Intellectual Access & The Organization of Information

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Outline

- Definitions, Assumptions, Limitations
- What are Information Environments?
- The Roles We Play
- Knowledge Organization (KO)
- The Cataloging/Metadata Process
- Metadata – standards, types, initiatives
- Q & A; Discussion; Resources

Definitions - Intellectual Access

- Intellectual access goal is to help users
  - Discover & manage information
    - Information resources (Books, Artifacts, Data)
- Bibliographic control
  - Descriptive cataloging
  - Subject analysis
  - Authority control
- Information Lifecycle

Definitions – Org. of Information

- Org. information for retrieval; enable intellectual access for ***USE***
- Key concepts:
  - Metadata: Structured description of an object (resource) or collection of objects
  - Representation – surrogate records
- Outcomes/Products:
  - Catalogs, Indexes, Bibliographies, Databases

Past Assumptions & Limitations

- Knowledge is recorded only in the print format
- Collection Development focus:
  - Books, articles, printed materials (libraries)
  - Artifacts, works of art (museums, art galleries)
  - Collections, records, papers (Archives)
  - Bills, invoices, memos, expertise (Accounting, Management information systems)
- 'Scholarly information' – product of scholarly communication
- Intellectual property law (fair use, copyright)

Definitions – Info. Environments

- Libraries, Archives, Museums
  - Library of Congress; American Memory
  - American Museum of Natural History
  - Lessons Learned – National Digital Library Competition
    - Use of existing bibliographic descriptions
    - Additional descriptive & other information is needed for intellectual access and administrative control (scientific taxonomies & terminology)
    - American Environmental Photographs Collection

