

Concepts of Record (2): Prototypes and Boundary Objects

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Abstract

This paper argues that, within the recordkeeping community, perceptions of records are subject to the “prototype” effects identified in recent psychological studies. Archivists and records managers perceive certain records as prototypical, while other records are more distant from their mental prototypes. Prototype effects apply both to item-level records and to record aggregations. Moreover, the boundaries of the record concept are fuzzy, and some records are “boundary objects” shared with other communities. The characterization of records as persistent representations embraces nonprototypical records as well as those more central to the concept.

This paper offers a further exploration of the concept of a record. It examines a pair of theories from the worlds of psychology and sociology and investigates their application to professional understanding of the record concept. It builds on the author’s paper published in the Fall/Winter 2007 issue of *American Archivist*,¹ which discussed the challenges of defining records in terms of evidence or information; suggested that evidence, information, and memory are probably best seen as affordances that records provide to users; and offered an alternative characterization of records as persistent representations of activities.

The psychological theory of prototypes attempts to provide an explanation of how concepts and categories are understood, and how membership of a category is assessed. It can be applied to almost any complex conceptual category and is used here to examine how writers and practitioners within the archives and records management community perceive different types of records. This paper also investigates the fuzzy boundaries of the record concept and explores the sociological notion of boundary objects. It demonstrates the

Web addresses cited in this article were accessed on 18 October 2007.

¹ Geoffrey Yeo, “Concepts of Record (1): Evidence, Information, and Persistent Representations,” *American Archivist* 70 (Fall/Winter 2007): 315–43.

relevance of these ideas to interpretations of the record concept at collective as well as unitary levels and concludes by offering an extended version of the representational view of records proposed in the earlier paper.

Prototype Theory and Fuzzy Boundaries

Prototype theory derives from the work of Eleanor Rosch, an eminent psychologist who undertook extensive studies of human approaches to categorization.² The central tenet of the theory, which Rosch developed in the 1970s, is that most conceptual categories have prototypes. A prototype is usually envisaged as a mental mapping of typical features. For example, having feathers, a beak, an ability to fly, and a propensity to build nests might be typical features of a member of the category of “birds,” and the prototype of a bird is assumed to be a mental composite of such features. Alternatively, a prototype can be envisaged as an exemplar of a typical category member; robins or sparrows, for example, might be seen as exemplars of birds.

Most prototypes are culturally specific. In North America or Europe, the exemplar of a bird could be a robin; in other parts of the world, it could be a goose, a crow, or a parrot. Much the same applies if prototypes are assumed to be composite mental mappings rather than specific exemplars. To a city dweller, the prototype of an animal would probably have the features of being small and domesticated; to a hunter or forest ranger, features of the prototype are more likely to include being large and wild.³ Within a single cultural group, individuals can be expected to adopt broadly similar prototypes.

Prototype theory also asserts that categories have graded membership. The members, or candidates for membership, of a category are assessed in terms of their similarity to the prevailing prototype. Whatever mental prototype of “animal” is adopted, cats, dogs, and horses are likely to be closer to the prototype than, for example, porcupines or platypuses.⁴ Those further from the prototype have characteristics untypical of the category as a whole and fewer characteristics in common with other members. They have less of what Rosch called

² Eleanor Rosch, “Principles of Categorization,” in *Cognition and Categorization*, ed. Eleanor Rosch and Barbara B. Lloyd (Hillsdale, N.J.: Lawrence Erlbaum, 1978). See also Edward E. Smith and Douglas L. Medin, *Categories and Concepts* (Cambridge, Mass.: Harvard University Press, 1981); George Lakoff, *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind* (Chicago: University of Chicago Press, 1987).

³ Lawrence W. Barsalou, “The Instability of Graded Structure: Implications for the Nature of Concepts,” in *Concepts and Conceptual Development*, ed. Ulric Neisser (Cambridge: Cambridge University Press, 1987), 107, 117, 122.

⁴ Similarly, within the category of dogs, “some dogs are more prototypical, are nearer the center of dogdom, than are others. The fox terrier is a better instance of a dog, in some sense still to be explicated, than is . . . a pekinese”: Roger Brown, “Cognitive Categories,” in *Psychology’s Second Century: Enduring Issues*, ed. Richard A. Kasschau and Charles N. Cofer (New York: Praeger, 1981), 195–96.

“goodness of membership” of the category.⁵ Again, such judgments depend on the cultural context. To most people, penguins are a “poor” example of the category of birds; but to an Antarctic explorer a penguin might be a very “good” member of the category, close to the explorer’s mental prototype. The theory of prototypes assumes a world of human perception.

Psychologists have shown that prototype effects and graded membership apply to our understanding of artifacts as well as of the natural world. Desk chairs, for example, have been judged “better” members of the category of “chairs” than rocking chairs, barber chairs, and the like.⁶ Rosch found similar results in her tests of perceptions of vehicles, weapons, clothing, and other artifactual categories.⁷ Prototypes and graded structure are not found in every category—they seem to be absent from such categories as “days” and “months,” for example—but they arise whenever members of a category are perceivably heterogeneous. This paper will argue that they pervade professional understanding of the category of “records.”

Prototype theorists have also addressed the question of whether categories have clear or fuzzy boundaries. The traditional, or Aristotelian, model assumes that every entity either belongs to a given category or is outside it; entities possessing all the attributes necessary for membership belong to the category, and entities that do not possess them all are excluded. Any member of a category is as representative as any other, no ambiguous cases arise, and boundaries are rigid. More recently it has been recognized that few categories really work in this way. Colors provide one of the strongest counterexamples. It seems impossible to identify the necessary and sufficient attributes of (for instance) redness. The boundaries are ill defined; to physicists the spectrum is a continuum and linguistic divisions between red and orange, or between blue and purple, are arbitrary.⁸ In 1973, William Labov found broadly similar results when testing the extent to which people could distinguish between cups and bowls. Participants in his tests were able to distinguish some of the objects shown to them as unquestionably either a cup or a bowl, but there were many intermediate objects, and Labov’s tests demonstrated that no clear dividing line could be drawn. Although apparently separate at their extremes, the two categories merged in the middle ground.⁹ Psychologists have concluded that there are mental prototypes for

⁵ Rosch, “Principles of Categorization,” 36.

⁶ Lakoff, *Women, Fire, and Dangerous Things*, 41.

⁷ Eleanor Rosch, “Cognitive Representations of Semantic Categories,” *Journal of Experimental Psychology: General* 104 (1975): 192–233.

⁸ John R. Taylor, *Linguistic Categorization: Prototypes in Linguistic Theory*, 3rd ed. (Oxford: Oxford University Press, 2003), 3–5.

⁹ William Labov, “The Boundaries of Words and Their Meanings,” in *New Ways of Analyzing Variation in English*, ed. Charles-James N. Bailey and Roger W. Shuy (Washington, D.C.: Georgetown University Press, 1973).

“red” and “cup,” but as we move away from the prototype there is no fixed point at which redness ceases, or beyond which we can say that objects cease to be cups.

A more difficult question is whether a category like “birds” has rigid boundaries. This might appear to be a firmly bounded category, but the boundaries drawn between birds, animals, and insects have not always been identical across different cultures.¹⁰ The boundaries between *species* of birds are controversial even among scientists. The placing of such boundaries may depend on the ordering of the world, or on our understanding of it. An “expert” can define categories such as birds or cups, but there will always be uncertainty about how far such definitions can be anything more than consensual human constructs within a particular society. As the linguist Benjamin Lee Whorf remarked, “we cut nature up [and] organize it into concepts . . . as we do, largely because we are parties to an agreement to organize it in this way.”¹¹

Such agreements are rarely universal. In any category whose membership is dependent on consensus, the most marginal cases—those furthest from the prototype—are almost certain to be open to dispute, with some critics asserting that such cases should not be considered members of the category in question. The core membership is usually uncontested, but the boundaries are fuzzy. Prototype theorists would argue that finches and starlings are likely to be universally accepted as birds; owls and pelicans are likely to be further from the prototype and therefore judged less satisfactory or less “good” examples of birds, but still generally recognized as members of the category; but ostriches (or pterodactyls) are so far removed from the prototype that many people will probably be uncertain whether they can be considered birds. In much the same way, disputes can arise as to whether a whale is a mammal, whether gliders and balloons are aircraft, or whether websites are records. All are distant from the prototype of the category concerned, and arguments about their status can sometimes occur within an “expert” community as well as among nonexperts.

