The Making and the Keeping of Records : (2) The Tyranny of Listing

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> *Traditionally, records are kept by sustaining the context in which they were made (respecting original order and provenance). This is seen as an essential requirement for maintaining their evidential value. Methodologically, this has required that we ensure the persistence of arrangement (recordkeeping processes) and a description of the transactional framework (business processes). Listing or inventorying has become central to this methodology because the relationships thus preserved are contingent, not logical. It follows that they cannot be set out prospectively and incorporated into the design of an archiving system. Rather, they must be documented retrospectively as or after they happen as descriptions of the implementation of those processes. In this concluding part of the article, the question posed is this: Can we abandon our traditional concern with ensuring the persistence of recordkeeping and business processes and still keep records?*

… we have allowed ourselves to be hypnotised by learned articles on classification (and indeed by prior example) into assuming that the order on the shelves must correspond to an ideal philosophical order … or at the very least that the classification system is the same as the reference system, which it most emphatically is not. Since the bulk of the records being processed by records management procedures will be required only for administrative reasons, they will be required quickly and in a form in which they are easy to consult, copy, and, if need be pass on to others and be readily identified. In this respect, therefore, the records in a Records Centre are the equivalent of the data bank of a computer and this is the clue to the storage principle. The material must be stored by the random file method, as in a computer, and the information it contains integrated by means of a 'programme' to provide access in answer to a number of different requirements, including those of archival classification.[i]

> He's got 'em on the list – he's got 'em on the list;
> And they'll none of 'em be missed – they'll none of 'em be missed.[ii]

In Part 1, it was argued that archival description is not simply an aid to discovery and retrieval.[iii] Instead, it is integral to documenting knowledge about records and the circumstances in which they are made and kept – essential knowledge for the records to exist as records and serve their principal use as evidence. In other words, the primary purpose of documentation or finding aids is not repository control or the facilitation of access but as an indispensable component in the making and keeping of records.

In the paper world, it was possible to lose sight of this because archival methods based on the 'life cycle' separated the preparation of finding aids in time from other documentation activities. Archivists acquired custody of records no longer in current use and preserved them by physically segregating them into provenance-based

fonds in an order reflecting their last practical use. This fixity of placement and arrangement was replicated in finding aids which did little more than represent the physical organisation of the records in boxes and on shelves.

In this last 'archival' phase of the life cycle, such finding aids contribute little to recordkeeping (merely duplicating physical placement, which has been the chief recordkeeping tool known to the archivist). Finding aids also give value-added knowledge of context, but even here archivists have allowed themselves to become 'collection' focused. Archivists have documented contextual knowledge only insofar as it related to the records they held, being the small quantity of records which have survived appraisal (or competition for deposit) and which happened to have been transferred to their custody. Context has been documented only insofar as it was necessary to describe records in custody. Contextual descriptions have become, therefore, merely adjuncts to and enhancements of the listings of records held – little more than additional descriptors to an item list – not documentation of a recordkeeping system.

Not surprisingly, such finding aids came to be seen as being principally aids to discovery and retrieval. Their prospective users (those for whom they were written) were 'researchers' whose perceived information needs came to dominate archival descriptive practice.

Traditional descriptive methods were used to portray an entity in which it was assumed all relevant features of structure were to be found physically embodied in the material being portrayed and to which necessary contextual knowledge could be attached as a descriptive enhancement rather than to show relationships with other descriptive entities (not necessarily records).

This traditional descriptive model or 'system' informs much of the work which has so far gone into recent descriptive standards efforts. The International Council on Archives (ICA) standards claim to be independent of both technological and methodological systems, though I have argued in Part 1 that they are dependent on, and limited by, the assumptions implicit in the traditional methods they largely reflect.

Encoded archival description (EAD) is, more sensibly, avowedly dependent on the methodological systems implicit in traditional descriptive practice. The begetters of EAD correctly describe it as a format 'used to communicate and publish data, which is created and maintained in a relational database' but they go too far when they claim that it can also be used 'to create, maintain, publish and communicate' archival data.[iv]   In fact where 'two types of implementation' are claimed for EAD, there is only one. In both cases, EAD is being used to publish and communicate data which is created, managed and maintained in descriptive or recordkeeping systems. The only difference is that, in one case, the relational database is recognisably a separate system and, in the other, the archival system which produces the finding aid for mark-up using EAD as the export language is not recognised as such.

