greater uncertainty in cross-border transactions.

In an action brought in Scotland, the law governing a sales contract between residents of different legal jurisdictions is determined by reference to the Contract (Applicable Law) Act 1990, which incorporated into UK law the EEC Convention on the Law Applicable to Contractual Obligations 1980 (the Rome Convention). The applicable law as determined by the Rome Convention governs the interpretation, performance, and termination of the contract, as well as matters relating to its formation.[13] Generally, the parties are free to choose the law applicable to the contract, which choice can be expressed or implied from the circumstances.[14] If no determinable choice of law was made, then the general rule established by Article 4 of the Convention is that the contract will be governed by the law of the country which has the closest connection with the contract. Under Article 4(2), it is presumed that 'the contract is most closely connected with the country where the party who is to effect the performance which is characteristic of the contract has, at the time of conclusion of the contract, his habitual residence', or in the case of traders, the country in which the trader's principal place of business is located.[15] Generally, the 'characteristic performance' in a contract is the performance of the act for which payment is made, and in a contract for the sale of goods that act is the delivery of the goods.[16] But it is not the place where the goods are to be delivered that provides the applicable law; instead, courts look to the law of the country in which the party who has to make the characteristic performance is 'habitually resident' or maintains their principal place of business. However, in cases in which consumers—parties who are not buying in the course of business—have responded to an invitation to buy which was communicated by advertisement or otherwise in the country where the buyer habitually resides, the applicable law will be that of the jurisdiction where the consumer is habitually resident.[17]

The rules of a different jurisdiction may apply to disputes over the conveyance of corporeal moveables. *Inter vivos* transfers of moveable property are governed by the *lex situs* at the time of the transfer.[18] Problems arise when a retention of title clause has been inserted into the contract, whereby the seller retains title to the goods until some act is performed by the buyer (such as making full payment for the goods, or perhaps full payment of all outstanding debts whenever incurred).[19] If such a clause, as is now commonly the case, is inserted into a contract between parties residing in different states, it is not clear which *lex situs* governs the validity of the clause. Is it the situs at the time the retention of title clause was imposed, or is it the situs at the time proceedings are commenced? If the former, does the position change if the property is delivered to a country which does not recognise the validity of retention of title clauses? If the situs differs from the jurisdiction whose laws govern the contract, is the validity of the clause to be determined by reference to the applicable law of the contract, or the *lex situs*? What if the law of the situs (or the forum court) classifies a retention of title clause as a security interest because, given the clause is contractual but has proprietary effect, the functional effect of the clause is to give the seller a security over the subject matter of the contract? The answers to these questions are largely unresolved, creating difficult problems when retention of title clauses are included in cross-border contracts. Different international private law (IPL) rules apply depending on whether the effect of the clause is characterised as having proprietary effect or as a security right. Moreover, the rules applicable to security rights differ depending on whether a jurisdiction applies common law or civilian law.[20]

Applying IPL rules to contracts involving moveables can be difficult. If the seller of goods maintains his place of business in Scotland and the buyer resides in another country (say,

Utopia), Scots law would govern the contract (absent a contrary choice-of-law clause) because the party who must make the 'characteristic performance' is resident in Scotland, unless the buyer was invited to enter the bargain in a communication emanating from within Utopia, in which case Utopian law would apply. If the goods are situated in Scotland at the time of contracting, the proprietary aspects of the transaction would be governed by Scots law if the *lex situs* applies. If, on the other hand, the seller maintains his place of business in Utopia and the buyer is resident in Scotland, the contract would be governed by Utopian law unless the buyer was induced to enter into the agreement by communications made within Scotland (assuming here that Utopia's IPL rules are similar to those of Scotland). If, however, a transaction involves a retention of title clause, the potential permutations become extremely complex, with choice-of-law determinations potentially being made in several different ways depending on how the transaction is categorised (as one involving bankruptcy law, a security, the transfer of ownership, or some combination of all three) and depending on which of several alternative case interpretations is followed. For the most part, the fact that a transaction is accomplished through use of the Internet does not fundamentally alter the nature of these IPL problems;[21] it is just that the Internet will dramatically increase their frequency.

Heritable Property

The difficulties created by the mobility of goods do not arise as often with heritable property, if only by virtue of land's immobility. The more pressing problems in this area of law, particularly in the context of electronic commerce, centre on the more stringently formal nature of land transactions. In Scots law, ownership is the primary real right. It can be burdened by subordinate real rights such as servitudes (similar to easements in English law), standard securities (equivalent to English mortgages), or leases. The strict distinction between the contract and the conveyance persists in Scots heritable property law; the contract regulates the relationship between buyer and seller, while the conveyance relates solely to the property aspects of the parties' transaction. The contract must be a formal writing,[22] subscribed by the seller or the buyer or, as occurs invariably in practice, their agents. The contract is generally referred to as 'missives.' These will generally be adjusted between the parties' solicitors, and will address various matters including the passing of risk, whether the property is serviced by public utilities, the date of entry and settlement of the transaction, and the consequences of failure to make payment on the date of settlement. A detailed document, the contract will regulate even matters such as what is to happen if the central heating system is not in good working order.

Implied into the contract (if not made express by the parties) will be a provision that the seller will transfer to the buyer a 'good and marketable title'. This means that the seller guarantees that he owns the property and that the buyer's ownership will not be open to reduction; that there will be no undischarged heritable (or immoveable) securities affecting the seller's land; that there are no unusual conditions of title; and that the buyer will obtain vacant possession of the property on the date of entry.[23] To verify that these obligations have been met, the buyer's solicitor will examine records maintained in either the Land Register or the Register of Sasines. If the property being sold is situated in a county (or 'operational area') where the effect of transactions are registered in the Land Register, doing a title search is fairly straightforward, provided the property in question was registered at some point after the Land Register (created by the Land Registration (Scotland) Act 1979) became operational in the area. Such properties are described by

reference to OS map; data as to ownership, securities, and title conditions are stored on computer; and land certificates confirming the seller's ownership of the land, the land's precise location, and identifying the securities and title conditions affecting the property are kept on record. Titles are guaranteed by a state indemnity fund. For transactions involving property not registered in the Land Register (either because it is located outside the 'operational areas' or because it has not been sold since the Land Register was established), the process is more difficult. The buyer's solicitor would need to check through an old bundle of title deeds, copies of which are maintained at the Register of Sasines, a register where deeds have been recorded since 1617. The solicitor must check the ownership position for the last ten years (the acquisitive prescription period in Scotland) to be satisfied as to ownership, as well as a privately prepared search to identify whether there are any undischarged securities. He or she will also need to check the old title deeds to identify the conditions which affect the property.

