

## **2 IDENTITY, TRUST, EVIDENCE AND THE RECORDKEEPING NEXUS**

Records as evidence of human actions are a central point of interconnection between recordkeeping, ethics and law. Records involve a number of participants or actors, who may be parties to a transaction, or agents representing another party, with a number of roles. The legal system recognises organisations as legal persons, and over time the principle of their potential liability for their acts has emerged. The identity of the participants is therefore essential to how a record is defined.

In archival theory, identity has been defined by the corporate entity, organisation, legal or natural person that created the records. Person identity is of particular significance in trust relationships and is one element of the requirement for record authenticity. The nature of person identity is also tied to community identity which may be ethnic or religious, as well as professional, familial, or service related. Understanding how communities bond together has become important in a global environment, in which the relationship between sovereign states is being replaced by relationships between individuals, social groups or businesses. The nature of community as a means of providing identity, a value system and trust affects the reliability and accuracy of its records.

### **2.1 Identity and trust in communities of common interest**

#### **2.1.1 The nature of community**

The nature of community is central to jurisprudence and ethics. Communities as social groups that perpetuate identity through a common value system are the basis of both legal and ethical systems. As analysed in the previous chapter, in the juridical view a legal system emerges when a community of persons enforces the notion of obligation. An organised community is a social (juridical) system that maintains its own identity and rules, but may also exist within a dominant culture. The community consists of organised groups that have the power to enact and interpret law,

as well as to impose sanctions when the law is broken. These groups also need collective memory to ensure their survival.

Community, in one form or another, is fundamental to an individual's reference point for ethical practice. In Aristotelian ethics, community was associated with the state. The moral philosopher, Alasdair MacIntyre, argues that Christianity broke the nexus between state and community. In the eighteenth century, Hegel defined communities as 'collections of individuals'. These individuals had their own passions and ends that depended on the social structure in which they found themselves.<sup>1</sup>

From a philosophical point of view, community has its own focus in utilitarianism and its variants of communitarianism and contractarianism, but individual action or intentions rather than community remain more relevant in deontological theories. The communitarian version of virtue ethics is dependent on what is 'right' within a community, which is then transposed to all human practices.<sup>2</sup> This supports the interpretation of the 'warrant' as the identification of recordkeeping requirements for communities of practice, while diplomatics universalises from practice what the nature of records is all about.

Community is defined by the contractarian John Charvet as the sharing by a collection of persons of authoritative norms governing their social cooperation as a matter of reasoned choice under ideal conditions. The norms have been disembedded from a specific society, and have taken on a universal character.<sup>3</sup> Each individual has a set of equal individual rights built into the community structure. Although Kant is concerned with individual action, his moral philosophy does include a conceptual structure for a community life that can be shared by everyone. The universal duty is the collective good.<sup>4</sup>

Community as sharing, that is the 'other-regarding' nature of humans, is also fundamental to utilitarian ethics, and central to the moral dimension of a social relationship. Jeremy Bentham's community is 'the sum of the

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<sup>1</sup> Alasdair MacIntyre, *A Short History of Ethics: A History of Moral Philosophy from the Homeric Age to the Twentieth Century*, 2nd edn, University of Notre Dame Press, Notre Dame, Indiana, 1998, p. 199.

<sup>2</sup> *Ibid.*, pp. xviii-xix and p. 148. MacIntyre uses the term 'good' functionally; certain things or people are good, that is they are well fitted for certain roles or functions.

<sup>3</sup> John Charvet, *The Idea of an Ethical Community*, Cornell University Press, Ithaca, New York and London, 1995, p. 193.

<sup>4</sup> Roger J. Sullivan, *An Introduction to Kant's Ethics*, Cambridge University Press, New York, 1994, Chapter 5. 'Every rational being must act as if by his maxims he were at all times a legislative member of the universal kingdom of ends', p. 84. For Kant everyone obeys fundamental laws not group interests.

members who composed it,' rather than individuals. Even in the most self-interested business relationships, a common good is beneficial to all parties concerned. Some business ethicists define community as the corporation, but one that operates for the social good as well.<sup>5</sup>

On the other hand, Peter Singer proposes a cooperative community as a means of encouraging the best of human evolved behaviour, based on a range of social practices enforced by a system of rewards and punishments from peer esteem to government policies.<sup>6</sup> The community has its own system of rewards based on punishing what causes harm and rewarding what benefits. However, group standards of what is good or bad behaviour can also be used for evil purposes, and is a flaw in the utilitarian conception of community.<sup>7</sup>

Thus communities operate to support their own interests, but must also recognise the need for universal moral principles. Recordkeeping practice has needs that are specific to a community of interest, but through experience has arrived at general principles, which are reflected, for example, in records standards and professional codes of practice.

### 2.1.2 Community, identity and value systems

Community is not only defined through common standards but also through the exclusion of others.<sup>8</sup> Dominant groups use their standards to exclude others. Specific communities or groups provide what is termed a 'logic of identity' linked to 'otherness', as opposed to 'togetherness'.<sup>9</sup> For Iris Marion Young, 'a social group exists and is defined as a specific group only in social and interactive relation to others'.<sup>10</sup> In this approach it is not

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<sup>5</sup> Robert C. Solomon, 'Corporate Roles, Personal Virtues: An Aristotelian Approach to Business Ethics', in *Virtue Ethics, A Critical Reader*, ed. Daniel Statman, Georgetown University Press, Washington, D.C., 1997, pp. 205-226.

<sup>6</sup> Peter Singer, *A Darwinian Left, Politics, Evolution and Cooperation*, Weidenfield and Nicolson, London, 1999.

<sup>7</sup> See Logstrup's ethical demand in Knud Ejler Logstrup, *The Ethical Demand*, University of Notre Dame Press, Notre Dame and London, 1997.

<sup>8</sup> David Harvey, 'Class Relations, Social Justice and the Politics of Difference', in *Principled Positions: Postmodernism and the Rediscovery of Value*, ed. Judith Squires, Lawrence and Wishart, London, 1993, pp. 85-121.

<sup>9</sup> Iris Marion Young, 'Together in Difference: Transforming the Logic of Group Political Conflict', in *Principled Positions: Postmodernism and the Rediscovery of Value*, ed. Judith Squires, Lawrence and Wishart, London, 1993, p. 124.

<sup>10</sup> *Ibid*, p. 130.

the group as otherness, but as specificity and variation. In 'togetherness in difference' a group must see itself in the wider society. Community is seen as inclusive of many communities.

'Humanity' in the sense of the unity of the species as a community, to which modernity has given a special meaning, is challenged by 'universal human values' which continue to respect diversity. 'Radical pluralism' is suggested as an alternative, which allows one to choose different identities, but includes a cluster of values to guarantee moral pluralism.

Francis Fukuyama's community is cultural, formed not on the basis of explicit rules and regulations, but a set of ethical habits and reciprocal moral obligations internalised by each of the community's members. Rules and habits give members of the community grounds for trusting one another.<sup>11</sup> The relevance of community is also found in sociological theory and in particular in Anthony Giddens' structuration theory, where it is essential to memory traces, which include records.<sup>12</sup>

In archival theory, the nineteenth century concept of state had a powerful influence on how recordkeeping context was interpreted, and how records were described and organised.<sup>13</sup> It was an all-embracing concept for those citizens who had attained political and legal rights. Community was used more in a moral sense, and the term society had a restricted meaning that only included those with power. Society has become an inclusive term, encompassing all humanity, and the state the legal representation of specific societies. So although the term global community as inclusive society is widely used, community can also be a group with the same values, rather than as a legal jurisdiction or society as a whole. Communities of interest operate within a larger community, which is society. Community cannot be divorced from the social and political context of its time and place.

The term community is important to a value system, to group identity, to legal and ethical responsibilities and the regulation of recordkeeping participants identified by community affiliation.

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<sup>11</sup> Francis Fukuyama, *Trust: the Social Virtues and the Creation of Prosperity*, Penguin Group, London, 1995, p. 21.

<sup>12</sup> Frank Upward, 'Structuring the Records Continuum, Part Two: Structuration Theory and Recordkeeping' *Archives and Manuscripts*, vol. 25, no. 1, May 1997, pp. 10-35.

<sup>13</sup> Livia Iacovino, *'Things in Action': Teaching Law to Recordkeeping Professionals*, Ancora Press, Monash University, Melbourne, 1998, Chapter 2.

### **2.1.3 Communities of common interest**

Communities of common interest can be defined as organised interest groups, professional groupings, occupations and industries, as well as families and like-minded individuals, rather than as social or political classes. Their driving force is their collective self-interest. The notion that every activity is a business or an industry (including humanitarian work), is a competing notion with that of community, that retains a sense of civic virtue, found in Aristotelian ethics and echoed in professional ethics.

The concept of communities of common interest has potential relevance to a global environment as communities cut across national and legal jurisdictional boundaries. They have their own methods for enforcing behaviour. Communities of interest do not exclude universal values that should be adhered to in addition to their specific values.

### **2.1.4 Communities as boundaries**

Within the juridical view a boundary is clearly defined by the rules sanctioned by the community. In the warrant approach, boundaries are also defined by way of organisational or professional groupings.

Geographic boundaries are both cultural and political.<sup>14</sup> In law, the notion of a legal boundary as ‘jurisdiction’ is central to the application and enforcement of laws. In the online environment, the apparent dissolution of boundaries and the increase in communities communicating across boundaries has become part of the Internet culture. Boundaries and the lack thereof are also used as metaphors, in particular in ‘cyberspace’. The ‘borderless’ cyberspace is often construed to mean that legal and social rules no longer apply. The issue is really the difficulty of detection of illegal activity and the enforcement of laws when detection occurs.<sup>15</sup>

### **2.1.5 Trust and communities of common interest**

Trust in its ordinary meaning is ‘confidence in or reliance on some quality or attribute of a person or thing, or the truth of a statement’.<sup>16</sup> If the search for truth is an element of trust, in a postmodern sense it must consist of many truths. In the legal context the search for truth is also, at least for

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<sup>14</sup> ‘Culture’ has its linguistic roots in land, as the notion of ‘to cultivate’.

<sup>15</sup> See Chapter 7.

<sup>16</sup> *Oxford English Dictionary*, Oxford University Press, New York, 1971, vol. 2, ‘trust’.

civil cases, based on the concept of probability, not on absolute truth. In the Benthamite interpretation of common law, trust is tied to power and imposed legislatively.<sup>17</sup> Jeremy Bentham has defined trust in a legal sense as an act which one party in the exercise of some power or some right which is conferred on him, is bound to perform for the benefit of another. Trust is therefore always directed to someone else, rather than for oneself, whether considered from the ethical or legal standpoint.<sup>18</sup> Powerful institutions have used alleged 'truth' from documents to legitimise their power.<sup>19</sup> The misuse of documentary evidence necessitates caution as to its objectivity.

Francis Fukuyama argues that trust is a social virtue dependent on bounded contexts. There are variations found in societies and communities. Trust is built over time. A social and political scientist, Fukuyama looks at how the economy of a country operates in what he terms high trust and low trust societies. Economic activity is considered a part of social life, and can only be understood in its social context, that is as part of the human need for 'recognition' which is beyond material needs.<sup>20</sup>

Thus, economic activity represents a crucial part of social life and is knit together by a wide variety of norms, rules, moral obligations, and other habits that together shape the society... a nation's well being, as well as its ability to compete, is conditioned by a single, pervasive cultural characteristic: the level of trust inherent in the society.<sup>21</sup>

Trust is a social virtue dependent on the norms of communities of common interest, such as familial, professional, business, or recreational communities. The assumption that underlies his hypothesis of trust within a community is that of shared moral beliefs. Thus if we adopt Fukuyama's

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<sup>17</sup> Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation, An Authoritative Edition by J.H. Burns and H.L.A. Hart; with a New Introduction by F. Rosen, and an Interpretive Essay by H.L.A. Hart*, Clarendon Press, Oxford, 1996, p. 205.

<sup>18</sup> *Ibid.*, p. 205, footnote e2 'on powers and rights to power but not conversely'.

