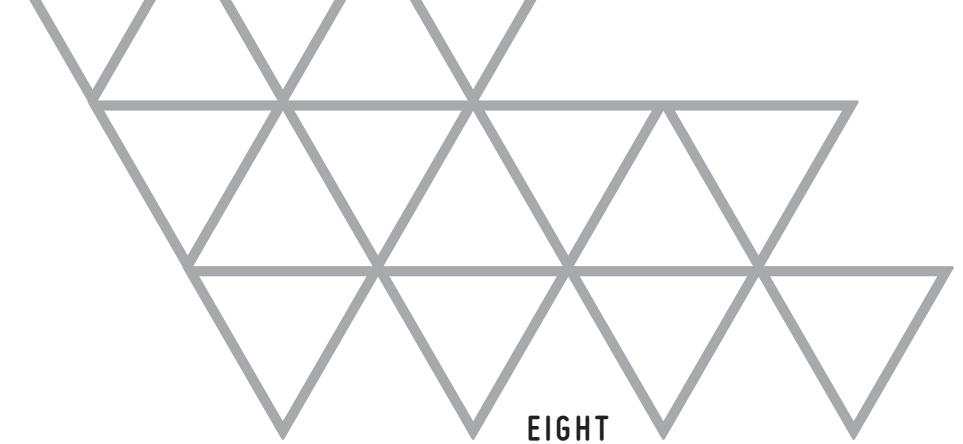

EIGHT

DOES FRBR MEET FRBR'S OBJECTIVES?

> Many people want to evaluate a conceptual model like FRBR using "true or false" criteria. While one can say that a model is "true" to the extent that it explains accurately and "false" to the extent that it does not, this is not a very helpful way to look at these models. A more useful way to evaluate these models is to ask whether they are successful at fulfilling their purposes.
>
> —*Alison Carlyle, 2006, 266*

The FRBR model has resulted in unprecedented change in our thinking about catalogs and cataloging. Since the mid-nineteenth century, cataloging has focused on a unitary description of a physical item and a primary trinity of access points: title, author, and subject. This model has been disrupted by new technologies of communication, from the recording of sound and moving pictures to the digitization of nearly everything. Added to that disruption is the ever-increasing rate of production of creative resources of all types.

The previously stable view of the role of library catalogs began to be challenged in the latter half of the twentieth century as libraries struggled with these changes in their holdings. The key blow to the library's stability, however, was wrought by the Internet, the global network that allows instantaneous worldwide publication that defies the barriers of time and place. The slow conversation of books, which allows time for research, synthesis, creation, and production, is giving way to fast, short, mashed-up, and transitory personal and cultural expression.

Fortunately, some of the causes of this change are also potential factors in managing the change. Without computer technology libraries would not have been able to quickly add shared bibliographic records to their catalogs and thus to keep up—to the extent that they have—with the rate of resource production.

The FRBR model developed by the FRBR Study Group is that group's response to some of the late twentieth-century challenges. One can see in the conceptual model a strategy of "divide and conquer," a completely different approach from the "publication as unit of interest" of the cataloging concepts that guided the development of the AACR. In his essay in the collection *The Future of the Descriptive Cataloging Rules,* "AACR3? Not!" Michael Gorman, editor of AACR2, disputes the cataloging compromises proposed as a solution to the problem of multiple physical formats for the same content, saying that "Descriptions are of physical objects. . . . It is literally impossible to have a single description of two or more different physical objects" (Gorman 1998, 27).

FRBR is a direct challenge to the emphasis on a single unit defined by its physical description in descriptive cataloging rules. Although it doesn't ignore physical description, it does relegate it to a secondary role behind the placement of the content in a larger bibliographic context. FRBR introduces abstractions for works and expressions that had only appeared in earlier catalogs as collocation mechanisms, such as uniform titles.

As Carlyle says, though, the measure of success of a model is not its truth or falsity, but whether it achieves its goals. The objectives that were put forth by the Terms of Reference that guided the work of the FRBR Study Group give us one possible way to measure FRBR's success. This section looks at FRBR and its objectives, and asks:

- Does FRBR provide functional requirements?
- Does FRBR produce a national level bibliographic record?
- Does FRBR serve user needs?
- Does FRBR promote cataloging efficiency?
- Does FRBR aid data sharing?
- Is FRBR format neutral?

DOES FRBR PROVIDE FUNCTIONAL REQUIREMENTS?

> To begin with, we must note that our rules of descriptive cataloging contain no statement of the function which they are designed to serve. (Seymour Lubetzky, 1946, "Analysis of Current Descriptive Cataloging" 1946)

> The study has two primary objectives. The first is to provide a clearly defined, structured framework for relating the data that are recorded in bibliographic records to the needs of the users of those records. The second objective is to recommend a basic level of functionality for records created by national bibliographic agencies. (FRBR Final Report)

Seymour Lubetzky had two primary complaints about the cataloging rules and their outcome: first, that the rules stated what decisions catalogers should make, but not why the elements of the catalog were necessary; second, that the information in the catalog entry was not presented to the user in the order of importance, thus requiring the catalog user to wade through information of lesser importance in order to find those elements that were relevant. Both of these concerns speak to the role of the catalog in serving the needs of the user. Although Lubetzky did not articulate what those important elements were, it is easy to imagine that a user might find more value in an author added entry than the height of the book in centimeters.

One of the primary goals of FRBR was to rectify the lack of a functional justification by clearly aligning the data of the bibliographic record with the functions of the record and how it is used. This is the "functional requirements" of FRBR, and one cannot ignore that a stated purpose of the FRBR Study Group was to develop those functional requirements. It is also impossible to ignore the fact that functionality from the user perspective plays only a minor role in the final report.

Much is made of the user tasks find, identify, select, and obtain that are introduced in the FRBR Final Report. They are described there as "generic tasks" and are not made more specific. The description of them does not obviously motivate the selection of entities nor their attributes. In fact, the analysis of the user tasks is presented in the Final Report only after the entities and their attributes have been defined in some detail. It is significant that the document's structure is organized around the groups of entities, not the user tasks. The user tasks are covered in chapter 6 of the document, and are presented almost entirely as a comparison of the user tasks and the attributes that have been defined for the entities that are the main focus of the document. Attributes are rated as having a high level, medium level, or low level of importance for each of the broad user

tasks, as shown in figure 8.1. Some of the attributes are only of low importance, which brings into question why they are even included as necessary attributes. For example, the Work/Work relationships summarization, adaptation, transformation, and imitation are listed as low value for identify and select. Had the focus of the report truly been user needs, it is doubtful that those attributes would have been included.

