Yesterday, Today and Tomorrow: A Continuum of Responsibility

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In Australia the records continuum has provided us with a way of articulating a professional mission that brings together records managers and archivists under the recordkeeping umbrella. Records continuum thinking focuses on the unifying purposes shared by all recordkeeping professionals.

The Records and Archives industry is responsible for:

- documenting the actions of government, organisations and individuals
- maintaining and making accessible reliable, authentic and useable records of action to function contemporaneously and over time as:
  - a means of regulating relationships in society
  - accountability mechanisms - corporate, democratic, social, cultural and historical
  - corporate and collective memory
  - personal and group identity
  - sources of value-added information.
- contributing its expertise in relation to issues of information resource integrity, authenticity, transparency and persistence to the wider community, especially those constituencies concerned with information, corporate and democratic accountability, and cultural heritage.

Introduction

> **Continuum:**
>
> A continuing thing, quantity, or substance; a continuous series of elements passing into each other. (*The Shorter Oxford English Dictionary*)

In this paper I discuss records continuum thinking and practice as they have evolved in Australia, with particular reference to the way they characterise the relationship between records managers and archivists. I use the Records Continuum Model developed by my colleague, Frank Upward, to explore the continuum of responsibilities that relates to recordkeeping regimes that capture, manage, preserve and re-present records as evidence of social and business activity for business, social and cultural purposes for as long as they are of value, whether that be for a nanosecond or a millenium. The model provides a graphical tool for framing issues about the relationship between records managers and archivists, past, present and future, and for thinking strategically about working collaboratively and building partnerships with other stakeholders.

A continuum is something continuous of which no separate parts are discernible, a continuous series of elements passing into each other. A records continuum perspective can be contrasted with the life cycle model. The life cycle model argues that there are clearly definable stages in recordkeeping, and creates a sharp distinction between current and historical recordkeeping. The records continuum, on the other hand, has provided Australian records managers and archivists with a way of thinking about the integration of recordkeeping and archiving

processes. The life cycle model sees records passing through stages until they eventually 'die', except for the 'chosen ones' that are reincarnated as archives. A continuum-based approach suggests integrated time- space dimensions. Records are 'fixed' in time and space from the moment of their creation, but recordkeeping regimes carry them forward and enable their use for multiple purposes by delivering them to people living in different times and spaces.

In Australia, the records continuum has provided a way of articulating a mission that brings together records managers and archivists under the recordkeeping umbrella. Records continuum thinking focuses on the unifying purposes shared by all recordkeeping professionals, defined as to do with the delivery of frameworks for accountable recordkeeping regimes that enable access to essential, useable evidence of social and business activity in the business, social and cultural domains.

Records continuum thinking and practice are underpinned by a concept of records which is inclusive of, not exclusive to, records of continuing value (archives):

> The archival document [record] can be conceptualised as recorded information arising from transactions. It is created as a by-product of social and organisational activity in the course of transacting business of any kind, whether by governments, businesses, community organisations or private individuals. It is therefore defined by its contextuality and transactionality. The documentation of transactions may be in any storage media and is increasingly an electronic process. In Australia and North America, the use of the terms 'records' and 'archives' to refer to current archival documents and archival documents selected for preservation respectively has created a distracting division within the recordkeeping profession between records managers and archivists. The unifying concept of the archival document encompasses both records and archives. It directs attention to the continuum of processes involved in managing the record of a transaction so that it retains its evidentiary quality. Archival documents first and foremost provide evidence of the transactions of which they are a part - from this they derive their meanings and informational value. The effective creation and management of archival documents are critical to their use and the role they play in governing relationships in society over time and space. Their effective creation and management are also preconditions of an information-rich society and underpin the public accountability of government and non-government organisations, freedom of information and privacy legislation, protection of people's rights and entitlements, and the quality of the archival heritage, made up of documents of continuing value. The concept of the archival document can provide a framework for a greater shared understanding of the nature of recorded information, and of the importance of transactional records to the continuing functioning of a society.

