14 REALITIES OF STANDARDS IN THE TWENTY-FIRST CENTURY

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In a podcast of a panel debate, "There's No Catalog Like No Catalog,"[1] hosted by LITA (Library and Information Technology Association) at the ALA Annual 2008, you can hear a description of the library catalog. One of the panelists said that the library catalog is the greatest repository of the most "anal-retentive, obsessive-compulsive" activity that he had ever seen. While I won't take issue with this assertion, what was interesting was the response from the audience: embarrassed laughter. I conclude from this that there is some sort of general agreement that anal-retentiveness in such a task is fundamentally a bad thing. This kind of attitude is understandable since terms like anal-retentiveness bring to mind such images as a baby sucking its thumb; and anyone unfortunate enough to be labeled anal-retentive is emotionally in the same early stage of development. This is in contrast to the fully developed adult who has a wider and ultimately better understanding of reality, and who—of course—can focus on more important and far more interesting topics.

I genuinely sympathize with this viewpoint, but I also find it rather strange. Blind adherence to standards is not such a bad thing in all cases. For example, I hope that when I am flying on an airplane, the airplane mechanics working on my plane are rather obsessive-compulsive about their work and they do not simply say, "Well, this isn't quite right, but, it is *good enough*." Or if someone is working on the roof of my house, I hope the carpenter doesn't say, "Well, it's too much trouble to see how these pieces are supposed to fit together. I'll just use this nail I have handy."

I suspect there are several people out there who would agree on this point, and they would join me in hoping (and expecting) that the professionals whom we rely upon would put out some extra effort to check and follow the standard

ways of doing their work. If that means they are being anal-retentive or obsessive-compulsive, then so much the better. This is one of the problems I have always had with using terms such as "anal-retentive" toward at least some people and professions. While it may or may not be true, the mere act of disputing such a term almost immediately labels you as ridiculous; while at the same time, we expect others to rely upon, and even more importantly, to *follow standards rigorously* so that our society can function safely, without the wings of airplanes falling off in mid-flight or the roofs of our homes caving in while we are having our morning cup of coffee.

Some may reply that obsessive-compulsiveness is not bad in those instances that are critically important, but for other areas of our economy and society, there should be a more relaxed attitude. While medicine and law would be examples of the former, we can assume that bibliography and cataloging would be examples of the latter, since errors in bibliography and cataloging do not threaten anyone's life or fortune. But that is not entirely true, either. Legal and health professionals rely on research found through bibliographies and catalogs, and as a result, they rely on those who make the bibliographies and catalogs. Errors in information retrieval for a physician or a lawyer may result in health risks to their patients or loss in court. There has been a regular succession of articles that discuss the problems of citation errors in scholarly publications, with results that range from citation analyses incorrectly performed, to suspicions that the authors never read the articles they cited in the first place.[2] Of course, none of this is news to reference librarians, who immediately assume there is a problem with the citation the moment they experience any trouble finding something.

But why do catalogers have these standards? Do they serve any real purpose other than to give some rather dubious employment to a part of our society? True, some may get caught up in the overwhelming work of the moment; and they do things just because "the rule says so." Does that make it bad? In fact, it turns out that the reason we have these standards—believe it or not—is to save our libraries, and our users, time and money. How, someone may ask, could this possibly be? Look at all of these crazy rules. Look at all the exceptions. Why do we have these things?

I shall only discuss that part of cataloging dealing with bibliographic description in this essay. I don't think you will find too many people who maintain that author access or subject access is simply unnecessary, although it may be very poorly implemented in our catalogs. In the eyes of many people, however, bibliographic description is akin to performing an autopsy on a corpse. These people are perhaps thinking, or voicing, some of these questions and statements:

- Who needs this level of boring detail?
- It just can't be that hard—it's the catalogers who are making it hard.
- Anyone who looks at the rules can see that there are far too many of them.
- They are horribly boring to read and cover too many inane possibilities.
- It is much better to let people decide these things for themselves and this is where both time and money can be saved.

- It takes a lot of training just to learn how to use the rules; it takes even more time to use them, and time is what we don't have.
- Nobody is going to die if a book on art or philosophy is cataloged a little bit wrong.
- Who cares?

On the last question, I shall answer: *you* care. But to explain this further, I must resort to citing specific examples. I can come up with thousands of examples, but I shall discuss only one. This is the kind of example that makes people sigh and causes their eyes to roll back in their heads: counting the number of pages in a book. The rules for counting the number of pages in a book go on and on. In the newest ISBD (International Standard Bibliographic Description) standard, rules for counting pages go from p. 182 to 191, in its online PDF version.[3] What difference does it make? Who cares?