FIGURE 8.1

A segment of a table of user tasks and FRBR attributes

	FIND				IDENTIFY			
	Work	Expression	Manifestation	Item	Work	Expression	Manifestation	Item
ATTRIBUTES OF MANIFESTATION								
Title of the manifestation	■	■	■		■	■	■	
Statement of responsibility	□	□	□		□	■	■	
Edition/issue designation						■	■	
Place of publication/distribution							○	
Publisher/distributor			○			□	■	
Date of publication/distribution	□	□	○		□	□	■	
Fabricator/manufacturer (note 1)			○				○	
Series of statement			□				■	
Form of carrier			□				■	
Extent of the carrier (note 2)							□	
Physical medium (note 3)							□	
Capture mode							○	
Dimensions of the carrier (note 4)							○	
Manifestation identifier			■			□	■	

The user tasks cover only the so-called "primary" entities, those of Group 1. There is no mention of how a user knows that she has found the correct entry for an author or a subject. In fact, both authors and subjects get short shrift throughout the FRBR Final Report, and it is presumed that they will be described more fully in the companion standards, Functional Requirements for Authority Data (FRAD) and Functional Requirements for Subject Authority Data (FRSAD).

FIGURE 8.1

A segment of a table of user tasks and FRBR attributes

	SELECT				OBTAIN			
	Work	Expression	Manifestation	Item	Work	Expression	Manifestation	Item
ATTRIBUTES OF MANIFESTATION								
Title of the manifestation	□	□	□				■	
Statement of responsibility	□	■	■				■	
Edition/issue designation		■	■				■	
Place of publication/distribution	○	○	○				■	
Publisher/distributor		○	□				■	
Date of publication/distribution	□	□	■				■	
Fabricator/manufacturer (note 1)			○					
Series of statement			□				■	
Form of carrier			■				■	
Extent of the carrier (note 2)		□	□					
Physical medium (note 3)			○					
Capture mode			□					
Dimensions of the carrier (note 4)			□				□	
Manifestation identifier							■	

Let's look at just a few aspects of the user task analysis. For the task find, the attributes of high value to find a work are:

- title of the work
- dependent component
- independent component
- persons/corporate bodies responsible for work
- entities treated as subject of work
- title of the manifestation

Attributes of high value to find a manifestation are:

- title of the manifestation
- manifestation identifier

Because no detailed explanation was given for these specific selections, one can only surmise what the FRBR Study Group was thinking. The title of the work, the "responsible parties," and the subjects are unsurprising, and mirror the ages-old goals of the catalog first expounded by Cutter. Less obvious are the dependent and independent components. These are essentially whole/part relationships, in which a dependent component would be a chapter in a book, whereas an independent component would be a monograph in a monographic series, or an article in a journal. These are real relationships, but because very few dependent parts are cataloged, the importance of these for the find task may be limited. As for the independent components, these are usually sought on their own, as in the case of journal articles. A direct relationship between the larger unit and the part is obviously a good idea, as primary elements for finding materials these aren't convincing.

It is also interesting that the manifestation title is an important element for finding the work, but the work title is not equally important for finding the manifestation. There is undoubtedly some logic behind that, but it is not explained.

For the manifestation, the "manifestation identifier" that is listed is most commonly the ISBN. This is an important data element, but I do wonder how often users (including library staff) approach the library catalog with an ISBN in hand (or head). The ISBN is, however, heavily utilized in automated processes, such as duplicate detection and retrieval of cover images from online sources. Because there is no definition of *users* in the document, it is not possible to know whom the group had in mind for the various data elements, nor can we know if some bibliographic attributes were specifically intended for automated processing.

The statement of responsibility is among the elements that have a moderate role for "find a manifestation." This is not a heading in library data, and I am confused by the assumptions the FRBR Study Group makes regarding the action of "finding." In fact, the report does not mention indexing, nor whether there is even an assumption that there are headings. Yet the find action does imply that some ability to search must exist, and the Final Report describes the elements of moderate value for find as those "typically used as a secondary search term." It isn't clear what "secondary search term" means, but presumably this is a term that can be used to limit results, as with the use of limiting elements in many catalogs by language, resource type, or other characteristic. The Study Group clearly harbored some implicit assumptions about system capabilities, but what these are is not made clear.

For manifestations, the only secondary element listed is "form of carrier." This is a typical secondary search term, but "form of expression" (i.e., whether it is text, music, or film) is not considered of any value for the find task, even though the advanced search of some systems includes the ability to limit by form.

Some of the moderate-value find elements are relationships: successors and supplements are included, but not adaptations or transformations. Most of these relationships are specific to serial publications. The FRBR-based catalog may not lead you from a parody to the thing parodied, but it should allow you to make the connection from a supplement to the thing it supplements. That serially published items need to be connected is rather obvious, but it isn't clear to me why these relationships are attributed to the find function and not, for example, identify or select.

The obtain task is not what I would have immediately expected. It would be logical to think that obtain refers only to items held or offered by the library, and that a primary element would have been the call number or some other identifier that leads directly to the item itself. Instead, the obtain task includes "acquire an entity through purchase, loan, etc." This wording is now included in the functions of the catalog listed in the 2009 IFLA International Cataloguing Principles. The previous version of the Principles, dated 1961, echoed Cutter's original functions of the catalog by limiting those functions to "whether the library contains a particular book." Thus the obtain task includes an expanded view of the role of the catalog. For this reason, obtain relates both to manifestations and items, and the key elements are those that define (or identify) the manifestation, including title, statement of responsibility, publisher, and series. For example, place of publication is considered of low value for identifying and selecting a manifestation, but is of high value for obtaining it. Oddly, place of publication is also of low value for selecting a work and an expression, even though, by the very definition of those

entities, no place of publication is possible. The user tasks might have benefited from an introductory discussion of the expected functions of the catalog. As it is, those functions must be teased out by reading between the lines.

The answer to the question "Does FRBR provide functional requirements?" is, for the most part, "no." The derivation of entities and attributes is part of the E-R analysis which dominates the FRBR Final Report, not of the analysis of user tasks. Everything about the document revolves around the E-R analysis, the entities, entity attributes, and the bibliographic relationships. When the user tasks are analyzed, after the FRBR model has been fully developed in earlier sections of the document, some of the attributes and relationships are shown to be of little importance. No functional requirements are given for the entities themselves. To have provided a truly functional analysis would have required making explicit some of the implicit assumptions that seemed to have been shared by the members of the FRBR Study Group. Examples of these are assumptions about system capabilities for search, and the goals of the catalog. The group obviously believed its own statement that FRBR was technology neutral, even though they used a specific technology, entity-relation analysis, to produce their results, and that they had to assume, but never explain, certain types of search capabilities that would make their attributes and relationships usable in some real implementation.