Conceptually it matters not whether the archival or recordkeeping system which produces the content of the finding aid to be exported in EAD format is itself manual or automated. The significant thing is that in both cases the underlying 'system' for making and keeping the records being described (including the production of finding aids) – or, in the case of traditional descriptive practice, the archival system for

producing finding aids – is something quite different from the rules and standards which support the formatting of the resulting product for publication and communication.   EAD is, in both cases, simply the export mechanism for a report from the system.

Developing and standardising such an export format is, of course, no small thing. It is critical for this discussion, however, to recognise that this accomplishment can only cover off a very small portion of the descriptive standards territory.

Most traditional finding aids are essentially lists because they incorporate one of the chief characteristics of a list (an internal structure which is hierarchical).   This hierarchical structure fixes the portrayal of the records into a single view, strangling the depiction of changing relationships between descriptive entities.   This has led to a supposition that this characteristic of conventional listing techniques (perfectly acceptable as an implementation strategy for one kind of finding aid) is a functional requirement for all description - rather like mistaking a 5x3 catalogue card as a defining characteristic of an index.   Something like EAD is ideal for managing lists because the underlying assumptions which inform EAD's approach to the analysis of recordkeeping systems is based on traditional descriptive practice[v].   It is less well adapted , therefore, to managing other kinds of finding aids, especially where the descriptive output is volatile (and not the last word, as in an obituary or epitaph) and where, for this or any other reason, the relationships between entities cannot be predicted or predetermined by their assigned characteristics (as in a true hierarchy). Still less can such an approach be used when managing the records themselves.

Traditional methods or systems, upon which, so far, both the International Standards for Archival description (ISAD and ISAAR) and EAD have been formulated, will not (it is here argued) serve when dealing with electronic or multimedia records, whatever utility they may have had in paper. What is missing from the descriptive standards debate is a satisfactory evaluation of the utility of working from unchanged assumptions about what archival description involves. This is why standards incorporating assumptions that these methods must prevail will not do.

One reason for this is that computerised documentation systems themselves offer opportunities for implementing more efficient and effective methods than those of the past, irrespective of the nature or format of the materials we are dealing with. This was recognised most presciently by S.C. Newton over 25 years ago (as quoted at the beginning of this article). It is arguable, therefore, that a revolution in method has been made possible, even necessitated, by computerisation of the way we document recordkeeping – even if the records themselves had remained paper-based. This would be true even if we remained locked into the last phase of a life cycle, dealing only with non-current records used mainly by researchers.

What makes a re-engineering of descriptive methods unavoidable, however, is the consequences of computerisation in recordkeeping itself. In Part 1 it was argued that electronic recordkeeping necessarily raises from the outset a need for 'archival' control and documentation, making it impossible to postpone this activity to some later phase in a life cycle. This has the logical consequence that descriptive methods must be developed for the whole of a recordkeeping system, not merely an unchanging appraised portion transferred into archival custody.

By the same token, we can now recognise that contextual knowledge management systems are needed to update and revise archival metadata periodically to keep on making knowledge of circumstance which is contemporaneous to the record meaningful to interpreters at a later time. We can now recognise that this is a process necessary not only in service of scholarly researchers but for all users of records whether for scholarly or business purposes and over intervals which can be both short or long.

Within the profession, this view (together with cognate views exploring ways for adapting and changing archival methods to meet changing circumstances) has not gone without challenge. In other words, the problem is not simply a failure to recognise the need for new methods. It is also a definite rejection of alternative solutions aimed at satisfying descriptive needs based on the view that they are not simply a different way of achieving the same goal but a violation of fundamental principle and purpose.

To some, the separation of archival activity from recordkeeping is not simply a time-based implementation tactic for achieving a more fundamental purpose. It is seen rather as an underlying principle in its own right. They view as heretical theories based around the idea that archiving and recordkeeping are grounded in a 'continuum' of common principles and purposes, allowing methods to be altered as convenient to encompass activities on either side of that divide (now perceived by the rest of us to have been artificial in the first place) provided that the fundamental recordkeeping purpose is not violated.