Records continuum thinking is concerned about ideas about the role of recordkeeping which flow from this unifying concept - in five key areas. Firstly there is the role records play in governance, in regulating relationships between people and organisations, and as instruments of power and authority. Secondly, there is the nexus between recordkeeping and accountability in its broadest sense of accounting to each other for what we do to each other, encompassing corporate, social, cultural, and historical accountability. Thirdly, there is the role that recordkeeping plays in constituting corporate and collective memory, especially insofar as records capture experiential knowledge. Fourthly there is the way in which recordkeeping can be understood as a kind of witnessing, providing evidence of both personal and collective identity. And finally, there is the way records function as sources of value-added information and can be exploited as assetts, with new records being created in the process.

In *The Constitution of society*, sociologist Anthony Giddens spoke of information as being both an allocative and an authoritative resource. As an allocative resource, it can be 'a feature of the environment, a means of production or a produced good'. As an authoritative resource, Giddens said information is 'a means of control or governance of social time-space', ie a way of governing and perpetuating relationships between people and organisations through time and across space. With reference to the above outline of the purposes of recordkeeping, records can also be usefully characterised in this way. As sources of value-added information, they function as an allocative resource; as evidence of activity and identity, as memory, and as instruments of power and authority, they function as an authoritative resource.

Recordkeeping Places

Many archivists have been used to defining their place by locating the archives and the archiving function within the walls of archival repositories. In Australia this has been particularly the case for collecting archivists, for government archivists in some of the State jurisdictions where the archiving function has been closely linked with the library function, and for corporate archivists whose programs originated in corporate history or

commemorative projects. Records managers meanwhile have often been preoccupied with managing the records in central filing systems or records stores. For these archivists and records managers, the walls of the repository, registry or records store have formed the boundary of their respective places, and the basis for drawing demarcation lines between the organisation's business processes, records management and archival administration. Some have articulated their work with reference to the US-NARA records life cycle model, with its paper mind-set and conceptualisation of records management and archival work in terms of particular custodial strategies and methods rather than purposes or outcomes. Others, particularly collecting archivists, have described what they do in terms of the manuscript library tradition which emphasises collection management and research service delivery.

But, there has been another tradition in Australia, and records managers and archivists who have worked within that tradition have developed over the years a different sense of place, linked to the concept of the records continuum. This is especially so for many who have worked for Australian Archives and in State jurisdictions in which the archival authority is cast in the role of regulator of accountable public recordkeeping to serve the ends of accountable public administration, as well as keeper of the long-term corporate and collective memory, for those corporate records managers and archivists whose records and archives programs are closely integrated with the business processes of their organisations, and for that hybrid group of Australian archivists/records managers who identify themselves first and foremost as recordkeeping professionals.

For recordkeeping professionals, the records continuum provides a descriptive term referring to:

- establishing, managing and monitoring coherent regimes of integrated recordkeeping and archiving processes
- the capture, maintenance and delivery of records of social and business activity that satisfy
- business needs, social needs, cultural needs
  for
  essential, accessible, useable
  EVIDENCE
- delivering recordkeeping frameworks that
  - facilitate governance
  - underpin accountability
  - constitute memory
  - construct identity
  - provide authoritative sources of value-added information.

To fulfil their mission recordkeeping professionals:

- nurture accountable recordkeeping cultures
- establish integrated recordkeeping and archival regimes to
  - determine what is essential evidence and how long it is of value
  - capture, manage and deliver evidence and its meaning over time
- monitor and audit these regimes.

A unifying concept of records has underpinned the integration of the work of records managers and archivists in Australia over many years, but it has been given greater momentum by the specific challenge presented by electronic records and the general experience of living through a major paradigm shift.

It is in the development of policies and strategies for electronic recordkeeping around Australia, and the recent groundbreaking collaborative work in standard setting that we see most clearly the characteristics of evolving continuum-based professional practice.

The Life Cycle Concept

Before beginning to explore further the continuum of recordkeeping responsibilities, I want to consider the life cycle concept and the way life cycle thinking characterises the relationship between records managers and archivists and defines their respective responsibilities in relation to recordkeeping. Table 1 provides an explanation of the life cycle concept and a number of different versions of the life cycle model drawn from the writings of Frank Upward.

TABLE 1: THE LIFE CYCLE OF RECORDS

Introduction

A life cycle, in its origins in natural science, can be defined as the entire series of processes constituting the life history of an organism. Individual examples share the same life history as the species or genus to which they belong, within a repetitive pattern which is observable over generations. A frog goes from embryo to tadpole to young frog to mature frog to dead frog, if it goes through a full life cycle.

