



Author	Hurley, Chris
Year	2008
Title	What, if Anything, is the Australian "Series" System?
Publication Details	<p>Published online September 2008.</p> <p>This version made available on Records Continuum Research Group Website</p> <ul style="list-style-type: none">• From 1998 to 2009 at http://www.sims.monash.edu.au/research/rcrg/publications/ch-australian-system.doc• From 2009 to 2015 at http://www.infotech.monash.edu.au/research/groups/rcrg/publications/ch-australian-system.doc

Copyright

This publication is protected by copyright. Copyright in the publication remains with the author. The Monash University Research Repository has a non-exclusive licence to publish and communicate this publication online.

WHAT, IF ANYTHING, IS THE AUSTRALIAN (“SERIES”) SYSTEM?

Chris Hurley¹

SYNOPSIS

This article began as the first half of a valediction to over 30 years of work on this subject that was written, in part, to mark the 40th anniversary of Peter Scott’s seminal 1966 article in *American Archivist* on the Australian “series” system. In one form or another, the larger article was rejected by most of the English-speaking journals. The second half (“[Documenting Archives and Other Records](#)”) now appears (under that title) on the [RCRG site](#) of the Records Continuum Research Group. I try to knit together the ideas of Scott and his predecessors with those of some of his continuators : refocussing away from the documentary object, onto context and process and, hence, onto the making of the record. This also involves rethinking the physicality of the documentary object and subjecting series to an analysis similar to the one Scott himself applied to the *fonds*.

In [Part One](#), I look at how the System has been used to describe archives holdings, to respond to the challenge of electronic recordkeeping, and to redefine the archivist’s mission. I argue that these strands have not been well synthesised and that Scott’s legacy is now fractured and fragmented in ways that neither his continuators nor the exploiters of his ideas fully understand.

[Part Two](#) shows how the System (as originally conceived) redefines the purpose of archival description. The task is now to document recordkeeping – not just to list holdings. This changes what finding aids are for. The descriptive archivist, always more than an impartial observer, becomes more clearly a records-creator and records-keeping a phase in a continuous recordkeeping process.

[Part Three](#) looks at the records-making process from this perspective. In its original formulation, the series was understood as an elemental component of a recordkeeping process. It was portrayed as an immutable entity surrounded by variable context. But the series itself gives context to its component parts and is better understood as a recordkeeping process, not as a fixed arrangement of objects.

[Part Four](#) deals with the important matter of registration. By separating the description of context from the description of records, the System developed an array of techniques for describing or documenting virtual features of the record apart from item lists and groupings of items (series and *fonds*). This has led to some of our most useful insights into the nature of the recordkeeping process.

[Part Five](#) looks at the System’s redefinition of provenance. Multiple provenance enables us to deal with change over time – essential to successfully managing timebound evidence. Thus recordkeepers take a descriptive stand outside of the recordkeeping process. Parallel provenance enables us to take a further step towards recontextualising the recordkeeper’s own point of view.

[Part Six](#) ends this piece with a final reflection on the current state of Australian descriptive practice and a pointer to “[Documenting Archives and Other Records](#)” which attempts the desired synthesis.

PART 1 : DESCRIBING ARCHIVES AND DOCUMENTING RECORDKEEPING

Forty years ago, Peter Scott mounted an assault on descriptive method² by -

- making the series (not a record group or *fonds*) the object of descriptive input;
- viewing series in context “synchronically” rather than timeless remnants;
- crafting relationships with context and with other series enabling multiple views;
- assembling series into groups/*fonds* as descriptive outputs of a system.

¹ I would like to thank Glenda Acland, David Bearman, Terry Cook, Adrian Cunningham, Barbara Reed, Sue McKemmish, and Frank Upward for their comments and assistance on an early draft of this piece. There is much here now, however, upon which they did not have an opportunity to comment and with which some of them may disagree.

² Peter J Scott (1966), “The Record Group Concept: a Case for Abandonment” *The American Archivist* vol.29 (October, 1966), pp.493-504. Reprinted in *Debates and Discourses : Selected Australian Writings on Archival Theory 1951-1990* edited by Peter Biskup et al. (Canberra, Australian Society of Archivists, 1995), pp.79-90.

The *fonds* ceased to be an object of description and became instead the product of a system. The dual character of the *fonds* was deconstructed into entity-types : one reflecting its character as an accumulation of records, the other as the accumulator of those records (subsequently declared, in international archival discourse, to be an “authority” record)³.

This so-called “series system” solved local Australian problems – how to go about documenting a *fonds* that had not yet completely formed⁴. The Commonwealth Archives Office (CAO), where Scott worked, managed documents less than seven decades old in 1966 when he published; very recent semi-active records were accepted; and their administrative context was unstable. This volatility in the recordkeeping⁵ systems and the administrative instability of their context posed descriptive difficulties. Scott’s article and subsequent expositions⁶ sought to apply a novel practice within received doctrine, using registry techniques in archives management. Scott proposed a registry of registration systems, making and keeping records of records-making and records-keeping.

In later years, Scott set out at inordinate length the peculiarities of administrative change in the Australian government in order to justify his work⁷. These articles placed the system within mainstream archival thought and practice (particularly by referencing the Dutch and French traditions). They also contained much valuable reflection, the fruits of many years in which he had wrestled with the application of his method but they reinforced a misconception that the System was a response to local problems. Some, taking the word “abandonment” at little more than face value, condemned the proposals as professional heresy of a minimalist kind - an abandonment not simply of the *fonds* as an object of description but also of the theory its use supported - a proposal to document records (“series”) at the expense of the approved method for describing both structure and context that faithfully preserved provenance and original order⁸. No one properly understood the significance of what was being proposed. Scott propounded a better way of dealing with volatile administrative context and his readers supposed that the proposal was relevant (if at all) only in that environment. By one means or another, all description is an account of volatility - portraying records not just as they are but also as they once were, fulfilling the common objective of both the records-maker and the records-keeper.

³ Finding word(s) for the “authority” component of the *fonds* is hard. Many relationships can exist between an accumulator and the records accumulated, reflecting various roles that an accumulator can have in an inter-action with other agents of formation and with the records : authoring, organising, authorising action, exercising a delegation to act (directly or vicariously), and controlling action (the one under whose mandate, function or authority the work is done). Functions or mandates can also be identified as agents of formation in addition to agents, to say nothing of processes within action takes place. The un-deconstructed *fonds*, appropriate enough in a physical environment, is based on the identity of the chosen agent of formation while others can be represented as indexes of authorised terms – **but** an agent of formation is not just an authorised term.

⁴ Ian Maclean (1962), ‘An Analysis of Jenkinson’s ‘Manual of Archive Administration’ in the Light of Australian Experience’ in A E J Hollander (ed), *Essays in Memory of Sir Hilary Jenkinson* (London, Society of Archivists, 1962), pp.128-152. Reprinted in *Debates and Discourses ... op cit.*, pp. 53-78.

⁵ I shall use “records-making” and “records-keeping” to mean the separated processes for the formation and preservation of records and/or archives. Records management may (I suppose) be regarded as part of “-making” and archiving as part of “-keeping”. Wherever possible I use “recordkeeping” to combine both ideas into a single concept.

⁶ See, for example, Chris Hurley (1994)★, “[The Australian \(‘Series’\) System : An Exposition](#)” in *The Records Continuum : Ian Maclean and Australian Archives First Fifty Years* edited by Sue McKemmish and Michael Piggott (Melbourne, Ancora Press in association with Australian Archives, 1994), pp. 150-172.

⁷ Peter J Scott et al.(1978-1980), “Archives and Administrative Change – Some Methods and Approaches” *Archives and Manuscripts* Part 1 : vol.7, no.3 (August, 1978); Part 2 : vol.7, no.4 (April, 1979); Part 3 : vol.8, no.1 (June, 1980); Part 4 : vol.8, no.2 (December, 1980); Part 5 : vol.9, no.1 (September, 1981).

⁸ See especially Kenneth A Polden (1968), “The Record Group – a Matter of Principle” *Archives and Manuscripts* vol.3 (May, 1968), pp.3-7. Reprinted in *Debates and Discourses ... op cit.*, pp.95-100.

Implicit in this approach, inherited from the work of Maclean and other precursors, was a hatred of collecting. On this theory, the correct portrayal of an archive involves depicting the entire recordkeeping system from whence it derives – not merely the remnant (the “holding”) that occupies the archival shelves. Scott inherited this aspiration. His contribution was to complete the thinking on how to do it. The user of archival descriptions would not only see what had survived but also what had once existed and how it all (that which Archives held and that which Archives had destroyed) fitted together in a coherent description of everything. This made the object of description the recordkeeping system as much (more even) than the records themselves. The Archives became a registry of recordkeeping systems, not merely a repository of archival detritus. Information about what was “held” was merely an optional attribute of our descriptions produced to satisfy our custodial. Someone researching the events could scour the finding aids and get information that had not survived as archives. Descriptive archivists became more obviously contributors to, not merely depictees of, the events documented in their archives. As yet, there was no well-formulated idea that the descriptive mission could be part of the records creation process itself but it could, and often did, take place in the absence of an actual transfer. It was a short step to apply this view to recordkeeping itself.