<sup>19</sup> Heather MacNeil, *Trusting Records: Legal, Historical and Diplomatic Perspectives*, Kluwer, Dordrecht, 2000, pp. 11-12 summarises Lorenzo Valla's exposure as a forgery the papal claim to temporal power in the document known as the 'Donation of Constantine'.

<sup>20</sup> Fukuyama, *Trust: the Social Virtues and the Creation of Prosperity*, section 5, and in particular, pp. 335-336. Fukuyama makes it clear that there are many factors that affect industrial structure besides culture, but that the importance of culture is often underestimated by economists.

<sup>21</sup> *Ibid.*, p. 7.

definition of trust then the concept of community must imply trust amongst its members.

Trust is the expectation that arises within a community of regular, honest, and cooperative behavior, based on commonly shared norms, on the part of other members of that community. Those norms can be about deep 'value' questions like the nature of God or justice, but they also encompass secular norms like professional standards and codes of behavior. That is, we trust a doctor not to do us deliberate injury because we expect him or her to live by the Hippocratic oath and the standards of the medical profession.<sup>22</sup>

Trust is also 'social capital' that enhances the economy.<sup>23</sup> It is the community that dictates the level of trust and economic wellbeing. Social capital, the 'crucible of trust', rests on cultural roots. Culture and social structure are used synonymously. Culture is an 'inherited ethical habit'.<sup>24</sup> An ethical habit can be an idea or a value, or it can consist of an actual social relationship, for example, family, friend or neighbourhood. Culture can change, albeit slowly.

Fukuyama proposes a close relationship between trust and informal rules. 'Spontaneous sociability', that is the ability to engender trust, is a subset of social capital. Social capital minimises our dependence on law.<sup>25</sup> Those who do not trust each other cooperate under a system of formal rules, which are negotiated, litigated, and enforced. It is a substitute for trust. He admits that contemporary society is a contractual one (as recognised by Max Weber) which uses laws to replace trust.<sup>26</sup> The private law of contract increases the cost of legal transactions but claims are guaranteed by legal coercion. Rules of contract do away with the need for trust in modern business. The more rules dominate the less trust is required. 'There is usually an inverse relationship between rules and trust: the more people depend on rules to regulate their interactions, the less they trust each other, and vice versa.'<sup>27</sup> Inward obligation is replaced by external

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<sup>22</sup> Ibid., p. 26.

<sup>23</sup> The examples Fukuyama provides are based on companies that did well because of the high level of trust amongst workers.

<sup>24</sup> Ibid., p. 34.

<sup>25</sup> Ibid., p. 335.

<sup>26</sup> Ibid., p. 222. Fukuyama uses Max Weber's thesis on rules and laws which involves the tripartite division of authority: traditional (inherited from longstanding cultural sources); charismatic (for example a leader chosen by God) and bureaucratic (ordered rationality, fixed rule and laws). For Weber rights and duties are rule-bound. Contract can be a 'status contract' based on tradition or a 'purposive contract' for the sake of a specific economic exchange.

<sup>27</sup> Ibid., p. 224.

law. From a liberal capitalist view, Fukuyama argues for less government intervention on the basis that communities can be successful on their own. He supports the view of human behaviour as basically 'social' rather than 'legal' in the coercive sense.

Adrian McCulagh's definition of trust has four elements, which include Fukuyama's behavioural trust. They can also be located in recordkeeping theory. They are:

*Trusted organisations*, for example public authorities and banks in which transactions are with known organisations. This is an archival principle found in Roman and common law. The public authority provides the trustworthiness (see 2.3 below, 'Rules of evidence and trustworthy records').

*Trusted technology* involves trusting the outcome created by a process on the basis of existing classification schemes for security and trust. Security is important to the generation of the key pair for digital signatures, signing mechanisms, and identity. Signatures, their function and validation are central to diplomatics and law.

*Behavioural trust* is important in understanding the ambit and use of legislation in low trust or high trust societies. In the Internet context when low trust societies deal with high trust societies, which measure of trust can be used? Levels of trust are found in the juridical environment and are central to the regulatory context of recordkeeping (see Chapter 1).

*Legal trust* relates to digital signature and other framework legislation, which should sufficiently cover trust.<sup>28</sup> The legal framework may be insufficient to engender trust (see 2.2.3 below 'Electronic documents and trustworthy records').

Trust is also a 'saleable commodity', that is of economic value because it is essential to consumer confidence in electronic commerce.<sup>29</sup> Confidence in the truthfulness of a record is also an essential characteristic of a trustworthy record.

The social, economic, legal and technological elements of trust all contribute to trustworthy records.

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<sup>28</sup> Adrian McCulagh, 'Ecommerce a matter of TRUST', in *Electronic Commerce: Net Benefit for Australia?*, *The 1998 Information Industry Outlook Conference*, the Australian Computer Society, Canberra Branch, Canberra, Australia, 7 November 1998, pp. 15-29.

<sup>29</sup> Cedric Israelsohn, Delphi Consulting Australia, 'Where is the Technology Taking Us? Current Office Technology, Knowledge Management: the Hype and the Reality', Paper presented at *Doing Business Electronically: Electronic Commerce and Recordkeeping*, Recordkeeping Systems and the Records Continuum Research Group, School of Information Management and Systems, Monash University, Canberra, November 1999 (unpublished).



## 2.2 Trustworthy records: diplomatics, Italian archival science and the records continuum model

### 2.2.1 A trustworthy record

When a record is said to be trustworthy, it means that it is both an accurate statement of facts and a genuine manifestation of those facts. Record trustworthiness thus has two qualitative dimensions: *reliability* and *authenticity*. Reliability means that the record is capable of standing for the facts to which it attests, while authenticity means that the record is what it claims to be.<sup>30</sup>

Heather MacNeil focuses on two qualities of record trustworthiness - reliability and authenticity - concepts found in diplomatics and Italian archival science. The reliability of the record is associated with the degree of control exercised over its creation procedures and completeness of intellectual form. Authenticity is linked to a record's mode, status, and form of transmission, and the manner of its preservation and custody. MacNeil concedes that record trustworthiness in archival science has been built around the Weberian model of bureaucracy that relies on rules and regulations to control the actions of record creators.<sup>31</sup> However, social trust founded on informal rules of community, business and professional expectations, is also essential to reliable and authentic records.

Trust in a social context is concerned with faith in someone or something while identity is defined as a condition or fact that a person or thing is itself and not something else. In the records continuum model identity is multi-dimensional; it can be personal, corporate, professional, group or collective identity. In archival science, record identity refers to: who wrote the record, who received it and when.<sup>32</sup>

As the reliability of a record is closely linked with a person's or entity's role in record creation, identity has to be defined in relation to roles. It is possible to identify in a single physical or juridical person different roles and multiple identities. Law, conventions and societal mores may define

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<sup>30</sup> MacNeil, *Trusting Records*, p. xi. MacNeil's interpretation excludes the importance of social trust embedded in communities of common interest and wider political aspects. Nevertheless, it provides one of the clearest examinations of record trustworthiness in notarial legal systems, and also its application to common law.

<sup>31</sup> *Ibid.*, pp. 110-111.

<sup>32</sup> See InterPARES 1 Project, Authenticity Task Force, *Final Report*, 28 October 2001, University of British Columbia, Vancouver, 2001, 'Appendix: Requirements for Accessing and Maintaining the Authenticity of Electronic Records', pp. 1-15.

these roles. Legal identity is evidenced in juridical information, for example birth records or group identification in oral societies. Corporate legal identity is found in incorporation details, and company or business numbers. Personal identity is also based on the notion of roots and identity of geographic place and personal experience.<sup>33</sup> Identity and community are co-dependent concepts. In modern governments, tax file, healthcare, business or company and licence numbers are used to uniquely identify a physical or a juridical person in a specific context. Unique identifiers can also be used to link records within and across systems.<sup>34</sup>

Recordkeeping trust includes control over information about the identities in the transaction, their intentions and relationship to statements of fact, and verification of content or of a procedure by way of signature and/or seals and witnessing. Traditional recordkeeping ways of proving identity are derived from diplomatics, archival science and law, through documentary form, provenance, notarial seals, and other mechanisms of proof of identity.<sup>35</sup> Validation of the parties to a transaction or the authors and recipients has been dependent on control over record creation. The circumstances of creation of records were assured by bureaucracies having authority and delegation clearly assigned; that is, procedural controls on the record writers and record keepers. In addition, the authority of the document was derived from the technical form of its composition, its documentary form, including signing and dating.<sup>36</sup>

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<sup>33</sup> Examples of identity based on geography include Italian author Claudio Magris' works on Istria and Central Europe, for example, *Danubio*, Garzanti, Italy, 1990 and *Un Altro Mare*, Garzanti, Italy, 1991, and Robertson Davies' character Connor Gilmartin who rediscovers his Welsh roots in *Murder and Walking Spirits*, Sinclair-Stevenson Ltd., London, 1991.

<sup>34</sup> See Chapter 8.

<sup>35</sup> In diplomatics, notarial validation attested to the signatures of persons who took part in the issuing of the record (author, writer, countersigned), and to the signatures of the parties and witnesses to the action, while corroboration explicitly referred to the means used to validate the record. In countries that did not use the notarial system, seals were used to validate the author and were also used as a substitute for a signature. See 'Validation/Attestation: Notarial validation of a signature is dependent on the use of a prescribed form and the professional role of the person validating the signature. The validation of a signature does not validate the content of a document to which it is affixed'. InterPARES 1 Project, Authenticity Task Force, *Template for Analysis*, 7 Nov. 2000, University of British Columbia, Vancouver, 2000.

<sup>36</sup> Paola Carucci, *Il Documento Contemporaneo, Diplomatica e Criteri di Edizione*, Carocci, Rome, 1998 (1987), p. 28.

‘The fact that a document is signed by a notary does not mean that the statements in it are true in themselves, but they are true in law.’<sup>37</sup> The signing by a third party is a validation not of the truthfulness of the contents, but proof of authorship. Elements of record identity in the notarial system essential to its authenticity include dating and signing of documents. In Roman legal practice each document was written by an authorised scribe or notary and dated (sometimes even the time of day) as the exact time was considered essential to its authenticity. A copy of the document was kept by a public authority. The notary in his own hand appended his name and signum drawn with a pen. Thus signing was done by professionals and not by parties to the action. If a dispute arose the notary could be cross-examined, or if he/she was dead, reference to other documents signed by him/her could be used to verify the notary.<sup>38</sup> The modern equivalent to notarial practice is the trusted third party (TTP), important to authentication of authors online.

Seals have had a number of functions over the millennia,<sup>39</sup> but the most important one for recordkeeping has been to identify the persons and validate the action in the record. The process of sealing provided validation of the action by witnesses adding their seal, ownership/attribution of authorship of contents of documents and of property, preservation and security of the contents by sealing, evidence of place (sometimes), and identification of authorising authority. A combination of digital signatures, encryption and other secure methods of transmission have replaced the function of seals in the online world. However, the authenticity of an electronic record relies on more than just the authentication of the recordkeeping participants; it requires the preservation and continuing accessibility of the record in a form that is trustworthy.

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<sup>37</sup> M.T. Clanchy, *From Memory to Written Record: England 1066-1307*, Blackwell, Cambridge, Massachusetts, 1993, p. 305.

<sup>38</sup> *Ibid.*, pp. 304-308. England and Northern Europe did not adopt the Roman notarial system based on Roman legal practice which required that all documents be dated, written by an authorised notary, and a copy registered with a public authority. Why England did not adopt the notarial system, but applied other continental bureaucratic procedures is unclear.

<sup>39</sup> Gertrud Seidmann, ‘Personal Seals in Eighteenth and Early Nineteenth Century England and their Antecedents’, in *7000 Years of Seals*, ed. Dominique Collon, British Museum Press, London, 1997, p. 153. Even today in China, Korea and Japan signatures do not have the same legal status as in the West, thus the seal has continued importance in some parts of the world.

### 2.2.2 Documentary form and trustworthy records in diplomatics and archival science

Written records have not always inspired trust in their contents. In England until the thirteenth century, memory was often considered a superior tool to a written record for proving past events. The development of 'form', that is acceptable rules for structuring information in written documents, contributed to trusting their content, and was particularly significant in countries that adopted the notarial system.<sup>40</sup>

'Documentary form' is the way a message is laid out and structured in a document. Documents are recognisable in a given society as types, for example contracts, permits and receipts, which have evolved into their existing form as a result of legislative and administrative procedures and the technology available to produce them.