In the social sciences this model was picked up to explain the rituals in the human life cycle involved in going, for example, from birth to initiation into adult society to marriage and to death. Usually the stages identified have a strong association with rituals establishing rights and responsibilities within a community. Like the natural science versions, the versions in sociology provide a life to death generational pattern.

In recordkeeping a life cycle implies that there are recurring features over the generations of records that can be described in specified stages. Its premise is that the stages are observable over long periods of time for individual records throughout that period of time. The pattern has to be repetitive and applicable to individual records. In some theories, discussed below, there is a ritualistic aspect to the way the life cycle of records is discussed; in others there is an implication that we are dealing with a natural life history.

Versions of the life cycle

'Natural' life history versions:

The records life cycle concept, at its most basic level in records management literature, involves the processes for creation, maintenance, and disposal of records. More often than not use is added, sometimes as a separate stage and sometimes in conjunction with maintenance. Sometimes distribution is added. It is possible to include further stages by looking at the stages a record is said to go through on its way to an archival institution, and once it is safely inside. These are usually expressed to include identification and appraisal, acquisition, description, maintenance and access. This style of expression is similar to the natural science model. All record items - supposedly - go through the same cycle unless destruction cuts short the life of the record.

An example of the full life history approach to the life cycle of records was the approach formally set out by the US National Archives in the 1940s. It was developed as a way of conceptualising records creation, maintenance and disposal processes in ways which coped with the increasing bulk of the records that were being created. Models for records management and archival administration were developed which broadly look like the following:

Records Management Archives Administration

CREATE
MAINTAIN
RETRIEVE
DISPOSE/APPRAISE
ACQUIRE
DOCUMENT
MAINTAIN
PROVIDE ACCESS

Within the United States National Archives approach the approval processes for records "retention and disposal schedules" was one way the gap between the archival institution and the creating agency could be bridged.

Social rituals versions:

The European version of the life cycle concentrates on rites of passage associated with the physical relocation of records. For example the "three ages of archives" approach is based upon the storage of active, semi-active and inactive records. Certain occurrences are expected to take place during these three major transitional stages as records are transferred from active storage to intermediate records centres and then to archives. These stages correspond with the rights and responsibilities of an archival institution to maintain the records as authentic and reliable evidence of actions. The competencies of the archival authority are explained and fixed by their stage in the recordkeeping process.

***Hybrid versions in records management and archival administration*:**

If you combine both the rites of passage and the life history versions of the life cycle it is possible to produce models which can seem to cope with quite a deal of complexity.

For example a model presented in the Edith Cowan University video series on archives and records management describes an eight stage model in which the "three ages of archives" were added to five life history elements. Shown in pie chart form, the stages were: CREATION, DISTRIBUTION, UTILIZATION, *ACTIVE STORAGE*, TRANSFER, *INACTIVE STORAGE*, DISPOSITION, AND *PERMANENT STORAGE (ARCHIVES)*.

Frank Upward

All versions of the life cycle concept share a demarcated view of the work of records managers and archivists. The competencies and responsibilities of records managers and archivists are represented as being concerned exclusively with different stages in the life cycle, and with the different recordkeeping purposes associated with these stages. It is this worldview that is fundamentally challenged by records continuum thinking and practice.

Records Continuum Thinking and Practice

The key characteristics of records continuum thinking and practice, including a critique of the life cycle concept, are set out in Table 2.

TABLE 2: CHARACTERISTICS OF CONTINUUM-BASED THINKING/ PRACTICE

It goes back to fundamentals to define the record and the role of recordkeeping in society, informed by a unifying concept of records inclusive of records of continuing value (= archives), one that stresses their evidentiary and transactional nature.

It is particularly concerned with records as logical entities, with the dynamic relationships and associations amongst records, and between records and their contexts of creation and use.

It rejects the records life cycle model, which it characterises as:

- records-centred
- concerned with records as physical entities
- locked into custodial roles and strategies
- operationally focussed and concerned with records management tasks (things done to the records in fixed stages) rather than the integration of business and recordkeeping processes
- distinguishing in a dysfunctional way between 'records' and 'archives' according to the Schellenbergian criteria of currency, the act of selection or transfer, and research value
- demarcating as a consequence the work of records managers and archivists, the baton being handed over at the point when 'dead records' or at least the 'chosen ones' are reincarnated as archives and find themselves in the archival version of heaven, the repository.