DOES FRBR PRODUCE A NATIONAL LEVEL BIBLIOGRAPHIC RECORD?

The FRBR Study Group was also tasked with determining the bibliographic elements of a basic level bibliographic record for national libraries (BLNB) based on the results of their analysis. It does so in chapter 7 of the group's final report. This chapter reads like an afterthought, however, because it isn't mentioned in the rest of the text, and oddly its content has very little to do with any other content in the report.

The BLNB defined in section 7.3 of the FRBR Final Report resembles ISBD more than it does FRBR. It uses the ISBD concept of "areas," such as "Title area" and "Edition area," which are not included in FRBR, and defines a short list of bibliographic elements for each area. The terms *work, expression,* and *manifestation* are not included in this section, nor does the BLNB make use of the attributes that are defined in FRBR. Where FRBR has "title of the manifestation," the BLNB has "title proper (including number/name of part)." The BLNB refers to "uniform titles," a term that is not used in FRBR, and is not defined anywhere in the report. Uniform title is also not included in ISBD, so it may not be known to those who would need to use the BLNB. The BLNB also includes a lengthy

"notes" area, even though no notes are included in the FRBR attributes. In fact, the BLNB appears to have very little relationship to FRBR at all.

The relationship between FRBR and ISBD is unclear. The FRBR report does cite ISBD as a source:

> The basic elements of the model developed for the study—the entities, attributes, and relationships—were derived from a logical analysis of the data that are typically reflected in bibliographic records. The basic elements of the model developed for the study—the entities, attributes, and relationships—were derived from a logical analysis of the data that are typically reflected in bibliographic records. The principal sources used in the analysis included the International Standard Bibliographic Descriptions (ISBDs). (FRBR Final Report, 4)

Although throughout the FRBR study ISBD is cited as a source of attributes for the entities, it is instructive to look briefly at a comparison of FRBR, ISBD, and the Basic Level National Bibliographic Record in chapter 7 of the FRBR Final Report. ISBD has ten areas and ninety-two attributes. FRBR has eighty-four attributes, plus thirty-four bibliographic relationships. The numbers alone do not provide a good comparison, however. FRBR does not include any note fields amongst its listed attributes. ISBD, on the other hand, lists thirty-two note types. The Basic Level National Bibliographic Record uses seven of the ISBD areas and adds four more areas for access points (names, titles, subjects, and series). It has fifty-three attributes, of which twenty-two are notes fields. Some of the notes describe bibliographic relationships that are included in FRBR. For example, the FRBR relationship "successor" in the BLNB becomes "note on edition and bibliographic history—successor."

The upshot is that the BLNB at least superficially resembles ISBD more than it does FRBR, which makes its appearance in the FRBR Final Report particularly jarring. It states that "the terms used to identify individual data elements correspond to the terms used in the *International Standard Bibliographic Descriptions* (ISBDs) and the *Guidelines for Authority and Reference Entries* (GARE)," but gives no explanation of why ISBD and not FRBR terms were used.

The introduction to chapter 7 states that the development of BLNB used bibliographic concepts from FRBR work, expression, and manifestation, but not item. In that section, the explanation for this decision is that it does not include item because this is a national library record. However, it isn't clear how that follows unless this analysis specifically does not cover archives or rare book materials, nor any other materials, like art and museum objects, for which item-level description is key.

It is worth noting that FRBR itself resembles a minimum bibliographic description. Compared to MARC 21, FRBR is clearly a high-level core of bibliographic data elements. FRBR has fewer than 100 attributes, while MARC 21 has nearly 1,500 unique data elements. Although FRBR defines a number of bibliographic relationships, like "successor to" or "adaptation of," there is only one relationship between a person and each FRBR Group 1 entity: creator (work), realizer (expression), producer (manifestation), and owner (item). In comparison, the list of relators that can be used for persons and corporate bodies in MARC 21 records has over 260 different terms.

The BLNB has not been instantiated by IFLA, even though this was a stated objective of the FRBR Study Group's work. It appears that this objective has not be fulfilled.

DOES FRBR SERVE USER NEEDS?

For a study that was purported to be user-centric, the user's absence is notable. There is no analysis of users; no mention of how varied the library user base is; no mention of children or elders or the disabled. Instead, to my mind, the FRBR Final Report reads as a study *by* catalogers *for* catalogers. Even more specifically, this is a study by catalogers at large research institutions. The list of participants in the FRBR Study Group does not include anyone from a public library, nor anyone from a non-Western country.

The FRBR document states:

> The study makes no *a priori* assumptions about the bibliographic record itself, either in terms of content or structure. It takes a user-focused approach to analyzing data requirements insofar as it endeavours to define in a systematic way what it is that the user expects to find information about in a bibliographic record and how that information is used. (FRBR Final Report, 3)

It cannot be coincidence that this study describes a bibliographic description that looks incredibly like the one that already existed at the time. As Le Boeuf says in the introduction to his 2005 book on FRBR: "FRBR models what we do, not what we should do." To say that the study began with a bibliographic blank slate, yet ended up describing the precise data elements that are in bibliographic standards like ISBD, defies credibility. The mere presence of elements like "statement of responsibility" shows that the needs of users did not drive the development of FRBR, because it's pretty clear that no nonlibrarian user would

call for a statement of responsibility. In fact, the FRBR Final Report states that "the attributes defined for the study were derived from a logical analysis of the data that are typically reflected in bibliographic records." This is circular reasoning, which should explain why some entities seem under-defined or underutilized. For example, there is a place entity for subject, but no place entity that can be used for place of publication, because the latter is not given authority control in current cataloging:

> Inasmuch as the model also defines *place* as an entity it would have been possible to define an additional relationship linking the entity *place* either directly to the *manifestation* or indirectly through the entities *person* and *corporate body* which in turn are linked through the production relationship to the *manifestation*. To produce a fully developed data model further definition of that kind would be appropriate. But for the purposes of this study it was deemed unnecessary to have the conceptual model reflect all such possibilities. (FRBR Final Report, 31)

How the FRBR Study Group addresses the question of what users need (or even what they want, which is not necessarily the same) is one that I find particularly disturbing. Not only were users not consulted about any aspect of this but the report provides no analysis of existing research.

