The FRBR Model
(Functional Requirements for Bibliographic Records)
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1   The FRBR Model

I am very honored to be here to day and grateful for the opportunity to share with you the conceptual model presented in the Functional Requirements for Bibliographic Records - the entities, relationships, and attributes from that model.   I was a consultant along with Tom Delsey, Elaine Svenonius, and later Beth Dulabahn of the Library of Congress in developing the conceptual model within IFLA, the International Federation of Library Associations and Institutions.

I am also going to share with you my own research into bibliographic relationships, as it ties in with FRBR.

2   Changing Technology

Through the ages human beings have communicated and recorded their knowledge.   As technology advanced they were able to capture their ideas using new tools.   They used clay tablets, then later pen and ink on scrolls.   The Chinese and the Europeans used printing tools,

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  Styled by YONEZAWA Makoto and NAITO Eisuke, NII.

first wood blocks then printing presses and eventually presses with moveable type. Typewriters then came along and individual authors could produce their own print-like documents, even without intermediaries. When photocopiers were invented, they could make lots of copies to distribute to many people. With personal computers and now the Internet, the creation and distribution of the works of an author can be accomplished more easily than ever.

Our library catalogs have also evolved with changes in technology. Early libraries kept inventories of their collections on clay tablets or on scrolls. When the codex was used, we found libraries embracing that technology to create book catalogs and finding aids. Card catalogs emerged and the Library of Congress began distributing its printed cards starting in 1901. (We just celebrated the centennial in November 2001 and will continue celebrating during this year.) Other libraries were then able to re-use the cataloging work done centrally by the national library. Then with the introduction of personal computers, libraries quickly embraced the new technology to offer their catalogs online. Bibliographic utilities developed to offer shared bibliographic and authority records. Catalogs have now become an essential component in integrated library systems. And with today's global Internet technology, online catalogs are part of even larger systems that include portals and gateways to digital resources in combination with the traditional library resources.

3   What are we cataloging?

Even the materials we catalog continue to evolve. The formats and the packages (or carriers) continue to proliferate, and some even come and go, like filmstrips and punched cards or those clay tablets of the Babylonians.

Libraries have always selected what they feel their users need or what their users tell them they want. We do not catalog everything - not even everything in a library. We rely on other tools to provide bibliographic control over some types of materials, for example, maps that are in a series with their own index, or technical reports that are indexed in commercial services. This is not a new thing - to rely on others for some of the bibliographic control has always been the way we operate. Another example:

With the proliferation of journal articles, libraries and publishers tried to work together under the auspices of an ALA committee at the end of 1800's to provide catalog records for each article published. Cataloging records were printed as the last page of the journal issue and could be cut out and pasted on cards and filed in card catalogs. After a few months of this attempt, it was abandoned as being unprofitable. That led H.W. Wilson, who was on the ALA committee for this project, to produce his periodical indexes, and many other specialized abstracting and indexing services emerged to cover the periodical and report literature.

Libraries continue to use abstracting and indexing services, bibliographies, directories, and many other tools in reference sources to help find information that meets the users needs. With the assistance of automation, we are integrating these tools to provide easier access for users.

Anglo-American Cataloguing Rules provide for all types of materials, regardless of format or form. The basic rules are intended to apply to past, present, and future materials. Yet even AACR is now looking at FRBR for a new model.
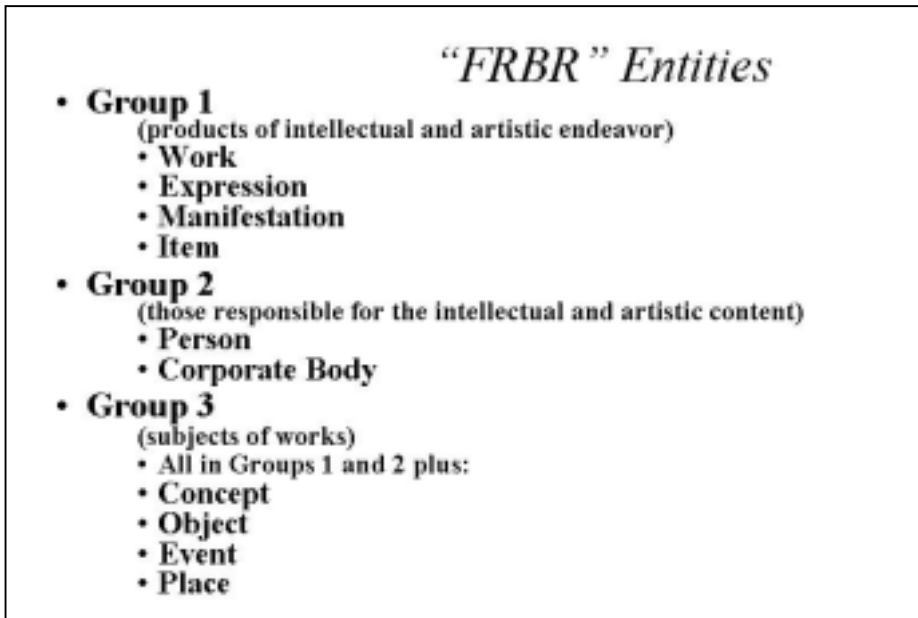
4   Entity-Relationship Model
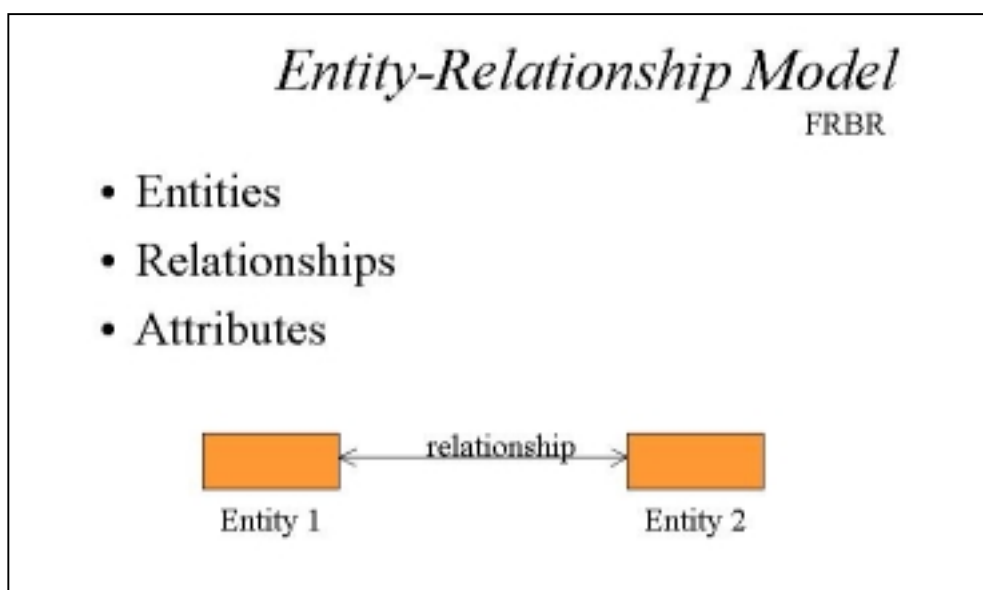
From 1992-1995 the IFLA Study Group on Functional Requirements for Bibliographic Records developed an entity-relationship model. This conceptual model known as FRBR, or sometimes pronounced as "ferber," presents a generalized view of the bibliographic universe and is intended to be independent of any cataloging code or implementation. It was finally published by K.G. Saur in 1998.

An entity-relationship model was chosen, as it was a well accepted modeling technique at the time. (E-R models were developed by Paul Chen several decades ago.) It could just as well be an object oriented model today. In fact, the IFLA Section on Cataloguing started a new Working Group on FRBR to explore an object oriented model of FRBR and to promote the continued development and expansion of this model. What is most important are the concepts.

The convention of entity-relationship notation was used in the FRBR diagrams, but

it was intentionally kept simple. For example the recursive nature of works was not diagrammed, although the consultants recognized that fact that "works" are recursive - you can have a work that consists of other works.

5   "FRBR" Entities

"FRBR" Entities
- **Group 1**
  (products of intellectual and artistic endeavor)
  - **Work**
  - **Expression**
  - **Manifestation**
  - **Item**
- **Group 2**
  (those responsible for the intellectual and artistic content)
  - **Person**
  - **Corporate Body**
- **Group 3**
  (subjects of works)
  - All in Groups 1 and 2 plus:
  - **Concept**
  - **Object**
  - **Event**
  - **Place**

In the FRBR conceptual model, the bibliographic universe was seen to consist of several entities that were related to each other and could be described through data elements (or attributes).   The entities themselves were sorted into 3 groups as shown here:

> Group 1 - products of intellectual and artistic endeavor that are named or described in bibliographic records: work, expression, manifestation, and item.

> Group 2 - are the entities responsible for the intellectual or artistic content, the physical production and dissemination or the custodianship of such products: person and corporate body.

> Group 3 - are the entities that serve as the subjects of intellectual or artistic endeavor: concept, object, event, place, and any of the Group 1 or Group 2 entities

FRBR itself focused on the Group 1 and a new IFLA working group FRANAR (Functional Requirements for Authority Numbers and Records) is looking at Group 2 to continue the development of this model again with the assistance of Tom Delsey.

Let's look at each group a bit more.

6   Group 1

Group 1 are the entities that are the product of intellectual or artistic endeavor.   The entities form a hierarchy with work at the top.