It associates three phenomena with records life cycle thinking and approaches: the 'historical shunt', which saw archivists mainly concerned with managing collections for historical research purposes; the essentially paraprofessional nature of the records management community; and the narrow client bases of traditional records management and archival services - corporate operational staff and historians respectively.

It sees records managers and archivists as belonging to the broader profession of recordkeeping specialists, and allows for further specialisations relating to current, regulatory and historical recordkeeping purposes.

It strongly links the mission of recordkeeping professionals in Australian society to corporate, democratic and historical accountability, and more broadly to the role of recordkeeping in society (the sociology of recordkeeping).

It draws from Australian traditions relating to

- the role of the registry and registrar in public recordkeeping
- mandating archival authorities to regulate current recordkeeping as well as to preserve the archival heritage (which is informed by the view that the archival authority has a dual role - to provide for public accountability as well as to assure the quality of the archives)
- the imperatives and thinking driving the development of the series system.

It draws from the work and writings of international and Australian 'postcustodialists'.

It distinguishes between steering and operational roles and emphasises the steering role of recordkeeping professionals as

- recordkeeping policy makers
- standard setters
- designers of recordkeeping systems and implementation strategies
- consultants
- educators/trainers
- advocates
- auditors.

It aims to redefine and reinvent recordkeeping practice, including appraisal, control, storage and access.

It identifies a broad range of stakeholders and clients, positing multiple uses for records over time.

It builds partnerships with business, accountability, information and cultural players.

The records continuum is not simply an alternative to the life cycle way of viewing the creation, maintenance and disposition of records. Nor is it merely a metaphor for the integrated approaches to management that are needed, although it can serve this purpose. It is a concept which enables us to view recordkeeping processes in an integrated fashion. Like any concept, however, it can be approached from different perspectives. Indeed, in a continuum the elements are by definition indeterminate, so to view them for management purposes you have to set up a perspective - in the way that a refraction device can provide a view of a band of light that enables us to perceive its constituent colours.

Three such perspectives explored by Frank Upward are those provided by a focus upon

- current recordkeeping
- regulatory recordkeeping
- historical recordkeeping.

A current recordkeeping perspective involves looking at recordkeeping processes from the viewpoint of what needs to be done to capture a record and fix it in its context of creation so that it can be recalled, re-presented and distributed for as long as it is of continuing value. A historical recordkeeping perspective focuses attention on what has to be done to maintain this record and manage its meaning over time, whether that be for a nanosecond or a millenium. A regulatory recordkeeping perspective involves looking at recordkeeping processes from the viewpoint of how they can be standardised, controlled and monitored. All of these perspectives relate to the multiple purposes that records serve - for the benefit of the organisation that created them, an organisational successor, or the broader society - contemporaneously or over time.

The Records Continuum Model

The Records Continuum Model provides a useful framework for the exploration of the continuum of responsibilities that relate to recordkeeping. (Note that copyright and all rights in the following presentation of the Model is held by Frank Upward.)

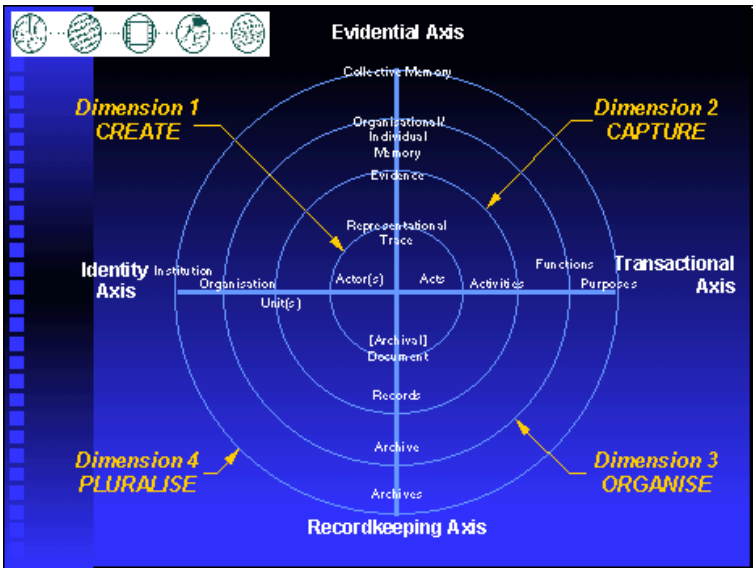

Figure 1 - Records Continuum Diagram

The Model provides a way of conceptualising the records continuum, of thinking about recordkeeping in our organisations and in our society. The Model:

