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The objects of the Association shall be:

i. To foster the care, preservation and proper use of archives and records, both public and private, and their effective administration.

ii. To arouse public awareness of the importance of records and archives and in all matters affecting their preservation and use, and to cooperate or affiliate with any other bodies in New Zealand or elsewhere with like objects.

iii. To promote the training of archivists, records keepers, curators, librarians and others by the dissemination of specialised knowledge and by encouraging the provision of adequate training in the administration and conservation of archives and records.

iv. To encourage research into problems connected with the use, administration and conservation of archives and records and to promote the publication of the results of this research.

v. To promote the standing of archives institutions.

vi. To advise and support the establishment of archives services throughout New Zealand.

vii. To publish a journal at least once a year and other publications in furtherance of these objects.

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ARCHIFACTS

Published by the
Archives
and Records
Association
of New Zealand

April 2006
ARCHIFACTS

Editor: Kevin Molloy

Editorial Committee: Philippa Tucker
John Roberts

Reviews Editor: Stuart Strachan

Archifacts is published twice-yearly, in April and October.

Articles and correspondence should be addressed to the Editor at:

PO Box 11-553
Wellington

Or submitted electronically to the Archifacts Editor, via the Archives and Records Association of New Zealand (ARANZ) home page:


Intending contributors can obtain style guidelines at the above site.

Printed by McKenzie Thornton Cooper Ltd, Wellington.

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ISSN 0303-7940
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Editorial

In keeping with our editorial policy of publishing on a range of questions of interest to the archive and recordkeeping community in New Zealand the following issue of Archifacts explores a diverse number of topics our readers are sure to find of interest: this includes information security and recordkeeping; the management of archival resources after a major disaster; endangered archives in the Pacific region; the implementation of Electronic Document and Records Management Systems, and concerns surrounding constitutional rights, the creation, maintenance and accessibility of records, the accountabilities conferred by the existence of a public record, and what can happen when that record does not exist, or is not accessible.

We open this issue with Adam Stapleton's exploration of the nature of recordkeeping research and its relation to research on information security. Focusing on recordkeeping, with its big-picture, theoretical, and long-term agendas, and information security, with its day-to-day concerns often managed in a case-driven way, this article asks the very pertinent question of whether both practices are in fact cognate disciplines with much in common and much to gain from an understanding of the research practices of the other. Stapleton concludes that certain emerging information security technologies have the potential to become accepted alternatives to electronic recordkeeping systems.

In "After the Flood: Records Management in a Small Island Community," Dawn Routledge of the Cayman Islands National Archive looks at the case of the Caymans, the crucial role of the National Archives, and how those islands managed after the passing of hurricane Ivan in September 2004. Focusing on the day-to-day interaction of the individual and the state in such areas as rebuilding a home or business, getting married, citizenship, the right to vote, and even buying a headstone, Routledge illustrates that the potential loss of records documenting rights, relationships and entitlements, can have a major impact in a post-disaster world, inhibiting full recovery.

In 2005 Wanganui District Council Archives and Records Manager Richard Overy, together with Ewan Maidment of the Pacific Manuscripts Bureau (PMB), undertook a major archives copying project on the Islands of Tuvalu in the South Pacific. In his article, the "Tuvalu Endangered Archives Pilot Project," Overy takes the
reader through the project, with its aim to document the cultural and political heritage of Tuvalu held by the National Library and Archives of Tuvalu, and so safeguard this heritage in a cyclone-prone area of the Pacific.

In March 2006 Jeremy Pope, former Director of the Commonwealth Secretariat and founding Managing Director of Transparency International, Berlin, gave the Archives and Records Association of New Zealand Annual Lecture. Entitled "No Records, No Rights, No Accountability," Pope, drawing upon an array of examples on the management and mismanagement of the public record in a range of countries, concludes that the role of the chief archivist, in many jurisdictions, is now increasingly seen as holding one of the keys to constitutional accountability.

In the wake of the introduction of the Public Records Act 2005 this issue covers Matt O'Mara's timely checklist for organisations considering implementing an electronic document and records management system (EDRMS).

As usual the editorial committee welcomes articles and reviews on a range of archive, recordkeeping and preservation issues, and accepts feedback or commentary on any related matters.

Kevin Molloy
Cross-town Traffic: A Case for Recordkeeping to Learn from its Information Security Cognate

Adam Stapleton

State Services Commission

Introduction
This article provides an 'outside in' view of the recordkeeping profession. It draws on my recent experience working closely with a range of government information security specialists to manage the development of a suite of interoperability standards for the State Services Commission. This 'outside in' view explores recordkeeping research reported in the North American and Australian archival communities' literatures and concludes that recordkeeping could benefit by adapting approaches from cognate disciplines. It further argues that recordkeeping and information security are cognate information management disciplines and that recordkeeping should adapt the technologies pervasively deployed by information security professionals. These technologies are briefly explored, with particular emphasis on cryptographic-based techniques, including emergent Trusted Computing initiatives. The relevance of these technologies to recordkeeping is shown, as is their potential to become accepted alternatives to electronic recordkeeping systems.

This article assumes that readers are familiar with the concepts of the custodial and post-custodial paradigms. The use of the term cognate in the title of the article is intended to imply that recordkeeping and information security are, despite their outward appearance, related disciplines. A sense of this article's stance is evoked by the observation that:

There is of course the normal process by which different areas of academic study insulate themselves from each other by cultivating distinctive vocabularies, journals and professional networks. This process inhibits all cross-disciplinary enterprises by discouraging both outward bound and incoming traffic.
The point here is that professions, like areas of academic study, typically do not have a rich interchange of ideas with allied or cognate disciplines.

Part One: Recordkeeping Systems Research
For many archivists, research on electronic recordkeeping is synonymous with two large research projects, the University of Pittsburgh's Functional Requirements for Evidence in Recordkeeping and the University of British Columbia's Preservation of the Integrity of Electronic Records. The Pittsburgh research, carried out between 1993 and 1996, investigated the integrity of electronic records. Building on this research, a small number of implementation projects were established by academic and governmental bodies in both North America and Australia. Standards and other forms of best practice guidance were also developed by a range of standards organisations, archival institutions, and various professional bodies. Since journal articles deriving from or critiquing the Pittsburgh and the British Columbia research dominate the North American and Australian archival communities' electronic records literature, the assumptions, research methodologies and key findings of these projects will be briefly described and critiqued below.

The Pittsburgh Research
The Pittsburgh research attempted to test six hypotheses relating to electronic recordkeeping by developing a set of functional requirements for recordkeeping systems. The research methodology employed by the project team was inductive. The team undertook a literature review to identify instances of recordkeeping mandates or warrants. Based on this research, together with extensive consultation with practitioners, a set of recordkeeping requirements was developed. These requirements were then expressed using a modelling technique which allowed them to be tested. The requirements were also expressed as a metadata schema. Finally, researchers carried out qualitative research to identify the degree to which each of David Bearman's tactics for ensuring that electronic records are appropriately created and managed could satisfy the requirements. Briefly, the functional requirements were:

- Organisations must comply with recordkeeping mandates (conscientious);
- Recordkeeping systems must be accountable;
- Records must be captured;
- Records must be maintained; and
- Records must be usable.

The University of British Columbia Research

The research based at University of British Columbia (UBC), *The Preservation of the Integrity of Electronic Records*, investigated requirements for creating, handling and preserving reliable and authentic electronic records. The research methodology employed by the research team was deductive. The research team defined its key terms - record, reliability and authenticity - and their attributes from the theories of diplomatics (analyses of individual documents) and archival science (analyses of aggregations of documents). A modelling language was used to represent the attributes of the key terms so that system designers could comprehend it, and a series of hypotheses were then developed, one for each of the necessary and sufficient components of a reliable and authentic record.

The final product of the project was a set of functional requirements, which, if built into a recordkeeping system, would ensure that records were reliable and authentic. Briefly, the functional requirements were to:

- Embed recordkeeping rules within business processes;
- Capture the archival bond (document-document, document-creator, etc., relationships);
- Be media independent;
- Separate management and preservation into an active (active records) and inactive (archival or inactive records) domain;
- Recognise that the active domain focuses on individual documents and the inactive domain focuses on aggregates of documents; and
- Allocate long-term responsibility for authenticity and reliability to the inactive domain.

*InterPARES2*, a follow-up project, is expected to be completed in 2006.

Critique of Pittsburgh and British Columbia Research

Although the Pittsburgh and UBC research projects had similar goals - to identify the requirements for reliability in electronic recordkeeping - the research methodology employed by each team was different. This difference in research methodology is most apparent in the way each project developed its functional requirements - the Pittsburgh research began by developing a set of functional requirements whereas the UBC research ended with a set of functional requirements. Yet,
the most significant point of difference between the two projects is their underlying assumptions. The UBC team assumed, as per the traditional or custodial paradigm, that responsibility for the creation and maintenance of electronic records prior to their acquisition by an archival repository does not lie with the archival community. In contrast, the Pittsburgh project aligned itself with the post-custodial paradigm by assuming that the archival community has a role in the creation and management of records prior to their acquisition.

Although the research and conclusions of both projects were valid within their own set of assumptions, the fact that the underpinning assumptions of the two projects were radically different makes meaningful comparison between them difficult.18 With this important distinction in mind, it should be noted that both projects are examples of pure research whose conclusions offered theories about the characteristics of reliable electronic records. That is, the research did not produce immediately implementable, or off-the-shelf, recordkeeping solutions.19

A further key conceptual difference is the transaction-centric definition of a record used by the Pittsburgh research.20 This definition is based on the post-custodial paradigm and differs from the record or object-centric approach taken by the UBC research.

One of the criticisms of the Pittsburgh research was that organisational culture, although tangentially recognised, was not explored in any great detail.21 This research was also criticised because two of its key players, Richard Cox and David Bearman, also helped shape the research agenda of the research project's funding body, the National Historical Publications and Records Commission (NHPRC).22 Such conflicts of interest have tended to bring into question the integrity of research.23

Subsequent Research and Developments in North America
Following on from the UBC and Pittsburgh research, a number of subsequent research projects attempted to test the hypotheses of the UBC and Pittsburgh research by piloting implementations of various aspects of the research. A brief analysis of three key projects (Indiana University, New York State Center for Technology in Government, and the United States Department of Defence) follows.

Indiana University conducted a pilot project to implement and test the functional requirements developed by the Pittsburgh research.24 The Indiana research employed modern structured analysis, a modelling technique used by business analysts in the information technology profession, to identify recordkeeping requirements from
an analysis of business functions and processes.\textsuperscript{25} The research concluded that the Pittsburgh specifications were generally applicable and that the modelling technique was far superior to traditional archival methods.

The New York State Center for Technology in Government investigated practical ways of incorporating the various sets of theoretical functional requirements for electronic records into business re-engineering methodologies.\textsuperscript{26} The research produced a simplified set of functional requirements for electronic records and an analytical tool, the Records Requirements Analysis and Implementation Tool (RRAIT), for identifying those requirements within a specific organisational context. Their major research findings, based on their use of the RRAIT, were that: focusing on business processes enabled professionals from cognate disciplines to work together; the functional requirements supported business outcomes as well as recordkeeping outcomes; and the methodology ensured that long-term accessibility issues were considered.

The United States Department of Defence incorporated concepts from the UBC research in its work in developing its \textit{Standard for Electronic Records Management Software Applications} (DoD 5012.2-STD).\textsuperscript{27} The Standard was released in 1997 and a second version released in June 2002.\textsuperscript{28} The taskforce that developed the Standard also drew upon the Pittsburgh research and, like the Indiana research, found that the Pittsburgh research's theoretical functional requirements were simplified in practice.\textsuperscript{29}

These pilot projects demonstrated the need to simplify and reduce the theoretical requirements developed by the UBC and Pittsburgh research.\textsuperscript{30} They also demonstrated that there is no single strategy for designing and implementing recordkeeping systems that will work for all situations, and, therefore, each implementation will need to develop a unique strategy.\textsuperscript{31} With this point in mind, it should be stressed that, despite the different assumptions underlying the two research projects, the relatively untested nature of their theoretical conclusions implies that practitioners need not commit irrevocably to one or other model but should experiment with a combination of strategies best suited to their situation.\textsuperscript{32}

\textbf{Developments in Australia}

The Pittsburgh research has exerted a strong influence on the development of recordkeeping tools in Australia. For example, the \textit{Australian Standard on Records Management} incorporated concepts from the Pittsburgh research relating to the authenticity
of electronic records.\textsuperscript{11} Both the \textit{Australian Standard on Records Management} and the Pittsburgh research formed the basis of the 2000 Council of Federal, State and Territory Archives' policy statement on \textit{Principles on Full and Accurate Records}.\textsuperscript{14} In addition, to these Australian developments, the 2001 \textit{International Standard on Records Management}, although having a much narrower scope by applying only to records management rather than archives and records management, is largely based on the \textit{Australian Standard on Records Management}.\textsuperscript{35}

Australian archival institutions have generally been quick to pick up on the opportunities presented by the post-custodial paradigm. In 1995 the then Australian Archives (now National Archives of Australia) incorporated post-custodial elements in its strategy for managing electronic records.\textsuperscript{36} The strategy explicitly stated that archival concerns begin from system design and point of creation rather than from the time when records cease to be of use to a creating agency. Similar considerations were also articulated by the then Archives Authority of New South Wales (now State Records New South Wales) during 1995.\textsuperscript{37} In 2001 both institutions jointly developed a methodology for designing and implementing electronic recordkeeping systems (DIRKS).\textsuperscript{38} The National Archives of Australia re-issued the methodology in 2003 as \textit{The DIRKS Manual: A Strategic Approach to Managing Business Information}.\textsuperscript{39}

Research undertaken by Monash University, drawing upon the Pittsburgh and UBC research, developed a conceptual recordkeeping metadata schema which acts as a framework for comparing metadata sets.\textsuperscript{40} Based on this research, the National Archives of Australia issued its \textit{Recordkeeping Metadata Standard for Commonwealth Agencies} in 1999.\textsuperscript{41} State Records New South Wales issued a much more comprehensive metadata standard, the \textit{New South Wales Recordkeeping Metadata Standard}, in 2001.\textsuperscript{42} More recently, a Monash University research project investigating the reuse of recordkeeping metadata commenced.\textsuperscript{43}

In 1999, the Public Records Office of Victoria issued its strategy for managing electronic records, the \textit{Victorian Electronic Records Strategy}.\textsuperscript{44} Drawing on the Pittsburgh research and incorporating the National Archives of Australia's \textit{Recordkeeping Metadata Standard for Commonwealth Agencies}, the Public Records Office of Victoria also published its 1999 \textit{Standard for the Management of Electronic Records}.\textsuperscript{45} This Standard differs from many other Australian initiatives because it is an implementation specification, as opposed to a set of high-level or generic specifications. It also supported its Standard by
collaborating with an agency, the Victorian government's Department of Infrastructure, to implement the Standard and, as part of its Digital Archive project, is in the process of building a digital repository for storing electronic records created in accordance with the Standard. The National Archives of Australia has developed a range of open-source tools to support the transfer and preservation of electronic records in its digital repository. These tools: convert digital records from their original file formats into preservation file formats, including formats encoded using the human-readable eXtensible Markup Language (XML); capture an audit trail of all digital preservation processes; and link digital objects to their metadata.

In summary, with few exceptions, the literatures of the North American and Australian archival communities suggest that recordkeeping research is characterised by the following themes:

• Scattered - research projects are rarely repeated and/or rarely build upon one another;
• Theoretical - most research is theoretical, producing little in the way of credible guidance for practitioners;
• Introverted - there is a marked absence of findings from cognate disciplines; and
• Impractical - research outcomes can rarely be implemented within existing IT development timeframes, methodologies and product cycles, such as rapid application development techniques.

This conclusion is eerily similar to Terry Cook's somewhat gloomy 1997 prognosis:

Despite such admirable progress, implementation of the functional requirements for record-keeping sit still pretty scattered and piecemeal on the world archival scene. For now, and perhaps for as long as the next ten years, Bearman's paradigm of achieving record-keeping and preserving evidence through imbedded software code will not be widely adopted in governments, businesses, universities, and other major corporations . . .

These themes suggest that recordkeepers should adapt approaches from cognate information management disciplines. Part Two of this article argues that information security is a cognate discipline and explores the similarities between the two disciplines.
Part Two: Are Recordkeeping and Information Security Cognate Disciplines?

Recordkeeping and information security are typically regarded as distinct, unrelated disciplines. However, despite this perception, both disciplines are cognate information management disciplines because they are, in essence, concerned with ensuring the integrity of information systems and their data.

Recordkeeping approaches integrity via its traditional descriptive principles of *registraturprinzip* and *provenienzprinzip.* In recent years these principles have been extended by the post-custodial paradigm's promotion of policies and standards that specify recordkeeping functionality and metadata. Information security is also concerned with the integrity of information systems and their data, and also achieves this by encouraging the adoption of policies and standards as part of an 'information security architecture.' A significant point of difference between these two disciplines is the latter's pervasive deployment of a wide range of specialised hardware and software technologies such as firewalls, encryption techniques, authentication mechanisms, and intrusion detection techniques. Such technologies have had only limited application by recordkeepers, most notably for digital preservation.

