

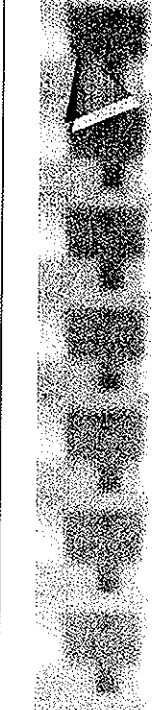


Electronic Publications and Libraries -- Issues to Consider

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Overview

- **Acquiring E-Publications:**
 - Information about new e-publications
 - Selection criteria
 - Obtaining e-publications
- **Processing E-Publications:**
 - Cataloging
 - Locating
 - Archiving
- **Using E-Publications:**
 - Identifying e-publications
 - Announcing and presenting them
 - Citing e-publications

Uta Grothkopf: Electronic Publications and Libraries, LISIA III, April 21-24, 1998

Electronic publications change vastly how documents are
- acquired
- processed and
- used
in libraries.

In this presentation, I will give an overview over issues that librarians should consider when they handle electronic publications. The distinction between acquiring, processing and using publications and the various sub-tasks originates from the print environment. In the digital environment, these areas are highly interdependent and therefore less clearly subdivided. Therefore, this model is somehow artificial when transferred to the digital era. I decided to apply it nonetheless as it shows which areas of library management are affected by electronic publications and how.

Several of the problems I will mention have not yet been solved, and it is hoped that this talk encourages colleagues to actively become involved in finding appropriate answers to open questions.

Aquisition: Information about New E-Publications

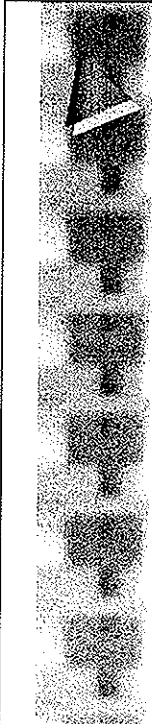
can be obtained from

- **NewJour**
 - list of new journals and newsletters on the Internet
 - <http://gort.ucsd.edu/newjour/>
- **Internet Resources Newsletter**
 - WWW newsletter devoted to describing and linking to Internet resources
 - <http://www.hw.ac.uk/libWWW/irn/>
- **by subscribing to publishers' alerting services**
 - journal publishers: information on new journals as well as new journal issues
 - book shops: new book-like publications
- **through librarians' mailing lists**

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How can we obtain information about new electronic publications? As is the case with print media, there are various options, for instance,

- from NewJour, a list of new journals and newsletters on the Internet. NewJour can be found at <http://gort.ucsd.edu/newjour/>
- from the Internet Resources Newsletter, a WWW newsletter devoted to describing and linking to new Internet resources (available at <http://www.hw.ac.uk/libWWW/irn/>)
- by subscribing to publishers' alerting services. Journal publishers often distribute information about new journals and new journal issues via e-mail; book shops offer alerting services to announce the availability of new book-like electronic publications by customer-specified authors or related to a certain subject area.
- through librarians' mailing lists where new titles often are mentioned or commented on



Aquisition: Selection Criteria

- **Content: similar to print environment**
 - e-journals: peer review system provided by publishers
- **Technical implications**
 - publications usable with standard software (e.g., widely used WWW browsers)
 - no special software required on user's desktop
- **Currency of technical standards**
 - use of Uniform Resource Names
 - inclusion of metadata
 - availability of various formats (HTML, PS, PDF)
 - underlying data in system-independent format (SGML)
- **Accuracy and currency of maintenance**
 - reliability of host
 - date of last update
- **Usage conditions**
 - user-friendly access procedure
 - application of fair use concept
 - essential library functions (e.g., interlibrary loan)
 - access after cancellation

How do we decide which electronic publications we want to “obtain” for our library? Regarding content, our selection criteria for print publications will also be applied to the electronic environment. For e-journals, most publishers guarantee quality control through the well-established peer review system.


In addition to content-related criteria, electronic publications must be judged also according to some additional features, for instance

-- Technical implications: We would prefer if electronic publications could be used with generally available software, e.g., widely used WWW browsers. If special hardware or proprietary software is required on each users desktop, this will result in additional costs.