Form is relevant to trustworthiness and predictability. If the system in which a person lives accepts records in a particular form, one is likely to trust them; that is, by force of habit. The elements of documentary form have always been important for ensuring that the record is reliable - that its content can be trusted, and that it is authentic - that it has not been tampered with, either intentionally or accidentally.

The importance of form as proof of a legal act, found one of its most sophisticated developments in diplomatics, culminating with the work of twelfth century Italian jurists. As translated from Cesare Paoli, 'a document is a written testimony (witness) of a fact of a juridical nature compiled following specific forms, which aims to achieve faith and the force of proof'.<sup>41</sup> It had three elements: written testimony; the juridical nature of the act in the content of the document; and the form, which gives the document determined requisites of faith. In the common law system different legal forms have also depended on the nature of the legal action.<sup>42</sup>

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<sup>40</sup> Clanchy, *From Memory to Written Record*, Chapter 9.

<sup>41</sup> 'Una testimonianza scritta di un fatto di natura giuridica, compilata coll'osservanza di determinate forme, le quali sono destinate a procurarle fede e darle forza di prova'. Carucci, *Il Documento Contemporaneo*, p. 28, quoting from Cesare Paoli, *Diplomatica*, Sansoni, Florence, 1942, p. 18. See also Paola Carucci, *Le Fonti Archivistiche: Ordinamento e Conservazione*, Carocci, Rome, 1998 (1983), p. 26.

<sup>42</sup> Joshua Getzler, 'Patterns of Fusion', in *The Classification of Obligations*, ed. Peter Birks, Clarendon Press, Oxford, 1997, p. 173. An example of the importance of 'form' in common law practice in late medieval England is the use of writs which were essential to distinguishing the kind of action enforced.

In diplomatics, documentary form is defined as ‘the complex of rules of representation used to convey a message’.<sup>43</sup> In the InterPARES 1 project it has been further refined as:

... the rules of representation according to which the content of a record, its administrative and documentary context, and its authority are communicated. Documentary form possesses both extrinsic and intrinsic elements.<sup>44</sup>

The extrinsic elements of documentary form are the elements of a record that determine its material make-up and its appearance. Elements of extrinsic documentary form include human language, presentation features such as text, seals, logos, and letterheads. The intrinsic elements of documentary form are the elements of a record that convey the action in which the record participates and its immediate context. Elements of intrinsic documentary form include the name of the writer and author, the recipient, date of generation, receipt, and signature.<sup>45</sup> How they are laid out is also meaningful.<sup>46</sup>

One of the underlying assumptions of diplomatics is that it decontextualises and universalises the elements of documentary form, thus establishing a method that can be used in any juridical system and in any time-space. The absence of certain elements raises doubts over the record’s authenticity.<sup>47</sup>

Documentary form as developed in diplomatics has been used to verify the authenticity of a record. In Luciana Duranti’s words:

At the core of diplomatics lies the idea that all records can be analyzed, understood and evaluated in terms of a system of formal elements that are universal in their application and decontextualized in nature. The essential assumption of diplomatics is that the context of a document’s creation is made manifest in its form, and that this form can be separated from, and examined independently of, its content. Thus, diplomatists view records conceptually as embodying a system of both external and internal elements, consisting of

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<sup>43</sup> Luciana Duranti, *Diplomatics: New Uses for an Old Science*, The Society of American Archivists and Association of Canadian Archivists in Association with The Scarecrow Press, Maryland and London, 1998, p. 134.

<sup>44</sup> InterPARES 1 Project, Authenticity Task Force, *Template for Analysis*, p.1, ‘documentary form’.

<sup>45</sup> *Ibid.*, pp. 1-2.

<sup>46</sup> ‘The way in which elements are aggregated gives you the documentary form. This is meaningful. So, we need to consider documentary form [and presence/absence of elements within this], not just whether elements are present or absent.’ Authenticity Task Force, InterPARES Meeting, Minutes, April 2001 (unpublished).

<sup>47</sup> MacNeil, *Trusting Records*, pp. 20-22.

a) *acts*, which are the determinant cause of record creation, b) *persons*, who concur in record formation, c) *procedures*, which are the means by which acts are carried out, and d) *record form*, which binds all the elements together.<sup>48</sup>

Thus the document's form binds together the determinants of the record's creation, the persons involved, and the procedures by which the act is carried out. So although diplomatics is being applied at the document level, it does not isolate the document from its procedural and regulatory environment.

### 2.2.3 Electronic documents and trustworthy records

In contemporary diplomatics as presented by Paola Carucci, any written thing is a document. All kinds of testimonies on any media have been adopted in relation to the contemporary document and have required a re-assessment of their evidentiary value.<sup>49</sup>

For twentieth century documents, Carucci finds all the basic elements are still relevant. These include the elements of the document important to its juridical character and its authenticity, which are there from the time of creation of the document, and include firstly the author, the addressee, the text, signature and date; secondly registration and authentication; and thirdly the elements of classification, registration of the protocol and archival signs that identify the place of the single document in the archival series.<sup>50</sup>

Diplomatics has assisted in understanding the internal structure of the archive. Carucci points out that what is defined as a document in archival science is much less restrictive than in Italian law and diplomatics, in which the definition is linked to very formal elements of a document and a very narrow definition of a legal act. A procedure may include all kinds of documents, not just the formal ones. Importantly, documents that may not

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<sup>48</sup> Luciana Duranti, 'The Archival Bond', *Archives and Museum Informatics*, vol. 11, 1997, p. 215.

<sup>49</sup> Carucci, *Il Documento Contemporaneo*, pp. 92-97. Any written thing as a document in contemporary diplomatics conforms with the legal acceptance of any 'form of record' in Australian 'reformed' Evidence Acts, for example, *Evidence Act 1995 (Cth)*, definition of a document, in the Dictionary, s 3, Part 1, Definitions, 'document'.

<sup>50</sup> Carucci's elements found in twentieth century documents are some of the elements identified as benchmark requirements for the authenticity of electronic records maintained by the creator in the InterPARES 1 project. See further discussion in this chapter.

originally be legal documents, may be used as proof of some fact in a legal process.<sup>51</sup>

Archival science connects the entire working of an institution and its functions rather than focusing on the individual document which is the subject of diplomatics. In diplomatics the document takes part in successive phases of an action, which forms part of a procedure. Procedure is a series of acts that fulfils a final action or goal of the administration or organisation.<sup>52</sup> Building on Carucci's definitions, a procedure is a part of the context of creation of the record and its reliability. Its modern equivalent is 'work processes' that many organisations employ and have previously employed under the guise of procedure, which follow internal and external rules in order to achieve a 'business' outcome, within a regulatory framework. Control over a record is particularly difficult in a distributed electronic environment where the procedures are often found in workflow software. There is a need to explicitly retain procedures and other reference documentation that ensures the reliability of the record, which in diplomatics was embedded in the document itself.<sup>53</sup>

The elements of archival analysis derived from contemporary diplomatics are powerful tools for ascertaining both structural elements and procedural controls needed for trustworthy electronic documents.<sup>54</sup> These elements can also be defined as recordkeeping metadata elements.

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<sup>51</sup> Carucci, *Il Documento Contemporaneo*, p. 31.

<sup>52</sup> *Ibid.*, pp. 47-48. In Italian public law there are specified phases, such as an introductory phase, a preparatory phase, and a deliberative phase that ensure the act is effective and not in conflict with an existing law.

<sup>53</sup> Case studies used in the InterPARES 1 project revealed that elements of record identity are found in the procedural controls over records creation. See Anna Gibson, 'Overview of the Diplomatic Analysis of Electronic Records within the Canadian Automated Patent System (TechSource)', in *How Do You Know It's the Real Thing?, Preserving Authentic Electronic Records: Preliminary Research Findings*, Proceedings from an International Symposium, 17 February 2001, University of British Columbia, InterPARES and the Italian Government Cultural Office, Vancouver, August 2001, p. 65.

<sup>54</sup> Paola Carucci has articulated the application of Italian diplomatics to twentieth century paper, but not electronic, documents. Luciana Duranti and her colleagues further developed contemporary archival diplomatics in the electronic environment. See the University of British Columbia (UBC) Project 1994-1997, 'The Preservation of the Integrity of Electronic Records'; and the InterPARES 1 project which has adopted a typology of the electronic document based on elements of documentary form that need to be captured and preserved over time. For further articulation of the electronic document, see Maria Guercio, *Archivistica Informatica: I Documenti in Ambiente Digitale*, Carocci, Rome, 2002.

In paper documents they have been more readily visible on the face of the document itself. Whether or not web documents need to more visibly demonstrate these elements to engender trust is as much a cultural as a recordkeeping issue.<sup>55</sup> In an electronic document, 'form' has a logical rather than a physical structure. It includes the document's appearance (which includes fonts, styles embedded in code), the data itself (not all of which may be visible and includes metadata about the document's creation), and relationships between the data presented. Do web 'forms' engender trust on appearance alone? What about metadata held by websites which are not evident to the user? What about the document's routing information held by servers? In the paper world, registration systems created and maintained much of this kind of metadata. For practical reasons of identification of transacting parties, recordkeeping metadata has to be incorporated into web-authored documents. The elements of documentary form or recordkeeping metadata in electronic recordkeeping and archival descriptive systems are unlikely to be visibly manifested as part of the record. They have to be deliberately captured and inextricably linked to the record.

Research based within the diplomatics and records continuum paradigms in relation to trustworthy electronic records have addressed how best to preserve their authenticity. In the Australian records continuum thinking the need to deliberately capture recordkeeping relationships has animated ongoing research in the recordkeeping metadata communities. In *Recordkeeping Metadata Standards for Managing and Accessing Information Resources in Networked Environments Over Time for Government, Social and Cultural Purposes* (RKMS), records are defined as active participants in business processes, which have contextual data essential to their

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<sup>55</sup> For example, on websites 'form' includes PDF format which captures and freezes an image of a document in conventional form; HTML documents which have structural features that allow the document to link to other HTML documents. The ways the links are made are not apparent to the user. Depending on browser software the 'look' of the document may vary. Capturing the dynamic form of a web page is problematic. The evolution of web documents from static to dynamic, to automated applications include Document Type Definition (DTD) which provide their logical structure and their layout; use of schema which are 'a set of rules for constraining the structure and articulating the information set of XML documents', and machine validation of instance documents, for example, 'everything I send to you will be in that format' used for exchanging information. Web 'forms' are an emerging aspect of diplomatics. Notes from Distributed Systems Technology Centre, 'W3C Update', Seminar, 17 November 2000, Monash University.



reliability and authenticity. This contextual data must remain with the record over time if its evidential qualities are to remain probative.<sup>56</sup>

The RKMS project's objectives in terms of the metadata to be captured provide elements that ensure the record's reliability and authenticity over time. These are:

Unique identification of records; authentication of records; persistence of records content, structure and context (involving maintaining records with fixed content, ensuring that their structure can be rendered, and maintaining sufficient context to preserve their meaning over time and beyond their context of creation); administration or resolution of terms and conditions of access, use and disposal; tracking and documenting of recordkeeping event history; discovery, retrieval and delivery to authorised users together with other types of information resources through common user interfaces; interoperability in networked environments.<sup>57</sup>

The project provided for situations in which the metadata which is not persistently linked to the record as object may be captured into record-specific systems.<sup>58</sup>

RKMS is particularly designed for metadata in distributed environments such as the Internet.

When records move beyond the boundaries of the local domain in which they were created, or, as is increasingly the case in networked environments, they are created in the first place in a global rather than a local domain, then this kind of metadata needs to be made explicit - i.e. captured and persistently linked to the record. This is essential so that users in the broader domain can uniquely identify, retrieve, and understand the meanings of the records.<sup>59</sup>

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<sup>56</sup> See Monash University, School of Information Management Systems, *Recordkeeping Metadata Standards for Managing and Accessing Information Resources in Networked Environments Over Time for Government, Social and Cultural Purposes*, 1998-1999.