Although there are differences between the two disciplines, notably the pervasive use of specialised hardware and software technologies in information security, there are enough similarities to suggest that recordkeepers could benefit from adapting these technologies. Precedence for such an assertion can be found in a 1997 article by Margaret Hedstrom in which she urged recordkeepers to adapt approaches from cognate disciplines.

Taking Hedstrom's article as inspiration, similarities between information security and recordkeeping have been distilled from a selection of information security publications. These similarities are briefly explored below.

*Inward-facing*

As with most disciplines, recordkeeping included, information security has developed highly technical and specialised terminology that is largely impenetrable to decision-makers. This makes communicating information security issues to decision-makers extremely difficult. This communication challenge, derived from the technology-focused nature of the discipline, can be seen in the way in which senior information security professionals tend to regard their role as not about technology per se, but about the ability to influence decision-makers:
The hardest part of a CSO's [Chief Security Officer's] job is influencing information security and practices that will be implemented throughout an organization . . . . It's a delicate process, particularly when you're asking an IT or business manager to rethink how they operate. Education is probably the most important strategic tool for a CSO, without a doubt.  

The need to recast discipline-specific terminology in language that decision-makers can understand is reiterated in a briefing to senior IT managers, in which it states that information security professionals must "place themselves in the role of business managers and...be able to translate technically oriented security information into business terms for the enterprise." Even more strongly, that briefing also states that:

It is not enough for security managers to understand the technologies, the specific threat metrics or the buzzwords of the solutions available to address risk. Security managers should elevate their view to define the different levels of security management within the context of the layers of business risk management: people, processes, transactions, applications, IT infrastructure and security devices.

Case studies that illustrate successful information security business cases typically eschew discipline-specific language in preference to illustrating their recommendations using business terms and concepts:

Anytime you're doing something that's essentially an infrastructure project, you have to explain clearly what you're trying to accomplish in business terms.

This recognition of the need to employ business language is also present in the recordkeeping literature. However, recent research suggests that, in practice, recordkeepers are only moderately supportive of the adoption of business language and engagement with high-level or corporate outcomes.

**Invisible**

Like recordkeeping, the intangibility of information security means that it is difficult to measure the value it adds to organisations. As for the insurance industry, the perceived benefit of these disciplines to decision-makers is typically only readily apparent in a time of crisis, such as a natural disaster. This is because decision-makers typically "want quantifiable proof of an ROI [return on investment] before they invest."
The following quote, taken from a strategy planning paper on information security issues intended for senior managers, is suggestive of the range of opportunistic approaches used to overcome the intangibility of information security:

With security spending intentions high, and with increasing threats and regulatory requirements, the next 12 to 18 months promise opportunities for security professionals to leverage executive attention to demonstrate value.\(^{61}\)

Although the need for quantitative techniques for demonstrating ROI is readily accepted within the information security discipline, reliable techniques are only just beginning to emerge and are not widely used.\(^{62}\)

Decision-makers' need for quantifiable measures, such as the ROI metric, is also a factor for recordkeepers. While recordkeepers agree that successful engagement with decision-makers requires demonstration of the benefits of recordkeeping, via real-world tests or implementations in business contexts, they readily acknowledge that the intangible nature of recordkeeping makes such engagement very difficult.\(^{63}\)

**Opportunistic**

Information security is opportunistic in that it has traditionally placed an undue reliance on leveraging crises through the use of fear, uncertainty, and doubt ('FUD') to gain the attention of and persuade decision-makers. For example, information security professionals often justify information security as "cost avoidance, measurable in preventing direct loss."\(^{64}\) The following quote, from an article intended for Chief Information Officers (CIOs), clearly demonstrates this reliance:

No one buys burglar alarms until someone they know is robbed. For that reason, IT relies on, more than anything, fear, uncertainty and doubt to sell security - in other words, FUD. The thinking is, if you scare them, they will spend."\(^{65}\)

This approach is typified in the observation, made by a CIO of a US company, that it is "very easy to get a budget [for security] after a virus hits."\(^{66}\)

An alternative to this opportunistic approach is to leverage the security implications of various audit and regulatory requirements.\(^{67}\) However, the implications of legal requirements do not appear to have significantly impacted on information security professionals' reliance on crises to persuade decision-makers. For example, a 2005 survey on information security suggested that:
The majority of information security executives range from ambivalent (at best) to downright dismissive (at worst) about the intentions, effect and pertinence of security regulations.\footnote{68}

This ambivalence is particularly interesting because there is some evidence to suggest that explicitly documented recordkeeping requirements (the literary warrant) are regarded with similar ambivalence by recordkeepers.\footnote{69}

**Tactical**

Information security often tends to be driven by day-to-day concerns, managing each security incident on a case-by-case basis. For example, data from a 2005 survey on information security suggested that "respondents spend most of their time in reactive mode: responding to incidents, deploying firewalls, and dealing with everyday nuisances like spam and spyware."\footnote{70} This reactive mode suggests that information security is tactical rather than strategic:

> Today, ITSM [IT security management] technology is primarily a reactive one, warning of problems but not initiating corrective action.\footnote{71}

This reliance on *post-hoc* forensic analysis inhibits ability of information security to deal comprehensively with security incidents. For example, in a review of information security, the following conclusion was drawn:

> Each year the data has shown incremental improvement in the tactical battle to react to and fight off security incidents. At the same time, the data shows a notable lack of focus on actions and strategies that could prevent these incidents in the first place. There's also a remarkable ambivalence among respondents about compliance with government regulations, a clear lack of risk management discipline, and a continuing inability to create actionable security intelligence out of mountains of security data.\footnote{72}

Alternative approaches that have a strategic, long-term focus have recently begun to emerge. An example of this is to regard information security as a type of quality assurance activity where security is built into software engineering processes up-front, rather than as a last-minute add-on.\footnote{73} This strategic approach should resonate with recordkeepers since it parallels the attempts by post-custodialists to be involved in building recordkeeping functionality into the design of information management systems.
In summary, recordkeeping and information security are cognate information management disciplines. Moreover, they are both tend to be:

- Inward-facing - focusing on specialised knowledge rather than business drivers;
- Invisible - focusing on behind-the-scenes prevention rather than quantifying intangible benefits;
- Opportunistic - leveraging crises using FUD (fear, uncertainty, and doubt) rather than risk management and external mandates; and
- Tactical - relying on post-hoc forensics rather than strategic approaches.

The key difference, however, is the pervasive deployment of a wide range of specialised hardware and software technologies by information security professionals. To address the deficiencies in recordkeeping research outlined in Part One of this article, recordkeepers should adapt these technologies, thus taking up Margaret Hedstrom's challenge to adapt approaches from cognate disciplines. Part Three, below, outlines these technologies, with particular emphasis on cryptographic-based techniques, including emergent Trusted Computing initiatives.

Part Three: Information Security Technologies

Typical information security architectures incorporate a wide range of technologies, including:

- Firewalls - to enforce access policies between information systems;
- Encryption standards - to enable encryption of data;
- Authentication mechanisms - to manage identity;
- Remote access services - to connect users remotely to networks via the Internet;
- Intrusion detection/response - to monitor network intrusions;
- System logs / audit trails - to record actions and incidents.

Of these technologies, encryption standards and authentication mechanisms are heavily reliant on cryptographic techniques. As the use of the Internet as a channel for conducting business has matured, cryptography has become an increasingly important technology for ensuring that business conducted via the Internet (online) is at least as secure as business conducted in the traditional (offline) manner. For this reason, this article's discussion of information security
technologies focuses on cryptographic techniques, including emergent Trusted Computing initiatives.

Cryptography is the science of designing systems that conceal data in such a way that its meaning is unintelligible to unauthorised persons. From its origins in protecting the confidentiality of messages, the functions of cryptography have expanded to include:

- Confidentiality - assurance that data remains private;
- Data integrity - assurance that data has not been altered;
- Entity Authentication - confirmation of identity;
- Data origin authentication - confirmation of the source of data; and
- Non-repudiation - prevention of denial of content of data and/or identity of originator.

Despite cryptography's complex mathematical basis, the cryptographic-based functions listed above are used in a surprisingly wide range of applications to facilitate the provision of secure Internet services. The common cryptographic techniques used to carry out these functions are: single key systems, public key systems, and hash functions. These techniques are outlined below.

**Single Key Cryptographic Systems**

Single or symmetric key systems involve the use of a single cryptographic key (a computer-generated string of data) to encrypt messages from plaintext (which can be read by anyone) and decrypt ciphertext (which can be read only by those possessing the key). For various reasons, the uses of single key systems in isolation are not particularly useful for transacting via the Internet. Web browsers do, however, employ one of the Secure Sockets Layer (SSL) or Transport Layer Security (TLS) protocols to establish secure communication channels over the Internet when data such as credit card details are exchanged.

The screenshot below depicts the use of the SSL protocol in a web browser, as denoted by the addition of an "s" to the "http" component of the uniform resource location (URL) in the browser's address field.
Public Key Cryptographic Systems

In contrast to single key systems, which have developed over a long period of time, public or asymmetric key systems are relatively modern, only being developed in the early 1970s. Public key systems employ pairs of mathematically related cryptographic keys for encryption and decryption, so that if one of the pair is used to encrypt plaintext, the other decrypts the corresponding ciphertext. Each user is issued with a pair of keys, one of which is kept secret (private key) and the other is made publicly available (public key).

A well-known application of public key systems is the use of digital signatures to ensure non-repudiation (prevention of denial of content of data and/or identity of originator). Digital signatures are used in the New Zealand Government's SEEMail application to ensure the integrity and authentication of e-mail messages sent between government agencies over the Internet. Public key systems such as SEEMail require an infrastructure to ensure that identities are correctly linked to their public keys. These infrastructures, known as Public Key Infrastructures (PKIs), employ one or more Certification Authorities (CAs) to verify identity and issue keys. Despite their potential for securing Internet-based communications, public key systems have only had limited application, largely because of a range of issues that have yet to be adequately resolved, such as scalability of the PKI. In fact, recent analysis concluded: "PKI has not lived up to its hype."
Cryptographic-based Hash Functions

The third cryptographic technique uses hash functions to generate a condensed representative image of data. This image, the hash value or simply hash, can be used to ensure data integrity by providing a method for uniquely identifying a string of data such as a message. Along with public key systems, hash functions are used in digital signatures.

Figure 3. Digital certificate, showing the hash value (in Base64 encoding) of the public key from figure 2, as derived from the SHA-1 algorithm.
Emergent Trusted Computing Initiatives

Using the cryptographic techniques described above, IT hardware and software vendors have, under the rubric of Trusted Computing, developed a range of initiatives to improve information security. Trusted Computing has been described as "a new generation of computing technology...[that addresses] computer security concerns and enable[s] better enforcement of rights over digital content." Trusted Computing technology consists of hardware and software components that are expected to be pervasively deployed on most electronic devices. Two of the larger Trusted Computing projects are Microsoft's Next-Generation Secure Computing Base (NGSCB) and the Trusted Computing Group (TCG), a multi-vendor consortium. In essence, however, all of the Trusted Computing initiatives are part of a single Trusted Computing architecture. Microsoft Corporation's Information Rights Management (IRM) and Adobe Systems Inc.'s Policy Server, discussed below, are examples of the application of Trusted Computing.

One of the features of Trusted Computing is the use of so-called sealed storage that can be used to securely store cryptographic keys to enable the cryptographic functions described above. Criticism of Trusted Computing has, among other areas, identified this use of cryptography to remotely control access to electronic documents as a potential threat to intellectual property rights and personal privacy. Other criticisms of this technology have focused on inaccessibility of data, impermanence of data, and violation of sovereignty.

Microsoft's IRM is a set of PKI-based technologies that enables document-level security for files created by Microsoft Office applications. In essence, IRM's PKI-based infrastructure enables files to be encrypted for confidentiality and digitally signed to enable varying levels of access privileges. Because this approach functions at the document-level, it shifts the focus of information security away from "the traditional storage-location based access control solutions." Although IRM offers the potential for wide dissemination of confidential information while retaining highly "granular" access control, the use of IRM raises a number of issues, notably long-term accessibility of files.

Adobe's Acrobat Reader application also contains the ability, when implemented with Adobe's Policy Server, to provide document-level security - termed "persistent document security" by Adobe - through the use of PKI-based technologies. Its approach involves the use of the cryptographic techniques described above to manage confidentiality, access, audit trails, integrity, data source authentication,
and non-repudiation. One of the curious aspects of Adobe's approach is that it divides document security into two components: document control and digital signatures.\textsuperscript{104} Taken in this light, it is clear that Adobe's approach provides a viable alternative to many of the features of today's electronic recordkeeping systems, but at the document level, rather than at higher levels of aggregation as provided for by electronic recordkeeping systems.

The Trusted Computing initiatives are particularly relevant to recordkeepers because they have the potential to become accepted alternatives to electronic recordkeeping systems. Given the investment made by recordkeepers over the last ten years to specify recordkeeping systems functionality and to work with vendors to ensure this functionality is built into document management systems, these Trusted Computing initiatives pose a challenge to the approach promoted by recordkeepers.\textsuperscript{105}

As an aid to understanding how these cryptographic-based technologies, including emergent Trusted Computing initiatives, can be applied by recordkeepers, the figure below maps these technologies to the axes of Frank Upward's Records Continuum Model at the Create dimension (dimension one). For ease of comparison, well-known components of the Australian 'series system' are mapped to the axes at the Organise dimension (dimension three). The figure suggests that: digital signatures and PKI could be used to support the identity management requirements for individual actors carrying out recordkeeping activities; management of archival documents could be enabled by Trusted Computing-based applications (Microsoft's IRM, Adobe's Policy Server), the Trusted Computing architecture, and hash functions; and individual transactions could be secured by SSL- or TLS-enabled web browsing.
Figure 4. Mapping of cryptographic-based technologies to the Records Continuum Model.

In summary, information security technologies such as cryptographic-based techniques, particularly the emergent Trusted Computing initiatives that offer document-level security, have the potential to become accepted alternatives to electronic recordkeeping systems. While this could be considered as a threat to recordkeepers, it should be recalled that these technologies are, in and of themselves, neutral. That is, they can be used to support a range of agendas, including recordkeeping. In fact, a post-custodial analysis of these emergent Trusted Computing initiatives might perceive them as offering the potential to realise David Bearman's notion of the Metadata Encapsulated Object (MEO) that exists independently of any particular network. Notwithstanding this potentially unorthodox view, the point of this article is to argue, as per Margaret Hedstrom, that techniques from cognate disciplines such as information security are highly relevant to recordkeepers because they can be used to solve a range of electronic recordkeeping problems. For example, the Public Records Office of Victoria incorporates a digital signature.
within its VEO file format to ensure integrity. Closer to home, Quest Software's AfterMail, the New Zealand-developed email management solution, uses a particularly innovative use of hash functions to uniquely identify emails and documents.

**Conclusion**

The analysis of the literatures of the North American and Australian archival communities in Part One of this article concluded that recordkeeping research is scattered, theoretical, introverted, and impractical. Moreover, it found that, in addressing these research deficiencies, recordkeepers should adapt approaches from cognate information management disciplines.

The comparison of recordkeeping and information security in Part Two concluded that recordkeeping and information security are cognate disciplines, and that they both tend to be inward-facing, invisible, opportunistic, and tactical. The key difference, however, is pervasive deployment of a wide range of specialised hardware and software technologies by information security professionals. It is these technologies that recordkeepers should adapt to address the deficiencies in recordkeeping research.

The brief outline of these technologies in Part Three focused on cryptographic-based techniques, including emergent Trusted Computing initiatives. These technologies are highly relevant to recordkeepers because they can be used to solve a range of electronic recordkeeping problems. Notwithstanding their application by recordkeepers, these technologies, particularly emergent Trusted Computing initiatives that offer document-level security, have the potential to become accepted alternatives to electronic recordkeeping systems. They also have the potential to realise David Bearman's post-custodial notion of the Metadata Encapsulated Object (MEO).

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1 An embryonic presentation of the ideas in this article was given by the author in Wellington, New Zealand at the RMAA's July 2006 seminar "Don't you know how marketable you are?"

2 The views expressed in this article do not represent the views of the State Services Commission.


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6 While the Pittsburgh research has also influenced the development of recordkeeping tools in New Zealand, this article does not describe these because the tools developed in New Zealand to date are adaptations of tools developed by other jurisdictions. For an overview of electronic recordkeeping developments in New Zealand, with particular emphasis on the New Zealand State sector, see A. Stapleton, From Icons To Ideas: Diffusion Of The Post-Custodial Paradigm Within The New Zealand State Sector, unpublished MA Thesis, Victoria University of Wellington, 2004, 43-47.

7 Ibid., 46-47.


12 There are actually thirteen requirements distributed across five classes. For the sake of clarity, only the five classes have been shown. Ironically, the website for the Pittsburgh research is now only available via the Internet Archive as its website files were inadvertently destroyed, thus (if this website were regarded as a recordkeeping system) contravening requirement 9a (inviolate).


