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Panel Report: Scientific Manuscripts in the Digital Age

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Panel Report: Scientific Manuscripts in the Digital Age

Abstract
The 1st Annual Lawrence J. Schoenberg Symposium on Manuscript Studies in the Digital Age was concluded by a panel discussion under the title "Scientific Manuscripts in the Digital Age". The members of the panel comprised both digital humanities specialists and scholars working in the history of science. This report summarizes the discussion.

Keywords
Digitization, scientific manuscripts

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Scientific Manuscripts in the Digital Age: Panel Report

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The 1st Annual Lawrence J. Schoenberg Symposium on Manuscript Studies in the Digital Age was concluded by a panel discussion under the title "Scientific Manuscripts in the Digital Age". The members of the panel comprised both digital humanities specialists and scholars working in the history of science[1].

Before opening the discussion the moderator gave an overview of what the attribute *digital age* in the title of the panel can mean in relation to manuscript studies and then suggested some key questions that might be used to lead the discussion[2].

Overview

The main areas in which digital techniques play an important role nowadays are:

Catalogues

- Library catalogue
    - Text-based, searchable library catalogue
    - Scanned images of printed library catalogues
- Catalogues of specialist collections, private collections
- Lists of archival information about mss.
- Thematic catalogues
- Virtual library catalogues
- Portals, VREs (virtual research environments)

Editions

- Printed editions
    - (Graphical) editing tools
    - Tools to produce printed editions

[1] A list of the members of this panel can be found at the end of this document.
[2] I would like thank my colleagues Elena Pierazzo and Arianna Ciula (both from the Centre for Computing in the Humanities at King's College London) for their help in the preparation of this panel discussion. I would also like to thank Charles Burnett for kindly letting me use the notes he took during the discussion.

- Digital editions (online, CD/DVD)
    - Various tools
    - Digital edition
        - Text based digital editions
        - Image based digital editions
    - Digital edition with dynamic elements
    - Online applications, ``Knowledge sites"

Text processing

Use of computational techniques (Computational linguistics, text mining, graph theory, etc.)

- for textual analysis, stylometry, etc.
- for analysis of stemmatic / scribal dependencies (cladistics)
    - between ms. copies; relations between mss.; genealogical relations between mss.

Imaging techniques

Use of various image processing techniques

- to extract parts of manuscript pages
- to compare or identify character forms
- to make unreadable passages of a manuscript readable

Key questions

Scientific Manuscripts

Why "Scientific Manuscripts"?

Are there aspects that are specific to working with scientific manuscripts?

- mathematical, astronomical figures (encoding)
- astrological, alchemical symbols in the text (encoding, display)
- complex interactions of textual and/or pictorial parts on a page
- relationships and referencing between lead text and commentaries
- tradition of text might be different from tradition of figures
- diagrams and tables require special handling

General / Cataloguing

- What are the requirements, wishes, ideas of scholars working with manuscripts?

- What are they missing in existing models for cataloguing and publishing (digital and print)?
- Digital catalogues allow for integration of far more detailed material, that - because of printing costs - might not be possible in printed catalogue.
- What kind of detail would be especially desirable?
- How much detail is realistically achievable?

Western / Non-Western Manuscripts

How do we handle and align different requirements or cataloguing practices in western and non-western mss.?

For example:

- Order of codicological and textual descriptions
- Conceptually: is the focus on the texts or on manuscripts? Could a digital catalogue model both aspects?
- Various issues relating to the encoding and display of text (bidirectionality, characters with no representation in UNICODE or in common fonts, etc.)

Publishing Models

Do digital catalogues / editions have to be web-based, or are other models conceivable (CD/DVD, commercial models)?

Standards / Data exchange / Interlinking

- What are the benefits and limits of using standards in cataloguing or editing?
- What would be required to allow
    - exchange of data between digital projects?
    - interlinking of digital projects?

Editorial Practice

- How difficult or how easy is it for the non-specialist (i. e. non-humanities-computing-expert) to create a digital catalogue / digital edition?
- Which changes has the collaborative work brought to the editorial practice ("lonely" scholar vs work in a team)?
- Which changes has the production of digital editions brought to the editorial practice?

Editorial Theory

- What are the theoretical implications of these changes on the editorial needs and practices?

- What influence does contemporary editorial theory have on digital editions?
- Will digital editions "age" like their printed equivalents?
- Will they look dated, the same as print editions can look dated?

Text / Image Based Digital Editions

What are the respective advantages or disadvantages of text based editions versus image based editions?