So how did the FRBR Study Group study users? According to Olivia Madison:

> The FRBR Terms of Reference mandated that the study take into account the needs of a broad range of users and how they use bibliographic records. . . . One obvious option was to query, using a systematic methodology, a broad range of users, and draw conclusions from this analysis. Another option was to use our collective knowledge of the various types of users from the working group membership and commentators, as well as to draw upon experts in the fields to provide necessary user perspectives and conclusions. The Study Group decided in favor of the latter approach. (Madison 2005, 28–29)

My note to myself on that page reads: "We don't need no stinkin' user surveys." The FRBR Final Report implied that some study was done of the literature:

> The assessment of importance of each attribute or relationship to a given user task that is reflected in the tables was based in large part on the knowledge and experience of the study group members and consultants, supplemented by evidence in the library science literature gathered from empirical research, as

> well as by assessments made by several experts outside the study group. (FRBR Final Report, 83)

In other words, the study of user needs was done without studying users. But in fact the Terms of Reference that gave the group its charge also says very little about users and does not require the group to study them. In addition, the development of the user tasks was not dictated by the Terms of Reference.

The document itself is not structured around the user tasks, and those tasks are defined only at a very high level before the document begins its description of the three groups of entities of bibliographic control. Within the document sections that describe the entities, the attributes, and the relationships between entities, there is no discussion of how the user tasks inform these aspects of the model. Although there is a section devoted to the relationship between the user tasks and the attributes, there is no discussion of *how* different attributes help users make their decisions, only a statement that they *do* provide information for users. For example, in section 6 on user tasks, the identify task is described in this way:

> 1. the attribute by definition serves to identify the entity (e.g., *manifestation* identifier, *item* identifier);
> 2. the attribute or relationship forms part of the minimal set of attributes and relationships that for the majority of cases will serve, in the absence of a unique identifier, to differentiate entities that have a number of common characteristics (e.g., the minimal set of attributes sufficient to differentiate one *manifestation* from another in the majority of cases comprises title, statement of responsibility, edition/issue designation, publisher/distributor, date of publication/distribution, series statement, and form of carrier). (FRBR Final Report, 85)

This leads one to wonder just how the user is defined. The identifiers in point one are generally for machine processing, not for humans, although occasionally a human may come to the catalog in possession of a relevant identifier, like an ISBN. Are machines included in the group's concept of users? On point two, unless the user is a trained cataloger, this is a completely unfounded set of assumptions. How do users *actually* identify manifestations? Do nonlibrarian users pay any attention to the statement of responsibility? Do they understand the series statement? In fact, do they even see these data elements while making their choice? Many systems only display these in a full display, and users must make their choice from the results list with brief bibliographic displays.

The main differences between FRBR and our current bibliographic records are the division of the bibliographic description into four entities, and the potential

for the creation of linking relationships between bibliographic entities. Although the latter holds promise, there does not yet exist a system that would provide evidence of user interaction with these relationships. There have been some studies providing system displays that use the Group 1 entities to cluster retrievals, and these have shown that the presentation of clusters of works is often preferred to the list of redundant editions that catalogs generally provide. This begs the question, however, of whether the FRBR Group 1 coincides with the user view of the bibliographic world.

Two studies by Jan Pisanski and Maja Žumer (2010) on residents of the Slovenian capital of Ljubljana investigated this question of whether the FRBR Study Group's view of Group 1 entities is consistent with how users view the bibliographic universe. They titled their studies "Mental Models of the Bibliographic Universe." The studies used card sets that presented library users with bibliographic information consistent with the entities of Group 1. For example, using Dan Brown's *Da Vinci Code,* there were cards for:

- Dan Brown's Da Vinci Code
- Dan Brown's Da Vinci Code, published by Doubleday in New York in 2003
- The Slovenian translation of The Da Vinci Code by Nataša Müller
- The movie of The Da Vinci Code starring Tom Hanks, in English with Slovenian subtitles

and others. Note that the users were not given individual Group 1 entities, but instead were presented with either a work; a work and an expression; a work, expression, and manifestation; or the entire Group 1 from work to item. This is consistent with the conceptual view of Group 1, although not its entity-relation view.

The users were asked to place these cards in order from the most abstract to the most concrete. This instruction was difficult for many users because they hadn't previously applied the concepts of "abstract" and "concrete" to bibliographic items.

In a second study, users were asked whether, of a pair of items, either item was a reasonable substitute for the other.

The authors made some key discoveries:

1. Users have many different views of the bibliographic universe, but where users had a common view, it generally was a FRBR-like view of the "progression" from a general concept (work) to individual publications (manifestation) and lastly to specific items (such as signed copies).

2. What mattered most to users was the language of the text, the form (book versus film), and the contents (illustrations versus no illustrations).
3. Users have a strong sense of "original work" which was the item that they placed at the "top" of the hierarchy, and for them took the place of the FRBR abstraction, work.
4. Users seek items at the FRBR level of expression for the most part, and consider the related manifestations to be acceptable substitutes for each other.

These results confirm some of the assumptions built into FRBR and into bibliographic cataloging rules, but they also reveal interesting variations. First, it should not be surprising that the results of the card sorting exercise did not turn out a single view of the tested items. Within the cataloging community there is debate over the exact definitions of work and expression (less so of manifestation), in spite of there being a shared knowledge of current cataloging concepts within that community. Nonlibrarian users (and one could extend that to librarians who have not been trained as catalogers) should be expected to bring a wide range of views to the table. The test group, though, was given strong hints through the experiment, which represented cataloging that had already surfaced a particular view of the bibliographic items based on FRBR's Group 1.

The discovery that people have a sense of the "original work" is quite sensible. There is nothing in FRBR, nor in the RDA cataloging rules based on FRBR, which directly addresses the question of "original work." Yet there is obviously a progression from the creative form that comes directly off the efforts of the inventor of the work and all versions that follow it. For Patrick Wilson's concept of bibliographic families, the original work would be the family's progenitor. In the case of translations of texts, there is an implicit concept of an original form that is translated to some other language. This progression is less strong in other areas, such as in music, where there may not be a recording that one could think of as an original performance of the piece. The separation between film and text can be clear, as in a film version of *Da Vinci Code,* but it is less clear for the *Star Trek* series of books that were written after the television series aired.

The conclusion that users seek language materials at the expression level is quite logical, and this coincides with Shoici Taniguchi's theory of an expression-dominant model for texts. The work is an abstraction without expression, and in practice the work would represent all language versions of an oft-translated work, or all editions of a work that had been updated, such as a yearly almanac. Most users have a language preference for reading, and therefore the work set

that includes all languages of the text would not be useful. In the case of different revised editions, such as with textbooks or reference books (which was not tested for in the Pisanski and Žumer studies), it would be unusual for a user to be seeking all editions, and even more unusual for a user to be seeking something other than the most recent edition available.