As I mentioned before, it is also important to realize that we look at works that include other works (a recursive relationship), and we look at collections of items stored together when we create cataloging records or inventory control records, so we deal with the "Level of granularity" and whole/part relationships.
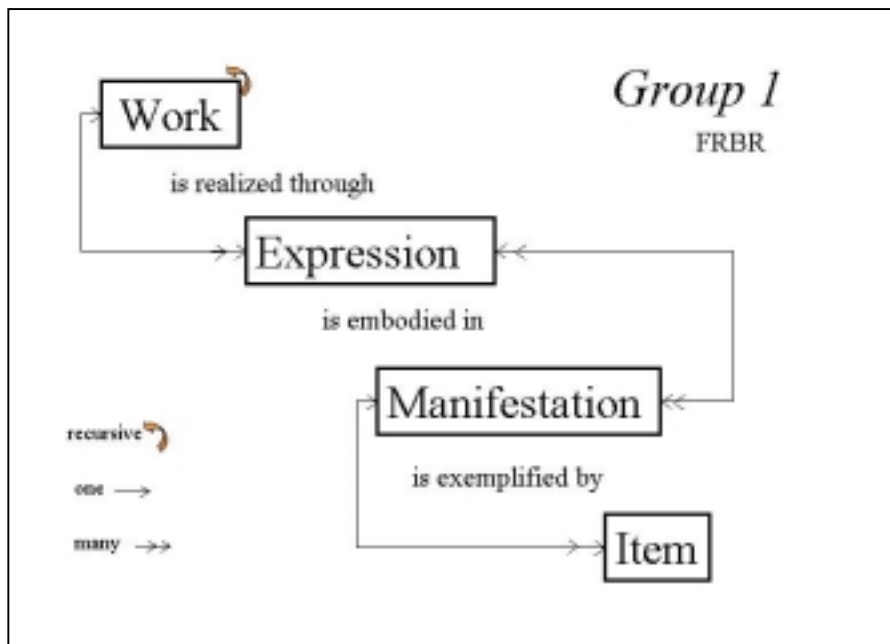
Work, according to FRBR, is a distinct intellectual or artistic creation. It is an abstract entity. The boundaries of a work are sometimes dependent on the cultural or national view, but FRBR suggested some boundaries - we'll look at this more in a moment.

A work is realized through an expression - another abstract entity. An expression is the intellectual or artistic realization of a work in the form of alpha-numeric notation, musical notation, choreographic notation, sound, image, object, movement, etc., or any combination.

7   Group 1
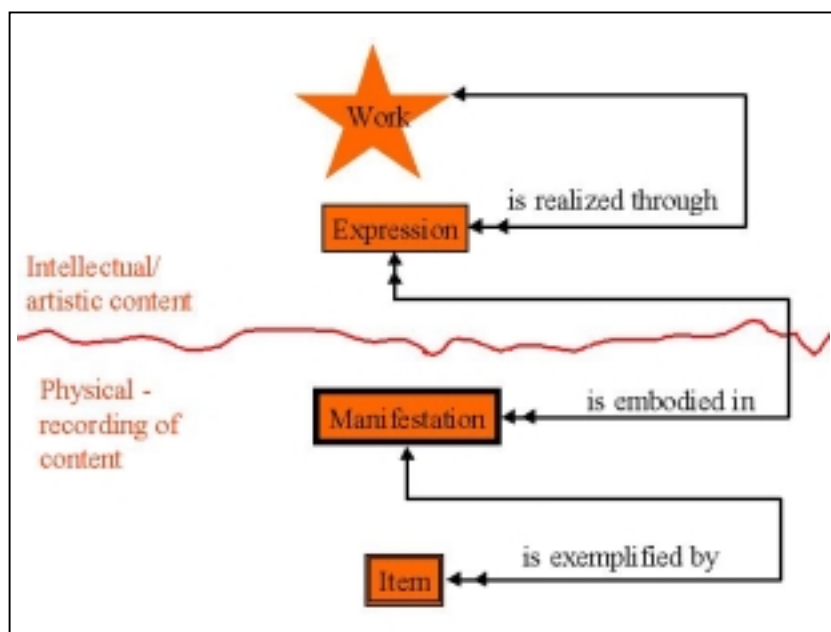
When we Record the intellectual or artistic content, we move to a physical entity. As FRBR puts it, a manifestation is the physical embodiment of an expression of a work. Manifestations appear in various "carriers," such as books, periodicals, maps, sound recordings, films, CD-ROMs, DVDs, multimedia games, Web pages, etc.

A manifestation represents all the physical objects that bear the same characteristics of intellectual content and physical form. In actuality, a manifestation is also an abstract entity, but describes and represents physical entities.

One example or exemplar of a manifestation is called an item. Usually it is a single object, but sometimes it comprises more than one physical object, e.g., a monograph issues in 2 separately bound volumes or a sound recording on 3 separate CD's. With an item entity, we are able to identify individual copies of a manifestation and to describe its unique attributes - this may be information relevant to its circulation or preservation.

8 MulVer - Airlie House 1989

MulVer
Airlie House 1989

- **Three-tiered approach**
  - work
  - version
  - copy
- **Two-tiered approach**
  - Manifestations as "note" on record for "original"
    - MARC21 & LCRI - Reproductions in 533

For historical background…everything comes around… This concern over entities is not new, but FRBR gives us a new view on how to approach them.

In 1989, the Airlie House conference on Multiple Versions included a paper proposing a 3-tiered approach of work, version, and copy - where we could use existing MARC records - authority, bibliographic, and holdings records.

By the end of that conference, it was agreed to recommend what was thought to be an immediately applicable and practical approach of a 2-tiered model to use bib and holdings records, such as was already used in RLIN and in OCLC's newspaper project. We also had the MARC 533 tagged note fields on a record for the original to show reproductions. We're still using the 533 and have guidelines on when to use the same bib record for multiple manifestations for electronic resources.

9 JSC Task Force on Format Variation

More recently, the Joint Steering Committee for Revision of the Anglo-American Cataloguing Rules commissioned a Task Force to explore the issues of Format Variation, specifically with

respect to FRBR entities and the possibility of moving to expression-based records with links to manifestation information.

JSC Task Force on Format Variation

- Expression-based records
- Links with manifestation records
- Use of citations/uniform titles

Jennifer Bowen chairs the Task Force and their report is expected this summer.   It is hoped both OCLC and RLG will help test their ideas in prototype systems.

The JSC is also seeking to update the language throughout AACR to reflect FRBR terminology. Pat Riva from McGill Univ., Canada, has been charged with that task.
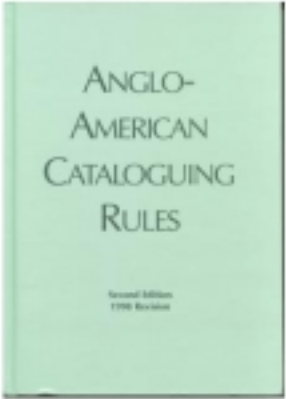
10   Modes of Expression

Modes of Expression
FRBR

- Alpha-numeric
- Music notation
- Other notation (e.g., choreographic)
- Sound
- Still image
- Moving image
- Three-dimensional object
- Combinations of above

The FRBR modes of expression may also be useful as the JSC re-examines General Material Designators (GMDs).

11   JSC and GMD

As you may know, the GMD (general material designator) was created by Jean Weihs and Ben Tucker - who were then on the JSC.   They responded to requests from the audio-visual community for a way to express the type of material being cataloged.   They brainstormed a list and later the British made up their own list, but the British have never used it.   Even in the U.S., the LCRI's limit the use.   The concept was incorporated into the ISBDs when they were developed.

JSC and GMD

ANGLO-AMERICAN CATALOGUING RULES

Second Edition
1998 Revision

• Revisit GMD
  •Now mix of mode of expression, physical format

• GMD discussion paper
  http://www.nlc-bnc.ca/jsc/gmd.pdf

The GMD list now in AACR2 is a mix of expression, manifestation, and overlapping concepts.   It's time again to review this with respect to FRBR and see how we can more logically express these useful collocating concepts.   The JSC discussion paper about this is available on the Web at the address shown here.

One recommendation is to explore the use of icons in catalog displays.

12   Modes of Expression - FRBR

Modes of Expression   FRBR

The collocation of the various expressions of a work is part of Charles Ammi Cutter's objects of a catalog - he recommended both the finding and gathering or collocating functions as far back as 1896.

Collocation remains an important goal for online catalogs.   We know users would

prefer to avoid second screens or a hierarchy of screens when they get search results.   With collocation, we could lump records together for displays, as Matthew Beacom described it in his presentation at the LC Bicentennial Conference on Bibliographic Control in November 2000.

In LC's American Memory project, that now has over 7.5 million images, the icons you see here were introduced during 2001 in their cross-collection "gallery" display to account for books, sheet music, and other situations that don't have a single thumbnail image. It is a device that can be used to collocate by mode of expression.   So you see that the idea of 'icons' to indicate 'media type' is spreading.   OCLC has begun to use them in the new version of First Search, and RLIN uses them as well.

13   Manifestation - Form of Physical Carrier

Manifestation
Form of Physical Carrier

- Book/pamphlet
- Sheet
- Globe
- Model
- Sound cartridge
- Sound cassette
- Sound disc
- Sound tape reel
- Sound track film
- Roll
- Microscope slide
- Game, object, etc.
- Aperture card
- Chart/flipchart

- Film/video cartridge
- Film/video cassette
- Video disc
- Film/video reel
- Filmstrip/slip cartridge
- Slide/transparency
- Photo/negative
- Card, Flash card, etc.
- Computer cartridge
- Computer cassette
- Computer disk
- Microfiche
- Microfilm
- Microcard/microopaque

- Etc.

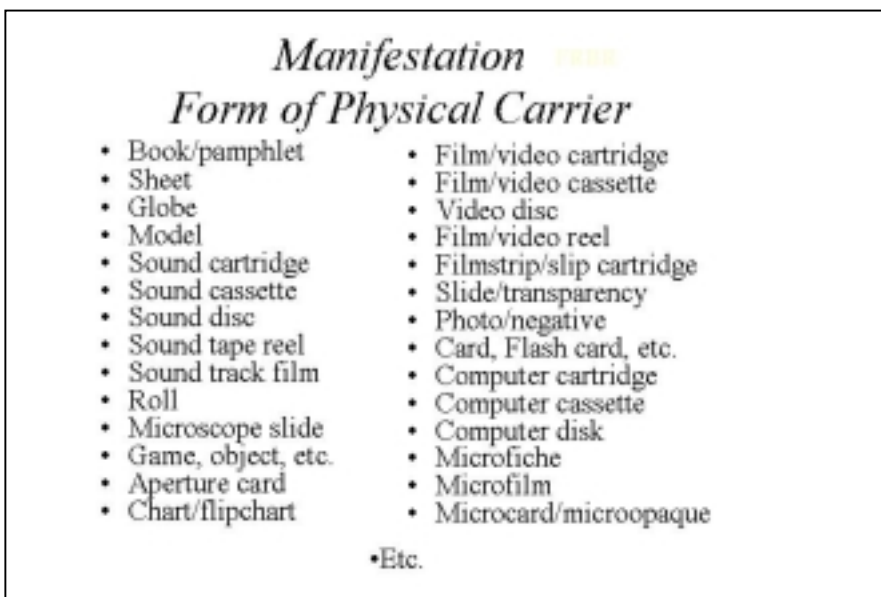At the manifestation level in FRBR, we introduce the various physical carriers of intellectual or artistic content.   Some of these are now given as GMDs, but there has been no consistency in their naming or use.   And there are many more than those shown here.