Sometimes experts, legislators, or bureaucrats introduce a definition with the aim of imposing firm boundaries where none would otherwise exist. For example, an adult may be defined in law as someone who has reached a given age, or blindness defined by experts as a given level of sight impairment. Such definitions usually attempt to remove the possibility of prototype effects and

¹⁰ In certain Australian aboriginal languages there is no word corresponding exactly to “bird” in English. One language has a term that includes not only birds but also bats and grasshoppers; in another language the closest equivalent of “bird” excludes bats, but also excludes emus. See Anna Wierzbicka, “‘Prototypes Save’: On the Uses and Abuses of the Notion of Prototype in Linguistics and Related Fields,” in *Meanings and Prototypes: Studies in Linguistic Categorization*, ed. S. L. Tsahatzidis (London: Routledge, 1990), 367.

¹¹ Benjamin Lee Whorf, “Science and Linguistics,” in *Language, Thought, and Reality: Selected Writings of Benjamin Lee Whorf*, ed. John B. Carroll (Cambridge, Mass.: MIT Press, 1956), 213.

graded membership. Every individual must be a full member of either the “adult” or the “nonadult” category, the “blind” or the “nonblind” category, and no shading is allowed. Most such definitions are arbitrary; different experts or legislative bodies may choose different boundaries, decisions to change the boundary may be made from time to time, and the prescribed boundaries may not correspond to everyday usage.¹² Expert and bureaucratic definitions have value for many societal functions, but their effectiveness depends on the ability of their promoters to persuade or compel other people to accept them.

Another kind of definition has descriptive rather than prescriptive aims. It attempts to delineate the nature of a conceptual category as members of a particular community of practice perceive it or to assist the members of a community to a clearer understanding of a concept known to them but imperfectly understood. Most definitions of records are of this kind. Descriptive definitions are not primarily intended to resolve questions about the status of borderline cases, and although they can help to mold the debate they often leave such questions unanswered. Their most significant roles are in helping new members and nonmembers of a community to understand its terminology and in supporting communication and collaboration between the community’s established members. Definitions of this kind tacitly accept that concepts have prototypes and graded membership, while also acknowledging that concepts are not shapeless but have recognized meanings within the communities that employ them. No rigid dichotomy separates the descriptive and the bureaucratic definition; any attempt at defining a concept suggests boundaries of some kind, even if they are indistinct. But definitions whose primary purpose is to promote shared understanding do not, or should not, seek to impose arbitrary limits and exclusions.

Prototypes of Record

Just as psychologists affirm that most people have mental prototypes of concepts such as “bird” and “chair,” it can be argued that most archivists and records managers have a prototype of “record.” In Western culture in the twenty-first century, such a prototype might be a written document, created for business purposes with some pretensions to objectivity and maintained in a formal recordkeeping system. Currently, the prototype is still (perhaps) a *paper* document, but as electronic recordkeeping becomes the norm, this aspect of the prototype is doubtless changing. We can also assume that features of the prototype have been different in other cultures and other ages. In medieval Europe, the prototype of a record was presumably a sealed parchment document created

¹² Taylor, *Linguistic Categorization*, 39. Taylor notes that bureaucrats may decide to limit the category “adult” to those who have passed their eighteenth birthday, but outside bureaucratic circles adulthood is often judged on graded criteria of physical or emotional maturity rather than exactness of age.

for legal reasons and written by a specially trained scribe; in early Middle Eastern civilizations, it was doubtless a clay tablet of some kind.

In the modern world, many records are not exact matches to the prevailing prototype. Audiovisual records are an obvious example. Audio- and videotapes of meetings and conferences, audio recordings of telephone conversations, and film images made by surveillance cameras are all recognizable as records, but in professional practice such records generally have a marginal role. Their distance from the record prototype is reflected in records management textbooks, which often provide introductory statements emphasizing that records can employ “any media” but largely ignore audiovisual records in later chapters, where the systems expounded almost always assume that records are textual.

Similar issues arise with records not in documentary form. Traditionally, most records have been created in the form of documents, and this historical precedent still influences the prototype in the digital era. The records management press is full of articles from software suppliers and consultants promoting “electronic documents and records management” (or “EDRM”) as a single technology, and many records managers assume that commercial programs with this sobriquet will provide a full technical solution to organizational needs for electronic recordkeeping. Although many commercial and governmental transactions are now performed by transmitting sets of data rather than documents, and resource planning and other “back office” systems contain growing numbers of digital records that are not in documentary form, these records have a low profile both in records management literature and in professional practice. Archival institutions regularly acquire and preserve structured registers of staff appointments, membership applications, hospital admissions, and the like, which in the paper world have the physical form of documents; but often overlook the databases that have increasingly succeeded these registers since the 1970s. To some archivists, the technological challenges of database preservation may be a deterrent, but also at issue is a common perception of databases as marginal to the recordkeeping mission.¹³

The notion of the “document” is such a dominant feature of the record prototype that, even in the twenty-first century, many professionals seek to define a record as a kind of document. Among others, the InterPARES project and the

¹³ In the 1990s, statements in the electronic records literature that “you do not have records when you save databases . . . databases are not records” (David Bearman, “Archival Issues in a Computing Environment,” in *Playing for Keeps: The Proceedings of an Electronic Records Management Conference Hosted by the Australian Archives, Canberra, Australia, 8–10 November 1994*, ed. Stephen Yorke (Canberra, Aus.: Australian Archives, 1995), 234, 321) and “we . . . make a clear distinction between data management . . . and the management of electronic documents and electronic records” (David Roberts, “Defining Electronic Records, Documents and Data,” *Archives and Manuscripts* 22 (1994): 23) encouraged this perception. Such statements were intended to distinguish records from dynamic or informational databases, but took no account of transactional data. For further discussion of transactional data, see Elizabeth Shepherd and Geoffrey Yeo, *Managing Records: A Handbook of Principles and Practice* (London: Facet, 2003), 15–16.

European Commission's *Model Requirements for the Management of Electronic Records* define records in this way.¹⁴ The strength of the prototype seemingly leads archivists and records managers to disregard nondocumentary formats and to attribute document characteristics to the whole universe of records.¹⁵

A further effect of the prototype is that organizational records are often perceived as "better" members of the category than records created outside an institutional framework. Many definitions of records explicitly state that records may be created or maintained by individuals as well as organizations. Professional terminology, however, suggests otherwise; we commonly speak of organizational *records* but personal *papers*. Many expositions of the records life cycle and perhaps even of the continuum model rest on assumptions that records are created and kept in an institutional context. Other factors reinforce the organizational emphasis: the powerful voice of government archives in professional matters; the increasing importance of records management; the organizational focus of most electronic records solutions; the willingness of some archivists to leave personal records to librarians and manuscript curators; and the preponderance of writings (from Muller, Feith, and Fruin to the present day) that assume an organizational background in their discussions of professional methodology. As Adrian Cunningham notes, all this leaves personal papers out in the cold.¹⁶ The parallel with the graded membership found in psychological studies is clear. Personal papers are records, just as owls are birds and deckchairs are chairs, but for most records professionals, they are not central to the concept.

In other cases, membership in the category can be open to debate. Few would dispute that videotapes of conference proceedings, however atypical, are records; but for some nonprototypical classes opinion is divided, with some professionals placing them outside the boundary, and others claiming they lie within it. Drafts and working papers are such cases. Public archives services in

¹⁴ According to *The InterPARES Glossary* (2001), available at www.interpares.org/book/interpares_book_q_gloss.pdf, a record is "a document made or received and set aside in the course of a practical activity." European Commission, *Model Requirements for the Management of Electronic Records* (Luxembourg: Office for Official Publications of the European Communities, 2002), 11, characterizes records as "documents produced or received by a person or organisation in the course of business . . ." Earlier examples can be found in *How to Manage Your Records: A Guide to Effective Practice*, Peter Emmerson, ed. (Cambridge: ICSA Publishing, 1989), 5; Judith Ellis, ed., *Keeping Archives*, 2nd ed. (Melbourne, Aus.: D. W. Thorpe, 1993), 477.