-- Currency of technical standards: Uniform Resource Names should be used to identify the location of a digital publication rather than relatively short-lived Uniform Resource Locators which easily lead to error and bear no guarantee that future access will be possible. The use of metadata is important for cataloging purposes. Different formats should be available for various purposes (e.g., HTML for browsing and searching, PDF or Postscript for printing). If the underlying data are available in a system-independent format (e.g., SGML), migrating the data to a newer storage device will be much easier.

-- Accuracy and currency of maintenance: Is the host reliable? While we won't have to face the problem of out-of-print publications in the electronic environment, e-pubs nevertheless can become unavailable, if the author or publisher decides to withdraw it from public access. The date of the last update often reveals the currency of a site.

-- Usage conditions: When selecting electronic publications, we should review the usage conditions. Access procedures should be user-friendly and straight-forward. The fair use concept should be respected, so that the publication can be used and reproduced for any personal, research-related or educational purpose. Essential library functions, for instance interlibrary-loan must be permitted. Another important selection criterium is the question whether or not libraries will have access to a publication after cancellation of a subscription.



Aquisition: Obtaining E-Publications

- **Leasing instead of buying material**
 - libraries may be left without anything after a subscription ends
- **Contracts (license agreements) complement or replace general copyright**
- **“Disunion” of users; everybody is responsible for contracts -- read clauses carefully!**
- **Content and language of license agreements**
 - definition of use and users
 - are librarians held responsible for what their users do?
 - use of publication for essential library functions?
 - future access / archiving
- **Sample contracts available at**
 - Liblicense: Licensing digital information
<http://www.library.yale.edu/~llicense/index.shtml>

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We must be aware that “obtaining electronic publications” usually means leasing rather than buying them. As it is the nature of leased material to stay with the owner rather than the temporary user of the material, there is a danger that at the end of a subscription or leasing period, libraries may be left without anything.

The notion of one copyright valid for all users is no longer true. Contracts (so-called license agreements) typically complement or even replace national and international copyright. Both librarians and users must be aware of these changes that lead to a “disunion” of the users of information. Now, every librarian is responsible for the contracts she signs and the prices she pays. We must negotiate contracts ourselves instead of being able to rely on general copyright. Although it is very time-consuming, all clauses of a license agreement should be read carefully.

Before we sign a contract, we should inspect the content and language of the license agreement closely. For instance, attention should be paid to the questions

- how „use“ and „user“ are defined in the contract
- whether librarians will be held responsible for what their users do with the publication
- whether the publication can be used for essential library functions, e.g., interlibrary loan, and whether or not the “fair use” concept is maintained (see also ‚Selection Criteria‘)
- whether or not the contract mentions future access to the publication. Will the publication be archived and if so, who is responsible for archiving?

Sample contracts and other helpful resources are available from the Yale University Library at <http://www.library.yale.edu/~Llicense/index.shtml>

Aquisition: Obtaining E-Publications

(contd.)

- **No longer only one price per publication**
- **Large variety of pricing models will lead to**
 - more flexibility
 - increased responsibility of librarians
 - price decreases / increases
- **Obvious and hidden costs**
 - access fee
 - required tools (hardware / software / Internet access)
 - general infrastructure
 - printing costs shifted to individual institutes
 - additional charges for access to ceased or cancelled titles
- **How can we increase library budgets?**




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There is no longer only one price per publication., but a large variety of pricing models. It can be difficult to keep track of all available options including their advantages and disadvantages and to find out which pricing model is advantageous for whom. For sure, the ongoing changes in the publishing market will lead to more flexibility for all parties involved, so that libraries may have an option to choose between various pricing models for different access conditions (based on the number of simultaneous users, the total number of logins etc.). Access through consortia of libraries seems to be an advantageous solution, as it gives participating libraries access to all journals subscribed to by the consortium at reduced prices. However, some libraries may not be able to join consortia for political or organizational reasons. If participation in a consortium is obligatory, these libraries and their users can be excluded from access to certain publications (example: Academic Press e-journals).

Along with the flexibility also comes an increased responsibility of the individual librarian as we must struggle to find the cheapest and/or most appropriate mode of access for our libraries. It is hoped that finally all these market changes will lead to price decreases. Unfortunately, the contrary has to be expected in many cases as publishers generally raise the prices of the new (i.e., electronic) product compared to the old (print) medium.