14   Icons for Format

Again we can envision using icons to convey the format information at the manifestation level. These icons are from the Library of Congress Prints and Photographs Division.

At the top is the result of a search in the Historic American Buildings Survey / Historic American Engineering Record   http://lcweb2.loc.gov/pp/hhquery.html

This was a search for Statue of Liberty that gives you a screen with a set of 5 icons. They are enlarged at the bottom of this screen so you can see them better.   They represent drawings, photos, data pages, photo caption pages, and color transparencies.   By clicking on the icon, the user goes directly to that digital item or component in that format.   They would also be told where to locate analog components or to order their own copies.

Icons for Format

How To Order Copies of This Item

TITLE Statue of Liberty, Liberty Island,Manhattan, NEW YORK CITY, New York County, NY

CALL NUMBER HAER, NY,31-NEYO,89-

5 drawings   230 b&w photos   3 data pages   21 photo caption pages   51 color transparencies

15   Types of Publication - Forms of Issuance

Types of Publication - Forms of Issuance

- AACR2
  - Monograph
  - Serial
- New View
  - Finite resource
    - Monograph
    - Finite integrating resource
  - Continuing resource
    - Serial
    - Continuing integrating resource

Other categories have been used to describe entities.

The *Anglo-American Cataloguing Rules* (AACR) divide the world into monographs and serials, and recognize collections of these.   We recently expanded that view to embrace the concepts of finite and continuing resources.   We worked collaboratively with the ISBD and ISSN communities to agree on general guidelines for dealing with continuing resources, that is, serials and both continuing and finite integrating resources.   These terms were introduced in 1997 at the JSC Conference in Toronto on the Future of AACR.   AACR itself will be updated this summer with a new chapter 12 on continuing resources.

16   AACR2 "Class of Materials"

AACR has also traditionally had a mix of things called "classes of materials" which are seen as the chapters in Part 1 of the rules.   They are a mix of expressions and manifestations.

Tom Delsey, formerly of the National Library of Canada was commissioned by the JSC to analyze the structure of AACR and to make recommendations for improving it. His analysis is available on the JSC Web site. It's called the "Logical structure of AACR2," and he pointed out the anomalies and inconsistencies of the current rules. Part of his observations had to do with bringing in FRBR terminology and structuring according to ISBD area rather than this class of materials. The JSC is now exploring how best to present the rules for the future. We started a Strategic Planning exercise in Ottawa in October and will continue at the next JSC meeting in May.

17   Linking Devices

Linking Devices

- Main entry
- Uniform title
- Added entry
- Dash entry
- Analytical entry
- Multilevel description
- Edition statement
- Series statement
- Physical description addition
- Note
- Reference
- Hypertext link
- Integrated record displays from shared data in databases

I mentioned using icons as devices for collocating and grouping together or identifying various expressions or manifestations.

As I described in my dissertation in 1987, there have been many devices created over the years and used in the past to express relationships in catalog records by providing links between works.

There are also several types of relationships that we can consider. But how do we know about these relationships? We rely on information that we pick up from examining items and transcribing information we feel is useful to bibliographic description and access from the items we are examining.

18   Group 1 - Relationships inherent to the Entities

> ### Group 1 - Relationships inherent to the Entities
>
> - Work *"is realized by"* an expression
>   - Expression *"is embodied in"* a manifestation
>   - Manifestation *"is exemplified by"* an item
>   - Item
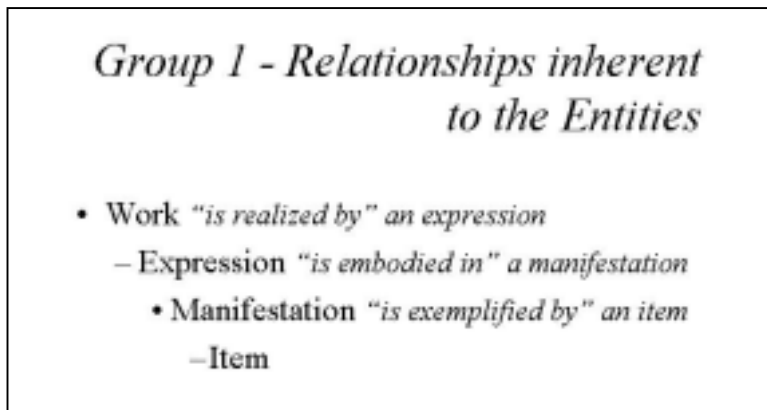
Within FRBR there are relationships that are inherent among the entities - as we've already seen in the model.

> A work "is realized by" by an expression,
> and an expression "is embodied in" a manifestation.
> A manifestation "is exemplified by" an item.

A characteristic of a work is carried to all the entities below it in the hierarchy through a transitive relationship.

19   Relationships - Work/Expression

> ### Relationships - Work/Expression
>
> w_1 Charles Dickens' *A Christmas carol*
> e_1 the author's original English text
> e_2 a Tamil translation by V.A. Venkatachari
>
> "is realized by"
>
> FRBR, p. 59
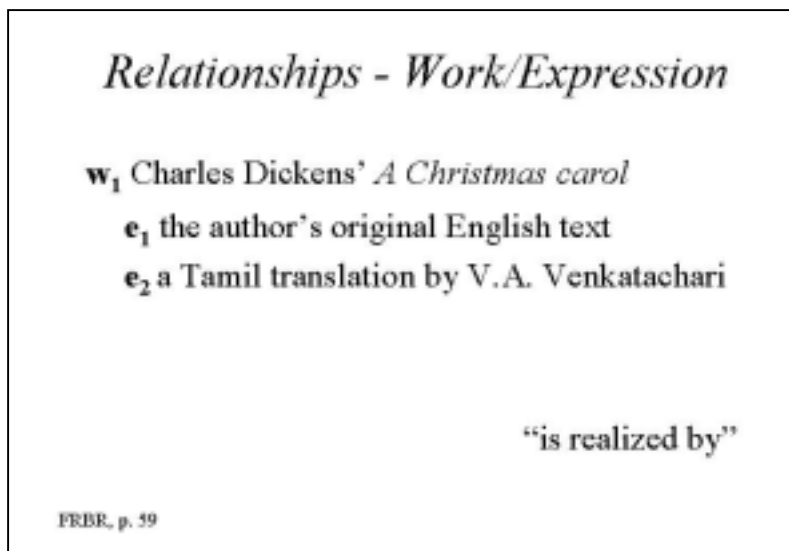
We link expressions to the work they "realize" or express implicitly the expressions of the same work have a sibling relationship to each other.

FRBR itself provides several examples. Let's look at this one: work 1, Charles Dickens' *A Christmas Carol*, is realized by two expressions:

> expression 1 - the author's original English text and
> expression 2, a translation in the Tamil language - and there are, of course,
> many more.

20   Relationships - Work/Expression/Manifestation

Relationships - Work/Expression/Manifestation

w_1 J.S. Bach's *Goldberg variations*

   e_1 performance by Glen Gould in 1981

      m_1 recording released on 331/3 rpm sound disc in 1982 by CBS Records
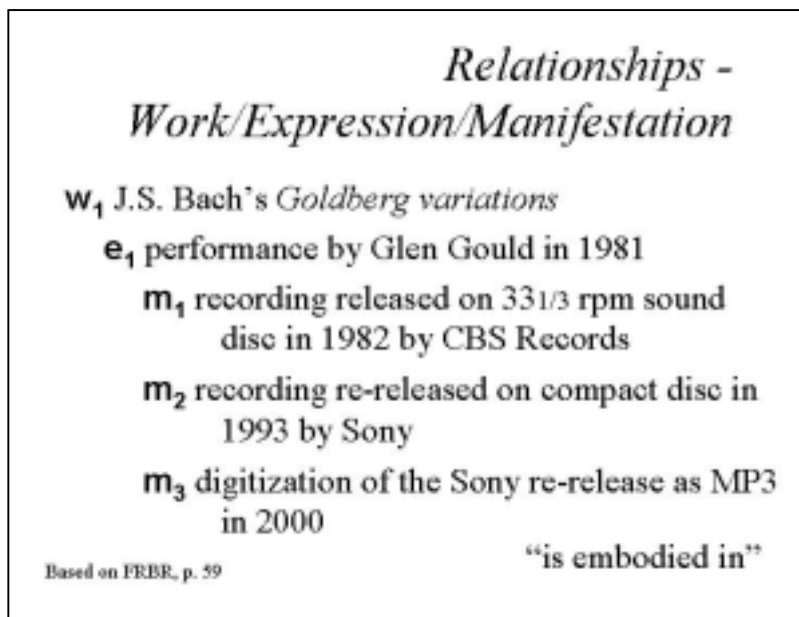
      m_2 recording re-released on compact disc in 1993 by Sony

      m_3 digitization of the Sony re-release as MP3 in 2000

"is embodied in"
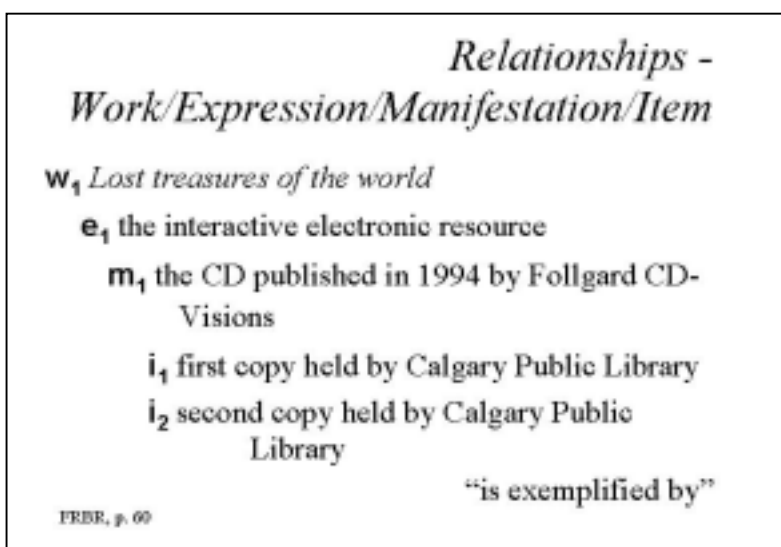
Based on FRBR, p. 59

An expression then is "embodied" in a manifestation.   Notice that we are showing here a musical performance.   Music can be performed, but only when it is <u>recorded</u> do we have a manifestation.