Records are made by people or corporations (identity) when actions or circumstances (function) leave traces (documentation) which are managed and organised to keep a memory (evidence). Each of these axes of understanding represents different kinds of knowledge which must persist if the record is to provide evidence of the facts or circumstances which it documents.

Archivists traditionally preserve this knowledge by keeping records assigned to their care in agreed ways ('respecting' provenance and original order) and by writing it down (finding aids). Traditionally, we have kept records cocooned within the provenance and arrangement given to them by our depositors as our chosen method for maintaining this knowledge dependency, on the assumption that preservation of provenance and arrangement (augmented by judicious supplementary commentary) ensured persistence of the circumstances of creation. When records are preserved as physical objects, it appears that the systems of which they were part could best be preserved by maintaining the arrangement and provenance. The lists or inventories describing that grouping, ordering, and internal structure are also seen as tools for effective repository management and aids to retrieval.

The great principles informing that task (preservation of original order and provenance) were justified on the grounds that they are necessary to maintain the evidential value of the records – their recordkeeping functionality. But originality and provenance are means to this end, not ends in themselves. We now see how much more satisfactory it is to formulate these ideas as recordkeeping requirements emphasising the purpose for which, rather than the means by which, we keep intact essential knowledge of context and structure.

To keep a record, it was necessary to entomb it with an accompanying descriptive epitaph or obituary which recounted details of the associations it once had – details no longer observable in its present surroundings. The record itself, by virtue of being kept, necessarily existed in new surroundings, different from those in which it was made. This applied regardless of whether the record remained intact as part of the records of its creator or was captured by an archiving system and removed into a preservation environment.

Either way, the decision to keep a record subjected it, necessarily, to future change in the surrounding circumstances and associations (context) which contributed to its evidential meaning. If the record remained with its creator, there would be changes to the storage locations and methods, recordkeeping procedures, personnel, and business functions which enabled it to be retrieved, used, and interpreted. Similarly, if the record was archived into the care of another party for preservation, there would be similar changes in store, together with the added difficulty that the preserver would need to distinguish between records deposited from several creators. In either case, the passage of time would probably see the demise of the creator, whose functions might or might not pass on to a successor.

In the physical world, preservation of recordkeeping functionality often goes hand in hand with maintenance of a physical arrangement which preserved original order and provenance. Files belonging to the same series are kept together, in the sequence dictated by the logic of the recordkeeping system. This preserved aspects of both the system and the provenance. The sequence preserved a practical manifestation of the system and the separation of records belonging to different *fonds* helped preserve provenance.

The theoretical possibility of abandoning physical arrangement as a means of capturing knowledge of context and even of structure, so long as description preserves the necessary associations and relationships and enables its reconstruction, was recognised by S.C. Newton and Peter Scott in the 1960s and 1970s. More recently, David Bearman's proposals to give greater emphasis to the possibilities of item-level control in an object oriented system give rise to similar speculation.[vi]

For the purposes of this discussion, it is essential to understand that conceptually Bearman's metadata-encapsulated-object (MEO) can come in a simple or complex form. A single transactional record (simple form) may or may not have relationships with other records. Robinson Crusoe's diary, regarded as a single record rather than a recordkeeping system, would be of this kind. Most records, however, will have complex relationships with other records.

The underlying principle satisfied by traditional archival methods and the descriptive practices they entail has been that the evidential value of a record relies upon the persistence of the system in which it was created. Continuing knowledge of provenance and original order (recordkeeping process) and continuing knowledge of the circumstances in which the transaction occurred (business process) are necessary to establish the truth of the document.

In 1994, I attempted to deal with a comment by David Bearman that Australian descriptive practice does not provide for the recordkeeping system.[vii] Then, I argued

that our descriptive model had room for recordkeeping systems. That model has been expanded by Frank Upward into the continuum model embodying the four axes (identity, function, documentation, and evidence) referred to above.[viii] More recently, I have come to the view that recordkeeping systems (recordkeeping processes) do not fit the Australian theoretical model along the documentation axis, any more than business processes fit the model along the functional axis.