Digital Edition / Print Edition

- What are the potential relationships between a digital edition and a printed edition?
- If both digital and printed editions are aspired to, can the digital edition be edited further, and by doing so can we allow the online and printed editions to drift apart ("fluid text" versus "stable text")?
- What repercussions would updating of a digital edition have on citation?
- What are possible solutions to keep citations permanently valid? (e.g. by keeping previous versions of digital editions online after revisions)?
- Is constant editing good practice?

Funding / Sustainability / Preservation

- How can projects in this area of research be funded?
- How do we make the results of digital projects sustainable?
- How do we preserve the results of digital projects?

Discussion

A very lively and stimulating discussion followed with much audience participation, prompted by some of the organizer’s suggested questions and with many other areas and concerns being raised. The key points of discussion are summarized here.

General

One area of interest that was discussed was the historical aspect of a discipline that we now call "Digital Humanities" or "Humanities Computing" and the truly amazing developments that have occurred over the last few decades. Computers were initially used to do numerical calculations, and this had developed into "Digital Humanities". One audience member invited us to look back only 10 years and to ask the question where we are now in relation to the aspirations and optimistic expectations of 10 years ago.

It was pointed out that there is now a huge interest in the application of digital methods in manuscript studies, not only among established researchers, but especially so among younger scholars. One indication of this interest being the fact that a workshop on "Medieval Manuscript Studies in the Digital Age", a cooperation between the Institute for English Studies London, Cambridge University Library and the Centre for Computing in the Humanities at King's College, London, was fully booked only days after it was first advertised.

Digital edition

Concerns were raised about the visibility of the "personality" of the editor in a digital edition. In traditional printed editions the "good name" of an editor stands for good quality of the edition. And more generally there was concern that online research would lead to its depersonalization. It was concluded that this is an aspect that has to be further considered for digital editions.

The question was asked if there would still be a place for traditional printed editions, or if digital editions will take over. It was agreed that this is not necessarily the case, and that traditional methods of editing books are not directly threatened by electronic editing.

Putting a text online in any form is not equivalent to a digital edition. Both digital editions and printed editions require the same scrupulous study of manuscript texts. The quality versus quantity argument was also raised; computers can "unbind" books, and being able to look at a large number of copies of the same book opens up new possibilities. Is Google Books the answer?

Digital edition and its academic recognition

Many audience members said that they would love to embrace digital editions for the output of their work, but had concerns about the lack of recognition as academic publications. This was considered an important point as this has consequences when it comes to decisions about tenure for an academic position.

A similar concern was raised when it comes to requirements from publishers. They were considered "old fashioned" and lagging behind the current technical potential.

A general view was that libraries are forging ahead with new technology, but that publishers and university administration are falling behind. There is a continued demand for published articles and books in order to obtain tenure; electronic material does not count.

Sustainability / Preservation

A substantial part of the discussion was taken up by considering various aspects concerning sustainability and preservation of digital resources. This was considered to be one of the key problems to solve in the near future. Great investment and effort is made in the creation of digital resources, such as digital editions or digital catalogues. Up to now printed editions or catalogues required only relatively minimal measures for preservation. Their digital counterparts require constant care to ensure similar longevity. This has also repercussions on the scholar who produces a digital resource, and it means that they should, right from the start, take preservation into consideration.

Some of the key requirements to ensure long term preservation of digital resources were summed up by the keywords “standards” and “metadata”. Following standards and producing good metadata will ensure long term survival of the data. Care should be taken in the development and application of standards to include non-Western scripts and languages as these are often less well served by these standards. This will enable others to develop applications that provide access to the data. It was thought that the complex interfaces and applications built around the data of a digital resource would not survive.

The data itself should be preserved, and open access to it should be aimed for. By allowing multiple copies of the data to be made, access is improved and its preservation is also aided. Fortunately, many grants these days include as a condition the provision of open access. Solutions for the safe storage of resources that involve payment by users should be avoided as these become exclusive. The mindset of researchers should reflect the fact that one makes discoveries in order to share them not to keep them possessively.

One issue that was raised was the assignment of responsibility for the long term safekeeping of digital resources. Libraries are often responsible for the preservation of data material. However the question of trust in these public institutions was also raised. The decision by the British Arts and Humanities Research Council to cease funding the Arts and Humanities Data Service was mentioned and criticized. This institution had been created years earlier with the aim to securely store and save digital resources.

Conclusion

Overall it was a very fruitful discussion with extensive participation from the audience. Although none of the problems touched upon could be “solved”, the discussion ended on an optimistic outlook. There was a general realization that there is no way back – we have started to embrace new technologies and we will do so even more in the future.

Members of the panel

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