Work 1 - J.S. Bach's *Goldberg variations*… is realized by the expression - that is, the performance by Glen Gould, which in turn "is embodied in" at least these 3 manifestations:

   m1 - the recording on a phonograph record
   m2 - a re-release on a compact disc and
   m3 - a digitization on an MP3 file.

Implicitly the manifestations of the same expression have a sibling relationship to each other - that may be an equivalent content.

21   Relationships - Work/Expression/Manifestation/Item

Relationships - Work/Expression/Manifestation/Item

w_1 *Lost treasures of the world*

   e_1 the interactive electronic resource

      m_1 the CD published in 1994 by Follgard CD-Visions

         i_1 first copy held by Calgary Public Library

         i_2 second copy held by Calgary Public Library
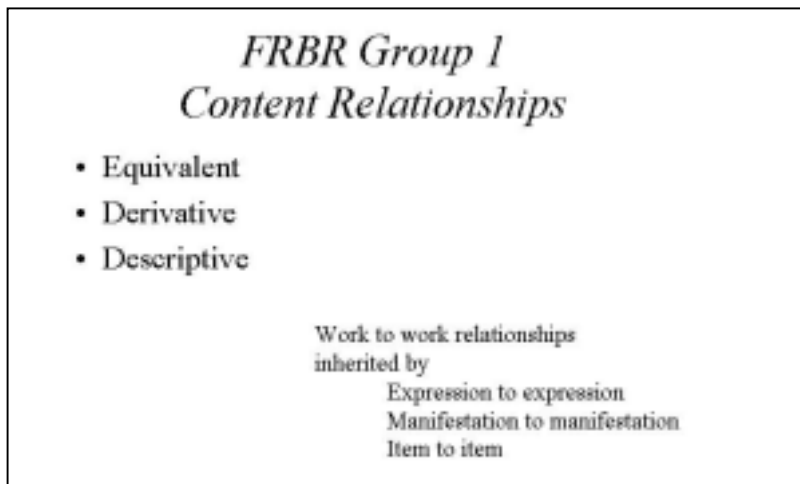
"is exemplified by"

FRBR, p. 60

An item is then a single exemplar of a manifestation.

Work 1, *Lost treasures of the world*, is realized by the expression (conceived as an interactive electronic resource that is embodied in the manifestation of a CD), that "is exemplified" by two items in the Calgary Public Library - that is two physical copies.

All copies linked to the same manifestation have a sibling relationship to each other

22   FRBR Group 1 - Content Relationships

FRBR Group 1
Content Relationships

- Equivalent
- Derivative
- Descriptive

Work to work relationships
inherited by
  Expression to expression
  Manifestation to manifestation
  Item to item

Another way to look at this is through the content relationships among works that are then inherited by their expressions, manifestations, and items.   Some of these are described in FRBR: equivalent, derivative, and descriptive relationships of the content.

23   Taxonomy of bibliographic relationships

This picture is from my latest update of the taxonomy of bibliographic relationships that was published by Kluwer last year.

Equivalents are subjective - some people may consider a simultaneous publication to be equivalent - others may not, as the language - for example between a US and a British edition of a newspaper - may use different spellings or terms to fit the culture - even though basically they have the same content…   Like the simultaneous editions of Harry Potter books - the English language was changed for American audiences and some of the humor was lost as a consequence…so people may indeed want to know if it's the UK or American version.

However, if the simultaneous publication was truly exactly the same content, just printed in different places, the resulting manifestations are indeed equivalents.

When do we provide one bibliographic record or more than one record?   We can see new records for expressions but with the same main entry to collocate them in the catalog.

This picture shows where we now draw the line for making new records for new works.   This picture also shows the concept of "Editions" but we have noticed that this term, that was key to older cataloging codes, may become an obsolete concept for new works especially in a networked Web environment…   Copies would be the iterations replicated in

mirrored sites.   Our terminology continues to change over time as new forms of carriers are created and used.
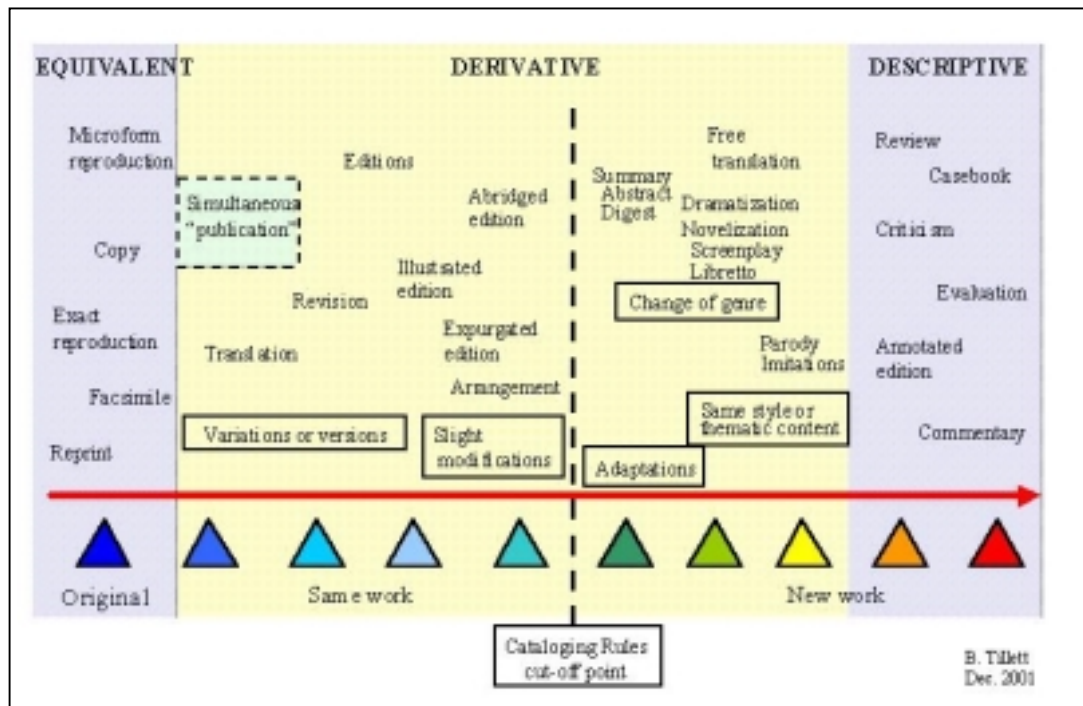
24   Work

If we look at the types of works and expressions in terms of the FRBR model, the entire picture can be seen as the family of works.
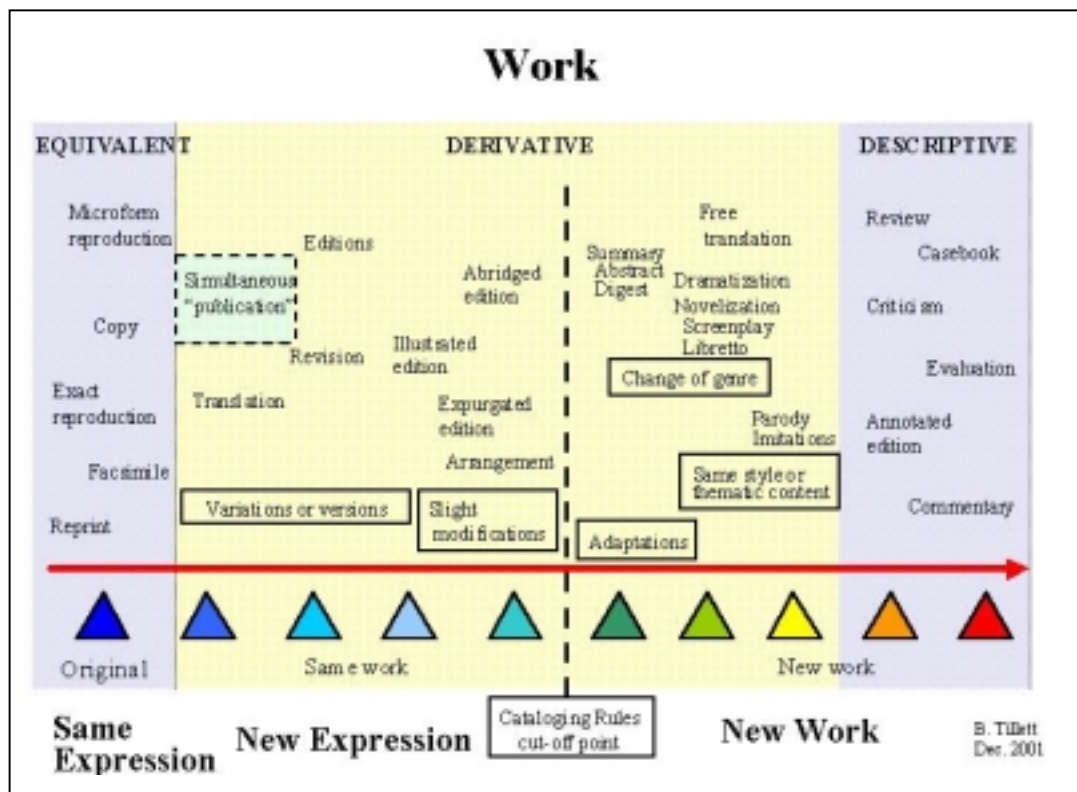
Those that are equivalent are from the same expression of the work. Once we introduce a change to the content, like a translation, we have a new expression of the same work.

Once that derivation crosses the magic line of becoming more of the work of another person or corporate body, we consider it a new work, but in this recursive relationship, it, too, is part of the family of related works, even when the work moves on to be only describing a work in the family at the right end of this continuum. The entities in descriptive relationships can even be considered to be in subject relationships.