These, and corresponding ideas along the identity and evidential axes, belong not to the theoretical model but to implementation and design. This is because recordkeeping systems are contingent, not logical. The 'evidence' which our systems must preserve (the documented knowledge of which we are custodians and preservers) is what was actually done, not what was supposed to be done. The theoretical model outlines the system in the abstract. It is only contingently, in the implementation of the model in particular circumstances, that knowledge of what was actually done can be captured. This knowledge of what was done, documented using the entities provided by the theoretical model, gives us the particular description (finding aid) in each case documenting what was actually done (the recordkeeping and business processes).

If this analysis is correct, the system (knowledge of the application of the model to the particular case) must persist if a record is to be kept. This conclusion is, of course, perfectly orthodox.

Manifestations of the application of the system in particular cases give records those characteristics of provenance and order which it has traditionally been the object of descriptive practice to capture.[ix] The question becomes, therefore, how to achieve that same objective in a digital world where the mere representation of a physical order on a list is clearly useless.

Persistent systems are needed to establish and maintain relationships between records and other records belonging to the same business and recordkeeping processes. Relationships must also be established between the records and entities representing components of these processes which are not themselves records and between these entities, each with the other.

The way suggested by David Bearman for establishing and maintaining these relationships (picked up in the recent VERS proposal[x]) is by encapsulating the record-object with relevant metadata and by constructing complex records having a simple MEO swallowed (encapsulated) by succeeding MEOs according to some rule for preserving the relationship. This process for creating complex MEOs – variously described using metaphors involving onions, Russian dolls, and big fish eating little fish – is one way in which structure can be preserved.

An analogy can be made between this approach and traditional recordkeeping methodologies. Nineteenth-century dockets were simple transactional records linked by means of the registers and indexes (control records) which established the relationships (structure) between successive transactional stages in the constructed record. The modern correspondence file, which has replaced docketing, simply strings together successive rounds of correspondence (internal and external) into a chronological sequence on the file. The file, in this instance, should be understood not as a single transactional record or item (little fish) but as a miniature

recordkeeping system (big fish) in its own right. Encapsulating metadata takes the form of file title, reference code, movement details, previous and subsequent links, etc.

The most obvious kind of structure which can be preserved by encapsulation or 'swallowing-up' successive transactions within each other will be a temporal or logical succession: earlier/later, previous/subsequent. More complex relationships (eg superior/subordinate) might be preserved, but there would seem to be limitations on the degree of complexity which can be so handled. In any complex organisation of recordkeeping and business processes, a single 'file' of sequential transactional records will obviously be inadequate for recording the activities of the organisation. The business will require systems which stand outside the files (encapsulated objects) to support and document related processes.

It will not be lost on archivists how similar all this is to traditional arrangement and description, in which the associations or relationships between items are preserved by placement and supported by methods involving preservation and documentation. Thus, if we regard the description of a series or consignment as the outer layer of a complex MEO we can reveal its internal structure by peeling away the layers to reveal the component items within – the entries on the list or inventory.

Preservation of original order is held to be a cardinal rule of archive keeping because it represents a commitment to maintaining the evidential value of records where that is achieved through structure or placement. Even when the original order is not 'meaningful', I have previously argued, it may be necessary to prefer it to more 'useful' arrangements in order that we may preserve the evidential meaning of the arrangement.[xi]

In order to be preserved, an original order must exist in the first place. It would appear to be manifestly absurd to speak of devising an original order for archival materials or imposing an original order over them. Since our motive is not to preserve this order for its own sake, but for the evidence it sustains, the organisation of records is usually thought of as belonging definitely to one side of the supposed divide between making and keeping.

The actual arrangement of records in the archivist's care determines the way they are described in the finding aids. Not only is the original structure preserved physically in the shelf order, but the format and style of presentation of information in the records is usually a function of that arrangement. The distinguishing feature of a typical archival finding aid is a list of the contents of some group, fonds, series, or other collectivity, with the information frequently identical to shelf order.

These lists preserve the internal arrangement of the collectivity, pointing towards or even documenting important evidential relationships between the component parts. They also define the boundaries of the collectivity by giving actual substance to the logical norms of the recordkeeping system. Thus:

>   (1) **Evidence of Structure**: If a nineteenth-century file or docket contains an incoming letter from the other side of the country bearing the same date as a related letter-book copy and the registers show that it was received after that date, it is a fair assumption that the outgoing letter was composed and possibly sent before the incoming letter was received.

