

LIS 512: Introduction to Knowledge Organisation

Introduction to Course and History of Knowledge Organisation

Margaret Kipp

margaret.kipp@gmail.com

<http://myweb.liu.edu/~mkipp/>

Course Resources

- Resources:

- Website: <http://myweb.liu.edu/~mkippp/512/>

- Mailing List: to be announced

- Moodle: <http://liu.mrooms.org/>

- Web Browser: Not all tools work with Safari, use Firefox instead

- Textbook:

- Taylor, Arlene G. 2008. The Organization of Information. 3rd ed. Westport, Conn. Libraries Unlimited. (2nd edition is also acceptable)

Office Hours and Contact Information

- Office Hours:

- Before and after class

- via Instant Messaging or Moodle

- Contact Information:

- Email: margaret.kipp@gmail.com (best)

- ICQ: 12974328

- MSN: margaretk_3000@hotmail.com

- Yahoo: meikipp@yahoo.com

Introduction to the Course

- This course is an introduction to the principles and practices of knowledge organisation (KO)
- Knowledge organisation is a field of inquiry within information science that examines the nature and order of knowledge
- principles of KO are used in other fields as well notably biology where living things are divided into taxonomies of related entities

Course Organisation

- The course is organised into major topics in knowledge organisation from library cataloguing to the semantic web and social tagging.
- 4 major sections:
 - Introduction and Descriptive Cataloguing (1-4)
 - Subject Analysis and Authority Control (5-7)
 - Classification (9-11)
 - Trends in Knowledge Organisation (11-14)

Major Topics

- History of Knowledge Organisation and Information Retrieval
- Metadata Concepts
- Description Standards and Principles (incl. Access Points)
- Tools and Applications for Description (OCLC, AACR2, Dublin Core, etc)
- Standards and Protocols
- Subject Analysis and Authority Control

Major Topics 2

- Indexing and Abstracting; Controlled Vocabularies and Thesaurii
- Categorisation and Classification
- Classification Systems and Schemes (DDC, LCC, etc)
- Information Organisation on the Web
- Information Visualisation
- Conceptual Bibliographic Structures
- Trends in Knowledge Organisation

Assessments

- There are 7 short assignments and 2 projects
- The digital library project is a group project. The tagging project may also be done in a group, with the proviso that only one assignment should be turned in per group
- All assignments may be submitted by email or in class
- No late penalties, but all assignments must be in by May 5th

Assignments

1. Basic Searching (OPAC and Google)
2. Description and Encoding
3. Using OCLC and Library Thing
4. Authority Control and Subject Analysis
5. Advanced Searching (Pubmed)
6. Classification
7. Web Site Analysis

Projects

- Digital Library Project

- <http://myweb.liu.edu/~mkipp/512/512dlassign.html>

- Tagging Project

- <http://myweb.liu.edu/~mkipp/512/512taggingassign.html>

History of Knowledge Organisation

Notes and Readings

- Readings:

- Taylor, Arlene G. 2008. The Organization of Information. 3rd ed. Westport, Conn. Libraries Unlimited. Chapters 1-3 (or chapters 1-3 in 2nd edition)

- Course Notes:

- <http://myweb.liu.edu/~mkipp/512/512notes-intro.html>

- Assignment:

- Basic Searching (OPAC and Web)

- <http://myweb.liu.edu/~mkipp/512/512assign-basicsearch.html>

Introducing and Defining Knowledge Organisation

- Knowledge Organisation (KO) is a field of inquiry within information science that examines the nature and order of knowledge
- KO is directly related to another important field in information science called information retrieval
- Information Retrieval (IR) deals with the ability to locate information

Defining KO 2

- Information retrieval relies heavily on some form of knowledge organisation
- Some KO is created when information is stored (e.g. Classification codes, subject headings)
- Other KO is created on the fly e.g. computer information retrieval creates an organisation based on aspects of the documents being searched (e.g. Frequency of use of your search terms in the document)

Defining KO 3

- Everything from the human genome to groceries, with the library standing somewhere in between, provides an example of knowledge that must be accessed, yet for which the order might not be apparent.
- Navigating natural orders, and creating and imposing useful orders, are the material of this course.

KO and Bibliographic Control

- KO is also an activity or a set of techniques
- In library and information science, KO is often referred to as bibliographic control
- Bibliographic control means the organisation of books or documents
- KO is a more general term covering many other possible artifacts outside librarianship

Bibliographic Control

- Bibliographic control:
- application of knowledge organization in which librarians control the arrangement of certain artifacts (documents, books, journals, maps, sound, film, etc.) and their intellectual content for retrieval
- allows users to control retrieval of necessary information

Bibliographic Control 2

- "The process of creating, storing, manipulating, and retrieving bibliographic data." -- Smiraglia 1987
- Bibliographic data are elements such as titles, names, and terms that can be found on artifacts of recorded knowledge
- These data occur naturally in documents and other artifacts

**HOW LIBRARIES
MUST COMPLY
WITH THE AMERICANS
WITH DISABILITIES ACT
(ADA)**

*Compiled and edited by
Donald D. Foos and Nancy C. Pack*

ORYX PRESS
1992

The rare Arabian Oryx is believed to have inspired the myth of the unicorn. This desert antelope became virtually extinct in the early 1960s. At that time several groups of international conservationists arranged to have 9 animals sent to the Phoenix Zoo to be the nucleus of a captive breeding herd. Today the Oryx population is nearly 800, and over 400 have been returned to reserves in the Middle East.