The ability to inform the user of these related works ties back to the collocating and finding functions of a catalog again.
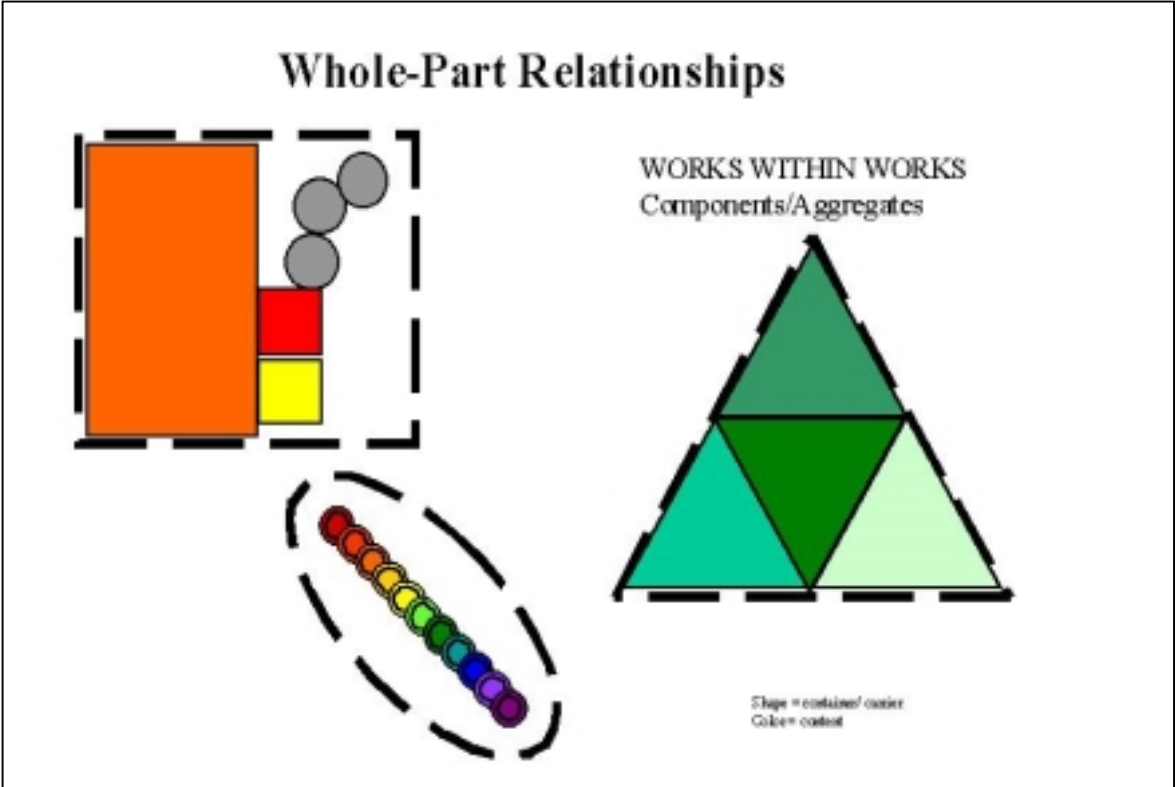
25 Whole-Part Relationships

A particularly important relationship for the digital world is whole-part. Components and aggregates - think of a Web site - as a whole and its parts as the components.
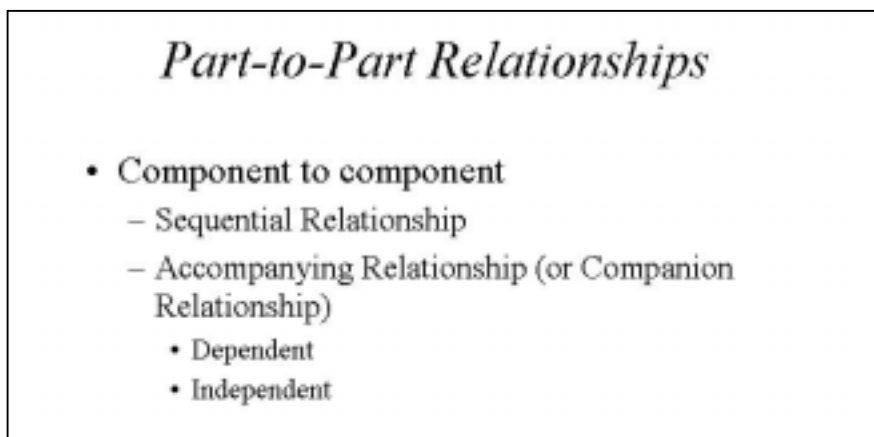
26 Whole-Part Relationships

Types of relationships are particularly interesting with electronic materials where images and text and/or sound become components of the whole and need to be addressed and brought together (aggregated) for displays, yet often are stored as separate components (such as is shown in the figure at the top left in orange).

Another whole-part example is an anthology or a finite set (which is the whole) with its distinctive, separate works (or parts) (as shown in the triangle green figure on the right). Finite integrating resources - loose-leafs with an end or a multivolume set, multipart series are other examples.

Other parts may continuously add to the corpus of content, as the separate issues of print or electronic serials and integrating resource, or articles in an integrating online serial or a web site (as shown in the figure at the bottom).

With an e-journal the web site is the whole but it consists of component articles, and as new articles are posted on the site, the site continues to grow as a continuing or integrating resource.

27   Part-to-Part Relationships

Part-to-Part Relationships

- Component to component
  - Sequential Relationship
  - Accompanying Relationship (or Companion Relationship)
    - Dependent
    - Independent

Also particularly interesting in digital materials is the relationship among parts… FRBR recognized these as did I in my dissertation, as sequential and accompanying or companion relationships.

We can carry it further by describing those companion relationships where the components are either dependent or independent. This usually translates into bibliographic records again. Do we make a note for the dependent component or do we make a linked separate bibliographic record for the independent component?

28   Part-to-Part Relationships

The part-to-part relationships between the individual components of a serial or between a prequel and a sequel are sequential relationships - important for ordering and assisting the user in determining the sequence of parts for finding information

Accompanying relationships, also called companion relationships in discussions of FRBR - hold between an entity intended to be used with or to augment another entity. Examples are supplementary maps intended as companions to a video,

a computer disk that accompanies as textbook,
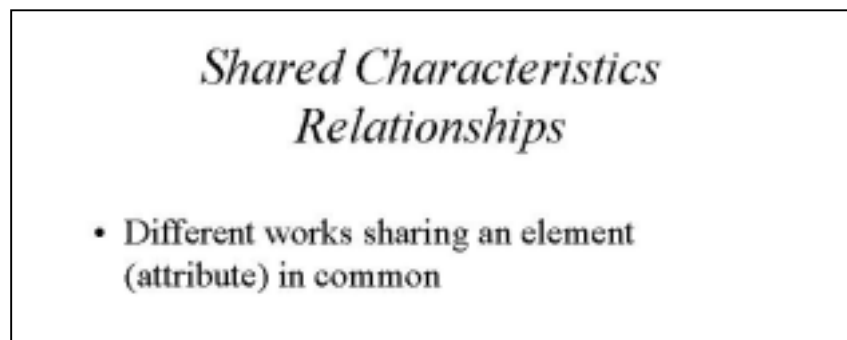accompanying plates intended to illustrate a main text
a score that accompanies a sound recording,
or a booklet of words to songs that accompany a CD music recording.

The pieces can be viewed either as dependent parts of a whole or as separate entities in their own right that can exist independently of each other, but are packaged together. In this latter situation, the accompanying or companion relationship can also be viewed as existing beyond the continuum of close content relationships, because the entities are (or contain) different works that complement the content of another work that is another component of the whole.