If missives are completed to the satisfaction of both parties, the transaction moves to the conveyance stage, which itself can be divided into three steps: preparation and execution of the deed; delivery of the deed; and registration of the deed. There is no prescribed statutory style for the conveyance (commonly called a 'disposition'), and the draft will be adjusted by the parties' solicitors. The disposition will narrate that the seller is the granter of the deed; whether or not the seller is the current owner, and if not how he or she is linked to the last recorded or registered owner; identify the grantee; describe the property; list any title conditions; include a statement as to the date of entry; and grant warrandice (the disposition's equivalent to the guarantee of good and marketable title contained in the missives). The most important provision is the dispositive clause appearing near the beginning of the deed stating that the seller 'hereby dispones to' the buyer the property described. Before the deed can be registered in either the Sasine or Land Register, it must be formally signed and must be self-proving. This means that the signature of natural persons must be witnessed, and that detailed rules prescribed for juristic persons must be followed.[24]

The disposition will be delivered to the buyer or, more likely, the buyer's solicitor on the date of settlement. Generally this will be the day on which the buyer can obtain vacant possession of the property and move in. In exchange, the buyer will deliver the purchase price, usually either by electronic transfer, typically from the buyer's solicitor's client account, or by cheque from the buyer's solicitors in favour of the seller's solicitors. When the disposition is received, the buyer's solicitor will ensure that the requisite stamp duty is paid and present the disposition for recording or registration in the appropriate property register. Before a disposition will be accepted, registry officials ensure that it meets the requirements for formal validity and that all necessary operative clauses are contained in the deed. If the deed is not valid the deed will be returned to the party that presented it. Ownership of the land does not transfer until the disposition is recorded or registered in the Sasine or Land Register.[25] Thus, there is usually a gap between the time the buyer's solicitor receives the disposition and the formal transfer of ownership. During this time the seller may (fraudulently) sell the land to a third party, and the third party, if acting in good faith, would obtain ownership if he registered his title before the buyer. Alternatively, the seller could grant a security after delivery of the disposition but before registration which could burden the property. As there is no convenient way to prevent these gaps under the current system,[26] it is common practice for the seller's solicitor to deliver a 'letter of obligation' to the buyer's solicitor upon settling a transaction.[27] This is an undertaking by the seller's solicitor that

if the disposition in favour of the buyer is registered within a specified time period then a good, unencumbered title is guaranteed.

International private law issues could arise when parties residing outside Scotland agree to transfer land situated in Scotland. Under Scots law, land and permanent structures attached to it are classified as immoveable property,[28] as are standard securities over the land.[29] At common law, the proper law for a contract for the sale of land was generally that of the *lex situs*,[30] a position that largely survives under the Rome Convention.[31] However, the parties are free to agree that the law of another jurisdiction will control interpretation of the contract.[32] This autonomy does not exist in connection with the conveyance, however. The law governing all aspects of the conveyance, including the capacity to transfer, the formalities of the conveyance, and the essential validity of the conveyance, is that of the *lex situs*.[33] The priority of the law of the situs is explained by Cheshire and North: '[O]nly the law of the situs can control the way in which land, which constitutes part of the situs itself, is transferred. So uniformity with the law of the situs is necessary in terms of effectiveness and justifies a court applying that ... law.'[34]

Accordingly, the international element in land transfers is less significant than it is in transactions involving moveables. This must be borne in mind when evaluating the various reform proposals designed to facilitate electronic commerce.

Regulating Electronic Commerce

The Proposed European E-commerce Directive

At the heart of policy in the European Union (EU) is the drive for harmonisation of national laws to allow the creation and development of a single European market in goods and services as required by the Treaty of Rome.[35] Recently, the European Commission has focused on the potential of electronic commerce. Since the publication in 1997 of the Commission's Communication on Electronic Commerce,[36] many European initiatives in e-commerce, including the Data Protection Directive,[37] the draft Electronic Signatures Directive[38] and the draft Electronic Commerce Directive,[39] have been promulgated.

The draft Electronic Commerce Directive is the one that meets, head on, the issue of regulating e-commerce within the EU. As discussed in the introduction, there are two options open to legislators when deciding how to regulate a completely new technology such as the Internet: they may, by analogy, apply rules governing well-known forms of exchange to the new medium as best they can, or they can return to first principles and apply them to new technologies in a manner not necessarily contemplated by existing rules.[40] The Commission has taken the former approach. Set with an impossibly short deadline of the year 2000 to 'create a coherent European legal framework'[41] for electronic commerce, it is perhaps unsurprising the Commission has gone in this direction. Even those involved in systematic restatements of principles admit the process is a major transition which 'will not be completed for quite some time'.[42]

The effective provision of the proposed directive is Article 3. This provides that each member state shall apply its national laws to a 'service provider' established within their territory. A service provider is defined as 'any natural or legal person providing an information society service', which is 'any service normally provided for remuneration at a distance, by electronic means and at the individual request of a recipient of services'.[43] When is a service provider established within a particular jurisdiction? According to Article 2, the question is not one of location of technology, marketing, or even the provider's

domain address, but rather the provider's base of economic activity. Thus, if a company operates a site on a German server which offers to sell mobile telephones to customers on the European mainland, but maintains its head office in Edinburgh, the content of the German-based site will be regulated by the laws of Scotland. This means the company may offer price discounts outlawed in Germany to potential German customers from a German based website as Scots law allows such offers.