For the user at the catalog, the FRBR user task find may not visibly change if FRBR is adopted in the future. First, we must assume that users will not be aware of the Group 1 structure, but will search as they do today, which means either by keyword, which pools words from all of the searchable fields in the record, or by creator or contributor, title, or subject.

I am assuming that these searches will continue to work in this way, with the user not being required to know what Group 1 entity the search should go against. This would be consistent with how searching is done in catalogs that are not organized around the FRBR entities. For example, in most online catalogs, the title index includes all or most title elements from the record; therefore the user searches the work title and the manifestation title with one search along with any alternate titles. The same is true of the various creators and contributors to the resource, who are often searched together in the same index, whether authors, illustrators, composers, or librettists. This practice will probably remain, even though in FRBR primary creators are linked to the FRBR work and some secondary creators such as translators and illustrators, are linked to the expression or even the manifestation.

Where changes are anticipated in the catalog, however, are in the user displays. There is a general assumption that users will not see a manifestation-level display as they do today, but will be given a view that takes advantage of FRBR Group 1 as a way to gather all versions of the work together in a new kind of collocation using the primary author and the work title. However, there may need to be decisions based on the language of the catalog or of the user. For example, the work title Война и миръ (*War and Peace*) may not be useful in a catalog aimed at English-language speakers, yet that is the correct work title as defined in the cataloging rules. Whether that title should be displayed to the user or not is a question for user-interface designers. The expression entity in catalogs today is often represented by a facet that allows a user to narrow the retrieved set by language. Because FRBR is only a conceptual model, how the FRBR entities might be used in future catalogs is not specified, and the document does not provide any suggested display forms.

For some materials, the FRBR user view may be a vast improvement over the record-level view of today's online catalogs. The "Scherzo" project at Indiana

University, as reported by Handesty et al. (2012), developed a FRBRized catalog of music materials and did comparative user testing between the FRBRized and the traditional catalog. Although some of the results were mixed, they concluded that users preferred the FRBRized catalog.

The benefits of an FRBRized display are often used as an argument for moving to FRBR as the basis for cataloging. In fact, the FRBRized displays that have been tested have mainly been built from bibliographic data that was not cataloged according to FRBR principles or stored digitally as FRBR entities. WorldCat is developing a work-based display from its pre-FRBR bibliographic records, as did the library vendor VTLS. Outside of the library world, bibliographic databases like LibraryThing and OpenLibrary have developed work-based displays from data that was created without the FRBR entities as concepts. A FRBRized display that used data that was originally designed around FRBR principles may be superior, but there may be ways to take advantage of some FRBR concepts without having to entirely re-engineer library systems.

There is one key user-related concept that gets no mention in the FRBR Final Report, and that is "collocation." Today's catalog record is a single metadata container that carries all of the entities described by the FRBR Final Report. The primary focus of this record is what FRBR would consider to be a manifestation, and in most systems the dataset returned from a search is a group of manifestation-focused records presented in some order (ranked, by date, or alphabetical). With our bibliographic universe organized as defined in FRBR Group 1, however, there are new options relating both to retrieval and to display. FRBR has the potential to restore the context of bibliographic relationships that existed in the collocation function of the card catalog. This loss of collocation has been a source of frustration for catalogers, as I have learned from many conversations about library systems. Martha Yee described online catalogs as mere "finding lists," and suggested that "FRBRization" could produce a list of works, expressions, and manifestations related to a user's search so that users could make use of that bibliographic context to select resources of interest (Yee 2005).

Perhaps it is deemed to be obvious from the inclusion of bibliographic relationships that a major function of FRBR is to reintroduce the collocation function that was lost to the online catalog, when discovery through the linear order of the physical catalog was replaced by database-based retrieval of individual bibliographic records. Collocation has always been a surfacing of relationships between bibliographic items, although in the physical catalog the relationships could not be made explicit. It was left to the user to intuit the meaning of the physical proximity between cards, if there was one at all. The separation of bibliographic data into

entities is emphasized in the FRBR Final Report, although the real potential for user service comes from the ability to not only collocate related bibliographic items, but to make explicit what that relationship is. Although the Pisanski and Žumer studies look mainly at how users organize the elements of FRBR Group 1, they show, perhaps inadvertently, that users are cognizant of bibliographic relationships like translations and adaptations, even though they may not have a conscious awareness of those relationships and what they might mean.

The cataloging rules based on FRBR attempt to create a shared concept of the entities and how they are described so that libraries can share equivalent bibliographic data. What the Pisanski and Žumer studies tell us is that we cannot assume that untrained users will immediately understand how libraries have divided up the bibliographic universe because it may differ from their own underlying assumptions, although with the language materials that they studied there is much overlap between the user view and the FRBR Group 1 concepts. The advantage of consistency is that it provides a platform that can be learned; whether the general public will benefit from that, and who within that general public will benefit, is not known.

DOES FRBR PROMOTE CATALOGING EFFICIENCY?

One of the primary reasons behind the development of FRBR was to create a more efficient environment for cataloging. This came out of the 1990 Stockholm IFLA meeting. The combination of lowered budgets and increased information resource output creates a perfect storm for libraries, and especially their technical services departments. So it makes sense to ask whether FRBR is likely to increase cataloger efficiency. This is one of the goals behind the FRBR Group 1, because it makes it possible to share cataloging at the work and expression levels, and not to repeat data elements for works and expressions for each manifestation. In a system with separately stored works and expressions that are linked to manifestations, the cataloger would not have to repeat the work and expression information, but only provide a link from the manifestation to the expression. This is seen as a savings of time for catalogers, as well as potentially a point of efficiency for systems. Although some libraries have been cataloging under the RDA cataloging rules for over two years now, existing systems do not take advantage of the entity-relation structure of FRBR, so they have not gained experience with the ability to share separate descriptions of works and expressions.

One of the difficulties in answering this question is that libraries are not a homogeneous group, and cataloging is not the same activity throughout the

library world. In particular, national libraries and large research libraries probably do the greatest share of original cataloging, and the most detailed cataloging. A considerable number of smaller libraries only copy catalog data created by others for common published materials. Others purchase a great deal of their cataloging from the library vendors who supply their books and other materials. Within the libraries that rely heavily on copy cataloging, there is variation in how much editing is done of the cataloging data to customize it for the individual library.

How much one gains from the division of bibliographic data into entities depends on how often one can reuse entities that already exist. That is not easy to assess. More than one study has been done to try to quantify the proportion of works that are in defined bibliographic relationships with other works. Richard Smiraglia (2001) studied a small number of general academic libraries as well as libraries specializing in music and theology. Not surprisingly, the specialist libraries showed different patterns of bibliographic family membership. Sherry Vellucci's 1997 study of a music library showed that over 85 percent of the holdings were in a bibliographic family that could involve some sharing of data. In a general academic library the percentage may be as much as 50 percent. In OCLC's WorldCat database, which is more varied than most catalogs due to its international nature, about 30 percent of manifestations are in a bibliographic family, as per the study done by Brian Lavoie in 2001, as well as more recent statistics comparing numbers of works with total records.