21 Hedstrom, "Building Record-Keeping Systems," 49.

22 Ibid., 47.


29 Hedstrom, "Building Record-Keeping Systems," 53.

30 Ibid., 54.

31 Ibid., 63.


37 Ibid., 306-07.


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49 For a brief introduction to the evolution of these principles, see Stapleton, "Continuum in Context," 22-28.

50 An example of this standards-based approach is the International Standards Organisation’s *Standard on Records Management* (ISO 15489).


52 Lindner, *Information Security Primer*.


56 Ibid., 8.


59 Stapleton, *From Icons to Ideas*, 117.


62 Berinato, *Finally a Real Return on Security Spending*, 1.

63 Stapleton, *From Icons to Ideas*, 81.


65 Berinato, *Finally a Real Return on Security Spending*, 3.

66 Ibid., 3.


69 Stapleton, *From Icons to Ideas*, 122. The concept of the literary warrant is described in footnote 8.
73 Berinato, *Finally a Real Return on Security Spending*, 5-7.
76 Ibid., 7-8.
77 These definitions are paraphrased from Piper and Murphy, *Cryptography: A Very Short Introduction*, 87.
78 Ibid., 125.
80 Ibid., 3. Single key cryptographic systems have two security weaknesses that make them difficult to use for transacting via the Internet: shared key risk and key distribution. Shared key risk is the need for each party to a transaction to trust that the other will keep secret the shared cryptographic key. Key distribution is the need to securely deliver the shared cryptographic key to each party to a transaction. Because transactions via the Internet typically consist of parties that have not established a trusted relationship and do not have access to a secure delivery mechanism, single key cryptographic systems are difficult to use for transacting via the Internet. As outlined in endnotes 81 and 87, single key cryptographic systems are often used in combination with other common cryptographic techniques, such as public key cryptographic systems and hash functions.
81 Piper and Murphy, *Cryptography: A Very Short Introduction*, 130-31. This application of a single-key system is, in fact, an example to hybrid key management, where single-key and public-key systems are used in conjunction.
82 Screenshot of the author's web browser displaying one of the shipping and payment pages from the amazon.com website (www.amazon.com).
85 C. Merrill, *The Internet and Business*, 3.
86 Piper and Murphy, *Cryptography: A Very Short Introduction*, 97. Because the use of public key systems necessitates high levels of computer processing, digital signatures also employ hash functions to reduce the "processing overhead."
87 State Services Commission, *SEEMail - FAQs*, (2006). www.e.govt.nz [Accessed 9 March 2006]. SEEMail is actually a hybrid system in that it also uses symmetric keys (single-key systems) to ensure confidentiality. Its use of digital signatures incorporates hash functions, another cryptographic technique. Another example of the use of public key systems is the New Zealand electronic passport. The electronic passport consists of a contactless integrated computer (IC) chip, containing the passport holder's biometric data, which is embedded with the passport book. The data on the IC chip is encrypted and digitally signed using the Department of Internal Affairs' PKI. See Department of Internal Affairs, *The New Zealand Passport: A Case Study in the Use of Biometrics and Technology*, unpublished
powerpoint slides presented at the Biometrics Institute's New Zealand Conference and Exhibition, Wellington, 10 March 2006.


89 Ibid., 103.


91 Screenshot of a dialogue box displaying a public certificate generated by the New Zealand Government Certificate Server. This public certificate was generated for this article in order to illustrate the concepts of public keys and hash functions. It has since been revoked. Details of all public certificates generated by the New Zealand Government Certificate Server are publicly available from http://ca.see.govt.nz.

92 Piper and Murphy, *Cryptography: A Very Short Introduction*, 87-88. The hash value is also referred to as a digital fingerprint or message digest. Data integrity can also be ensured through the use of techniques other than hash functions, such as checksums. A commonly employed example of this is the use of a parity check to protect against accidental data corruption. Hash functions do not necessarily employ cryptography.

93 See footnotes 86 and 87.

94 Screenshot of a dialogue box displaying a public certificate generated by the New Zealand Government Certificate Server. This public certificate was generated for this article in order to illustrate the concepts of public keys and hash functions. It has since been revoked. Details of all public certificates generated by the New Zealand Government Certificate Server are publicly available from http://ca.see.govt.nz.


96 Ibid., 2.

97 Ibid., 3.


102 Ibid., 33.


104 Ibid., 4-5.

105 For example, see Archives New Zealand, *Electronic Recordkeeping Systems Standard* (Wellington: Archives New Zealand, 2005). This Standard is itself based on the European Commission's *Model Requirements for the Management of Electronic Records: 'MoREQ' specification*. 'MoREQ,' in turn, is itself based on the University of Pittsburgh's *Functional Requirements for Evidence in Recordkeeping* project.


After the Flood: 
Records Management in a 
Small Island Community

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In the Caribbean hurricanes are a regular occurrence. Each time it is largely the same story - terrible human tragedy, enormous economic costs, alongside extensive damage to records including an unquantifiable loss of personal records. In September 2004 Hurricane Ivan, the sixth strongest storm in Atlantic history, blew through the Cayman Islands in the North West Caribbean. This paper asks questions about the impact of the disaster on the records of the Cayman Islands, its people and its government. It asks what happened, why it happened and what can be done to minimise the chances of the effects being felt to the same extent again. One year on, with the benefit of hindsight, the effects on records and on the Government's fledgling records management programme can be evaluated and lessons learnt for the future.

For those on Grand Cayman, it seemed like life stopped on September 11th 2004. Hurricane Ivan blew through the tiny island, only 80 square miles (128 square km), bringing with it battering waves, winds gusting at well over 150mph (240kph) and a massive storm surge that partially submerged the tiny island. This was always going to be a bad day in paradise.

In the Caribbean hurricanes are a regular occurrence. The images of the devastation in New Orleans following Hurricane Katrina are a potent reminder of this, also this year Cuba and Mexico suffered direct hits from Hurricanes Dennis and Emily respectively. And only

* This paper was first presented at the joint Australian Society of Archivists/Archives and Records Association of New Zealand "Archives and Community Conference," Wellington, New Zealand, October 2005.
last year Grenada, Haiti, the Cayman Islands and Florida were all badly affected by hurricanes in the worst Atlantic hurricane season since records began. Each time it is largely the same story - terrible human tragedy, enormous economic costs, alongside extensive damage to records including an unquantifiable loss of personal records.

But why does it matter if you have lost your records? If you have lost your home and all your worldly goods, would you be worried about records? We all know it does matter and I don't think anyone here would argue with me on that. This afternoon I want to explore why it matters, and why it mattered in Cayman; and, one year on, what can be learnt from the effects of Hurricane Ivan in the Cayman Islands.

Because of its location in the North West Caribbean, hurricanes are a relatively rare event for Cayman. They go left, right, and around but not since 1932 has there been a direct hit. The effects of Ivan were enormous. The economic cost to the Cayman Islands has been estimated at US$3.4 billion by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC); with a population of only 40,000 this is one of the most expensive disasters on record. If you had asked me on September 12th, gazing out at a lake of water around the National Archive building, with a metre of water inside the Records Centre and with stories from across the island of flooded offices, damaged buildings and homeless families, I would have said this was it, a records disaster beyond recovery, with incalculable costs for the government and the community.

This paper asks questions about the impact of the disaster on the records of the Cayman Islands, its people and its government. It asks what happened, why it happened and what can be done to minimise the chances of the effects being felt to the same extent again.

**Why Do Records Matter in a Post-disaster Situation?**

One of the difficulties faced after a major disaster is securing support for records recovery. This is evident in news reports coming out of New Orleans, and it was the case in Cayman after Hurricane Ivan. Salvaging records does not come easily to mind as a priority for recovery; human life, law and order, economic recovery are, quite rightly, the priorities. But an important part of economic recovery is recovering records that document rights and entitlements, and also that document the heritage and culture of the community. This has been reiterated by Allan Weinstein, Archivist of the United States:

> The potential loss of information that directly affects the lives of people in these states is staggering. The loss of our collective
memory in this region, 'identity loss' in other words, is at stake. Property deeds; birth certificates; personal papers; information documenting the rights and entitlements of citizens, such as social security and veterans benefits, are all at risk.

The evidence from experiences in Cayman overwhelmingly supports the position that records do matter. It is illustrated by the changing interpretation of homelessness on the island. Homeless figures continued to rise and fall in surveys after Ivan as people's status changed, they moved in with friends or found apartments to rent. But the sense of homelessness was not confined to bricks and mortar. As Colin Ross, Head of Personnel, explained in an interview for the Archive's oral history programme:

They'd lost their furniture, but more importantly, they'd lost their personal belongings; wedding albums, pictures of children growing up and so on, and they defined that as 'homeless.'

The loss of the records that give a sense of who we are was equated by some to a very personal sense of homelessness and dislocation.

Stories from Hurricane Ivan

The impact of the loss of records following Ivan was extensive as the following stories illustrate. The stories give a human face to familiar concepts of citizens' rights, accountability and the documenting of rights and entitlements.

Rebuilding your home or business

Individuals seeking planning permission to rebuild their homes as a first step to rebuilding their shattered lives faced delays and confusion as their original planning applications were frozen after suffering damage from flooding. As a result of the hurricane, 83% of the buildings on Grand Cayman had some damage according to ECLAC; of that figure 70% were classed as being severely damaged, and 30% of residents were uninsured. For rebuilding purposes many people needed to provide evidence that they had previously had planning permission, as changes to building regulations meant that, unless previously authorised, building had to be a prescribed distance from the shoreline. The sailing club wanted to rebuild their premises and provide sailing lessons for children living on the island. Many children were in the stressful position of being without a proper home, coping without running water or power, and without familiar routines as many schools remained closed or only partially operational for some months after Ivan. The original planning file that the Department of
Planning needed, to approve their application, had been stored in the Records Centre. The file was damaged by flooding and was frozen awaiting restoration. So either the sailing club had to wait for six months whilst the records were recovered or the Planning Department had to proceed without the evidence of previous decisions.

**Getting married**

If people wish to remarry following divorce, they have to be able to prove that they are legally free to marry. Individuals who have lost their divorce certificate seek assistance via the original court records to provide the necessary proof. Since Ivan there have been a number of people who are unable to remarry because they can't prove they are divorced. Both civil and criminal court records were extensively damaged by flooding. Three hundred and seventy-four boxes, mostly of case records, e.g. divorce files, probate records, criminal cases and traffic offences, were frozen following the storm and nearly 600 boxes of records were removed from their storage location because they were deemed to be at high risk from prolonged exposure to high humidity caused by sitting on shelves just above the waterline. This involved nearly 1200 cubic feet of records. The impact of this on criminal cases that were ongoing can only be imagined.

**Becoming a citizen**

The vital records of the Department of Internal and External Affairs included applications by people for the ongoing right to be “Caymanian,” called “Status,” for permanent residency and for naturalisation as a citizen of a British Overseas Territory. Even though these records were amongst the first to be frozen and therefore stabilised, and amongst the first to be vacuum-dried, it was not until January that they could be returned to the Department. In the batches of applications were those that had been granted, those that had been denied, and those that were pending. Original supporting documents were appended to the applications. For three months the applicants did not know the outcome of their application. When the records were returned and inspected, it was discovered that whilst the paper applications had survived, the signed and verified photographs were badly damaged and had also become detached from the applications and it was impossible to determine which photograph went with which application. For many this delay meant that they were unable to travel, as they might not be allowed back onto the island. It also meant that for many they had to submit new applications, with all the delays and costs that that entails in collecting together the relevant information. Anyone who has applied for a visa will have some sympathy.
Exercising the right to vote

An election was planned for May 2005, postponed from the previous November, and applicants who were naturalised would be eligible to vote in this election. However, the electoral register closed in January. Staff from the Department of Internal and External Affairs spent an afternoon at the Archive sifting through the wreckage of the dried-out applications to establish which had been approved and therefore who should rightly and properly be added to the voters list, a very important issue in an island of around 11,000 voters, in a country with only one tier of government, elections every four years, and where the election invariably resulted in a change in government.

Keeping your civil servants happy

The Personnel function in Government is highly centralised, and personnel records of civil servants are maintained by a central Personnel Department. In accordance with the disaster planning rules and at the encouragement of the National Archive, all personnel files were transferred from the Government Administration Building, known locally as the Glass House and not a building that was expected to survive a direct hit from even a small hurricane, never mind the sixth largest storm in Atlantic history, to the National Archive to weather the storm. With over a metre of water in the Government Records Centre at the height of the flooding, the personnel records were amongst the records that were extensively damaged. Of 150 boxes of records, 117 were soaked with dirty water. In a particularly cruel twist of fate, the file room where they were usually kept at the Glass House was untouched.

In the event of a national emergency like Ivan, civil servants are required to stay on the island to assist with rebuilding and recovery, even if their usual jobs are suspended. Many civil servants lost their homes or personal belongings so were operating in difficult circumstances. Maintaining morale in this situation was important and the Head of Personnel, as part of this, was keen to emphasise that personnel records, and therefore information about staff entitlements, were secure and even made radio announcements to this effect before he was made aware of the situation on the ground. Everyone was tuning in to Radio Cayman to hear updates on where and when water trucks would be visiting their neighbourhood, updates on the curfew that was in place, instructions on which government and private sector services were open and at what times, so the whole island would have been listening to that announcement.

Despite being a recovery priority, because of the delay whilst vacuum-drying facilities were brought to the island, these vital
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Records were not returned to the department for several months. As a result of this, delays in services included the processing of contract renewals, establishing pension rights and beneficiaries and confirming promotions. In my own experience, I had difficulties establishing my husband's right to stay on the island as a dependant on my work permit. This was a real issue at a time when only Caymanians and work permit holders were allowed to enter the country. Without access to my records, Personnel had to reissue contract and commencement documentation based on unauthorised electronic versions and my own evidence of the date I began work with the Government.

In some ministries, because of damage to payroll records, they were using the previous version of the payroll as the basis for paying staff. This meant that recent starters, and given that Ivan occurred in September this included many teachers, did not get paid for several months.

Buying a headstone

One of the most poignant records stories I am aware of was the attempt by a father to get the money to put a headstone on his son's grave. The Civil Service Association in the Cayman Islands has a financial arm, the Credit Union, which is a co-operative providing savings and loan facilities for civil servants and their families. After the storm the Credit Union transferred over 300 boxes of their records to the National Archive for recovery after damage from flooding. One of their clients was listed as the beneficiary of his son's estate. After the death of his son in an accident, he wanted to settle the account and use the money to buy a headstone to mark his son's grave. However the case dragged on because the file, confirming him as the beneficiary, was frozen. He had to wait for six months until the recovery process for those records had been completed, and the issue was only resolved in September 2005, a full year after Ivan and six months after his son's death.

Maintaining the finance industry

Company registration is a significant part of revenue generation for the Cayman Islands Government, and in an island without direct taxation, maintaining revenue streams through other sources is critical, particularly given growing competition from other tax-free jurisdictions. The financial industry is a major part of the business sector, and Cayman is the fifth largest financial centre in the world with over 600 banks registered on the island. According to Government figures, company registrations occur at an annual rate of approximately 8,000 registrations, and by 2002 over 65,000 companies were registered.
in Cayman. The ECLAC report notes that the level of company registrations did not decline after the storm and cites this as a mark of the efficiency of business response to the disaster; it should perhaps also be seen as a mark of the Government's response as they were at the other end of those transactions. Like many business processes in Cayman company registration is still a paper-based process, with supporting documents and registration documents issued in paper, with processing done by a bespoke electronic business system. But it was sheer luck that the active records of company registration were not destroyed. They were stored in the basement of the Tower Building alongside cadastral records and records of births, marriages and deaths, and they were not removed from this environment for a while after the storm. Luckily they were not flooded despite their harbour-side location; it was records in offices in the building that suffered most damage.

**Documenting one's life**

So far these stories have focused on the relationships of individuals with government or other institutions. A key impact of the storm was the loss of many records that documented relationships with family and friends, records that provided a very personal sense of identity. This was described by the Director of the Water Authority who, when interviewed about her role in Ivan for the National Archive oral history programme, talked about how she felt she had lost her youth with the loss of her records.³ People dealt with this loss in different ways. For example, there was:

- **The Fatalist** - the records are gone and there is nothing you can do about it. Typified by the government employee who when asked about the fate of Government records from the Tower Building on the two-way emergency radio on the day after the storm, was heard to respond “they gone, they on their way to Cozumel [in Mexico] by now.” In actual fact, surprisingly few records were completely destroyed in the Tower Building, despite the damage being so extensive as to result in its eventual demolition.

- **The Pacifist** - trying to salvage what they have left. Many people got in touch with the National Archive and were given advice by our conservators on document restoration, particularly drying out and restoring photographs. Whilst most had protected their vital records - passport, birth certificate, insurance policies - people in the aftermath of the storm were concerned about wedding albums, letters from deceased family members, photos of their parents, pictures of children growing up and many more.
• The Activist - busily reconstructing their lost memories through relatives and friends by obtaining copies of records where possible, usually of photographs.