The draft directive gives some protections to both providers of electronic commerce[44] and their customers.[45] Particularly important is Article 5, which provides that certain information must be available to the user of any information service, including the name and address of the service provider,[46] a method of instant contact with the service provider such as their e-mail address, any trade mark information, and if necessary details of any authorisation scheme covering the service provider. This requirement is designed to allow the customer to identify and contact the service provider, who can then provide all relevant details of the regulatory regimes governing the content of the webpage and, in many cases, an indication of the effective law covering the content of the site. One notable absence from the list of required information is a statement as to where the service provider is established. This seems to reflect an assumption that the country of establishment is less important than the fact they are regulated by the terms of the directive, since the directive, and later the jurisprudence of the Court of Justice, will harmonise the law is governing electronic commerce in member states. In essence, establishment merely creates a jurisdictional framework allowing users of the Internet to enforce the provisions of the directive (and national and European laws) without having to establish the jurisdiction of the court through the use of private international law.

While Article 5 is designed to improve regulation by making it easier to raise enforcement proceedings, other provisions are designed to ensure harmonisation across the member states. Articles 9 and 11 address the formation of electronic contracts and Articles 12–15 offer protections to intermediaries. In devising these provisions little effort was made to accommodate the unique qualities of the Internet, by reconsidering the principles underlying rules applicable in other spheres and assessing them without preconceptions gained from the ways that traditional marketplaces have worked. The approach adopted assumes the persistence of the effects the physical borders of nation-states have on regulatory schemes in the realm of cyberspace and attempts to harmonise the rules applied within those physical borders. In other words, this approach creates artificial virtual borders in cyberspace and then ensures free movement of goods and services across those borders by harmonising the way in which each member state regulates transactions entered into over the Internet. The irony of a body whose function is to remove barriers where they find them constructing artificial borders in the only truly international medium should not be lost.

The UNCITRAL Model Law on Electronic Commerce

The regulation of e-commerce is an issue that extends far beyond the bounds of the EU. Other organisations are also familiar with the cross-border problems raised by Internet communications. The UN is an organisation used to dealing with issues of trade protectionism, often brokering deals to ensure continued international trade in the face of sometimes fierce pressures to close borders.[47] Like the EU, the UN recognised that differing national provisions relating to electronic commerce can cause partitioning of the market and barriers to entry.[48]

To meet this problem, UNCITRAL prepared a model law on electronic commerce which was adopted by a UN general resolution on 16 December 1996. As a model law, rather than a directive to member states, the UNCITRAL provisions vary greatly from their European cousin. Whereas the draft EU directive sets out detailed rules regarding domicile of service providers and provides a framework for the regulation of e-commerce, the UNCITRAL document is a permissive document rather than a regulatory one. The model law provides that for those countries which adopt its provisions, electronic communications shall be given equivalent legal effect to paper-based communications.[49] The model law then goes on to create specific equality for electronic communications in the requirements of writing, signatures, and formation of contract.[50] Like the proposed European Directive, though, the model law does little more than take current rules and apply them to electronic communications. We see phrases such as: '[w]here the law requires information to be in writing, that requirement is met by a data message ...'[51] and '[w]here the law requires that certain documents, records or information be retained, that requirement is met by retaining data messages ...'.[52] The model law, like the draft directive, merely permits electronic communications to complement existing modes of worldwide commercial activity, rather than tap the potential of electronic commerce by developing a new system of regulation that could respond more flexibly to new and unanticipated practices that might emerge with technological advances.

Again, it is easy to be overly critical of the designers of this document, who in fact did an excellent job. It is just that the task they were charged with was an almost impossible one. At a time when electronic commerce in the developed world was in its infancy they were asked to prepare a model system which could be implemented not only in developed western nations, but which could be of utility to all members of the UN, including those for which electronic commerce still means the use of the fax machine or the telex. It would have been unworkable, at an international level, for UNCITRAL to develop a new code specifically developed to take advantage of the potential offered by Internet communications.

Like their counterparts in the European Commission, UNCITRAL were required to produce an effective framework in a short period of time. Faced with different levels of technology and widely varying legal frameworks throughout the world, they took the only possible option open to them. With wholesale redrafting of national legislation impractical, they made use of the 'functional equivalent approach' to prepare a model law that could be easily incorporated into any legal system whatever their jurisprudence and level of technology. This involved identification of the role played by the object they hoped to mirror (for instance, the role of written documentation in commercial transactions), examination of how such a role may be fulfilled by the use of 'equivalent technology' (such as e-mail, fax, telex or computer networks), and substituting the equivalent where appropriate. Thus, to use the example given by UNCITRAL, an electronic document can fulfil the following requirements of a paper-based document: to provide a legible document, to provide an unaltered record, allow reproduction of the document, allow authentication by means of a signature, and to provide a document for public record.[53] In all these cases the electronic document may be functionally the equivalent of a paper document and therefore within the terms of the model law the electronic document should 'not be denied legal effect ... solely on the grounds that it is in the form of a data message'.[54]

Due to these constraints, UNCITRAL were unable to develop a system of electronic commerce based upon substantive principles. As the European Commission was to do two years later, UNCITRAL were forced to attempt to apply existing rules to new technologies.

Electronic communications, and in turn e-commerce itself, were designed as the functional equivalent of their 'real world' counterparts. Electronic transactions were simply the 'functional equivalent' of distance trading.

The Current DTI Proposals

Many national governments are also reviewing their domestic legislation in light of developing e-commerce. The UK government, for example, has recognised the potential value to the UK economy of information services and set out a framework for exploiting and regulating that market in the 1998 Competitiveness White Paper, 'Our Competitive Future: Building the Knowledge Driven Economy'.[55] Chapter four of the paper sets out the government's proposed regulatory amendments which, they hope, will lead to a more competitive UK in the virtual marketplace. The paper features many radical proposals, including an Intellectual Property Rights Action Plan that would introduce a worldwide system for electronic trading in IPRs; a proposal to modernise company law to ensure 'we have confidence that the system will promote competitiveness in the next century'; and a major reform of telecommunications regulations. The most important aspect of the white paper is, though, the announcement of an Electronic Commerce Bill.[56]

Following publication of the white paper, the Department of Trade and Industry began a consultation exercise on the format the Bill was to take and published a consultation paper on 5 March 1999.[57] Interestingly, the consultation document states that 'it would not be sensible to impose equivalence between traditional and electronic means of communication in one fell swoop'.[58] This is not to say that the DTI rejects the use of the functional equivalent approach to provide for recognition of electronic instruments, however; rather it indicates the DTI recognise some of the inherent difficulties of introducing equivalence across the board. Indeed, the DTI clearly embrace the functional equivalent approach in many of their recommendations for updating the law, particularly in connection with the legal recognition of both electronic documents and electronic signatures.