I shall make a confession that may come as a surprise: as a cataloger, I don't care, either. I couldn't care less how many pages a book has. Whether it has 12 pages or 120, or is 25 volumes, is of absolutely no interest to me. Yet, I do care about making my job easier and more efficient. Part of my job as a cataloger is to determine if an item I am working on is a copy of an item already in the collection. So let's think about this: while a single book has only so many pages, one thing I have discovered is that there are many, many different ways to count those pages. Let's take some examples that come readily to hand. Here is the paging information for three books of Mark Twain, taken from the catalog of the University of Michigan Library.

The abbreviations in the following examples are defined in ODLIS (Online Dictionary for Library and Information Science)[4] as follows.

1. p. L. or L. means pages of leaves and leaf, respectively. A folded single sheet has two pages, one on each side of the sheet, but often only one side is printed and numbered. This is the "leaf."
2. p. means page, which is one side of a leaf. A folded single sheet of paper has two pages, recto (right side) and verso (left side), and both pages generally are printed and numbered.
3. pl. signifies plate, which is generally an illustration printed on one side of thicker or glossier paper, with the reverse side of the page remaining blank, or with a legend describing the illustration.
4. port., front., and illus. are abbreviations for illustrations: portrait, frontispiece, and illustration(s). Frontispiece is an unnumbered illustration that comes before the title page or first page.

EXAMPLE 1: 4 p. L., 3-264 p. front. (port.) 2 pl.

This is the pagination and illustration data found in the physical description field (MARC 300 field) of the MARC cataloging record for a 1935 edition of Mark Twain's *Christian Science* work, in Michigan's online catalog, as transcribed

by the cataloger from the physical work itself. The MARC record is available at http://mirlyn.lib.umich.edu/Record/000439243/Details#tabs.

Compare this transcription of the pagination and illustration of the work to the Hathi Trust Digital Library full text, original scanned version, available via a "Full text" link in Michigan's online catalog at http://mirlyn.lib.umich.edu/Record/000439243, or directly available at http://hdl.handle.net/2027/mdp.39015064368478.

EXAMPLE 2: 6 p. L., [17]-274, [1] p. incl. front., illus.

This is the pagination and illustration data found in the physical description field (MARC 300 field) of the MARC cataloging record for an 1881 edition of Mark Twain's *The Adventures of Tom Sawyer*, in Michigan's online catalog, as transcribed by the cataloger from the physical work itself. The MARC record is available at http://mirlyn.lib.umich.edu/Record/000200694/Details#tabs

Compare this transcription of the pagination and illustration of the work to the Hathi Trust Digital Library full text, original scanned version, available via a "Full text" link in Michigan's online catalog at http://mirlyn.lib.umich.edu/Record/000200694, or directly available at http://hdl.handle.net/2027/mdp.39015062680924

EXAMPLE 3: iv p., 2 L., 522, [1] p. front. (port.) illus., 7 pl.

This is the pagination and illustration data found in the physical description field (MARC 300 field) of the MARC cataloging record for a 1906 edition of Mark Twain's *The $30,000 Bequest and Other Stories*, in Michigan's online catalog, as transcribed by the cataloger from the physical work itself. The MARC record is available at http://mirlyn.lib.umich.edu/Record/000664372/Details#tabs.

Compare this transcription of the pagination and illustration of the work to the Hathi Trust Digital Library full text, original scanned version, available via a "Full text" link in Michigan's online catalog at: http://mirlyn.lib.umich.edu/Record/000664372, or directly available at: http://hdl.handle.net/2027/mdp.39015047754505.

The paging examples given here show earlier practices that were highly complex, describing leaves, frontispieces, portraits, and other aspects of the book. These practices have been simplified dramatically over the years. For instance, in former times, the "L." could be capitalized as here, or it may have been in lower case; "port." may become "por." or even "por. of gr." for a group portrait.[5] Whereas before, people would note down, or transcribe, blank pages, the beginnings and ends of page sequences, and so on, today we simply cite the final page of each sequence of paging. Not everyone in the world follows ISBD and AACR2, however. Other bibliographic agencies have quite different practices and may take this complexity and add them together in various ways. Because there is no single standard to record pagination over time and in all countries, the number of pages in the examples could be interpreted in many ways.

In Example 1, paging might be *limited only to the pages with page numbers on them*: 4 p.L. + (264–3 unnumbered pages), which could be interpreted and recorded as 265 *p*. Example 2 paging might be read as: 6 p.L. + (274–17 unnumbered pages), or 263 *p*. Example 3 would follow the same pattern: 4 p. + 522 p., for 526 *p*.

In the modern era, leaves are not included in the page count as they are simple leaves, not pages. They are usually recorded separately in modern-era pagination as found in the third example: "2 L." or they may be ignored altogether. Similarly, plates, "pl." in Examples 1 and 3, are recorded in a separate pagination count for plates in the modern era, and are not included in the page count.