¹⁵ A variant approach has been to seek to extend the meaning of "document," as discussed by Michele M. Tourney, "Caging Virtual Antelopes: Suzanne Briet's Definition of Documents in the Context of the Digital Age" *Archival Science* 3 (2003): 291–311. Jennifer Rowley and John Farrow, *Organizing Knowledge*, 3rd ed. (Aldershot, U.K.: Gower, 2000), suggest that "stored data in any form constitute a document" (p. 40); but this interpretation is counter to the prevailing usage in computer science and elsewhere.

¹⁶ Adrian Cunningham, "Beyond the Pale? The 'Flinty' Relationship between Archivists Who Collect the Private Records of Individuals and the Rest of the Archival Profession," *Archives and Manuscripts* 24 (1996): 20–26. See also Catherine Hobbs, "The Character of Personal Archives: Reflections on the Value of Records of Individuals," *Archivaria* 52 (2001): 126–35.

Australia and Canada have issued guidelines indicating that drafts are records, but also noting that some types of record are ephemeral and therefore destroyable as part of normal administrative routines.¹⁷ In the United States, working drafts are often relegated to “nonrecord” status.¹⁸

A variation on this theme arises when records managers or archivists deny the term “record” to materials that have not been designated for preservation or formally captured in an organizational recordkeeping system. In operational contexts this model is commonly associated with EDRM systems, where items previously labeled as “documents” are “declared” to be records by an operator at the point when they are captured within the electronic recordkeeping environment.¹⁹ At a more theoretical level, Luciana Duranti articulates a similar model. According to Duranti, “documents” are not records until the moment in their life when they are “set aside” and “put into relation with other records,” the moment at which they acquire what Italian theorists call the *vincolo archivistico*, or “archival bond.”²⁰ Other writers, particularly in Australia and the United Kingdom, argue that the universe of records need not be restricted to those formally captured or designated for capture.²¹ To those who take this view, uncaptured records, and stray records that have become detached from a recordkeeping system, lack appropriate contextual safeguards but do not lie outside the boundaries of the concept; they are merely distant from the prototype.

Unsurprisingly, it appears that the boundaries of “record” are fuzzy, and borderline cases are contentious.²² As in any discipline, experts who wish to be prescriptive can produce definitions that circumscribe the concept to meet their

¹⁷ State Records New South Wales, *Normal Administrative Practice* (1999), available at <http://www.records.nsw.gov.au/recordkeeping/docs/normal%20administrative%20practice.pdf>; Library and Archives Canada, *Authority for the Destruction of Transitory Records* (1990, updated 2007), available at <http://www.collectionscanada.ca/information-management/007/007007-1016-e.html>.

¹⁸ National Archives and Records Administration, *Agency Recordkeeping Requirements: A Management Guide* (1995), available at <http://www.archives.gov/records-mgmt/policy/agency-recordkeeping-requirements.html>. Bearman’s view that a record is necessarily something that has been communicated (David Bearman, *Electronic Evidence: Strategies for Managing Records in Contemporary Organizations* (Pittsburgh: Archives and Museum Informatics, 1994), 15, 189–90) also implicitly denies record status to working drafts.

¹⁹ European Commission, *Model Requirements for the Management of Electronic Records*, 12, 14.

²⁰ Luciana Duranti, “The Archival Bond,” *Archives and Museum Informatics* 11 (1997): 216. Duranti posits a change of status at the moment when documents are “set aside,” but other writers on Italian theory emphasize that the archival bond is independent of the formal structures of registration, thus implying that the act of setting aside in a recordkeeping system is a realization of a bond that already exists. Cf. Maria Guercio, “Principles, Methods, and Instruments for the Creation, Preservation, and Use of Archival Records in the Digital Environment,” *American Archivist* 64 (2001): 249; Paola Carucci, *Le Fonti Archivistiche: Ordinamento e Conservazione* (Rome: Nuova Italia Scientifica, 1983), 230.

²¹ Steve Stuckey, “The Australian Archives’ Policy on Electronic Records,” in *Playing for Keeps*, 121; Shepherd and Yeo, *Managing Records*, 4, 108–9.

²² Alan MacEachren’s study of map prototypes offers a close parallel. MacEachren notes how borderline cases are not only less widely accepted as maps, but “often viewed with some suspicion”: Alan M. MacEachren, *How Maps Work: Representation, Visualization, and Design* (New York: Guilford Press, 1995), 161.

own requirements. In the archives and records management literature, examples can be found of definitions of “records” that seek to exclude personal papers, uncaptured documents, and the like.²³ The promoters of such definitions may attempt to enforce them within their own sphere of influence, but general professional usage is likely to be more fluid, and restrictive definitions are unlikely to win universal acceptance in a diverse and largely unregulated domain.

Record Prototypes and the Intention of the Creator

More than half a century ago, in discussing sources for historical research, G. J. Renier commented (in the gendered language of the time) that “a first distinction . . . is . . . between traces left unintentionally by men in the course of their activities, and traces intended by men to inform posterity of their deeds.”²⁴ At first sight this may seem to be a distinction between records on one side, created un-self-consciously in the course of business or daily life, and chronicles, autobiographical works, monuments, and commemorative plaques on the other. In fact, as Renier notes, the distinction is not as sharp as it appears. Not all records are “left unintentionally.” Some are created specifically to provide affordances of memory or evidence either for the creators themselves or for others in the future. Birth registers, committee minutes, and accident reports are all consciously created for recordkeeping purposes, and their creation is procedurally separate from the activity or event they describe. In diplomatics, records of this kind are contrasted with “dispositive” records, such as contracts, which give effect to transactions or other activities, and whose creation is intrinsic to the activity concerned.²⁵ Although their construction is not procedurally separate, these records, too, are often created with an eye to the future. When lawyers draw up contracts or leases they do so with the double motive of effecting a transaction and providing evidence of it for future use. Most records are doubtless intended for a limited audience, but in earlier times some records were specifically addressed to posterity; many English medieval conveyances

²³ See, for example, Trevor Livelton, *Archival Theory, Records, and the Public* (Lanham, Md.: Scarecrow Press, 1996), 64–65, where records are said to be “documents made or received by an institution according to law or its particular mandate and preserved by that institution as evidence or information”; and [U.K.] Public Record Office, *Functional Requirements for Electronic Records Management Systems 2: Reference Document* (London: Public Record Office, 1999), 9, where records are “some document(s) produced by an organisation in the course of business, and retained by the organisation as evidence of its activities.” The revised edition of 2002 omitted this definition, asserting instead that a record is “a document which has been declared as a formal record, constituted of both format and metadata” (Public Record Office, *Requirements for Electronic Records Management Systems 3: Reference Document* (2002), available at <http://www.nationalarchives.gov.uk/documents/referencefinal.pdf>, 5).

²⁴ G. J. Renier, *History: Its Purpose and Method* (London: George Allen and Unwin, 1950), 98.

²⁵ Luciana Duranti, *Diplomatics: New Uses for an Old Science* (Lanham, Md.: Scarecrow Press, 1998), 65–66.

open with the words *sciant presentes et futuri*, and although the Latin phrase is formulaic, it demonstrates that such records were not created only for immediate use.²⁶

However, it remains true that large numbers of records are not created for long-term or even medium-term audiences. Organizational and personal activities in the twenty-first century frequently result in the creation of records without the parties concerned having any real awareness of the record status of the objects they create. Purchase orders, invoices, letters, and memos are created (and sent to their immediate recipients) for the purpose of transacting particular business, usually with no thought of a wider audience. From the creator's viewpoint, the intention is to communicate across space rather than time. If not destroyed immediately on receipt, or if file copies are made, they do in practice communicate across time, but their creators do not often envisage this function.

In recent years, the co-existence of different levels of intentionality on the part of record creators seems to have brought a divergence in the prevailing mental prototype of a record. We can identify two versions of the prototype in different parts of the archives and records management community. Both have features in common, such as textuality and a context of business activity. But for one group of professionals—particularly those who have entered the debate about how far records can or should offer objective reliability and completeness—a key feature of the prototype appears to be conscious and procedurally separate construction. For another group, prototypical records are those whose creators have little or no consciousness of recordkeeping purposes or the longer-term survival of their work.