Like the European Commission and UNCITRAL, the DTI proposes that electronic documents should be treated the same as paper-based equivalents. The DTI, however, proposes to accomplish this in stages rather than through a single act. Two approaches are proposed: one is to update statutory requirements for writing on a case by case basis, allowing each particular case to be examined and legislation tailored to meet the needs of the particular case; the other is to allow for secondary legislation to amend the law on a case by case basis.[59] Because the first option would prove slow and unwieldy when compared to the fast moving field of e-commerce, the majority of respondents to the consultation document preferred the second.[60]

A similar functional equivalency approach may be seen with regard to the DTI proposals on electronic signatures. The consultation document proposed a two-fold approach to digital signatures. Certified signatures, those backed by a certificate from a licensed Certification Authority, would automatically be treated as the legal equivalent of a hand-written signature.[61] Non-certified signatures, although still capable of being the equivalent of a hand-written signature, would require to meet the conditions laid down in the Act.[62] In other words, certified digital signatures would be prima facia the equivalent of a hand-written signature, while non-certified digital signatures would require to be proven as valid before having equivalency awarded to them. Perhaps unsurprisingly, this section of the discussion paper has attracted a fair degree of criticism and was the subject of strong critical comment from the Select Committee on Trade and Industry.[64] The

Committee were particularly critical of the bipartite approach to digital signatures and have called upon the government to lay before Parliament justification for such a radical change to the law. The select committee were more receptive to the government's proposals with regard to legal recognition of electronic documents. The select committee seem, in fact, to propose pushing up the timetable for updating the law to give effect to such documents, finding that 'the DTI seems not to appreciate the need for swift legislative action in this area', and proposing the government, 'quickly publish an analysis of legal changes required, both in relation to English and Scots law'.[65] Although endorsing the DTI's preferred strategy of introducing equivalence for electronic documentation by secondary legislation, the select committee feels the need to move to full equivalence is more urgent than the DTI appear to have been suggesting.[66]

In his foreword to the white paper Mr Blair said that '[t]he government must promote competition, stimulating enterprise, flexibility and innovation by opening markets'.[67] The opportunity for the UK to play a leading role in international e-commerce is at hand. The approach proposed, though, is largely reactive, following the pattern laid out in the UNCITRAL model law. This approach may be contrasted with the proactive and innovative proposals for electronic transfers of land in both the Registers of Scotland and HM Land Register at the moment. Proactive reforms offer the opportunity to open new markets, reactive regulations merely bolster traditional ones. Could the Electronic Communications Bill have been drafted with reference to proposed reforms in relation to the transfer of land?

Electronic Transfers of Land[68]

Computer technology is carrying every area of life into the 'digital age'. As can clearly be seen with current proposals to regulate electronic commerce, the law is struggling to keep pace with changes in society. The electronic revolution has been one of the fastest and most complete changes to the way we conduct our everyday lives. It is not just the provision of goods and services that has been effected by this revolution. For the first time in over 100 years real property lawyers are being asked to consider the methods of transfer of land. Not since the requirement of 'taking sasine' was abolished in 1858 have Scots property lawyers had to consider the methods of transfer of heritable property,[69] until now.

Throughout the world, the issue of electronic transfer of land is being considered. In Canada, the province of Ontario is leading the way, introducing a test system of automated registration. Ontario has planned for such a system for quite some time. The Land Registration Reform Act of 1990 provided that land may be designated by regulation of the Lieutenant Governor as land which may be registered in electronic format.[70] The original timetable was for the introduction of electronic registration in a trial county in Spring 1998, with the rest of the province gradually being added to the system. The system put in place (the Teraview system) had some initial setbacks. The system uses bespoke software, and despite early consultation with the Law Society of Ontario the producers of the system[71] found that it did not meet the demands of conveyancers. This setback put the timetable back by about one year, but the system is now being put through field trials and potentially full automation of the Ontario land transfer system will be in place by early in the new millennium.[72]

If the Ontario experiment proves successful it will be at the vanguard of changes around the world. Within Canada itself the Province of New Brunswick is considering electronic presentment of land transfer documents, while in the antipodes several Australian territories as well as New Zealand are considering or have implemented systems. In Australia,

Tasmania has made provision for the electronic presentment of priority notices, caveats, and plans, and proposals are in hand for the electronic registration of title. Western Australia has put in place the foundations for electronic transfer of land through its 'Electronic Advice of Sale' system, a system which allows for a single search of all the relevant charges registers on a transfer of land, and Queensland already provides for electronic lodgement of scanned documents. Although the Queensland system is quick and easy to put in place and requires minimal legislative action to implement, it should not be seen as true automated registration of title. It is rather a system that alleviates the burden of the postal service and speeds presentment. Electronic presentment of scanned documents is simply new wine in old bottles, the use of technology to do a current task. True automated registration is more akin to the Ontario system: the use of new technology in an inventive and proactive way to deal with administrative tasks in a way that differs from existing procedures. This is the approach proposed in Scotland, and it is this that we now examine.

The Scottish Proposals

While the framework for electronic registration has been in place for a considerable time in Ontario, in Scotland enabling legislation is required before electronic transfers can take place.[73] Well-considered proposals relating the electronic transfer of land have been produced in Scotland, where research carried out by Ian Burdon, a legal adviser with the Registers of Scotland Executive Agency (RoS), has recently been published. Burdon's report is entitled 'Automated Registration of Title to Land', a somewhat modest title given the eventual aim of the RoS. The RoS proposes to introduce into Scotland a completely automated system for the transfer of land. The proposals could see the entire transaction from initial offer to final registration carried out electronically. This would be a great advance on the current paper system. Moreover, unlike most proposals concerning electronic commerce, the RoS proposals are truly proactive. They do not apply current rules to new technology; they apply new technology to first principles.