Other agencies may add in all the blank pages, and even the end papers; some ignore everything except the main paging. Some count plates, some ignore plates. Others leave that up to the cataloger.

This very small example should make it clear that the information about the number of pages is very closely connected to *how it is done*. As a cataloger, I do not care at all how it is done. While I have my own opinions on the *best way* to do it, what is far more important is that everybody does it in the *same way*. It wouldn't bother me one bit if somebody made a list of all the ways of counting the pages, printed them out, hung them on a wall, and then handed a dart to a monkey and let it decide with a toss. I honestly do not care, but if everybody can do whatever they want, then "256 p." ceases to mean anything at all. As a cataloger, I simply want to know if I am looking at the same item or not, without having to get up and walk into the stacks to get the book; or, now that we catalog into cooperative databases, I don't want to have to bother people at other libraries, where there may be a possible copy of my book, to ask them to check the number of pages for me. I say if the paging ceases to mean anything, why continue recording it? As a cataloger, I'll confess that I really don't care.

But now I shall change my "hat" and cease being a cataloger. Suddenly, I am a library book selector. Do I care about the paging? Yes, because if I am considering buying a book, I need to know if it already exists in the collection. If I waste my funds on mounds of duplicates, that won't make my users or my supervisors very happy. If I am forced to march into the stacks every time I need to know the real number of pages in a book, that is a huge waste of my time, and I will complain.

I'll change hats again: now I am a library patron. Do I care about the paging of Mark Twain's work? Yes, that is, if I am interested in studying Mark Twain and it is vital to me to know the number of pages that each item has. I need to know that one version of *Huckleberry Finn* has 275 pages while another has 283 pages, since this probably indicates a textual variant. In fact, if I am studying the printing history of *Huckleberry Finn*, I may prefer the older methods of paging cited in the examples above, or perhaps I would prefer something with far more detail than that. This is important information to some scholars, and it turns out that they will actually incur the expense of traveling from one library to another just to see a variant. If they can get the resource they need through interlibrary loan, this also has considerable costs. So, does this user who is considering making a trip to another collection to view a particular copy of a book care about the paging? Does the interlibrary loan librarian, who is responsible for a budget

and staff time, care? Absolutely, and consequently, if there are problems, the user and interlibrary loan librarian will both complain.

Now for the final hat: I am the library manager who tries to balance the desires of the users with the resources at hand. I know that there is a frightening amount of material waiting for cataloging, which is growing every day, and it is absolutely vital to keep these materials moving so that they will be on the shelves where people can use them. Therefore, I am interested in my catalogers making records as quickly as possible. Doing incredibly detailed paging is time consuming, and tradeoffs have to be made. It was mentioned earlier that the catalogers will do what they are told to do to manage the collection, so if tomorrow the managers said to stop adding the paging to records, there would be some howling, but they would do it since they are professionals. The real screams would come from the selectors, the users, and the interlibrary loan librarians because the catalog records would no longer serve their needs. So, the current ISBD rules offer a compromise among all parties concerned.

Does the library manager care about the paging? No, but the manager doesn't want to hear a lot of complaints from everybody and must try to keep the business of the library moving smoothly.

To sum up, the information in a record is certainly important, but just as important are the rules (standards) that determine what that information means. That is why each part of a catalog record is governed by rules and standards: to guarantee that it means something, and means the same something to everyone. This goes for "256 p." as much as "2008," "Twain, Mark, 1835–1910," or "World War, 1914–1918." We can't just put in whatever we want, that is, not if we want the records to mean the same thing to everyone. Maybe the result is not roofs caving in or wings falling off of airplanes, but there will be gross levels of inefficiency, and everyone, including our users, will be increasingly skeptical of the information they see in the catalog.

STANDARDS AND THE WORLD WIDE WEB

The paging variation examples provide a basic idea of the importance of standards, but when we discuss standards in terms of today, matters are somewhat different. The changes stem primarily from an unavoidable fact: the number of materials available to our users has increased exponentially, and even when we limit these to the so-called "worthwhile" materials (i.e., items that always would be selected for a library's collection, no matter the format), the numbers are still enormous and absolutely overwhelming for our current library methods.

This situation is not entirely unprecedented and has happened before during the nineteenth and early twentieth centuries when the creation of books became automated and their numbers grew rapidly. The library community responded by sharing the catalog records they created. This took quite a bit of work: not only was a standard-sized card necessary for sharing, but more importantly, the information itself needed to be standardized. In practice, this meant that smaller libraries followed the methods and processes (i.e., the standards) of the "big

boys," meaning the national libraries, e.g., Library of Congress, British Library, Bibliothèque nationale de France, and so on. One of the most wrenching changes in librarianship today is the realization that these institutions are the big boys no longer. Today, the big boys are huge, powerful nonlibrary corporations such as Google, Yahoo, and Facebook, with corporate values completely at odds with those of traditional library values. These are the organizations that are creating the tools that our modern information society is currently using, and will use in the future. It is almost impossible to imagine that libraries could create separate tools that could compete meaningfully in such an environment.