The Australian records management standard of 1996 stipulated that organizational records “should be full and accurate.” In this and many other published standards and guidelines, organizations have been encouraged to introduce systems and controls to minimize the risk of inaccurate, unreliable, or misleading records. According to the Australian standard, “business rules and codes of conduct should require employees to make records that accurately reflect the transactions they are intended to document.”²⁷ However, an invoice or a letter of appointment is the carrier of a transaction as well as the record of

²⁶ The formula indicates the purpose of the record in letting persons present and future know that a particular transaction has occurred. See Thomas Madox, *Formulare Anglicanum* (London: J. Tonson and R. Knaplock, 1702), 184–215. Some early medieval charters are even more explicit about their long-term role. A tenth-century charter admonishes that transactions “ought to be fortified securely with ranks of letters, because the frail memory of men . . . forgets what the writing of letters preserves and retains”; and an eighth-century grant affirms that “to prove donations” and refute those infringing them “nothing would seem stronger” than a written document (Dorothy Whitelock, ed., *English Historical Documents I: c.500–1042*, 2nd ed. (London: Eyre Methuen, 1979), 571, 491). Cf. Armando Petrucci, *Writers and Readers in Medieval Italy* (New Haven, Conn.: Yale University Press, 1995), 239–46.

²⁷ AS 4390.3-1996 *Records Management*, Part 3: Strategies, sec.5.3.

the transaction it carries, and unless it is tampered with or rendered unreadable, there is a presumption that, within the limits of the representational system, it will remain an accurate representation of the transaction concerned. When emphasis is laid on the risk of inaccuracy, the primary target is records whose construction is procedurally separate. Because this kind of record is not an intrinsic part of the activity it describes, the interval between the activity and the creation of the record offers ample scope for accidental error or deliberate misrepresentation. When records managers propose quality checks or other systems to “ensure accuracy” in records creation,²⁸ it is the separately constructed or “probative” record they have in mind.

Other writers and practitioners, in what may loosely be called the post-modernist school, have argued that dimensions of accuracy and reliability are largely meaningless, and that objectivity is a chimera. However much we try to set up systems to prevent creators from making errors, records will inevitably be tendentious or distorted. Both Terry Cook and Ciaran Trace quote with approval the assertion by the organizational analysts John Van Maanen and Brian Pentland that “records, like any product of a social process, are fundamentally self-conscious and self-interested . . . Records are not neutral, factual . . . They are designed . . . to produce an effect.”²⁹ These writers have a very different cultural standpoint from the authors of standards and guidelines for records management, but in many respects their prototype appears to be similar. The social context of its creation always influences the form of a record, and any record created with awareness of its audience is open to the charge of being self-conscious; but the prototype that many of these critics have in mind would seem to be records whose construction is procedurally separate. The circumstances in which such records are created mean that their content is particularly liable to be biased to uphold the interests of their creators or the organizations for which their creators work. The police reports discussed by Trace,³⁰ and the juvenile court files, medical case notes, and social work reports cited by other authors seeking to show that records are distorted by organizational and

²⁸ See, for example, the “audit” of newly created patient health records proposed in *Just for the Record: A Guide to Record Keeping for Health Care Professionals* (London: NHS Training Directorate, c.1996).

²⁹ John Van Maanen and Brian Pentland, “Cops and Auditors: The Rhetoric of Records,” in *The Legalistic Organization*, ed. Sim B. Sitkin and Robert J. Bies (Thousand Oaks, Calif.: Sage, 1994), 53; quoted by Terry Cook, *Beyond the Screen: The Records Continuum and Archival Cultural Heritage* (2000), available at http://www.archivists.org.au/files/Conference_Papers/2000/terrycook.pdf, 9, and Ciaran B. Trace, “What Is Recorded Is Never Simply ‘What Happened’: Record Keeping in Modern Organizational Culture,” *Archival Science* 2 (2002): 155. Cf. Terry Cook, “Archival Science and Postmodernism: New Formulations for Old Concepts,” *Archival Science* 1 (2001): 7.

³⁰ Trace, “What Is Recorded Is Never Simply ‘What Happened,’” 137–59.

environmental pressures on their creators,³¹ are all separately constructed records. Despite their different cultural perceptions, both sides in the debate about objectivity are aware that records have weaknesses, or potential weaknesses, as representations of past events; their views on the value of attempting to control such weaknesses are probably at opposite poles, but both groups focus on separately constructed records because these most acutely illustrate their concerns.

Another group of professionals has very different concerns and a different prototype. Writers such as Randall Jimerson and Alf Erlandsson emphasize the naturalness of records and describe them using words such as *remnants*, *residues*, or *by-products* to indicate that they emerge from the normal course of business activities in organizations or personal life.³² The suggestion that records are natural residues of activity is often intended to call attention to differences between records and library materials or information products created for the purpose of expounding ideas or facts to wider audiences. When records are described in this way, the implication is that they are *not* separately constructed or consciously created for longer-term use. In fact this is characteristic of some records, but not of all. Business letters, or perhaps emails, are likely to be the mental prototype or exemplar; in the modern world they are probably the most typical of records intrinsic to business activity, and their creation is triggered by immediate business needs, not by recordkeeping requirements.³³ A different prototype is employed because records whose creation is intrinsic to the transaction of business best illustrate the demarcation that these professionals want to make.

³¹ Harold Garfinkel, *Studies in Ethnomethodology* (Englewood Cliffs, N.J.: Prentice-Hall, 1967), 186–207; Edwin M. Lemert, “Records in the Juvenile Court,” in *On Record: Files and Dossiers in American Life*, ed. Stanton Wheeler (New York: Russell Sage Foundation, 1969), 355–87; Robert J. Barrett, “Clinical Writing and the Documentary Construction of Schizophrenia,” *Culture, Medicine and Psychiatry* 12 (1988): 265–99; John Scott, *A Matter of Record: Documentary Sources in Social Research* (Cambridge: Polity Press, 1990), 123–29; Leslie Margolin, “Deviance on Record: Techniques for Labeling Child Abusers in Official Documents,” *Social Problems* 39 (1992): 58–70; Marc Berg and Geoffrey Bowker, “The Multiple Bodies of the Medical Record: Towards a Sociology of an Artifact,” *Sociological Quarterly* 38 (1997): 513–37. None of these authors are archivists or records managers, but archivists opposed to the notion of objective evidence often cite their work.

³² Randall C. Jimerson, “Archives and Memory,” *OCLC Systems & Services* 19 (2003): 90; Alf Erlandsson, *Electronic Records Management: A Literature Review* (Paris: International Council on Archives, 1997), 19; Angelika Menne-Haritz, *Business Processes: An Archival Science Approach to Collaborative Decision Making, Records, and Knowledge Management* (Dordrecht, Netherlands: Kluwer, 2004), 11; Albert Meijer, *Consequences of the Use of Information and Communication Technologies for the Availability of Data for Accountability* (1998), available at <http://www.digitaleduurzaamheid.nl/bibliotheek/docs/delphi1.doc>, 20.

³³ As Trevor Livelton noted, “conscious intent to convey a message is evident in the act of recording, though not necessarily an intent to bridge time” (Livelton, *Archival Theory, Records, and the Public*, 62). Of course not all letter writers lack a longer-term perspective. A decision to write a letter rather than speak to someone face-to-face or by telephone may be made purely for reasons of distance or because of a desire for a formal mode of communication, but may also be made because the writer recognizes a need to be able to refer back to the correspondence at some future date. File copies are kept to meet this need.

Information Products and Boundary Objects

A distinction between records and information products has long been a cornerstone of archival writing and thought.³⁴ In Sue McKemmish's words, information products differ from records in having "an imposed subject matter," a discrete origin, and a purpose "to inform, to perpetuate knowledge, to entertain, or to convey opinions, ideas and feelings." But McKemmish also notes that there is frequently a close relationship between records and information products, and that the distinction between them "is often not clear cut."³⁵

Reports provide a good example of the fuzziness of the boundary. They are produced within almost every public or private sector organization. They may be statistical, textual, or both; they may be addressed to a named individual or to a much larger audience. A report for a manager or a client may contain recommendations as well as findings, but the bulk of the content of any report is likely to consist of "facts" generated by a computer or researched and described by a human writer. Reports disseminated throughout an organization or made available to the outside world, especially those published in formats resembling books, are generally recognized as "gray literature" by librarians and information managers,³⁶ while reports prepared for a presentation or for submission to a named individual have traditionally been left to the ambit of the records manager. But what might be called "intermediate" reports, such as those sent to a group of recipients, usually have a more ambivalent status and are sometimes a cause of contention between libraries and records management units. In any case, traditional distinctions between published sources (as the responsibility of the librarian) and unique or unpublished materials (as the province of the records manager) are no longer as valid as they once were; the growth of computer technology has meant that a record can no longer be seen as a necessarily unique object.³⁷

More important than format or the number of copies issued are questions about the nature of reports. Some reports merely present what appear to be "facts," but others also set out the circumstances in which those facts were

³⁴ For a very full exposition, see T. R. Schellenberg, *The Management of Archives* (New York: Columbia University Press, 1965).