Learning from Ivan
What are the recordkeeping lessons we can draw from these stories?

• **Paper is the dominant recordkeeping medium in the Cayman public sector.** Where there are business processes supported by electronic systems, the inputs and outputs are still almost exclusively paper. The Cayman Islands passed an Electronic Transactions Act in 2002 which provides for the legal admissibility of electronic records; however, this has had little impact in the public sector. Following the storm many public sector bodies are showing interest in scanning records whilst disposing of the paper, believing that this would put them in a much stronger position should another disaster strike. The central government IT department, Computer Services, is leading a project to purchase and implement a government-wide electronic document management system. The Archive is advising on both the records management and change management realities that need to be in place before this can work. It is the familiar story of seeking a technological solution to a records problem.

• **Poor recordkeeping practices are in evidence throughout the public sector.** Most public sector entities keep swathes of “bag” files containing records with vastly different retention periods. Many agencies have poor control over their existing records, with records being transferred to offsite storage without any idea of what is in the boxes or even where the boxes have ended up. And once there it is “out of sight, out of mind.” Departments that were convinced they had transferred all damaged records to the Archive for recovery often remembered another storage location some months after the fact. We were still receiving records for salvage in February 2005, five months after the storm.

There is almost no control over the disposal of records. The Archive has issued a general disposal schedule for financial records, but no other disposal coverage is in place. So after the storm it was impossible to prioritise records recovery based on records retention requirements. We know that nearly US$3 million has been spent on recovering records that, in the large part, could have been destroyed under a functioning disposal regime. Yet without the appropriate records management tools, the only option was to salvage everything that could be salvaged.
After the Flood

• Inadequate disaster preparedness, particularly at the organisational level. Disaster planning for records operates at two levels in the Cayman Islands government - there is a sub-committee of the overall co-ordinating body, the National Hurricane Committee, that sets the national context and there are rules for each government agency that set out the requirement to prepare a disaster plan that makes provision for protecting vital records in the event of a disaster. Weaknesses at both levels were revealed by Ivan. Given the magnitude of the storm I am not suggesting that better disaster planning would have prevented the records impacts, but there were issues that resulted from failings in the planning process.

Nationally, there was a delay in getting disaster recovery expertise to the island because the Archive's disaster plan had not been recently updated, including contact details for Belfor, the disaster recovery agency with which we have a relationship. Prior pledges of refrigerated space in the freezers at supermarkets could not be honoured - two out of the three island supermarkets were badly damaged by flooding and so had no freezer space. Of the remaining one, their priority was feeding residents, quite understandably at a time when armed guards were patrolling the only operating supermarket. Even when the Archive sourced refrigerated containers from the shipping companies, it was not deemed a priority for the restoration of power so they could not be brought into service at the site for a couple of weeks.

At the organisational level, only 24 of nearly 75 agencies had completed a disaster plan before the start of hurricane season. The main thrust of disaster planning before Ivan had been to identify vital records, to box them up and transfer them to the Archive. For those that took this option, in total 15 agencies, regrettably 50% of their vital records in Archive custody were flooded.

There were also issues with the quality of the identification of vital records. After the vital records boxes had been vacuum-dried, a cursory inspection of just a few revealed records that could not in any accepted way be described as vital, e.g. photos of the staff Christmas party, operational manuals for the photocopier, elderly financial records.

• Slow recovery process. The recovery effort has been a much longer process than anyone imagined. Standard disaster planning texts all agree that the first 48 hours are critical, particularly in hot and humid climates. We actually managed to make progress in about
72 hours, not bad given the island-wide total disaster situation with which we were faced. In the immediate aftermath of the storm the hospital was without power, premature babies were being kept alive under nurses' jackets, patients on life-support systems were being hand-ventilated; 72 hours was doing well under the circumstances. After 72 hours we had arranged for vital records to be frozen. This still left the extensive damage across government premises, the Government Records Centre with stagnant water and shelves of wet records a prime environment for mould. On the advice of Belfor, we froze everything that was damaged as soon as we could, which as mentioned in some cases was several months after the event. Of the 4000 boxes of records that were frozen, the majority did not go into the freezer until well into October.

One year on we are only about half way through the vacuum freeze-drying process. The recovery was projected, at the time it was thought conservatively, to be completed in September 2005. It now looks as if March 2006 is a more realistic timetable. This is not a palatable message for government agencies or for their clients waiting on their records. It has been hard for the credibility of the Archive as negative perceptions of poor management and poor building structure circulate both within the public sector and the wider community. No-one has been advised to transfer records to the Archive during this hurricane season, which is fortunate as it is unlikely that anybody would! It is particularly frustrating for those involved as they know that so many of the records have no ongoing value and buried amongst this majority are the ones that do.

- That there is a lack of information about the extent of damage to records is an issue for post-disaster analysis. The Archive carried out a survey for the public sector, quantifying the volume of records to be recovered, identifying which agencies needed our help, and trying to reduce the volume of records discarded. However, there was no such support network for the private sector and individuals. We know that some banks and hotel chains have been working with disaster recovery experts to salvage their records, either on-island or off. What we don't know is how many businesses lost everything, how many destroyed records had been damaged, and of what value these records were to the wider community. The local Chamber of Commerce is the spokesperson and co-ordinator for business but it has done no assessment of this kind in relation to its members. CINA has no relationship to the Chamber or to its members, yet it has a mandate to identify and acquire records from the private sector. Since the Archive was formally established in 1991, most
of its acquisitions have come from private donors. Yet there are no resources to support this mandate with proactive relationships with the community. Without this information, there is no way of assessing the true extent of the impact of Ivan upon community memory.

There are also positive lessons to be learnt. Without doubt Ivan had the potential to be a major records disaster for the Government, and consequently for the people to whom it provides services. That it wasn’t is attributable to a number of factors.

• Insurance - this was the single most important factor. All the records that were damaged are being salvaged. Without them the damage to Government and the impact on individuals would be much more extensive. Government and its clients are inconvenienced by the delays but the effects would have been far-reaching if all of those records had been destroyed. There was no need to lobby to compete for scarce resources in the confusion after the storm; the Government’s insurers were fully supportive of our work.

• Disaster planning - Disaster planning played a big part, although the plans were not adequate for the scale of the disaster. Refrigerated containers were secured eventually, the central government network was backed up and copies distributed. There is a programme in place, co-ordinated by the Archive, for microfilming the most vital government records, e.g. Cabinet minutes, and storing them off-island. All of these things mitigated the effects.

• Co-ordination - the records response was co-ordinated through the Archive and we made extensive efforts to make departments aware of this. We collected information at a time when the situation was very confused in order to prioritise our own communications with entities and provide accurate information to the National Hurricane Committee. We knew to whom we needed to speak and what problems they had. Without doubt, if this had not been the case, many more records would have been discarded.

• Luck - It could have been a lot worse. The roof held and the archive collections within the Archive were safe; the Government network wasn’t damaged despite being in what has been reported as a vulnerable building for many years; the Glass House held up under the storm against all the odds, so the departments and their records housed there were largely safe; the shipping companies were prepared to loan us their refrigerated containers despite high demand for shipping on the island and in Florida following the hurricanes there. Key “records” agencies like Lands and Survey and
the Registrar-General, did not suffer any damage despite vulnerable storage locations.

Impact on Records Management

In the Cayman public sector many Government entities use the services of the Government Records Centre, the only off-site storage site that would be recognised internationally as being appropriate for the safe storage of public records. Apart from this, there is little co-ordination of records management with each entity devoting as much or, more usually, as little attention to it as possible. Even before the storm the National Archive had been given the go ahead to spearhead records management reforms across the whole public sector to begin to address some of these records problems. This was to be underpinned for the first time with a clear legal mandate for regulating recordkeeping and assigning responsibility for good records to chief officers.

Following the storm, there were a number of risks to this infant programme:

- Problems of perception, described earlier.
- Delays to any implementation whilst Government and its staff normalised living and working conditions.
- Delay in the recruitment of records management staff, particularly the Records Policy Analyst; until the situation normalised we could not offer overseas staff the possibility of finding somewhere to live.
- Redeployment of existing resources - the existing team of two was busy for several months helping at the dirty, smelly and mouldy end of the recovery effort.
- The risk to the new Archive building, previously agreed and resourced, which would provide enhanced Records Centre capacity and also an alternative site of government in the event of a disaster.

Oh, the power of hindsight. The Archive had lobbied for this building for many years and had secured support and a commitment of funding prior to Ivan. But with new competing priorities for scarce resources would this funding be reallocated? No-one wanted to hear the question, should we rebuild schools or go ahead with the new Archive?

However, it was not all bad news.

- There was a heightened awareness in government entities of the need to protect their records, the costs of not doing so and the benefits
of proper records management tools such as good classification and
disposal systems.

- No more unsecured locations - the warehouses are gone and most
  of the records, albeit a bit wet, have been transferred to the custody
  of the Archive. A second government building, the Town Hall, is
  serving as a very visible alternative Records Centre and a timely
  reminder of our space needs.

- The need for a new Archive building to be built above flood levels
  had been vividly demonstrated. The damage to the existing building
  would be extremely expensive to repair, and the costs of refitting
  the strongrooms that had been flooded would be offset against
  insurance, and the replacement shelving could be re-used in the
  new building.

One year on . . .

There has been some progress over the course of the last year, in spite
of the storm and the obstacles described. A framework for records
management has been agreed and has the support of the head of the
civil service. This is linked to a wider agenda of civil service reform
and freedom of information. Instructions for new legislation have been
drafted outlining a comprehensive public records framework along
the model familiar to an Australian and New Zealand audience.

To accommodate the upheavals of Ivan and in advance of a clear
legal mandate, the Archive has focused on "quick wins." For the first
time we have provided training in disaster preparedness and basic
records management concepts, we have upgraded the records control
software used by many government departments to manage their
records, and we have lined up a number of departments to test the
products and tools we are developing.

We have direction in the shape of a five year strategic plan, plus
detail in team and individual work plans. A year ago there was no
team, no direction, just a few scattered records management dreams.
So in spite of Ivan, and also because of Ivan, the Government's records
management programme has come a long way.

Impact on the Community

So having said all this, who cares? Well, as stated, it could have been an
enormous records disaster with far-reaching consequences. If this isn't
recognised, and the effects on the community aren't recognised, then
there is no possibility of preventing it happening again. In recognition
of the role of records in people's lives, advice issued this year by one
insurance company and distributed island-wide also includes photos and other "memory records" on the list of vital records to protect in the event of a hurricane.

Why care about the records of individuals when a disaster strikes? We have seen the recent images of the damage and destruction in New Orleans, other stories closer to home of bushfires in Australia, cyclones in the Pacific, and the tsunami in Asia at the end of last year. In these situations records can also play a role in healing the community. People affected by a disaster have a real need to validate their experiences and this is often through story-telling.

Oral history is a strong tradition in the Cayman Islands. In Cayman, a number of individuals have gathered together the stories of individuals affected by Ivan and produced books, TV programmes, DVDs and other sources. The oral history programme at the Archive has also been active, gathering the stories of those involved in directing the official relief effort.

There is a greater awareness of the role of records, but this has not translated into an institutional context. There is an expectation that records are there, in people's personal lives and in their interactions with government. However, as research in the UK for their Archives Task Force demonstrates, records and archives "are not in the public consciousness." Even after Ivan, the Archive and its collections were less in the public consciousness than the Museum or the National Gallery, both of which also received some damage to their collections. Yet it is archives that are involved in "preserving the totality of the public memory." The really interesting question is why do Archives have a low public profile? My response is to echo the words of Vic Gray, currently President of the UK Society of Archivists, in his 2002 address to the UK Society of Archivists conference:

The concepts . . . are abstract - they are about citizen's rights, societal responsibilities, heritage worth. That archive collections do not have the immediacy of three dimensional objects, that they are often perceived as being "not for me," is not a new finding. It has been ably demonstrated by the evidence of the UK Archives Task Force. But it holds true even in a small community where all official organisations are highly visible and where the National Archive enjoys regular mentions on national radio, is visited regularly by school children, and has been out in the community recording over 1000 hours of oral history interviews. This is real evidence of the need to make archives more relevant to the community.
Conclusion
One year on what are my conclusions about Hurricane Ivan and records, and more generally about disasters and records? Ivan had the potential to be a major records disaster as well as a major economic disaster. In my view, the community as a whole has not suffered a major impact from the records affected by Ivan. This is because the records that document so many of their relationships, records of immigration, records of births, marriages and deaths, records documenting the history of land ownership, were not destroyed by the hurricane. The massive recovery effort led by the National Archive played an important part, without which certainly many more records would have been destroyed and the impact would have been felt much more widely. Insurance was a huge factor here.

The stories from Ivan illustrate the many and varied ways in which records impact on people’s lives. Whilst this is obvious to many, the true extent of that impact is often overlooked. You would expect to need financial records and insurance policies in the aftermath of a disaster, but would you expect to be told you can’t get married or that you can’t rebuild your house?

For an organisation that has a mandate to acquire private records, the National Archive is almost totally focused on the public sector. The Archive has no role in providing assistance to the private sector or to individuals in how to safeguard their records, a situation common to most National Archive institutions. Both the Archive and the National Hurricane Committee had recognised this as an issue but had not given much attention to addressing the problem and identifying an “appropriate” level of assistance. A similar regulatory role in the private sector would certainly not be appropriate. Securing more support politically and financially for this aspect of its functions may leave us in a better position in the face of the next hurricane. How can we acquire that which no longer exists?

Despite the challenges of Ivan for the records management programme, significant progress has been made over the last year. Some aspects have been delayed, but we are now forging ahead with a clear direction and widespread support. Government operations have stabilised and people are ready to tackle their records problems.

My final point is that Ivan has given us an opportunity to improve the way we do business. Poor recordkeeping processes exacerbated some of Ivan’s impacts. Should the overseer of the fifth largest financial centre in the world still be printing and filing? Following Ivan, there is some enthusiasm for change and reform and the Archive will be
capitalising on this in its records management programme to make sure that we actually achieve change on the ground. This is still a little way off, but what other institution can claim 100% attendance and a lengthy waiting list for records management training. We are taking this as an indicator of good things to come. As Ivan becomes a more distant memory, we are trying to ensure that, at least as far as records go, the effects of another storm will not touch the lives of as many people as were touched by Ivan.

2 Cayman Islands National Archive Oral History Collection. Interview date 14th December 2004.
3 Interview with Dr Gelia Frederick Van Genderen, Director, Water Authority. Interview date: 22nd February 2005.
5 Ibid.
Tuvalu Endangered Archives Pilot Project*

Richard Overy

Wanganui District Council

Unless action is taken now, much of mankind's documentary heritage may vanish - discarded as no longer of relevance or left to deteriorate beyond recovery.  

The Threat to Archives

UNESCO's Memory of the World Programme policy statement declares that "documentary heritage reflects the diversity of languages, peoples and cultures. It is the mirror of the world and its memory. But this memory is fragile. Every day, irreplaceable parts of this memory disappear for ever." During the International Congress of the International Council on Archives in 2004, delegates debated the destruction which both man-made and natural disasters have wrought on the world's archival heritage. War, flood and looting are just some of the means by which archives have been destroyed and with them the identity of individuals and nations, the cultural life of communities and the core elements of democratic accountability. Destruction can also be deliberate. Archives play a pivotal role in providing irrefutable evidence of human rights violations and empower victims to bring perpetrators to justice. Archives are fundamental to ensuring the survival of truth, memory and justice. The archives of public bodies and non-governmental organisations that document violations of human rights all too often face serious threats to their survival, both through intentional destruction and through lack of resources and knowledge.

* In 2005 Wanganui District Council Archives and Records manager Richard Overy, together with Ewan Maidment of the Pacific Manuscripts Bureau, undertook an extensive archives copying project on the Islands of Tuvalu in the South Pacific. The project successfully combined the resource of the Endangered Archives Programme, the Pacific Manuscripts Bureau, and the Tuvalu National Library & Archives.
In the case of Tuvalu, the survival of its archives is threatened by natural disaster and limited resources. However, the Endangered Archives Programme has enabled us to take some initial steps to secure future access to the records.

The Endangered Archives Programme

The aim of the Endangered Archives Programme (EAP) is to safeguard archival material relating to societies before "modernisation" or "industrialisation" generated institutional and record-keeping structures for the systematic preservation of historical records. The Programme is especially interested in records and collections documenting non-western societies.

EAP defines the term "archive" as including rare printed sources (books, serials, newspapers, ephemera, etc.); manuscripts in any language; visual materials (drawings, paintings, prints, posters, photographs, etc.); audio or video recordings; digital data; other objects and artefacts – but normally only where they are found in association with a documentary archive. The Lisbet Rausing Charitable Fund sponsors EAP by providing some £10 million sterling over a period of about eight to ten years.

The British Library Role

The British Library administers the EAP. It launched the Programme in October 2004 and called for applications. The first awards were made in April 2005. In the Pacific region, grants were awarded for projects in Tuvalu and Yap:

- to contribute to the preservation of mankind's documentary heritage particularly in those less well-developed regions of the world where collections may be more at risk and where the availability of funding may be limited; and,
- to help foster professional standards in cataloguing, preservation, etc., and so assist in safeguarding the longer-term availability and accessibility of heritage collections worldwide.

