

Preservation of the Integrity of Electronic Records. LUCIANA DURANTI, TERRY EASTWOOD, and HEATHER MACNEIL. The Archivist's Library Series, Vol. 2. Dordrecht, The Netherlands: Kluwer Academic Publishers, 2002. 172 p. ISBN 1-4020-0991-7.

Preservation of the Integrity of Electronic Records reports the findings of the "Long-Term Preservation of Authentic Records" research project on the means of protecting the integrity of active and semi-active electronic records. It is the second volume in the Archivist's Library published by Kluwer Academic Publishers. The Archivist Library Series, edited by Terry Eastwood, includes original, not previously published, theoretical, methodological, and historical writings on the nature and characteristics of records and archival documents, on their creation, management and preservation, and on the problems and issues affecting their use. The other volumes published in the series include *Trusting Records: Legal, Historical, and Diplomatic Perspectives* by Heather MacNeil (2000)¹ and *Business Processes: An Archival Science Approach to Collaborative Decision Making, Records, and Knowledge*

¹ Heather MacNeil, *Trusting Records: Legal, Historical, and Diplomatic Perspectives* (Dordrecht/Boston/London, 2000).

Management by Angelika Menne-Haritz (2004).²

The research undertaken for *Preservation* was conducted in the School of Library, Archival, and Information Studies (SLAIS) at the University of British Columbia (UBC) from April 1994 to March 1996. This project, commonly referred to as the “UBC Project,” was conceived by two of the authors of the book, Terry Eastwood and Luciana Duranti. Eastwood, who retired in June 2007 as Chair of the Master of Archival Studies (MAS) program at SLAIS, was the founder of this pioneering graduate degree program in archives and records management. Duranti, former Archivist of the City of Rome, is the current Chair of the UBC MAS program. Heather MacNeil, the third author, who was at the time an MAS faculty member at UBC, is one of many stellar alumni of the program. She served as the principal research assistant on the project, and had an equal share in the research and writing of this book. MacNeil left SLAIS to join the Faculty of Information (FI), formerly the Faculty of Information Studies (FIS), at the University of Toronto in July 2008.

The UBC Project defined the requirements for creating, handling, and preserving reliable and authentic active electronic records, that is, those records used daily by an organization producing them in the regular course of business. The project team worked in close co-operation with the US Department of Defense Records Management Task Force, and its results influenced the standards established for electronic recordkeeping in the *Design Criteria Standard for Electronic Records Management Software Applications* (DoD 5015.2-STD) promulgated by the US Department of Defense and adopted by the US National Archives and Records Administration (NARA) as a standard for all federal agencies. This standard has now been widely adopted by software manufacturers.

The project also investigated a number of fundamental questions that have arisen as a consequence of the rapid development and use of computer technology for the creation, maintenance, and preservation of recorded information. Organizations all over the world are facing these problems. The United Nations (UN) conducted one of the first comprehensive studies aimed at developing guidelines for the implementation of electronic records archives and records management programs for the use of UN organizations. The report, *Management of Electronic Records: Issues and Guidelines*³ (known informally as the ACCIS report), published by the United Nations Advisory

2 Angelika Menne-Haritz, *Business Processes: An Archival Science Approach to Collaborative Decision Making, Records, and Knowledge Management* (Dordrecht/Boston/London, 2004).

3 United Nations Advisory Committee for the Coordination of Information Systems (ACCIS), *Management of Electronic Records: Issues and Guidelines* (New York, 1990) (2nd ed. [1991] with minor editorial revisions). In 1993, the Information Systems Coordinating Committee (ISCC) succeeded the Advisory Committee for the Coordination of Information Systems

Committee for the Coordination of Information Systems in 1990, recognized the problem of ensuring the authenticity of records and the need for record-keeping requirements to be built into electronic systems.

Others have made the same observation. For example, John McDonald (at the former National Archives of Canada, now Library and Archives Canada), writing in his visionary article on the challenges of managing electronic records, compared the “modern office” to the “wild frontier” where “[o]ffice workers can create and send electronic messages and documents to whomever they wish. They can store them according to their own individual needs and then delete them without turning to anyone else for approval. There are no rules of the road. The autonomy of the individual reigns supreme!”⁴ A decade later, in the first book on electronic records management published in the United Kingdom,⁵ he confirmed his views on the need for regulation and structure in the modern office record-keeping environment.

Progress in addressing these electronic records issues has been glacial, in part, because both organizations and the information technology industry that supplies support for their business processes do not have any comprehensive sense of how to solve the problem. This was understandable when the technology was in its infancy. Today, however, technology exists to implement enterprise-wide solutions to electronic record-keeping problems. It is vital that the relevant players become educated in what they need to do to manage both electronic and non-electronic records. To do that, a comprehensive understanding of electronic records and records systems (as opposed to other material kept in other systems), such as that provided by the UBC Project, needs to penetrate both organizations and information technology.

The goal of the UBC Project was to identify and define the nature of an electronic record, and the conditions necessary to ensure its reliability and authenticity during its active and semi-active life. Thus, its orientation was both conceptual and methodological. The conceptual work consisted of identification of the components of a record, and the conditions necessary to create a reliable and authentic record in both paper and electronic record-keeping environments, as detailed by Duranti in the first two chapters of the book.

The challenge of determining what a record is, as opposed to non-record material, in the electronic environment appears in Chapter 1 of this book, “The Concept of Electronic Record.” This work, to identify and establish the

(ACCIS); the ISCC was succeeded by the current United Nations Information, Communication, and Technology Network.