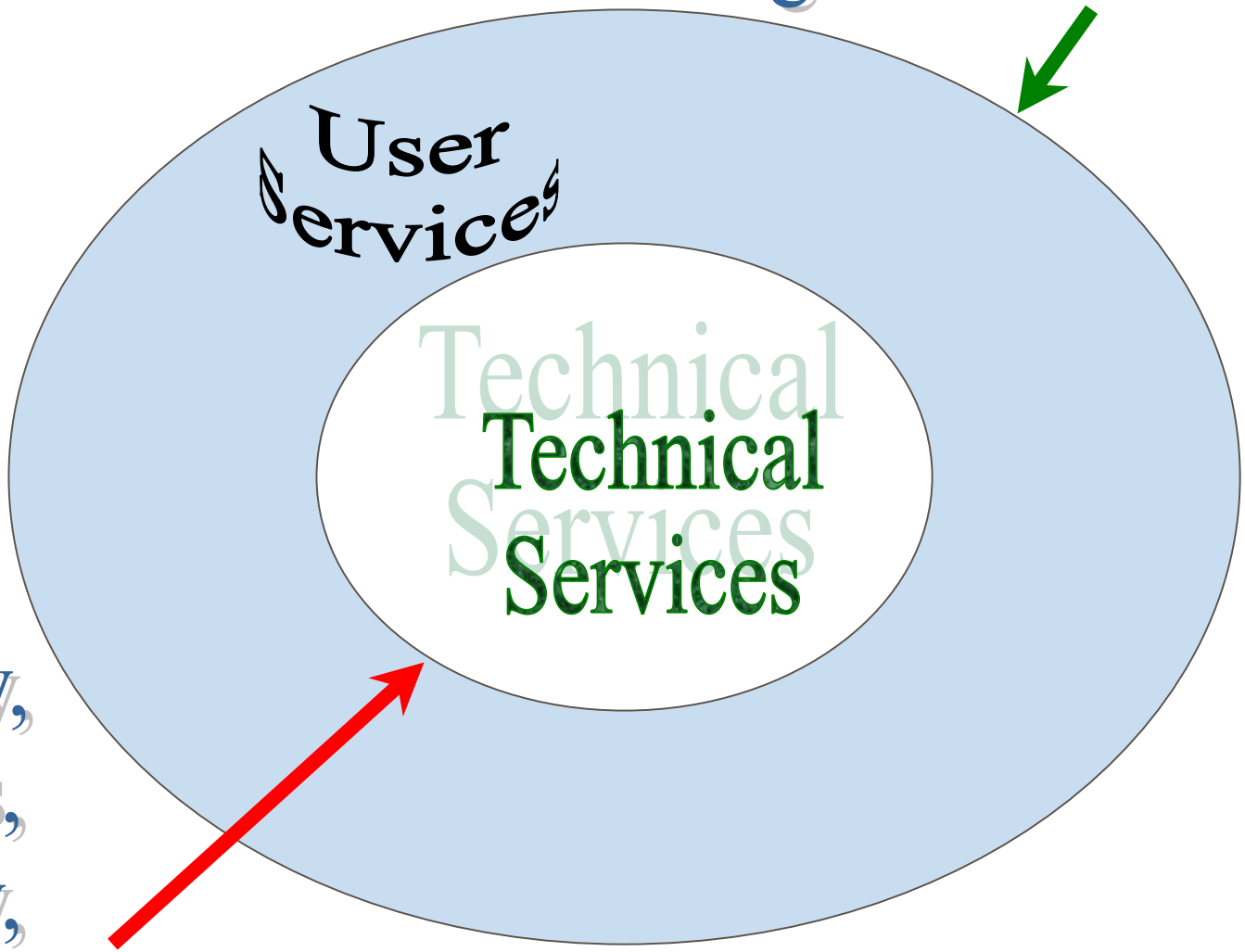
New Information Environments

- Indexing & Abstracting services
- The WWW, Digital Libraries, Virtual Libraries, Collaboratories, Repositories,
- Proliferation of formats (print, digital)
- Rapid advances in Information Technology
- Information ≠ Knowledge
- Lifelong Learning, Security, Privacy
- Convergence in electronic information