(2) **Evidence of Provenance**: If a set of files or dockets received as a group in isolation from any other records contain incoming correspondence bearing a single address without exception, it is a fair assumption that the addressee was the recordkeeper.

(3) **Evidence of Context**: If a former Minister of State deposits a set of disordered files in which original order is partially lost, but small clusters of files (dealing with electorate matters) display alphabetical sequencing and other clusters of files (dealing with portfolio matters) display chronological sequencing, it is a fair assumption that the two were kept separately.

A single entry on an archival list does not, therefore, convey all the requisite information about the record. The relationships between the entries on the list (ie the item entities on the list) and meaningful information about every entry may only be found as part of the description of the collectivity as a whole (and may only be able to be stated at that level). Just as the full evidential meaning of the record can only be found by preserving the original order, so the full documented meaning of the description can only be presented by replicating that order as the organising principle of the finding aid in the form of a listing of the material.

It is this which provides the intellectual underpinning for the ICA's 'multi-level rule', whereby archival description is structured into a hierarchy in which information about the records is documented at the highest possible level. Information must not be duplicated at different levels. A description of a record at any level must be read in the context of descriptions of the collectivities to which it belongs in the same hierarchy. It follows that no description of a record stands alone, instead it must be understood not only in the context of like items on the same list, but also by reference to descriptions of the collectivities to which the listed items belong.

In other branches of knowledge management, a logical hierarchy is imposed on categories and subcategories whose purpose is to organise (classify) entities according to the internal logic of the scheme. The idea that the internal structure of a real-world entity such as a *fonds* could be accurately depicted using this device depends upon being able to solidify both its boundaries and the relationships between its component parts. Since these are contingent and based on observation (instead of being necessary, as a logical hierarchy requires) documentation of both the boundary and the relationships must be incorporated into the description itself. It can never be inferred from the definition of the terms as in a true hierarchy.

The failure to recognise this distinction in traditional descriptive practice (represented by the list) is possible because the work is generally applied to deceased records which have been given a physical form by the last practical use to which they were put by the recordkeeper. It is the physical form or arrangement of the collectivity which archivists receive which they then set out to preserve and describe.

A list or inventory is the paper equivalent of what binds a complex MEO together, revealing the associations which make up the organisation of a larger whole and its identity as an entity having a common provenance for all of its component parts. The preservation of these associations has been one part of the method traditionally used to preserve the recordkeeping system to which records belong.[xii]

But simple preservation of order and placement, though important, have never been adequate, even to preserve 'dead' records – supposedly beyond the call of current usefulness. They will be woefully inadequate as methods for keeping the evidential value of records intact while still in current use. That will require, as traditional description has always required, the persistence of systems for associating records, not just with each other, but also with complex contextual structure represented by such things as the related business and recordkeeping processes.

Such contextual knowledge will impose upon the records structures which cannot simply be inscribed upon the face of the record as well as knowledge of the context in which the processes giving them that structure operate(d). Certainly, it seems that the technology exists (or soon will) to inscribe knowledge of circumstance as metadata upon the face of record to a degree hitherto not practical, or else to maintain such knowledge in linked knowledge management systems. It will never be possible to entirely dispense with the need to preserve not only the record, but also the system (the methodological system, that is, not the technological system) which supports it because the meaning of the internal structure and the contextual metadata must always be externally validated.[xiii]

It cannot therefore be argued that MEOs become self-describing entities, freed of any dependence on intervention to preserve systems and contextual knowledge apart from that which each record itself contains.

In the paper world, the two key processes alluded to above – business processes and recordkeeping processes – both gave form and boundaries to the documentation used in carrying them out. These forms and boundaries were the objects of traditional description. We call them dockets, files, series, *fonds*, record groups, etc. It is apparent, however, that electronic recordkeeping – even if one were to postpone the task of archival description to some later stage – is simply not going to present us with such collectivities to preserve, let alone describe. I have yet to hear anyone explain convincingly, for example, what a series of electronic records is, or how one would describe it.