³⁵ Sue McKemmish, "Introducing Archives and Archival Programs," in *Keeping Archives*, ed. Judith Ellis, 2nd ed. (Melbourne, Aus.: D. W. Thorpe, 1993), 5–6.

³⁶ See C. P. Auger, *Information Sources in Grey Literature*, 4th ed. (East Grinstead, U.K.: Bowker-Saur, 1998).

³⁷ For many archivists and records managers, unique or unpublished items may still form part of the mental prototype of the record, but in a world where entire series of electronic records can easily be duplicated for security in preservation, where copies are indistinguishable from originals, and where digital materials can be "published" without creating multiple physical copies, the traditional division between published and unpublished materials is hard to maintain. See also James M. O'Toole, "On the Idea of Uniqueness," *American Archivist* 57 (1994): 632–58; Digitale Bewaring Testbed, *Emulation: Context and Current Status* (2003), available at http://www.digitaleduurzaamheid.nl/bibliotheek/docs/white_paper_emulatie_EN.pdf, 23–26.

acquired, with explicit statements of the terms of reference received and the methodology followed by the researcher. Even when the methodology is not expounded in detail, reports are often phrased in the first person; many report writers present themselves as making the assertions contained in their reports. Whether implicitly or explicitly, a report created by an individual or a work-group represents the activity of its creator and can therefore be seen as a record as well as an information product. Reports may not be prototypical records, but it would be wrong to say that objects describable as information products cannot also be records; some objects have the characteristics of both.

Much the same applies to a number of other types of information product. A procedure manual, for example, can be seen as a resource created to provide information for the staff of an organization, but also as a record of the issuance of instructions from management to the workforce. Moreover, the content of a report, or a procedural instruction, can be converted into the format of a memo or a letter simply by adding appropriate wording at the front and a signature at the end. Indeed, many reports and procedural directives are issued in this way; the shift from booklet format or Web page to memo, letter, or email format brings them closer to the usual prototype of a record, but their nature and purpose are really little different.

If a report or a procedure manual can be seen both as a record and as an information product, it can be denominated a “boundary object.” Sociologist Susan Leigh Star developed the concept of boundary objects in the 1980s.³⁸ They are entities shared by different communities of practice. Each community may interpret or use them in a different way, but “the acknowledgement and discussion of these differences . . . enable a shared understanding to be formed The boundary object serves as an interface among these communities.”³⁹

The status of a boundary object need not be limited to items claimed by the recordkeeping and information management disciplines. Boundary objects straddle many different communities of practice; any given object could be claimed by two or more communities. A website is a boundary object because it could be interpreted as (among other things) a record, a computing resource, a sales platform, a corporate management tool, and a manifestation of contemporary culture; a visual item could be interpreted as a record, a photograph, an artifact of aesthetic design, a symbolic object, and an economic asset. Each community brings its own perspective to the table.

³⁸ Susan Leigh Star and James R. Griesemer, “Institutional Ecology, ‘Translations’, and Boundary Objects: Amateurs and Professionals in Berkeley’s Museum of Vertebrate Zoology,” *Social Studies of Science* 19 (1989): 387–420; Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences* (Cambridge, Mass.: MIT Press, 1999), 296–98.

³⁹ Michael Shepherd and Carolyn Watters, “Boundary Objects and the Digital Library,” in *Knowledge Organization, Information Systems and Other Essays*, ed. K. S. Raghavan and K. N. Prasad (New Delhi: Ess Publications, 2006), 189.

Star wrote that a boundary object “sits in the middle” of a group of actors;⁴⁰ but when prototype effects are taken into account a more complex picture emerges. Some boundary objects may be equidistant from the prototype operating in each of the communities concerned. Reports, for example, are neither prototypical records nor prototypical library materials. In other cases, a boundary object may not be perceived as sitting precisely “in the middle”; it could be marginal in one domain and close to the prototype in another. To many archivists, a government policy file is almost certainly a prototypical twentieth-century record. In a museum context, it would also be an example of what museum curators call the “material culture” of that century, but it is unlikely to be close to most curators’ mental prototype of a cultural artifact. Such differences may affect the degree of shared understanding, as well as practical decisions about custodial responsibilities; but it should nevertheless be recognized that all such objects transcend the boundaries and have membership in more than one category.

Record Aggregations

Archivists and records managers often use the term *record* to refer to a single physical or digital object. When they speak of “registering individual records,”⁴¹ “applying metadata at . . . individual record level,”⁴² or “preparing records for filing,”⁴³ they generally use the word *record* to denote what the international standard for archival description calls an “item”;⁴⁴ in the *ARMA Glossary*, a *file* is defined, not as “a record,” but as “a collection of related records.”⁴⁵ Much of the earlier part of this paper focused on item-level records. Arguably, the notion of a single object at item level might be another feature of the record prototype. But perceptions that a record is to be equated with a single item are accompanied by the widely accepted view that each item is or should be part of a larger aggregation. As Theodore Schellenberg expressed it, “records have a collective

⁴⁰ Susan Leigh Star, “The Structure of Ill-Structured Solutions: Heterogeneous Problem-Solving, Boundary Objects and Distributed Artificial Intelligence,” in *Distributed Artificial Intelligence*, ed. Les Gasser and Michael N. Huhns, vol. 2 (London: Pitman, 1989), 46–47.

⁴¹ State Records New South Wales, *How to Take Control of Your Records* (2004), available at http://www.records.nsw.gov.au/recordkeeping/guideline_18_how_to_take_control_of_your_records_6922.asp.

⁴² Philip Bantin, *Recordkeeping Metadata Specifications* (c. 2002), available at <http://www.indiana.edu/~libarch/ER/nhprcfinalmeta.doc>.

⁴³ Patricia E. Wallace, Jo Ann Lee, and Dexter R. Schubert, *Records Management: Integrated Information Systems*, 3rd ed. (Englewood Cliffs, N.J.: Prentice Hall, 1992), 218–20.

⁴⁴ *ISAD(G): General International Standard Archival Description*, 2nd ed. (2000), available at http://www.ica.org/sites/default/files/isad_g_2e.pdf.

⁴⁵ ANSI/ARMA 10-1999, *Glossary of Records and Information Management Terms* (Prairie Village, Kans.: ARMA International, 2000).

rather than a unitary significance,”⁴⁶ and their meaning is lost or diminished if they are not managed collectively.

It can also be argued that there is not necessarily a simple one-to-one equivalence between “records” and physical or digital “items.” In recent years, as relationships between records and activities have begun to be explored, some professionals affirm that the record of a particular activity may comprise more than one item. Researchers in the Pittsburgh Project in the 1990s asserted that “the record is, in most cases, equivalent to the file because it contains all of the data relating to an individual transaction.”⁴⁷ More recently, the VERS project team in Australia and the European Commission’s *Model Requirements for the Management of Electronic Records* have also noted that a record may consist of more than one “document.”⁴⁸

In *Managing Records* (2003), Elizabeth Shepherd and Yeo took this further and suggested that a record can be identified with an aggregation at many different levels. Activities often have multiple steps; a record may be created at each step, and the records of the individual steps can be aggregated to form the record of the activity. Moreover, in organizational contexts, activities are usually instances of *types* of activity that recur in the life of the organization; in the terminology used in *Managing Records*, activities are instances of a routine or creative *process*. Typical organizational processes include creation of business plans, recruitment of employees, and sale of products.⁴⁹ The records of all the instances of any given process can be aggregated to form the record of the process as a whole. At the upper levels of the system, these in turn aggregate to form records of functions and ultimately of the work of the whole organization.