- identifies key evidential, recordkeeping and contextual features of the continuum and places them in relationship to each other
- represents the multidimensional nature of the recordkeeping function
- maps the evidential, recordkeeping and contextual features of the continuum against the dimensions of the recordkeeping function
- is itself placed in a broader socio-legal and technological environment.

A Dimensional Reading of the Continuum

The continuum is holistic yet multidimensional - like a band of light, it can be 'refracted', separated out into its constituent layers. Table 3 provides a dimensional reading of the Continuum Model.

TABLE 3: THE DIMENSIONS OF THE RECORDS CONTINUUM

1D Create

The first dimension encompasses the actors who carry out the act (decisions, communications, acts), the acts themselves, the documents which record the acts, and the trace, the representation of the acts.

2D Capture

The second dimension encompasses the personal and corporate recordkeeping systems which capture documents in context in ways which support their capacity to act as evidence of the social and business activities of the units responsible for the activities.

One way to think about 1D and 2D might be as the implementation dimensions where the players might be desktop operators and managers, and recordkeeping professionals with operational roles. When operating in these dimensions, we're concerned with taking the trace and ensuring that it can function as evidence.

3D Organise

The third dimension encompasses the organisation of recordkeeping processes. It is concerned with the manner in which a corporate body or individual defines its recordkeeping regime and in so doing constitutes/forms the archive as memory of its business or social functions.

4D Pluralise

The fourth dimension concerns the manner in which the archives are brought into an encompassing (ambient) framework in order to provide a collective social, historical and cultural memory of the institutionalised social purposes and roles of individuals and corporate bodies.

3D and 4D can be thought of as the control, regulation, standardisation and auditing dimensions - where recordkeeping professionals with steering roles operate. In the third dimension, we are concerned with 'insider' issues to do with forming, managing and providing access to the corporate memory. In the fourth dimension, we're essentially on the 'outside' looking in, concerned with the constitution of collective memory in a way that crosses organisational and jurisdictional boundaries.

The dimensions of the continuum are not time-based. Records are both current and historical from the moment of their creation. By definition they are 'frozen' in time, fixed in a documentary form and linked to their context of creation. They are thus time and space bound, perpetually connected to events in the past. Yet they are also disembedded, carried forward through time and space, and re-presented in the contexts of their use.

As characterised in Table 2, records continuum thinking and practice focuses on logical records and their relationships with other records and their contexts of creation and use. Thus the Model is a map of a dynamic, virtual place - a place of 'logical, or virtual or multiple realities' - and it always has been, even in the paper world.

When we're thinking in fourth dimensional ways, we're concerned with:

- identifying or inventing social and cultural mandates for essential evidence to function as collective memory
- establishing recordkeeping regimes that can carry records beyond the life of an an organisation or person
- developing knowledge bases and classification schemes that represent the broadest structural and functional contexts of recordkeeping
- putting in place storage and migration strategies that carry records beyond the life of an organisation or a person
- developing access strategies that manage access across jurisdictions.

When we're thinking in third dimensional ways, we're concerned with:

- identifying personal and corporate requirements for essential evidence to function as personal/corporate memory
- establishing recordkeeping regimes in the personal or corporate domain
- developing organisational knowledge bases and classification schemes that represent the personal and corporate contexts of recordkeeping
- putting in place storage and migration strategies that carry records through the life of an organisation or a person
- developing access strategies that manage access according to the rules of a particular personal or corporate domain.

In the first and second dimensions, processes and systems are established in accordance with the regimes set up in the third and fourth dimensions, and informed by their concerns.