This means that libraries are in the process of losing control of the tools their patrons use for information access; in fact, libraries have already lost control of many of them. The only place where librarians can still exert control is within their own catalogs, but fewer and fewer people use them. Even if libraries agreed to work with entities such as Google, that leaves all the power in Google's hands, as when Google decided that they would no longer work with the OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting) format in favor of site maps.[6] If OAI-PMH is too much, where does that leave MARC21? I believe the answer is all too clear.

On a more positive note, Google, Yahoo, and the others mostly do not create the data (or metadata), and anything they *do* make will be created automatically. What they actually do is take the metadata created by others and rework it in different ways. As a result, these industries rely on our work.

It's not so simple, though. This can have strange results, and although there have been concerns expressed over the quality of the Google Books metadata,[7] what is even more enlightening is to see exactly where Google has placed the traditional library information. For example, following a link[8] and reviewing the resulting screen displays in Google Books for *Rome: An Oxford Archaeological Guide* (by Amanda Claridge and others, published in 1998 by Oxford University Press) results in sixteen types of data displayed in the course of five screens. The data are:

1. Book Overview
2. User Ratings
3. Preview the Book
4. Search in this Book
5. Get this book (includes link to WorldCat)
6. Reviews
7. Related Books
8. Common Terms and Phrases
9. References from Web Pages
10. Selected Pages
11. Maps
12. References to this Book
13. Popular Passages
14. Contents

15. Other Editions
16. More Book Information

What do we see in the actual screen displays? The following five figures show how Google Books displays set out this information. Figure 14.1 represents the first screen displayed in Google Books for our title, *Rome: An Oxford Archaeological Guide*. Included in this screen are: Book Overview, User Ratings, Preview the Book, Search in this Book, Get this book (includes link to WorldCat), Reviews, Related Books, and Other Editions.

Figure 14.2 displays the second screen displayed in Google Books for *Rome*. Included in this screen are: a continuation of Related Books, and, Common Terms and Phrases, displayed as a tag cloud.

Figure 14.1
***Rome: An Oxford Archaeological Guide*, Google Books display screenshot one. (Screenshot courtesy Google Books.)**

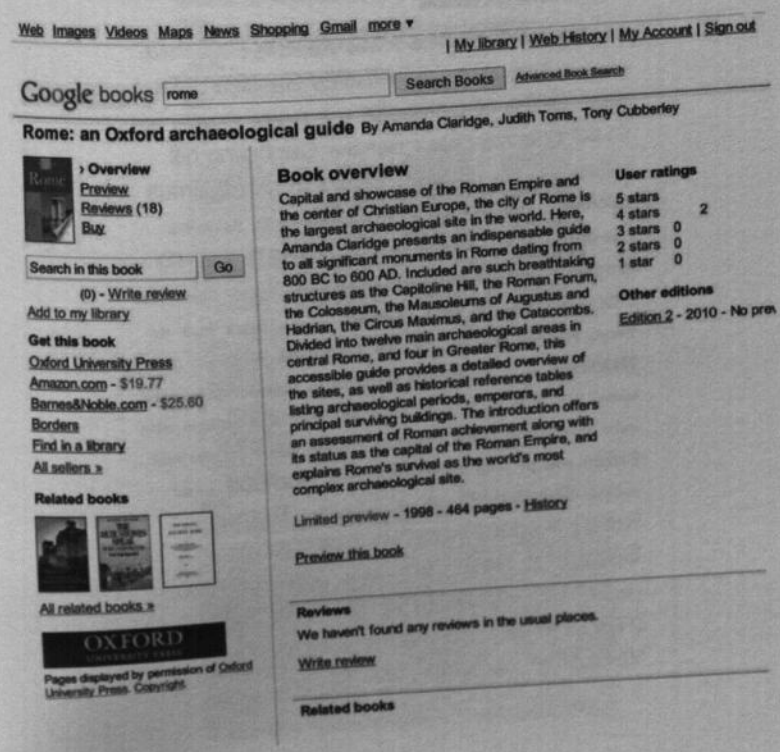
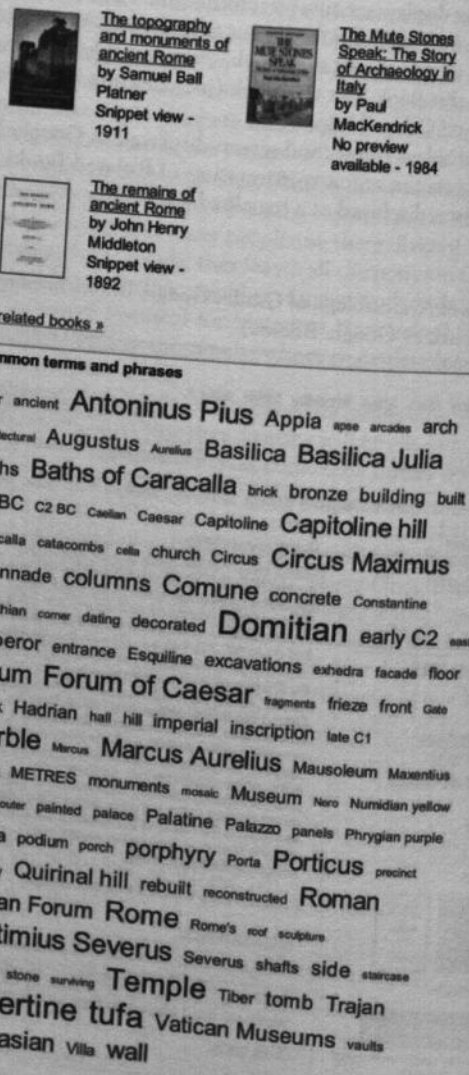