PART-TO-PART RELATIONSHIPS

WORKS WITHIN WORKS
Components-to-Component

Sequential Relationships

Accompanying Relationships
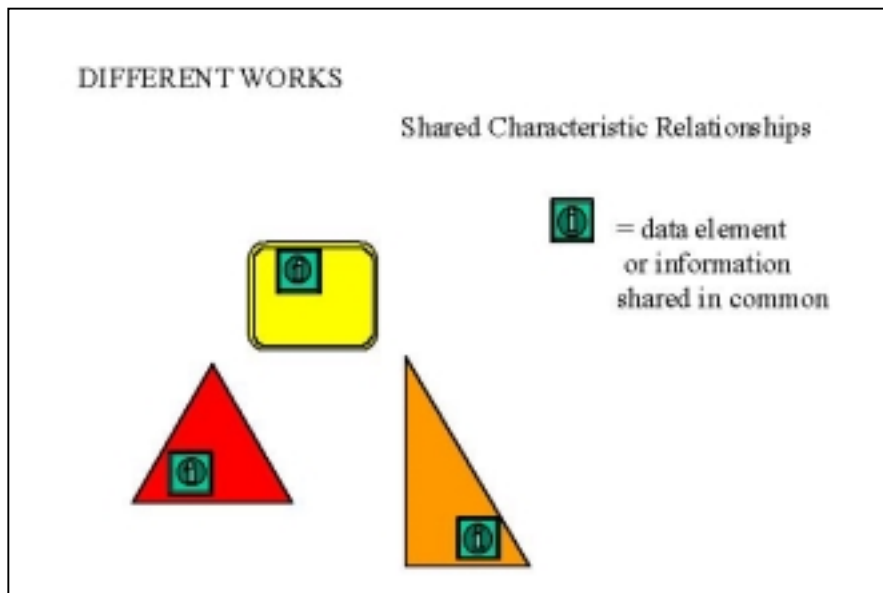
Shape = container/ carrier
Color = content
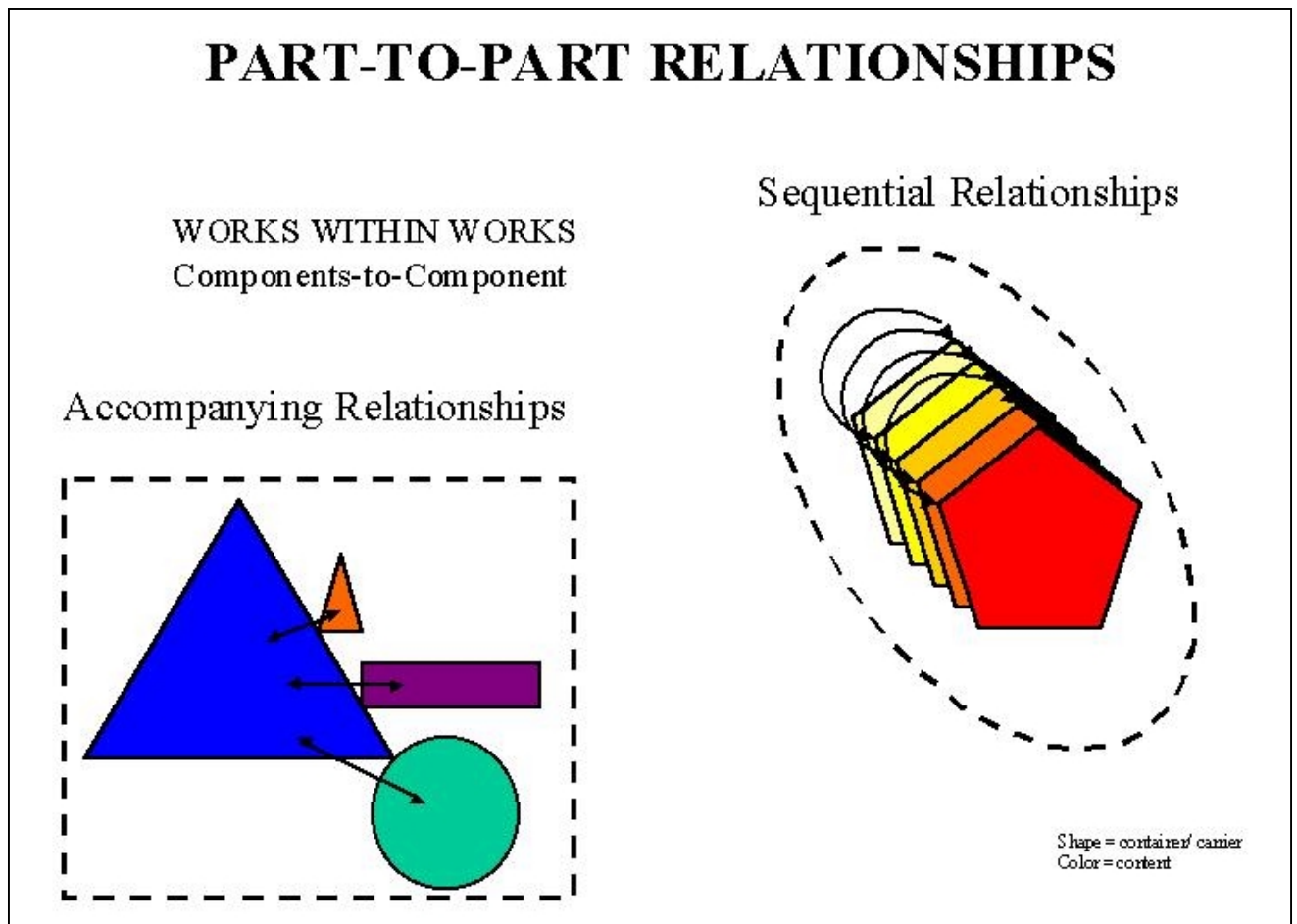
29   Shared Characteristics Relationships

The idea of a shared characteristic relationship, could also be modeled as an inherent relationship that comes from having an attribute in common.
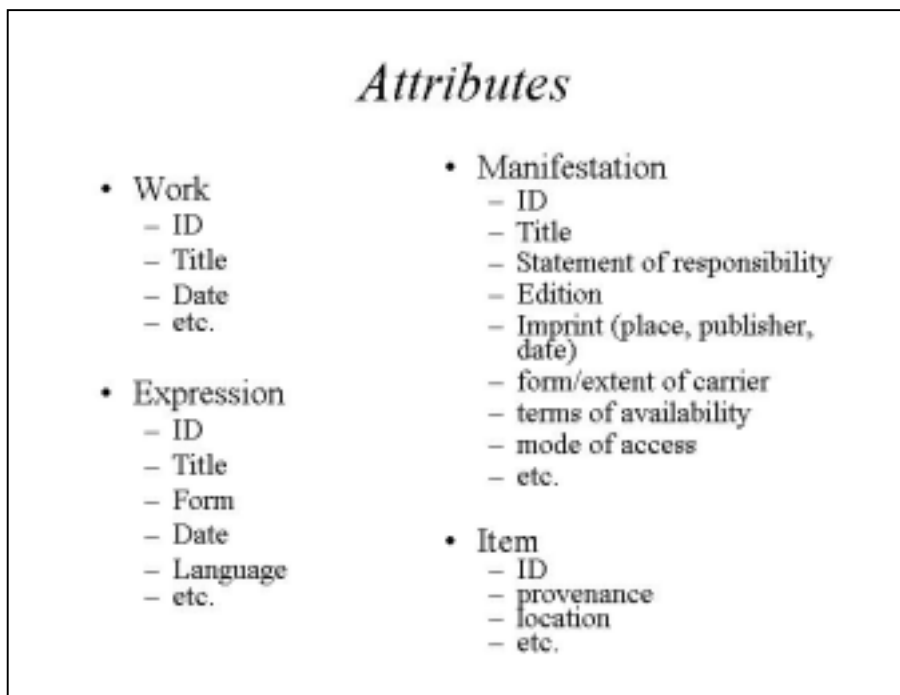
Shared Characteristics Relationships

- Different works sharing an element (attribute) in common

30   Different works

DIFFERENT WORKS

Shared Characteristic Relationships

= data element
or information
shared in common

Let's say the language Swahili is the data element and when we include that information in a bibliographic record, we can later use that information for retrieval to collocate all the works and expressions in that language.

31   Attributes

Attributes

- Work
  - ID
  - Title
  - Date
  - etc.

- Expression
  - ID
  - Title
  - Form
  - Date
  - Language
  - etc.

- Manifestation
  - ID
  - Title
  - Statement of responsibility
  - Edition
  - Imprint (place, publisher, date)
  - form/extent of carrier
  - terms of availability
  - mode of access
  - etc.

- Item
  - ID
  - provenance
  - location
  - etc.

Moving on, the attributes in FRBR were based on what now exists in bibliographic records and may need updating as more thinking is given to this topic, but here are some of the essential attributes or elements that we associate with each of the primary entities.

      For a work, the main elements are its identifier, a title, date, etc. (see *FRBR* p, 32+ for others). You notice we don't have "author" as an attribute for work or expression, because such information is treated in this model as a relationship between the work or

expression and a person or corporate body.

Yet you see at manifestation, we have the statement of responsibility as found on the item being cataloged… - that is information unique to the manifestation and is description

For our purposes the activity of recording an expression, turns an entity into something of interest to a library - something we would add to library collections and catalog - for which we would provide bibliographic control - description and access.. In the digital world we can envision the basic bibliographic description being an integral part of a digital object - the software that helps create the digital object or digitizes an analog object, would automatically provide a basic set of metadata. Think of how the software for word processing, like Microsoft's Word, suggests a name for your document based on the first words you type - ironically the "tiles" for early manuscripts were the first line of text. Software now also automatically provides the date you created it. There is already a camera that has built in the MPEG-7 standards for creating basic metadata for the digital images it captures. So we can envision the automatic creation of the attributes we'd need for bibliographic control - description and access.
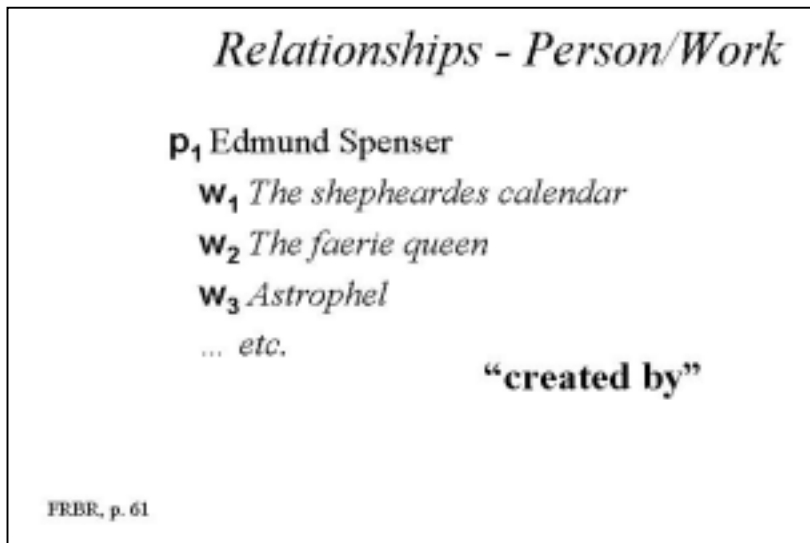
32   Group 2
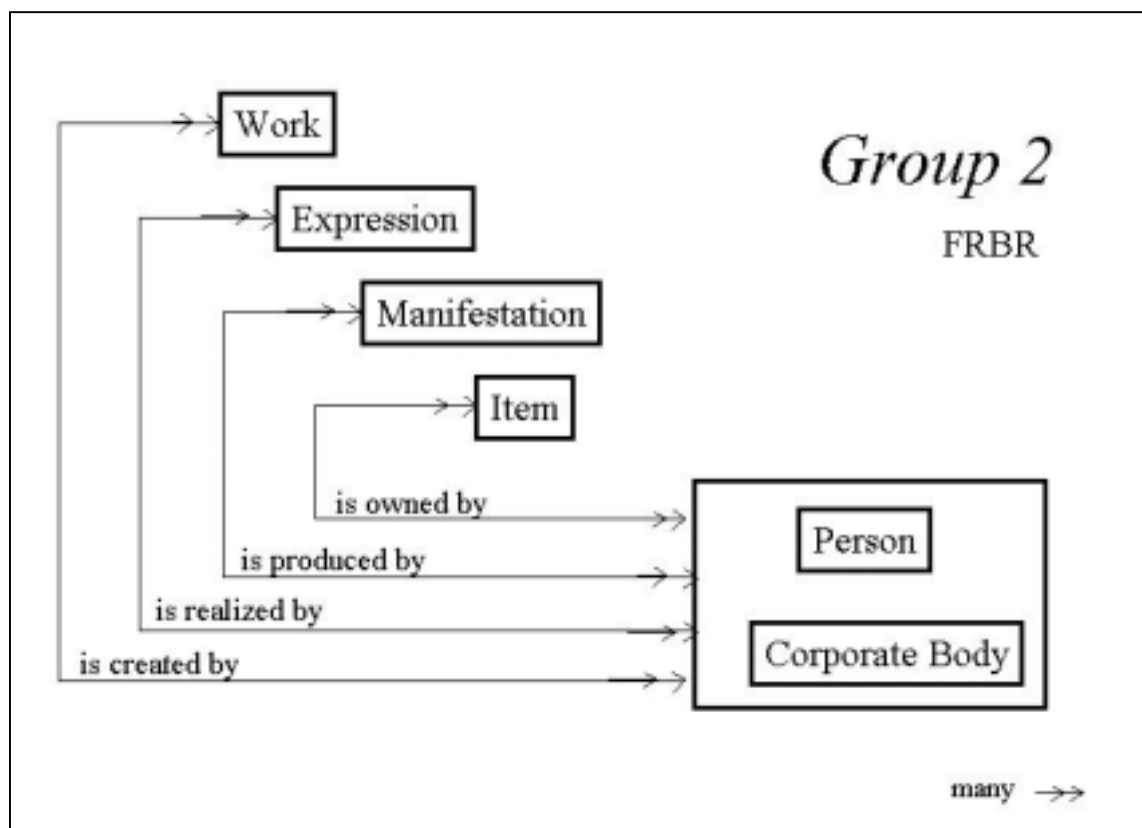
Let me now move on to the Group 2 entities: person and corporate body.
    You see the relationships with the Group 1 entities in this picture:
    work is created by
    expression is realized by
    manifestation is produced by
    item is owned by
    a person or corporate body.
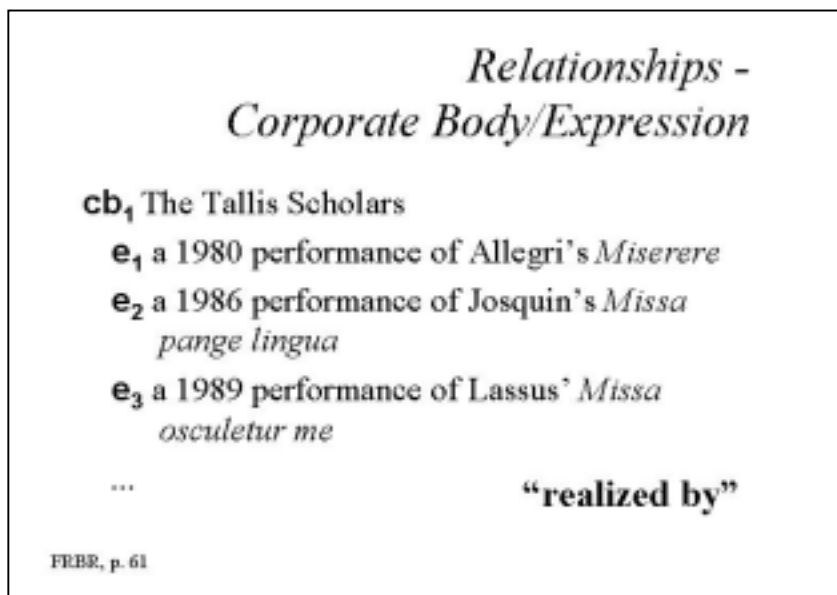
33 Relationships - Person/Work