Use/User Needs

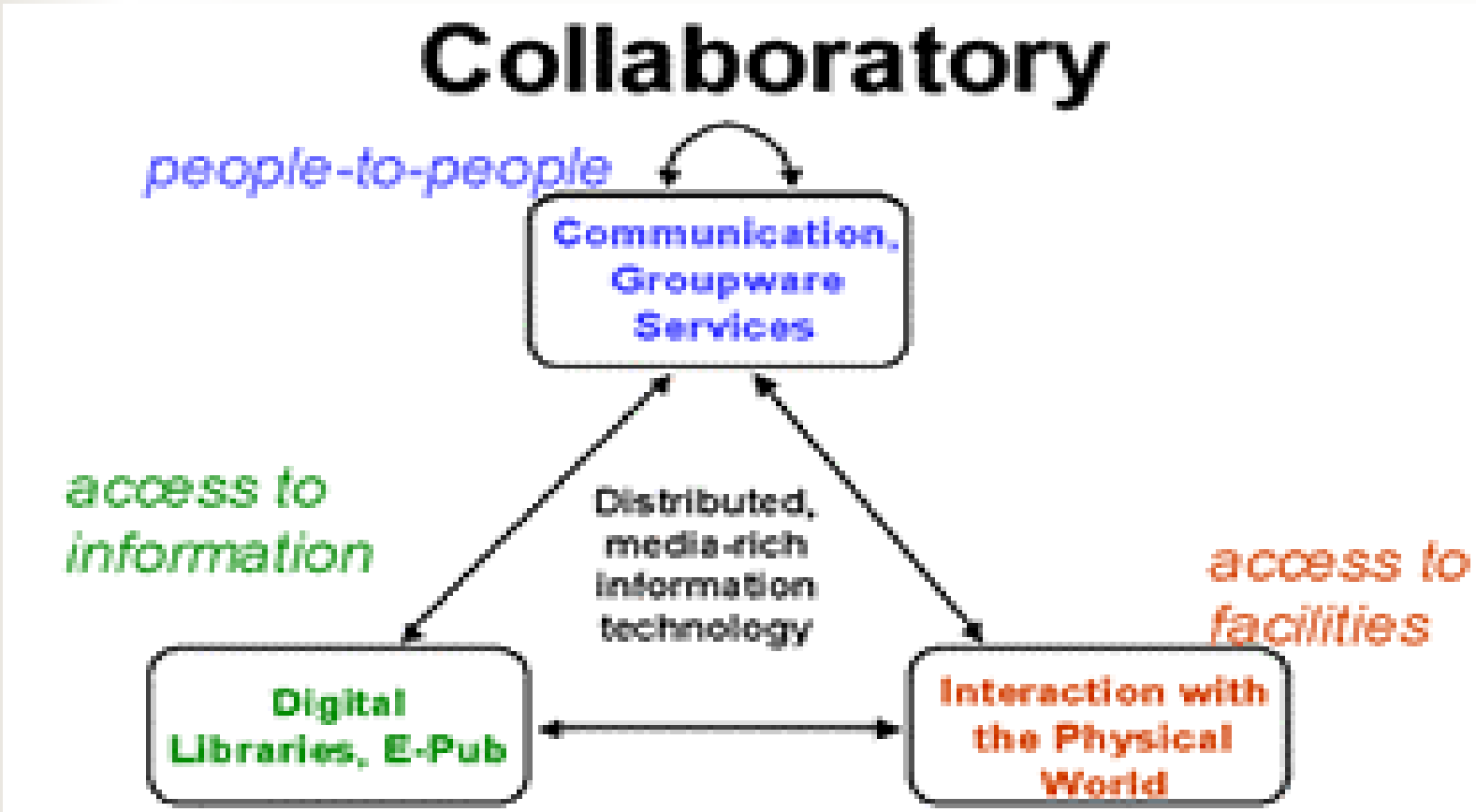
Information Seeking Behaviors

Library



Psychology,
Linguistics,
Philosophy,
Computer Science

Collaboratory



Source: http://www.scienceofcollaboratories.org/

New Information Learning Environments

- Google: http://www.google.com/
- Xrefer: http://www.xrefer.com
- Atomica: http://www.atomica.com
- Perseus Digital Library
- Science of Collaboratories
- Places where information organization skills come in handy!!

The Roles We Play

- Catalog Librarian
- Metadata Librarian
- Database Manager
- Information Architect
- Indexer
- Web Designer
- Knowledge Manager (see 08/14 Chronicle article)
- Information Designer