Things have moved on since 1966. Many who are unfamiliar with the ensuing discourse within Australia or with links made between post-Scott Australian thinkers and overseas writers fall into the belief that new work simply involves a rehash of ideas and a re-litigation of issues already dealt with decades since. Subsequent developments in Australia have followed divergent streams⁹ :

- on the one hand by those (the **archiving stream**) who use the System as it was originally conceived : to accurately portray the pre-history of archival deposits, to facilitate repository management, and in the formulation of archival finding aids;
- and on the other by those (the **recordkeeping stream**) who, notably since the late 1980s, reconceptualised Scotts’ work as a means of managing records throughout the pre-archival stage as well as for custodial purposes, with particular attention to electronic recordkeeping.

The nexus between these two streams, always tenuous, is now very weak. The former has focussed on the mechanics of the System, while the latter has explored and expanded its rationale. It is some time since theory and practice stopped revitalising each other; the two are now in very great danger of disconnecting.

The archivists have advanced little beyond Scott’s methods, apart from automating them and scaling them down by a diversion into collection management that is actually retrograde. The response of Australian archival institutions to the handling of digital materials has not, by and large, been a descriptive one¹⁰. Meanwhile, his ideas have been taken to what may be their logical conclusion by others working in the academy and heavily involved in research and standards-setting. The recordkeepers now inhabit a world of metadata schemas, information management standards, and system design. It may be also that he has been understood better by a handful of overseas archival thinkers than by the majority of his own compatriots.

A third stream of development (the **re-contextualisation** stream) has seen Scott’s ideas applied to the management of contextual meaning seldom documented in archival finding aids – contested meanings and “hidden” voices (to use Terry Cook’s apt phrase) of participants who were often powerless to control either the events in which they were involved or the archive that remained behind. Australian contributors to this stream include, most powerfully, Sue McKemmish and Michael Piggott, while overseas similar ideas have been explored, inter alia, by Terry Cook, Tom Nesmith, and Verne Harris.

⁹ By “**recordkeepers**” and “**recordkeeping**” in this section, I mean the reconceptualisation of Scott’s ideas within the world of recordkeeping, not recordkeeping ideas generally. The terms will be italicised and emboldened in this section to indicate the difference.

¹⁰ This is not to say that archival institutions, especially government programmes, do not pursue a recordkeeping stream also, but along parallel rather than convergent paths. The cross-over point, where there is one, is on the relatively trivial matter of how to prepare digital materials for transfer to archival custody.

Peter Scott taught us to make context virtual, but the records themselves remained, in observation, the physical objects that they always had been. Series remained physical things trapped inside a single view of their boundary and structure just as the *fonds* had been before Scott deconstructed it. Intellectually, those who came after within the recordkeeping stream broke out of this mould and applied to the contents of records (their internal arrangement) what Scott himself did to their context (their external arrangement) – identifying their existence also as virtual, a way of looking at evidential objects in alternative and even contested combinations.

What I once called the Australian (“Series”) System¹¹ can no longer be understood solely by reference to Scott’s own writings, still less by reference to descriptive practice in Australia or elsewhere. Like some great religion, it has fragmented into sects but its evangelists – intent on making converts – have down-played or even ignored this fragmentation and its implications. The question now is whether the practices of the archivists, the theories of the recordkeepers, and the musings of the re-contextualisers actually cohere into anything that is recognisably a single body of descriptive thought and practice?

In what follows, I shall pay some attention to the development of the System within the recordkeeping stream, making what allusions I can to its origins in and continuing relevance for archiving. Many of those within this stream (in association with leading records managers and colleagues from the ICT world) have also been in the forefront of standards-setting in Australia. These efforts, heavily influenced I believe by the 1990s visits to Australia from David Bearman and by his inspiration of early attempts to deal with electronic recordkeeping, have been going on now for nearly two decades. These efforts have met with conspicuous success internationally. The Australian Records Management Standard (AS-4390) became the basis for the International Records Management Standard (ISO-15489). Much of the work of the Australian federal and state archival authorities in guiding recordkeeping practices has now been distilled into the ICA’s Standard for Management of Records in an Electronic Environment.

It should come as no surprise that those in the recordkeeping strand of the Australian descriptive tradition have been at the forefront of standards setting. It remains, however, a parallel development rather than one which is derived from the Australian descriptive tradition. Just as description has been diverted into collection management, so standards have moved well beyond pure recordkeeping. In order to be “relevant” (a perfectly understandable aspiration) the standards embrace many aspects of data management that go beyond simple recordkeeping requirements. This point was clearly made in a critique I offered of the sixteen Guiding Principles that were originally listed as the basis for the ICA Standard for Management of Records in an Electronic Environment¹² :

1. Records have to be managed to ensure they have authenticity, reliability, integrity, and usability.
2. Records have to be linked to their business context by metadata.
3. Electronic records have to be actively managed and maintained as evidence of business activity.
4. Records have to be kept and remain accessible to authorised users for as long as required.
5. Records have to be able to be disposed of in a managed, systematic, and auditable way.
6. Systems for capturing and managing records have to rely on standardised metadata as an active, dynamic, and integral part of the recordkeeping process.
7. Systems have to ensure interoperability across platforms and domains and over time.
8. Systems should rely as far as possible on open standards and technological neutrality.
9. Systems should have the capacity for bulk import and export using open formats.

¹¹ Chris Hurley (1994) ★, “[The Australian \(‘Series’\) System : An Exposition](#)” op.cit.

¹² See Adrian Cunningham, “International Council on Archives projects – Principles and functional requirements for records in electronic office environments”, Digital Futures Forum, Canberra, 18-19 September 2007 at <http://www.naa.gov.au/whats-on/outreach-and-advocacy/forums/digital-futures.aspx>.

10. Systems must maintain records securely.
11. As much metadata as possible should be system generated.
12. Systems should support good recordkeeping as an organic part of the business process.
13. Recordkeeping software should be fully scalable from low level usage to industrial scale usage.
14. It should be as easy as possible for users to create/capture records of a business activity.
15. Good software is only one component of successful electronic records management in organisations.
16. Other components include : Project management ... policy frameworks; business process analysis ... risk management etc.

This list sums much of what the recordkeepers have been doing for nearly two decades. In the [final version](#), published by ICA in July 2008, the 16 guiding principles were reduced to 12 and the word "records" changed to "information" in some cases. This was done, I am told, partly in response to my critique. But mere word changes hardly incorporate the point that I was intending to convey or improve the principles in the way I was trying to suggest – viz. that "records" and "information" should not be used inter-changeably and that the distinction between them should be emphasised.

If the word "data" or "information" (or "data management" or "information management") is substituted for "records" and "recordkeeping" in most of these principles, what you have is the basis for a perfectly good data or information management standard. You could eliminate all of them except 3 and 12 and replace the remainder with a single statement :

- Electronic records have to be managed in accordance with appropriate data and information management standards.

The recordkeepers have selectively copied over principles and practices that derive from another world where they are more appropriately developed and maintained. This creates built-in obsolescence unless we keep looking over our shoulders to see what they are doing next in that other world. The result is neither one thing nor another : neither a comprehensive data/information management standard, nor a clearly focussed recordkeeping standard (in the broader sense). Of course, recordkeepers are part of that world now and have to make a contribution. We also have to be able to know an "appropriate" data/information management standard when we see one and if none exists that can simply and confidently be cited under the replacement Guiding Principle, then we have to say that an appropriate data/information management standard, in our view, is one that covers the omitted material.

We do not, however, need to replicate data/information management standards. We do need to say a lot more about evidence as our contribution towards them : viz. articulating in detailed ways what is meant by things like "evidence of business activity" and "good recordkeeping". Recordkeepers cannot teach those involved in data/information management about Guiding Principles 1, 2, 4-11, 13-14 but those people need to know a lot more about Guiding Principles 3 and 12 and we are the ones to tell them. As to Guiding Principles 15 and 16, technical people often don't understand them either, but this simply means that their data/information management principles are flawed, not that 15 and 16 are therefore part of our secret recordkeeping business.

Strategically, recordkeeping standard-setters have chosen to borrow from frameworks adopted in other worlds – trying, I suppose, to establish our bona fides in those worlds. Tactically, they are trying to produce standards that incorporate all the users need to know about data/information and records as well in one tool. There should be no separation of recordkeeping from data/information management. Quite the contrary, there is an inter-dependence - expressed in the idea that to be good records they must first be good data/information. Greater clarity is needed around the difference between them. It has become unclear whether a recordkeeping proposal is about management of records or management of data/information enhanced by ancillary proposals for the management of records. Unless this distinction is maintained, you run the risk of managing all your data/information as records. Most organisations probably need to manage only a fraction of their data/information according to rigorous data/information management standards and

only a fraction of that need be managed as evidence. David Bearman urged us to drop the term functional requirements for records and say requirements for evidence instead. It wastes resources and effort to manage all data/information as records, bearing in mind that the truly unimportant stuff doesn't need to be managed as either. Standards need to be implemented according to an assessment of different levels of need (risk). The functional requirements for evidence must be stated and then, on the basis of case-by-case risk assessment, you discard as many of them as possible.

PART 2 : RECONCEPTUALISING THE MISSION

Critics of Scott, such as Polden, argued that a correct view of structure and context should be taken retrospectively – at the end of a life cycle. Scott did not deny the possibility (even the desirability) of a retrospective view and in that sense he was a traditionalist. David Bearman, however, disputes that

it is truly possible [or] desirable. The constructs we put on historical activity after many years are likely to be different from the way it was seen at the time, and in any case can't be proven to be the way it was seen unless we have both¹³.

This highlights the distinction between -

1. records-keeping (reconstructing retrospectively the phases through which records have passed);
2. records-making (documenting contemporaneously the phases through which records are passing).