The first stage of the new Scottish system (which does not require enabling legislation) is due to come online in Autumn 1999. This is the introduction of an online database of all registers documents from the 1870s to the present day, which will be publicly accessible via user ID and password.[74] This will allow all normal searches required for a property transaction to be carried out remotely by solicitors with the option of printing results with a RoS watermark from a local printer. This new system, called 'Registers Direct', makes use of browser technology. This means any office or home with an Internet connection can make use of the service once they have registered; there is no requirement for additional software or training. Costs will be kept to a minimum as users will only have to pay the standard search cost for access to the register.[75] The entire system is protected by firewalls at key stages and will allow access to all RoS registers—the Land Register, the Sasine Register[76] and the Register of Inhibitions and Adjudications.[77] The RoS hope this is just the start of the process. Proposals put forward by Burdon would see this system expanded to allow a fully automated system of land transfer.

The experience of Canada suggests that there are two primary options for automating land transfers. One option is the Queensland system, which uses imaging technologies such as scanners and optical character recognition software to electronically replicate a written or printed document, allowing this document to be electronically lodged. Although being the easiest system to implement, it adds little of value to the current transfer system. This

option was dismissed by Burdon: '[i]t is cleaner and simpler and considerably more efficient to remove the paper altogether and provide an electronic document to be transmitted.'[78] Burdon, and the RoS, prefer the second option, the creation of a *sui generis* electronic document to be used for the transfer of land. This is Ontario's approach, and while it requires a greater initial investment it has, as Burdon points out, several advantages. Of particular importance, it eliminates disputes over whether a document is the 'original', as there is only one 'document' in a digitised system, and it meets the problem of authentication, which may be achieved using tried and tested data encryption and digital signature techniques.[79] The introduction of a *sui generis* system is, by definition, different from what went before, and this is certainly true of the RoS proposals. The current Scottish system of conveyancing is a paper-driven system with authentication, and indications of consent being drawn from the attachment of signatures to paper documents. Indeed, the Sasine register itself is not a register of land, but merely a depository of documents that reflect ownership or other rights in land.

The proposal to move to a new, paperless system is bold, and for this the RoS should be applauded. There are, however, many practical problems that will have to be addressed before such a system may be introduced. The first, and most obvious, is how you obtain verification of consent and identification of the parties without a physical signature. There are several various options. One may be the use of individual smart cards that could be read by a computer terminal adding an electronic signature at the end of the document. The use of individual smart cards in the near future is unlikely, though, as civil libertarians fear they may be used to track people's movements and transactions without their knowledge or consent. Another option is the use of 'Penop' software that allows for a digital rendition of a physical signature to be added to a document. This falls into the trap of merely replicating the rules of the physical in the digital. If you are to have a *sui generis* document, why compromise its effectiveness by having it replicate existing (and not entirely satisfactory) practices in the physical world? The solution suggested by Burdon is to make use of digital signatures. These are better suited to digital documents and probably provide a higher degree of security than traditional physical signatures.[80] The problem with using digital signatures is that they make use of public key encryption systems. Each digital signatory requires possession of a private key to allow encryption of the signature block. Obviously not all buyers or sellers of property will have such a key; indeed, a high percentage may not even possess a keyboard, much less a private key to a dual key system.

How then can the system be made to work? It is at this point that Burdon and his employers at the Registers show true lateral thinking. Instead of thinking within the traditional box of real world rules, as appears to be happening in the field of e-commerce, they return to the principles of the transaction in question, the passing of title, and seek a different path to the same end result. Burdon at this point identifies a hidden check in the system, something he calls the 'notarial effect'.[81] He argues that the system contains an in-built check against fraud by requiring lawyers (or certified conveyancers) to prepare conveyancing deeds on behalf of their clients. He suggests this check is effective as the state is entitled to assume lawyers are trustworthy and will not promote their client's interests at the expense of deceit of fraud. The argument that this in and of itself is an effective check against fraud is not particularly strong. Individuals are entitled to carry out their own conveyancing, and with the exception of money laundering regulations, solicitors are not expected to enquire into a client's background. That aside though, the solicitor plays a vital role in the land transfer process and Burdon uses this to suggest notarial transfers of land where the documents involved would be digitally signed by the parties' solicitors on their

behalf and then presented for registration.[82] A system of notarial execution, although common in Europe, is alien to the modern British legal systems. The proposals of the RoS, though, are not constrained by the historical development of land law. They look to the future rather than the past, taking a proactive approach that takes full advantage of new technologies, ultimately proposing a system that provides for true 'automation, not manumation'.[83]

Conclusion: Can Commercial Lawyers Learn from the Experience of Property Lawyers?

Professor George L. Gretton has observed that '[s]pecific rules are ordinary keys; principles are master keys; the theoretical is therefore often the most practical'.[84] These are words that the RoS seemingly have taken to heart. In devising a proposal for automating land transfers, they have not simply tried to replicate rules that have long governed conveyancing in Scotland, but rather looked beneath the rules in order to identify the fundamental principles that underlie them, and looked afresh at how those principles could be best served in the entirely different realm of cyberspace. This approach contrasts with that of the various organisations attempting to reform electronic commerce, who have largely engaged in a process of picking out the best rules without engaging in a deeper consideration of principle that might render *sui generis* rules that would take fuller advantage of the potential of computer-based communications systems.

This turn of events appears to contradict traditional stereotypes which contrast the dynamic, forward thinking and flexible picture of the commercial lawyer with the rather conservative, traditional, non-adaptive and even dusty image of the property lawyer.[85] Have commercial lawyers—the members of the legal profession usually thought to adapt most quickly to change and the quickest to exploit an opportunity—been left at the starting gate by their dusty conveyancing counterparts? The answer must surely be no. For a start, no one could accuse commercial lawyers of not being proactive given the number of conferences, summits and proposed regulations undertaken thus far. Further, the current economic value of electronic commerce illustrates how the technology is being exploited by industry, and their advisers. Due to their haste to have a functioning system in place as soon as possible, however, have commercial lawyers fallen into the same trap as the Queensland Executive in choosing the simplest system rather than the one best suited to the technology? While this is possible, we suggest there is a more fundamental barrier to applying the same sort of far-reaching vision demonstrated by the RoS to e-commerce regulation. This barrier is the complexities of the international private law problems discussed previously in this article.