Managing Records also introduces the concept of the elementary record: the record created at the lowest level of the system, sometimes representing an entire activity but usually representing a single step or even a part of a step within a multistep activity. An elementary record may be a single physical or digital item—and this is probably its prototype—but in some cases it may be part of an item (e.g., an entry in a ledger) or comprise more than one item (e.g., an email message and its attachments). Elementary records are the building blocks from which records at higher levels are constructed.⁵⁰

⁴⁶ Schellenberg, *The Management of Archives*, 67.

⁴⁷ David Bearman and Wendy Duff, “Grounding Archival Description in the Functional Requirements for Evidence,” *Archivaria* 41 (1996): 281, fn 9.

⁴⁸ Public Record Office Victoria, *Victorian Electronic Records Strategy Final Report* (1998), available at <http://www.prov.vic.gov.au/vers/pdf/final.pdf>, 14; Public Record Office Victoria, *VERS Basic Concepts* (2004), available at http://web.archive.org/web/20060820064024/vers.imagineering.com.au/basic_concepts/what+is+record.htm; European Commission, *Model Requirements for the Management of Electronic Records*, 11.

⁴⁹ Shepherd and Yeo, *Managing Records*, 53–57. *Managing Records* uses the word *process* with a specific meaning, but also notes (p. 50) that the literature shows considerable variation in the meanings assigned to this word and to related terms such as *function*, *activity*, and *transaction*.

⁵⁰ Shepherd and Yeo, *Managing Records*, 64–65.

Further reflection suggests that there is likely to be a prototype of record aggregation as well as a prototype of what we may now call elementary records. The most obvious prototype is an aggregation composed of elementary records created or received within a single organization or a single department of an organization; an alternative might be elementary records accumulated by a family or an individual, although these are often less central to the record concept. A prototypical organizational record aggregation is also—or has been until recently—one where the elementary records accumulate in a stable organization with a hierarchical structure following the Weberian bureaucratic model and subject to little or no change over time. This is not the place to discuss the vexed problems arising from organizational change, but it is notable that record aggregations created within shifting administrative structures are less prototypical, or have been so in the past, and that archival theory and practice still struggle to deal with them.⁵¹

A further feature of a prototypical aggregation is that it has grown up organically from what Hilary Jenkinson called “the conduct of affairs,”⁵² or what we might now call the functions and activities of the organization, and was maintained, initially at least, by the organization itself for its own purposes. At this point some caution is required. To some degree, record aggregations can be described as organic; the elementary records that compose them accumulate more or less naturally as business progresses and have natural interrelationships. But recordkeeping systems are intentional creations, and the aggregation of elementary records within them is purposeful. The higher levels of such systems (files, series, and the like) come into existence as the result of a planned, multi-stage process, typically involving the design of the system framework, the opening of storage receptacles for particular categories of elementary records, and their capture into those receptacles over a period of time.⁵³ The processes of appraisal, capture, and arrangement that shape the extent and the nature of an aggregated record are not organic or natural. The aggregated record results from a plethora of decisions made by creators of elementary records, records managers, computing specialists, or senior administrators. Some of these

⁵¹ Many of the classic articles on this subject were reprinted in Peter Biskup, Kathryn Dan, Colleen McEwen, Greg O’Shea, and Graeme Powell, eds., *Debates and Discourses: Selected Australian Writings on Archival Theory 1951–1990* (Canberra: Australian Society of Archivists, 1995). See also Sue McKemmish, “Are Records Ever Actual?,” in *The Records Continuum: Ian Maclean and Australian Archives First Fifty Years*, ed. Sue McKemmish and Michael Piggott (Clayton, Victoria, Aus.: Ancora Press, 1994); and Susan Healy, “The Classification of Modern Government Records in England and Australia,” *Journal of the Society of Archivists* 11 (1990): 21–26.

⁵² Hilary Jenkinson, *The English Archivist: A New Profession* (London: H. K. Lewis, 1948), 2.

⁵³ Shepherd and Yeo, *Managing Records*, 23–25, 86–87, 112–34. Of course these comments refer to the so-called current phase of the record life cycle, not to the retrospective creation or re-creation of files or series when disordered older items are acquired and processed by the staff of an archives service.

decisions may be made for reasons unconnected with recordkeeping, but others are driven by a conscious desire to build up an aggregated record to meet future needs for evidence, information, or memory.

Nevertheless, much of the raw material from which aggregations are constructed—letters, memos, emails, invoices, bills, receipts—can be said to arise naturally from organizational or personal activities. Because of the way that elementary records accumulate during the course of organizational business or the life of an individual, there are implicit bonds between them,⁵⁴ which we attempt to realize when we construct record aggregations. The aggregative systems we employ are fallible and can only be partially effective in encoding the complexity of these bonds, but the methods used to arrange, describe, and maintain aggregated records can be expected in some measure to reflect the functions and activities from which their elementary components arose and thus capture much of their natural interconnectedness. From this perspective, the prototypical view of record aggregations as organic growths has some validity. Aggregations in which records of different functions, or records from different parts of an organization, have been brought together and artificially rearranged on a form or subject basis for the supposed convenience of historical researchers—as happened at the U.K. Public Record Office and elsewhere in the nineteenth century⁵⁵—have long been felt to be professionally unacceptable. A “prototype” of records cannot necessarily be equated with “records that conform to best practice” in terms of respect for provenance or original order; but inevitably the two notions will overlap to some extent, and aggregations that do not comply with recognized best practices are likely to be nonprototypical.

Persistent Representations: An Inclusive Definition

If we are asked “What makes something a record?” or “Why is it in the nature of records to provide evidence or memory of activities?” we can answer that records represent those activities in a way that persists over time and that their creators had firsthand knowledge of the matters represented. In the companion article “Concepts of Record (1): Evidence, Information, and Persistent Representations,”⁵⁶ records were characterized as “persistent representations of activities, created by participants or observers of those activities or by their authorized proxies.” This characterization encompasses records created by mechanical devices as well as those created by humans; and records created by

⁵⁴ Guercio, “Principles, Methods, and Instruments,” 248–49.

⁵⁵ Michael Roper, “The Development of the Principles of Provenance and Original Order in the Public Record Office,” in *The Archival Imagination: Essays in Honour of Hugh A. Taylor*, ed. Barbara L. Craig (Ottawa: Association of Canadian Archivists, 1992).

⁵⁶ See footnote 1.

proxies such as secretaries, legal advisers, and public officials, who create records on behalf of their managers, clients, or other principals.

The earlier article argues that defining records as a *species* of representation should be acceptable to many parties within the archives and records management profession, regardless of whether they wish to emphasize the evidential or the memorial aspects of records, their cultural or their organizational uses. No claim is made that representations are in any sense perfect, so this interpretation may appeal to those who oppose the suggestion that records have objective dimensions of reliability as well as those who support it. Following the exploration of prototype effects in the present article, it can now be affirmed that this definition is also hospitable to a wide range of types of record—some of them close to the prevailing prototypes, others more distant—and that it includes boundary objects that the records community shares with other domains. However, it is also now apparent that this definition has one significant limitation: its allusion to records representing *activities* may preclude recognition of the notions that elementary records often represent steps *within* activities and that aggregations of elementary records can constitute records at higher levels. To complete the picture, the earlier characterization must be extended to encompass not just activities, but steps, processes, functions, and other such phenomena.

For this reason, it now seems appropriate to characterize records as *persistent representations of activities or other occurrents, created by participants or observers of those occurrents or by their proxies; or sets of such representations representing particular occurrents*. This revised definition introduces the (possibly unfamiliar) word “occurrents,” in recognition that the scope of records extends beyond unitary activities. The recordkeeping literature, like the literature of business systems analysis from which much of the writing on this topic is derived, lacks a collective term for concepts such as function, process, activity, transaction, and event. However, philosophers sometimes use the term *occurrents* to refer to entities of a temporal nature or having temporal components,⁵⁷ and it seems the most appropriate collective noun to employ. Occurrents can be either punctual (they occur at some point in time) or nonpunctual (they extend over a certain time period), and they are often contrasted with *continuants* such as physical objects having spatial dimensions. Using this terminology, we can say that records persist beyond the necessary temporal ending of the occurrents they represent. The extended definition also acknowledges that a record need not be a solitary representation; a set of representations can constitute a record, provided that each representation in the set is created by or on behalf of a participant or observer and that the set as a whole represents a particular occurrent.