Archivists often claim to preserve, not interpret, the records they describe – far less participate in their creation. All description, however, whether contemporary or historical, interprets what is being described and re-described.

Archival description is after the fact, and does not happen once, but is ever-changing, the descriptions being rewritten within the archives over decades as more contextual information comes to light, as earlier records existing alone are joined by other records ... Moreover, archival description has no end, continually being recontextualized ... whereas recordkeeping description has an end, when the business function ceased or the risk or cost or privacy considerations of keeping old records demands their destruction (or archival transfer), and it is for 100% of the records¹⁴.

Documenting life-events, critical to preserving the record, is itself an act of creation, though this is not always properly understood or acknowledged. The archivist's defence against charges of interference is to leave the records as found so undisturbed that a third party may discern and discount the archivist's hand. Hence the abhorrence felt by some archivists for appraisal or other interventions (even to preserve the records) before they have, in effect, been abandoned by the creator.

These archivists are like historians, battling to state how things once were -

... forever chasing shadows, painfully aware of their inability ever to reconstruct a dead world in its completeness, however thorough or revealing their documentation ... doomed to be forever hailing someone who has just gone around the corner and out of earshot.¹⁵

Their task is humbler though, trying to ensure the documentation of a dead world is as thorough and revealing as possible. But they too are doomed to fail. Defeat is implicit in their mission. They are like doctors, striving to keep patients alive – but in the end, sooner or later, the patient always dies. Neither the contemporary witness nor the historian can expect to have the last word (as we can see in law courts and in history wars).

The idea that archival describers cannot accurately depict records as they were understood by records-makers (or anyone else at the moment of their formation) is a philosophical one.

¹³ David Bearman, private correspondence with the author, 2007.

¹⁴ Terry Cook, private correspondence with the author, 2007.

¹⁵ Simon Schama, *Dead Certainties (Unwarranted Speculations)* New York, Alfred A Knopf, 1991, p.320.

Practitioners of the Australian System try only to do more effectively what archivists have always tried to do - even if what archivists try to do is not truly possible :

... because the record must be time bound, it must capture with it the description of the business at the time of the transaction it records. But over time, as organisations reorganise and reengineer their business functions and activities (particularly their activities), the boundaries of the activities alter, as do the names they are known by ... We need to capture changes to organisational structure through time in ways which will clearly identify links between existing records and present structures¹⁶.

Contextualisation comes through an understanding the circumstances of formation that sits beyond the formative process and inside the mind and assumptions of the beholder (user) of the record. It involves knowing enough about the circumstances of formation to make the viewpoint of both the maker, the keeper, and the describer comprehensible. However valiant the effort to document such knowledge intrinsically within the record, context will always be extrinsic. The evolved Australian System does not claim to contextualise where other approaches do not, but it provides a means whereby honest attempts to do so need not be hampered by a doctrine that privileges one view-point as legitimate.

Each phase in a life cycle takes a retrospective view of the most proximate preceding phase. Scott's way of documenting this, although presented as a records-keeping method, done later in retrospect by an archivist in the finding aids, is a step away from documenting each formative phase simultaneously with records-making so that it is viewed, but not fashioned, retrospectively. Each successive view leads to the last one, which is the view the archivist takes of the *fonds* when it has been delivered into his repository. In practice, however, as Terry Cook and Peter Scott have both argued, the *fonds* is often formed serially and does not appear before the descriptive archivist all at once fully formed. The Australian System anticipates this process and documents each stage in the formation of the records before, as well as after, arrival in the repository. This connects description to all phases of recordkeeping because the essence of a record is the relationship between a documentary object and the event or circumstance of which it is evidence and these relationships both change and subsist over time when understanding of them alters.

The concept of archival documents distinguishes records from other forms of recorded information by their ongoing participation in social, business and other processes, broadly defined, ie by their transactional and contextual nature¹⁷.

When the sequence of formative acts is complete¹⁸, relationships with events and circumstances become historical. Archivists have always documented the life-history of a record (or recordkeeping system) but their posterior descriptions do more than portray traces of contemporary records-making activity left behind on the face of the records they describe. In fact, little of the contents of finding aids (interminable listings apart) is to be found on the face of the record. What archivists actually "see" is paper, and cardboard, and metal clips (or bits and bytes) comprising a physical artefact. The record they describe is an immaterial thing whose meaning is inferred from an understanding of processes more than from an observation of physical features. Archivists add information derived from other sources about the circumstances of creation of which no trace will eventually remain beyond what the archivist chooses to document. The truth or accuracy of description (whether of -making or of -keeping) depends upon the standards employed to ensure reliability, authenticity, comprehensibility, and other recordkeeping features.

The curatorial view of the *fonds* is as liable to change as the formational one, not because of the changing appearance of the object of description but because of changing or contested view-points taken by (or in spite of) the describer, emphasising further that archival

¹⁶ Barbara Reed (1997A)★, "[Metadata: Core Record or Core Business?](#)" *Archives and Manuscripts* vol.25, no.2 (November, 1997), pp.235-236.

¹⁷ Frank Upward and Sue McKemish (2000)★, "[In Search of the Lost Tiger, by way of Sainte-Beuve: Reconstructing the Possibilities in 'Evidence of Me'](#)" *Archives and Manuscripts* vol.29, no.1 (May, 2001), p.27.

¹⁸ It is important to stress the plural nature of acts of formation. A documentary object with evidential value is the product of multiple and over-laying actions including authoring the document, filing it, and using it, to say nothing of the changing contextual circumstances surrounding it during its active life.

description is just the latest part of a succession of descriptive interventions that all contribute to the formation of the archival record :

I think there is never a last, fixed [view], but always an open-ended archive (following Derrida, and Harris), not just new stuff coming in and being added, but a continual re-understanding and re-contextualization and retelling of the stories/narratives about the records creators, their many contexts, changing content, etc., etc., without end. The Harris-Duff article on a liberatory descriptive "standard" in *Archival Science* 2002, nos. 3-4, is instructive here¹⁹.

An Australian approach to this (parallel provenance²⁰) does not necessarily involve a simple lineage of reinterpretations – adopting a replacement portrayal or contextualisation for a discarded one. Just as alternatives are available to view when documenting successive provenance through time to reflect altered states of formation (multiple provenance), contested and alternative contextual statements can appear as parallel views (simultaneous multiple provenance).

Scott's idea dethroned the archivist as a final and an impartial arbiter of truth. If each phase of formation can be successively documented, there is no reason why this cannot be done contemporaneously with formation by the records-maker²¹. All preceding views and the final view in all but its ultimate formation before it is handed over into the curatorial protection of an archivist (whose special mandate it is to describe from a posterior view-point) can be an on-going part of records management. The point of view of an archival describer must also be made manifest because no description that adds contextual detail is or can be unimpeachably impartial²², nor (if Terry Cook and others are correct) final. In brief, in addition to documentation that tells us "these are my records", there must also be documentation that tells us who you are and what you did. This is the contribution traditionally made to description by the archivist after the records-maker has completed his work. It is an honourable role, to be undertaken impartially, objectively, honestly and fairly, but no archivist (nor any other records-maker) can expect his judgements to be final.

Providing an external point of validation does not have to wait to the end of a life-cycle. All that is required is the contextualisation of the records-making process. It is a requirement that crosses both time and space :

Example :

Smith delegates Jones to contract for supplies. It is transmitted to Jones as an email attachment, linked to a "register" of delegations (the latest in a chronological sequence of all delegations for the division in which the work group functions) and master sequences for the company as a whole and sub-sequences for the work group and for contract delegations across the company. It is also linked into a rule-base that connects authorisations with payments and will, in due course, be linked to each successive purchase Jones authorises. Data on Jones' authority can be inscribed on the face of the record, made attributes of the documents, or linked to documentary objects. External validation or context would include links to:

- personnel records confirming the identity of the individuals (the "authorities" involved in formation),

¹⁹ Terry Cook, private correspondence with author, 2007. Terry urges me recognise "more explicitly" postmodern questioning of the notion of stability of interpretation in what I refer to as curatorial description having "antecedents" such as Hugh Taylor and others going back many years. I am happy, of course, to acknowledge these challenges to what I have portrayed here as "traditional" description and that Australian thinking has not been alone in challenging some of these preconceptions. I am not a postmodernist, however, and my focus tends towards the technical aspects of documenting change and of contested interpretation rather than the philosophical aspects of re-interpretation.

²⁰ See below.

²¹ Except on the bizarre notion that archivists are endowed with qualities of objectivity and integrity which give them descriptive abilities denied to everyone else.

²² Chris Hurley (1995A)★, "[Ambient Functions : Abandoned Children to Zoos](#)" *Archivaria* No.40 (Fall, 1995), p.22. How to validate records-keeping as distinct from records-making is an interesting question, but one that is not explored here apart from the validation of recordkeeping generally.

- organisational charts establishing the role(s) of the individuals named (their function),
- policies and procedures verifying what they were empowered to do with verifications imported into the document(s) establishing that the action was valid and within competence (their mandate) as well as formulating complex records enabling the delegation to be validated within the correct policy/procedural framework;
- some external reference or code external to the *fonds* or other domain indicator that enables the immediate agent of formation to be understood within a wider context (e.g. a company registration number/code or a domain code).