We can distinguish very clearly between the kind of data which goes into an archival description (its content) and the way that data is organised, presented, and used (the system). If we go on using traditional descriptive practices to describe recordkeeping systems which simply do not present the kinds of collectivities for description which paper-based systems delivered to us, we will pass beyond description to reorganisation of the records for use. Paradoxically, we will be imposing on electronic records an 'original' order they never had because it is the only order we know how to deal with. A very real danger at present is that this 're-creation' of records in the electronic world will creep into our work in the guise of re-engineered appraisal practices.

The professional discussion of descriptive practice has very little to say about what the object of description will be in electronic recordkeeping. It should already be clear, however, that a methodology which relies upon a hierarchical ('multi-level') structure within such collectivities as a traditional *fonds* or series will be inadequate.

Two changes, at least, to the way in which business is conducted in the automated world will make the creation of traditional collectivities used when describing records

unlikely – changes in the way organisational structures operate and in the way responsibilities are assigned and carried out. Moreover, the sequences to which records belong and the contextual associations they have will be significantly more complex.

To represent this complexity it will not be sufficient merely to **associate** data about a collectivity to a description of the record. The entities operating along the four axes of description (identity, function, documentation, and evidence) will have to be described in knowledge management systems which **relate** descriptive entities to produce new data about a collectivity by correctly documenting and amplifying the business processes and the recordkeeping processes in which the records exist(ed). The entities existing within those axes (many of them already familiar to us from the field of traditional description) will be the descriptive tools we must use to document those processes.
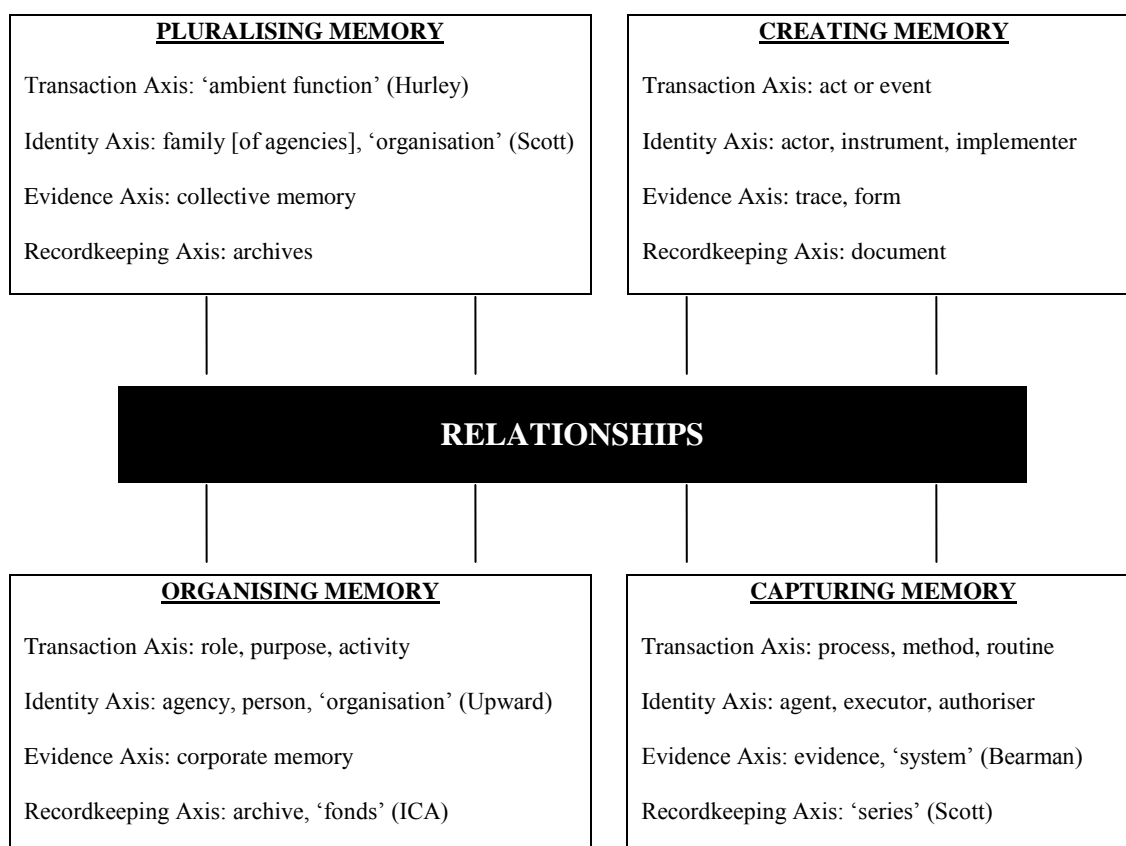
PLURALISING MEMORY	CREATING MEMORY
Transaction Axis: 'ambient function' (Hurley)	Transaction Axis: act or event
Identity Axis: family [of agencies], 'organisation' (Scott)	Identity Axis: actor, instrument, implementer
Evidence Axis: collective memory	Evidence Axis: trace, form
Recordkeeping Axis: archives	Recordkeeping Axis: document