Figure 14.2
Rome: An Oxford Archaeological Guide, Google Books display screenshot two. (Screenshot courtesy Google Books.)



The third screenshot for Google Books *Rome*, Figure 14.3, shows References from Web Pages, Selected Pages, and Maps.

Figure 14.4 displays the fourth screen displayed in Google Books for *Rome*. Included in this screen are: Continuation of Maps from Figure 14.3, References to this Book, and Popular Passages.

Figure 14.5, the last screenshot for *Rome*, shows Contents, Other Editions, and More Book Information.

Figure 14.3
Rome: An Oxford Archaeological Guide, Google Books display screenshot three. (Screenshot courtesy Google Books.)

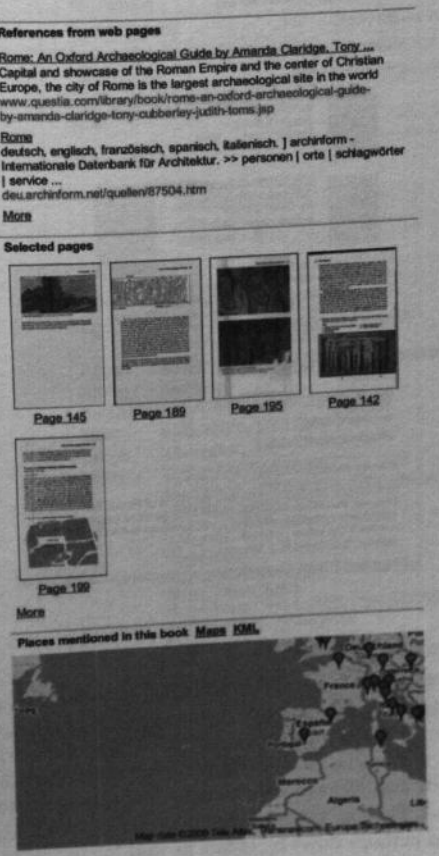
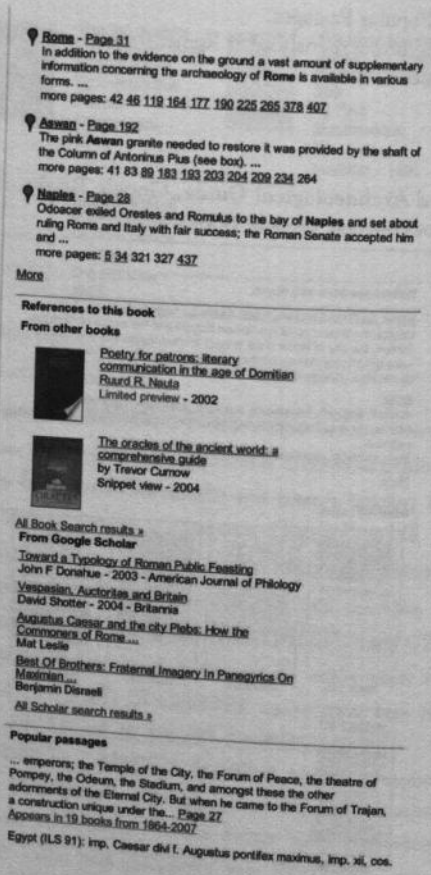


Figure 14.4
Rome: An Oxford Archaeological Guide, Google Books display screenshot four. (Screenshot courtesy Google Books.)