Bearman and others²³ taking their lead from him and from the conclusions of the Pittsburgh Project have emphasised the need for “adequate metadata to document content, structure, and context ... [to] be recorded and/or stored irrevocably with the record”²⁴ Using metadata in the management of electronic records (or the management of any kind of record) is description :

If we think of metadata in its broadest and most flexible form, then archivists are metadata experts - it is just that we tend not to think in those terms about the work that we do and the things we produce. Metadata is simply a new term for stuff that has been around for a very long time.²⁵

The more relationships that are formed between entities, the fewer the number of “external” validations will be needed because a coherent network of inter-related points of contextualisation increases knowledge and mitigates against deceit²⁶. This is what Bearman now sees as the role of a registry function :

The Pittsburgh Project asserted that business process metadata (documenting the broad functional context) and structural metadata (documenting systems dependencies) could be captured automatically from electronic applications environments at the time of record capture ... there was every reason to prefer a more conservative option, which placed a record-keeper and ‘registry’ function between the creation and ingestion, and made a traditional assignment of metadata through classification.²⁷

But metadata “stored ... with the record” itself still reflects the viewpoint of metadata managers just as the content of a record reflects the viewpoint of the author/creator. The

²³ The line of development from Scott's original presentation documented here is essentially an Australian one. For a comment on how far I feel Scott's legacy is honoured in his homeland see my “Relationships in Records : Retrospective” *New Zealand Archivist* December/Summer 2004, paras R.2.02 and R.2.03★. Terry Cook points out (in private correspondence) that, just as the insights of Maclean and Scott were themselves beholden to overseas precursors, there have been parallel and complementary lines of development in overseas thinking about these issues - both influenced by and influencing these post-Scott antipodean developments. Cook's own writings have long had Australian thinking as a point of reference, developing out of and feeding back into the Australian discourse – notably in “Electronic Records, Paper Minds : The Revolution in Information Management and Archives in the Post-Custodial and Post-Modernist Era” *Archives and Manuscripts* vol.22, no.2 (November, 1994) pp.300-328 and in “[The Concept of the Archival Fonds in the Post-Custodial Era : Theory, Problems and Solutions](#)” *Archivaria* 35 (Spring 1993) pp.24-37. In addition, he points to other writers (chiefly to be found in the pages of *Archivaria*) who have explored similar paths to those traversed here : including Deborah Barr, Brien Brothman, Rick Brown, Peter Horsman, and Laura Millar.

²⁴ David Bearman (2006), “Moments of Risk : Identifying Threats to Electronic Records” *Archivaria* (No.62, Fall 2006), p.35. This article marks a welcome return of Bearman to the field.

²⁵ Sue McKemmish, Adrian Cunningham, and Dagmar Parer (1998)★, “[Metadata Mania : Use of Metadata for Electronic Recordkeeping and Online Resource Discovery](#)” *Place, Interface and Cyberspace : Archives at the Edge, Proceedings of the 1998 Conference of the Australian Society of Archivists*, Fremantle 6-8 August 1998 (Canberra, 1999), p.127.

²⁶ This is similar to the method used for validating entities within a public key encryption system. It is like multiplying the witnesses to a fact.

²⁷ David Bearman (2006), op.cit, p.35.

metadata needs referential data as much as data incorporated into the content of the record. Managing referential data that tells us what the metadata stored with the record means is archival description. This can and should be done at all levels, not just at the level of “broad functional context” and “system dependencies”²⁸. Close analysis of business processes is a feature of system design and recordkeeping is a functional requirement of business systems, not an adjunct or subsidiary system.

In working through the findings from the [SPIRT] research project, it becomes clear that recordkeepers have significant experience to offer the metadata community in managing complex metadata sets ... The relational and contingent nature of recordkeeping has pushed researchers into dealing with all types of complex relationships between people, what they do and the results of the actions, which change over time and according to roles adopted by people at various times (or even simultaneously)²⁹.

PART 3 : UNDERSTANDING A “SERIES”

Archivists maintain the actual arrangement given by the originator of documents (as identified by the archivist)³⁰. This preserves records from harm in important ways, but leads to an over pre-occupation with the sorting of documentary artefacts at the expense of their meaning as traces of activity. Upon what principle is original order imposed? Keeping a copy of an outgoing letter adjacent to the incoming letter it responds to produces a sequence that is the result of a filing process but the reason the two documents are filed together is that they trace consecutive steps in a process of correspondence between two parties. This juxtaposition (letter/reply) would still be a true sequence even if the documents were not filed together. It is the consecutive actions of the parties involved rather than the placement of the documentary objects in sequence that is being documented. Keeping the outgoing letter separately in a letter-book with cross-references accomplishes the same purpose using a different filing system. Albeit that the juxtaposition or cross-reference results from the deliberative act of the filing clerk, they are in sequence because they document consecutive steps in life. If the clerk failed to consign the reply to the correct sequence, we would say it is misfiled, that a mistake had been made, and steps would be taken to correct the error.

Filing is a deliberative act of document management hoping to recreate the sequence of events in which documentary objects participated. A recordkeeping sequence is not the creation of a document management process whose purpose is the nifty organisation of documentary objects but of a records-making process trying its best to emulate and recall the steps in a business process. Software packages designed to link documents together into a recordkeeping sequence must incorporate this logic into their design and are increasingly looking to workflow as the basis upon which to organise documentary objects. Document management software enables the user to assign attributes to a discrete documentary object, to link them, and to “place” them, but this as yet preserves little or no link with action.

The traditional records management packages have responded to the electronic challenges by following the models of document management packages ... Until coherent requirements for electronic recordkeeping can be expressed and communicated to organisations, software vendors cannot be blamed for not responding to workplace requirements. If workplaces request solutions which ignore or inadequately address records issues, it is the recordkeeping professions who should be held accountable³¹.

²⁸ David Bearman (1996), “[Item Level Control and Electronic Recordkeeping](#)” *Archives and Museum Informatics*, vol.10, no.3, pp.195-245.

²⁹ Barbara Reed (2000)★, “[Capturing Electronic Transactional Evidence : the Future](#)” Paper delivered as Keynote Address to Records Management Association of Australia Conference, *e-Business Transactions: Providing Accountability through Effective Recordkeeping*, Canberra, March 2000, unpublished in print.

³⁰ Chris Hurley (1977), “Personal Papers and the Treatment of Archival Principles” *Archives and Manuscripts* vol.6, no.8 (February, 1977), pp.351-365.

³¹ Barbara Reed (1997B)★, “[Electronic Records Management in Australia](#)” *Records Management Journal*, UK, vol.7, no.3 (December, 1997), p.191-204.

When Scott wrote in 1966, orderly assemblies of document-containers (files) were commonly thought of as series. The sequencing of a volume lay in its arrangement in relation to other volumes, not the order of the pages or entries within it. The sequencing of index cards lay in the arrangement of the cards, not of the information they contained. We have since come to understand that the orderly assembly of the contents of a single record or paginated contents within a container are as much series as the organised containers into which they are placed. It is a difference only of scale.

Scaling upwards is needed. David Bearman once criticised the Australian System because it did not allow for recordkeeping systems³². Peter Scott worried that within a lengthy description of a *fonds* (inventory of series) inter-connections between closely related series within a system would be lost. Correspondence needed to be linked with its register, index, and movement cards, for example, to demonstrate their inter-dependency within the description of the *fonds*, not just in the series registrations. The obvious way he could not use because it required establishing a *sous-fonds* to contain the related series and the Australian System (as then conceived) did not allow for that, except as a duplicated view of series-in-combination inserted manually into a longer inventory generated systematically. Whether it is a *sous-fonds*, super series, recordkeeping system, or just another series (at a different "level") to which sub-series belong, it owns inter-related series and a supplementary view or sub-inventory is systematically possible bringing related series together.

Any organising relationship between recordkeeping entities at any "level" is a series or sequence. In the last days before the IT revolution, techniques for filing paper-bound records became dysfunctional. Instead of looking back on them as the good-old-days, we should see them as systems collapsing under the stress of volumes and complexity with which they could not deal. The "file" was thought of as a container for documentary objects that related to similar topics or exchanges with the same correspondent. The contents of files were in fact disaggregated and un-registered scraps of transactional records the true sequencing of which was to be found in the steps of the process(es) in which the documentary objects had participated – processes which were not, by that stage, being properly documented. Their containers (the files) were organised into sequences, which were themselves contained within larger collectivities formed within registries and repositories of secondary/archival records.

Documents in a file are typically arranged in chronological sequence. An encompassing sequence, imposed over the containers, produces a "file series". In that sequence, documents were in effect being "batched" within each of the manila folders. Today, scanned originals are often "batched" in daily runs. In both cases, it is the containers of batched documents that are being "filed", not the documentary contents. The file is a crude device. You can't be sure if the record you are looking for is in it and you have to rummage to find it. Unless documentary objects (more properly, phases in a process) are properly described one by one (registered), the same can be said today of folders in a Local Area Network (LAN) or in a poorly designed Electronic Document and Records Management System (EDRMS). It was the subsequent marriage of document management software with records management software that forced recordkeepers to rediscover the virtues of managing transactional objects (documents) and not just their containers. This was not new knowledge, it was knowledge recordkeepers had lost when docketing systems³³ gave way to filing systems. The careful placement³⁴ of a transactional object in relation to others is the paramount recordkeeping process together with careful depiction of provenance and association with sequences of action.

The customary approach to archival description, embodied in the dreadful multi-level rule, treats sequences enfolding other sequences, each with its distinctive character and different purpose, like a Russian doll. The outside doll, the highest level of conceptualisation, imposes its shape onto each of the smaller dolls within it until we reach down to the last doll in the hierarchy. That is the one with the jelly bean inside – the one containing the transactional object. Sequences that enfold jelly beans at different levels are not Russian

³² Chris Hurley (1994) ★, "[The Australian \('Series'\) System : An Exposition](#)" op cit., p. 159.