RELATIONSHIPS

ORGANISING MEMORY	CAPTURING MEMORY
Transaction Axis: role, purpose, activity	Transaction Axis: process, method, routine
Identity Axis: agency, person, 'organisation' (Upward)	Identity Axis: agent, executor, authoriser
Evidence Axis: corporate memory	Evidence Axis: evidence, 'system' (Bearman)
Recordkeeping Axis: archive, 'fonds' (ICA)	Recordkeeping Axis: 'series' (Scott)

FIGURE ONE

Traditionally, descriptive data about those entities has been **associated** with a description of the records, forming part of the archival description in which it appears (a characteristic of the entity being described). By contrast, **related** data is the product of a statement of relationship between the entity being described (the record) and other descriptive entities. As with a traditional list, it is the relationship forged between the entities in the particular description which is made which keeps the evidential value of the documentation intact.

The importance of structuralisation to archival description has long been recognised. The capacity to accurately depict business and recordkeeping processes depends on the ability to be able to document complex reality through separating ideas and

carefully constructing descriptive relationships between them. Effective archival description requires that we place records in context – in time and place – and we do this by fashioning descriptive entities and documenting the relationships between them.

This is the underlying method of archival description which permits us to locate records into the time-bound, evidential cocoon of meaning that they need to have to do their job. In order to understand the record and derive from it the evidential value which is its purpose, it must be interpreted not by reference to our observation of it in the circumstances which obtain when we access it, but by an understanding of the circumstances which existed at its creation and the change between those circumstances and our own.

The two fundamental issues for discussion concerning archival description are, therefore, what descriptive entities should we be using and what are the relationships we need to show between them. Frank Upward's continuum matrix can be used to chart the field (see **Figure One**):[xiv]

In such a model, there would appear to be room for 16 kinds of descriptive entity: [xv]

	Transaction Axis	**Identity Axis**	**Evidence Axis**	**Recordkeeping Axis**
Creating	Act or Event	Actor	Trace	Document
Capturing	Process	Agent	Evidence	Series/Folder
Organising	Role	Agency	Corporate Memory	Archive
Pluralising	Ambient Function	Family	Collective Memory	Archives

It needs to be emphasised, perhaps, that there is no suggestion that real world systems must utilise all 16 logical possibilities – indeed any real world system which tried would probably be impossibly bad and hideously expensive. Scott's series-system formulation had five: organisation/family, agency/person, series, accession, item – though accessions were only for convenience to effect and document transfers and were never intended as permanent descriptive entities. He contemplated the existence of another: functions. These entities clearly combine data from more than one axis within each dimension. Nor should it be supposed that each category allows only one kind of entity – the variety of methods for capturing paper documents (including dockets, folders, files, and series) is a good example of how many kinds of entity can exist within a single entity type.