Rome - Page 31
In addition to the evidence on the ground a vast amount of supplementary information concerning the archaeology of **Rome** is available in various forms. ...
more pages: 42 46 119 164 177 190 225 265 378 407

Aswan - Page 192
The pink **Aswan** granite needed to restore it was provided by the shaft of the Column of Antoninus Pius (see box). ...
more pages: 41 83 89 183 193 203 204 209 234 264

Naples - Page 28
Odoacer exiled Orestes and Romulus to the bay of **Naples** and set about ruling Rome and Italy with fair success; the Roman Senate accepted him and ...
more pages: 5 34 321 327 437

More

References to this book

From other books

Poetry for patrons: literary communication in the age of Domitian
Ruurd R. Nauta
Limited preview - 2002

The oracles of the ancient world: a comprehensive guide
by Trevor Curnow
Snippet view - 2004

All Book Search results »

From Google Scholar

Toward a Typology of Roman Public Feasting
John F Donahue - 2003 - American Journal of Philology

Vespasian, Auctoritas and Britain
David Shotter - 2004 - Britannia

Augustus Caesar and the city Plebs: How the Commoners of Rome ...
Mat Leslie

Best Of Brothers: Fraternal Imagery In Panegyrics On Maximian ...
Benjamin Disraeli

All Scholar search results »

Popular passages

... emperors; the Temple of the City, the Forum of Peace, the theatre of Pompey, the Odeum, the Stadium, and amongst these the other adornments of the Eternal City. But when he came to the Forum of Trajan, a construction unique under the... Page 27
Appears in 19 books from 1864-2007

Egypt (ILS 91): imp. Caesar divi f. Augustus pontifex maximus, imp. xii, cos.

What we have seen in these five screen displays, other than a great number of links to different Google products and other agencies where the searcher can spend money, are all different types of metadata, from social to corporate to tag clouds and more. It turns out that Google has taken the metadata from libraries and placed it in the area *More book information*, at the very bottom of the page in Figure 14.5; in fact, Google has mashed it together with BISAC (Book Industry Study Group) and perhaps other metadata as well.[9]

Figure 14.5
Rome: An Oxford Archaeological Guide, Google Books display screenshot five. (Screenshot courtesy Google Books.)

xi, trib. pot. xiv, Aegupto in potestatem populi Romani redacta Soli donum dedit. Page 192
Appears in 8 books from 1880-1998

More

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Other editions

Rome
Amanda Claridge
No preview available - 2010

More book information

Title	Rome: an Oxford archaeological guide *Oxford archaeological guides*
Authors	Amanda Claridge, Judith Toms, Tony Cubberley
Edition	illustrated
Publisher	Oxford University Press, 1998
ISBN	0192880039, 9780192880031
Length	464 pages
Subjects	Excavations (Archaeology) Excavations (Archaeology) - Italy - Rome - Guidebooks History / Ancient / Rome History / Europe / Italy Rome Rome (Italy) Rome (Italy) - Antiquities - Guidebooks Rome Region (Italy) Rome Region (Italy) - Antiquities - Guidebooks Social Science / Archaeology Travel / Europe / Italy Travel / Museums, Tours, Points of Interest Travel / Reference

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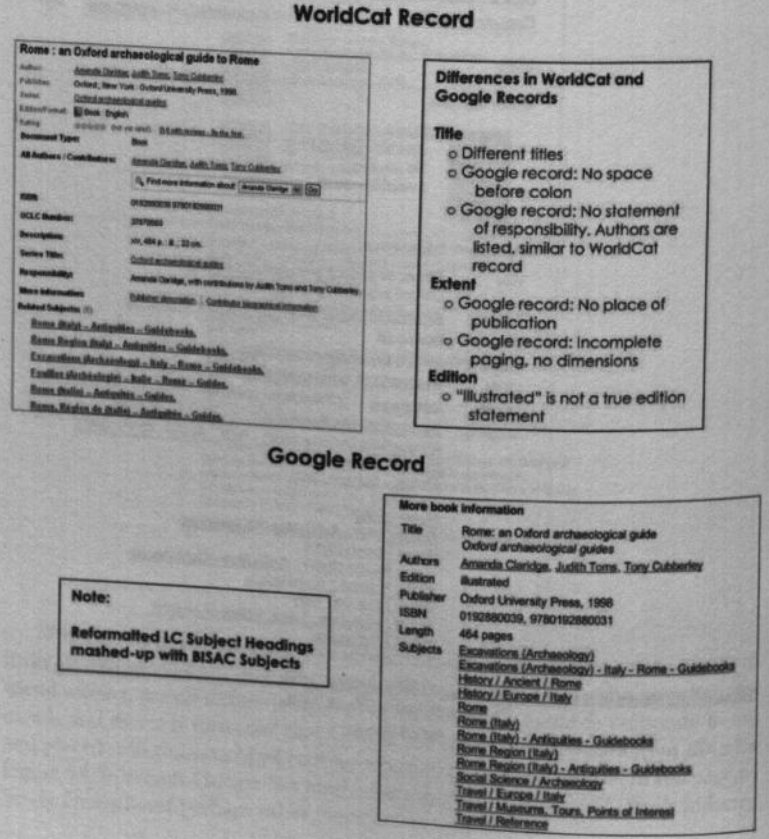
A quick comparison, in Figure 14.6, of the Google record with the WorldCat record shows a number of differences that would be very important to a librarian, from differences in titles, to extent and publication information.