4 John McDonald, “Managing Records in the Modern Office: Taming the Wild Frontier,” *Archivaria* 39 (Spring 1995), pp. 70–71.

5 John McDonald, “The Wild Frontier Ten Years on,” in *Managing Electronic Records*, eds. Julie McLeod and Catherine Hare (London, 2006).

necessary elements of a record in the electronic environment, sets the UBC Project apart from other research into the policies, technical standards, and requirements for the management and preservation of electronic records. The concepts and principles contained in this chapter are derived from the long-established disciplines of archival science and diplomatics. Duranti reintroduced the latter to the archival profession in a series of articles first published in *Archivaria* during the late 1980s and early 1990s.⁶ Indeed, this work remains one of the most important contributions to modern archival and records management theory and practice, including the applicability of these principles to the identification, management, and preservation of electronic records.

The methodological component of the project consisted of the elaboration of methods of creating and maintaining reliable and authentic records based on their conceptual foundation, as detailed in the third and fourth chapters authored by Heather MacNeil. The third chapter examines the principal methods the project identified for creating, maintaining, and retrieving electronic records as records (rather than as data or information), while the next chapter examined the principal methods for ensuring their reliability and protecting their authenticity.

Appendices constitute exactly half of the book. They include: Templates, Activity Models, Glossary of Terms, Procedural Rules for Managing an Agency's Archival Fonds, Entity Model, and a brief, but important, bibliography of articles relating to the research. Fortunately, the authors, assisted by two UBC MAS program students, Ian McAndrew and Monica Greenan, provide a very useful index to assist the reader in navigating through the information in this small, but densely populated, volume.

This book is not, as Terry Eastwood observes in the introduction, "a recipe book, but rather an investigation and presentation of a scheme of ideas to foster understanding of an investigation and presentation of the nature of electronic records and the concepts and principles to be applied as the basis of their proper management" (p. 8). Even though the UBC Project was not concerned with inactive electronic records, its members were always aware as they worked, that good electronic recordkeeping is the necessary precondition for effective preservation of inactive electronic records. It points us to the challenge of devising methods of preserving and verifying the authenticity of

6 Luciana Duranti, "Diplomatics: New Uses for an Old Science, Part I," *Archivaria* 28 (Summer 1989), pp. 7–27; "Part II," *Archivaria* 29 (Winter 1989–90), pp. 5–16; "Part III," *Archivaria* 30 (Summer 1990), pp. 5–14; "Part IV," *Archivaria* 31 (Winter 1990–91), pp. 14–19; "Part V," *Archivaria* 32 (Summer 1991), pp. 6–24; and "Part VI," *Archivaria* 33 (Spring 1992), pp. 6–24. The collection of six articles on diplomatics was eventually published in association with the Society of American Archivists and the Association of Canadian Archivists as one volume, with a new thirty-page introduction written by the author. See *Diplomatics: New Uses for an Old Science* (Lanham, MD/Oxford, 1998).

inactive records across time. If records in the electronic environment are created and managed properly, there is good reason to suppose that we will be able to devise principles, criteria, and standards for the long-term preservation of the authenticity of inactive electronic records.

As a result, the UBC Project led to the formation of the International Research on Permanent Authentic Records in Electronic Systems (InterPARES, Latin for “among equals”) project, a major multinational, collaborative, and interdisciplinary research initiative funded by the Social Sciences and Humanities Research Council of Canada, and numerous other granting agencies and institutions worldwide. The aim of InterPARES is to develop the knowledge essential to the long-term preservation of authentic records created and/or maintained in digital form and to provide the basis for standards, policies, strategies, and plans of action capable of ensuring the longevity of such material and the ability of its users to trust its authenticity.

The InterPARES Project, based at UBC SLAIS (with Duranti as the director of the project) has gone through three phases:

1. InterPARES I was initiated in 1999 and concluded in 2001. It focused on the development of theory and methods ensuring the preservation of the authenticity of records created and/or maintained in databases and document management systems in the course of administrative activities, and took the perspective of the preserver.
2. InterPARES 2 was initiated in 2002 and concluded in 2006. In addition to dealing with issues of authenticity, it delved into the question of reliability and accuracy during the entire life cycle of records, from creation to permanent preservation. It also focused on records produced in complex digital environments in the course of artistic, scientific, and e-government activities.
3. InterPARES 3 was initiated in 2007 and will continue through 2012. The project builds upon the findings of InterPARES 1 and 2, as well as other digital preservation projects worldwide. It will put theory into practice, working with small and medium-sized archives and archival/records units within organizations, and developing teaching modules for in-house training programs, continuing education, and academic curricula.

In summary, *Preservation* reports the results of basic archival research on the nature of electronic records, and the requirements for guaranteeing their reliability and authenticity. It analyzes the elements of electronic records using diplomatic analysis, thoroughly explains the concepts of reliability and authenticity as applied to records, and provides a careful exposition of the

methods for creating and maintaining reliable and authentic electronic records. It also explores both the theoretical and practical problems of the design of record-keeping systems that will allow organizations of all kinds to maintain the reliability and authenticity of electronic records created in the electronic environment.

The book is aimed at anyone involved in the creation, maintenance, and preservation of electronic records, such as records managers, information systems managers and archivists, and serves as a basic text for students of records management and archives in post-secondary educational institutions. In addition, the contents of this book would be useful to all those who create and receive records in their daily work, including lawyers, judges, administrators, public officials, systems designers, and scholars.

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