³³ For those unfamiliar with registration and docketing systems a brief outline is given in the Postscript to "[Documenting Archives and Other Records](#)".

³⁴ "Placement" should here be understood to mean relationships established between documentary objects, not their arrangement.

dolls. Each sequence documents some different aspect of context or structure - not impressing its shape on the sequences it owns but rather shedding light upon their meaning.

Docketing systems preserve transactional sequences as they never are in systems maintained purely for convenience in control, location, storage, and retrieval. Docketed objects are linked to other objects by registers (of action), indexes, and letter-books, and managed using top-numbering and relational techniques. The sequence or contiguity of documents is revealed virtually by consulting the associated control records and by looking at the contents of the docket in conjunction with other documentary objects (e.g. the contents of a letter-book for copies of outgoing messages). All these objects are kept in virtual sequences replicating a course (or parallel courses) of action. Studying docketing systems gives us many of the clues we need to managing and preserving electronic records.

In computer systems, documentary objects are also "batched" or sorted into physical arrangements used, like the arrangement of dockets, primarily for control, location, storage, and retrieval. The business uses of those objects and, hence, their meaning as records are not reflected in their batched arrangement but in their management as data or digital objects and the view of them that their management makes possible. Meaning comes from the functionality of the system that delivers views of those objects in sequences that seldom (if ever) replicate the physical "arrangement" given to data/objects by the operating system. Meaning places a documentary object into a "belonging" relationship with an entity that preserves the sequence of action (e.g. a work-flow). If that functionality is altogether lost, then the value and meaning of the record is lost also. EDRMS software manages the business use of an IT system and confers and preserves the meaning of records³⁵. The integrity of the records depends upon functionality embodying the sequence of action : based on the need to manage the business, not on the need to manage documentary objects. It follows that digital archiving involves (as archiving always has) the preservation descriptively of essential components of the business process within which records are born and used, regardless of the capability required by a back-end records-maker (still less the needs of a records-keeper).

Batching documentary objects (whether digital or paper downloads) is a technique for their management as objects. The system that supports them must also "organise" them into virtual sequences reflecting their meaning in relation to action or circumstance and their uses within a business process if they are to be of very much value as records. It is these sequences (physical in the paper world of "filing", both physical and virtual in earlier more sophisticated paper-based docketing systems, and virtual merely in e/systems) that support the use of documentary objects as authentic, reliable, trustworthy records. This cannot, of course, be achieved by description alone. In order to discover those sequences (and thence to document them) it is necessary to consult the system architecture and the data model(s) as well as the functional requirements and data governance standards.

Virtual sequences given to documentary objects when they were part of an automated business process preserve their record-ness, not ones imposed upon them subsequently in a vain endeavour to check them into a records-keeping system. Unless a "filing" of downloads or migrations from an electronic recordkeeping system organises them into replications enabling recovery of the views made possible when the real records were still alive and preserves those replications through good description, all that is happening is a re-arrangement of defunct objects (devoid now of evidential meaning) to support their disposal, retrieval, storage, and processing - not the keeping of authentic, reliable, trustworthy records of business³⁶. A good deal of what is now referred to as digital archiving is little more than a futile attempt to transform electronic (and physical) records into digital artefacts upon which customary rituals (disposal, retrieval, storage, processing) can be practiced as if their nature is indistinguishable from the paper relics we are used to handling.

A docket is more than the assembled attributes of documents it covers because the container also has attributes of the process. The documents inherit meaning from the values

³⁵ Increasingly, recordkeeping functionality is to be found within business systems, not as stand-alone EDRMS applications.

³⁶ Glenda Acland (1991), "Archivist : Keeper, Undertaker, or Auditor" *Archives and Manuscripts* (May, 1991), pp.9-15. Reprinted in *Debates and Discourses ... op cit.*, pp.218-224.

represented by the sequences the docket documents. Recordkeeping is not about crafting categories into which objects may be “classified” but identifying and documenting sequences of action to which objects belong. The docket is a management protocol for assembling documents. This collectivity has its own characteristics : not of the documents but of the process in which the contents of the docket participated. Only when they are assembled into a docket are the characteristics of the process inherited by the documents apparent. A document may have provenance – but that is seldom actually and never conceptually identical to the formation of its collectivity. A letter’s author and recipient both provide provenance (of different types), but when the letter is filed into a docket it is the owner of the transaction or process through which the document passes who provides the provenance of the record thus created. The docket’s compiler or owner (e.g. an agent recordkeeping within the business) may in turn be different from the controller of the business process. Provenance may thus be found in authorship, filing, control exercised over records, or in a mandate to conduct transactions or process business.

PART 4 : REGISTRATION

Registration testifies to knowledge about a record and the business in which it is (or was) involved not hitherto written down or stored within the record. Registered knowledge of context and function may (like classification) even pre-exist the formation of records when documentary objects have their origin in and are put into an order derived from the steps in a predetermined business process. Analysis and documentation of steps in a business process are part of system design and management - made manifest in tools such as work-flow. This is a registration of process. Organising documentary objects for use - not their physical organisation for control, management, location, and retrieval - is now being done (if at all) according to rules based on that analysis. The need to replicate the steps from a business process in the organisation of documents declines when systems can remember and replicate instances of the process and align documentary objects to them. The organisation or structure of records content, even when it predominantly displays the purposeful intervention of the records-maker, is significant not to preserve evidence of the records-maker’s actions but to reflect the passage of the events themselves :

It is not the documentary traces which are in sequence, but the episodes in life which they document.³⁷

The records-maker’s work was worth preserving because it tried to keep evidence of action by leaving documents as events shaped them (or by arranging them in ways that tried to replicate or, at least facilitate the reconstruction of, the sequence of action.

Records can, however, be formed unconsciously and un-deliberately by the impress of events or circumstances on the documentary detritus of action. These are “accidental records”³⁸. During the transition from office systems based on procedures supervised by now defunct middle management (whose role it was to enforce them) and the still hoped-for but as yet unrealised world of work-flow, most records nowadays are “accidental” :

When employees became users, their individual ability to carry out work in ways which suited them individually, unconstrained by any limits save the technical limits of the systems the corporation provided them with, became boundless. Apart from widget making, IT professionals gloried in making systems as user friendly as possible – pushing onto “users” more and more functionality to do corporate work in ways that best suited them instead of the corporation³⁹.

Metadata management strategies in systems built to provide support for electronic records (or any other kinds of records), like all other kinds of recordkeeping strategies, sometimes over-look the fact, in their zeal to provide a professional solution to a real problem, that records can arise naturally and serve perfectly good evidential purposes absent such intervention. The descriptive discourse can only be about designing systems to intervene and make better records than would occur naturally by ensuring that the creation and

³⁷ Chris Hurley (2004A)★, “Relationships in Records : Part 6 (Everything is an Episode in the Life of Something Else)”, *New Zealand Archivist* (Autumn, 2004), para. 6.2.

³⁸ Chris Hurley (2005A)★, “[Parallel Provenance : \(1\) What, if Anything, is Archival Description?](#)” *Archives and Manuscripts* vol.33, no.1 (May, 2005), p.115.

³⁹ Chris Hurley (2004B)★, “[What, if anything, is records management?](#)” *Records Management Association of Australasia Conference* (Canberra, 2004), pp.5-6.

keeping of records occurs deliberately and is not just left to chance. It is, of course, an article of professional faith that intervention will not produce worse records than would otherwise naturally occur.

Records, whether accidental or deliberate, can also survive without descriptive intervention, though that would be a more chancy business than if active steps are taken. Finding aids are necessary because the true or complete meaning of the metadata is not knowable to records-makers.

People do not know what they are doing when they do it, since records are simply traces of what they did⁴⁰.

Archivists were (and still are) participating in the creation of records when they impose a view of what the records-maker did upon the documentary traces that have survived. They document knowledge (or at least one view of it) that the records-maker neglected to put down or was incapable of putting down because of limited understanding of the events in which he participated. Those attuned to the political dimensions of archives-making know this :

Archival description and indexing processes, whether they use the language and take on the world view of the records creators, or those of their successors in a later time and place, help build, dismantle and reconstruct structures of remembering and forgetting⁴¹.

Recognising this facet of recordkeeping, neither lamenting nor rejoicing in it but simply confronting it as a professional challenge, enables one who has understood the implications of Scott's theory of multiple provenance (in essence, the technical capacity to view records from more than one point of view) to develop a methodological approach for dismantling and reconstructing structures of remembering and forgetting.

In systems based on business and process analysis, it is no longer tenable to leave the composition of archival data wholly to the posterior. Archival data about the process of records-making is scaled-up and moved forward to contextualise records-making simultaneously with formation⁴².

Users accessing electronic records via the network will not need archivists to hold, locate, or interpret the data. We will be needed, if at all, to help construct systems in which archival data (knowledge of context and record-keeping) is available to users when needed. Archivists are not alone, of course, in undertaking organisational analysis and documentation. What we bring to the task is a unique experience in representing and preserving information ("archival data") about changes in systems and to the contextual framework. It follows that at least some part of the answer to the question, "What must archivists do with electronic records?", involves discovering how archival data can best be used in the generation, management, and use of electronic record-keeping systems⁴³.

The techniques for making contextualisation part of records-making are archival techniques used in unaccustomed ways, a marriage between archival skills and the skills of process and business analysis⁴⁴. With notable and honourable exceptions, archivists have forfeited this role (it is easily accomplished by others) by remaining fixated on curatorial management, using documentation as a tool for reconstructing systems rather than their construction.