LIS

Knowledge Organization

IT

IS

Indexing

Cataloging

MIS

Information Architecture

Knowledge Management

Knowledge Representation

CS

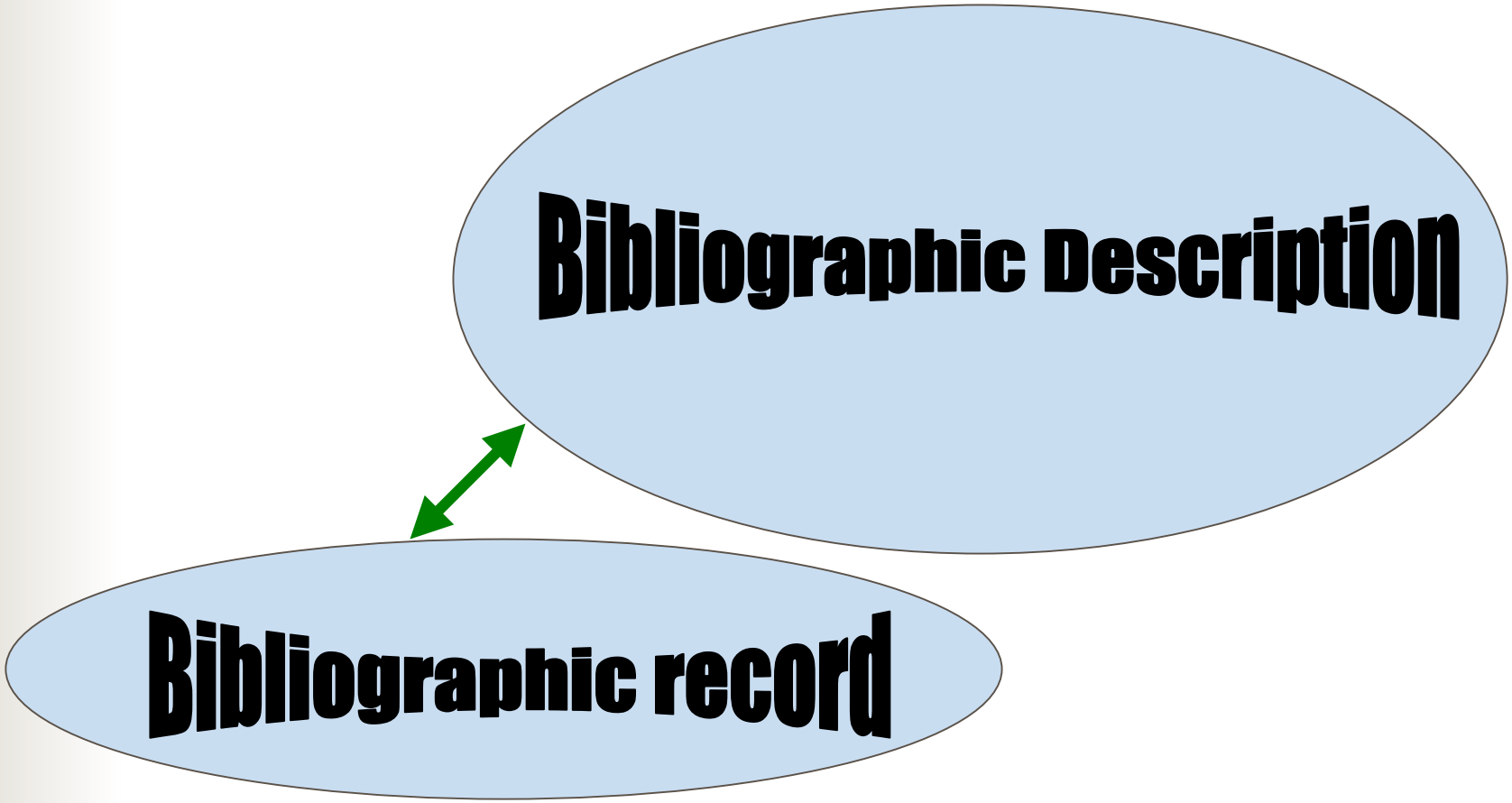
KO – In brief

- Processes:
  - Cataloging & Classification
  - Indexing & Abstracting
- Methods (theory/practice in parenthesis):
  - Metadata (bibliographic description; codes & standards)
  - Classification (Facet theory, Hierarchical classification)
  - Controlled Vocabularies (semantic & syntactic relationships)
  - Tools: Indexes, Databases (data modeling)
- Technologies:
  - IT (relational databases, search engines, interfaces)