⁵⁷ W. E. Johnson, *Logic*, vol. 3 (Cambridge: Cambridge University Press, 1924), xviii–xxi; Peter Simons and Joseph Melia, “Continuants and Occurrents,” *The Aristotelian Society Supplementary Volume* 74 (2000): 59–92.

The definition of records as persistent representations of occurments is easily applied to prototypical aggregations of organizational records. In such aggregations we can expect to find representations at many different levels. The aggregation as a whole represents the ongoing work of the organization: its internal business and its interaction with the wider world. Its work is an occurrence because it takes place in time. Within the overall aggregation are representations of different functions that the organization undertakes in fulfilling its purpose. At lower levels are representations of processes and activities, and of steps performed by particular employees or workgroups. Some records, such as minute books or branch accounts, represent the work of committees, semi-autonomous branches, or other structural components of the organization. The lower-level records include representations whose creation is intrinsic to the performance of an activity or step and others whose construction is procedurally separate. There are also “preparatory” records such as drafts and working papers. Besides representations of actions that took place within the organization, there are also likely to be lower-level records representing the actions of a third party: incoming letters and messages created by others and sent to the organization or one of its departments to perform some element of business. Although created externally, these, too, are persistent representations of occurments, created by participants in the occurments they represent. Each of them represents a part of a larger shared activity in which both sender and recipient participated, and they are filed with related representations created within the organization or department.

We often speak of a prototypical aggregation of this kind as “the records” of an organization, using the definite article before the word *records*. When a single department of an organization maintains its own records, the same usage can be employed in speaking of “the records” of the department. In contrast to the uses of the word *records* considered earlier in this paper, the word *records* in this usage, can easily be replaced by *archive* or *archives*—either the singular or the plural form can be employed⁵⁸—with little or no loss of sense. When we speak in this way, we use the phrase “the records” or “the archive” of an organization to refer to the totality of elementary records that the organization has accumulated, insofar as those records represent occurments in which the organization or its employees played a part. The term *archive* is structural and alludes to a collectivity of materials accumulated by a specific organization, department, work group, community family, or individual, and preserved over time. *Record* and *records* normally have wider connotations. Their orientation is functional as well as structural,

⁵⁸ According to Richard Pearce-Moses, *A Glossary of Archival and Records Terminology* (Chicago: Society of American Archivists, 2005), 31, “United States and Canadian archivists generally deprecate the use of ‘archive’ (without an s) as a noun to mean a collection of records; but both forms are commonly used in other English-speaking countries.”

they emphasize occurments as well as creators, and they can be used at elementary as well as collective levels.⁵⁹ When the term *records* is employed as a synonym for *archive*, it is used in a particular and somewhat restricted sense.

The definition of records proposed in this paper embraces nonprototypical as well as prototypical aggregations. Suppose, for example, that John's friend regularly sends him photographs of her children's activities, and John aggregates these to form a record of what her children have done; or Professor Plum organizes a course of seminars and after each seminar sends a sound recording or a transcript of the proceedings to the local or regional archives, and the archivist aggregates these to form a record of the seminar course. Because the aggregator of the record has no immediate connection with the occurments represented, such aggregations are likely to be judged nonprototypical (at any rate by archivists; to those outside the archival profession, they may not seem so distant from the record prototype). But if the definition proposed here is accepted, aggregations like these fall within the boundary. The professor's transcripts are a record even though it is debatable whether they could correctly be described as an "archive" or a "fonds." The definition is deliberately inclusive and generous in scope.

The definition is also intended to embrace elementary or item-level records regardless of whether they are maintained as part of an aggregation. A charter granting lands or privileges from the king is a record even if it exists in isolation and no other records survive from the king's reign. Likewise, a single letter or invoice is a record regardless of whether it is kept with other records. Even a preliminary draft, with deletions and insertions shown by annotations or a word-processor's track changes tool, is a persistent representation of someone's work in progress, irrespective of whether it remains in its author's personal working space or is captured with related items in a formal recordkeeping system.⁶⁰ Much the same can be said of stray records that have become detached from the recordkeeping system of which they once formed part; despite their loss of context, they are still representations of past activity. Of course, more effective representations are available when records are buttressed by the contextual wrapping and security provided by a recordkeeping system, and where records are well managed there will be robust procedures to determine what records should be captured and to minimize the risk of decontextualization or accidental loss. Nevertheless, in Duranti's words, "archival science and diplomatics

⁵⁹ And the term *record* can be applied at intermediate collective levels: for example, to a file, a subseries, or a series. The distinctions made here between usage of the words *records* and *archives* would seem to be independent of any belief that "archives" have particular cultural or long-term value. Since only two terms are available, it appears that each must carry a range of nuances of meaning.

⁶⁰ Cf. Stuckey, "The Australian Archives' Policy on Electronic Records," 121. If it is an electronic draft its persistence might be at some risk, but a saved draft persists beyond the end of the drafting activity if it is not overwritten.

do not require completeness and reliability for a record to exist.”⁶¹ Isolated elementary records may perform poorly against the tests of reliability and usability suggested in standards such as ISO 15489,⁶² but they are still within the boundary of the concept.

The telegram that Victor Hugo is said to have sent to his publisher after the publication of *Les Misérables* provides an extreme example. The telegram contained only the single character “?” but the publisher understood that Hugo was asking how well the book was selling and sent the reply “!” to indicate that sales were excellent.⁶³ These documents, like many written communications composed elliptically because of the shared cultural background of writer and recipient, served their immediate purpose because both parties understood their meaning. Unless contextual wrapping is provided, later users may struggle to interpret them, because they were created to communicate across space rather than time, and their creators did not envisage the needs of future researchers. But even if they survive in isolation, they are still persistent representations of the messages their creators sought to convey.

Hugo’s telegram is nonprototypical, and the definition of records as persistent representations deliberately encompasses other types of nonprototypical record at item level, including what some may consider to be borderline cases. Personal diaries, for example, are often felt to have a marginal status in the universe of records, probably because they are conscious constructions and therefore perceived as lacking in “impartiality.”⁶⁴ Although the boundary between diaries and memoirs cannot be defined with confidence, the status of memoirs is probably even more marginal, because a memoir is usually written long after the event.⁶⁵ As with any record whose construction is separate from the event, two tiers of activity can be discerned in a diary or memoir: the activity described and the activity of the creator in describing it. The same duality is

⁶¹ Luciana Duranti, “The Concept of Electronic Record,” in Luciana Duranti, Terry Eastwood, and Heather MacNeil, *Preservation of the Integrity of Electronic Records* (Dordrecht, Netherlands: Kluwer, 2002), 61, fn 13.

⁶² ISO 15489-1:2001, *Records Management*, sec.7.2.

⁶³ Bernard Dupriez, *A Dictionary of Literary Devices* (Toronto: University of Toronto Press, 1991), 367.

⁶⁴ The marginality of diaries is odd, since conscious construction is a characteristic of many genres, such as minutes of meetings, whose status as records is rarely disputed. The explanation may lie in the organizational context of minutes, as opposed to the personal nature of diaries; or in the semblance of objectivity in minutes as opposed to the scope for introspection and emotion offered by the diary. In fact, minutes are often poor representations of meetings, not least because of minute-takers’ perceptions that all reference to disagreements and controversy should be omitted. A diary, despite its weaknesses and lack of prototypicality, sometimes provides better affordances of evidence and information than a minute book.

⁶⁵ Any record created long after the event is almost certain to be nonprototypical. ISO 15489-1:2001, *Records Management*, sec.7.2.3, advises that records should be created at the time of a “transaction or incident,” or “soon afterwards,” but wisely does not attempt to define *soon* or comment on the status of records not created with sufficient promptitude.

apparent in the case of oral history recordings, which are representations both of the interview or narration activity and of the events recalled by the interviewee. Considered as a representation of those earlier events, the oral history recording is sometimes dismissed as untrustworthy and often allotted a marginal status like that of the memoir.⁶⁶ Nevertheless, diaries, memoirs, and oral history recordings are records. They may be created long after the event, but all are based on personal experience and firsthand knowledge; their distance from the prevailing prototypes does not exclude them from the concept.