... there is but a brief window of opportunity for the archival profession to become a stakeholder in the world of electronic records. It is incumbent upon us professionally to seize this opportunity and to do so in a collective, informed and strategic way. Our primary duty of care to the records is not satisfied by "identifying, preserving and using". This focuses on the "what" rather than the

⁴⁰ David Bearman, private correspondence with the author, 2007.

⁴¹ Sue McKemish and Michael Piggott (2002) ★, "[Recordkeeping, reconciliation and political reality](#)" *Australian Society of Archivists Annual Conference* (Sydney, 2002), p. 9.

⁴² Any argument over an "archival barrier" is reduced to a dispute over whether or not archival data post-dating creation is more to be relied upon.

⁴³ Chris Hurley (1994B) ★, "[Data, Systems, Management, and Standardisation](#)" *Archives and Manuscripts* vol.22, no.2 (November 1994), p.341.

⁴⁴ In close alliance also with data modelling and system architecture.

"why". It does not encompass recordkeeping and all its implications. It most certainly does not accommodate the notion of "archiving" "The pivot of archival science is evidence not information. ...A change in the traditionally perceived mindset is needed here to manage the records and their continuum, not the relics at the end stage in the record life cycle. If the continuum management is right the rest can follow with confidence ...It is a matter of developing intellectual control strategies rather than physical control procedures ... While archivists have a duty of care to the records in their custody there also exists a duty of care to ensure that adequate records exist and are properly maintained and managed."⁴⁵

One reason for the fixation on "what" is the doctrine that an "archival barrier" (a concept not without its uses) prevents archivists from participating in formation. If the *fonds* is conceptually a combination of its contents, its archival arrangement, and description (without which it cannot be preserved) then the archivist must logically be understood to be the last of its successive creators as well as the first of its successive curators.

If any distinction is to be made, it is that the record maker documents a business process and the archivist documents a documentation process. It's all part of the recordkeeping business, defined as embracing record making and record keeping - creation and preservation. Contrast this with the view that archivists make finding aids after the recordkeeping process has stopped and stand outside the process, being part of a different (preservation) process⁴⁶.

Provenance, like order, is not only found in a process of records formation observable after the fact; it is also found by identifying and documenting business activity as well as participants within that activity. Doctrines forbidding the archivist's participation in records-making have gone hand-in-hand with insistence that description must reflect, above all and to the exclusion of all else, the point of view of the one responsible for records formation :

Archival science and practice as they have evolved in European/Western traditions, privilege the records creators, their contexts, world views and value systems. Although the records creator is just one of the parties to the transactions captured in the records, current practice tends to treat other parties to the transaction as objects of the activities and subjects of the record, rather than as parties to transactions, in its appraisal, description and access activities and processes⁴⁷

Any records grouping contains complex layers of meaning reflecting processes that operated underneath, within, or beyond that which generated the arrangement observable on repository shelves. Who, after all, makes the record (prompts the understanding of its meaning that forms in your mind when you look at it on the shelves)? The one(s) who

- author(s) documentary objects?
- process(es) successive versions in a work-flow?
- perform successive steps in that work-flow even if they don't leave a trace on the documentary object?
- participate in a transaction in shared workspace?
- manage, control, or mandate that work process?
- organises or fastens it into a file or docket?
- files it or its container into a sequence or series?
- form(s), manage(s), organise(s), service(s), appraise(s) or dispose(s) of the series?
- is agent for the business unit responsible for the work process?
- belongs to the business unit is responsible for the recordkeeping process?
- arranges and describes it once it gets into an archival repository?
- creates the *fonds* whoever that may be?

⁴⁵ Glenda Acland (1995) ★, "[The Electronic Records Strategies Task Force Report: An Australian Perspective](#)" *Society of American Archivists Meeting* Washington, DC, 30 August 1995. Unpublished in print.

⁴⁶ Chris Hurley (1998) ★, "[The Making and Keeping of Records : \(1\) What are Finding Aids For?](#)" *Archives and Manuscripts* vol. 26, no.1 (May 1998), p.61.

⁴⁷ Sue McKemmish and Michael Piggott (2002), "[Recordkeeping, Reconciliation and Political Reality](#)" op cit., p. 10.

Whether or not there is more than one entity involved in each aspect or strand of records-making, knowledge of its maker (to say nothing of the circumstances of its making) is part of a total understanding of the record's meaning.

The one who forms a *fonds* is in some sense also the creator of the component sequences, but it is recognised that a series is more precisely described as the creation of a business unit within an organisation, for example, or an individual within a family - sometimes referred to as *sous-fonds*. From digital systems, we now understand that creators or owners of items within a sequence are often identifiably distinct from creators or owners of the *sous-fonds* or sequence itself. In registries, where organisations may be said to assemble files, rather than the file clerks who manage them or action officers who add papers to them, the contents originate with participants in business processes (they who author letters, initiate action, undertake tasks) and they are, in any ordinary sense of the word, creating the material. In archival theory, however, such agents are understood simply as authors of documents belonging to a sequence whose "creation" is attributed to someone else.

The actor who really participates in the transaction of which the documentary trace becomes a record (the writer of the email, for example) may, of course, be mandated by another entity (his supervisor) and this entity, in charge of the process within which the underling simply carries out someone else's bidding, may be properly credited a "creator" of the record of a particular transaction in addition to the author of its documentary trace. Such an entity is, in all likelihood, only the credentialed agent of some larger entity or enterprise (the company which employs them both) and it is that enterprise (or some component business unit of it) which actually controls the processes within which the activities of their servants are carried out. Within this multi-layered notion of creation, archivists are perfectly entitled to identify yet one more source of authorship or creation (such registry staff or file clerks who are themselves, like the author and the supervisor, simply servants of the enterprise carrying out a recordkeeping process rather than a business process) but not to privilege organisers of documents over participants in business processes when depicting the object of description.

Privileging the organisation of materials left behind upon completion of business processes over their formation during it, does not preclude noticing both formative processes. A documentary object is the creation of its author and of involved :

- participants in the associated work-flow,
 - executors of the relevant business function,
 - agents of participating business units,
 - operatives responsible for the organisation and management of the records,
- all roles and responsibilities that may or may not be exercised by the same individual⁴⁸.

Whereas the AGLS set, like Dublin Core, only recognises agents that play a creating, publishing or contributing role in relationship to information resources, the RKMS set is able to deal with various types of agents and to express the multiplicity of time-based relationships that exist between agents and records. This approach reflects traditional Australian archival approaches to documenting the complex relationships between records, their business contexts, and the people and agencies involved in their creation, control, management and use⁴⁹.

The derivation from registry practice allows this.

Part of the discovery's origins lay in the Office's understanding of registry control mechanisms ... Scott's agency registration processes provided a measure of stability to methods for documenting administrative change. The series registration approach gave a way of linking records to record creating

⁴⁸ Chris Hurley (1995B)★, "[Problems with Provenance](#)" *Archives and Manuscripts* (November, 1995) vol.23, no.2, pp.234-259.

⁴⁹ Sue McKemmish and Glenda Acland (1999)★, "[Accessing Essential Evidence on the Web: Towards an Australian Recordkeeping Metadata Standard](#)" *The Web after a Decade: Proceedings of AusWeb99, the Fifth Australian World Wide Web Conference, April 1999* edited by Roger Debreceeny and Allan Ellis (Lismore, Australia, Southern Cross University Press, 1999), p.275 footnote 3.

entities and of linking related series of records, including the listing of the component series within a recordkeeping system⁵⁰.

Registration co-exists with creation imaginatively, if not temporally and spatially, when the future is unknowable and the life experience of the record is incomplete. Registration can only faithfully document the circumstances of the time, keeping this knowledge intact (and recoverable) when circumstances subsequently change. It enables a reconstruction from registry records of how things were before (within the limits of subsequent understanding and knowledge). When things change, registration updates the documentation and shows what happens to the record subsequently – what is added, what is taken away, what use is made of it, what changes occur in ownership and control, what new links are forged with other records, with other recordkeepers and with other processes. More daringly, registry methods support (if doctrine allows) the addition of properly labelled hindsight views of what has happened (a thing finding aids have always done). The registry claims to give competent testimony as to original interpretations of meaning and changes in understandings of the meaningfulness of records at different points of time throughout the recordkeeping process. It is, of course, no more trustworthy than any other un-validated source of truth.

Australian archival approaches, adapted from registry practice, document successive views of records as products of the timebound records-making processes through which they pass, not a settled view taken in retrospect of how it has ended up. No precedence is given to the body of documentary materials, fixed in time and space at the moment when archival description takes place, being what remains after all the processes of formation are completed by the latest successive participant in that process - in which the surviving evidence of previous episodes in their creation is preserved in the “history” of the *fonds* so that the circumstances of the prior phases in its formation can be inferred or at least taken on trust from the archivist’s description.

The series system was a product of the Archives Division’s discourse, which in turn was based upon archival concepts that had also given rise to an alternative discourse. Within the alternative discourse, which has been the dominant one in the USA, the *archieff* became the archival collection, provenance became the organisational structures in which records were created, classification became arrangement, the intention to keep a record became confused with notions of permanent retention, and one essential characteristic of archival materials stood out – they were things in special repositories (or at least designated for such a location). Today the alternative discourses could probably be categorized as the ‘documenting’ approach and the collecting approach respectively, although neither exists uninfluenced by the other⁵¹.