The records in Figure 14.6 seem to show that the only information in the Google record taken from the WorldCat record are the author and subject headings, and perhaps the series, since there are changes in all of the other fields.

Figure 14.6
Comparison of Google Books and WorldCat bibliographic records. (Google Record Screenshot courtesy Google Books. WorldCat® record, from OCLC's WorldCat® database, is used with OCLC's permission; WorldCat® is a registered trademark of OCLC Online Computer Library Center, Inc.)



Any Web designer will tell you that the least important part of any Web page is at the bottom, since very few people get that far. This shows quite clearly what Google Books, one of the most powerful information organizations in the world, thinks of our library metadata: it has been placed on the last screen display of five screens, in the last part of the display, as shown in Figure 14.5. Therefore, if people choose not to use separate library catalogs, there is a real possibility that library metadata could end up ignored completely. Of course, another possibility remains, which is to make our metadata more useful and accessible to everyone in general, so that organizations such as Google will be encouraged to bring it further up to the top, perhaps at least above "Popular Passages," as seen in Figure 14.4. This set of screen displays demonstrates the problem of competing metadata very clearly, and how little power libraries have.

What can we do? There is an opportunity today in that all metadata creators are facing practically the same issues and the same challenges of overwhelming numbers of materials and shrinking resources. It is possible today that in the face of a shared threat, people may become more willing to cooperate, although all must admit this will involve tremendous changes for everyone, including libraries, just as it happened in the late nineteenth and early twentieth centuries. It has become almost commonplace today to say that cataloging must be shared, but what does that actually mean? It means that if we are to maintain standards, these standards must be shared as well. Yet, if we are going to cooperate and share, the very first task is to understand what the bibliographic concepts are, and what practices others use.

Different communities have different standards. For example, the Food and Agriculture Organization (FAO) of the UN needs a special way to search by *project*. AACR2 treats these as regular corporate bodies, but that is not nearly specific enough for FAO's needs. There are many other similar examples of different, but very similar needs. Since we have seen that entities such as Google will just mash everything together, we must assume that all this metadata, each following the standards of its respective bibliographic agency, will be mashed together. The result could be sheer chaos, such as in the saying, "Too many cooks spoil the broth." Or something more positive could happen. I submit that with some changes in our thinking, everyone could benefit, and the final result could lead to vastly greater efficiencies for all.

Many, if not most, of the agencies that create bibliographic information will not be libraries, but will be publishing agencies, international organizations, think tanks, entertainment industries, open archives, scholars, teachers, and who knows what others. The task of library cataloging *cannot* be: "we will tell you the way to do this." Instead, it must be somewhat different: if you make and use your metadata in one of these specified ways (e.g., standards), this will enable your records to work together with other records in the most efficient and coherent ways for the general public, resulting in a much better chance of someone finding your materials.

How can this begin? I have recently created the Cooperative Cataloging Rules Wiki[10] as a tentative first step in this direction. The wiki contains the

publicly available updates to rules currently followed by libraries in the Anglo-American library community, i.e., the Library of Congress Rule Interpretations. It also links into the online ISBD, plus other links to various other aids for cataloging materials. The Cooperative Cataloging Rules Wiki is a place for the different metadata communities to begin a discussion of bibliographic concepts, their importance, and how to work together. It is hoped that some kind of agreement will be reached, but it is very early in this initiative and no one knows how it will turn out.

Going all the way back to the beginning: where does this leave standards? What role do libraries have today? How do standards work when they are all mashed together, each following different practices and for different purposes? Are standards useless today?

Perhaps in some areas, standards will be of much less use. Applying the rules of general descriptive cataloging to integrating resources (i.e., items that are updated regularly) may prove to be of little benefit. In these cases, the pagination examples above may not have relevance to an online resource that changes daily or weekly. But perhaps new methods will be found, and determining the extent of these types of resource will become important. The same could go for other areas of the bibliographic description. As materials are digitized and made available for computer manipulation, word counts, file compares, and automatic updates from the item itself (e.g., the title of a Web page may change and the update could be automatic) are methods that may take the place of many of our traditional processes, and the final result could actually become more accurate. Standards in other areas may acquire greater importance, especially in the areas of access. For example, as people begin to see problems with the vagaries of keyword access, they may begin to appreciate the control allowed through our name and subject authority work.