The one complicating factor of which commercial lawyers must take account yet does not seriously affect their property law counterparts are choice-of-law issues. The problem with moveable property is, well, it is moveable. Its very portability creates problems. Who has jurisdiction over disputes? Whose law applies? Every effort to provide form to the regulation of e-commerce is hamstrung by the requirement of international co-operation. As so much electronic commerce is cross-border, innovations at the national level are of limited effect. Real property, on the other hand, is immoveable, and is regulated by its *lex situs*, the law of its location. Individual nations may freely legislate for their own real property without concerning their neighbours or anyone else. Perversely, the very intransigence of real property is its greatest flexibility. Without the need to obtain international co-operation property lawyers have been able to achieve greater momentum in their

movement to reform traditional laws. The conclusion would appear to be that if the international community could achieve such a degree of momentum in the field of moveable property and services, they may then learn something from the achievements of property lawyers, but without co-operation the development of e-commerce regulation will probably continue to mirror traditional rules rather than a development of principles.

Notes and References

1 United Kingdom Department of Trade and Industry *Our Competitive Future: Building the Knowledge Driven Economy*, HMSO, London, 1998, para 4.14, available at <www.dti.gov.uk/comp/competitive>.

2 In addition to national provisions there are a plethora of Internet-specific regulations imposed on Internet users via contractual agreements with service providers and other regulatory agencies. Examples include the InterNIC Domain Name Dispute Policy (Revision 03), soon to be supplemented by the ICANN Conflict of Interest Policy, and the NOMINET UK Rules for the. uk domain and sub-domains (Issue 2).

3 See e.g. National Conference of Commissioners on Uniform State Laws *Uniform Commercial Code (U.C.C.) Article 2B: Software Contracts and Licenses of Information* (1 February 1999 Draft), available at <http://www.law.upenn.edu/library/ulc/ucc2b/2b299.htm>; National Conference of Commissioners on Uniform State Laws *Uniform Electronic Transactions Act* (29 January 1999 Draft), available at <http://www.law.upenn.edu/library/ulc/uecicta/eta199.htm>; United Nations Commission on International Trade Law *Draft Uniform Rules on Electronic Signatures* (23 November 1998), available at <http://www.un.or.at/uncitral/english/sessions/wg_ec/wp-79.htm>; United Nations Commission on International Trade Law *UNCITRAL Model Law on Electronic Commerce* (1996, amended 1998), available at <http://www.un.or.at/uncitral/english /texts/electcom/ml-ec.htm>; Commission of the European Communities *Proposal for a European Parliament and Council Directive on Certain Legal Aspects of Electronic Commerce in the Internal Market*, COM(98) 586 final, 18/11/98; United Kingdom Department of Trade & Industry *Building Confidence in Electronic Commerce—A Consultation Document* (5 March 1999), available at <http://www.dti.gov.uk./CII/elec/elec_com_1.html>.

4 The jurisdictional problems raised by the cross-border dissemination of Internet messages has attracted considerable commentary. See e.g. D R Johnson and D G Post 'Law and borders—the rise of law in cyberspace', *Stanford Law Review* Vol 48, p 1367, 1996; L Lessig 'The zones of cyberspace', *Stanford Law Review* Vol 48, p 1403, 1996; H H Perritt, Jr 'Jurisdiction in cyberspace', *Villanova Law Review* Vol 41, p 1, 1996; S Wilske and T Schiller 'International jurisdiction in cyberspace: which states may regulate the Internet?', *Federal Communications Law Journal* Vol 50, p 118, 1997.

5 This article focuses on the law of Scotland, where real property is termed 'heritable property'. Both terms are used interchangeably in the course of this article.

6 COM(98) 586 final, 18/11/98.

7 I Burdon *Automated Registration of Title to Land*, Registers of Scotland Executive Agency, Edinburgh, 1998.

8 See generally K G C Reid *The Law of Property in Scotland*, Butterworths, London, 1996. The law of heritable property, in particular, has been largely unaffected by the English common law, with no recognition of concepts like equitable liens and beneficial or equitable ownership.

9 In Scotland, Intellectual Property is classified as incorporeal moveable property. See *Advocate General* v. *Oswald* (1848) 10 D 969. Patents Act 1977, s 31(2); Copyright, Designs and Patents Act 1988, s 90(1); Trade Marks Act 1994, s 22.

10 Unless the parties by agreement choose an alternative system.

11 Reid The Law of Property in Scotland, op. cit., para 609.

12 See Sale of Goods Act 1979, s 2(1), ss 17–19.

13 See Rome Convention, Arts 8–10. However, in determining the formal validity of a contract, Article 9 must be considered. The general rule is that if the parties to the sale were in different countries when their agreement was reached and the contract satisfies the formal requirements of one of those countries or of the country whose applicable law governs interpretation of the contract (as determined under the Convention), then the formal validity of the contract cannot be questioned. See Art 9(2).

14 Art 3(1).

15 The requirements of this Article has been subject to much consideration. See J Blaikie 'Choice of law in contract', 1983 *Scots Law Times (News)*, p 241 for a specifically Scottish examination. See also A J E Jaffey 'The English proper law doctrine and the EEC convention', *International and Comparative Law Quarterly* Vol 33, p 531, 1984; P M North and J J Fawcett *Cheshire and North's Private International Law*, 12th edn, Butterworths, London, 1992, pp 490–493.

16 See, M Giuliano and P Lagarde *Report on the Rome Convention* (OJ 1980 No C282/1), p 20. The Giuliano and Lagarde Report may be considered in interpreting the Rome Convention. See Contract (Applicable Law) Act 1990, s 3(3)(a).

17 Art 5(2). The law of the place where the consumer habitually resides also applies if the seller received the buyer's order in the country in which the buyer is habitually resident, or if the buyer, in a contract for sale of goods, travelled from the country in which he was habitually resident to another country to give his order, provided that the seller arranged for this journey with the purpose of inducing him to buy the goods.

18 R D Leslie 'Private international law' in *The Laws of Scotland Stair Memorial Encyclopaedia* Vol 17, Butterworths/Law Society of Scotland, Edinburgh, 1989, para 339.