The Director of the EAP Programme, Graham Shaw, wrote:

The view taken by EAP is that there's not much point in just copying and transferring material into an archival home in the country of origin if there isn't going to be the professional expertise or the facilities there to support, maintain, and preserve it in the longer term. Indirectly, the EAP also hopes to heighten awareness of the problem of endangered archives and so encourage other funding initiatives to combat their possible loss and destruction.
There is a growing awareness that archives around the world are in real danger. Archives are endangered not only by the forces of nature - floods, hurricanes, earthquakes, and fires - but also possibly to an even greater extent by the actions of mankind.

Apart from those kinds of catastrophes, there are other issues such as the fragility and inbuilt obsolescence associated with the physical formats that traditionally have been used for documentary heritage.\(^9\)

The lack of professional training, coupled with a lack of resources, poses a constant threat. It is the unintentional which can often be the most damaging: the sheer neglect of documentary heritage for want of awareness of its significance. Perhaps the most insidious threat of all is gradual cultural homogenisation, everywhere becomes, day by day, a little bit more like everywhere else. This effectively constitutes the globalisation of world culture.\(^10\)

Private collections are a particular focus for EAP because they are even more at risk than those already in publicly accessible archives. But archival collections in publicly accessible and publicly funded archives are also at risk. EAP does not want to supplant government funding. Even so, EAP accepts that there will be various scenarios where projects that do concentrate on archival collections in publicly accessible repositories would be eligible. Tuvalu's archival collection is just such a case.

EAP takes a pragmatic approach to archival film and digital quality. It does not absolutely insist on archival quality microfilm or digital copies.\(^11\) It sets minimal standards, and will be doing some quality control, but the primary purpose of the copies is access, not the creation of archival copies by proxy. Apart from directly administering EAP, the British Library will receive and retain copies of all of the collections filmed under the EAP. It is a principle of EAP that no original archival material should leave its home country.

Tuvalu – A Brief Description

Tuvalu is a group of nine low-lying coral atolls in the West Central Pacific, situated between latitudes 5° and 11° south and longitudes 176° and 180° east. Its atoll surface areas range from a mere 0.4 square km to 7.0 square km, totalling some 35 square km. At normal high tide the land is no more than 2 to 5 metres above sea level.

The fragility and vulnerability of the islands to environmental change has prompted local politicians to campaign against global warming. They justifiably argue that climate change could see the islands swamped by rising sea levels. Life on the islands is simple; to outsiders it may seem harsh. There are no streams or rivers, so the
collection of rain is essential for providing fresh water. Coconut palms cover most of the islands, and copra is effectively the only export commodity. Increasing salination of the soil threatens traditional subsistence horticulture.

Tuvalu is dependent on direct foreign aid, remittances from its overseas seamen, cash from the sale of tuna fishing licences, and interest from a trust fund set up for the islanders' benefit in 1987. The sale of postage stamps also brings in revenues. It is one of a handful of countries to have diplomatic relations with Taiwan, which recently funded Tuvalu's largest building – a three-storey government administration office complex.

Tuvalu shows ingenuity by exploiting another source of income. It sold its Internet suffix - .tv - to a Californian company for several million dollars a year in continuing revenue. Some of the income from this source has been used on Funafuti to pave the roads, which were formerly made of crushed coral, and to build schools.

The population estimate in 2005 was 11,000. The service industry is the principal source of employment for wages. Government is the largest single employer with between three and four hundred people. Most live by subsistence and receive occasional cash remittances from male family members working on overseas ships. Tuvalu is largely pre-industrial and seems unlikely to change substantially in the foreseeable future.

**Administrative History Outline**

Tuvalu, formerly the Ellice Islands, became a British Protectorate in 1893 and was joined with Kiribati, the Gilbert Islands, under the administration of the Western Pacific High Commission. The Gilbert and Ellice Islands Colony (GEIC) was established in 1916. There were a number of administrative districts in the GEIC. The Ellice Islands formed a single administrative district with a resident District Commissioner who reported on local administrative and general affairs to the GEIC Resident Commissioner at Administrative Headquarters on Banaba (Ocean Island) until 1941 and at Tarawa, Gilbert Islands, after 1945.

The GEIC began a gradual process of decolonisation in the late 1960s. A series of constitutional stages attempted to cater for local circumstances. In a referendum in 1974, observed by the United Nations, 90% of Ellice Islands people voted for separation from the Gilbert Islands. By 1976 separation was complete and each colony set out on a path to independence. The Ellice Islands became independent in October 1978 and chose Tuvalu as the new name for the country.
Tuvalu Archives

Most pre-1945 administrative records were lost during WWII. A well-organised centralised records registry was created in the Gilbert Islands in the early 1950s and systematic collection of records for archival purposes began in the 1960s. As there were no local archival or records storage facilities, records were, from time to time, sent by ship to the Central Archives in Fiji to be stored alongside those of other administrative bodies including Fiji Colony, British Solomon Islands Protectorate, New Hebrides British Service, the British Consul in Tonga, and the administrative records of the Western Pacific High Commission itself.

When the Central Archives was disestablished shortly after Fiji independence in 1970, two separate archives facilities were created, one being the Fiji National Archives, and the other, the Western Pacific Archives to house the records of the Western Pacific High Commission and those of the various colonial territories administered by Britain. With the arrival of independence for Tuvalu in 1978, their district administration records were repatriated in December of that year. Other records were dispatched to various places and the Western Pacific Archives was closed in January 1979.

The Tuvalu Public Records Act came into force in 1979. The Archives, created in 1985, was combined with the Library Service to form the Tuvalu National Library and Archives (TNLA), which is administered by the Ministry of Education and Sport. The Archive repository itself was added on to the Library. As well as the Ellice Islands District administration archives, repatriated in 1978, the TNLA has received occasional and irregular transfers of the Tuvalu government's administrative records, amounting to approximately 150 shelf metres.

The TNLA building is located on the western (lagoon) side of Fongafale on the main atoll of Funafuti. Being on the leeward side, it has some protection from the prevailing easterly winds, rains, and occasional tidal surges. However, it is rather exposed to westerly gales. It is at a maximum height of 2.5 metres above the normal high tide mark.

Our general survey of repository holdings and the condition of the building indicated a relatively stable environment. The building is a single story structure with asbestos cement cladding. The guttering is damaged in places and mould grows on the damp exterior walls of the repository. An air-conditioning unit was operating most of the time in the repository but there was no humidity control. No active
mould was found in papers; however, there was evidence of insect and vermin damage.

The archives are stored in a small room measuring approximately 4.5m x 3.5m. Wooden compact shelving makes for good use of the confined space, providing 192 linear metres of shelving for storage. The storage space is very limited and is now almost full. Other than a cluttered office area with little room to move about, there is no work space; staff sometimes must resort to using the public library reading room. More recent additional non-current records are stored in an unoccupied building under the control of the Prime Minister’s Department.

The TNLA has four staff, including one who is on secondment from the Tuvaluan Language Board and is subject to occasional recall. Two staff members are assigned to work in the library and two in Archives. The operational budget is modest.¹⁹

**The Project**²⁰

The pilot project merged the resources of the EAP, and the Pacific Manuscripts Bureau (PMB).²¹ It had six participants including Ewan Maidment of PMB and myself, along with TNLA staff.²² The project took place over three weeks in September 2005.

The aims of the pilot project were, broadly, to survey the extent, condition and content of the holdings of the Tuvalu National Archives; investigate other records documenting Tuvaluan customs and traditions that exist and may be accessible; assess the degree of risk to the long-term survival of both public and privately held records; draw up a plan for a major copying project if warranted; carry out initial digital and microfilm reformatting to test equipment, technical issues, and exposure requirements; establish documentation systems; provide basic training in reformatting practices and procedures; and capture digital and microfilm images of a selection of records.

**Local Archives Participation**

TNLA staff were quite outstanding in giving of their time and effort, and above all else, goodwill and great good humour. The roots of the pilot project lay in their appeal for help at the PARBICA conference in Palau in 2001.²³ TNLA staff brought to the pilot project a detailed understanding of their archival holdings, their condition, and the risks to their survival. They guided the direction and conclusions of the pilot project while Ewan Maidment and I brought administrative and technical expertise to help implement it.
The staff contributed local knowledge, guidance, labour and facilities to the pilot project. The TNLA staff maintain good controls over their archival holdings. They keep the Archives registers, supervise research use, and meticulously return records to their proper locations. They are clearly aware of the weak and irreparable documents. Mila Tulimanu, the National Librarian and Archivist, determined the pilot project’s microfilming priorities and set the access provisions for the reformatted materials. At meetings with all staff, together we agreed on strategies for pursuing and implementing a major Tuvalu National Archives project. In addition, the staff provided us with working space in an already crowded situation, to the short-term detriment of their normal processes and routines. They even closed the Library and Archives on several occasions in order to accommodate our project needs.

Project Work
During our preliminary survey of the archive’s records it quickly became apparent that the low-quality paper used for records produced between the World Wars had become weak and brittle. Some land registers from the 1930s had suffered extensive water damage, while one complete register and part of another were damaged beyond legibility.

Finding aids for the Ellice Islands District Administration records, lists WPA 1-10, were copied. The records, amounting to about 200 archives boxes, were surveyed. Additional finding aids (temporary listings) for Tuvalu Government administration records were also located, surveyed and copied.

It is worth emphasising that in Tuvalu, culture and traditions are inextricably linked with land ownership and customary rights, and, as with everywhere else in the Pacific Islands, land is a very scarce resource; rights, ownership and associated traditions are carefully guarded for transmission from one generation of “guardians” to the next.

The reformatting aspect of the project was divided into two parts: microfilm and digital copying. Mila Tulimanu specified land records as the highest priority for the documentation of Tuvaluan genealogy, custom and tradition. With Mrs Tulimanu’s guidance, Tutaima Lauapi and Ewan Maidment identified and systematically microfilmed all land records relating to the islands of Funafuti and Nanumea, including Island Council minutes, Land Court minutes, and associated registers of lands, taro pits, gardens and trees, together with all surviving records of the Ellice Islands Lands Commissions of 1936 and 1956.
Most of these records are in the Tuvaluan language. The microfilming component of the project is aimed at systematic copying of the land records of all eight islands for long-term preservation. As the TNLA does not have a microfilm reader, the microfilms have been scanned to digital images on CD to facilitate TNLA access to the documents.

The digital imaging progressed in parallel with the microfilming and involved staff members Tutuila Tekui and Togiola Funafuti. We worked through all the Archives listings, identifying series and records items, particularly those that documented aspects of tradition, custom, heritage and language. We selected approximately 100 archives items (folders containing multiple documents) for digital imaging. About 90 of these items were imaged. Lands records are especially significant as they provide references to genealogy, custom and tradition. Some potentially interesting and rewarding items pertaining to traditions and customs were not found. The relevant archives finding aids had margin notes in pencil indicating the items as missing as far back as 1990.

To manage the digital imaging part of the project we developed a process in which we systematically imaged during most of the day and then downloaded the images from the camera each evening to two separate non-networked computers. We numbered the digital images consecutively and placed them in named electronic folders that corresponded to the named hardcopy folders, and then copied them onto CDs. To safeguard against possible computer losses and power cuts, interim backup copies were made on a daily basis. About 40% of my time was spent in advising, guiding and training and generally helping staff to become more familiar with digital imaging and with methods for identifying images and transferring them from camera to computers and then again to CD.

We made enquiries about records held in other places, including any in private hands or otherwise not in archival custody. We obtained what we felt to be reasonably reliable hearsay evidence of the existence of such material, e.g., church registers at all the Outer Islands, records held at the Agricultural Research Station on Vaitupu, and a genealogy for Vaitupu that seems to have done the rounds between Vaitupu and Funafuti and possibly Fiji and back again.

**Constraints**

Local conditions in Tuvalu are not particularly easy but neither are they insurmountable. Local resources are modest. Facilities are limited. Both internal and external communication links can be difficult. But, in general, the constraints were relatively few and in
truth comparatively minor. By starting off with a pilot project, we had some distinct advantages. Pilot projects are partly concerned with setting manageable parameters, establishing practices and procedures, and testing those systems. Above all, they provide a proving ground and a learning experience.

The Archives Repository is crammed and provides just enough room to move about and retrieve or replace items. Other working space was also very cramped and made for frequent and sometimes amusing games of musical chairs. Required supplies were not always available locally or perhaps were not always of sufficiently good quality.

Although this was a pilot project with fieldwork lasting just three weeks, there was a need to balance between what is enough and what is actually possible. There was an understandable wish to go for quantity but not to the detriment of quality. The equipment we had was good but we did not have enough of it for the digital camera. We had no proper photographic lighting, no tripod of our own, and inadequate digital storage and copying facilities. As it turned out, we underestimated funding requirements for expenses, for purchase of digital storage and the need for daily backup disks.\textsuperscript{31} A mains adaptor and/or a spare battery, and a good quality light meter would have been useful too. With lots of cheerful help from TNLA staff, a bit of running around, a bit of borrowing here and there, and quite a lot more running around, and some make-do, we were able to find temporary solutions to overcome most of our relatively minor difficulties.

Identifying material not held in archives is more difficult. Such items as do exist are often held in private hands and jealously guarded as family heirlooms, particularly where they contain information relating to genealogy, traditions, customs, and traditional arts and skills.\textsuperscript{32} It certainly was a good and valuable learning experience.

\textbf{Achievements}

We concluded that vital documentation of the cultural and political heritage of Tuvalu, currently held by the National Archives of Tuvalu in an intermittently air-conditioned room, was endangered principally through risk of being washed away in a cyclone-prone area. There is a regular danger of archival records becoming saturated and otherwise damaged by tidal surges that are typically created by cyclones in the area. In addition, we observed that some material, such as Births, Deaths and Marriages registers, lands records, records of the colonial era local administration, and newspapers, are in particularly poor condition through heavy usage of the originals.
What did the project achieve? Well, quite a lot. The archival records were broadly surveyed. We were able to more accurately identify Archives holdings. Finding aids were retrieved from various places, brought together and digitally copied. Lands records for Funafuti and Nanumea Islands were copied on microfilm, along with most of the Lands Commission records.33

We were able to identify some records about language, culture, tradition, customs, skills and arts - an initial selection was copied using the digital camera. Local Archives staff gained some basic training and familiarisation with digital copying, migration and documentation procedures. They also learned something of microfilming practices. We ascertained that material does exist elsewhere than at TNLA.34

On the basis of our improved understanding of local circumstances and conditions gained during the pilot project, and in consultation with TNLA staff, we were able to plan and develop an application for a future major EAP project which would secure copies of key series of Tuvaluan archival records.

Some Observations
So what is the degree of risk to the survival of Tuvalu's archival records? It is quite high. The archival records are endangered. Environmental and handling damage is occurring to key customary records. There is considerable and quite convincing evidence to indicate that sea levels have risen and that flooding in Tuvalu is more prevalent than formerly.35 Damage from cyclone, storm, sea surge and flooding is, if not a probability, then at least a strong possibility. It would be prudent to ensure further copying of archives held by the TNLA.

The pilot project adequately demonstrated that a major copying project is feasible and is recommended. Such a project would aim to copy the bulk of the records held at TNLA to about the end of the colonial period and from the early years of independence to about 20 years ago. It might include newspaper holdings too, though this collection was not adequately surveyed during the pilot.

Transfer of the digital camera and associated EAP-funded equipment to the TNLA would enable local staff to continue the reformatting of records after the end of the EAP project.36 Invited by the EAP administrators, we have applied for funding for a major project in Tuvalu. Ideally it should be undertaken sooner rather than later. A major project would help to consolidate the skills gained by local staff during the pilot project and provide them with the experience and confidence to undertake some copying work, particularly on the Outer Islands. That would help to ensure continued Tuvalu government
support. It would also help to sustain the impetus provided and the momentum gained by TNLA staff from the pilot project.

Acknowledgements

The Endangered Archives Programme is an inspired initiative that offers wonderful opportunities for researchers and archivists alike. It helps by highlighting international recognition of the value of local archival institutions, and helps alleviate the fears of local archivists regarding the long-term future of their collections. The EAP plan is that the information shall not be lost. Without the encouragement and support of the Lisbet Rausing Charitable Foundation and the Endangered Archives Programme, projects such as that in Tuvalu might never happen. To the Endangered Archives Programme, infinite thanks for making good things possible and for developing such a terrific and worthwhile cause.