In the second dimension, recordkeeping processes and systems are implemented in accordance with the design requirements, standards and best practice models set up in the third and fourth dimensions. Implemented processes and systems:

- capture records at specified points in business processes (when predetermined 'boundaries' are crossed)
- capture and maintain the metadata required to assure their quality as records of business and social activity (ie metadata that places them in relation to other records and links them to their context of activity), and to manage their useability (completeness, accuracy and reliability) and accessibility through time
- deliver records for use through time according to relevant access permissions, and user views
- store and secure records through time.

In the first dimension, acts, communications and decisions are documented. Document creation and control processes are implemented which:

- capture content
- capture structure (documentary form)
- order and place documents in their immediate context of action and facilitate their retrieval

- store documents and provide for their security.

Integrated Recordkeeping Responsibilities

Fulfilling organisational needs for records is what used to be called the 'primary' use of records. Once the primary use of records as evidence for organisational purposes has ceased, institutions have traditionally been seen to be interested in them as evidence of the institution itself - collective memory. This interest represents what used to be called the 'secondary' use of records. This way of looking at issues associated with corporate and collective memory is linked to the life cycle concept.

The Records Continuum Model supports a distinction between collective and organisational memory. In the records continuum, societal needs are characterised as fourth dimension issues, whereas organisational needs are associated with the third dimension. However, unlike life cycle formulations that suggest that records in the early stages of their lives serve organisational memory purposes, and later come to serve collective memory purposes, the Records Continuum Model embraces the view that records function simultaneously as organisational and collective memory from the time of their creation. The organisation has a particular interest in the way they function as corporate memory (a third dimension perspective); while societal interests relate to the way they function as collective memory (a fourth dimension perspective).

Definitions of the role of records managers and archivists associated with life cycle and 'the three ages of archives' thinking suggest that records managers are concerned with corporate memory, while archivists are concerned with collective memory. This is not the philosophical position taken by continuum thinkers. They see the recordkeeping profession as being concerned with the multiple purposes of records. They take current, regulatory and historical perspectives on recordkeeping simultaneously not sequentially. As Chris Hurley has remarked about historical recordkeeping perspectives:

What electronic recordkeeping has forced us to confront is that archival methods must be applied throughout the life of the record. No new problems arise as records age. All of the technical issues involved in keeping electronic records arise at the moment of their creation. An agency has to have an archival program in place in order to keep electronic records for any length of time - be it a second or a millenium.

According to the continuum view, the role of recordkeeping professionals relates to setting up recordkeeping regimes that can ensure that *from their creation*, records are managed in ways that enable them to fulfil their multiple purposes contemporaneously *and* over time. Setting up such regimes involves integrating records and archives competencies and responsibilities.

A Continuum of Responsibility: Building Partnerships in the Past, Present and Future

Building Partnerships

Recordkeeping professionals need to build partnerships with a broad range of stakeholders in order to achieve their continuum-based objectives. The Records Continuum Model can be used to stimulate ideas about building partnerships with players who operate in the different dimensions, eg:

4D Pluralise

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cultural heritage players

sociologists

historiographers

other information professionals, eg librarians

IT shapers

law makers

other standard setters and regulatory authorities

watchdogs

the public

3D Organise

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information managers

IT managers

corporate librarians

FOI officers

auditors

corporate lawyers

CEOs/senior managers

financial controllers

work process re-engineers

1D/2D Create/Capture

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operational managers

IT operational staff

systems administrators

supervisors

desktop operators

It can also help clarify potential strategic alliances in relation to activities associated with the different dimensions, eg

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3D/4D Organise/Pluralise

Working with FOI officers, auditors, legal officers, senior managers, watchdogs and regulatory authorities to ensure recordkeeping supports corporate and democratic accountability requirements

Working with information managers, IT professionals and librarians to develop coherent information architecture and metadata specifications within or across organisations or jurisdictions to support document discovery and delivery in electronic networked environments

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3D Organise

Working with policy makers, managers and business process designers to integrate recordkeeping and business processes