19 Though controversial, such clauses have been recognised as valid in Scots law. See *Armour* v. *Thyssen Edelstahlwerke AG* 1990 SLT 891 (HL). For a discussion of the complicated backdrop to this case, see D L Carey Miller *Corporeal Moveables in Scots Law*, pp 275–298, W Green, Edinburgh, 1991. See also Reid, *The Law of Property in Scotland*, *op. cit.* (A J Gamble) paras 637, 638. The complications these clauses cause when international private law issues arise are discussed in W J Stewart '*Romalpa* clauses: choosing the law', 1985 *Scots Law Times (News)*, p 149; D P Sellar '*Romalpa* and receivables: choosing the law', 1985 *Scots Law Times (News)*, p 313; H Patrick '*Romalpa*: the international dimension', 1986 *Scots Law Times (News)*, pp 265 and 277; J S Ziegel 'Conditional sales and the conflict of laws', *Canadian Bar Review* Vol 45, p 284, 1967; P M North 'General course on private international law', *Recueil des Cours I* Vol 220, pp 3, 265–273, 1990; J C Gardner 'The lex situs in relation to a mortgage of chattels', 1934 *Scots Law Times (News)*, p 198; Cheshire and North, *op. cit.*, pp 802ff.

20 In civilian jurisdictions the basic rule is that effectiveness of security rights is determined by the current *situs*. See T J R Schilling 'Some European decisions on non-possessory security rights in private international law' *International and Comparative Law Quarterly* Vol 34, pp 87, 93ff, 1985. However, the rule differs in common law jurisdictions and the security right will be effective and recognised until displaced. See L Collins (ed) *Dicey and Morris on the Conflict of Laws*, 12th edn, Sweet & Maxwell, London, 1993, pp 970ff. The effectiveness of the clause can depend on whether there are statutory requirements to register the security interest. See P A Lalive *The Transfer of Chattels in the Conflict of Laws: A Comparative Study*, Clarendon Press, Oxford, 1955, pp 169–175, 184ff; Dicey and Morris, *op. cit.*, pp 972–976; J L R Davis 'Conditional sales and chattel mortgages in the conflict of laws', *International and Comparative Law Quarterly* Vol 12, pp 53, 61ff and 71ff, 1964.

21 One area of uncertainty that is unique to e-commerce centres on the question of whether advertisements or other inducements to transact business communicated on Web pages constitute invitations to deal emanating within each jurisdiction in which the Web page is accessed and read. The resolution of this question would have profound implications in contracts with consumers.

22 Requirements of Writing (Scotland) Act 1995, ss 1 (2)(a)(i), and 2.

23 See G L Gretton and K G C Reid *Conveyancing*, W.Green, Edinburgh, 1993, ch 5.

24 Requirements of Writing (Scotland) Act 1995, ss 3 & 6.
25 *Young* v. *Leith* (1844) 6D 370, and *Sharp* v. *Thomson* 1995 SLT 837 (Inner House). The House of Lords decision (at 1997 SC (HL) 66) did not overturn the rule reiterated in the Inner House.
26 The parties' solicitors could agree to settle their transaction at the buildings of the Registers of Scotland, but this is rarely a convenient option. The gap could be avoided, however, if a system for automated registration were established.
27 See Gretton and Reid, *Conveyancing*, *op. cit.*, ch 7.
28 Leslie, *op. cit.*, para 316. The characterisation of property as moveable or immoveable is determined by the *lex situs*. Once property has been characterised, international private law rules are applied to identify which legal system governs the various aspects of the transfer.
29 *Murray* v. *Earl of Rothes* (1836) 14 S 1049. This is true even though there is a personal right to pay linked to it. Such rights are usually characterised as moveable.
30 See Leslie, *op. cit.*, para 320.
31 Article 4 of the Convention provides that absent agreement to the contrary, it will be presumed that the law of the country in which immoveable property is situated has the closest connection with the contract and thus provides the applicable law. Capacity to contract is generally not governed by the Rome Convention, but by the general law. See Art 1(2)(a). Under Scots law, the applicable law for determining capacity to contract will probably be the *lex loci contractus*. Anton suggests that this may be the proper law of the contract. A E Anton and P R Beaumont *Private International Law: A Treatise from the Standpoint of Scots Law*, 2nd edn, W. Green, Edinburgh, 1990, p 278.
32 Art 3(1).
33 Anton and Beaumont, *op. cit.*, pp 604–609; Leslie, *op. cit.*, para 320. This is also the position in England. See Cheshire and North, *op. cit.*, pp 788–789; *Adams* v. *Clutterbuck* (1883) 10 QBD 403.
34 Cheshire and North, *op. cit.*, p 785.
35 For free movement of goods see Part II, Title I (Arts 9–37) of the EEC Treaty (Treaty of Rome); for free movement of services see Arts 59–66 of the EEC Treaty.
36 A European Initiative on Electronic Commerce COM(97) 157 final, 16/4/97.
37 Dir. 97/66/EC.
38 COM(98) 297 final, 13/5/98.
39 COM(98) 586 final, 18/11/98.
40 As is proposed in relation to transfers of land in Ontario, Saskatchewan (Burdon, *Automated Registration of Title to Land*, *op. cit.*, ch 3), Queensland, Tasmania, Western Australia, New Zealand (*ibid.*, ch 4), Scotland (*ibid.*, ch 6) and England (Law Commission/Her Majesty's Land Register *Land Registration for the Twenty-First Century: A Consultative Document*, Law Commission Report No.254, 1998, paras 11.8–11.20).
41 A European Initiative on Electronic Commerce, *op. cit.*
42 Law Commission/HMLR, *op. cit.*, para 11.8. See also Burdon, *op. cit.*, ch 6.
43 Art 2. This definition does not cover Internet television when it is solely an additional means of broadcasting a previously or simultaneously broadcast terrestrial, cable, or satellite programmes.
44 See Art 4 (the principle of non-authorisation), Art 8 (regulated professions), and Section 3 (electronic contracts).
45 In particular see Art 5 (general information), Art 6 (information in commercial communications), and Art 7 (unsolicited commercial communications).
46 The address of the service provider may be of particular importance as it may be the only guide as to the effective national provisions regulating the content of the website.
47 Examples include the work of UNCITRAL and the tireless efforts that were made to find consensus on the General Agreement for Tariffs and Trade (GATT).
48 See Guide to Enactment of the UNCITRAL Model Law on Electronic Commerce paras 2–6, available from <http://www.un.or.at/uncitral/english/texts/electcom/ml-ec.htm>. Draft Electronic Commerce Directive explanatory memorandum (COM(98) 586 final) at pp 7–10.
49 Art 5.