Relationships - Person/Work

p_1 Edmund Spenser
   w_1 *The shepheardes calendar*
   w_2 *The faerie queen*
   w_3 *Astrophel*
   ... *etc.*

"created by"

FRBR, p. 61

A "Created by" relationship connects a work to a person or corporate body responsible for the creation of the intellectual or artistic content of the work.

This link serves to collocate all the works of a single person or corporate body. For example, person, Edmund Spenser is in a "created by" relationship to his works.

34 Relationships - Corporate Body/Expression

Relationships -
Corporate Body/Expression

cb_1 The Tallis Scholars
   e_1 a 1980 performance of Allegri's *Miserere*
   e_2 a 1986 performance of Josquin's *Missa pange lingua*
   e_3 a 1989 performance of Lassus' *Missa osculetur me*
   ...

"realized by"

FRBR, p. 61

A "Realized by" relationship links an expression with a person or corporate body responsible for the realization of a work. Here's where we see the difference between the work and expression.

A person or corporate body responsible for the expression of a work is responsible for the specifics of the intellectual or artistic realization or execution of the expression. The idea of the content of the work may have been created by someone else.

This link serves to collocate all the expressions of a single person or corporate body.

35 Relationships - Corporate Body/Manifestation

Relationships -
Corporate Body/Manifestation

cb₁ Coach House Press

   m₁ the 1965 publication by Coach House Press of Wayne Clifford's *Man in a window*

   m₂ the 1966 publication by Coach House Press of Joe Rosenblatt's *The LSD Leacock*

   m₃ the 1966 publication by Coach House Press of Henry Beissel's *New wings for Icarus*

   ...

                            "produced by"

FRBR, p. 62

A "Produced by" relationship links a manifestation with a person or corporate body responsible for the publication, distribution, manufacture, or fabrication of the manifestation.

This "produced by" link serves to collocate all the manifestations produced or disseminated by a single person or corporate body.

In the current AACR cataloging rules, we take the form of name for the producer as it is transcribed from the chief source of information and do not try to control that form. However, the French in their rules <u>do</u> control the names of publishers…   This may need re-examining.

36   Relationships - Corporate Body/Item

Relationships -
Corporate Body/Item

cb₁ Princeton University Library

   i₁ a copy of the "Penkill Proofs" of D.G. Rossetti's *Poems* printed in August 1869, with manuscript annotations by the author

   i₂ a copy of the "A Proofs" of D.G. Rossetti's *Poems* printed in September 1869, with manuscript annotations by the author
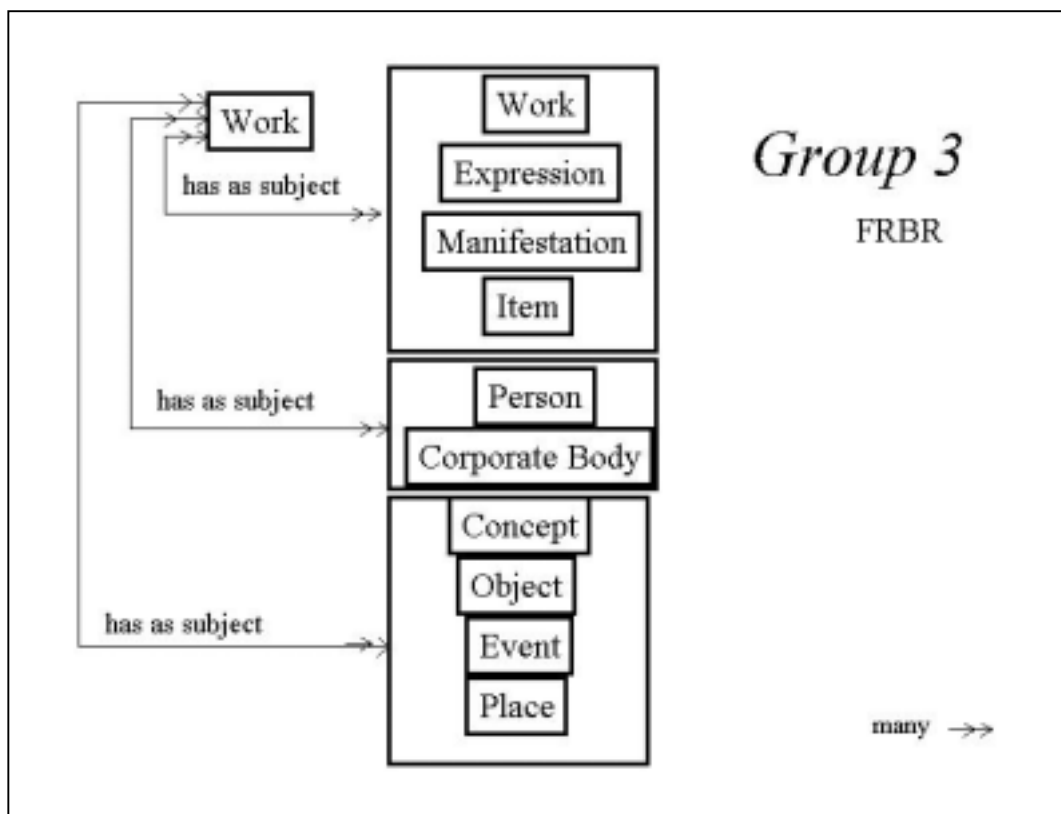
   ...

                            "owned by"

FRBR, p. 62

An "Owned by" relationship links an item with a person or corporate body that is the owner or custodian of the item.

This link serves to collocate all the items held by a single person or corporate body.
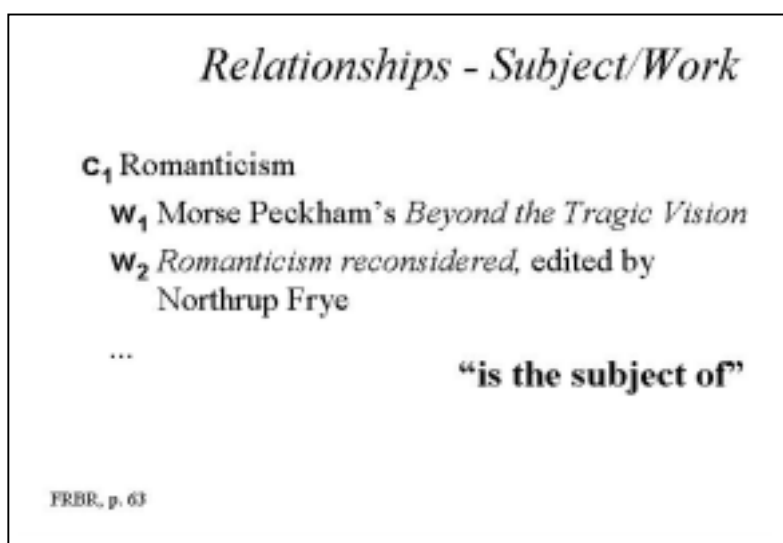
37   Group 3

Group 3 entities, introduce all the entities that can be the subject of works:

> concept
> object
> event
> place
> and the Group 1 and Group 2 entities.

> A work can be about another work or about a person, etc.

38   Relationships - Subject/Work

Any of the entities in the conceptual model including 'work' itself, may be the subject of a

work. That is a work may be about a concept, an object, an event, a place, a person, a corporate body, or an expression, a manifestation, an item, or another work.. This link serves to collocate all the works relevant to that subject.