We are now seeing pleasing reports of work being undertaken along particular axes of the continuum model in which real world systems are being developed using a rigorous analysis of the conceptual entities it suggests. One of the more recent is the report from the State Records (formerly Archives) Authority of New South Wales of the development of functions for descriptive and other purposes.[xvi]

Along a similar line of development, entity analysis is being undertaken as part of (or deriving from the fruits of) modelling in systems development work. Two examples have been reported by the School of Library, Archival and Information Studies at the University of British Columbia (UBC)[xvii] and in the *Design for an Archival Description System, Application of ISAD(G): A Study* produced by the Committee on Information Technology of the International Council on Archives (ICA/CIT).[xviii] UBC's work derives, inter alia, from its key research findings:

1. the life-cycle of the managerial activity directed to the preservation of the integrity of electronic records can be neatly divided into two phases: one phase directed to the control of the creation and maintenance of reliable and authentic active and semiactive records, and the other phase directed to the preservation of authentic inactive records; and

2. the integrity of electronic records is best preserved by entrusting the creating body with responsibility for their reliability and the preserving body with responsibility for their authenticity.[xix]

For reasons already stated, I have some doubt about the utility of this approach, but the analysis does, at any rate, display the sophistication of entity analysis that will be necessary. The ICA's work conforms to, though it does not necessarily derive from, the ISAD standards and is based on the view that 'one of the core activities of an archives [is] producing the interface between … users and … archival holdings'. It is the conceptual flaws, discussed above, to be found in these underlying assumptions which make their respective entity analyses (while interesting) of less than optimal value.

ENDNOTES

[i] S.C. Newton, 'Pre-archival records control in East Sussex', *Journal of the Society of Archivists,* Vol.4, No.7, April 1973, p. 584.

[ii] W.S. Gilbert, *The Mikado*, Act I, 1885.

[iii] Chris Hurley, 'The making and keeping of records: (1) What are finding aids for?', *Archives and Manuscripts,* Vol. 26 No. 1, May 1998, pp. 58–77.

[iv] Summary of remarks by Daniel Pitti in *Report of Conference: EAD the Way Forward*, held in Edinburgh, 24–25 September 1999, downloaded from http://www.iisg.nl/~euan/euan_ead.html : "Daniel, the person who originally developed EAD, said that we define ourselves by what we choose to remember and to forget ... There are broadly two types of implementation of EAD: it can be used to do everything, to create, maintain, publish and communicate information in SGML/XML. The Archives of California use it in this way, as do Glasgow University Archives. Alternatively, EAD can be used to communicate and publish data, which is created and maintained in a relational database ..."

[v] Which its developers, correct up to a point, see as a virtue rather than a limitation.

[vi] David Bearman, 'Item level control and electronic recordkeeping', *Archives and Museum Informatics,* Vol. 10 No. 3, 1996, pp. 207–45.

[vii] Chris Hurley. 'The Australian ('series') system: An exposition' in Sue McKemmish and Michael Piggott (eds), *The Records Continuum: Ian Maclean and Australian Archives First Fifty Years,* Ancora Press in assoc. with the Australian Archives, Melbourne, 1994, pp. 159–60.

[viii] Frank Upward, 'Structuring the records continuum, part one: Post-custodial principles and properties', *Archives and Manuscripts,* Vol. 24 No. 2, November 1996, pp. 268–85 and 'Structuring the records continuum, part two: Structuration theory and recordkeeping', *Archives and Manuscripts,* Vol. 25 No. 1, May 1997, pp. 10-35.

[ix] I used to think that the ordering of archival material on a list was fairly unproblematic. Recently, however, we have begun developing a computerised list management system at the National Archives of New Zealand. It has proven to be impossible to come up with a functional specification for organising entries on lists, apart from the order in which the entries were made by the archivist.

[x] See http://www.prov.vic.gov.au/vers/final.htm.

[xi] Chris Hurley, 'Personal papers and the treatment of archival principles", *Archives and Manuscripts,* Vol. 6 No. 8, February 1977, pp. 351–65.

[xii] For further discussion see Chris Hurley, 'Ambient functions – abandoned children to zoos', *Archivaria,* No. 40, Fall 1995, pp. 22–6.

[xiii] *Ibid.*

[xiv] Frank Upward, *loc.cit.*

[xv] One of the problems with the model is that the language hasn't settled down yet. I have changed some of the terms in this representation of it.

[xvi] Archives Authority of New South Wales, 'Finding records through functions', *For the Record,* No. 17, February 1998, pp. 1–3.

[xvii] See http://www.slais.ubc.ca/users/duranti.

xviii An electronic version can be found (as at February 2000) at
http://www.asap.unimelb.edu.au/asa/stama/conf/WWKisad.htm.
xix http://www.slais.ubc.ca/users/duranti/intro.htm.