A retrospective view is archaeological. Afterwards, a reconstruction occurs in the mind’s eye about how people lived from successive layers left behind of the detritus of their lives. In a dynamic view, however, each layer carries with it the knowledge to enable the reconstruction to be made actually (albeit virtually) without the necessity for imagination. In a retrospective view, the generative process (the process of formation of the *fonds*) must have ceased or the truth of the depiction will be invalidated by subsequent reconstruction resulting from changes to the process and the participants in it. At the moment of description, the view of it is supposed to be as stable as the *fonds* itself is believed to be. The formative process is then understood to be historical in the sense of completed but timeless in the sense of enduring (and archivists are thus cast in the role of archaeologists of recordkeeping practice). Describing records by binding them into the completed history of their formation was the chosen method for satisfying a requirement to preserve structure and context. The Australian variation is to bind records into each successive phase of their formation (irrespective of whether or not it is complete at the time of description), allowing for periodic updates and alternative views, so that for each phase a different, complete and timebound view is recoverable.

Although not logically requisite, archivists adopted certain conventions, chief amongst them the proposition that the *fonds* is the formation of a single entity (usually the latest). The

⁵⁰ Frank Upward (1994)★, “[In Search of the Continuum : Ian Maclean’s ‘Australian Experience’ Essays on Recordkeeping](#)” in *The Records Continuum ...op. cit.*, p.122 .

⁵¹ *Ibid.*, p.123.

earliest Australian approach was in reaction to this fallacy and kept the series as physical and the formation of a single entity but allowed each series to be formed successively by more than one entity thus rendering each group (*fonds*) in which those formative entities participated as virtual. As creators pass successively into different administrative contexts, concrete series end up belonging to different *fonds* at different times. Under both techniques, series are perceived as the creation of homogeneous and largely autonomous activity. The Australian method, in its original formulation, portrays formation as the product of a timebound singularity within the sequence or process of formation, not only at its end.

At a later stage in the development of the method, a more fundamental deconstruction of recordkeeping occurred - in which the series also became virtual and took its place alongside all other recordkeeping entities so that it too may be either an object of description (like a document) or the product of a descriptive system (like a *fonds*)⁵². The critical shift in focus, begun by Scott and extended since (in conception if not in practice), is away from the objects of description towards the activity or process that generated them :

When, as archivists, we talk of structures in recordkeeping we usually mean the stabilities and continuities of form which regulate content. Giddens would, I think, see these as structural properties (to be discussed later in this article). For Giddens, structures are better conceptualised as memory traces. They are both a regulating factor and an enabling resource which actors can draw upon recursively in action. The manner and extent to which they are drawn upon in turn reconstitutes them. Comparisons with recordkeeping theory are easy to provide. Giddens' concern with the importance of memory traces is partly shared, for example, with the juridical tradition in archival theory. Luciana Duranti, drawing on this tradition, points to the role of documents in structuring society when she argues that: 'the first and fundamental need of any organised society . . . is the regulation of its network of relationships by means of objective, consistent, meaningful and useable documentation'. The documents, the product of action, provide structure for a society's network of relationships. Giddens, however, parts company with typical archival expressions of the juridical tradition, by being interested in process, not the structure as an object. His diplomatics would not be based on the document but the interconnection between actions and the forms for action. He places emphasis upon structures as a constraining factor and also an enabling factor. He does not assume compliance with structures, and draws attention to the recurring nature by which action and structure interact to shape each other⁵³.

Implementing this approach at all levels and for all entity-types and sub-types would be hopelessly beyond anyone in terms of conceivable benefits were it not for the fact that the system follows essentially the same approach to entity-management irrespective of the "level" or the entity-type. Locating an entity within a pattern of relationships that is practically identical for all types and levels determines which type and level is being described. A sequence may be a series, a file, or a *fonds* depending on how we relate it to other entities. It may also be a function, a process, or an activity. There may be a kind of species barrier between series, functions, and corporations but the description of all three, because it is based entirely upon the one logical model, deals with all entities as sub-types. This scalability makes the articulation, execution, and utilisation of rules for the management of recordkeeping entities simple, easy, and cheap⁵⁴.

PART 5 : TOWARDS RECONTEXTUALISATION

Records-creators come into being, develop, divide, merge, evolve, expire, and succeed in ways that result in sequences belonging to more than one entity in identical, over-lapping, or totally different time and space⁵⁵. No better example exists than estate records preserved in

⁵² Of course, inherent in the approach outlined here is the insight that documents are not necessarily objects of description and *fonds* are not necessarily products or views generated from descriptions of such objects. There is no right or wrong – just better and not so good.

⁵³ Frank Upward (1997) ★, "[Structuring the Records Continuum, Part Two: Structuration Theory and Recordkeeping](#)" *Archives and Manuscripts* vol.25, no.1 (May, 1997), p.15.

⁵⁴ Perhaps not so simple and easy since we still haven't been able to do it.

⁵⁵ This statement may be thought to apply only to corporate entities, but it is equally applicable to natural persons whose *persona* as recordkeepers may comprise numerous

English County Record Offices. They are mostly formed on one of two principles : muniments from diverse land holdings belonging to a single family or those from numerous families that have occupied a single estate or landholding. Precept demands that description focus on the final form given records by accidental circumstance (what has by chance been delivered into a repository) rather than their changing shape over time and the larger shape that comes from considering other fragments held elsewhere⁵⁶.

It was Scott's great insight that the contexts in which records are created, both the provenance and recordkeeping system contexts, can only be represented 'on paper' or intellectually ... [he] set out to build a system that could represent the logical, virtual and multiple relationships between records and their contexts of creation (provenance relationships), and amongst the records themselves (recordkeeping system relationships)⁵⁷.

A sequence once belonging to family papers then broken off and reconnected with estate papers as a result of marriage, divorce, inheritance, family break-up or any other possible vagaries through which records may pass or, more correctly, which the agents of formation and control experience may be said to have once belonged to a family *fonds* and then later to an estate *fonds*⁵⁸. Rather than condemn them, descriptively, to the *fonds* with which they have been most recently joined or the one in which they are ultimately found, the Australian approach is to recover and register the memory of their lost association with the family *fonds* and describe them both, depicting the lost *fonds* in terms that are indistinguishable from those used to describe the other except as to physical existence. Location and other circumstantial characteristics as determinants of what to describe are down-graded.

There are logical and physical organisations, but physical can only be one and logical can be many⁵⁹.

When this approach is applied methodologically to description undertaken not afterwards, when the dust has settled, but during the process of formation itself, the scant importance assigned to physicality reduces almost to nothing. Any importance ascribed to the manner, timing, and source of transmission can be incorporated into sequence documentation (or accessions within the sequence) or to whatever it is in the scale of inter-related entities that is actually managed physically (the documentary object within an electronic document management system, for example).

This is **multiple provenance**⁶⁰ breaking the *fonds* down into its component sequences and allowing diverse formative processes to be separately described (creation, transmission, control, or location) with links to all entities involved (and according to varying kinds of involvement) so that, upon being re-assembled, a sequence can be portrayed as belonging to as many different *fonds* as needed to cover off all conceivable notions of what is a true view of the records according to all the formative processes it has been involved in. If a "correct" view can be articulated, it is available by re-assembling sequences into that grouping however defined.

Subsequent developments in the academy (less so in practice) provide for what is termed **simultaneous multiple provenance**⁶¹. Peter Scott kept the notion of a single locus of creation for the sequence (series) but multiplied it through time and diversified it by differentiating the manner of formation (e.g. by distinguishing between "creation" and "control"). He speculated with further challenges to the idea of formation. He remained focussed on the series, but identified additional ways of attributing provenance such as

roles. Consider, for example, traditional Western European ideas about family as they affect a married woman who was regarded as a member of two families : her natal family and her spousal family whereas the husband remained part of his natal family only.

⁵⁶ And yet the formation of descriptions of materials not co-located is allowed in registers of archives and manuscripts.

⁵⁷ Sue McKemmish (1994)★, "[Are Records Ever Actual?](#)" *The Records Continuum ...* op.cit, pp.192-193. It should be noted, however, that, in these early days, only the *fonds* was virtual, not the series – some entities were less actual than others.

⁵⁸ Unless one insists upon a definition of *fonds* that precludes one or the other.

⁵⁹ David Bearman, private correspondence with the author, 2007.

⁶⁰ Chris Hurley (2005A)★, "[Parallel Provenance : \(1\)](#)" op cit., p.123.

⁶¹ Ibid., p.123.

treating functions as entities involved in the formation of records⁶². When something other than the formative action of a person or corporative body is the reference point from which combinations of sequences are displayed, another kind of provenance is revealed, variegating the idea of provenance by recognising that formation owes as much (arguably more) to the common purpose (function) which the records document as to the identity of the people/corporations involved. Instead of limiting it to the creative action of a person or corporation, provenance is redefined to include the organising power of the functions they exercise. The addition (if not the substitution) of function for corporation/person as the agent of formation must be contemplated in situations such as shared workspace. Archivists who admit this duality can enhance their descriptions by allowing both views simultaneously, whereas adherence to a view that only a person or corporate entity can be an agent of formation precludes a description of the *fonds* or the series based on functional power as an expression of contextual meaning.