1 Quoted from UNESCO's Memory of the World Programme.
2 For more information on the Memory of the World Programme see: http://portal.unesco.org/ [Accessed April 2006].
3 Most of the ICA 2004 International Congress papers can be found through the ICA website at: http://www.ica.org.
4 For more detailed information on the Endangered Archives Programme see their website at: http://www.bl.uk/about/policies/endangeredarch/homepage.html
7 For brief descriptions of these projects see: http://www.bl.uk/about/policies/endangeredarch/researchprojects.html#aust
8 Shaw, Endangered Archives Programme.
9 One thinks, for instance, of acidic paper, audiotapes, and digital data in a variety of formats.
10 Shaw, Endangered Archives Programme. He refers to this as the "McDonaldisation" of the world.
11 Ibid. Shaw acknowledges that some copies made will be of archival quality, but when operating a worldwide programme where there are researchers undertaking copying in the field, often in quite difficult circumstances, to insist on this would be going too far.
12 The company on-sells the .tv suffix to television broadcasters.
13 There are some five to seven-hundred Tuvaluan seamen, mostly young men, working on overseas ships at any given time.
14 There is little literature available on the pre-contact and early contact periods in Tuvaluan history. However, a notable and detailed but, regrettably, unpublished study is Doug Munro, "The Lagoon Islands: A History of Tuvalu, 1820-1908," Ph.D. thesis, Macquarie University, Sydney, 1982.
15 For an excellent descriptive history of the colonial administration and political
development of the Gilbert and Ellice Islands, see B.K. Macdonald, Cinderellas
of the Empire: Towards a History of Kiribati and Tuvalu (Canberra: Australian
National University Press, 1982).

16 Tuvalu is a traditional name referring to eight islands standing together. The Niutao
Island Council administers a ninth, very small, intermittently inhabited island,
Niulakita, in the south.

17 There is very little in the way of detailed background source material on the Tuvalu
National Library & Archives. There are some internal administrative reports and
only two published items that I know about. I have relied on these, together with
my own knowledge of background, and on information from many of those who
helped to establish the Tuvalu National Library & Archives. The most useful were a
series of summary internal unpublished reports by Anita Wilson (1978-1979); the late
Betty Forshaw, a British volunteer (1979-1980); and the first local National Librarian
reports on visits by Library staff from the University of the South Pacific, one by
Jocelyn Waqa in 1982, and the other by Sin Joan Yee in 1985. The two published
items were John Sommerhauser and Doug Munro, "Tuvalu Archives & Library," South
Pacific Bulletin (1979), and John Wright and Lopati Kataloto, "New Archives for

18 It was previously used as a Red Cross volunteer-operated public library; prior to
that it was a standard government dwelling house.

19 The total annual budget is approximately AU$50,000, of which $35,000 is allocated
to salaries. The remainder of the budget is for Library & Archives administration
and operations including utilities, and for office supplies and library materials. This
is very small by other standards but it is all that can be spared from meagre local
budgetary resources.

20 Most of the material in this section is based on an unpublished report, Ewan
Maidment and Richard Overy, "A Narrative Report to EAP on the Tuvalu Archives

21 The Pacific Manuscripts Bureau, known as PAMBU, was formed in 1968 to copy
archives, manuscripts and rare printed material relating to the Pacific Islands. The
aim of the Bureau is to help with long-term preservation and accessibility of the
documentary heritage of the Pacific Islands. The Bureau is based in the Research
School of Pacific and Asian Studies at The Australian National University. It is a non-
profit organisation sponsored by an international consortium of libraries specialising
in Pacific research. It is a rare example in the world of an on-going archival project
involving a high level of international cooperation and commitment. For further
information see the PAMBU website at: http://rspas.anu.edu.au/pambu. [Accessed
July 2006].

22 I was the principal applicant for the EAP Project. I am an archivist, a records
manager and a librarian. Much of my experience and involvement with archives and
records has been in the Pacific, dating back to 1970s; my co-applicant was Ewan
Maidment. Ewan is the Executive Officer for the Pacific Manuscripts Bureau, and a
professional archivist with extensive experience of Pacific cultures and conditions.
Ewan specialises in Pacific Islands document preservation micrographics.

The local participants included the following; Mrs Mila Tulimanu, the National
Librarian Archivist, who has worked at the TNLA since 1979, has a certificate
in Librarianship from PNG and has also completed a training course in Records
Management at Kuala Lumpur, Malaysia; Mrs Togiola Funfuti, Deputy Librarian, who
has been at the National Library & Archives for 13 years, has a Diploma in Library &
Information Studies from the University of the South Pacific and who is planning to undertake a degree in Library and Information Management Studies in New Zealand; Mrs Tutaima Faaleo Tolauapi, Assistant Archivist with direct responsibility for archives holdings. She has been with the National Library and Archives since 1990 and has trained in Malaysia where she completed a basic Records Management course; Mrs Tutuila Tekui, who has been with the National Library and Archives since 2002 and who previously worked for the Tuvalu Language Board National Dictionary Project; and Mrs Tekui currently undertaking a certificate course in Library and Information Studies through USP and has also undertaken and completed some computer courses locally.


24 The "WPA" identifier on the lists comes from the Western Pacific Archives which created them.

25 For lack of sufficient suitable work space elsewhere, the microfilming was done inside the small repository.

26 Ewan Maidment, an expert in microfilming, used a portable Hirakawa 35mm camera belonging to the PMB. Eleven rolls of microfilm were exposed, totalling about 6,600 frames, which have been scanned to .tif and .pdf files on DVD and are linked to a finding aid.

27 We did the digital imaging in the TNLA office which was the only remaining practicable workspace available.

28 We finished the digital camera part of the work with approximately 3,600 .jpeg high-quality images. These are linked to a finding aid. To have captured the images as .tiff files would have used up our resources too rapidly and would have taken longer because of more frequent downloads and the backup requirements.

29 For the digital imaging we had an Olympus C-7070 digital camera, obtained from funds provided by EAP. Along with the camera, we got by with a locally borrowed tripod, and some coconut string tied to table legs to keep the tripod anchored and steady. We also used two old bedside table fluorescent lamps, borrowed from Togiola Funafuti's home until they failed after a few days.

30 Shortly before the project commenced in Tuvalu we learned that the Genealogical Society of Utah had microfilmed the births, deaths, and marriages registers for all Islands up to 1976; whilst in Tuvalu, however, we found that apparently no copies of any such microfilm were ever made available locally.

31 We really needed a notebook or laptop computer with large disk storage space, with CD/DVD-Burner capability, and a sufficient supply of good quality disks.

32 For example, from information quietly given by a family member, we heard of one written genealogy that has moved back and forth between Funafuti and the Outer Island of Vaitupu. It is said that at one stage it was even taken to Fiji for a time. Our informant said that the genealogy is now in Funafuti again but did not know who was holding it. We did not have time to actually search and find the item. And, if we had learned of its present whereabouts, there is no certainty that we would have been allowed to see and copy it.

33 Eleven rolls (1100ft) of 35mm microfilm were produced. These have since been reformatted as digital images. The reformatted records do not extend beyond about 1976, i.e., the records copied are all from the colonial period.

34 For example, there are records at Motufoua School, and it may also have some records of the now-closed Elisefou School on Vaitupu. The Vaitupu Agricultural
Archifacts

Research Station has records. All Outer Islands Councils have some records, and all islands will have Church records. There is also reasonably sound hearsay evidence of some records in private hands.

35 Many garden pits and wells that formerly held a fresh water lens are now directly affected by high tides and have become saline; parts of the underlying coral structure have been severely damaged both by nature and by man. For example, during World War II the American forces dug a series of very large pits - they were called "borrow pits" - in several places, and used the excavated material as fill for a wartime landing strip that has since become Tuvalu's airport runway. The old borrow pits have never been rehabilitated. Relatively substantial areas of formerly productive lands are no longer useful.

36 The transfer of project equipment requires the prior approval of EAP.

37 Along with the Lisbet Rausing Charitable Foundation and the Endangered Archives Programme there are a number of others who must be acknowledged and thanked. They include the Government of Tuvalu and the Tuvalu National Library and Archives for agreeing to this project; the people who do great work at the Archives in Tuvalu, namely Mila Tulimanu, Togiola Funafuti, Tutaima Faala Tolauapi, and Tutuila (Nei Koa) Tekui; the Research School of Pacific and Asian Studies, Australian National University, Canberra, Australia, who acted as host institution for me; Dr Tomasi and Mrs Riana Puapua of Funafuti, Tuvalu, for hospitality and reminiscences; Kataloto Lopati Ponton and Malcolm Ponton of Suva, Fiji, for long-time friendship and all kinds of help and advice; John Cotton Wright of Honolulu, Hawaii who helped the Tuvalu Archives so much in its early days and provided information; Evelyn Wareham and Rosemary Collier for supporting me and refereeing the project application; Wanganui District Council for supporting my participation in the project and allowing me time away from my work with them; Penny Allen, the Wanganui Council Archivist, for reading, editing and correcting the many mistakes in drafts of this paper. Finally, I must particularly acknowledge and thank Ewan Maidment of the Pacific Manuscripts Bureau, Canberra, for bringing about my involvement in the first place, for his help in preparing this paper, and for being a valuable colleague and a great companion and friend in the field.

Matt O'Mara

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With the introduction of new records management legislation in New Zealand (Public Records Act 2005), a number of agencies are considering implementing Electronic Document and Records Management Systems (EDRMS). I thought an article on the topic would be relevant. A corollary of the legislation has seen an increase in job vacancies for Records Managers and related positions. Much of this activity has reflected the realisation, albeit slow, that a number of organizations, both public and private, have a long road to travel before declaring their houses in order.

Now before you get too excited I will just provide one caveat: this is not an esoteric scholarly dissertation on the subject! My purpose is rather to provide a few simple reminders of what I have found to be the “pain points” of implementing an EDRMS and some actions that can be taken to reduce the pain as much as possible.

When recounting my experiences on similar projects, I would have benefited greatly from a mandatory checklist of elements that must be ticked (that is, achieved) to ensure success in such an undertaking. Unfortunately more often than not, key elements on such a list are routinely absent. Reasons for this may be numerous and include: a lack of knowledge or experience; pressure to meet unrealistic deadlines; project plans that have been developed without any preliminary work being done (i.e., more of a guesstimate than a project plan); lack of adequate project sponsorship; the list is endless!

If I was tasked with developing a checklist of no more than 10 elements to successfully implement an EDRMS, my list would read as follows:
1. File Plan ✓
2. File Plan ✓
3. File Plan ✓
4. Thesaurus ✓
5. Information Audit and Information Process Mapping ✓
6. An experienced Project Team ✓
7. Communications – engaging your stakeholders ✓
8. Vital Records (or Business Continuity Plan or Disaster Recovery) ✓
9. Pilot / Proof of Concept ✓
10. Training resources, knowledge bases and ancillary tools ✓

1, 2 & 3. File Plan ✓ The first thing you will notice about my checklist is that the first three elements are the same. Well yes, I did want to reiterate my experience, and that experience has been that the biggest grizzle I have found staff have in these projects concerns the file plan, business classification scheme (BCS), taxonomy or other similar terms you may have come across. Everyone has an opinion and of course breaking down all those information silos means stepping on some toes! Knowledge is power, “this is my information and it needs to be restricted,” along with the plethora of concerns staff raise when faced with the prospect of not having the freedom of creating documents where they like, without version control, without naming conventions, being able to delete them, etc. Hmmm, now why did we need an EDRMS again?

Ideally, you will have developed your file plan many months before you even consider the technology you are going to implement. A file plan should be functionally based, in accordance with ISO15489 (that is function, then activity). Unfortunately the ISO standard is completely lacking in any detailed advice; however, it does provide a good start. Another key question that arises at this point is how many levels should we have in our BCS? The answer, unfortunately, is just as vague – it depends. The level of decomposition is dependent on a number of factors, including the requirements of the business unit; at what point do records actually get created; and where patterns of like transactions occur. “KeywordAAA” provides some good advice, albeit dated now, as does Work Process Analysis for Recordkeeping (AS 5090:2003). My recommendation is that you don’t want too many levels. I would not permit more than four at the very maximum. Why? Just remember, whatever structure you come up with has to be
maintained; the more levels, the more maintenance. Also, a key tenet of a good business classification scheme is that it should be simple to use. I recently heard of one organisation having eighteen levels for one particular business unit, this clearly is nonsensical.

Key questions or sub-checkpoints should include: Do staff understand the new file plan? Can they find homes for documents/information? Has a steering committee that represents key business units throughout your organisation formally signed it off? Ideally have the file plan set up in your shared drives for staff to use and get familiar with prior to rolling out an EDRMS. Does it include a thesaurus for staff to search using non-preferred terms? Can staff attach key terms to reflect important organisational knowledge? Of course you have answered in the affirmative to all of these elements! One cannot underestimate how important ease of use of a file plan is to the success of any EDRMS implementation. This point should always be foremost in your mind.

My passion, aside from records management, is teaching relational database management systems (very geeky I know). Like I say to my students, when developing a database it's a pen-and-paper exercise before you go anywhere near your database application. The key question is: what will be the outputs of my database as this largely determines its design and inputs? It is the old 80/20 rule. Spend 80 percent of your time planning and you will only have to spend 20 percent maintaining your database; implementing an EDRMS is much the same. The more levels you have and the more complex you make it, the more unwieldy it becomes and the more maintenance and auditing it will require.

I have experienced extensive academic debates concerning file plan development that became so esoteric even the proponents of a point ended-up confusing themselves. This shows the absence of common sense and the old adage KISS (Keep It Short & Simple!). It needs to be reiterated to staff that one of the key deliverables of a good BCS is that information is filed consistently. While they may not agree with how the BCS has been developed, all staff should be consistently placing information into the same place once the BCS goes live.

Before leaving this topic there are two further points that need to be covered. Firstly, when engaging someone, or a team, to develop a functional classification scheme, it requires strong intellectual capability and vigour. This may seem like an obvious thing to state, the point I want to make crystal clear is to ensure that whoever you engage is capable of such a complex undertaking.
This undertaking involves identifying the key and unique functions of your organisation. They need to identify the often subtle interrelationships that exist between these functions and the myriad of activities that underpin this. A clear understanding of the key legislation and empowering or foundation documents of your organisation needs to be gleaned often in a very short time span. They also need to ensure that disposal authorities can be easily mapped to the file plan. Often in large organisations the complexities of the multitude of activities makes this a very difficult task to deliver. A key skill in developing a sound functional analysis is good business analysis skills and the ability to note and map functions that are identical but described by staff in different ways.

My last point is that, if at all possible, attempt to get a peer review of the new file plan by a similar organisation. Often this may mean contacting an overseas organisation with a similar role. It is well worth it, especially if they have already been there, done that and are willing to share what lessons were learned along the way.

4. Thesaurus ✓ One of the worst practices I have seen repeated many times is file plans developed as you go, along with the absence of a thesaurus and scope notes. By this I mean that instead of analysing all the functions and activities of the organisation concerned, taking into account the relationships that exist across the organisation, the file plan is developed in sections while the EDRMS is being rolled out. At best this results in duplication, and in a worst case scenario it merely replicates shared drives and panders to strong-willed individuals who want to see their influence stamped on the file plan while having no understanding of tenets central to records management.

A thesaurus is a vital element allowing extra entry points into the file plan. It enables staff to search on non-preferred terms (i.e., the everyday language they are innately familiar with) and gives them the power to utilise these key terms when creating documents.

One important question I often ask is “where are the scope notes that explain the file plan?” A common reply is, “what scope notes?” A number of organisations will use outside consultants to develop their file plan. No problem here; consultants develop a file plan, organisation carries all the risk if that file plan doesn’t deliver. Perhaps provide a mini checklist for the file plan and the consultants might include: a functionally-based file plan that incorporates scope notes for all functions and activities; a thesaurus of preferred and non-preferred terms; and the development of training resources for staff explaining how they are to use the file plan. This should include
practical exercises such as, "I have a document, and how do I find out where it lives?"

I am amazed that any organisation would pay for a BCS to be developed without scope notes and a thesaurus explaining each function and activity. Yet, it is surprising in practice how often this happens. If you use consultants check references, not just ones they have picked out themselves, perhaps their last four major jobs. It is a specialised area which deserves extra attention. Just remember long after the consultants have cashed in their cheque you will have to live with any shortcomings in the file plan.

5. **Information Audit and Information Process Mapping ✓** Prior to developing a new file plan, or implementing an EDRMS, it is essential to document the current information repositories that exist within your organisation. Without this requisite knowledge of what records and information systems exist, and how those systems are used, any implementation of an EDRMS will be hampered and put at risk of not delivering.

If this vital task is not carried out then staff may pose difficult questions such as, "what about the information held in my database, it is corporate, why hasn't it been considered?" If this arises, post-implementation, then you may have a considerable integration problem to deal with. Within the project plan, if other information systems are going to be linked or integrated in some way to the EDRMS then the amount of work, and cost, must be scoped in detail. I have been involved in cases where this had not been scoped and a project plan had been signed off – doomed to fail!

In my experience it has been invaluable to conduct an information audit to ascertain what information systems exist and how important they are. If under time pressure, undertaking an audit could be as simple as using a template to elucidate the name of the information system, the business owner (if any), the format of the information, currency, and ascertaining if the system has had any predecessor or successor systems.