50 Arts 6, 7, 11–15.
51 Art 6(1).
52 Art 10(1).
53 Guide to Enactment, *op. cit.*, para 16.
54 Art 5. For the definition of a 'data message', see Art 2.
55 *Ibid.*
56 At para 4.15. The white paper sets out some of the policies behind the Bill. We are told the Bill is to 'build trust in electronic commerce' by allaying fears that personal information sent over the Internet is open to abuse, a goal to be achieved through a voluntary licensing scheme for those providing secure message services. The Bill, entitled the Electronic Communications Bill, has now been published (Cm 4417, July 1999).
57 *Building Confidence in Electronic Commerce—A Consultation Document* (5 March 1999), available at <http://www.dti.gov.uk./CII/elec/elec_com_1.html>.
58 Para 17.
59 Para 18.
60 Select Committee on Trade and Industry *Seventh Report* (19 May 1999), available at <http.parliament.the-stationary-office.co.uk/pa/cm199899/cmselect/cmtrdind/187/18702.htm> Para 54, fn 143.
61 DTI consultation document, *op. cit.*, para 20.
62 *Ibid.*, para 21.
63 A similarity may be drawn between these proposals and the role of probative, or self proving, and improbative writing in Scots Law. (See Requirements of Writing (Scotland) Act 1995 ss 3–5). However, the DTI proposals would require proof of the validity of non-certified signatures, whereas the Requirements of Writing (Scotland) Act requires proof from those seeking to rely upon the terms of an improbative document that those terms were actually agreed. That is, the difference between probative and improbative signatures and certified and non-certified digital signatures is the former relate to the presumptions to be made about the *document* to which the signature is attached whereas the latter relate to presumptions about the validity of the *signature*.
64 Report of the Select Committee, *op. cit.*, paras 41–51.
65 *Ibid.*, para 58.
66 *Ibid.*
67 *Our Competitive Future: Building the Knowledge Driven Economy*, *op. cit.* (Foreword by the Rt. Hon. Anthony Blair PM).
68 This section draws heavily on *Automated Registration of Title to Land*, *op. cit.*, a report prepared for the Registers of Scotland by Ian Burdon. The authors would like to thank Mr. Burdon and the staff of the Registers of Scotland Executive Agency who gave their time and advice freely.
69 The introduction of registration of title by the Land Registration (Scotland) Act 1979 did significantly change the method of registration of real property, but the underlying method of transfer (i.e. contractual missives followed by a disposition of property) remained constant. The proposed next big change in land tenure in Scotland will follow the abolition of the feudal system. See Scottish Law Commission *Report on Abolition of the Feudal System* Scottish Law Commission Report No 168, Edinburgh, 1999. Reform of the system was accepted by all major political parties in the recent Scottish parliamentary election. Despite the change to the system of land tenure, the underlying approach will remain the same: contract, then conveyance. See pp 166–169 of the report, clause 4 of the draft Abolition of Feudal Tenure etc (Scotland) Bill.
70 Part III of the Act allows for electronic registration of title. The power of the Attorney General to designate land as registerable electronically is found in s 19. Section 20 allows the Director of Land Registration to approve the format of electronic registrations and s 21 allows e-documents to be unsigned. The Act in full may be accessed via the website of the Attorney General of Ontario, <www.attorneygeneral.jus.gov.on.ca/legis.htm>.
71 Teranet Land Information Services Inc., a consortium including venture capitalists AltaMira, EDS Canada, Intergraph Canada Ltd., KPMG and SHL Systemhouse. For full details on the Teranet package, see Burdon *op. cit.*, at pp 73–78 or alternatively <www.teranet.on.ca>.

72 The first electronic double-ended deal took place in March 1999 with money being exchanged electronically in tandem with the document registrations. Thanks to Chris Valentine of Teranet Land Information Services for supplying up-to-date information of the Ontario experience.

73 It should be noted this is not due to the provisions of the Land Registration (Scotland) Act 1979, which allows for an application for registration to be 'accompanied by such documents and other evidence as [the Keeper] may require' (s 4(1)), but due to the provisions of the Requirements of Writing (Scotland) Act 1995, which provides that probative (self proving) documents require to be signed by the grantor and a witness (s 3) with no provision for electronic equivalents.

74 The Register of Sasines is being scanned and catalogued in reverse date order. Already, over 70% of the register is on the database with the rest being added currently.

75 Thus a search of the Land Register or Sasine Register should hopefully cost less than £10 per property search. The fees have, though, to date not been set.

76 The Land Register and the Register of Sasines are registers of interests in heritable property.

77 The Register of Inhibitions and Adjudications details actions for enforcement of debt which are being enforced against heritable property. For a detailed analysis of the role of the Register see G L Gretton, *The Law of Inhibition and Adjudication,* 2nd edn, Butterworths, London, 1996, pp 19–37 and generally G L Gretton, *A Guide to Searches*, Aberdeen University Press, Aberdeen, 1991.

78 At p 111.

79 At p 112.

80 The proposals put forward by Burdon suggest the use of a digital signature block. This is an attached block of text which has been encrypted using a dual key encryption system. The successful decoding of this text block by the use of the public key proves it was encoded by the private key of the signatory, establishing the signatory's identity. An alternative to the attachment of a signature block would be the encryption of the document itself. Again successful decryption using the public key would establish the identity of the encrypting party (and therefore the 'signatory'). Essentially the decision on which system to use is one a matter of the amount of processing effort required in proportion to the result desired.

81 At p 110.

82 At p 120.

83 At p 114.

84 Burdon, *op. cit.*, at p 107.

85 In fact the stereotype probably better reflects what these lawyers deal with. The commercial world is dynamic and flexible, while property is fixed, immoveable and dusty (at least in dry weather).