<sup>57</sup> Sue McKemmish, Glenda Acland, Nigel Ward and Barbara Reed, 'Describing Records in Context in the Continuum: the Australian Recordkeeping Metadata Schema', *Archivaria*, vol. 48, Fall 1999, p. 11.

<sup>58</sup> *Ibid.*, p. 31.

<sup>59</sup> *Ibid.*, p. 7. Monash University, School of Information Management Systems, Records Continuum Research Group, with the University of California (UCLA) and National Archives of Australia, *Create Once, Use Many Times: The Clever Use of Metadata in eGovernment and eBusiness Processes in Networked Environments*, 2003-2005. This research project is developing a proof of concept prototype to demonstrate how standards-compliant metadata can be created once in particular application environments, then used many times to meet a range of business purposes.

The InterPARES 1 Project, on the other hand, proposed that degrees of record authenticity can be presumed by the preserver if benchmark requirements have been met by the record creators, with additional verification undertaken by the preserver where these requirements appear insufficient to presume authenticity.<sup>60</sup> The more requirements that are satisfied, the more probable is authenticity. Benchmark or threshold requirements for *identity* are the intrinsic elements of documentary form (author, addressee, writer and originator, dates, the name of the action or matter, its status of transmission, its archival bond and indication of attachments). The *integrity* of a record is its soundness (condition is unimpaired), and completeness (possesses all necessary parts). The integrity cannot be absolute, but has to be seen in relation to its purpose, creation and use. Thus an electronic record does not have to replicate the exact number of 'original bits' as long as certain formal elements are there. The project proposed preserving the record as a digital object (a set of digital components which consists of the procedures and the record).<sup>61</sup>

To maintain the authenticity of the record the preserver must meet another set of requirements which are termed 'baseline'. The foundation for the preserver depends on the creator having undertaken certain procedural controls. The preserver must verify authentic copies, provide archival description and document the reproduction process.<sup>62</sup> The relationship between the records acquired and those reproduced involves maintaining the minimum elements of identity. Integrity may have been compromised by migration, tampering, or a system's inability to preserve identity. A level of acceptable 'corruption' is necessary in the electronic

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<sup>60</sup> InterPARES 1 Project, Authenticity Task Force, *Final Report*, 28 October 2001, 'Appendix: Requirements for Accessing and Maintaining the Authenticity of Electronic Records', pp. 1-15. InterPARES' requirements for authenticity were mapped to other standards, for example, the ISO *Records Management Standard* in terms of reliability, integrity and authenticity but the ISO standard is concerned with record creation rather than preservation over time. From a continuum perspective the elements of reliability would remain the same over time.

<sup>61</sup> The InterPARES 1 Preservation Task Force concluded that it is not possible to preserve an electronic record as a stored physical object: it is only possible to preserve the ability to reproduce the record. InterPARES 1 Project, Preservation Task Force, *Final Report*, 25 July 2001, University of British Columbia, Vancouver, 2001, p. 5.

<sup>62</sup> Heather MacNeil, 'Providing Grounds for Trust: Developing Conceptual Requirements for the Long-Term Preservation of Authentic Electronic Records', *Archivaria*, vol. 50, 2001, pp. 56-67.

environment. Whether all elements of authenticity need to be present could be interpreted as a risk management decision.

In the InterPARES 1 project, a dedicated preservation system controlled by a trusted third party, for example an archival authority, guarantees the authenticity of the record over time. In other approaches, such as the Pittsburgh University's functional requirements for recordkeeping, authenticity is based on different communities' needs, and the responsibility for preservation depends on the 'warrants' of the community. InterPARES also acknowledges different juridical requirements. The presumption of authenticity relies to some extent on circumstantial evidence. The level of acceptable authenticity will depend on the laws of evidence of the jurisdiction in question, and the social mechanisms of trust within the communities that rely on those records. For example, the Italian legal system does not accept the same level of presumption of authenticity of electronic records as found in Australia and Canada.<sup>63</sup>

RKMS, Pittsburgh, and InterPARES 1 all rely on social mechanisms of control for digital authenticity, through the role of preservers, whoever they may be.<sup>64</sup> Record authenticity requires the preservation of the elements of record identity and integrity to attribute responsibility for obligations to recordkeeping participants. The presumption of authenticity includes a community of common interest and its continuing need for social trust and evidence.

Authenticity is linked not only to what is an original or a copy, but also with social concepts of faithfulness, trust and truth. What are the core elements that render an object something other than what it purports to be? What is intrinsic to the object and what depends on external knowledge, for example the technology used to create it, and the legal system in which

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<sup>63</sup> Gigliola Fioravanti, 'Italy's Legislative Framework for Electronic Documentation', in *Authentic Records in the Electronic Age, Proceedings from an International Symposium*, ed. Luigi Sarno, Istituto Italiano di Cultura Vancouver and The InterPARES Project, Vancouver Canada, 2000, pp. 94-107. The high risk of document fraud in visa and citizenship decisions is recognised in Australia and also calls for higher authenticity requirements. See *Electronic Transactions Act 1999 (Cth)* s 4.

<sup>64</sup> Peter B. Hirtle, 'Archival Authenticity in a Digital Age', in *Authenticity in a Digital Environment*, Council on Library and Information Resources, Washington, D.C., 2000, pp. 8-23. Hirtle explains that the Pittsburgh project did not set out to identify functional requirements for authenticity; like RKMS it assumed automatic capture of metadata for recordness. Rather than an archives authority ensuring authenticity over time, specific communities would do so.

it was created? The meaning of authenticity in relation to information (oral or recorded) is discipline-specific.<sup>65</sup> Jeff Rothenberg suggests that some disciplines have *a priori* needs for authenticity. For archivists, documentation about the record, such as provenance, and in modern parlance metadata, are essential to authentic records.<sup>66</sup>

Trust is not an absolute, but a subjective probability assigned case by case.<sup>67</sup> 'Trust in the maker or warrantor of a claim is not necessarily binary; in the real world, we deal with levels of confidence or degrees of trust'.<sup>68</sup> Authenticity is a process of examining and assigning confidence to a collection of claims. Clifford Lynch argues that technology on its own will not suffice to provide trust; instead there is a need for business models to support it, as well as social and legal constraints. He disputes that technology, in particular cryptography, will solve problems of authorship and record integrity. A simple integrity check, such as a message digest that accompanies a digital object as metadata, serves as an effective mechanism to ensure that the object has not been corrupted, but it does not prove the reliability of the record. Perfect copies can be pirated, but they are not authentic because their provenance is different from the original.<sup>69</sup> Provenance, unbroken custody and trusted systems must operate together. Provenance must include the origin of the object and the relationships between objects.

Lynch defines identity to include the management of the documentation about the evolution of trust, the identity management infrastructure, and policies of certificate holders that support the assertions of authenticity. He supports the view that a community will establish its own trust rules that will authenticate data. All technological solutions involve a trusted third party; a form of transferred risk to a trusted party.<sup>70</sup> This supports the communities of interest model and their own 'trust' rules that will evolve in an online context.

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<sup>65</sup> 'Introduction', in *Authenticity in a Digital Environment*, Council on Library and Information Resources, Washington, D.C., 2000.

<sup>66</sup> Jeff Rothenberg, 'Preserving Authentic Digital Information', in *Authenticity in a Digital Environment*, Council on Library and Information Resources, Washington, D.C., 2000, pp. 51-68.

<sup>67</sup> *Ibid.*, p. 56.

<sup>68</sup> Clifford Lynch, 'Authenticity and Integrity in the Digital Environment: An Exploratory Analysis of the Central Role of Trust', in *Authenticity in a Digital Environment*, Council on Library and Information Resources, Washington, D.C., 2000, p. 40.

<sup>69</sup> *Ibid.*, pp. 32-50.

<sup>70</sup> *Ibid.*, p. 48.

Arguments over whether authenticity and related concepts change in a digital environment, and whether characteristics such as medium, can play a role in a digital context where all digital objects are a bitstream, have emerged at forums dedicated to their discussion.<sup>71</sup> As authenticity is clearly related to ensuring something, in this case a record, remains unchanged from what it was originally, it deals with preserving particular attributes over time. The preservation of record identity and integrity requires trusted third parties, which in information communities have included archivists and librarians, to continue their roles.<sup>72</sup>

Authentication and certification methods as articulated in the information technology environment are concerned to ensure that the identity of a person or entity is what it claims to be at the time of the transaction. In diplomatics, authentication is a declaration at a specific time by a juridical person entrusted with the authority to make such a declaration.<sup>73</sup> Identity as expressed in the records continuum model, modern diplomatics and research which derives from them, have broader requirements of identity than those found in authentication frameworks. The identifiable record is not just the persons in the transaction but other essential attributes, that have to be maintained through time, or at least for more than their immediate use.

Current authentication regulatory frameworks are inadequate to support record authenticity. A Public Key Infrastructure (PKI), which is a hierarchical organisation of certification authorities invested with the competence to authenticate the ownership and characteristics of a public key, is only effective if there is a continuity of the chain of trust guaranteed by those certification authorities.<sup>74</sup> As private sector organisations take on

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<sup>71</sup> Even if the medium is not of central relevance to electronic records, records still need to be preserved as physical objects. See Guercio, *Archivistica Informatica*, p. 25.

<sup>72</sup> See Research Libraries Group and Online Computer Library Center, *Trusted Digital Repositories: Attributes and Responsibilities, Final Report, May 2002*, RLG, Mountain View, California, 2002.

<sup>73</sup> 'Authentication is understood as a declaration of a record's authenticity at a specific point in time by a juridical person entrusted with the authority to make that declaration. It takes the form of an authoritative statement (which may be in the form of words or symbols) that is added to or inserted in the record attesting that the record is authentic'. InterPARES 1 Project, Authenticity Task Force, *Final Report*, 28 October 2001, p. 3.

<sup>74</sup> For example in Australia, the initial recommendations for a statutorily based central root registration authority were rejected by the federal government. A root certification authority supports the certification of subordinate intermediate certification authorities and holds root cryptographic information. Third party

the role of certification authorities, there are no mechanisms in place to guarantee the continuity of the chain of trust in the event that the organisation ceases to exist.<sup>75</sup> Bodies with certifying power to issue the software, keys and certificates for digital signatures will hold metadata necessary for establishing the reliability of the records. Who controls the keys? Who retains the certificates? How will they remain linked to the record for authenticity over time?<sup>76</sup>

In the recordkeeping context the participants need to know the identity of those with whom they are dealing to trust the content of their communications. Thus data that provides identifying information is essential recordkeeping metadata that must be persistently linked to, or

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independence with an archival authority playing the role of gatekeeper was not considered. See National Office for the Information Economy, *Establishment of a National Authentication Authority*, A Discussion Paper, 19 August 1998, Commonwealth of Australia, 2000.

<sup>75</sup> Anne Picot, 'Uncovering the Mysteries of Digital Signatures. A Discussion of What Signatures Really Stand for and How They Should be Managed in the Digital Environment', in *Convergence, Joint National Conference, Conference Proceedings*, the Joint National Conference of the Australian Society of Archivists and the Records Management Association of Australia, 2-5 September 2001, Hobart, pp. 251-259.

<sup>76</sup> Stephen Wilson, 'Current Issues in the Rollout of a National Authentication Framework?', in *Electronic Commerce: Net Benefit for Australia?*, The 1998 Information Industry Outlook Conference hosted by the Australian Computer Society, Canberra Branch; Canberra, Australia, 7 November 1998, pp. 5-13. Digital keys are either held in a repository of certification keys or the certification body creates a certification certificate which is checked for each transaction. The need to preserve the means of authenticating the record across technological obsolescence via the use of a digital signature is subject to debate. See Jean-François Blanchette, 'Digital Archiving Strategies for the Long Term', in *E-archiving for Posterity, Electronic Record Keeping and Long-term Preservation of Digital Data*, One-Day International Conference, University of Leuven, 26 June 2003, Technologische Instituut, Antwerp, 2003, pp. 1-12. Digital signatures and their continuing validity for record authenticity may depend on preserving their related infrastructure. See InterPARES 1 Project, Authenticity Task Force, *Final Report*, 28 October 2001, p. 45. The National Archives of Australia advises preserving recordkeeping metadata that indicates the validity of signatures at the time of their use or that government agencies that need to revalidate digital signatures consider maintaining a key management plan. See National Archives of Australia, *Recordkeeping and Online Security Processes: Guidelines for Managing Commonwealth Records Created or Received Using Authentication and Encryption*, May 2004, pp. 20-21.

part of, the record. In addition, identity metadata is essential for the enforcement of rights and obligations, both moral and legal.<sup>77</sup>

### 2.3 Rules of evidence and trustworthy records

Theories of knowledge are at the heart of evidence rules and of the trustworthiness of records within legal systems. Evidence law reflects the fundamental way a legal system seeks to understand the truth. The notion of a trustworthy record is therefore tied to the principles of evidence in a legal system. In this sense it is a cultural phenomenon (for example extracting evidence by torture), and open to the postmodernist critique of relativism.