Working with IT managers to promote the development and takeup of information and communication technology

supportive of recordkeeping requirements in the organisation

Yesterday and Today

In recent years highly successful collaborative partnerships have been built in the records continuum in Australia, particularly in the areas of electronic recordkeeping, standards development, and professional and continuing education. Two outstanding examples of standards development are provided by the Australian Records Management Standard, and the National Records and Archives Competency Standards. Australian Standard AS 4390, the first national records management standard in the world, now under development as an international standard, resulted from collaborative work by records managers, archivists and standard setters. Cast in a records continuum framework, AS 4390 provides a voluntary code of practice for recordkeeping. The Records and Archives Competency Standards were also developed within a continuum framework. Like the Australian Records Management Standard, the Competency Standards recognise that recordkeeping is a critical function performed through the collective action of employees and systems throughout all organisations. According to this scenario, everyone is a recordkeeper, while records managers and archivists are society's recordkeeping specialists:

Of the 8.38 million people currently in work in Australia, it is safe to say that almost all of them are required to keep records of some sort. There are, however, a group of people and organisations for whom working with records and archives is core business.

The Project therefore sought and was granted cross-industry status, which means that the competency standards developed apply to all recordkeeping work, regardless of who performs it. Thus they attempt to define not only the competencies of records managers and archives, but what constitutes recordkeeping in our society.

These two initiatives have built a strong foundation for continuing collaborative action in relation to standard setting that brings together in a coherent way current, historical and regulatory perspectives on recordkeeping.

Tomorrow

The phenomenal proliferation of document-like information objects (DIOs) on the Internet and other global networks has caught the information professions, and almost everyone else napping. Within a scant three years (1993-1996), the Internet has expanded exponentially, inspired clones of itself and evolved from being an arena dominated by the IT elite to become a 'no limits' Information *Smorgasbord* where anyone can create and make a DIO instantly available to billions of consumers. Once created and posted on the Net, an individual DIO becomes a free-floating commodity. In the absence of a regime of standards and protocols guaranteeing its provenance, quality, integrity, transparency and accessibility, its retrievability, reliability and value can not be assured, and it can be used, copied, cannibalised and/or exploited without acknowledging or compensating its originator.

(Ann Pederson, April 1997)

A high priority area for the immediate future is to work with IT professionals, librarians, information managers, cultural heritage players and other stakeholders in the development of coherent information architecture and metadata specifications within or across organisations or jurisdictions to support document management, discovery and delivery in electronic networked environments. In particular the Australian recordkeeping profession needs to engage in international efforts to build an infrastructure of rules and standards in the virtual world equivalent to the regimes which manage recorded information of all kinds in the paper world. As in other standard setting endeavours, the records continuum provides a powerful framework for developing appropriate input from the recordkeeping profession.

In today's electronic networked environments, records are managed along with an expanding array of other information resources. In networked environments information resources need to be adequately identified, authenticated, and quality rated. They need to be readily accessible and retrievable for as long as they are required, then to be disposed of in a systematic way. Terms and conditions of access and disposition need to be managed and monitored. Effective control of all of these document-like information objects or DIOs depends upon authoritative *metadata* -accurate information which specifies their structure, content, context and essential management requirements - being embedded within, wrapped around or otherwise persistently linked to each individual DIO to attest to its nature and quality. Accurate metadata is increasingly seen as the tool which enables users to discover, distinguish, select and use authentic, authoritative information resources and records.

At present, the virtual world lacks an adequate infrastructure of rules and standards. The need to devise

metadata-based regimes to authenticate, protect, manage and make accessible DIOs in networked environments is urgent.

Information management and IT professionals, cultural heritage workers, librarians and standard setting authorities world-wide are beginning to work collaboratively to:

- identify and reach agreement on generic or core sets of metadata elements for attribution to all document-like objects available in networked environments, particularly through the Internet, eg title, originator, date, subject, links to other information resources, intellectual property status
- map existing metadata specifications for particular types of DIOs against these core sets, eg the MARC standard for library cataloguing records, the objective being to identify equivalent metadata in sector specific sets and standardise them against the generic specification
- standardise sector specific sets of metadata elements and ensure their interoperability with the generic sets.

In this context, the recordkeeping profession is responsible for managing a commercially, socially and culturally significant body of information resources, an important sub-set of the information in networked environments, and it needs to get more involved in national and worldwide initiatives in these areas. We must develop and extend our methods, standards and protocols to facilitate the description, organisation and discovery of records in networked environments. In particular records managers and archivists urgently need to work together in the following three areas.