PUBLIC AWARENESS

Still, the public needs to be made aware of other methods that may work much better than the Google searches they have become accustomed to using. The library community needs to publicize some popular examples of genuine power searching. I cannot think of anything better than to look at James Burke's episodes 4 and 5 of *The Day the Universe Changed*.[11] Mr. Burke discusses some of the problems of medieval information retrieval, with a discussion of the problems facing the monks who wanted to know what was contained in a manuscript book with the title "Sermones Bonaventurae." (The answer is: Who knows?) This was solved by making a catalog.

Burke then demonstrates the power of indexing, as he uses an index to learn the relationships between "how to survey" and "how to aim cannons." He follows the index from "Surveying" to "Range finders" to "Photography" to "Ballistics," showing that a person can learn much more by using an index than not, and concluding that by using an index, "1 + 1 = 3."

By comparing these types of search methods and tools with Google results, librarians today could demonstrate that certain useful searching possibilities that were available at one time, such as browsing through an index, are not replicated in the newer computer-generated search algorithm and search result ranking tools. This just might lead some inquisitive persons to wonder what else they may be missing.

CONCLUSION

It seems to me that when it comes to metadata, libraries cannot provide more, faster, or cheaper metadata in comparison to automatic production because computers can provide such information in quantities and at speeds that humans cannot hope to challenge. Library cataloging can provide one thing, and one thing alone, that automatic means cannot, at least not yet: and that is quality. Quality means that some kinds of standards are followed, and that someone using a product that follows those standards, whatever that product happens to be—traveling safely in an airplane, or eating chicken that is free of disease, or drinking water that is clean—can safely rely on it.

Standards in the modern information universe are evolving and may mean something quite different from before; this is only being worked out right now. One thing is clear, however: libraries have very little power to compel other metadata creators to follow their rules, and they have lost control over the primary means that their patrons find, identify, and interact with information. Since this situation is unlikely to improve, this means cooperation and change for all concerned, but it seems vital that solutions are found.

If it is decided that standards are useless and therefore should be ignored, then perhaps libraries themselves will be seen as useless and should be ignored. Each library cataloging task (for that matter, *all* library tasks) is based on reliable (not standard, as was shown in the University of Michigan examples—you can have many ways of doing the same thing, as happens in library catalogs now, but results can *still* be reliable) description and access that is used to enable the patron to identify, find, and bring together, in one search, "all" of the books by a specific author (within certain, known parameters)—for example, the author Leo Tolstoy. This reliable description and access (in this case, standard authority control, which brings all works by an author together in one search) makes it clear that a more or less random selection of an author's writings based on how the form of his or her name appears in the text is not "good enough." Another standard, necessary in reliable access and description, is the transcription rule for the date of publication. A resource must have a defined and reliable date of publication, not one that has been chosen at random from five possible dates.

These traditional library tasks of description and access may be accomplished using completely differently methods than those we use today; we may find new efficiencies, or we may be able to rely on other metadata providers to provide certain information; e.g., publishers could provide the publication information,

while authors could provide the equivalent of the statement of responsibility. Who knows what will happen? Yet, only with this type of reliable description can a selector confidently add something new to the collection; only with this type of reliable access can a reference librarian answer questions such as, "Do you have a catalog of the holdings of the Budapest Museum of Fine Arts?" Without these tools, there is no reliable access, and librarians are just as helpless as anyone else.

We can do better than that.

NOTES

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4. Joan M. Reitz, ODLIS—Online Dictionary for Library and Information Science, http://lu.com/odlis/index.cfm (accessed May 13, 2010).

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7. Geoff Nunberg, "Google Books: A Metadata Train Wreck," Language Log, August 29, 2009, http://languagelog.ldc.upenn.edu/nll/?p=1701 (accessed March 1, 2010). See also the associated comments from Jon Orwant, September 1, 2009, http://languagelog.ldc.upenn.edu/nll/?p=1701#comment-41758 (accessed March 1, 2010).

8. Amanda Claridge, et al. *Rome: An Archaeological Guide* (Oxford: Oxford University Press, 1998). See "Book Overview," "Reviews," "Related Books," and more on Google Books, http://books.google.com/books?id=RX_MPqbjOp0C (accessed November 5, 2009).

9. Eric Hellman, "Google Exposes Book Metadata Privates at ALA Forum," Go to Hellman blog, January 18, 2010, http://go-to-hellman.blogspot.com/2010/01/google-exposes-book-metadata-privates.html (accessed March 3, 2010). Google recently mentioned that they are getting metadata from over 100 sources.

10. The Cooperative Cataloging Rules Wiki, http://sites.google.com/site/opencatalogingrules (accessed March 14, 2010).

11. James Burke, Richard Reisz, John Lynch, and Carl Davis, *The Day the Universe Changed* (New York: Distributed by Ambrose Video Publishing, 2009). DVD video.