Heather MacNeil has argued that truth, established by reasoning from the relevant evidence, not as certainty, but a matter of degree, is part of a theory of epistemology, founded in the eighteenth century Lockean tradition of rationalist empiricism. Rational empiricism provides that the probable existence of fact is based on the theory of logical relevancy, which is expressed in terms of the relationship between evidence and probability. The concept of 'inference' or inductive evidence in rationalist empiricism means inferring one thing from another, as opposed to one thing being or not being what it seems or pretends to be. Evidence theory is therefore connected to the development of probability theory and the separation of the observer from the event recorded, clearly embedded in Cartesian metaphysics which separates the physical and the mental, and the internal and external perception of things. An inference from one fact may change the inference from another fact. Chains of facts and inferences provide an overarching framework in which assessments of trustworthiness of evidence in general and documentary evidence in particular are made.<sup>78</sup>

Over the centuries Western legal systems have evolved criteria and methods for establishing the trustworthiness of records as evidence clearly traced back to Roman law and later developments.<sup>79</sup> These rules embody

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<sup>77</sup> See Chapter 4.

<sup>78</sup> MacNeil, *Trusting Records*, pp. 23-26.

<sup>79</sup> Luciana Duranti, 'Archival Science', in *Encyclopedia of Library and Information Science*, vol. 59, supplement 22, 1997, pp. 1-19 examines the roots of archival science in Roman law which became part of all legal systems of Europe through education, and the association of archival knowledge with law which provided for its separation from the philological disciplines. The major codification of Roman law and its revived study in the twelfth century

much of what recordkeeping theory refers to as recordkeeping metadata or elements of documentary form, in particular at the record creation and capture stage. Form also played a vital part in legal procedure in so far as particular kinds of documents were used to trigger legal actions, such as writs.

Concepts of record trustworthiness in archival science which originate from Roman law are also found in the evidence laws of common law countries, for example the ancient records and the best evidence rules.<sup>80</sup> In Roman law there were two concepts of particular relevance to trustworthy records, the concepts of 'perpetual memory' and 'public faith'.<sup>81</sup> Public faith in society as a whole is 'community as society' in Aristotelian terms. The relationship of these concepts to recordkeeping principles can be traced to the function of public records as collective memory providing social continuity. The public place in which records were kept formed part of the seat of government and also contributed to the trustworthiness of the records.<sup>82</sup> The Roman law of evidence reinforced the privileged status accorded to government documents and invested them with public faith.

In Italian law the probative value of public records has a much wider ambit than that of the common law (see 2.4.1 below 'Public records as evidence'). Documents made by private persons, such as contracts, which the common law would consider in the private sphere, are public documents if authenticated by a notary. Notarised records of a private transaction are not part of the common law tradition. The fact that a document was a notarial document gave it probative value equivalent to a

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influenced the English common law. The principles of evidence, equity and natural justice were already enshrined in canon law. See also Saarland University, Institute of Law and Informatics, *The Roman Law Branch of the Law-related Internet Project*, 'What is Roman Law?', 2005.

<sup>80</sup> For example in Australia, the *Evidence Act* 1995 (Cth) s 152. 'Ancient records' and the best evidence rules have their origin in what MacNeil calls the 'antiquity' criterion. The more removed the records were from the past the more impartial they could be considered. MacNeil, *Trusting Records*, p. 3.

<sup>81</sup> Luciana Duranti, 'The Concept of Appraisal and Archival Theory', *American Archivist*, vol. 57, Spring 1994, pp. 328-344, 'Archives as a Place', *Archives and Manuscripts*, vol. 24, no. 2, Nov. 1996, pp. 242-255, and 'Reliability and Authenticity: The Concepts and Their Implications', *Archivaria*, vol. 39, Spring 1995, pp. 5-10.

<sup>82</sup> The purpose of the 'archival place' as guaranteeing authenticity has its origin in Greco-Roman times. The word archives derives from state power, government and authority. See Ole Kolsrud, 'Developments in Archival Theory', in *Encyclopedia of Library and Information Science*, vol. 61, supplement 24, 1998, p. 92.



public record, that is public faith ('publica fides') and witnessed the rights and obligations of private citizens. Thus a public document was defined as one that emanated from a public authority (including a notary) as opposed to a private citizen.<sup>83</sup> Private documents depend on proof of the signature on the document, which can be denied by the signer, and the onus of proof is on the person wishing to use the document as evidence. If the signature has been authenticated by a notary or public official it also has probative value. Since 1997 Italian law has recognised a digital signature as having the same legal efficacy as a hand-written equivalent.<sup>84</sup>

### 2.3.1 Documentary evidence within the common law system

The laws of evidence are part of the common law<sup>85</sup> which have been modified and added to by statute.<sup>86</sup> The term 'documentary evidence' rather than the term 'record' is used in the common law to distinguish it from 'oral evidence' which is testimony given in court by witnesses. The courts have dealt with documentary evidence as a special category.

The way the common law system developed, legal obligations arising from actions were initially evidenced orally in front of witnesses rather than via written documents.<sup>87</sup> As a centralised system of justice developed in England towards the end of the thirteenth century, written documents began to be used for legal purposes. In the nineteenth century the need to identify the intent of parties to the action increased the need to process

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<sup>83</sup> In the Italian legal system documents of public authorities all have probative value. The probative efficacy of the document within the Italian legal system, starts with a public act which following set requirements of law is either executed by a notary or a public official which attributes public faith to the contents of the document. Elements of record identity include the signing as author, the date and place of act, the declaration by the parties and others to the facts that the public official is witness to. Unless there is a legal challenge to its validity, a judge is bound to consider true what is stated in the document. However there is a process that a third party can instigate to contest the validity of an official act. Carucci, *Il Documento Contemporaneo*, pp. 67-71.

<sup>84</sup> Paola Carucci and Marina Messina, *Manuale di Archivistica per L'impresa*, Carocci, Rome, 1998, pp. 41-42.

<sup>85</sup> The examples in this chapter are mainly from Australian jurisdictions.

<sup>86</sup> In Australia, the laws of evidence apply to the jurisdictions of all courts, state and Commonwealth. Different courts may apply different rules often via the statute establishing the particular court. Other tribunals may or may not apply rules of evidence. Documents from outside Australia may not be admissible. J. D. Heydon, *Cross on Evidence*, 5th edn, Butterworths, Sydney, 1996, p. 6.

<sup>87</sup> Duranti, 'Reliability and Authenticity', p. 5.

more facts.<sup>88</sup> Documentary evidence began to supplement oral testimony and in some instances supplant it.

Despite the fact that the rules of evidence in the common law system can be traced back to the thirteenth century their modern developments are based on the decisions of the common law judges of the seventeenth and eighteenth century, which include the 'hearsay' rule. The courts developed various tests to make sure that documents were trustworthy. The common law rule requiring the production of the original document and documents as 'hearsay' were rules of particular relevance to records.

### ***Documents as hearsay***

In common law systems the principal source of evidence is the oral testimony of witnesses which can be tested by cross-examination to find 'judicially determined truth' to prove alleged facts.<sup>89</sup> The nature of the English adversarial system, depends on direct evidence as the most reliable source, that is the live oral testimony of the witness as opposed to hearsay evidence. The rule against hearsay has been defined as, 'an assertion other than one made by a witness while testifying in the proceedings is inadmissible *as evidence of any fact asserted*'.<sup>90</sup> A witness can only give evidence of facts of which they have personal knowledge. This is prima facie evidence. The party against whom testimony is given has a right to cross-examine the witness. Thus a statement made by someone other than the witness giving oral evidence is generally not admissible because the person who actually makes the statement cannot be cross-examined about it.

Documents are classed as hearsay. They infringe hearsay when they are tendered as evidence of the truth of the facts stated. Courts traditionally excluded documentary records as evidence as it was not possible to subject documents to cross-examination. However exceptions to the hearsay rule in certain circumstances allowed the 'contents of the documents', that is statements, to be accepted as legal evidence if certain requirements were met, such as the duty to record and if their accuracy and reliability as information sources could be demonstrated (see 2.4 below 'Record reliability and authenticity and the principles of evidence').<sup>91</sup>

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<sup>88</sup> Getzler, 'Patterns of Fusion', pp. 187-89.

<sup>89</sup> R.A. Brown, *Documentary Evidence in Australia*, 2nd edn, LBC Information Services, North Ryde, NSW, 1996, p. 1.

<sup>90</sup> Heydon, *Cross on Evidence*, p. 815.

<sup>91</sup> *Ibid.*, pp. 46-59. The body of exemptions to the rule against hearsay are so comprehensive and detailed that almost anything can be an exception. For this

Statutory provisions have gradually broadened the scope for admissible documents. In common law countries evidence statutes now have a range of document-admitting provisions which overlap with respect to any one piece of evidence.<sup>92</sup>

***Principles of admissibility, weight and relevancy***

The document may be put in evidence as a chattel (material object), ‘a thing’ or ‘real evidence’ bearing an inscription, or else as a statement, the inscription on a thing.<sup>93</sup> While documentary evidence admissibility provisions admitted the statements in a document in lieu of direct oral evidence and not the document as a whole, many common law provisions admitted the entire document, particularly public documents. When treated as a statement, the document is testimonial evidence, and the maker of the statement is treated as a witness. Parts of the contents of the document might not be admitted or they may be treated as circumstantial evidence, that is, any fact from the existence of which the judge or jury may infer the existence of a fact in issue.<sup>94</sup> The general rule is that all relevant evidence is admissible subject to exceptions, documents being one of them.

Another distinction that has to be borne in mind with rules of evidence is between admissibility and weight or value. For example, a document may be ruled inadmissible and one which is admitted may be given no weight or value because other evidence is led which disproves the facts which it supports. Weight can affect admissibility as this is related to the relevancy of the matter under consideration, but generally it is not taken into account.<sup>95</sup>

Evidence that is relevant to the issue before the court is admissible subject to numerous exceptions, including hearsay, opinion, character and conduct. Although it would appear logical that all relevant evidence is admissible, in law it may not be admissible if it falls into an exclusionary rule. Thus admissibility and relevancy are treated as separate concepts.

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reason documentary evidence in practice has been as important as oral evidence in the common law system’s rules on evidence. Heydon claims that even if it is argued that documents are more accurate than oral evidence, they do not suit the adversarial system because the opposing side can always bring in a witness to dispute the contents of a document.

<sup>92</sup> Brown, *Documentary Evidence in Australia*, Chapters 9, 12 and 13. Documents can be admitted under business or specific computer records provisions, or as reproductions.

<sup>93</sup> *Ibid.*, Chapter 6. Document as ‘thing’ still appears in the Australian 1995 evidence legislation, and ‘representation’ replaces ‘statement’.

<sup>94</sup> Heydon, *Cross on Evidence*, p. 16 and p. 49.

<sup>95</sup> *Ibid.*, p. 97.

The two main types of evidence are ‘prima facie’ (sufficient unless outweighed), and ‘conclusive’. The extent that a record can provide conclusive evidence as opposed to prima facie may depend on the level of its reliability and integrity.