Another possibility trialled by Scott concerned transfers from the private offices of government ministers, accessioned into the National Archives as “personal papers” belonging to the *fonds* of the individual who transmitted them. It was their connection with official activities in the bodies with which they had been associated that justified their transfer to the Archives. Scott became concerned that these sequences should be linked additionally to the office the person occupied (and, thence, sequentially with past and subsequent holders of the office as well as to the larger administrative context to which that office was itself connected). For ex-ministers, the electorate held, the party to whom the individual belonged, the parliament in which the person sat, and the cabinet in which the person participated provided other contextual links. A sequence of Press Secretary’s Files, in the processing of which I was personally involved, covered the period in office of five successive prime ministers for whom he worked :

Series : [National Archives of Australia] M.2903 Subject Files Maintained by A Eggleton Press Secretary to the Prime Minister (1965-1971)

Created by

- 1965-1971 : *Fonds* : CA12 PM’s Department
– *Sous-Fonds* : Office of the Press Secretary
- 1965-1971 : *Fonds* : CP440 Anthony Eggleton AO CVO

This series has two coterminous creators (CP.440 and CA.12). The description at the National Archives reads (in part) “Material in the files relate to the Prime Ministers Sir Robert Menzies, Harold Holt, Sir John McEwen (minimal), Sir John Gorton, and Sir William McMahon (minimal)”. The McEwen material is minimal because he was a stop-gap acting PM for a few weeks only. The McMahon material is minimal because William McMahon objected to the portion relating to his period in office being lodged with the Archives. He wanted them put with his personal papers at the National Library (which was done)⁶³. At the National Library, the fragmented portion is described thus :

***Fonds* : [National Library] MS 3926 Papers, 1949-1987 [manuscript]**

Created by

- 1949-1987 : *Fonds* : McMahon, William, 1908-1988

The un-fragmented series was the creation of a Press Secretary (Eggleton) in the employ of five successive Prime Ministers. The circumstances of this creation involved the following seven entities :

- Prime Minister’s Department (Office of Press Secretary) – Eggleton’s employer
- Anthony Eggleton – responsible for compiling the series and for its deposit;
- Menzies, Holt, McEwen, Gorton, McMahon – whom he successively served.

Each entity could be depicted as part of the provenance and none of them can claim to be exclusively responsible for either of the physical sequences they have become. Two respected archival institutions display in their respective descriptions all possible views of provenance. The National Archives displays the series as an emanation from the official process (the employing department) and as the creation of the individual (the person who actually compiled them, took control of them, and deposited them) while the National Library

⁶² Chris Hurley (1995B)★, “[Problems with Provenance](#)” op cit., pp.253-255.

⁶³ This account represents my best recollection of events. I have been unable to get a useful response from the National Library confirming it, but I must assume the Eggleton material has been subsumed within the McMahon material there.

displays as creator the incumbent Prime Minister who was responsible for them receiving the fragment they acquired. Looking at the series as a whole, it would be possible to multiply the statement of formation by ascribing it (in succession) to each of the other Prime Ministers Eggleton served as well as the Prime Minister's Department and to Eggleton himself. None of these descriptions is inherently correct (although archivists may squabble about that) and to display the full story it is desirable to have them all.

The point of view of the descriptive archivist, unless controlled by a rigorous application of sound theory, can itself create confusion in the contextual statement. The fragmented pieces of the administrative record of the Colony of Victoria portion of which resides in the archival repository of one of its successors (the State of Victoria) as well in the archival repository of the parent Colony and predecessor (now the State of New South Wales) and in one belonging to Victoria's successor administrations (the Commonwealth of Australia in respect of naturalisation records and the like) is now described from three points of view. Using descriptive standards, it might be supposed that archivists in all three repositories would describe the materials in a manner that produces identical descriptions. They do not. The fragmented records – though in reality part of a seamless process of formation – are described as the products of different processes of creation and transmission (a view coloured by prior or subsequent events). Archivists are used to dealing with what they have in front of their eyes. Their administrative context is as follows :

1823-1855 : Crown Colony of New South Wales
 : 1836-1837 : Police Magistrate, Port Phillip District
 : 1837-1850 : Superintendent, Port Phillip District
1855-1901 : (Self-Governing) Colony of New South Wales
1901-date : State of New South Wales
1850-1855 : Crown Colony of Victoria
1855-1901 : (Self-Governing) Colony of Victoria
1901-date : State of Victoria
1901-date : Commonwealth of Australia

Prior to 1850, Victoria was administered as part of New South Wales. The Superintendent's records are part of the archives of that colony as well being the kernel of the Archives of Victoria formed upon separation in 1850. The pre-1850 records held in the Victorian Public Record Office were created by local officers reporting to the Police Magistrate then to the Superintendent who, in turn, reported to Sydney. Those in the New South Wales Archives Office comprise some of the records created locally prior to separation by officers who, though part of the local administration in the sense of being under the general oversight of the Police Magistrate and Superintendent, sometimes even subject to instruction from them, reported directly to their superiors in Sydney and not through them (though sometimes they reported to both). The descriptive status, as part of Victoria's archives, of records created locally prior to separation by officers who were only partly under the general oversight of the Police Magistrate and Superintendent (irrespective of whether or not they were in fact transmitted to Sydney) is contestable and determined largely by geography. This latter class includes records created locally, which were never transmitted to Sydney, and which remained with Victoria after separation even though they were never wholly within the Police Magistrate's or Superintendent's jurisdiction. Victorian records in the National Archives in Canberra pertain to the administration of functions in Victoria transferred from Melbourne and Sydney upon federation (e.g. naturalisation) but exclude some (e.g. immigration) which continued to be compiled by Victorian officials on behalf of the Commonwealth for some years after federation (until the Commonwealth administration got going) and which, though undoubtedly records of the administration of a Commonwealth function, reside today in the Victorian Public Record Office.

PART 6 : TOWARDS DOCUMENTING ARCHIVES AND OTHER RECORDS

Peter Scott's original contribution to descriptive thought remains a rich source for practitioners and theorists alike but the connection between diverse streams of thought and practice, the cross-fertilisation that enables each to learn from the other, is weak. The archivists are on a road that leads to them becoming just more preservers and purveyors of digital content (which archives undoubtedly are) in a world of digital preservation and exploitation. They are becoming indistinguishable from other curators of content and thereby removed from an interest in descriptive solutions to archival problems. Meanwhile the recordkeepers are engaging with the worlds of information and data management in ways

that obscure the difference between management of documentation as information resources (which records undoubtedly are) and the specific functional requirements for the management of evidence. An integrated and coherent Australian System would be one that spanned and united this diversity within a body of descriptive thought and practice that was re-focussed onto the management of evidential meaning. Instead, what we see is a disaggregation of efforts that have a common fountainhead but are no longer recognisably the coherent application of the System we once thought we had.

As a machine for producing finding aids, the System is almost certainly over-engineered. It is possible to make curatorial descriptions of artefacts more simply and cheaply. While System-generated finding aids undoubtedly cope better with some of the problems outlined above, it is perfectly legitimate to question whether the benefit is sufficient to justify the additional effort if one's objective remains the delivery of content to secondary users largely uninterested in context. But the same could be said of the archival enterprise as a whole. It is only when the production of finding aids becomes just one of several applications of it that the System is cost-effective and necessary. The difference between enthusiasts for the System and knowledgeable sceptics is not so much over the System's merits as it is over what it should be used for – whether the recordkeeping possibilities should or should not be embraced. This makes the divergence that has occurred over the last thirty years between archivists who use the System for little else besides writing finding aids and the theories of the recordkeepers sadly ironic – because in their hearts (if not their minds) the archiving practitioners stand beside the sceptics. The Australian Society of Archivists recently issued a handbook for users of the System (DAIC)⁶⁴. It is a kind of owner's manual for those using the System to build finding aids. Because it was written by many of those who inhabit the recordkeeping stream, however, glimpses of another world, their world, a world that still lacks a design specification, keep breaking through. But there is no synthesis. DAIC stands as mute testimony to current confusions over what is now meant, and what we should understand, by the Australian ("Series") System.

This article was originally written in 2006 as the prelude to "Documenting Archives and Other Records"⁶⁵. The purpose of "Documenting ..." was to attempt at least some parts of the synthesis that I believe has not occurred within the discourse over the Australian ("Series") System or between it and other descriptive traditions. Despite the tone of this and the other piece, it is synthesis rather than oppositionism that I have in mind, but synthesis on the basis of some kind of sensible agreement about what it is we are trying to do. I do not expect agreement about how archives and other records should be **described**. I have always believed that it is possible, however, to reach common ground on what it is we are trying to do when we **document** archives and other records and for tensions to be dealt with in agreements to differ on how we present our data rather than disputes over how we standardise its capture and management. I was sufficiently disappointed recently by what I perceive as a failure (after nearly twenty years) to reach such common ground, with no progress whatsoever made since I was last involved in this in the early 1990s, to pen a final remonstrance which I have called "Documenting for Dummies"⁶⁶ and I am happy for a reference to that piece of work to be my last word here.

⁶⁴ Australian Society of Archivists Committee on Descriptive Standards, *Describing Archives in Context: A Guide to Australian Practice* (2007). I am a member of that Committee and to anticipate an obvious reaction to these comments I should say that the thesis developed here post-dates my involvement in the drafting of this work.

⁶⁵ Chris Hurley★, "[Documenting Archives and Other Records](#)", published online July 2008.

⁶⁶ Chris Hurley★, "[Documenting Archives and Other Records – A Guide for Dummies](#)" published online August 2008. I do not mean that there has been no progress in the standards themselves because there has been considerable progress but the underpinning foundations are in almost the same disarray as when I left them. Progress has occurred on the basis of cobbling together contradictory ideas (and calling it flexibility). The result is intellectually incoherent and the conceptual basis for work on description is practically non-existent.