The costs involved in electronic publications are not limited to the obvious access fee, be it through subscription rates, on a pay-per-view basis, or through consortia. They also include costs for required tools (hard- and software) that may be necessary to use the publication as well as a reliable and speedy Internet connection. The general infrastructure must be able to keep up with the arising demand. Printing costs typically are shifted to the individual institutes instead of being born by the publishers (on the other hand, the institutes may save some money because scientists don't photocopy as many articles as they did before). Charges involved in accessing ceased or cancelled publications cannot be determined as of today since solutions for archiving electronic publications and future access to them still is very much in flux.

Some of these costs will have to be born by libraries. Unfortunately, it remains an unanswered question how we can increase library budgets in order to meet these costs.



Processing: Cataloging E-Publications

- Electronic publications must be retrievable through well-known information sources (library catalogs!) to be used
- Existing library procedures should be used to create catalog records
- Catalog entries for e-documents must correspond to existing formats (e.g., MARC) and rules (e.g., AACR2)
- They should contain
 - standard bibliographic data equivalent to information on the title page of print media (author, title, publication date etc.)
 - content descriptors (keywords)

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In order to use electronic publications, they must be retrievable through well-known information sources like library catalogs. Existing library procedures should be used to create catalog records. As is the case with print publications, catalog entries for electronic documents must correspond to existing formats (for instance MACHine Readable Cataloging (MARC)) and rules for entering data into the format (e.g., Anglo-American Cataloging Rules).

Electronic publications should contain the standard bibliographic details typically to be found on the title page of print publications (author, title, publication date etc.) as well as descriptions of the content (keywords).

Processing: Cataloging E-Publications

(contd.)

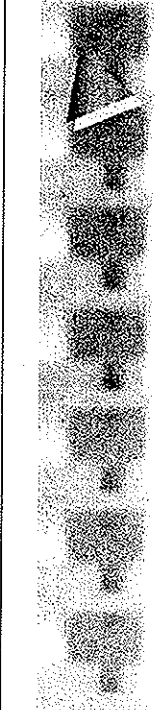
- **In addition to formal and contents-related data:**
 - network address (name)
 - mode of access (WWW, gopher etc.)
 - required tools (hardware, software)
 - computer file characteristics (size, format)
 - access rights and restrictions
 - copyright information
- **Information about information = metadata**
 - example: Dublin Core set of metadata
- **Preparations are being made in order to map MARC and Dublin Core metadata**

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In addition to formal and contents-related data, catalog entries for electronic documents must contain further information, for instance

- the network address (or the network name) of the document
- mode of access (via WWW, via gopher etc.)
- required tools (any hardware or software needed)
- computer file characteristics like the size and format of the file
- access rights and restrictions as well as
- copyright information

This kind of information about information is called metadata. One of the most popular and best-known examples is the Dublin Core set of metadata about which we will hear more later this afternoon. Currently, preparations are being made in order to map MARC and the Dublin Core metadata so that metadata can be included easily in standard library records.



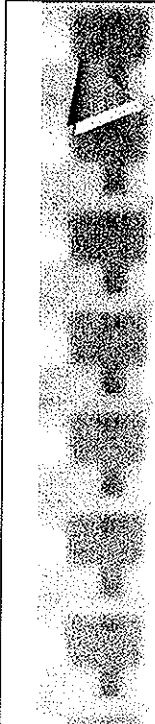
Processing: Locating E-Publications

- **Problem: target develops so quickly**
- **Information about location must be available even if actual network address changes**
- **URLs are too unreliable**
- **Better solution: Uniform Resource Names (URN)**
 - permanent, location-independent names for Web documents
 - based on a central directory and a database to locate the objects contained in the directory
 - name resolvers allow users to retrieve the current network address from the directory
 - address changes are only noted in the directory, not in the name itself

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Locating networked documents can be difficult. The problem is that the target changes or develops so quickly. Information about the location of an electronic publication therefore must be available even if the actual network address of the document changes.