## **2.4 Record reliability and authenticity and the principles of evidence**

In the recordkeeping context the trustworthiness of the record depends on its reliability (is the content true/accurate?) and authenticity (is the record what it claims to be?). Reliability is never an absolute, but rather there are degrees of reliability due to the dependence of accurate content on individual ‘truthfulness’. The degree of reliability of the contents of a record depends on how much is captured of the identity of the persons involved in the record’s creation, their credibility, their authority (their competencies), and the consent of parties to the transaction. Validation or certification of the parties to a transaction or the authors and recipients depends on controls in the record creation process. Authenticity depends on ensuring that the record’s reliability has not been compromised by tampering during or after transmission.<sup>96</sup>

The relationship between record reliability and admissibility/relevancy on the one hand, and authenticity (identity and integrity) and best evidence rules/weight on the other, has been examined by Heather MacNeil. Legal rules relating to authentication and the best evidence rule address whether the record is genuine, while rules on reliability deal with whether the facts are trustworthy and are dealt with as an exception to the hearsay rule. MacNeil says: ‘Whereas the documentary exceptions to the hearsay rule are concerned with the reliability of a record’s contents, the authentication and best evidence rules are concerned with its identity and integrity’.<sup>97</sup>

A definition of legal evidence is ‘data that tend to establish some alleged fact’, admitted into legal proceedings and relevant to a specific case.<sup>98</sup>

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<sup>96</sup> The elements of authenticity in archival science have been considered absolute; a record was either authentic or it was not. See Duranti, ‘Reliability and Authenticity’, pp. 5-10. In the electronic environment the InterPARES 1 Project has modified record authenticity to mean circumstantial evidence that may provide a presumption of authenticity, through attributes that establish its identity and integrity. See InterPARES 1 Project, Authenticity Task Force, *Final Report*, 28 October 2001.

<sup>97</sup> MacNeil, *Trusting Records*, p. 46.

<sup>98</sup> Brown, *Documentary Evidence in Australia*, p. 8.

Evidence is the means of proving or disproving a fact, what may be introduced, that is, what is admissible, and what standard of proof is necessary, that is, the quality, integrity and quantity of evidence. John Dyson Heydon states: ‘The legal burden of proof is the obligation of a party to meet the requirement of a rule of law that a fact in issue be proved (or disproved) either by a preponderance of the evidence or beyond reasonable doubt, as the case may be’,<sup>99</sup> while ‘the evidential burden is the obligation to show, if called upon to do so, that there is sufficient evidence to raise an issue as to the existence or non-existence of a fact in issue, due regard being had to the standard of proof demanded of the party under such obligation’.<sup>100</sup>

Rules relating to the burden of proof depend on the substantive law, especially those allocating the burden of proof, and are often expressed in the language of presumptions, for example ‘the presumption of innocence is simply another way of saying the burden of proving the guilt of the accused is unconditionally allocated to the prosecution’.<sup>101</sup> The degree of proof will depend on the type of case (criminal or civil) and the area of law.<sup>102</sup> Thus the standard required for the identity and integrity of the record will not be universal for all areas of law, as noted in the InterPARES 1 benchmark requirements for authenticity.

Heather MacNeil has found that no uniform standard has been developed in Canada for measuring acceptable degrees of trustworthiness or necessity, but rather a case-by-case basis has emerged.<sup>103</sup> In Australia declarations made in the course of a business duty have been treated as an exception to the hearsay rule if recordmaking was regular. Records made

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<sup>99</sup> Heydon, *Cross on Evidence*, p. 190.

<sup>100</sup> *Ibid.*, p. 191.

<sup>101</sup> *Ibid.*, p. 188, footnote 2.

<sup>102</sup> In the Australian legal system one of the distinctions is between civil and criminal cases. The most important difference, so far as evidence is concerned, is that the ‘onus of proof’ (who must come up with the proof) varies in each case. In criminal cases guilt must be proved ‘beyond reasonable doubt’. In civil cases it is necessary to prove something on ‘the balance of probabilities’. Heydon, *Cross on Evidence*, Chapters 4 and 5. However, the test for admissibility is not in principle different between a civil or criminal case and should not change the degree of record reliability required.

<sup>103</sup> MacNeil, *Trusting Records*, p. 37, examines the two interconnected tests for trustworthiness in the hearsay rule: cross-examination and confrontation. Documents as out of court assertions have been admissible in situations when a witness could not be cross-examined, thus exceptions to the hearsay rule needed to meet two conditions: circumstantial probability of trustworthiness and necessity.

subsequent to a duty to an employer are likely to be reliable as they arise from professional duty, which parallels the notion of trust in the creator in archival science.

### **2.4.1 Documentary exceptions to hearsay and record reliability**

#### ***Public records as evidence***

There are many important aspects in terms of how the common law adduced written evidence in public documents in terms of their reliability. These included: the maker of the record had a duty to record, the public nature of the document, retention or an intention to keep a record, public inspection availability and contemporaneity of record creation. Acts recorded must have been performed for the document to have any validity.<sup>104</sup> As in diplomacy, the record had to accurately represent the actions it witnessed.

#### ***Document and record as evidence***

Statutory definitions of a document and record have centred on their physical characteristics rather than function.<sup>105</sup> A document has been

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<sup>104</sup> In common law there has not been a simple categorisation of what constitutes a public record and when it is admissible. Not all records created by a public authority are considered public records, for example a register from a public authority not prescribed by law may be excluded; if it is a requirement of a statute then it more likely to be a public document, such as statutory records of a corporation. There have also been other requirements, for example public accessibility. A ship's passenger list or the internal working papers of a government department have been excluded as public documents in cases where they were not open to the public or made for public access. Public documents that fall under 'judicial notice' do not have to be proved. The 1995 Australian Evidence Acts do not accord public documents with any special status in being admitted as evidence, which has simplified the complex common law approach. See Brown, *Documentary Evidence in Australia*, Chapter 4 and Heydon, *Cross on Evidence*, Chapter 17, section 2.

<sup>105</sup> The *Archives Act* 1983 (Cth) s 3 (1) defines a record as a document (consisting of any written or printed material) or object (including a sound recording, coded storage device, magnetic tape or disc, microform, photograph, film, map, plan or model or a painting or other pictorial or graphic work) that is, or has been, kept by reason of any information or matter that it contains or can be obtained from it or by reason of its connection with any event, person, circumstance or thing. In the *State Records Act* 1998 (NSW) s 3(1), record means 'any document or other source of information compiled, recorded or

defined through case law as a physical thing or *medium* (this may apply to an electronic document as it is stored on some sort of medium; it would include objects), on or in which *data* (data as fact, opinion, information as the subjective interpretation of the data), are more or less permanently *recorded* (it is capable of being retained, but there is no inference of permanence), in such a manner that data can subsequently be *retrieved* (with proper equipment). There is no need for direct human intervention in the creation of a document.<sup>106</sup>

However, a document which stores data and is retrievable is not a record. A number of English cases shed further light on what constitutes a 'record'. These suggest that to qualify as records, a document must be the product of a process and must give effect to a transaction or act such as a contemporaneous register of information supplied by those with direct knowledge of the facts (see also 2.4.1 above 'Public records as evidence').<sup>107</sup> The higher probative value given to a record that was documented at the time of action, rather than subsequent to the event, that is, the proximity of the documentation with the action, is more likely to ensure that it is accurate. This principle is also found in diplomacy.<sup>108</sup> In fact, the way documentary evidence has been admitted has depended on features of a trustworthy record.

### ***Statutory and common law exceptions to hearsay***

All Australian jurisdictions until the passing of the 1995 *Evidence Acts*, except Western Australia, had equivalent statutes to the *Evidence Act 1938* (UK) which had allowed certain kinds of hearsay statements in documents to be admissible in civil cases. For example the former NSW *Evidence Act 1898*, Pt 11A, s 14B dealt with evidence of statements in documents that clearly needed to be authenticated 'in writing' by the 'maker'. Although these documentary exceptions were directly linked to facts on which direct oral evidence can also be given, the statements in documents that could be admitted had to be made by a person who had personal knowledge of the thing recorded, or the document had to form part of a record made contemporaneously in which the person had a duty to record and had no motive to misrepresent the information in it. The US Federal Rules of

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stored in written form or on film, or by electronic process, or in any other manner or by any other means'.

<sup>106</sup> Brown, *Documentary Evidence in Australia*, p. 9.

<sup>107</sup> *Ibid.*, p. 35.

<sup>108</sup> See Chapter 3 on documents which coincide with the act (*ad substantiam*).

Evidence 902 contain similar provisions.<sup>109</sup> The reliability of the record was linked to the duty or office of the person creating it, the deontological duty of the professional, and a record's place within a system.<sup>110</sup>

The relationship of trust with the professional duty to record honestly is supported by case law, in particular *Ares v Venner* in the Supreme Court of Canada which restated and expanded the common law exception to hearsay by adapting it to modern recordkeeping.<sup>111</sup> Although nurses were present and could be cross-examined, their notes passed the test of trustworthiness and necessity because in a hospital where a patient's health is at stake every effort would be made to keep records accurate; it was the nurses' duty to keep notes, there was no motive to misrepresent and notes were likely to be a better test of the events than their memory. The notion of the reliability of a professional's records associated with professional duty, is relevant to trust and professional relationships.

### ***Business records as evidence***

'Business records' and also 'bankers books' are particularly important in the way documentary evidence including computer records have been accepted as evidence, and what they reveal about features of a trustworthy

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<sup>109</sup> US-InterPARES Project, *Findings on the Preservation of Authentic Electronic Records*, Final Report to the National Historical Publications and Records Commission, 2002, pp. 74-75.

<sup>110</sup> The Canadian common law exception to the hearsay rule for admitting declarations made under a business duty parallels the Australian one. The Canadian requirements include the duty to act and to record the thing done, the necessity that the declarant had observed the act, the act must have been completed and the declarant must have made the statement contemporaneously with the act. MacNeil, *Trusting Records*, p. 39. See also Brown, *Documentary Evidence in Australia*, Chapter 8 and Heydon, *Cross on Evidence*, Chapter 18.

<sup>111</sup> *Ares v Venner* in the Supreme Court of Canada in 1970, a medical malpractice case made two changes to the common law exception of hearsay in Canada. It eliminated the need for a declarant to be deceased, and opened the door to allow recorded opinions in court as long as they fell within the declarant's normal scope of duty. However, it did not affect general principles of testimonial evidence which required demonstration of personal knowledge. See MacNeil, *Trusting Records*, pp. 39-40. See Australian cases in Ian Freckelton, 'Records as Reliable Evidence: Medico-legal Litigation', *Archives and Manuscripts*, vol. 26, no. 2, Nov. 1998, pp. 270-293, in which in a number of medical negligence cases, records were acknowledged by the courts as superior to the memory of the patient.



record.<sup>112</sup> In the US Federal Rules of Evidence, business records exceptions allow ‘records of regularly conducted activity’ to be an exception to hearsay.<sup>113</sup> Business records provisions in most Australian jurisdictions are defined in terms of ‘the statement must have been made in the course of or for the purposes of the business’.<sup>114</sup> ‘A record of a business’ is broadly defined in most evidence legislation which specify that the records are to be kept by and for an organisation in respect of its business, which is also the internationally accepted definition of a record.<sup>115</sup> It is still the statements and not entire documents that are admitted, and the document must form part of a record of a business.<sup>116</sup>

In Australia, the judgment in the New South Wales Court of Appeal in *Albrighton v Royal Prince Alfred Hospital* established the principle that since businesses must keep reasonably accurate records if they are to stay in business, these records are likely to be sources of sufficiently reliable information to be acceptable as legal evidence. The judgment provided an exposition of the operation of the business records provisions found in Part 11C of the NSW *Evidence Act* 1898. Hope JA stated that:

Any significant organisation in our society must depend for its efficient carrying on upon proper records made by persons who have no interest other

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<sup>112</sup> The admissibility of bankers’ books of account has existed in evidence legislation in every Australian state except the Commonwealth. They are no longer found in the 1995 Evidence Acts as they are covered by the business records provisions. Through case law bankers’ books of account have been extended to all kinds of banking records, not just financial ones. Business records provisions have a number of advantages. They dispense with problems relating to the admissibility of originals as copies, definitions of a document are broader than in the general admissibility provisions for documents, and business is also generally defined to encompass most human activities, including government, corporate and community activity. Case law referenced in Brown, *Documentary Evidence in Australia*, Chapter 12 indicates that computer records have been admitted under business provisions if it could be demonstrated that they were a regular part of the recordkeeping of the business.