Paintings, drawings, and photographs of activities are also nonprototypical item-level records. An organization may commission an artist to attend events (often ceremonial events of symbolic importance) and to produce paintings of them, or it may give a photographer a similar commission to capture images of organizational events and activities; the representations resulting from such commissions are not prototypical records, but are perhaps only moderately distant from a record prototype. When artists or photographers work on their own initiative, or are more concerned with the aesthetic than the documentary qualities of their work, the resulting representations are probably further from the prevailing prototypes. Archivists may consider photographs to be more satisfactory records than paintings or drawings, perhaps because they may seem more objective; but as Anastasia Rodgers has shown, even photographs commissioned by a government body, such as the photographs of viaduct construction commissioned by the City of Toronto from 1913 to 1918, can reveal a tension between the requirements of documentation and the photographer's artistic sensibilities.⁶⁷ Those seeking objectively "accurate" reproductions are likely to dismiss other nonphotographic art works, but if a work depicts an activity that the artist has observed, there is still a sense in which it is a record of the activity concerned. Critics who deny the possibility of objective accuracy might argue that a skillful artist who observes an activity can create a more intense or more meaningful representation of reality than is possible through mere mechanical copying.⁶⁸ Paintings and drawings made by observers are boundary objects, and almost certainly more prototypical in domains other than recordkeeping; but they are records, too.

Conclusion

As this paper has attempted to show, prototype effects thrive in the world of recordkeeping. There are prototypes both of item-level records and of record

⁶⁶ The "recordness" of oral histories is discussed in Lisa Klopfer, "Oral History and Archives in the New South Africa: Methodological Issues," *Archivaria* 52 (2001): 100–25; see especially 114–19.

⁶⁷ Anastasia Rodgers, "Constructing Beauty: The Photographs Documenting the Construction of the Bloor Viaduct," *Archivaria* 54 (2002): 72–91.

⁶⁸ Cf. Felipe Fernández-Armesto, *Truth* (New York: Thomas Dunne, 1997), 173–74.

aggregations. The prototypical contents of an aggregation would appear to be prototypical item-level records, but aggregation prototypes have further characteristics of their own, which are closely related to archivists' understanding of the principles of provenance and original order. At both unitary and collective levels, different perspectives on the naturalness or constructedness of records give rise to variations in the prototypes in different parts of the record-keeping community. However, these differences should not be overemphasized; even at the extremes of the debate the prevailing prototypes share much common ground.⁶⁹

Many objects, and many aggregations of objects, are records. In the language of the psychologists who study prototype effects, some may be seen as "better" examples of records because they are closer to a mental prototype, while others are less prototypical and are often viewed more cautiously. Given the wide scope of the record concept, and the necessary practical limits on professional enterprise, archivists and records managers must determine how far they are willing and able to cast their net. Any records or archives service will require decisions about whether and to what extent it is appropriate to apply rigorous recordkeeping rules to records more distant from the prototypes. Which records should be considered eligible for capture to an organization's formal records management system? Which records are felt to have a more marginal status and might acceptably be made subject to less rigorous rules, or to none at all? Which records are appropriate for long-term preservation in an archival system? The decisions made, and the basis for making them, will largely depend on the role and strategic priorities of the records or archives service. Context, as so often, is all important. In a records management environment solely dedicated to the business and accountability needs of a particular organization, records that can be perceived as demonstrably accurate will usually take priority; records created to transact business will usually be judged more reliable than those whose creation is procedurally separate from the activity they describe; impressionistic records or those created long after the event are likely to be dismissed as untrustworthy or irrelevant to the mission of the records management service. But in the context of a records or archives service that recognizes the needs of extra-institutional and cultural users, nonprototypical records may acquire more importance. Of course, culturally and socially focused services are not homogeneous. Some see it as their role to maintain resources for the history of particular institutions, while others collect materials for the study of a locality or a theme, or work toward the documentation of the powerless and those on the margins of society. Some records and archives services embrace all of these objectives, with varying degrees of emphasis. In general, support for

⁶⁹ Outside the professional community, perceptions and prototypes of records are doubtless much more varied; but these lie beyond the scope of this paper.

institutional structures correlates with a desire to limit the range of records captured to those close to the prototypes. The greater the emphasis on underprivileged groups and noninstitutional communities, the wider the scope of capture is likely to be, and the larger the value accorded to objects on the periphery of the universe of records. Archivists and records managers can avoid unwelcome and divisive tensions within the profession if they understand that the critical issue is about making appropriate capture decisions in particular contexts, rather than seeking to restrict the inclusiveness of the concept of the record itself.

The recognition that many items (or even many series) are boundary objects also has implications for professional practice. Records managers and archivists who see membership in the category of “record” as exclusive, and who believe that if the objects we encounter are records they cannot simultaneously be information products, library books, museum artifacts, or works of art, underestimate the complexity and richness of the world in which we live and work. If we accept the notion of boundary objects and the possibility of multiple category membership, questions then arise about the appropriateness of established methods and practices that oblige us to assign such objects to a single domain for management purposes. Descriptive practices and retrieval systems at item level are still largely tied to professional communities of practice; if we describe an object in detail to archival standards, the description is rarely reusable in other communities, and retrieval of the object frequently requires the user to know, or to guess, the professional domain to which its description has been assigned. In the future, user expectations, fueled by the digital revolution, will make it increasingly difficult to justify the separate maintenance of what are often called “silos” of resources, particularly where boundary objects are concerned. Contributions to MARC databases offer a very imperfect solution, reducing and simplifying complex realities to fit the constraints of traditional bibliographic systems and outmoded technologies.⁷⁰ The issue extends beyond retrieval (where some of the challenges are already being met by developments in metadata harvesting and intelligent online search tools) to wider questions of management, use, and interpretation. New cross-domain standards that facilitate reusable descriptions would be a first step in the right direction; but the real need is for single integrated systems that can support the management of boundary objects, and aggregations containing boundary objects, in a way that meets the requirements of the different stakeholders. This is not a plea for minimalist approaches like the Dublin Core;⁷¹ even less is it a suggestion that the existing practices of any one community will meet

⁷⁰ Cf. Peter Carini and Kelcy Shepherd, “The MARC Standard and Encoded Archival Description,” *Library Hi Tech* 22 (2004): 19; Daniel Pitti, “Encoded Archival Description: The Development of an Encoding Standard for Archival Finding Aids,” *American Archivist* 60 (1997): 275; Bearman, *Electronic Evidence*, 230–31.

⁷¹ Dublin Core Metadata Initiative, website available at <http://dublincore.org>.

the needs of the others. Records provide evidential affordances that warrant the approaches to their moral and physical defenses⁷² developed by the recordkeeping profession over many years; a system that allows the shared management of boundary objects must maintain those defenses just as it must support the distinctive perspectives of the other communities. In terms of description, a common system would permit multiple contributions to the descriptive process and the inclusion of bibliographic, curatorial, and recordkeeping metadata in a single environment. How such systems might be developed, and how they might work, await investigation.

Ultimately, it will almost certainly be impossible to draw hard boundaries to determine which of the objects we encounter are or are not records. The boundaries are fuzzy, and the “boundary objects” that bestride them serve as points of contact between the world of records and other disciplines. These objects may be a cause of dissent, but acknowledgment of their boundary status can also help to achieve closer understanding between archivists, records managers, and practitioners of cognate disciplines. In fact, all elementary records are boundary objects in some sense; all belong to other categories, such as “digital bitstreams,” “objects on paper,” or “written texts,” as well as the category of “records.” At the same time, there are many objects, and aggregations of objects, whose denomination as records is unlikely to be challenged, since they approximate very closely to the relevant prototypes. Records provide many affordances, but their most characteristic affordance is that they provide evidence of, and information about, past activities and other occurrents. It can be argued that some records provide these affordances more effectively than others, or that different users find different levels of evidence and information in the same record; but all records provide these affordances in some measure. They do so because they are persistent representations of occurrents, created by participants or observers of those occurrents or by their proxies. This is a wide definition, embracing both records that are prototypical and those more distant from the prototypes. The inclusiveness is intentional; the world of records is diverse and multifaceted.

⁷² This succinct phrase is of course borrowed from Hilary Jenkinson, *A Manual of Archive Administration*, 2nd ed. (London: Lund Humphries, 1937), 44.