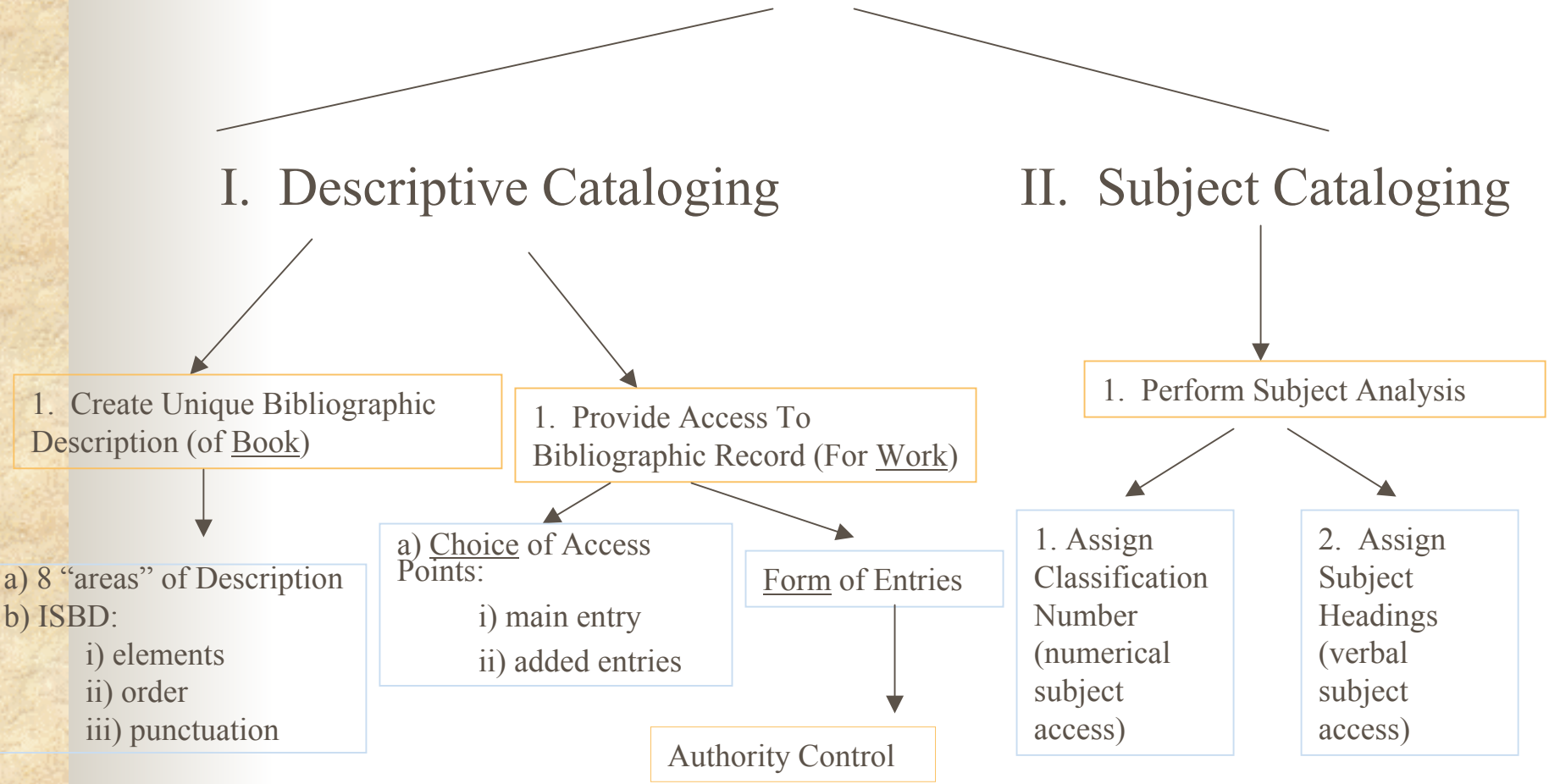
Metadata - Objectives

- Identifying (Digital Identification)
  - Validation
  - Indicate Authority
- Finding (Resource Discovery)
- Collocating (Organizing)
- Facilitate Interoperability
- Support Archiving and Preservation
  - Track lineage