Currently, most Internet resources are located using Uniform Resource Locators (URL) which are very unreliable as even one misspelt character in the address will prevent users from access. A better solution are Uniform Resource Names (URN) which allow permanent, location-independent names to be assigned to electronic documents. Such a system is based on a central directory and a database to locate the objects contained in the directory. Name resolvers allow users to retrieve the current network address of the document from the central directory of addresses. Address changes are only noted in the directory, not in the name itself.



Processing: Archiving E-Publications

- Who, what, where shall e-pubs be archived?
- Archival data must inform users about
 - content (information contained)
 - authenticity (identity)
 - integrity (completeness)
 - context (links within and between documents)
- How to prepare documents today for technology of tomorrow?
 - limited durability of storage media
 - technological obsolescence of reading devices
 - migration to newer storage media
 - documents should be stored in system-independent format
- Future access at moderate costs

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The topic of archiving electronic publications still bears more questions than answers. Up to now, it has not been decided who is responsible for archiving, what exactly shall be archived, and where the archived material shall be stored. As is the case with printed publications, solutions will vary largely in different countries.

Archival data of electronic publications must inform users at least about

- the content of electronic publications (i.e., the information contained)
- its authenticity (i.e., the identity)
- the integrity or completeness
- the context (links within a document and / or between various sources)

Many institutions are trying to find appropriate answers to the question of how we can prepare documents today for the (still unknown) technology of tomorrow. Although we also need to question the durability of currently used storage media, there is a greater danger in the technological obsolescence of the reading devices. As evolving technologies do not necessarily replace previous ones, libraries need to provide all kinds of reading devices, but who provides a microfilm reader or a PC with a 5.25 inch drive in her library today? Migrating documents to newer storage media seems to be a must, and in order to do so, documents should be stored in a system-independent, richly tagged data format.

As archiving electronic publications is a very expensive undertaking, librarians would be relieved if they could be guaranteed that future access to publications will be possible at moderate prices as is now the case in the print environment when libraries are taking care of archiving.



Using Electronic Publications: Identifying them


- **System is needed to uniquely identify digital objects**
- **Digital Object Identifier (DOI)**
 - agreed upon by several U.S. and European publishers
 - links users and owners of information to “facilitate automated digital commerce”
 - name resolver points to the current location of documents
 - DOI provides links to associated data (access rights, prices)
- **First step towards full Electronic Copyright Management System (ECMS)**

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Electronic documents need to be uniquely identifiable, corresponding to the information contained in the ISBN (International Standard Book Number) of paper publications.

Recently, various international scientific publishers and cooperations agreed on using the so-called Digital Object Identifier (DOI). The DOI links users and owners of information in order to “facilitate automated digital commerce”. A name resolver points to the current location of requested documents. In addition, the Digital Object Identifier provides links to associated data, for instance access rights and prices.

DOI are a first important step towards fully functional Electronic Copyright Management Systems (ECMS) which will allow copyright holders to closely monitor the use of their publications.



Using Electronic Publications: Identifying them (contd.)

- **Arising problems:**

- **Authenticity**

- what you see is what you requested
 - digital watermarking, digital fingerprinting etc.

- **Integrity**

- no loss of data after migration (archiving)
 - no fraud

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Electronic Copyright Management Systems are of particular interest to the publishers. ECMS will allow them to monitor the usage of the publications. The users, in contrast, are more interested in the availability of means to prove the authenticity (identity) of documents. Users must be assured that what they see is what they requested. Techniques that help tracing who created, used or modified a document, like digital watermarking and digital fingerprinting, are becoming more and more important.

Identifying electronic documents includes also information about the integrity of the publications. Digital information can be changed and corrupted easily, by accident or willingly. Mechanisms are necessary to prove documents are still intact after they were moved to a new storage medium during "migration", e.g., for archival purposes, as well as to trace fraud or any other kind of unwanted modifications..