Smiraglia also shows that having family members is a function of time: older works are more likely to be in families. A rather obvious, but worthwhile, point to prove is that that works go out of print and are republished and repurchased; and that derivative works occur only after time has shown that the work is worthy of further study and derivation. In the theology library collections studied by Smiraglia the mean age of works was 114 and 125 years, while general collections had a mean age of 32 years. Collections in non-research libraries are probably much younger than those studied by Smiraglia. Smiraglia's studies also showed that form and genre were not predictors of family relationships in the libraries studied.

One can conclude that the nature of the material being collected has a great influence on the incidence and size of bibliographic families. None of the studies, however, looked at nonacademic libraries, whose collections are not analogous to academic libraries, nor did they analyze topic areas other than theology and music. With a reminder that these are studies of library holdings and not of publication patterns, one could expect that where scientific works are updated and republished, older editions might not remain on the shelves, and therefore are not included in the catalog. Small and medium public libraries may be

expected to have fewer family members due to the exigencies of limited shelf space and the mission to serve the reading, listening, and viewing public more than research activities.

In the previously mentioned analysis of manifestations and works in WorldCat, published by Brian Lavoie and colleagues in 2001, yielded this information:

Number of manifestations (records)	46,767,913
Number of works	32,000,000
Average number of works per manifestation	1.5
Number of works with only a single manifestation	78%
Number of works with seven manifestations or less	99%
Number of works with more than twenty manifestations	1%

Because of the nature of the WorldCat database, which represents the holdings of many tens of thousands of libraries worldwide, these figures cannot be extrapolated to be meaningful for a single library. On the other hand, because of its breadth, WorldCat gives us a reasonable picture of publishing patterns over the combined universe of library holdings. This tells us that a large number of published items appear in only one version, and therefore the manifestation-expression-work ratio for those items is 1:1:1. Using the 2001 OCLC figures, 78 percent of the items in WorldCat are single manifestations of this type. Only 1 percent of the identified works have been produced in a large number of manifestations. The key question now becomes: What do these figures mean for the cataloger workflow, and would a cataloging system that makes work and expression data available for reuse result in greater efficiencies than we have with a cataloging model that is manifestation-centric?

To answer this question we would have to know how many previously described works a cataloger is likely to encounter when processing new items today. The figures that we have only reflect the cumulated past, not the present or future publishing output that catalogers confront. Regardless of the number of expressions and works in a bibliographic family, every new manifestation must be described. We should be able to conclude that there is no change in terms of cataloging efficiency in the description of manifestations. The new efficiencies would be found in the aspects of the bibliographic record that describe the expression and the work. There are three possible situations that a cataloger doing original cataloging may encounter:

1. *A manifestation that represents a new expression and a new work*. This would presumably be the case for newly published first editions. The cataloger creates the necessary data elements for the manifestation, the expression, and the work.
2. *A manifestation that represents a new expression of an existing work*. The cataloger creates the necessary data elements for the manifestation, the new expression, and links to the existing work.
3. *A manifestation that represents an existing expression (and thus its related work)*.The cataloger creates the data describing the manifestation, and links the manifestation to the existing expression.

All of these represent the activities of original cataloging. It does not appear that the activity of a cataloger who copies catalog data created by others is greatly changed from what is done today, which is to locate an existing bibliographic record for the manifestation in hand and to utilize that data for the local catalog.

Whether or not FRBR is efficient for catalogers, and whether the existence of FRBR work data saves time, depends entirely on how often catalogers encounter situations two and three, above. The WorldCat study only yields statistics for manifestations and works, not expressions, and that study presents a snapshot of the WorldCat database, which may not represent the bibliographic situations encountered on a daily basis by today's cataloger. Obviously, the majority of older published works have already been described, so what interests us is how often those are reissued as new manifestations, and whether today's publishing patterns are producing more or fewer instances of reuse of expressions and works. In addition, catalogers in different types of libraries (for example, medium-sized public libraries versus large research libraries) will encounter a different pattern of publication types. None of the above can be applied to catalogers of unique archival materials that do not benefit from the sharing of bibliographic description. The gain in cataloger efficiency may be greater for some materials, like music recordings, which have a high degree of repetition of works.

It is necessary here to reflect on the effect of the changing nature of library materials from solely physical to digital. One of the motivations for reviewing library cataloging, beginning in the early 1990s, was the recognition that libraries now often receive the same content in more than one physical format. This was prescient at the time because only a few digital formats were commonly available. Today, with the increase in the number of e-books and e-journals, it is quite common for a library to offer both a physical and a digital copy of the same resource, and even multiple forms of the digital version. The cataloging

rules regard these as different manifestations, but some libraries have been loath to confront users with multiple records for the same content in different forms. This was the problem called "multiple versions" that was much discussed in the 1990s. Many libraries have "solved" this problem by providing links to digital versions on the records for the hard copy version, thus providing the user with a single point of entry for either format. This violates the cataloging rules, however, because a manifestation is defined by its physical format. Using FRBR Group 1 as separate described entities means that all of the multiple physical versions can be associated with a single expression that is subordinate to a single work. This could allow grouping of multiple versions under work or expression in library catalogs, while still adhering to the emphasis on physical formats that motivates the cataloging rules. Of course, there could be many ways to achieve this kind of grouping; the FRBR entity-relation structure is only one of those.

We can conclude that we need much more data before we can answer the question of whether FRBR Group 1 actually saves time for some catalogers. In addition, whether the entire FRBR entity-relation model results in greater efficiencies may depend more on systems designs than on anything specific in the FRBR model. In current cataloging, name and subject authorities are already analogous to FRBR's Groups 2 and 3, and these are shared as records representing specific members of those entity types. While indeed the FRBR entity-relation model appears to promote efficiency in cataloging, there is as yet no concrete evidence that it will.

DOES FRBR AID DATA SHARING?

Another question, however, is how well FRBR works for sharing of bibliographic data between library systems. In the early days of modern cataloging, beginning in the middle of the nineteenth century, each library was an entirely separate entity, and the bibliographic universe was limited to the holdings of that library. Today library data is shared internationally.