<sup>113</sup> US-InterPARES Project, *Findings on the Preservation of Authentic Electronic Records*, p. 75.

<sup>114</sup> *Evidence Act* 1898 (NSW) s 14CE(4). The two business records models adopted in Australian evidence legislation are summarised in Brown, *Documentary Evidence in Australia*, Chapter 9.

<sup>115</sup> ‘Records: information created, received and maintained as evidence and information by an organisation or person, in pursuance of legal obligations or in the transaction of business’. From *ISO 15489-1, Information and Documentation - Records Management*, ISO, 2001, Part 1, General, p. 3.

<sup>116</sup> Heydon, *Cross on Evidence*, p. 1055.

than to record as accurately as possible matters relating to the business with which they are concerned. In the everyday carrying on of the activities of the business, people would look to, and depend upon, those records, and use them on the basis that they are most probably accurate ... No doubt mistakes may occur in the making of records, but I would think they occur no more, and probably less often, than in the recollection of persons trying to describe what happened at some time in the past. When what is recorded is the activity of a business in relation to a particular person amongst thousands of persons, the records are likely to be a far more reliable source of truth than memory. They are often the only source of truth.<sup>117</sup>

The records of business transactions that the creator relies on 'in the usual and normal course of business', and which are not self-serving, are presumed reliable.

### **Computer records as evidence**

Evidence rules, like the principles of diplomatics and archival science, attribute to all recorded information the *capacity* to be used as evidence, that is, any documentary trace of a fact or event may be admitted as legal evidence.<sup>118</sup> Therefore if an electronic document forms part of the normal

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<sup>117</sup> *Albrighton v Royal Prince Alfred Hospital* [1980] 2 NSWLR 542 as quoted in Philip Sutherland, 'Documentary Evidence', in *The Principles of Evidence*, 94/43, *Papers presented for the Continuing Legal Education Department of the College of Law*, 9 July 1994, Sydney, CLE Department of the College of Law, Sydney, 1994, p. 32. See also *Canada Evidence Act* (1985) in which records are not self-serving evidence; they have to be made in the 'usual and ordinary course of business', not just prepared by a business organisation. Canadian provincial business records provisions also require records to be made at or near time of event. MacNeil, *Trusting Records*, pp. 40-42.

<sup>118</sup> Duranti, *Diplomatics: New Uses for an Old Science*, pp. 5-6. In diplomatics, the term evidence has a very specific meaning. Diplomatic analysis of a document provides a source of proof of facts for evidence, which is distinct from the document as an instrument of action. Evidence as a relationship between a fact to be proven and the facts that are used for proof is both broader and more specific than a record. Carucci provides a narrower definition of a document than Duranti from the point of diplomatics as opposed to archival science. See Carucci, *Il Documento Contemporaneo*, p. 28. Evidence as inference by examining documentary traces is analysed by Heather MacNeil in *Trusting Records*, pp. 23-26. The notion of document as memory trace of an event which can be used to prove a legal right is recognised in the first dimension of the records continuum model, even though the trace does not have record attributes until it is associated with metadata. See Frank Upward, 'Structuring the Records Continuum, Part Two:

course of business it is as likely to be admitted (or statements/ representations from it) as evidence as any other document in any format.

Computer records have been recognised in most Australian jurisdictions either by inserting legislative provisions which are directed to the admissibility of computer evidence or by demonstrating that computer records are a business record.<sup>119</sup> In the United States, Federal Rules of Evidence also admit computer records as business records.<sup>120</sup>

Computer records have been considered copies of originals which needed to meet a number of conditions to be admissible. The admissibility of computer records in Australia includes the following general principles: the computer has been used regularly to store or process the information in question, the computer operated properly at the time the document was created, the document reproduces or derives from information supplied by the business, and it is a routine not programmed process.<sup>121</sup> Electronic records challenge these presumptions in that modifications may have taken place before a record is taken out of a live system into another one.<sup>122</sup>

The problem with electronic data as evidence is that it is not fixed to a specific event or action which can be proved by data representation. For example a letter produced by a word-processing program will not automatically be linked to a document on the same subject matter. Even if the document is captured in a document management system, it may only provide successive versions of a document but not evidence of which version was sent, who authorised it, and if it was received. Email that is admitted as evidence that is clearly not part of a recordkeeping system is an example. However at the same time the weight given to it may diminish as a result of the lack of proof of procedural controls (see 2.4.3 below, 'Evidence legislation and record trustworthiness').

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Structuration Theory and the Records Continuum', *Archives and Manuscripts*, vol. 25, no. 1, May 1997, pp. 10-35.

<sup>119</sup> Victoria and Queensland have computer-specific sections as well as business records provisions in their evidence legislation. See *Evidence Act 1958 (Vic)* s 55B and *Evidence Act 1977 (Qld)* s 95.

<sup>120</sup> US-InterPARES Project, *Findings on the Preservation of Authentic Electronic Records*, p. 75.

<sup>121</sup> Brown, *Documentary Evidence in Australia*, Chapter 13.

<sup>122</sup> 'Explicitly recognize that the traditional principle that all records relied upon in the usual and ordinary course of business can be presumed to be authentic needs to be supplemented in the case of electronic records by evidence that the records have not been inappropriately altered.' InterPARES 1 Project, Strategies Task Force, *Report*, December 2001, 'Principle 12', p. 5.

In *Armstrong v Executive Office of the President*,<sup>123</sup> the District Court of Columbia held that under the United States' *Federal Records Act*<sup>124</sup> a 'record' can include material 'regardless of physical form or characteristics', including an e-mail, if it was 'made or received by an agency of the United States under Federal law or in connection with the transaction of public business.'<sup>125</sup> The court determined that once a document in an electronic form is designated as a 'public record', it should be preserved by the relevant agency 'as evidence of the organisation, functions, policies, decisions, procedures, operations, or other activities of the Government or because of the informational value of the data in them.'<sup>126</sup> Importantly it was the relationship of the email to the business of government that made it a public record.<sup>127</sup> This interpretation may not necessarily hold in other jurisdictions.<sup>128</sup>

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<sup>123</sup> *Armstrong v Executive Office of the President*, 810 F. Supp. 335, at 340-41 (D.D.C. 1993). The case involved inter alia, a question of adequacy of recordkeeping guidelines and instructions with regards to the management of public records in electronic form.

<sup>124</sup> 44 U.S.C.S. § 3301.

<sup>125</sup> *Armstrong v Executive Office of the President*, 810 F. Supp. 335, at 340 (D.D.C. 1993).

<sup>126</sup> *Ibid.* In the *Armstrong* case the District Court found that the defendant's recordkeeping procedures were arbitrary and capricious because there was no adequate management program or supervision by recordkeeping personnel of the staff's determination of record or non-record status of computer material. Moreover the guidelines did not provide sufficient guidance to determine what was a federal record that must be preserved or destroyed.

<sup>127</sup> David Bearman, 'The Implications of *Armstrong v the Executive Office of the President* for the Archival Management of Electronic Records', in *Electronic Evidence: Strategies for Managing Records in Contemporary Organizations*, Archives and Museum Informatics, Pittsburgh, 1994, pp. 118-144.

<sup>128</sup> In European Union member states, the legal ownership of email in an organisation is unclear. Although the employer determines the purpose of the email system and is the controller with obligations under Directives 95/46/EC and 97/66/EC, there is no clarity in relation to employees' private sphere and their right of confidentiality. Henrik W.K. Kaspersen, 'Data Protection and E-commerce', in *eDirectives: Guide to European Union Law on E-Commerce: Commentary on the Directives on Distance Selling, Electronic Signatures, Electronic Commerce, Copyright in the Information Society, and Data Protection*, Kluwer Law International, Dordrecht, 2002, p. 142. The EU position on human rights and privacy law is unlikely to consider employees' personal email on a business system as business records. This needs to be compared with the very different approach to monitoring employees' email in the United States, upheld in case law on the basis of employers owning

The *Armstrong* case has been important case law regarding not only email but the nature of electronic records in general. It provided a definition of email as a record ('an account made in an enduring form, especially in writing, that preserves the knowledge or memory of events or facts' and 'something on which such an account is made').<sup>129</sup> The court emphasised the need for retaining metadata (header, transmission data, time, sender and receiver) for the email to be considered a record. Importantly it noted that a paper copy is not an equivalent counterpart of an electronic record, and that creation and storage of electronic records should be in recordkeeping systems; the rights of final disposition or retention - who can destroy an electronic record - must be observed; preservation and access to electronic records must be maintained; login files, passwords, audit trails, performance tests, pre-migration files, and old documentation are all needed for evidential reconstruction. The subsequent case, *Public Citizen Inc v John Carlin*, challenged the right of the National Archives and Records Administration (NARA) to instruct government agencies to destroy electronic records if paper versions included all the relevant metadata (as designated in *Armstrong*) and were kept in an official recordkeeping system or in an electronic recordkeeping system as designated by NARA.<sup>130</sup> The court again took the view that a paper copy is not an equivalent to the electronic record. Thus, in relation to electronic records the US cases established limited guidelines for reliability (ie requirements for recordkeeping agents, time and place, and links to related messages) and for authenticity (that a paper copy of an electronic record is not an authentic copy, and that original functionality of the live system must be maintained).<sup>131</sup>

#### 2.4.2 The best evidence rule and record integrity

The best evidence rule, that is, the production of an original record has been a safeguard of record integrity, in particular in the era when

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employees' computer systems. Milton Babirak et al., 'Electronic Commerce in the USA', in *E-Commerce in the World: Aspects of Comparative Law*, Brussels, 2003, p. 318. See also Chapter 5.

<sup>129</sup> *Armstrong v Executive Office of the President*, 810 F. Supp. 335, at 342 (D.D.C. 1993).

<sup>130</sup> *Public Citizen Inc v John Carlin*, 2 F Supp 2d 1 DDC, 1997. On 6 August 1999, the Court of Appeals for the District of Columbia Circuit reversed its decision and upheld the Archivist's rule.

<sup>131</sup> MacNeil, *Trusting Records*, pp. 77-85. US-InterPARES Project, *Findings on the Preservation of Authentic Electronic Records*, pp. 76-77.

hand-copying or re-setting type could produce errors. In looking at the best evidence rule, which is now largely abolished in common law jurisdictions by statute changes,<sup>132</sup> an important point is that the legal view of an original document was not the first version but the one accepted by the parties involved in the transaction and the one they operated under.<sup>133</sup> The notion of the 'original', the first, complete record capable of achieving its purpose, is also a central diplomatic tenet.<sup>134</sup>

The best evidence rule is based on the notion that 'primary evidence' is the best evidence available; 'secondary evidence' is evidence that suggests better evidence exists. However, the common law developed rules for secondary evidence relating to the contents of the original as well as prima facie presumptions about when a document was written or sent and how to deal with missing documents. Rules governing secondary evidence, that is, how the court dealt with admitting evidence that was not original or that substituted the original allowed copies in certain circumstances to be admitted.<sup>135</sup> The original rather than a copy could prove the truth of the contents, but copies were acceptable under certain circumstances, for example, via testimony, certified copies, or specific statute.<sup>136</sup>

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<sup>132</sup> The best evidence rule was abolished in Australian federal courts and in the Australian Capital Territory in the 1995 Commonwealth Evidence Act and also in the 1995 NSW Evidence Act. See National Archives of Australia in cooperation with the Attorney-General's Department, the Office of Government Information Technology and the Tasmanian Department of Premier and Cabinet, Information Strategy Unit, *Records in Evidence, The Impact of the Evidence Act on Commonwealth Recordkeeping*, Commonwealth of Australia, 1998, p. 8. The requirement for the original paper record (or an acceptable copy) is still applied in Australia where there is a risk of fraud if an electronically generated record is accepted as proof of a fact. The *Electronic Transactions Act 1999* (Cth) requires 'original' paper documents for citizenship claims, but electronic communications are acceptable where there is no suspicion of fraud.

<sup>133</sup> Brown, *Documentary Evidence in Australia*, p. 17.