Using Electronic Publications: Announcing and presenting them

- **Library's presence on WWW**
 - Electronic publications should be accessible
 - through the library catalog and / or
 - from the library's WWW pages
- **Access to individual titles rather than all titles of a given publisher or journal agent**
- **Targetted distribution of information to users (alerting services)**
- **User expectations:**
 - information resources are interconnected
 - links are stable and fast
- **Librarians should have the opportunity to get statistics from publishers to monitor actual usage**

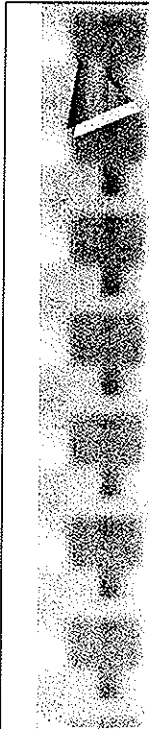
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How can we announce and present electronic publications to our users? Of course, our users must be able to access them somehow, preferably through the library's catalog or through the library's World Wide Web pages. In order to do so, it is important that libraries create their own pages and become present on the Web.

Scientists hardly care about where a publication comes from, but typically prefer to lookup individual publications (journals) by their titles. Therefore, giving users access to e-publications after having retrieved them in the library catalog seems to be a better solution than offering access by publisher or pointing to a journal agent's Web page. Who of our users will know exactly which publishers publishes the journal he is interested in?

We are used to routing particular journal issues to interested users. In a similar way, we can distribute selected information about new electronic journal issues, for instance by sending contents tables via e-mail.

In this context, we should mention that the most interesting publications are useless if they are not accessed by users. Today, users expect that information resources are interconnected, and that the links are stable and fast. Should these expectations not be met for one reason or another, the money we spend on making a resource available may be better spent differently. Therefore, librarians should have access to statistics to be able to monitor the actual usage of the source.



Using Electronic Publications: Citing them

- **Not yet fully agreed-upon system**
- **Useful sites:**
 - IFLA Collection of Citation Guides
<http://www.nlc-bnc.ca/ifla//training/citation/citing.htm>
 - International Standard ISO 690-2:
Information and Documentation - Bibliographic References
<http://www.nlc-bnc.ca/iso/tc49sc9/standard/690-2e.htm>
 - Bibliographic formats for citing electronic information
(based on the book by Xia Li and Nancy B. Crane:
Electronic styles)
<http://www.uvm.edu/~ncrane/estyles/>

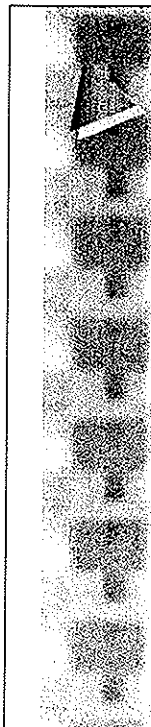
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Librarians often are asked how electronic publications should be cited. As of today, a single, widely agreed-upon system for citing electronic publications is not yet available. Some useful sites that provide information are the following:

The IFLA Collection of Citation Guides serves as a clearinghouse by providing access to further sites of interest.

ISO Standard 690-2 deals specifically with Information and Documentation -- Bibliographic References

The text Bibliographic formats for citing electronic information is based on the "Electronic styles" book by Xia Li and Nancy B. Crane.



Conclusion

- **Know what you want**
 - E-publications need other solutions than printed documents
 - One solution does not suite all libraries
- **Share ideas with your colleagues**
 - Find out how your colleagues handle electronic publications; share ideas
 - If you consider contract texts inappropriate or unfair, suggest different wording. Look for colleagues who support your suggestions. Joint efforts will have more impact.
- **Speak up now**
 - Let the publishers know your concerns. Handling electronic publications needs thoughtful and fair solutions. Now is the time to negotiate and implement them.

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Finally, here are some general recommendations when handling electronic publications:

Know what you want! Electronic publications affect all areas of library management, and they need other solutions than printed documents. Unfortunately, there is no single solution that can be applied to all libraries. Each library will have to find the solution that suits its purposes best.

Share ideas with your colleagues! While it is important to find individual solutions, we should just as well overcome our isolation. Communicate with your colleagues. To find out how they handle electronic publications. They may have found a solution that you can use too. If you consider contract texts inappropriate or unfair, suggest different wording. Try to find colleagues who support your suggestions. Joint efforts will have more impact.

Speak up now! Let the other players in the publishing business know your concerns. Often publishers themselves still are in a phase of experimenting with various solutions, and most of them are willing to cooperate when contacted by librarians. The time and efforts spent here will pay off later when matters are handled in a more standardized way. Remember that handling electronic publications needs thoughtful and fair solutions; only those will be advantageous for the entire community. Now is the time to negotiate and implement them.