There is a tension between the shared bibliographic universe and navigation within the catalog of a single library. This conflict could become even greater with the application of FRBR relationships as machine-actionable links. In today's bibliographic records, many of the relationships that we assume will be links in FRBR are presented as notes ("Translation from the German." "Based on the book by . . ."") or as assumed from edition statements ("3rd ed., revised and enlarged"). These notes do not provide useful linking, but they do provide information for the user even when the library does not hold the item referred to in the note.

Links alone will not provide that information for catalog users in cases where the links do not resolve to another bibliographic description in the library's catalog. Ultimately, users need both information and direct links where available. The FRBR entity-relation model does not address implementation issues of this nature, so we should assume that FRBR is a starting point upon which development may take place, even if that development results in a modified model.

The FRBR relationships are universally bibliographic in nature; they definitely go beyond the inventory role of the library catalog. In a large research library the holdings may be extensive enough that the disconnect between bibliography and inventory remains at tolerable levels. Even so, what is the library to do with machine-actionable relationships to items it does not own?

There is an ideal bibliographic universe where every work ever produced is placed in its proper place, and the whole can be navigated intelligently. There is no real version of that bibliographic universe, however. Nonetheless there is a desire to use today's technology to create the "library of everything," though "everything" has a lot of ragged edges. It also has a lot of individual libraries with different populations. FRBR as written in the Final Report appears to address an abstract bibliographic universe, which may or may not coincide with the reality of individual libraries. The tension between bibliography and the catalog will have to be resolved. FRBR operates at an abstract level that needs to be reinterpreted for the many thousands of use cases that exist in libraries, and still allow them to share cataloging copy.

This tells me that we need to define the relationship between the library catalog and the bibliographic universe. I can imagine a multitiered design that can move a user from the inventory of the single library to related bibliographic items that are nearby or otherwise available (e.g., for purchase). I can also imagine a linked bibliographic space that is not dependent on library holdings, but that is about the relationships between bibliographic items. This would need to go beyond FRBR, because some of the more useful relationships (e.g., "cites" or "quotes") are not included there. Connecting this "cloud" of bibliographic relationships to actual availability in specific libraries or bookstores would be essential. Whether we can develop the technology to realize this vision remains to be seen.

IS FRBR FORMAT NEUTRAL?

A model like FRBR needs to accommodate all of the types of resources that will be included in the library catalog. This is a difficult requirement because libraries and archives manage a wide variety of materials whose bibliographic

natures are far from uniform. Although the FRBR Study Group stated that FRBR was designed to describe a model that could be applied to any type of bibliographic data, numerous articles have discussed how the conceptual model would need to be reinterpreted for specific resources types. Some of those types are presented below.

Serials cataloging deals with a particularly complex set of relationships: the whole/part relationships between the resources that users generally seek, the articles, and the continuing resource that is the serial itself. There is also the very difficult question of what is the serial work, and when does a serial become a new serial?

There are relationships defined in FRBR that are suited to serial publications, such as Successor and Supplement, and properties such as Sequencing Pattern and Expected Regularity of Issue. As is often the case, however, the difficulties come in the interpretation of the Group 1 entities.

Paul Weiss and Steve Shadle (2007) look at "FRBR in the Real World." They point out that it isn't obvious that a serial is itself a work in the FRBR sense of that term, that is, "a distinct intellectual or artistic creation." It is easy to see serials as aggregations of works, but the serial itself appears to lack that distinctness that FRBR requires of works. As we'll see in a later section, aggregations of works present a number of problems in FRBR, including the fact that each aggregated work itself is defined as having the full complement of Group 1 entities, which means that whole/part relationships between the larger entity, the serial, and the part entities, the articles, can be quite complex. This complexity is only the beginning, because serials publishing provides some stunningly difficult examples, such as serials within serials, supplements to serials, and a wide variety of enumeration patterns.

Kristin Antelman (2004) also addresses the question of seriality and the work. She notes that the main identifiers for works, both in FRBR and in earlier cataloging theory, such as author and title, are not strong identifiers for serials. Serials often do not have "authors" per se, and because their titles so often change, one journal of serials cataloging is itself titled *Title Varies*. Serials also have been the main resource type to be provided in digital format as well as print, with the result that libraries often have both print and digital subscriptions to the same content but packaged differently. Antelman recommends "asserting bibliographic control over a higher level of abstraction than has been our practice," and putting

a "greater emphasis on relationships between abstract entities and less on the identification of the physical item."

Ed Jones, in his article on "The FRBR Model as Applied to Continuing Resources" (2005), points out that the boundaries between work, expression, and manifestation in continuing resources differ from that of other materials because changes in key elements, such as the title, can take place in one expression or one manifestation but not in the others. Because serials cataloging leans heavily on titles for the identity of serials, this poses a conflict between the title-based definition of work in serials cataloging and the definition of work in FRBR. Jones's argument is not that the bibliographic entities in FRBR are problematic, but that they are not in accord with the rules for serials cataloging. Either FRBR or the serials definition of the work as being title-based would need to change. This sounds radical, but it should not be surprising that a new conceptual model could lead to changes in cataloging practice, or that cataloging practice should inform modifications to a conceptual model.

One possible positive outcome of FRBR or a FRBR-like linking model is that it may be easier to link articles and the journals they are published in. Laura Krier (2012) sees advantages in the use of linked data for serials. Krier's analysis isn't specific to FRBR, but FRBR relationships are one possible way that serials linked data could be achieved.

Music is an interesting cataloging case even as presented in the FRBR Final Report itself. The relationship of work and expression in music often takes place as a performance, and individual works can have a very large number of expressions. Yet, music cataloging (primarily for classical music) makes more use of work titles than any other specialized type, which means that the concept of the work is strong among librarians and probably also among users.

Raymond Schmidt, however, takes a look at jazz and improvisation in his "Composing in Real Time: Jazz Performances as 'Works' in the FRBR Model" (2012). If each performance of a jazz musical piece brings in new sounds, the difference between a work and an expression is blurred, and there are then questions of whether or when a performance creates a new work. Musicians and listeners recognize familiar tunes, and might consider two performances to be of the same work. Yet the musicians who improvise performances or engage in sampling of the works of others often consider themselves to be creating new works even though a recognized "air" is present.

The Variations Digital Music Library 2 Project at Indiana University, as reported by Jenn Riley at the 2008 International Society for Music Information Retrieval conference, analyzed the FRBR attributes for each WEMI entity and had a number of modifications that were required to express the music materials. That analysis concluded that the FRBR concept of a work may be suitable for the "canon of Western art music, where composition takes precedence over any given performance of it." However, they found that there were additions needed to FRBR work for jazz, World, and non-Western music, which when music is not in written form are the musical equivalent of an oral tradition. To describe these musical forms correctly, the FRBR work would need the additional attributes of language and place of composition. They also suggested that musical key was needed for both works and expressions. (In FRBR it is only an attribute of work.)