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Preliminaries of a Book

- Preliminaries are all of the things that appear before the actual text begins; in this case we have a title page, the verso (Latin for "reverse" or "backside") of the title page, and the first page of the table of contents
- Contains: title, publisher, date, statement of responsibility, etc.
- Gain a sense of topics from the table of contents.

Bibliographic Data

- Title, statement of responsibility, date, etc are bibliographic data (or metadata) that can be controlled to make this book accessible to users
- This data is transcribed into a standardised format for use in library catalogues
- This transcription creates a surrogate for the item, provides information that may help in identifying and locating the item

Surrogates

- A surrogate is a representation of an item and not the item itself
- Bibliographic data as a surrogate for the item allows the item to be filed in multiple places – by author name, by subject, under multiple subjects
- This was essential before computers and is still important for items which are not freely available on the web and for search

Bibliographic Control revisited

- Bibliographic control is "the art or skill of organizing knowledge for retrieval" – Svenonius 1981
- KO requires knowledge of which parts are essential for a surrogate and the skill to be able to locate them
- How did you know which part was the title?
- Also, which subjects are important? How should they be described?

Knowledge Organisation revisited

- "The organization of knowledge as it concerns: a) the social division of labor (disciplines, domains, etc.), b) social institutions (governments, universities, etc.), c) languages and symbolic meanings, d) conceptual systems and theories, and e) literatures and genres. Principal actors are knowledge producers, users, and intermediaries."
-- Hjørland 2003

Field of KO

- knowledge organization is much, much broader than simply bibliographic control
- Knowledge organization is concerned with understanding how knowledge is generated and used
- Such knowledge helps us create and employ more sophisticated approaches to information retrieval

Role of KO

- KO enhances the process of communication between the creator and consumer
- The process is circular: recorded knowledge is discovered through bibliographic control and becomes information, information feeds the process of knowledge building, and newly created knowledge is recorded

History of Knowledge Organisation

- Knowledge organization, and bibliographic control as a part of it, has a long history
- Since the development of the printing press recorded knowledge has grown at a rapid rate, but this has become almost exponential since the widespread adoption of computers

Influences on Development of KO

- There have been two major influences:
- Development of new technologies
 - Writing
 - Printing press
 - Distance communication
 - Computers
- Quest for knowledge
 - Rapid pace of scientific or other discoveries

Five Main Stages in History of KO

- Antiquity: Lists
- Middle ages: Inventories
- Seventeenth century: Finding lists
- Nineteenth century: Collocating devices
- Twentieth century: Automation and Codification
- Each represents a turning point that reflects changing societal information demands and the development of new technologies.

KO by Computer

- Automatic indexing
 - Count the number of times a term appears in the document
- Cluster analysis
 - Group material with similar term usage
- Citation Analysis
 - Group items which cite each other
- Topic Maps
 - Group related topics

Distributed User Classification

- Social Tagging
- Manual indexing by large groups of people
 - e.g. <http://del.icio.us>
- Tag cloud gives visual representation of the extent of the collection, including coverage (all terms) and depth (large terms means more uses of a tag)

KO Examples

- Description of a mediaeval catalogue

–<http://www.bartleby.com/212/1517.html>

- Book Catalogue

–<http://www.historicpages.com/texts/refbooks.htm>

- Card Catalogue

–<http://libweb.princeton.edu/catalogs/supplementary.php>

KO Examples 2

- OPAC (Online Public Access Catalogue)

–<http://library.liu.edu/>

- Journal Database

–<http://www.ncbi.nlm.nih.gov/sites/entrez>

- Search Engine

–<http://www.google.com>

- Citation/Relatedness Graph

–<http://www.touchgraph.com/TGGoogleBrowser.html>

KO Examples 3

- Clustering

- <http://www.clusty.com/>

- Visual Thesaurus

- <http://www.aquabrowser.org/>

- Social Bookmarking

- <http://www.citeulike.org/>

- <http://www.librarything.com/>

To Do

- sign up for mailing list
 - enter email and a password
- sign up to use Moodle
 - <http://liu.mrooms.org/>
 - enrolment key: _____
 - enter email address and a password
 - (note to Mac users: use Firefox rather than Safari, Safari also does not work well with cataloguing tools we will use)