Often in an EDRMS implementation project the emphasis is placed on developing a file plan and elucidating where information should "live." While this is obviously important, equally important is the "process"; for example, with an Official Information Act enquiry, who in your organisation deals with these enquires, and what steps occur in processing them? Key business processes should also be documented as part of the business analysis stage of your project. Once again, this can be done using simple templates.
6. Experienced Project Team ✓ The number one success factor for any project team is the sum total of its members' collective experience. If you want to ensure success, then make sure you employ an experienced project team. Your project team must be technically savvy, they must be intimately familiar with key records management tenets, project management, presentation skills, change management, training, and above all they must support one another and be team players.

If there are any shortfalls in your team, consider training, up-skilling and professional development. Just remember though, if project team members don't have well-developed interpersonal skills and are not team players this is probably something you won't change overnight. Ensure when recruiting your project team you look for individuals that reflect these attributes.

7. Communications – Engaging your Stakeholders ✓ Now of course any major project (EDRMS being one of the biggest undertakings as it goes across the business and may involve substantial business process reengineering) requires more than ten elements that would need “ticking off.” Implementing any new system requires substantial change management. Well before the project kicks off, a comprehensive engagement strategy and communications strategy should be developed. This should then be incorporated into the formal project management plan.

"An engagement strategy," you ask? Who is getting engaged? Answer: your stakeholders of course! An engagement strategy is a high-level document that identifies your key stakeholders and influencers in your organisation. It can have a number of uses but will assist the project team to outline the key influencers in the organisation and how these people can be utilised as change agents. The engagement strategy also outlines the business units and staff members who will be affected by the project.

The engagement strategy is subsumed by the communications strategy. The main purpose of the engagement strategy is to elucidate the key messages that need to be conveyed to staff about the project. These key messages need to be couched in non-record and non-technical speak - no jargon and certainly no acronyms!

8. Vital Records; or Business Continuity Plan or Disaster Recovery ✓ Every organization, as part of its risk management strategy, will have some kind of business continuity plan (or BCP) in place. Implementing a new BCS is a golden opportunity to ensure that
you identify during the functional analysis phase of the project your organisation's vital records.

In my experience the definition of vital records is often not clear or at least not agreed on. My first definition of vital records is those records that would be required to rebuild your organisation if it was completely destroyed, as in the case of a major earthquake for example. In this case you would need financial records, property records, copies of major contracts, insurance, file lists, indexes, etc. It is whatever is identified by key staff as being vital to operating your organisation. Secondly, vital records may include records that your organisation deems to be of historical significance and therefore of high value. They may include records that set an important precedence, for example.

A key delivery in any new classification schema should be the identification of your organisation's vital records. Mitigation strategies can then be incorporated into existing BCP plans to ensure these vital records are adequately catered for in an emergency. This may involve having copies kept off-site. Ensure that you have included this in your key project deliverables.

9. **Pilot/Proof of Concept ✓** Any large technology project is shrouded in risk. The most risk averse and beneficial thing you can do before going down the one-way road of full implementation is to start with a pilot or proof of concept. This will ensure upfront, before signing on the dotted line, that a new EDRMS will work for your organisation and its specific requirements. My suggestion here is to set up a pilot in a document-centric part of your organization - perhaps a business unit that shares and creates lots of documentation. The pilot should run for at least a month, ideally two. Following the pilot there should be a formal post-implementation review.

I have been involved in projects where someone has announced that from a certain date everything will be scanned. Great stuff, very exciting. However, they forget to ask, why are we scanning? What benefits do we propose to obtain from scanning? What format are we going to scan to? What are we going to do with our hardcopy documents? In my experience of cases like this very little forethought has gone into answering these questions and examining in any detail work processes. In this type of scenario, piloting would be extremely beneficial.

With the complexity of modern EDRM systems piloting of more than one system should be absolutely mandatory and if the EDRM vendors really want to prove their products then they should have no problem with the concept.
10. Training Resources, Knowledge Bases & Ancillary Tools

Yes, my last check point did mention the word tools. While we have a plethora of standards, technical and otherwise, and methodologies, there are also a number of simple tools you can develop yourself that will be a boon to any EDRMS implementation project. Tools can include simple items such as a Lessons Learned register to capture lessons learned by the project team as they go along (for example what worked, what didn’t, how they solved problems that may arise again further down the track). Mandatory project management tools include risk registers - not just listing risks but also their mitigation! Issues registers are also invaluable and can also be a change and communication tool. At least if staff issues are noted then they have been formally documented. Subsequently, issues that will be addressed by the project can be noted and issues that will be out of scope can be flagged for follow-up post implementation.

Implementing an EDRMS is one of the most complex, far-reaching projects an organisation can undertake. Often it will touch everyone in the organisation and has the potential to change the way people work. It is definitely not something to take lightly. Often it will require the development of multiple artifacts. By this I mean developing a business case, an enterprise data model, reporting requirements, a security model, functional and non-functional specifications, use cases, test scripts, policies, procedures, new audit requirements, workflows, to name just a few. In saying all of this, make sure your EDRMS project is supported at the highest levels of your organisation. Without this support it is doomed before it starts.

A final note - the allure of EDRMS! EDRMS is not a panacea for all ills. No technology will address human and other elements that are required to ensure success. I have experienced organisations that expect the Records Manager to be a trainer, a test analyst, a filer, an auditor, and project manager! One person cannot do all things. Additionally, in the absence of robust records management induction procedures and policies, an EDRMS will not be the solution for all information and records management issues. Lastly 5, 10, 15 years down the track are those documents in that proprietary EDRMS going to be accessible? Of course your EDRMS has a magical migration button that exports all records into a future-proofed digital format and your vendor has contractually signed this off!

Good luck with your implementation!
"No Records, No Rights, No Accountability"

Jeremy Pope

Looking at the title for this talk as I started to think about what I should say, it struck me that it seemed to be incomplete: It really should read "No records, No access, No rights, No accountability, No democracy." But first, an apology. As a novice in the field of records management, I am conscious that many of you have a far greater depth of knowledge of the topic than I could ever aspire to, but was encouraged to tackle the task by the organisers who felt that my work on integrity systems and my experience working in a variety of countries might be of some interest to you. The next twenty minutes will determine how right - or how misguided - they may have been.

Some thirty years ago, in 1976, I endeavoured to undergo a transformation from being a lawyer in private practice in a country where records at least appeared to be handled efficiently, to becoming an international civil servant. So began my first encounters with how records are handled in other parts of the world. The first was in the Commonwealth Secretariat itself. There I shared responsibility for meetings of Commonwealth Law Ministers, including our own Minister. And there, all the records of the meetings were classified "secret," including the analytical papers prepared at considerable expense by some of the Commonwealth's leading jurists. I asked why these papers were withheld forever from public view, and was told, "that's the way we have always done it." So I persuaded my director that since this seemed to be a fixed policy, we should slip into the notice of arrangements for the next meeting that "documents will be classified according to content," and then not classify anything at all.

* Jeremy Pope, a New Zealand lawyer, was Director, Legal and Constitutional Affairs Division, Commonwealth Secretariat, London, from 1980-1993, and was founding Managing Director of Transparency International (TI), Berlin, from 1994-1998. His writings on containing corruption and the building of integrity systems have been translated into over twenty-five languages. He now works with Tiri, the governance-access-learning network, on raising ethical standards in government (http://www.tiri.org). He is a trustee of the International Records Management Trust that works in the developing world (http://www.irmt.org). The following paper was presented at the 2006 Archives and Records Association of New Zealand Annual Lecture, Campbell Lecture Theatre, Old Government Building, Wellington, on 29 March 2006.
This we did; no one seemed to notice, and afterwards we published the papers and sold them to law libraries around the world, with considerable success.

Then, as I left, the last thing I did was to manage to have implemented a records management policy governing public access to the Secretariat's records. Previously, all the Secretariat's papers were withheld from the public, apart from those that the first Secretary-General had simply taken with him when he left, and deposited in a library in Canada. The then Secretary-General, Emeka Anyaoku, was far from enthused at the idea, but what clinched the argument was the fact that, under open government laws in the more developed Commonwealth countries, their holdings of these records would be passing into the public domain at various times in the future.

In between times I was able to witness at first hand the anarchic handling of records around the Commonwealth, and most notably in countries in Africa and the Caribbean. Files would be heaped in every available nook and cranny, and in no particular order. Papers - dog-eared, torn and fast disintegrating in the heat and tropical light - would be spilling out of folders and onto the floor. I asked one Attorney General how his staff ever found anything they needed and was told, frankly, "they don't. We have a filing clerk who seems to know his way around. He is years past retirement age but we have to keep him on as he is the only one who knows where to find anything." I thought, too, he might have added, "and who has a vested interest in keeping things the way they are." I asked a former UK colonial service lawyer how they had managed records in Southern Africa; "We had an excellent system," he laughed. "We simply put the records up in the rafters of our building. And if they were not needed before the termites ate them, they were clearly surplus to our requirements!"

But then I started to learn of the consequences of this anarchy, and the problems started to assume a human face. There was a change in the administrator of a prison in India. He saw an eighty-year old man among his charges, and was curious to know why he was there. He asked him and was told he was awaiting trial - a trial for riding on a train without a ticket fully 47 years earlier. The man's file had simply been lost, and with it his life.

Then there was the elderly man in Ghana, who after 33 years in government service applied for his pension and received a cheque for the equivalent of thirty-nine US cents. The records for most of his time in government service had been mislaid. Again in Ghana, the records for the building of the capital's drainage system were lost half-
way through its construction. As a result the project could never be completed, and the city suffered loss of life and considerable damage in a huge - and avoidable - flood.

Land records have long been another source of chaos in a number of countries. Those with titles find others appearing with competing titles and claiming the land they themselves owned. With court records also a shambles, both sides would resort to self-help, appointing "land guards" to protect - or to advance - their interests, at times leading to bloodshed.

But it is not just a loss of records. There are, too, records of things that never were. Such as phantom roads in Tanzania; non-existent schools in Uganda, each with budgets, "pupils" and "staff", with ghost workers that have padded state payrolls in perhaps three quarters of the Commonwealth's developing countries. To be fair, this phenomenon has also surfaced in France, where an entire regiment was found to be non-existent only when it was ordered into active duty. Some of the London boroughs have also succumbed to the virus.

Another feature has been the manipulation of records, particularly in the judicial system - where dockets disappear, exhibits vanish, and cases never heard, so depriving people of property to which they are entitled, or even more seriously, of their liberty.

One admirable group of activists in India is the pioneering right-to-information group, Mazdoor Kisan Shakti Sangathan (MKSS). This has won remarkable victories in the struggle for accountability through the creation of Jan Sunwais (public hearings). These take place in rural villages. MKKSS contrives to obtain the records of local development projects and through public hearings subject these to a local public audit. Such is the wrath of the communities when they discover how their officials have misreported spending and misappropriated funds intended for the villages, that the officials have little option but to reimburse the budgets and to change their ways. But India has a population of over a billion, and more villages, and officials, than anyone can be expected to count, so although these hearings certainly dramatise the problem, they are not a complete answer. Because of difficulties in obtaining official information, MKSS have led the Right to Information movement in India, which through sit-ins and protests has met with remarkable successes. No records, no rights. At the level of the individual citizen the situation in many countries is shocking. But the damage does not end there. Most of these countries have administrations pledged to raising the standard of living for all their citizens. Denied accurate information, planning becomes a matter of guesswork. So, too, does it become a near-impossible task for these
countries to embark on any effective reorganisation of their civil service, deprived as they are of such basic information as knowing how many civil servants they have, and where they are stationed. This is aggravated by the fact that in these countries, for generations, posts in the civil service have been handed out to kith and kin, and treated in large part as being largesse to be dispensed by Ministers and senior servants without regard to merit.

Much of this was found even in Tanzania, where the country’s founding father, Julius Nyrere, had a lively appreciation of the importance of records and their handling. The moment the country gained independence, he issued a circular to the entire public service in which he stressed that records were the “collective memory of then nation” and were of the “utmost value.” He emphasised that good recordkeeping was not just a core tool of good government, but also protected the rights of individual citizens. He had the vision, but sadly it was never realised. Despite record spending of aid over the following 40 years, Tanzania today is poorer than it was in 1962 - no records, no rights, no development.

And lest I appear to be denigrating the efforts of developing countries, we do have always to bear in mind the fact that few have ever had the resources to fund the operations of a modern state with anything approaching sufficiency. Even in the developed world, governments can be cavalier when it comes to recognising the importance of records management. By way of example, when Margaret Thatcher came to power in the UK, the first thing she did was to require reductions in the numbers of civil servants. As they looked around for surplus staff, the eyes of managers fell on the lowly filing clerks, and these were shed in large numbers. Their absence, after all, was not going to affect the operation of their ministries for some time, and by then most if not all of the senior civil servants would be safely at home in the country, gardening and drawing their pensions. The result, of course, was when FOI legislation was enacted in the year 2000, the Keeper of the Public Records at Kew found herself with some seven aircraft hangers full of unfiled documentation, and, of course, no resources with which to process and weed it.

My more recent professional life and experience has been in the area of promoting transparency - ostensibly as an aid to reducing corruption but in fact as a means of bringing about just and honest government, and with this, rational decision-making and social and economic development in the third world and in the countries of the former Soviet Union that we now refer to as being “countries in transition”.

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When, in the early 1990's, a small group of us decided that governments could not be trusted to combat corruption, we reflected on what our primary message should be in the advocacy work of a non-governmental organisation, and reflected this in the name we chose: Transparency International. We did so in the belief that an "open society" recognises that no one has a monopoly on the truth. In such a society, citizens are able to vigorously debate government policies and the future direction of their country. Freedom is maximised, and at the same time the weak and the poor are protected. Where legal guarantees of freedom of association and freedom of speech are assured, the space for corruption to occur is markedly diminished. Not eradicated, of course, but kept to a minimum. We argued that such "open societies" are not the exclusive domain of mature democracies, such as our own. They can be part of any country's democratic development. Nor is an open society necessarily a function of culture or history, but rather of a genuine commitment to transparency and accountability. In the past, these features existed in many traditional societies, and we can view the place of the marae in this context, with its counterpart in Africa being the meeting under the "big tree." However, in much of the world, these values have evaporated. Firstly, with colonialism, and its obsession with secrecy, and later by the creation of nation states that either ignore tribal boundaries, or create a playing field for competition for resources between tribal groupings in "winner take all" fledgling democracies.

We argued, too, that access to information was a human right. We said Article 19 of the Universal Declaration of Human Rights (affirming the right of all "to seek, receive and impart information ...") was a starting point for legislating for access to information, even though the Declaration originally was aimed at curtailing government censorship, rather than promoting government transparency. We quoted the playwright and thinker George Bernard Shaw when he asserted that "the right to know is like the right to live. It is fundamental and unconditional in its assumption." We were criticised, among others, by the eminent philosopher Onora O'Neill, who in her Reith Lectures series in 2002 argued that transparency destroyed trust in government and in society. She asserted that by demanding that we be able to "see" everything, we were rendering trust redundant. Societies simply could not function in the absence of high degrees of trust - be it in one's neighbours, one's doctor or one's government. Her points are, of course, wholly valid, but only if you take a functioning society with a relatively trustworthy government as your starting point. For countries like Nigeria, Bangladesh or Indonesia, the challenge is to
create conditions conducive to the evolution of trust in government, and that was what lay at the heart of our analysis.

It seemed to us self-evident that, in building a successful open society, guaranteed access to information is the most critical element. Freedom of speech and freedom of association play a crucial part. But in the absence of reliable information, citizens are unable to discuss sensibly the issues of the day, challenge the media and government, and, when they see fit, take to the streets to register their protest in peaceful demonstrations.

Underpinning these processes must be an independent media ready, willing, and able to hold those in positions of public trust to the standards of an open society, and accepting the media's responsibility to filter information fairly and objectively, so that citizens are accurately informed.

The purpose of such access is clear: to build public trust, which in turn safeguards against corruption. Political leaders who find themselves under intensive, regular public scrutiny are more inclined to act honestly, ethically, and in the public interest - and less inclined to sell out the public interest in favour of their own. And no form of Access to Information legislation can be hoped to achieve its objectives in the absence of well-organised databases from which to retrieve what is asked for.

All of this is of great importance, but paramount, I believe, is the role records play in a country's national integrity system, and in the process of "horizontal accountability" it creates and sustains. There is not the time this evening to analyse these concepts in any detail.\(^3\) Briefly, the thesis is that every country has an "integrity system" of some sort, whatever the state of repair it may be in. It comprises a range of "integrity institutions," among them the judiciary, Parliament, the Ombudsman, the Auditor General and so on - all of which are accountable, and each of which holds others accountable.

One "pillar" is the judicial system, for example, but this does not exist in isolation from other institutions within the integrity system. The judiciary requires assistance from the police and the lawyers as it upholds the Rule of Law and requires all to comply with it. But the judiciary itself is also accountable, including to the people through the media (on a daily basis) and to Parliament (with Parliament's powers of removal being exercised on an exceptional basis). Every institution in the integrity system holds others to account, and is itself accountable to others. But this system simply cannot function if the key institutions are denied the information they need with which to perform their essential tasks.
In a nutshell, it is not too much to say that our constitution and the way in which we govern ourselves rests on the Rule of Law and on our records management system. But even the Rule of Law is an empty vessel if courts do not have the records they need.