Music publishing also presents some difficulties. Many works are issued in a kind of "bound with" relationship with other works. Music manifestations have the added complication of accompanying materials, such as liner notes, which need a language designation in the manifestation, but not in the expression. Riley provided this comparison of FRBR and the Variations project's versions two and three:

VARIATIONS 2/3 ENTITY	FRBR GROUP 1 ENTITY
Work (more concrete than FRBR Work)	Work
Instantiation (can only appear on one Container)	Expression
Container (includes some copy-specific data)	Manifestation
Media Object (defined as a digital file)	Item

This illustrates that the FRBR work may be an organizing concept rather than a fixed "thing" that organizes at a different level of abstraction within different contexts. In classical music, a performance based on the same score could be considered the same work, while in jazz or hip-hop a performance might indeed be the creation of a new work.

Martha Yee, a cataloger at the University of California at Los Angeles film archives, found that the FRBR definition of work accords with that of the moving images cataloging community, which is that the translation of a textual or musical work to film always creates a new work. However, this view illustrates a distinct

difference between film catalogers and other catalogers—most notability those working with music materials:

> Film catalogers consider a film of a performed work to be a new work related to the previously existing text for the performed work. Thus a film cataloger considers Bergman's *Magic Flute* to be a new film work, not an edition of Mozart's opera. Music catalogers disagree; to them, Bergman's film is still primarily Mozart's work; that is, not a new work, but a new expression of Mozart's work. (Yee 2007, 124)

As Yee describes FRBR, "Change from any other GMD [General Material Designation or physical type] . . . into the moving image GMD . . . creates a new work by [the] FRBR definition" (Yee 2007, 121). This contrasts with the music cataloging view that a new performance or recording is a new expression. In a library catalog containing both music and film materials, these two views cannot coexist.

James M. Turner and Abby A. Goodrum (2009) address the many types of editing that can be performed on moving pictures, including removing content for reasons of audience (profanity, nudity) or to make the film fit the time allotted. These, according to the authors, are treated as new manifestations, where in the text world these would undoubtedly be considered new expressions. At the same time, there is interest in what Turner and Goodrum call "frame-level" access to film, with examples like the Zapruder film of the Kennedy assassination and various films of the 9/11 events. These are spontaneous creations, sometimes even accidental, and so the designation of a creative work component may be difficult. However, should such unplanned footage be included in a documentary, its nature appears to change. Three people standing side-by-side at a scene may take nearly identical photos or films of an event. How many works are there? There are also the multitude of similar scenes shot for a commercial film which may or may not be included in the film, and yet may be reconstructed later into a new version of the film as the "director's cut."

Although library standards attempt to cover a wide range of library and museum materials, there is a significant distance between the description of published materials and the treatment of unique materials, such as works of art. The cultural object community has its own cataloging rules, *Cataloging Cultural Objects* (CCO), which differs considerably from the rules for printed and published materials.

In an analysis of FRBR in relation to art materials, Baca and Clarke (2007) point out that the separation of work, expression, manifestation, and item is not applicable for many of the materials they catalog. The CCO rules define a work as a human-made object, meant to be perceived through the sense of sight. They go on to say

> Because of this sense of physicality, *work, expression, manifestation and item* are one and the same for many cultural works, which are embodied in a *single material object* and not in an *abstract entity.* (Baca, 104; emphasis in the original)

The CCO entity diagram has a central work, with authority-like entities for names, geographical entities, concepts, and subjects. The central work entity encompasses all of what in FRBR makes up Group 1.

The authors concede that FRBR Group 1 entities may be suitable at times to conceptual art and artwork that takes place over time and in different forms, where the artist's concept and the execution of the art are not a single action. These do not always break down into the WEMI categories of FRBR, however. It appears that the description of artworks may need to make use of a variable interpretation of the Group 1 entities, as necessitated by different types of artworks. A simple example is in the role of color in artworks. In FRBR, color ("colour") is an attribute of the manifestation, and is defined as "used in the production of an image" (FRBR Final Report, 46). For some images, such as abstract paintings, color is the content of the work and defines the work. One need only look at the paintings that are variations on the theme of "white on white" to understand that color can be the idea of the work.

The CCO view has equivalents to Group 2 entities, but it differs in how it treats what in FRBR are the Group 3 subject entities. CCO uses two subject entities, geographic place and concept, but does not list object or event as primary entities. The subject authority in CCO is used to depict the subject matter of the artwork, that is, what it is about. The concept authority is a thesaurus of terms used in description, perhaps similar to the various controlled descriptive terms developed for MARC records or for the RDA cataloging code. This thesaurus includes terms for objects, materials, activities, agents, physical attributes, and time periods. In the final analysis, much of the same descriptive territory is covered although the organization of the elements is somewhat different.

Because maps are often published in editions, the use of the FRBR expression entity promises to help organize these materials. Two articles that focus on maps and FRBR, one by Ruth Kalf and the other by Scott R. McEathron, illustrate the use of FRBR to describe maps of the sixteenth through eighteenth centuries. This was a time when maps were uncommon and the few that existed were copied and reproduced in different languages. Those maps coincide relatively well with the FRBR document-oriented model. For modern machine-rendered maps, which can be produced easily in different sizes and scales, Kalf questions whether scale, which seems appropriate at a FRBR expression level for the older maps, could not be described at a manifestation level. This exemplifies the need for flexible definitions of the FRBR entities even within a single cataloging specialty. In this case, reproduction technology has changed how the resource is created and realized, and a change in map scale is now more closely analogous to converting a document from one word processing format to another.

Summary

It is quite possible that few of those among us who consider themselves to be reasonably familiar with FRBR are actually aware of the original goals of the project as stated in the Terms of Reference, even though these are mentioned in the FRBR Final Report. It is also possible that many are not even aware of the seventh section of the Final Report that defines a minimal level record, which was the primary motivation for the creation of the FRBR Study Group.

The FRBR Final Report provides a revolutionary view of bibliographic data as conceived in the service of the library catalog. It will probably be viewed by future generations of librarians as a watershed moment in the history of the library catalog. The gap, however, between the original goals and the FRBR Final Report is great. The FRBR Study Group went beyond the originally stated goals in an attempt to solve problems that had been bubbling to the surface of cataloging practice over at least the previous half century. The task that arose from the 1990 Stockholm meeting became the precipitating factor for a general review of descriptive cataloging and its purpose.

That the FRBR Final Report overstepped the original goals is of historical interest, and should help us understand that the context for FRBR is not in a single meeting in 1990 but in all that came before it.