Recordkeeping sector specific metadata specifications

Many of the things we need to do to manage electronic records of action and other DIOs and to make them accessible over time need to be resolvable by the metadata they carry with them or that is inextricably linked to them. We need standardised, specialised sets of recordkeeping metadata that can be attributed to records and, where relevant, to other DIOs *at their point of creation*, eg by embedding, encapsulation or linking to metadata stores. Our sector specific sets of metadata need to be developed within frameworks that support their interoperability with generic metadata standards like the Dublin Core, and with other sector-specific specialised sets. There are a range of international initiatives that are relevant to this initiative, including the Reference Model for Business Acceptable Communications developed by David Bearman, the work on document templates at the University of British Columbia, and various national and international standards for archival description. But Australians have a valuable continuum-based contribution to make in this area, particularly through standardisation, codification and integration of existing metadata schemes, such as those used in registry systems, automated records management packages and the Australian series system.

Generic core sets of metadata

We also need to monitor closely and influence international initiatives to develop standard universal sets of metadata elements. This is essential to ensure that the development of any core set of metadata elements takes into account recordkeeping requirements.

Initiatives like the Dublin Core and the Warwick Framework aim to establish generic metadata sets and cross-sectoral frameworks in which generic and sector- specific sets can be applied. The Dublin Core, for example, provides a minimal set of 15 metadata elements or descriptors to be applied to all DIOs on the Internet. This core set is designed to be embedded or persistently linked to document-like objects on the Internet, and is aimed specifically at improving search capability. It is also deliberately designed to be 'extensible', ie each of its 15 elements can be extended by adopting a specialised set of metadata elements to provide more information about the DIO, eg the basic subject descriptor in the Dublin Core could be enhanced by using Library of Congress-like subject headings, or a functional classification descriptor from a recordkeeping metadata specification, provided these were standardised in such a way that they were interoperable with the Dublin Core specification.

Information locator and filtering initiatives

We also need to find ways to work collaboratively within the recordkeeping community in Australia to monitor and contribute to initiatives in relation to information locator and filtering systems, for example AusGILS and PICS.

Information locator systems provide knowledge structures for representing and locating information resources, while information filtering systems enable filtering in or out of information at the point of receipt.

The AusGILS initiative stems from the work of the Commonwealth Government's Information Management Steering Committee (chaired by Eric Wainwright of the National Library) and its Information Technology Task Force (chaired by Dagmar Parer of Australian Archives). AusGILS, modelled on the US Government's system, would provide knowledge structures for representing and locating information resources in government. Recommendations of the IMSC relating to AusGILS propose that Australian Archives be the lead agency in developing the metadata specifications for AusGILS. If the project proceeds, it will have far- reaching implications for the wider information and recordkeeping community in both the government and private sector, and input will be needed from that constituency.

PICS (Platform for Internet Content Selection) is an example of a system for filtering information or web sites in or out at the point of reception. It is being developed by the W3 Consortium. Although initially conceived as a censorship tool, the system and related research can equally well support discriminating information discovery, privacy protection, information authentication, and intellectual property right regulation. In PICS-like initiatives, filtering is based on labelling information resources (labels may be embedded, transmitted with the object or provided by a third party), and metadata standards will be essential to the development of labelling schema.

Conclusion

Building partnerships and collaborative work in all of the areas referenced above has and will contribute to:

- improving access through common user interfaces to records of action in networked environments for government, commercial, social accountability and cultural purposes, contemporaneously and over time
- underpinning government information goals relating to the visibility and accessibility of government information to support citizens' rights and entitlements, accountable public administration and democracy
- supporting electronic commerce
- assuring the authenticity, reliability, quality, and persistence of records in networked environments for as long as required
- resolving terms and conditions of access, and disposition for records in networked environments.

Such action also enables us to share our expertise in relation to issues of information resource integrity, authenticity, reliability, transparency and persistence with the broader information, corporate and democratic accountability and cultural heritage communities.

Records continuum thinking supports the view that the realisation of the kind of visionary goals outlined above is dependent on us working together under the recordkeeping umbrella. In this way we can bring current, historical and regulatory perspectives to bear on the continuum of responsibility for recordkeeping in our society, building on yesterday and today towards a shared tomorrow.

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