39 "User Tasks" - FRBR

"User Tasks" - FRBR

- Find
- Identify
- Select
- Obtain

- Relate
- Attribute Royalties to
- Preserve
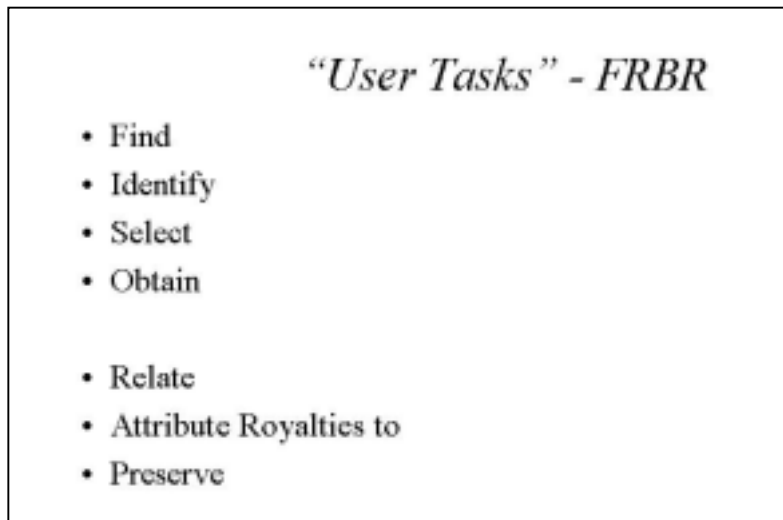
FRBR also mentions user tasks, to

Find an entity or entities in a database using attributes or relationships
Identify - to confirm that the entity found corresponds to the entity sought
Select - to choose an entity meeting the user requirements for content, physical format, etc.
Obtain - to acquire an entity or to access an item

And FRBR describes individual elements or attributes, indicating how each contributes to achieving each task.

Today we might expand the use of FRBR to the rights management or preservation domains and add other tasks, like *attributing royalties to* or *preserving* or a task to *relate* - that is show the relationships or perhaps the family of works or expressions or manifestations or items or any combination of the above in displays.


40 P. H. Jφrgensen *FRBR & RDF* (Rome Nov. 14, 2001)

So how would FRBR look if we mapped the relationships among the entities in the various groups? This is an example from Denmark's VisualCat, recently described by Poul Jørgensen of the Danish Bibliographic Center. It shows works, expressions, persons, and subject in a system built on the FRBR model.

The work Hamlet is linked to an associated work that is an adaptation of it as well as to expressions of it in the form of translations into Danish. That translation (expression) is itself a part of another expression. The work Hamlet also has the subject of Elsinore (a place) and has the author, Shakespeare (person).
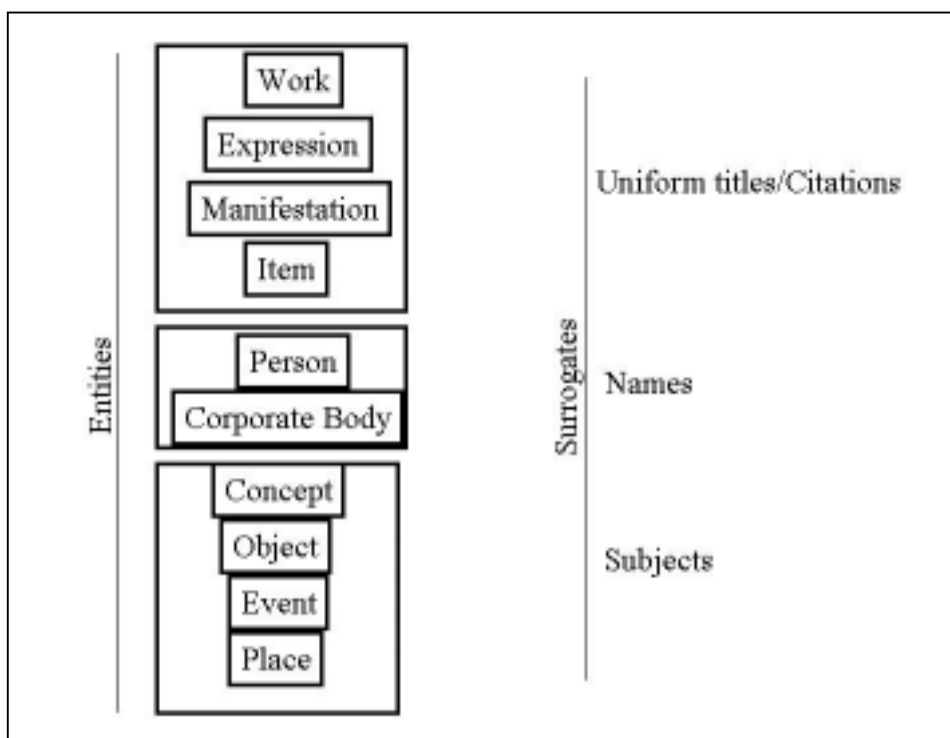
P. H. Jørgensen *FRBR & RDF* (Rome Nov. 14, 2001)
RDF FRBR relations
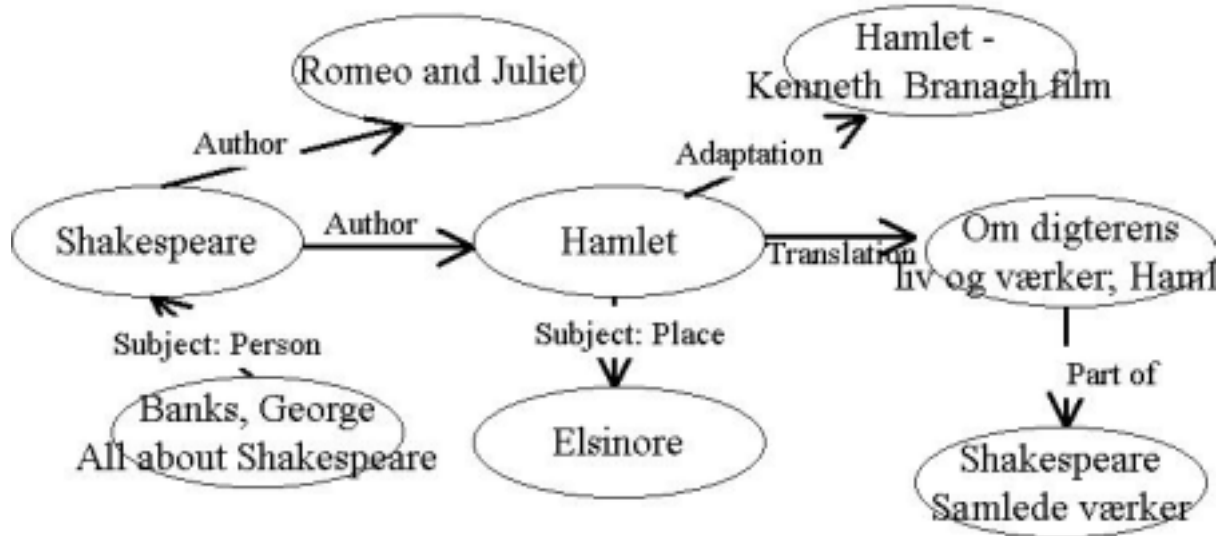
FRBR Relations (Subject, Author, Adaptation,
Translation, Part-of) between Objects (Works,
Person and Expression) from VisualCat, (c) Portia 2000

Shakespeare is also the author of many other works and can also be the subject of another work as shown here.

41   Uniform titles/Citations

For Group 2 and Group 3 entities, libraries have devised controlled vocabularies to identify

those entities by citing their name in a controlled form.

We control the name of a person or corporate body using a controlled or authorized form of name for the person or corporate body.

We control the 'name' of a concept, object, event, or place through controlled vocabularies for the concepts, like the Library of Congress Subject Headings (LCSH), Medical Subject Headings (MeSH), the Art and Architecture Thesaurus (AAT), the Thesaurus or Graphic Materials, etc.

So FRBR is a model that expands to areas of authority control.

42   FRBR related projects, papers, etc

FRBR has already been adopted by several applications throughout the world and we in IFLA hope it will be used by even more in the next few years.   The IFLA Section on Cataloguing is monitoring these activities and hopes to promote further use of this model.   Some examples of applications are shown here:

At the IFLA Conference in Boston this past August, Patrick Le Boeuf gave an excellent paper on FRBR and the current status - I commend his paper to you - it's available on the IFLANET.

IFLA itself is extending the model to authorities and the Working Group on the Functional Requirements for Authority Numbers and Records has recently hired Tom Delsey to continue his work on the Group 2 entities.   Next step will be Group 3 entities.

IFLA
Patrick LeBœuf "FRBR and Further" (presentation at the Open Programme of the IFLA Section on cataloguing, Boston, August 2001)

FRANAR – Tom Delsey hired as consultant to extend the FRBR model to authority entities (Group 2) – next step would be Group 3.   Also need to expand to cover the administrative, structural/technical, preservation and rights management metadata.

ITALY
ECHO Project – Pisa, Italy – Giuseppe Amato and Donatella Castelli
Istituto di Elaborazione dell'Informazione-CNR
Area della Ricerca CNR di Pisa
Via G. Moruzzi, 1 56124 PISA - Italy

DENMARK
Poul Henrik Jørgensen - "RDF, IFLA FRBR and XML in VisualCat client" :
http://www.portia.dk/pubs/VisualCat/RomeER/FrbrRdfRomeNov2001.pdf
http://www.portia.dk/pubs/AccessY2K/VisualCatRdf/VisualCatRdf_files/frame.htm

AUSTRALIA
AustLit: Australian Literature Gateway – Kent Fitch (influenced by the ABC Harmony work and the RDF and Topic Maps work:
http: //www.austlit.edu.au/about/metadata.xml
http://www.austlit.edu.au/about/tehnicalPlatform

Italy's ECHO Project - 1920-1970's Italian newsreels digitization project - where

they created basic metadata and collocated by expression the various manifestations and components of each newsreel.

I already mentioned the VisualCat in Denmark.

And Australia's AustLit project - Australian Literature Gateway is also another example.   There are others, but this gives you an idea.

FRBR gives us a vocabulary and model that will help us in a global environment to make some of our dreams a reality.

Thank you very much for your attention.