<sup>134</sup> 'An original record is defined as the first, complete record, which is capable of achieving its purposes (that is, it is effective). A record may also take the form of a draft, which is defined as a temporary compilation made for purposes of correction.' Authenticity Task Force, *Final Report*, 28 October 2001, 'Appendix: Requirements for Accessing and Maintaining the Authenticity of Electronic Records', pp. 1-15, footnote 10.

<sup>135</sup> Brown, *Documentary Evidence in Australia*, Chapter 6.

<sup>136</sup> Heydon, *Cross on Evidence*, p. 82 and p. 1144. The original record in court proceedings in the case of a telegram is the one handed in at the post office but for the receiver the message received is the original.

In the Australian *Evidence Act* 1995 (Cth) s 47(2) ‘a document that is not an exact copy of the document in question but that is identical to the document in question in all relevant respects’ and s 48(1), proof of content provides for tendering the original document, or a copy produced by a device that reproduces the contents of documents such as a computer printout, photocopies, copies that have been scanned, are as good as the original or a business record. The legal acceptance of a copy that is identical in all respects translates into the electronic context where the original will always be a copy or reproduction.<sup>137</sup>

Statutory exceptions to the common law to deal with reproductions, such as microfilm, have been interim steps by the legislature to grapple with records in different formats.<sup>138</sup> The courts had tended to resist statutes which accepted machine-copies whether in the form of sound/visual recordings, for example audio and videotapes, computer output or computer records. Machine-produced documents were usually considered real evidence, that is, a physical thing, and had to be proved by persons programming the computer that the computer had been working properly at the time the printout was made.<sup>139</sup>

The admissibility requirements for photographs are a good example of integrity issues. These included the requirement that the print was an accurate print from the negative and that the negative had not been retouched. There were two methods to prove these aspects; either by tracing the custody of the film from the moment of taking the shots until production in court, or by identification of the ultimate print through oral or other evidence of the scene recorded. The photographer may be called as witness but this was not essential for the admissibility of photographs. Depending on the provisions under which they are admitted, a similar approach has been adopted by the courts for films and videos. Proper custody figures in most of these cases. The admissibility of photographs reveals features of record trustworthiness; it needed evidence of the competence of the person creating the record (record identity) and

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<sup>137</sup> ‘In common language, *copy* and *reproduction* are synonyms. For the purposes of this research, the term *reproduction* is used to refer to the process of generating a copy, while the term *copy* is used to refer to the result of such a process, that is, to any entity which resembles and is generated from the records of the creator.’ Authenticity Task Force, *Final Report*, 28 October 2001, Appendix, footnote 10.

<sup>138</sup> Brown, *Documentary Evidence in Australia*, Chapter 9; Heydon, *Cross on Evidence*, pp. 1142-1154. Business records provisions in Evidence Acts of all Australian jurisdictions from 1976 onwards included computer output in terms of their creation in the course of a business activity.

<sup>139</sup> Heydon, *Cross on Evidence*, p. 29 and p. 839.

evidence of the accuracy and tamper-proof features of the photographic process (record integrity).

### 2.4.3 Evidence legislation and record trustworthiness

The changes to the rules of evidence in common law countries such the United States, Canada, United Kingdom and Australia<sup>140</sup> in recent years have provided for more avenues to introduce documentary evidence into legal proceedings, including electronic records.

The 1995 Australian Commonwealth and New South Wales Evidence Acts provide good examples of the acceptance of documents in all formats, including electronic, to be tendered as evidence in court without the previous process of proving their status.<sup>141</sup> Rather than being concerned with the physical format of the document, knowledge about how the records were created and maintained proves their content, which conforms to recordkeeping elements of reliability and trust that are concerned with procedural controls over the creation of records in systems.

The legislation expands the admissibility of hearsay evidence, including documentary evidence, by narrowing the hearsay rule, extending the exceptions to that rule, abolishing the original document rule, and replacing it with simpler means of giving evidence of the contents of documents, including documents held in computer and other non-paper forms. It provides for easier proof of, and presumptions about, business and official records, and the use of mail, fax and other means of communication and allows for pre-trial procedures enabling litigants to test the weight of documentary evidence that might be given in proceedings.<sup>142</sup> The substantial use of presumptions in the 1995 Australian evidence legislation

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<sup>140</sup> For example, in Australia the *Evidence Act 1995 (Cth)*, the *Evidence Act 1995 (NSW)* and the *Evidence Act 2001 (Tas)*. As these reforms preceded the advent of Internet commerce, they address electronic records as evidence but not in the context of the online environment.

<sup>141</sup> Document is defined in the *Evidence Act 1995 (Cth)*, s 3, Dictionary, as 'any record of information' and s 3, Clause 8, Part 2, Dictionary, a document includes 'any part of the document; or any copy, reproduction or duplicate of the document or any part of the document; or any part of such a copy, reproduction or duplicate'.

<sup>142</sup> National Archives of Australia, *Records in Evidence*, p. 7. Business records provisions are simplified and integrated within Evidence Act 1995 (Cth).



include presumptions that enable documents, regardless of format, to be acceptable as evidence.<sup>143</sup>

### ***Abolition of the original document rule***

The abolition of the original document rule (*Evidence Act* 1995 (Cth) s 51) does not completely detract from the need of either party to prove that the record is what it purports to be, and that its identity and integrity have not been compromised. Elements of identity of the record covered in the legislation include proof of posting; date of receipt of articles sent by post; time and sending of and identity of persons who have sent and received messages by fax, email, telegram, and transmission and receipt by persons of lettergrams and telegrams.

As the Commonwealth commentary states:

While the 'original document rule' has been abolished, it is still necessary for parties to *authenticate evidence of the contents of documents* given by one of these alternate ways. For example, in relation to a document in writing that is signed, it remains necessary to lead evidence (if the point is contested) that the signature appearing on the document is *the signature of the person who has purported to sign it*. In the case of computer records, it is necessary to give evidence that the *computer output is what it purports to be*.<sup>144</sup>

There is a presumption that procedural controls over record creation were in place, and that the identity of the parties is known, but the onus is on the opposing party to challenge the proof.

While there are several provisions of the Acts facilitating this authentication process, the Acts also set out procedures under which litigants may test the authenticity of evidence of the contents of documents that is or might be led under one of the alternate ways in a proceeding. In the usual case, these procedures would be used by a party against whom evidence of the contents of a document is or might be led in a proceeding.<sup>145</sup>

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<sup>143</sup> *Evidence Act* 1995 (Cth) Part 4.3, s 146 and s 147 relate to presumptions that enable documents, regardless of format, as long as they form part of the records belonging to or kept by a person, body or organisation in the course of, or for the purposes of a business, and that are produced by processes, machines or other devices that function properly, to be acceptable as evidence. The rationale being that if a business depends on the records they must be reliable computer documents. The presumptions can be challenged. See Brown, *Documentary Evidence in Australia*, pp. 376-377.

<sup>144</sup> National Archives of Australia, *Records in Evidence*, pp. 11-12. [Emphasis added].

<sup>145</sup> *Ibid.*, p. 12.

The *Uniform Electronic Evidence Act* Canada adopted in 1998 takes the opposite approach to the Commonwealth Evidence Act in that the proponent of the electronic evidence has the burden to prove the trustworthiness of the record as opposed to the opponent who has to disprove the trustworthiness of the evidence. In addition common law and statutory business records exceptions to the hearsay rule are unaffected by the Canadian Evidence Act.<sup>146</sup> In Australia under the Commonwealth Act the opposing party has to specifically instigate procedures before a legal proceeding commences if they wish to test the authenticity of the documents. This may lead to court orders against the party leading the evidence who may be compelled to produce an original document, or allow the examination of a copy, or call a person who manages the recordkeeping system to give evidence, or in the case of a computer or similar document, that a party be permitted to examine and test the way in which the document was produced or had been kept. Section 171 of the *Evidence Act* 1995 (Cth) continues with the notion of a responsible recordkeeper who can provide relevant evidence on how a business or any specialised records have been maintained. This would suggest that in order to ensure that the presumptions can be supported, a common practice of audit trails, time stamping, procedures for routine checking of the accuracy of the storage processes, and document malfunctions are kept.<sup>147</sup>

Even if the original document rule has been abolished, businesses need to have reliable systems because their opponents can challenge both the reliability and the authenticity of the records.

#### **2.4.4 Record as process and evidence law**

The evidentiary nature of records derives from their creation in the context of an action and their retention as evidence of that action and related processes, and it is this connection that makes records potentially relevant to a range of legal disputes if they arise, but they are not created to specifically serve that purpose, that is, they are not self-serving.

Modern evidence law has shifted its focus away from the record as a material object to a record as the outcome of reliable business processes. Evidence legislation and case law reveal that records that are part of a system of recordkeeping, in possession or control of a business which has a responsible recordkeeper, are likely to be admissible under business

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<sup>146</sup> MacNeil, *Trusting Records*, p. 54; p. 134, footnote 137.

<sup>147</sup> National Archives of Australia, *Records in Evidence*, pp. 16-17.

records rules.<sup>148</sup> For example, the business records provisions in evidence legislation define records in terms which relate to their existence as part of recordkeeping systems. These provisions no longer define documents in terms of their physical attributes.

The 1995 Commonwealth and New South Wales Evidence Acts and the various business records provisions found in the Evidence Acts in all Australian jurisdictions view records as part of a trustworthy system in order to presume the document is reliable. Heather MacNeil points to the Uniform Law Conference of Canada (ULCC) in 1997 and how it justified the special rule for electronic evidence based on its special vulnerability to undetectable change. The best evidence rule was inappropriate, and the notion of an 'original document' moved to a 'system' view. The ULCC stated that 'the integrity of the record-keeping system is the key to proving the integrity of the record, including any manifestation of the record created, maintained, displayed, reproduced or printed out by a computer system'.<sup>149</sup> The presumption of integrity is based on the integrity of the computer system that produced the record at the time of admitting the evidence.

Records as evidence for legal proceedings require evidence of competencies of the creators (identity), and evidence of permissions to use the record so that they have not been altered (integrity). The nature of the legal system and how documents have been used in, or relate to, legal proceedings, the definitions of documents and records in the laws of evidence, including their relevance to electronic evidence, all have to be taken into account in determining the trustworthiness of the record.

Standards of record trustworthiness operate on informal social rules of communities of common interest, societies that trust records, the technologies that produce them, political and economic environments that may be more or less conducive to trust and the way the legal system has trusted records as evidence.

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<sup>148</sup> An example of case law in which the reliability of a record was enhanced by the fact that it formed part of a recordkeeping system is found in, *Tubby Trout Pty Ltd v Sailbay Pty Ltd* (1993) ACLR 195 FC. This is a particularly interesting judgment in terms of whether a letter formed part of the records of a particular business, the opinion being that it had to form part of a record system kept by the business to meet requirements of reliability. Section 1305 of the Corporations Law was considered in conjunction with the *Evidence Act* 1905 (Cth) ss 7B, 7H. See also National Archives of Australia, *Records in Evidence*.

<sup>149</sup> As quoted in MacNeil, *Trusting Records*, p. 52. In Canada the 'system' is defined to include features that are not embedded in the computer system itself.

A trustworthy record depends in part on trustworthy record creators whose identity depends on the trust that communities of common interest provide through social, legal, and procedural controls. It is a two-way dependence as community is also dependent on identity as either 'togetherness' or 'otherness'. Social and legal controls are relevant to social relationships that are formed by an act that has legal and social consequences. Before the advent of electronic communication it had not been necessary to document every aspect of the relationship, as elements of trust and identity have been part of the social fabric of any community. In the online context these social and legal controls have to be documented as part of the record (whether as metadata, recordkeeping or archival description) and inextricably linked to the record to which they relate. They are not in themselves new concepts because diplomatics, archival science and records continuum principles provide for identifying elements of trust, either through documentary form, procedure, or as metadata captured by the record, system, entity, and policy-directing bodies. In addition evidence law in the quest for proof and certainty, have developed rules for authenticating records that depend on reliable recordkeeping systems. On the other hand, access and privacy rights may interfere with the record's identity and integrity and the evidence of rights and obligations that arise from legal and social relationships.