At the end of the day - and so at its dawning - there can be no effective systems of accountability in the absence of a dependable records management system. Without paper and electronic trails, there is little or no accountability, citizens are at the mercy of their protagonists, and corruption can flourish in the vacuum.

In Mexico, where a freedom of information law was enacted in April 2002, a report stated that "public records, transcripts, and notes from important meetings have been purposefully kept from public view, leaving almost no official record of how key decisions have been made. In many cases, official records have been destroyed or taken home by officials when they left office."

While working in Panama and Guatemala, I was assured that in some countries in Central America it is a long-standing tradition for an outgoing administration to shred most of its sensitive records. The message is clear: We must under no circumstances have a records management system that is beholden to, or controlled by, the political arm of the administration. Given the New Zealand government's excellent reforms to date, perhaps it might be encouraged to go further.

The role of the chief archivist is coming into focus. Long overlooked, this official is increasingly seen as holding one of the keys to accountability. The archivist's records can provide not only the data essential for sound planning and decision-making, but also the paper and electronic trails crucial for exposing mismanagement and corruption.

In my short time back in New Zealand, after spending far too long away, I have heard of the good things that have taken place on the records management front here. Taking the agency out from the umbrella of a more generalised department and empowering it to develop a coherent records management policy across government are reforms with a potential quite literally to change the course of the country's development, albeit in invisible and subtle ways.

We, here, are fortunate. In most other countries archivists' posts are relatively junior, and their work radically under-resourced. Too many of them also work in the absence of a coherent and enforced records management policy. Neither would seem to apply here.

However, ideally, the post of chief archivist should be granted a degree of constitutional protection so that he or she is insulated
from political interference – perhaps being placed on a par with a Supreme Court judge. If not this, then at least placed on a par with the Auditor General. The chief archivist should be designated as an officer of the Legislature, and be appointed by, and responsible to, the elected representatives of the people. Such is the position of the Auditor General as a result of reform of the Public Audit Act 2001. The chief archivist deserves no less.

Close to such a model is the United Kingdom. There, the chief archivist is not a political appointee, and is not selected by the government from a pre-set list of nominated persons, as happens in some European countries. The official is appointed by open competition and then confirmed by the Lord Chancellor. The Permanent Secretary can remove him or her for gross negligence, and the Treasury can remove the official's accounting officer status for financial irregularities. The chief archivist has the status of a regular public servant, and is a Statutory Office Holder under the Public Records Act of 1958. The crux of the protection lies in the fact that the relevant parliamentary select committee would be expected to inquire into any change in the post.

We should not assume that we have come so far that the battle over records management can be said to have been won. A satisfactory state of affairs cannot be assumed to last indefinitely, as witness the backsliding of the USA. Once at the forefront of claims to practice "open government," it is closing up shop in the most unlikely of places. Controversy surrounds the recent appointment of a dedicated political supporter of the President to the key archival post. In New Zealand we should argue for protection here before the obvious need arises.

What can such a protected post achieve? I would offer the recent Hutton Inquiry in the UK as an example. There, while examining the role of the state in the apparent suicide of the weapons scientist, Dr Kelly, the actions of Prime Minister Blair were to come under scrutiny. He was likely to be questioned by the law lord, but in private. Fascinating records would be generated before Lord Hutton sat down to write his report. So on day one, before the inquiry even got under way, Lord Hutton received a visit from Sarah Tyacke, then Keeper of the Public Records at Kew. “The records you are about to generate,” she told the somewhat surprised law lord, “are not your records. They are mine!”
The concept was advanced by the philosopher, Karl Popper, in *The Open Society and Its Enemies*, written in Christchurch, New Zealand, between 1938 and 1943 while a refugee from Nazism.


Archifacts
The reality of life amid the dirt and decay of nineteenth-century Dunedin is very successfully conveyed in this history by Pamela Wood. Through her interpretation of a broad range of source material the author provides a new understanding of colonial experiences of mud, sewage, disease and many other aspects of dirt in public and private life. You can almost smell the filth.

Dr Wood has based this book on her Ph.D. thesis, submitted at the University of Otago in 1997. She currently teaches postgraduate courses in nursing knowledge, nursing and midwifery research, and historical inquiry in nursing and midwifery at Victoria University. Her stated interest is in “how people described dirt, how they argued about it and how they tried to persuade others to their point of view.” She vividly describes physical conditions, but also explores the symbolic meanings dirt had in “assessing the progress and achievement of settlement, and how it affected people’s attitudes to nature, settlement and health.”

The contrast of ideals with reality is a major theme of the book. The first settlers arrived in 1848, many of them with Arcadian dreams and a perception of the Dunedin climate as naturally healthy. Swamps, mudflats and poor living conditions quickly became a matter of concern, however, and with the goldrush of 1861 further issues relating to dirt came to public attention, including inadequacies in the water supply, contaminated food, insanitary hospital conditions, problems with cemeteries and the existence of slums. The most overtly offensive form of dirt, however, was excremental waste. In 1864 a right-of-way on a George Street property was said to have been covered with a foot and a half of nightsoil, and elsewhere cesspools overflowed in wet weather and water closets emptied directly into waterways. Numerous other examples illustrate that dirt was more than an occasional or isolated problem; it pervaded colonial life. Problems were identified, notably through the Dunedin Sanitary Commission report of 1865, but they were ineffectively addressed, often hampered by the uneasy relationship between provincial government and the municipal body, and by a general lack of resources.
Wood identifies the period between 1876 and 1900 as one in which "new scientific and medical knowledge redefined dirt and demanded new responses to it." Sewers and a city abattoir were built, infrastructure improved and expert advice sought, while new concepts such as the germ began to be considered in public debate and policy. At this time the theme of ideals versus reality shifted its focus towards expressions of lost Arcadia and squandered advantages, and was accompanied by a decreased tolerance of dirt.

Wood effectively uses responses to dirt to explore social beliefs and attitudes of the period, particularly a widespread association between dirt and immorality. Milen Coughtrey, who arrived in Dunedin in 1874 as the first Professor of Anatomy and Physiology at the University of Otago, is said to have spoken of the evils that flowed from neglect of sanitary laws and in the 1890s the ministers James Gibb and William Saunders preached moralistic sermons on the "seamy side" of Dunedin. Some minority groups, including prostitutes and the Chinese, were marginalised by their frequently substandard living conditions and the resulting associations with dirt. Wood also explores the concept of civilisation, which was seen to be disrupted or jeopardised by dirty conditions, which were equated with a lack of progress.

In the course of examining these ideas the roles of many groups and individuals are considered, including nightmen, doctors, engineers, local body politicians and significant figures such as James Nimon, who was appointed the first inspector of nuisances in 1865. The overall picture painted of Dunedin is extremely unattractive, but Wood is careful to point out that the city was by no means unique, and was struggling to come to grips with the same issues faced in northern New Zealand and other colonial centres. The lingering impression is the conclusion that settlers experienced a "dismaying replication of Old World filth in the Arcadia of the new."

The endnotes and bibliography reveal a wide variety of primary and secondary resources and these receive balanced employment throughout the text. Archival sources include minutes, correspondence, reports and other administrative resources, mostly from the Dunedin City Council Archives. Sermons from the Presbyterian Church of New Zealand Archives and personal papers from the Otago Settlers Museum, Hocken Collections and Dunedin Public Library usefully add further perspectives, such as the domestic image of Sarah Low hopping about placing "waterproofs and thick coats" over the beds as every shower of rain exposed the inadequacies of her roof shingles. Other primary sources include a wealth of books, reports, articles
every shower of rain exposed the inadequacies of her roof shingles. Other primary sources include a wealth of books, reports, articles and pamphlets, many of them written or published in Dunedin. Newspaper and journal references are frequent and Wood's study of more than twenty nineteenth-century Otago serials has provided essential details of events and useful comment through letters to the editor and other opinion pieces. Photographs and other illustrations are liberally provided, enhancing and complimenting the text. Many of these have an almost tangible quality, despite the sterilising effect of a black and white image. Most come from the Hocken Collections, Otago Settlers Museum and Dunedin City Council Archives.

This book is a first class cultural and social history, immaculately researched and presented. In addition to being the authoritative text on its topic it should be of interest to both international researchers and general readers who feel the "attraction of repulsion."

David Murray
Hocken Collections

Political Pressure and the Archival Record.
Edited by Margaret Proctor, Michael Cook and Caroline Williams.
US$42
ISBN 1931666156

A rainy day and a book titled Political Pressure and the Archival Record - what could be better? To this apolitical, non-government archivist, almost anything. Chocolate and coffee carefully stockpiled, a brief perusal showed the volume to contain a selection of twenty papers. Each was presented at the international conference Political Pressure and the Archival Record held in Liverpool, United Kingdom, July 2003. Although focusing on records and record keepers, the book claims to explore the effects of political pressure on all building blocks of society's memory and culture. The essays are complemented by an index, and short biographies of editors and contributors.

The volume is divided into six sections: The Historical Legacy; Access and the Public Interest; Ethical Dilemmas in the Public Service; Governments under Pressure; Threats and Responses; At War: Records and International Conflict; and Modelling the Future. Ranging over the past 200 years to the present day, the essays cover
Archifacts

a wide geographical area including Europe, North America, Asia and Australasia. The essayists come from a variety of disciplines, including history, archives, and the social sciences.

An excellent introduction by Margaret Proctor begins by attempting to define "political pressure." Quoting from the conference call for papers, she notes that "the character of the regime that controls the recording function deeply affects the nature of the record, and its level of penetration into the lives of citizens. Inevitably political needs shape, directly or indirectly, the professional lives and practices of the archivists and record-keepers who work within the sphere of the political regime" (p.ix). Often routine and insidious, it is sudden political pressure which gains our attention.

The first section, "The Historical Legacy," emphasises the continuing impact of past political actions on the present day. Describing the damage war inflicts on society's memory, Masahito Ando surveys the accidental loss and deliberate destruction of administrative records in Asia and the Pacific as a result of Japanese aggression. The essay is accompanied by tables exemplifying the detrimental effect on Malayan survey and marriage records by 1945. Jeannette A. Bastian looks at the "whispers" of a colonised society that may be found in the archives of the coloniser. Her case-study focuses on the inhabitants of the United States Virgin Islands, and her emphasis on oral traditions, and the finding of the silent voices within the public record, may be of interest to researchers of Maori history. Interestingly, Bastian also discusses "conceptual provenance," where the silent population on whom the record is based are seen as part owners of the larger provenance. Dwayne Cox's case study of litigation over registers of land deeds in North America, 1874-1918, shows the gradual move of case law towards enabling access to public records. Friedrich Kahlenberg examines government rule and the experience of Central European archivists from 1919, through the Nazi era and beyond. The reunification of Germany in 1990 has seen the re-emergence of regional archives and with it regional identities.

"Access and the Public Interest" examines political attempts to control public access to information. Godfried Kwanten investigates the role of Belgium's private archive repositories in providing access to political records. Astrid Eckert considers the negative trend of increasingly limited archival access in West Germany during the Cold War. The problem of accessing politically controversial records is exemplified by Tywanna Whorley in her paper on the Tuskegee Syphilis Study. Medical research saw African-American men remain untreated for four decades in order to chart the effects of syphilis. Debating the
importance of access versus the right to privacy, Whorley contends that the right to access is more important in such shocking cases. Maureen Spencer examines the sinking of the HMS Thesis in 1942, where over fifty civilians died alongside enlisted men. The political need to prevent access to records in wartime soon became enshrined in law as standard closed access.

"Ethical Dilemmas in the Public Service" are examined by Rick Barry, Chris Hurley and Verne Harris. Harris argues that the archivist is intrinsically part of the politics of the society in which they operate - "the archive is politics - not that it is political - but that it is politics" (p.173). Barry investigates the effect of dubious ethics on access to records. Examples include the Union Back of Switzerland's destruction of records relating to Nazi gold, ENRON and Arthur Andersen's questionable retention schedules, and weapons of mass destruction claims. Drawing lessons from each of these cases, Barry argues for the teaching of ethics in information management courses, avoiding practices with potential ethical risks, and professional societies' promotion of high ethical standards. Of particular local interest is Chris Hurley's paper on archivists' ethical role in protecting the record from political pressure. As Keeper of Public Records in Victoria, Hurley came under direct political pressure as a result of his objection to unauthorised disposal of public records. He was "instructed not to write to him [Keppel] on that matter, instructed further to write no letters of any kind to any departments except with the approval of the head of my own department, and (for good measure) asked why I hadn't solved the problems of electronic recordkeeping" (p.154). A low blow indeed. The second incident concerns the Queensland State Archivist, who was asked by the government to destroy records relating to Noel Heiner's report on mismanagement and abuse in State institutions for the care of children. Unaware of intended litigation, the Archivist did so. Hurley felt the appraisal was unsatisfactory and vigorously urged professional associations to act. Drawing lessons from these incidents, Hurley urges protectors of the public record to encourage and enforce obligations on our public officials to make and keep accurate records. He argues also that we cannot urge officials to behave ethically, if we as archivists are not accountable. Criteria against which we can measure our actions and ensure ethical behaviour must be formulated.

"Governments Under Pressure? Threats and Responses" indicates that we may have to become more proactive in our defence of democratic access to information. Chris Williams and Clive Emsley, who surveyed the state of provincial police records in the United
Kingdom, believe a more proactive stance would have a positive effect on records management and access. Considering America's political response to 9/11, Jackie Esposito examines the United States' Patriot Act and its impact on higher education administration. In the face of governmental requests for information concerning possible terrorists, which clearly compromises privacy rights, records become an important tool in the battle. Thomas Connor argues that the Patriot Act is part of a general “information lockdown” by the Bush government. Urging a watchdog approach, Connor reminds us that open access to government information is a building block of democracy. Rachel Lilburn's case study on security intelligence records in New Zealand adds a local flavour to this international phenomenon. Documenting a number of concerns, she reveals a security culture reluctant to support open public access. The newly independent Archives New Zealand, however, seems prepared to act decisively but Lilburn argues it must be better equipped with legislative authority enabling power over disposal, custody, transfer, management and access. Concurring with Esposito and Connor, Lilburn calls for the active involvement of the archives profession in this debate, as well as a coalition with political scientists, historians, and researchers wanting to use these records. To do otherwise would be “tacitly supporting the status quo and those in power who choose to mislead the public, believing that a democracy survives on never-ending secrecy” (p.224).

The most extreme form of political pressure is appraised in “At War: Records and International Conflict.” George Mackenzie examines the impact of war on archives and the political attitude towards cultural casualties. From the battle of Solferino in 1859, and the foundation of the Red Cross for humanitarian protection, he progresses to Sarajevo and the foundation of the Blue Shield for cultural protection. The impulse to protect cultural property, Mackenzie notes, was seen as early as 1339 when the Japanese emperor forbade the destruction of sacred places (p.244). During World War II the Allies had a special corps of monuments, fine arts and archives personnel to ensure minimal cultural damage. Mackenzie reminds us that damage to any national cultural heritage is a loss to all mankind's history. Yet, despite the increasing value placed on protecting cultural property, the twentieth century has seen more destruction than ever before. Trudy Peterson examines the seizure of records during wartime, as well as the laws of war governing such seizures versus the practice where any document deemed of value is taken. Arguing for a simplification of international rules, she notes that we must recognise also the importance of seizure for international trials and protection of human rights. Ultimately,
however, both state and private papers must be returned. Focusing on the problem of inadequate military recordkeeping, Agnes Jonker examines the failure of the Dutch peacekeeping force to prevent the massacre in Srebrenica in 1995. Poor records management both at the front-line and in the Netherlands created problems for investigators. Indeed so severe was the failure that the government resigned one week after the final report was published.

The final section, "Modelling the Future," highlights how technology is changing the interaction between state and society. Claire Johnson examines the problem of the relevance of traditional archival practices within Scotland's e-democracy. Malcolm Todd considers more generally the problems inherent in electronic records management, such as ensuring authenticity, integrity and reliability. He highlights the very real political threat to the record, and to the political systems we serve, not only from secrecy but from mismanagement and complacency; "Whereas serendipity seems to have been a part of the capture of traditional paper records and archives, we cannot sleepwalk our way into the electronic future" (pp.316-17).

This book is an excellent initiation into the issues of political and ethical pressures on the record and recordkeepers. As the emphasis is on case studies, however, some essays err towards factual detail, and readers already knowledgeable about these issues may note some lack of analysis and possible solutions. For those less acquainted, however, the case studies are absorbing and thought-provoking. As Rick Barry reminds us "... broad discussions about ... theory gets us nowhere ... [C]ase studies ... actively engage an audience no matter how reluctant initially" (p.131). Proving the truth of this statement, I found my attention absorbed by compelling examples. The final section on future problems is less interesting. Archivists are generally well-acquainted with the problems posed by technology and they are treated in greater depth elsewhere. Yet, overall, this book more than adequately achieves its goal of raising awareness about the dangers of political pressure and unethical behaviour on records and their protectors.

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