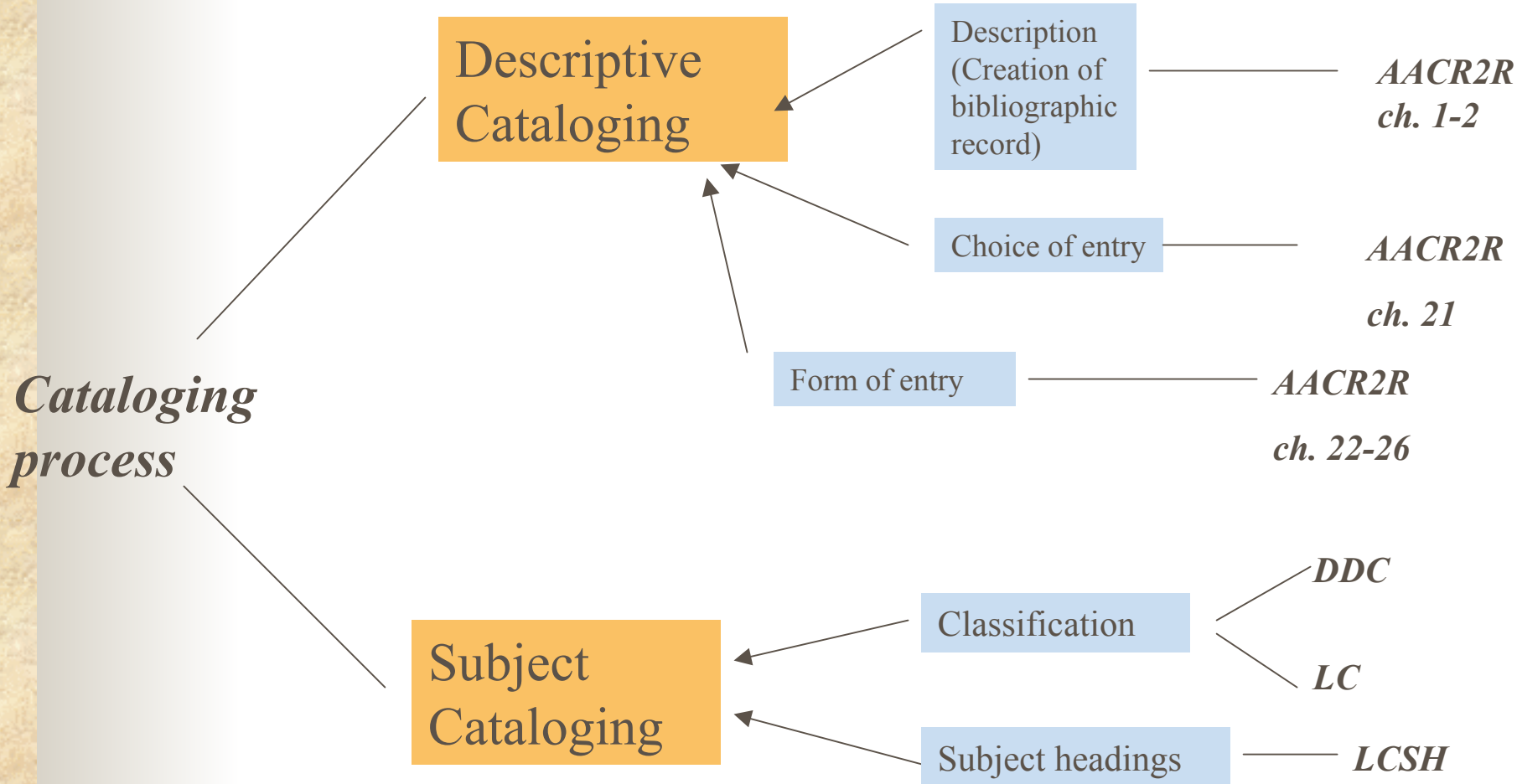
The Cataloging Process (modernized/simplified)



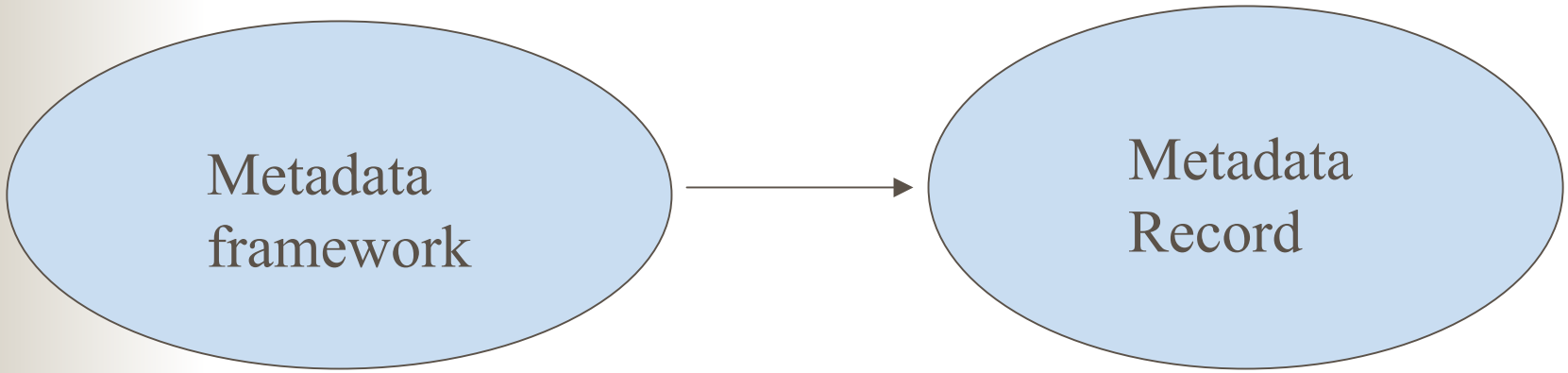
The Cataloging Process



The Cataloging Process



The Metadata Process



Content standard – Conceptual (elements of description)
Encoding standard – Container
Rules – embedded or external
Data – Controlled, vocabularies or free-text
Technology – XML, HTML, SGML

Metadata Standards

- MARC (Machine Readable Cataloging)
- Dublin Core (DC)
- Global Information Locator Service (GILS)
- Encoded Archival Description (EAD)
- Content Standard Digital GeoSpatial Metadata (CSDGM)
- Learning Object Metadata (LOM)
- C Descriptions for Works of Art (CDWA)

Metadata Initiatives

- Dublin Core Metadata Initiative (DC)
- Library of Congress (LOC)
- Federal Geographic Data Committee (FGDC)
- IEEE Learning Technologies Steering Committee

Types of Metadata

- Descriptive (cataloging)
  - Purpose: Discovery, Identification
  - Elements: Title, Abstract, Author, Keywords

Types of Metadata (cont.)

- Administrative metadata:
  - Purpose: Physical Control, Inventory
  - Examples:
    - Rights Management (terms and conditions)
      - Purpose: Intellectual property rights
      - Element: Copyright
    - Acquisition information

Types of Metadata (contd.)

- Structural Metadata
  - Purpose: How objects are put together, how pages are ordered to put together chapters
    - Linkage or relationships

Types of Metadata (contd.)

- Use
  - Type of use
    - Examples: intended audience, level of audience
- Technical
  - Technical Format
    - Examples: Hardware, Software, Digitization information (Compression ratio)

Putting Just Metadata Together

- Which standard should you choose?
  - Decision points:
    - User needs (who are your users and what are their needs and behaviors; this includes metadata creators)
    - Granularity (what is the unit of analysis and description)
    - Metadata Storage (embedded or separate?)
  - Guidelines for selection (source: Duval et al):
    - Metadata Modularity
    - Metadata Extensibility
    - Metadata Interoperability
    - Metadata Refinement

Recent Trends

- Library of Congress
  - METS – Metadata Encoding and Transfer syntax
  - MODS – Metadata Object Description Schema
  - XML Schemas

Q & A

- Q: Will it help to take other courses prior to IRLS 501?
- A: IRLS 401/501is meant to be an entry level course; taking 500 or 504 will provide background perspectives about 'information' and 'libraries' but is not required. The 501 content is considered difficult probably because it requires attention to detail, relies on technical (systems, IT) understanding, mastery of definitions and terminology (huge number of abbreviations!!), and is an overview of an immense area of study and practice. A good background or interest in IT is very helpful. However, in terms of difficulty, it really is no different from other graduate courses. ☺

Resources

- LC21: A Digital Strategy for the Library of Congress. 2000.
  - http://books.nap.edu/books/0309071445/html/122.html

  http://books.nap.edu/html/lc21/
- Larson, Ray. R. Introduction to Organization: History of Cataloging Codes.
  - http://www.sims.berkeley.edu/academics/courses/is245/f98/Lecture3/
- Williams, Bob V. History of Information Science & Technology.
  - http://www.libsci.sc.edu/bob/istindex.htm

Resources

- Coleman, A. Interdisciplinarity: The road ahead for education in digital libraries. D-Lib Magazine.
  - http://www.dlib.org/dlib/july02/coleman/07coleman.html
  - Describes the new Knowledge Organization track at SIRLS. Also provides extensive references to the history and merger of LS & IS into LIS.
- Glossary of Library & Information Systems.
  - http://tiger.coe.missouri.edu/~is334/projects/Project_LIS/default.html

Other URLS (embedded or mentioned)

- Academic librarian shortage. http://chronicle.com/jobs/2002/08/2002081401c.htm
- Metadata Principles & Practicalities (Duval et al): http://www.dlib.org/dlib/april02/weibel/04weibel.html
- Library of Congress. http://locweb.loc.gov/
- Digital Library of Congo Expedition, American Museum of Natural History, http://diglib1.amnh.org/
- Weblogs – ASC Online
  http://radio.weblogs.com/0109575
  http://radio.weblogs.com/0109575/2002/06/12.html

DLIST

- DLIST is Digital Library of Information Science & Technology
  - It is a SIRLS initiative
  - Please visit DLIST (an eprint repository) and if interested in helping contact Paul Bracke
  - URL: http://dlist.sir.arizona.edu/

The End!!!
Thank You!!!